



# TESTREPORT

Applicant Name : TECNO MOBILE LIMITED  
Address : FLAT 39 8/F BLOCK D WAH LOK INDUSTRIAL CENTRE 31-35  
SHAN MEI STREET FOTAN NT Hong Kong  
Report Number : SZNS220609-25498E-RF-00D  
FCC ID: 2ADYY-KH7S

## Test Standard (s)

FCC PART 27; FCC PART 22H; FCC PART 24E

## Sample Description

Product Type: Mobile Phone  
Model No.: KH7S  
Multiple Model(s) No.: N/A  
Trade Mark: N/A  
Date Received: 2022/06/09  
Report Date: 2022/07/15

|              |       |
|--------------|-------|
| Test Result: | Pass* |
|--------------|-------|

\* In the configuration tested, the EUT complied with the standards above.

**Prepared and Checked By:**

**Approved By:**

*Roger Ling*

*Robert Li*

Roger Ling  
EMC Engineer

Robert Li  
EMC Engineer

Note: This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "★".

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FCC -2G,3G,4G

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## GENERAL INFORMATION

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

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency Range        | GSM 850: 824-849MHz(TX); 869-894MHz(RX)<br>PCS 1900: 1850-1910MHz(TX); 1930-1990MHz(RX)<br>WCDMA Band 2: 1850-1910MHz(TX); 1930-1990MHz(RX)<br>WCDMA Band 4: 1710-1755MHz(TX); 2110-2155MHz(RX)<br>WCDMA Band 5: 824-849MHz(TX); 869-894MHz(RX)<br>LTE Band 2: 1850-1910MHz(TX); 1930-1990MHz(RX)<br>LTE Band 4: 1710-1755MHz(TX); 2110-2155MHz(RX)<br>LTE Band 5: 824-849MHz(TX); 869-894MHz(RX)<br>LTE Band 7: 2500-2570MHz(TX); 2620-2690MHz(RX)<br>LTE Band 12: 699-716MHz(TX); 729-746MHz(RX)<br>LTE Band 13: 777-787MHz(TX); 746-756MHz(RX)<br>LTE Band 17: 704-716MHz(TX); 734-746MHz(RX)<br>LTE Band 38: 2570-2620MHz(TX/RX)<br>LTE Band 41: 2535-2655MHz(TX/RX)<br>LTE Band 66: 1710-1780MHz(TX); 2110-2180MHz(RX) |
| Modulation Technique   | 2G: GMSK, 8PSK<br>3G: BPSK, QPSK, 16QAM<br>4G: QPSK, 16QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Antenna Specification* | GSM850/WCDMA Band 5/LTE Band 5: -1.5dBi<br>PCS1900/WCDMA Band 2/ LTE Band 2: -0.5dBi<br>WCDMA Band 4/ LTE Band 4/ LTE Band 66: -0.7dBi<br>LTE Band 7/ LTE Band 38/LTE Band 41: -0.4dBi<br>LTE Band 12/LTE Band 13/LTE Band 17: -1.9dBi(provided by the applicant)                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Voltage Range          | DC 3.85V from battery or DC 5V or 7.5V from adapter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Sample serial number   | SZNS220609-25498E-RF-S1 for Radiated Emissions<br>SZNS220609-25498E-RF-S2 for RF Conducted Test<br>(Assigned by ATC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Sample/EUT Status      | Good condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Adapter information    | Model: U180TSA<br>Input: AC 100-240V, 50/60Hz, 0.6A<br>Output: DC 5.0V, 2.4A or DC 7.5V, 2.4A, 18.0W Max                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Extreme condition*     | L.V.: Low Voltage 3.45V<br>N.V.: Normal Voltage 3.85V<br>H.V.: High Voltage 4.4V<br>(provided by the applicant)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

### Objective

This test report is in accordance with Part 2-Subpart J, Part 22-Subpart H, Part24-Subpart E, and Subpart 27 of the Federal Communication Commission's rules.

The objective is to determine the compliance of the EUT with FCC rules for output power, modulation characteristic, occupied bandwidth, and spurious emission 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-Subpart J as well as the following parts:

Part 22 Subpart H - Public Mobile Services  
 Part 24 Subpart E - Personal Communication Services  
 Part 27 - Miscellaneous Wireless Communications Services

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

All emissions measurement was performed at Shenzhen Accurate Technology Co., Ltd. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Each test item follows test standards and with no deviation.

## Measurement Uncertainty

| Parameter                    |                 | Uncertainty             |
|------------------------------|-----------------|-------------------------|
| Occupied Channel Bandwidth   |                 | ±5%                     |
| RF output power, conducted   |                 | ±0.73dB                 |
| Unwanted Emission, conducted |                 | ±1.6dB                  |
| RF Frequency                 |                 | ±0.082*10 <sup>-7</sup> |
| Emissions,<br>Radiated       | 30MHz - 1GHz    | ±4.28dB                 |
|                              | 1GHz - 18GHz    | ±4.98dB                 |
|                              | 18GHz - 26.5GHz | ±5.06dB                 |
| Temperature                  |                 | ±1°C                    |
| Humidity                     |                 | ±6%                     |
| Supply voltages              |                 | ±0.4%                   |

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

## Test Facility

The Test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 708358, the FCC Designation No.: CN1189. Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 429 7.01.

Listed by Innovation, Science and Economic Development Canada (ISED), the Registration Number is 5077A.

## SYSTEM TEST CONFIGURATION

### Description of Test Configuration

The final qualification test was performed with the EUT operating at normal mode.

Test was performed as below table:

| Frequency band | Bandwidth (MHz) | Test Frequency(MHz) |        |        |
|----------------|-----------------|---------------------|--------|--------|
|                |                 | Low                 | Middle | High   |
| GSM850         | 0.25            | 824.2               | 836.4  | 848.8  |
| PCS1900        | 0.25            | 1850.2              | 1880   | 1909.8 |
| WCDMA B2       | 4.2             | 1852.4              | 1880   | 1907.6 |
| WCDMA B4       | 4.2             | 1712.4              | 1732.6 | 1752.6 |
| WCDMA B5       | 4.2             | 826.4               | 836.4  | 846.6  |
| LTE B2         | 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 B4         | 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 B5         | 1.4             | 824.7               | 836.5  | 848.3  |
|                | 3               | 825.5               | 836.5  | 847.5  |
|                | 5               | 826.5               | 836.5  | 846.5  |
|                | 10              | 829                 | 836.5  | 844    |
| LTE B7         | 5               | 2502.5              | 2535   | 2567.5 |
|                | 10              | 2505                | 2535   | 2565   |
|                | 15              | 2507.5              | 2535   | 2562.5 |
|                | 20              | 2510                | 2535   | 2560   |
| LTE B12        | 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 B13        | 5               | 779.5               | 782    | 784.5  |
|                | 10              | /                   | 782    | /      |
| LTE B17        | 5               | 706.5               | 710    | 713.5  |
|                | 10              | 709                 | 710    | 711    |

| Frequency band | Bandwidth (MHz) | Test Frequency(MHz) |        |        |
|----------------|-----------------|---------------------|--------|--------|
|                |                 | Low                 | Middle | High   |
| LTE B38        | 5               | 2572.5              | 2595   | 2617.5 |
|                | 10              | 2575                | 2595   | 2615   |
|                | 15              | 2577.5              | 2595   | 2612.5 |
|                | 20              | 2580                | 2595   | 2610   |
| LTE B41        | 5               | 2537.5              | 2595   | 2652.5 |
|                | 10              | 2540                | 2595   | 2650   |
|                | 15              | 2542.5              | 2595   | 2647.5 |
|                | 20              | 2545                | 2595   | 2645   |
| LTE B66        | 1.4             | 1710.7              | 1745   | 1779.3 |
|                | 3               | 1711.5              | 1745   | 1778.5 |
|                | 5               | 1712.5              | 1745   | 1777.5 |
|                | 10              | 1715                | 1745   | 1775   |
|                | 15              | 1717.5              | 1745   | 1772.5 |
|                | 20              | 1720                | 1745   | 1770   |

### Equipment Modifications

No modification was made to the EUT.

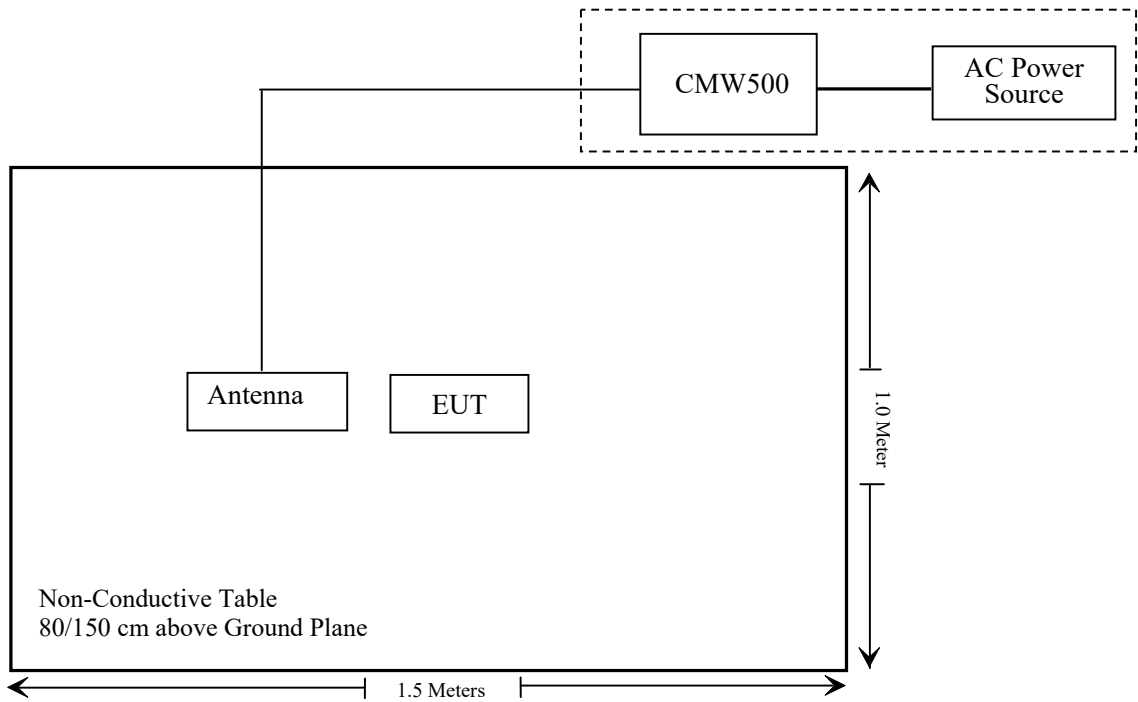
### Support Equipment List and Details

| Manufacturer    | Description                         | Model  | Serial Number |
|-----------------|-------------------------------------|--------|---------------|
| Rohde & Schwarz | Wideband Radio Communication Tester | CMW500 | 154606        |

### Support Cable Description

| Cable Description                  | Length (m) | From / Port | To     |
|------------------------------------|------------|-------------|--------|
| Un-shielded Un-detachable AC Cable | 1.2        | AC Power    | CMW500 |

Block Diagram of Test Setup



**SUMMARY OF TEST RESULTS**

| FCC Rules                                                    | Description of Test                    | Result         |
|--------------------------------------------------------------|----------------------------------------|----------------|
| § 1.1307 ,§2.1093                                            | RF Exposure (SAR)                      | Compliant      |
| §2.1046; § 22.913 (a);<br>§ 24.232 (c); §27.50(b)(c)(d) (h); | RF Output Power                        | Compliant      |
| § 2.1047                                                     | Modulation Characteristics             | Not Applicable |
| § 2.1049; § 22.905;<br>§ 22.917; § 24.238; §27.53            | Occupied Bandwidth                     | Compliant      |
| § 2.1051; §22.917 (a);<br>§ 24.238 (a); §27.53;              | Spurious Emissions at Antenna Terminal | Compliant      |
| § 2.1053; § 22.917 (a);<br>§ 24.238 (a); §27.53              | Field Strength of Spurious Radiation   | Compliant      |
| § 22.917 (a);<br>§ 24.238 (a); §27.53(c)(g)(h)(m)            | Band Edge                              | Compliant      |
| § 2.1055; § 22.355;<br>§ 24.235; §27.54;                     | Frequency stability                    | Compliant      |

**TEST EQUIPMENT LIST**

| Manufacturer                                    | Description       | Model                | Serial Number          | Calibration Date | Calibration Due Date |
|-------------------------------------------------|-------------------|----------------------|------------------------|------------------|----------------------|
| Radiated Emission Test                          |                   |                      |                        |                  |                      |
| Rohde& Schwarz                                  | Test Receiver     | ESR                  | 102725                 | 2021/12/13       | 2022/12/12           |
| Rohde&Schwarz                                   | Spectrum Analyzer | FSV40                | 101949                 | 2021/12/13       | 2022/12/12           |
| SONOMA INSTRUMENT                               | Amplifier         | 310 N                | 186131                 | 2021/11/09       | 2022/11/08           |
| A.H. Systems, inc.                              | Preamplifier      | PAM-0118P            | 135                    | 2021/11/09       | 2022/11/08           |
| Quinstar                                        | Amplifier         | QLW-184055<br>36-J0  | 15964001002            | 2021/11/11       | 2022/11/10           |
| Radiated Emission Test Software: e3 19821b (V9) |                   |                      |                        |                  |                      |
| Unknown                                         | RF Coaxial Cable  | No.10                | N050                   | 2021/12/14       | 2022/12/13           |
| Unknown                                         | RF Coaxial Cable  | No.11                | N1000                  | 2021/12/14       | 2022/12/13           |
| Unknown                                         | RF Coaxial Cable  | No.12                | N040                   | 2021/12/14       | 2022/12/13           |
| Unknown                                         | RF Coaxial Cable  | No.13                | N300                   | 2021/12/14       | 2022/12/13           |
| Unknown                                         | RF Coaxial Cable  | No.14                | N800                   | 2021/12/14       | 2022/12/13           |
| Unknown                                         | RF Coaxial Cable  | No.15                | N600                   | 2021/12/14       | 2022/12/13           |
| Unknown                                         | RF Coaxial Cable  | No.16                | N650                   | 2021/12/14       | 2022/12/13           |
| Schwarzbeck                                     | Bilog Antenna     | VULB9163             | 9163-194               | 2020/01/05       | 2023/01/04           |
| Schwarzbeck                                     | Bilog Antenna     | VULB9163             | 9163-323               | 2021/07/06       | 2024/07/05           |
| Schwarzbeck                                     | Horn Antenna      | BBHA9120D            | 9120D-655              | 2020/01/05       | 2023/01/04           |
| Schwarzbeck                                     | Horn Antenna      | BBHA9120D            | 9120D-1067             | 2020/01/05       | 2023/01/04           |
| PASTERNAK                                       | Horn Antenn       | PE9852/2F-20         | 1120<br>(ATC-BA-024-1) | 2020/01/05       | 2023/01/04           |
| PASTERNAK                                       | Horn Antenn       | PE9852/2F-20         | 1120<br>(ATC-BA-025-1) | 2020/01/05       | 2023/01/04           |
| Wainwright                                      | High Pass Filter  | WHKX3.6/18<br>G-10SS | 5                      | 2021/12/14       | 2022/12/13           |
| CD                                              | High Pass Filter  | HPM-1.2/18G<br>-60   | 110                    | 2021/12/14       | 2022/12/13           |
| Unknown                                         | RF Coaxial Cable  | No.16                | N200                   | 2021/12/14       | 2022/12/13           |
| Agilent                                         | Signal Generator  | N5183A               | MY51040755             | 2021/12/13       | 2022/12/12           |

| Manufacturer      | Description                         | Model       | Serial Number | Calibration Date | Calibration Due Date |
|-------------------|-------------------------------------|-------------|---------------|------------------|----------------------|
| RF Conducted Test |                                     |             |               |                  |                      |
| SPECTRUM ANALYZER | Rohde & Schwarz                     | FSU26       | 200982        | 2021/07/06       | 2022/07/05           |
| SPECTRUM ANALYZER | Rohde & Schwarz                     | FSU26       | 200982        | 2022/07/06       | 2023/07/05           |
| Rohde & Schwarz   | Wideband Radio Communication Tester | CMW500      | 154606        | 2021/12/13       | 2022/12/12           |
| Mini-Circuits     | Power Splitter                      | DC-18000MHz | SF10944151S   | 2021/12/14       | 2022/12/13           |
| Gongwen           | Temp. & Humid. Chamber              | HSD-500     | 109           | 2021/10/14       | 2022/10/13           |
| WEINSCHL          | 10dB Attenuator                     | 5324        | AU 3842       | 2021/12/14       | 2022/12/13           |
| Fluke             | Multi Meter                         | 45          | 7664009       | 2021/12/14       | 2022/12/13           |
| Manson            | DC Power Source                     | KPS-6604    | ATCS-205      | NCR              | NCR                  |
| Unknown           | RF Coaxial Cable                    | No.33       | RF-03         | Each time        |                      |
| Unknown           | RF Coaxial Cable                    | No.34       | RF-04         | Each time        |                      |

\* Statement of Traceability: Shenzhen Accurate Technology Co., Ltd. attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

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## **FCC §1.1307(b)&§2.1093 - RF EXPOSURE INFORMATION**

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### **Applicable Standard**

FCC§1.1310 and §2.1093.

### **Test Result**

Compliant, please refer to the SAR report: SZNS220609-25498E-SA.

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

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According to FCC § 2.1047(d), Part 22H & 24E& 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(b)(c)(d)(h)- 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.

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB.

According to §27.50(b), 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.

According to §27.50(c), 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.

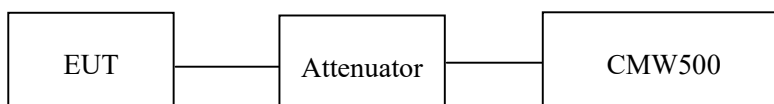
According to §27.50(d), Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

According to §27.50(h), the maximum EIRP must not exceed 2Watts (33dBm) for 2496-2690 MHz.

### Test Procedure

*Conducted method:*

The RF output of the transmitter was connected to the CMW500 through sufficient attenuation.



### Test Data

#### Environmental Conditions

|                    |            |
|--------------------|------------|
| Temperature:       | 27.1~27.3℃ |
| Relative Humidity: | 56~56.8 %  |
| ATM Pressure:      | 101.0 kPa  |

*The testing was performed by Roger Ling from 2022-06-28 to 2022-07-02.*

**Conducted Power****Cellular Band (Part 22H)**

| Mode | Channel | Frequency (MHz) | Average Output Power (dBm) | ERP (dBm) | Limit (dBm) |
|------|---------|-----------------|----------------------------|-----------|-------------|
| GSM  | 128     | 824.2           | 33.46                      | 29.81     | 38.45       |
|      | 190     | 836.6           | 33.59                      | 29.94     | 38.45       |
|      | 251     | 848.8           | 33.53                      | 29.88     | 38.45       |

| Mode | Channel | Frequency (MHz) | Average Output Power (dBm) |         |         |         | ERP(dBm) |         |         |         | Limit (dBm) |
|------|---------|-----------------|----------------------------|---------|---------|---------|----------|---------|---------|---------|-------------|
|      |         |                 | 1 slot                     | 2 slots | 3 slots | 4 slots | 1 slot   | 2 slots | 3 slots | 4 slots |             |
| GPRS | 128     | 824.2           | 33.39                      | 32.31   | 30.27   | 29.13   | 29.74    | 28.66   | 26.62   | 25.48   | 38.45       |
|      | 190     | 836.6           | 33.52                      | 32.38   | 30.37   | 29.26   | 29.87    | 28.73   | 26.72   | 25.61   | 38.45       |
|      | 251     | 848.8           | 33.46                      | 32.35   | 30.36   | 29.22   | 29.81    | 28.70   | 26.71   | 25.57   | 38.45       |

| Mode  | Channel | Frequency (MHz) | Average Output Power (dBm) |         |         |         | ERP(dBm) |         |         |         | Limit (dBm) |
|-------|---------|-----------------|----------------------------|---------|---------|---------|----------|---------|---------|---------|-------------|
|       |         |                 | 1 slot                     | 2 slots | 3 slots | 4 slots | 1 slot   | 2 slots | 3 slots | 4 slots |             |
| EGPRS | 128     | 824.2           | 27.31                      | 25.95   | 23.63   | 22.25   | 23.66    | 22.3    | 19.98   | 18.6    | 38.45       |
|       | 190     | 836.6           | 27.29                      | 25.99   | 23.62   | 22.26   | 23.64    | 22.34   | 19.97   | 18.61   | 38.45       |
|       | 251     | 848.8           | 27.46                      | 26.07   | 23.71   | 22.37   | 23.81    | 22.42   | 20.06   | 18.72   | 38.45       |

| Mode              | Test Mode | 3GPP Sub Test | Average Output Power (dBm) |       |       | ERP(dBm) |       |       |
|-------------------|-----------|---------------|----------------------------|-------|-------|----------|-------|-------|
|                   |           |               | Low                        | Mid   | High  | Low      | Mid   | High  |
| WCDMA<br>(Band 5) | RMC12.2k  |               | 23.71                      | 23.73 | 23.69 | 20.06    | 20.08 | 20.04 |
|                   | HSDPA     | 1             | 22.58                      | 22.69 | 22.65 | 18.93    | 19.04 | 19.00 |
|                   |           | 2             | 22.44                      | 22.55 | 22.58 | 18.79    | 18.90 | 18.93 |
|                   |           | 3             | 22.36                      | 22.58 | 22.57 | 18.71    | 18.93 | 18.92 |
|                   |           | 4             | 22.47                      | 22.61 | 22.46 | 18.82    | 18.96 | 18.81 |
|                   | HSUPA     | 1             | 22.24                      | 22.22 | 22.19 | 18.59    | 18.57 | 18.54 |
|                   |           | 2             | 22.14                      | 22.15 | 22.14 | 18.49    | 18.50 | 18.49 |
|                   |           | 3             | 22.16                      | 22.13 | 22.13 | 18.51    | 18.48 | 18.48 |
|                   |           | 4             | 22.13                      | 22.36 | 22.21 | 18.48    | 18.71 | 18.56 |
|                   |           | 5             | 22.16                      | 22.17 | 22.13 | 18.51    | 18.52 | 18.48 |
|                   | HSPA+     | 1             | 22.17                      | 22.16 | 22.17 | 18.52    | 18.51 | 18.52 |

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)

For GSM850 / WCDMA Band5: Antenna Gain = -1.5dBi = -3.65dBd (0dBd=2.15dBi)

Limit: ERP≤38.45dBm

## PCS Band (Part 24E)

| Mode | Channel | Frequency (MHz) | Average Output Power (dBm) | EIRP(dBm) | Limit (dBm) |
|------|---------|-----------------|----------------------------|-----------|-------------|
| GSM  | 512     | 1850.2          | 30.50                      | 30.00     | 33          |
|      | 661     | 1880.0          | 30.60                      | 30.10     | 33          |
|      | 810     | 1909.8          | 30.60                      | 30.10     | 33          |

| Mode | Channel | Frequency (MHz) | Average Output Power (dBm) |         |         |         | EIRP(dBm) |         |         |         | Limit (dBm) |
|------|---------|-----------------|----------------------------|---------|---------|---------|-----------|---------|---------|---------|-------------|
|      |         |                 | 1 slot                     | 2 slots | 3 slots | 4 slots | 1 slot    | 2 slots | 3 slots | 4 slots |             |
| GPRS | 512     | 1850.2          | 30.56                      | 29.14   | 26.94   | 26.36   | 30.06     | 28.64   | 26.44   | 25.86   | 33          |
|      | 661     | 1880.0          | 30.58                      | 29.16   | 26.95   | 26.43   | 30.08     | 28.66   | 26.45   | 25.93   | 33          |
|      | 810     | 1909.8          | 30.65                      | 29.20   | 27.09   | 26.56   | 30.15     | 28.7    | 26.59   | 26.06   | 33          |

| Mode  | Channel | Frequency (MHz) | Average Output Power (dBm) |         |         |         | EIRP(dBm) |         |         |         | Limit (dBm) |
|-------|---------|-----------------|----------------------------|---------|---------|---------|-----------|---------|---------|---------|-------------|
|       |         |                 | 1 slot                     | 2 slots | 3 slots | 4 slots | 1 slot    | 2 slots | 3 slots | 4 slots |             |
| EGPRS | 512     | 1850.2          | 27.38                      | 25.40   | 23.32   | 22.24   | 26.88     | 24.90   | 22.82   | 21.74   | 33          |
|       | 661     | 1880.0          | 27.18                      | 25.12   | 23.13   | 22.09   | 26.68     | 24.62   | 22.63   | 21.59   | 33          |
|       | 810     | 1909.8          | 27.07                      | 25.04   | 23.04   | 22.01   | 26.57     | 24.54   | 22.54   | 21.51   | 33          |

| Mode              | Test Mode | 3GPP Sub Test | Average Output Power (dBm) |       |       | EIRP(dBm) |       |       |
|-------------------|-----------|---------------|----------------------------|-------|-------|-----------|-------|-------|
|                   |           |               | Low                        | Mid   | High  | Low       | Mid   | High  |
| WCDMA<br>(Band 2) | RMC12.2k  |               | 21.12                      | 21.02 | 21.04 | 20.62     | 20.52 | 20.54 |
|                   | HSDPA     | 1             | 20.03                      | 19.93 | 19.93 | 19.53     | 19.43 | 19.43 |
|                   |           | 2             | 20.14                      | 19.97 | 19.87 | 19.64     | 19.47 | 19.37 |
|                   |           | 3             | 20.13                      | 19.96 | 19.83 | 19.63     | 19.46 | 19.33 |
|                   |           | 4             | 20.07                      | 19.86 | 19.86 | 19.57     | 19.36 | 19.36 |
|                   | HSUPA     | 1             | 19.60                      | 19.51 | 19.59 | 19.1      | 19.01 | 19.09 |
|                   |           | 2             | 19.58                      | 19.58 | 19.67 | 19.08     | 19.08 | 19.17 |
|                   |           | 3             | 19.62                      | 19.62 | 19.54 | 19.12     | 19.12 | 19.04 |
|                   |           | 4             | 19.57                      | 19.57 | 19.56 | 19.07     | 19.07 | 19.06 |
|                   |           | 5             | 19.64                      | 19.64 | 19.67 | 19.14     | 19.14 | 19.17 |
|                   | HSPA+     | 1             | 19.58                      | 19.58 | 19.54 | 19.08     | 19.08 | 19.04 |

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)  
 For PCS1900 / WCDMA Band2: Antenna Gain = -0.5dBi  
 Limit: EIRP ≤ 33dBm

**AWS Band**

| Mode           | Test Mode | 3GPP Sub Test | Average Output Power (dBm) |       |       | EIRP(dBm) |       |       |
|----------------|-----------|---------------|----------------------------|-------|-------|-----------|-------|-------|
|                |           |               | Low                        | Mid   | High  | Low       | Mid   | High  |
| WCDMA (Band 4) | RMC12.2k  |               | 19.21                      | 19.29 | 19.29 | 18.51     | 18.59 | 18.59 |
|                | HSDPA     | 1             | 18.19                      | 18.27 | 18.24 | 17.49     | 17.57 | 17.54 |
|                |           | 2             | 18.15                      | 18.17 | 18.21 | 17.45     | 17.47 | 17.51 |
|                |           | 3             | 18.62                      | 18.22 | 18.26 | 17.92     | 17.52 | 17.56 |
|                |           | 4             | 18.24                      | 18.26 | 18.34 | 17.54     | 17.56 | 17.64 |
|                | HSUPA     | 1             | 17.73                      | 17.86 | 17.86 | 17.03     | 17.16 | 17.16 |
|                |           | 2             | 17.36                      | 17.77 | 17.52 | 16.66     | 17.07 | 16.82 |
|                |           | 3             | 17.45                      | 17.69 | 17.46 | 16.75     | 16.99 | 16.76 |
|                |           | 4             | 17.64                      | 17.58 | 17.59 | 16.94     | 16.88 | 16.89 |
|                |           | 5             | 17.42                      | 17.64 | 17.54 | 16.72     | 16.94 | 16.84 |
|                | HSPA+     | 1             | 17.58                      | 17.39 | 17.59 | 16.88     | 16.69 | 16.89 |

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)

For Band4: Antenna Gain = -0.7dBi

Limit: EIRP ≤ 30dBm

**Peak-to-average ratio (PAR)****Cellular Band**

| Mode | Channel | PAR (dB) | Limit (dB) |
|------|---------|----------|------------|
| GSM  | Low     | 3.57     | 13         |
|      | Middle  | 3.46     | 13         |
|      | High    | 3.51     | 13         |

| Mode  | Channel | PAR (dB) | Limit (dB) |
|-------|---------|----------|------------|
| EGPRS | Low     | 3.43     | 13         |
|       | Middle  | 3.49     | 13         |
|       | High    | 3.41     | 13         |

| Mode             | Channel | PAR (dB) | Limit (dB) |
|------------------|---------|----------|------------|
| RMC<br>(BPSK)    | Low     | 3.42     | 13         |
|                  | Middle  | 3.47     | 13         |
|                  | High    | 3.49     | 13         |
| HSDPA<br>(16QAM) | Low     | 3.57     | 13         |
|                  | Middle  | 3.47     | 13         |
|                  | High    | 3.56     | 13         |
| HSUPA<br>(BPSK)  | Low     | 3.47     | 13         |
|                  | Middle  | 3.49     | 13         |
|                  | High    | 3.48     | 13         |
| HSPA+            | Low     | 3.51     | 13         |
|                  | Middle  | 3.42     | 13         |
|                  | High    | 3.51     | 13         |

**PCS Band**

| Mode | Channel | PAR (dB) | Limit (dB) |
|------|---------|----------|------------|
| GSM  | Low     | 3.52     | 13         |
|      | Middle  | 3.42     | 13         |
|      | High    | 3.51     | 13         |

| Mode  | Channel | PAR (dB) | Limit (dB) |
|-------|---------|----------|------------|
| EGPRS | Low     | 3.36     | 13         |
|       | Middle  | 3.45     | 13         |
|       | High    | 3.52     | 13         |

| Mode             | Channel | PAR (dB) | Limit (dB) |
|------------------|---------|----------|------------|
| RMC<br>(BPSK)    | Low     | 3.44     | 13         |
|                  | Middle  | 3.58     | 13         |
|                  | High    | 3.51     | 13         |
| HSDPA<br>(16QAM) | Low     | 3.47     | 13         |
|                  | Middle  | 3.52     | 13         |
|                  | High    | 3.42     | 13         |
| HSUPA<br>(BPSK)  | Low     | 3.47     | 13         |
|                  | Middle  | 3.41     | 13         |
|                  | High    | 3.59     | 13         |
| HSPA+            | Low     | 3.47     | 13         |
|                  | Middle  | 3.42     | 13         |
|                  | High    | 3.55     | 13         |

**AWS Band**

| Mode             | Channel | PAR (dB) | Limit (dB) |
|------------------|---------|----------|------------|
| RMC<br>(BPSK)    | Low     | 3.47     | 13         |
|                  | Middle  | 3.46     | 13         |
|                  | High    | 3.42     | 13         |
| HSDPA<br>(16QAM) | Low     | 3.41     | 13         |
|                  | Middle  | 3.61     | 13         |
|                  | High    | 3.47     | 13         |
| HSUPA<br>(BPSK)  | Low     | 3.49     | 13         |
|                  | Middle  | 3.51     | 13         |
|                  | High    | 3.33     | 13         |
| HSPA+            | Low     | 3.41     | 13         |
|                  | Middle  | 3.46     | 13         |
|                  | High    | 3.52     | 13         |

**LTE Band 2**

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 1.4                | QPSK       | RB1#0                 | 18.29                                   | 18.52 | 18.19 | 17.79     | 18.02 | 17.69 |
|                    |            | RB1#3                 | 18.37                                   | 18.40 | 18.37 | 17.87     | 17.90 | 17.87 |
|                    |            | RB1#5                 | 18.25                                   | 18.30 | 18.00 | 17.75     | 17.80 | 17.50 |
|                    |            | RB3#0                 | 17.37                                   | 17.60 | 17.30 | 16.87     | 17.10 | 16.80 |
|                    |            | RB3#3                 | 17.28                                   | 17.52 | 17.21 | 16.78     | 17.02 | 16.71 |
|                    |            | RB6#0                 | 17.21                                   | 17.44 | 17.45 | 16.71     | 16.94 | 16.95 |
|                    | 16QAM      | RB1#0                 | 18.03                                   | 17.68 | 17.78 | 17.53     | 17.18 | 17.28 |
|                    |            | RB1#3                 | 17.99                                   | 17.58 | 17.69 | 17.49     | 17.08 | 17.19 |
|                    |            | RB1#5                 | 18.22                                   | 17.46 | 17.53 | 17.72     | 16.96 | 17.03 |
|                    |            | RB3#0                 | 16.23                                   | 16.40 | 16.35 | 15.73     | 15.90 | 15.85 |
|                    |            | RB3#3                 | 16.30                                   | 16.54 | 16.22 | 15.80     | 16.04 | 15.72 |
|                    |            | RB6#0                 | 16.27                                   | 16.32 | 16.40 | 15.77     | 15.82 | 15.90 |
| 3.0                | QPSK       | RB1#0                 | 18.26                                   | 18.20 | 18.11 | 17.76     | 17.70 | 17.61 |
|                    |            | RB1#8                 | 18.33                                   | 18.61 | 18.33 | 17.83     | 18.11 | 17.83 |
|                    |            | RB1#14                | 18.24                                   | 17.99 | 17.97 | 17.74     | 17.49 | 17.47 |
|                    |            | RB6#0                 | 17.32                                   | 17.45 | 17.52 | 16.82     | 16.95 | 17.02 |
|                    |            | RB6#9                 | 17.44                                   | 17.51 | 17.33 | 16.94     | 17.01 | 16.83 |
|                    |            | RB15#0                | 17.46                                   | 17.54 | 17.29 | 16.96     | 17.04 | 16.79 |
|                    | 16QAM      | RB1#0                 | 17.45                                   | 17.63 | 17.72 | 16.95     | 17.13 | 17.22 |
|                    |            | RB1#8                 | 17.86                                   | 17.80 | 18.05 | 17.36     | 17.30 | 17.55 |
|                    |            | RB1#14                | 17.49                                   | 17.39 | 17.64 | 16.99     | 16.89 | 17.14 |
|                    |            | RB6#0                 | 16.28                                   | 16.59 | 16.69 | 15.78     | 16.09 | 16.19 |
|                    |            | RB6#9                 | 16.54                                   | 16.69 | 16.48 | 16.04     | 16.19 | 15.98 |
|                    |            | RB15#0                | 16.32                                   | 16.68 | 16.40 | 15.82     | 16.18 | 15.90 |

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 5.0                | QPSK       | RB1#0                 | 18.40                                   | 18.43 | 18.28 | 17.90     | 17.93 | 17.78 |
|                    |            | RB1#13                | 18.37                                   | 18.43 | 18.30 | 17.87     | 17.93 | 17.80 |
|                    |            | RB1#24                | 18.31                                   | 18.44 | 18.22 | 17.81     | 17.94 | 17.72 |
|                    |            | RB15#0                | 17.52                                   | 17.57 | 17.43 | 17.02     | 17.07 | 16.93 |
|                    |            | RB15#10               | 17.46                                   | 17.48 | 17.44 | 16.96     | 16.98 | 16.94 |
|                    |            | RB25#0                | 17.43                                   | 17.45 | 17.46 | 16.93     | 16.95 | 16.96 |
|                    | 16QAM      | RB1#0                 | 18.07                                   | 17.57 | 17.92 | 17.57     | 17.07 | 17.42 |
|                    |            | RB1#13                | 18.12                                   | 17.71 | 17.82 | 17.62     | 17.21 | 17.32 |
|                    |            | RB1#24                | 18.20                                   | 17.67 | 17.61 | 17.70     | 17.17 | 17.11 |
|                    |            | RB15#0                | 16.45                                   | 16.72 | 16.40 | 15.95     | 16.22 | 15.90 |
|                    |            | RB15#10               | 16.65                                   | 16.64 | 16.29 | 16.15     | 16.14 | 15.79 |
|                    |            | RB25#0                | 16.32                                   | 16.53 | 16.33 | 15.82     | 16.03 | 15.83 |
| 10.0               | QPSK       | RB1#0                 | 18.34                                   | 18.44 | 18.07 | 17.84     | 17.94 | 17.57 |
|                    |            | RB1#25                | 18.64                                   | 18.58 | 18.50 | 18.14     | 18.08 | 18.00 |
|                    |            | RB1#49                | 18.26                                   | 18.07 | 17.91 | 17.76     | 17.57 | 17.41 |
|                    |            | RB25#0                | 17.32                                   | 17.70 | 17.52 | 16.82     | 17.20 | 17.02 |
|                    |            | RB25#25               | 17.33                                   | 17.52 | 17.35 | 16.83     | 17.02 | 16.85 |
|                    |            | RB50#0                | 17.56                                   | 17.47 | 17.46 | 17.06     | 16.97 | 16.96 |
|                    | 16QAM      | RB1#0                 | 17.76                                   | 17.67 | 17.73 | 17.26     | 17.17 | 17.23 |
|                    |            | RB1#25                | 18.08                                   | 17.96 | 18.06 | 17.58     | 17.46 | 17.56 |
|                    |            | RB1#49                | 17.61                                   | 17.58 | 17.60 | 17.11     | 17.08 | 17.10 |
|                    |            | RB25#0                | 16.61                                   | 16.61 | 16.64 | 16.11     | 16.11 | 16.14 |
|                    |            | RB25#25               | 16.47                                   | 16.60 | 16.53 | 15.97     | 16.10 | 16.03 |
|                    |            | RB50#0                | 16.43                                   | 16.63 | 16.55 | 15.93     | 16.13 | 16.05 |

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 15.0               | QPSK       | RB1#0                 | 18.23                                   | 18.44 | 18.15 | 17.73     | 17.94 | 17.65 |
|                    |            | RB1#38                | 18.40                                   | 18.29 | 17.96 | 17.90     | 17.79 | 17.46 |
|                    |            | RB1#74                | 18.29                                   | 18.23 | 17.86 | 17.79     | 17.73 | 17.36 |
|                    |            | RB36#0                | 17.24                                   | 17.32 | 17.28 | 16.74     | 16.82 | 16.78 |
|                    |            | RB36#39               | 17.31                                   | 17.30 | 17.08 | 16.81     | 16.80 | 16.58 |
|                    |            | RB75#0                | 17.34                                   | 17.32 | 17.26 | 16.84     | 16.82 | 16.76 |
|                    | 16QAM      | RB1#0                 | 17.92                                   | 17.49 | 17.73 | 17.42     | 16.99 | 17.23 |
|                    |            | RB1#38                | 17.90                                   | 17.61 | 17.58 | 17.40     | 17.11 | 17.08 |
|                    |            | RB1#74                | 17.95                                   | 17.25 | 17.50 | 17.45     | 16.75 | 17.00 |
|                    |            | RB36#0                | 16.11                                   | 16.50 | 16.21 | 15.61     | 16.00 | 15.71 |
|                    |            | RB36#39               | 16.37                                   | 16.33 | 16.27 | 15.87     | 15.83 | 15.77 |
|                    |            | RB75#0                | 16.38                                   | 16.31 | 16.26 | 15.88     | 15.81 | 15.76 |
| 20.0               | QPSK       | RB1#0                 | 18.10                                   | 18.12 | 17.95 | 17.60     | 17.62 | 17.45 |
|                    |            | RB1#50                | 18.44                                   | 18.44 | 18.19 | 17.94     | 17.94 | 17.69 |
|                    |            | RB1#99                | 18.13                                   | 17.89 | 17.72 | 17.63     | 17.39 | 17.22 |
|                    |            | RB50#0                | 17.35                                   | 17.43 | 17.53 | 16.85     | 16.93 | 17.03 |
|                    |            | RB50#50               | 17.34                                   | 17.39 | 17.34 | 16.84     | 16.89 | 16.84 |
|                    |            | RB100#0               | 17.26                                   | 17.54 | 17.30 | 16.76     | 17.04 | 16.80 |
|                    | 16QAM      | RB1#0                 | 17.42                                   | 17.35 | 17.56 | 16.92     | 16.85 | 17.06 |
|                    |            | RB1#50                | 17.84                                   | 17.65 | 17.80 | 17.34     | 17.15 | 17.30 |
|                    |            | RB1#99                | 17.44                                   | 17.32 | 17.30 | 16.94     | 16.82 | 16.80 |
|                    |            | RB50#0                | 16.36                                   | 16.41 | 16.53 | 15.86     | 15.91 | 16.03 |
|                    |            | RB50#50               | 16.20                                   | 16.55 | 16.24 | 15.70     | 16.05 | 15.74 |
|                    |            | RB100#0               | 16.41                                   | 16.40 | 16.43 | 15.91     | 15.90 | 15.93 |

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)  
 For Band2: Antenna Gain = -0.50dBi  
 Limit: EIRP ≤ 33dBm

## LTE Band 4

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 1.4                | QPSK       | RB1#0                 | 16.44                                   | 16.60 | 16.43 | 15.74     | 15.90 | 15.73 |
|                    |            | RB1#3                 | 16.68                                   | 16.82 | 16.58 | 15.98     | 16.12 | 15.88 |
|                    |            | RB1#5                 | 16.49                                   | 16.49 | 16.37 | 15.79     | 15.79 | 15.67 |
|                    |            | RB3#0                 | 15.62                                   | 15.71 | 15.78 | 14.92     | 15.01 | 15.08 |
|                    |            | RB3#3                 | 15.66                                   | 15.83 | 15.57 | 14.96     | 15.13 | 14.87 |
|                    |            | RB6#0                 | 15.71                                   | 15.66 | 15.72 | 15.01     | 14.96 | 15.02 |
|                    | 16QAM      | RB1#0                 | 16.25                                   | 15.93 | 15.98 | 15.55     | 15.23 | 15.28 |
|                    |            | RB1#3                 | 16.44                                   | 15.84 | 16.03 | 15.74     | 15.14 | 15.33 |
|                    |            | RB1#5                 | 16.26                                   | 15.85 | 15.89 | 15.56     | 15.15 | 15.19 |
|                    |            | RB3#0                 | 14.67                                   | 14.72 | 14.62 | 13.97     | 14.02 | 13.92 |
|                    |            | RB3#3                 | 14.73                                   | 14.89 | 14.48 | 14.03     | 14.19 | 13.78 |
|                    |            | RB6#0                 | 14.70                                   | 14.86 | 14.60 | 14.00     | 14.16 | 13.90 |
| 3.0                | QPSK       | RB1#0                 | 16.43                                   | 16.52 | 16.17 | 15.73     | 15.82 | 15.47 |
|                    |            | RB1#8                 | 16.79                                   | 16.80 | 16.60 | 16.09     | 16.10 | 15.90 |
|                    |            | RB1#14                | 16.42                                   | 16.47 | 16.07 | 15.72     | 15.77 | 15.37 |
|                    |            | RB6#0                 | 15.76                                   | 15.72 | 15.93 | 15.06     | 15.02 | 15.23 |
|                    |            | RB6#9                 | 15.64                                   | 15.71 | 15.66 | 14.94     | 15.01 | 14.96 |
|                    |            | RB15#0                | 15.86                                   | 15.70 | 15.64 | 15.16     | 15.00 | 14.94 |
|                    | 16QAM      | RB1#0                 | 15.84                                   | 15.83 | 15.88 | 15.14     | 15.13 | 15.18 |
|                    |            | RB1#8                 | 16.23                                   | 16.13 | 16.15 | 15.53     | 15.43 | 15.45 |
|                    |            | RB1#14                | 15.95                                   | 15.78 | 15.78 | 15.25     | 15.08 | 15.08 |
|                    |            | RB6#0                 | 14.65                                   | 14.71 | 14.76 | 13.95     | 14.01 | 14.06 |
|                    |            | RB6#9                 | 14.79                                   | 15.05 | 14.65 | 14.09     | 14.35 | 13.95 |
|                    |            | RB15#0                | 14.67                                   | 14.72 | 14.90 | 13.97     | 14.02 | 14.20 |

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 5.0                | QPSK       | RB1#0                 | 16.61                                   | 16.75 | 16.38 | 15.91     | 16.05 | 15.68 |
|                    |            | RB1#13                | 16.55                                   | 16.53 | 16.47 | 15.85     | 15.83 | 15.77 |
|                    |            | RB1#24                | 16.47                                   | 16.33 | 16.35 | 15.77     | 15.63 | 15.65 |
|                    |            | RB15#0                | 15.52                                   | 15.67 | 15.61 | 14.82     | 14.97 | 14.91 |
|                    |            | RB15#10               | 15.61                                   | 15.58 | 15.60 | 14.91     | 14.88 | 14.90 |
|                    |            | RB25#0                | 15.57                                   | 15.70 | 15.41 | 14.87     | 15.00 | 14.71 |
|                    | 16QAM      | RB1#0                 | 16.25                                   | 15.89 | 16.00 | 15.55     | 15.19 | 15.30 |
|                    |            | RB1#13                | 16.25                                   | 15.89 | 15.87 | 15.55     | 15.19 | 15.17 |
|                    |            | RB1#24                | 16.25                                   | 15.59 | 15.76 | 15.55     | 14.89 | 15.06 |
|                    |            | RB15#0                | 14.56                                   | 14.55 | 14.64 | 13.86     | 13.85 | 13.94 |
|                    |            | RB15#10               | 14.70                                   | 14.72 | 14.40 | 14.00     | 14.02 | 13.70 |
|                    |            | RB25#0                | 14.59                                   | 14.77 | 14.45 | 13.89     | 14.07 | 13.75 |
| 10.0               | QPSK       | RB1#0                 | 16.25                                   | 16.57 | 16.14 | 15.55     | 15.87 | 15.44 |
|                    |            | RB1#25                | 16.75                                   | 16.81 | 16.52 | 16.05     | 16.11 | 15.82 |
|                    |            | RB1#49                | 16.38                                   | 16.31 | 16.16 | 15.68     | 15.61 | 15.46 |
|                    |            | RB25#0                | 15.66                                   | 15.87 | 15.70 | 14.96     | 15.17 | 15.00 |
|                    |            | RB25#25               | 15.57                                   | 15.66 | 15.55 | 14.87     | 14.96 | 14.85 |
|                    |            | RB50#0                | 15.54                                   | 15.74 | 15.62 | 14.84     | 15.04 | 14.92 |
|                    | 16QAM      | RB1#0                 | 15.64                                   | 15.83 | 16.05 | 14.94     | 15.13 | 15.35 |
|                    |            | RB1#25                | 16.13                                   | 16.11 | 16.13 | 15.43     | 15.41 | 15.43 |
|                    |            | RB1#49                | 15.85                                   | 15.58 | 15.65 | 15.15     | 14.88 | 14.95 |
|                    |            | RB25#0                | 14.73                                   | 14.67 | 14.68 | 14.03     | 13.97 | 13.98 |
|                    |            | RB25#25               | 14.63                                   | 14.76 | 14.66 | 13.93     | 14.06 | 13.96 |
|                    |            | RB50#0                | 14.60                                   | 14.86 | 14.67 | 13.90     | 14.16 | 13.97 |

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 15.0               | QPSK       | RB1#0                 | 16.72                                   | 16.74 | 16.42 | 16.02     | 16.04 | 15.72 |
|                    |            | RB1#38                | 16.59                                   | 16.72 | 16.33 | 15.89     | 16.02 | 15.63 |
|                    |            | RB1#74                | 16.51                                   | 16.50 | 16.46 | 15.81     | 15.80 | 15.76 |
|                    |            | RB36#0                | 15.63                                   | 15.62 | 15.62 | 14.93     | 14.92 | 14.92 |
|                    |            | RB36#39               | 15.51                                   | 15.55 | 15.37 | 14.81     | 14.85 | 14.67 |
|                    |            | RB75#0                | 15.66                                   | 15.63 | 15.68 | 14.96     | 14.93 | 14.98 |
|                    | 16QAM      | RB1#0                 | 16.15                                   | 15.89 | 15.96 | 15.45     | 15.19 | 15.26 |
|                    |            | RB1#38                | 16.42                                   | 15.80 | 15.82 | 15.72     | 15.10 | 15.12 |
|                    |            | RB1#74                | 16.41                                   | 15.75 | 15.79 | 15.71     | 15.05 | 15.09 |
|                    |            | RB36#0                | 14.63                                   | 14.81 | 14.51 | 13.93     | 14.11 | 13.81 |
|                    |            | RB36#39               | 14.64                                   | 14.75 | 14.55 | 13.94     | 14.05 | 13.85 |
|                    |            | RB75#0                | 14.65                                   | 14.65 | 14.53 | 13.95     | 13.95 | 13.83 |
| 20.0               | QPSK       | RB1#0                 | 16.24                                   | 16.63 | 16.22 | 15.54     | 15.93 | 15.52 |
|                    |            | RB1#50                | 16.65                                   | 17.04 | 16.62 | 15.95     | 16.34 | 15.92 |
|                    |            | RB1#99                | 16.50                                   | 16.53 | 16.13 | 15.80     | 15.83 | 15.43 |
|                    |            | RB50#0                | 15.63                                   | 15.73 | 15.66 | 14.93     | 15.03 | 14.96 |
|                    |            | RB50#50               | 15.74                                   | 15.70 | 15.51 | 15.04     | 15.00 | 14.81 |
|                    |            | RB100#0               | 15.60                                   | 15.69 | 15.82 | 14.90     | 14.99 | 15.12 |
|                    | 16QAM      | RB1#0                 | 15.82                                   | 15.87 | 15.99 | 15.12     | 15.17 | 15.29 |
|                    |            | RB1#50                | 15.97                                   | 16.02 | 16.37 | 15.27     | 15.32 | 15.67 |
|                    |            | RB1#99                | 15.82                                   | 15.78 | 15.86 | 15.12     | 15.08 | 15.16 |
|                    |            | RB50#0                | 14.61                                   | 14.87 | 14.93 | 13.91     | 14.17 | 14.23 |
|                    |            | RB50#50               | 14.65                                   | 14.70 | 14.71 | 13.95     | 14.00 | 14.01 |
|                    |            | RB100#0               | 14.72                                   | 14.72 | 14.76 | 14.02     | 14.02 | 14.06 |

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)

For Band4: Antenna Gain = -0.7dBi

Limit: EIRP ≤ 30dBm

**LTE Band5**

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | ERP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low      | Mid   | High  |
| 1.4                | QPSK       | RB1#0                 | 22.29                                   | 22.26 | 22.18 | 18.64    | 18.61 | 18.53 |
|                    |            | RB1#3                 | 22.28                                   | 22.46 | 22.33 | 18.63    | 18.81 | 18.68 |
|                    |            | RB1#5                 | 22.15                                   | 22.29 | 22.00 | 18.50    | 18.64 | 18.35 |
|                    |            | RB3#0                 | 21.39                                   | 21.45 | 21.34 | 17.74    | 17.80 | 17.69 |
|                    |            | RB3#3                 | 21.40                                   | 21.47 | 21.18 | 17.75    | 17.82 | 17.53 |
|                    |            | RB6#0                 | 21.27                                   | 21.25 | 21.16 | 17.62    | 17.60 | 17.51 |
|                    | 16QAM      | RB1#0                 | 22.19                                   | 21.43 | 21.77 | 18.54    | 17.78 | 18.12 |
|                    |            | RB1#3                 | 21.89                                   | 21.63 | 21.69 | 18.24    | 17.98 | 18.04 |
|                    |            | RB1#5                 | 22.11                                   | 21.36 | 21.51 | 18.46    | 17.71 | 17.86 |
|                    |            | RB3#0                 | 20.35                                   | 20.50 | 20.24 | 16.70    | 16.85 | 16.59 |
|                    |            | RB3#3                 | 20.32                                   | 20.60 | 20.30 | 16.67    | 16.95 | 16.65 |
|                    |            | RB6#0                 | 20.34                                   | 20.36 | 20.38 | 16.69    | 16.71 | 16.73 |
| 3.0                | QPSK       | RB1#0                 | 22.24                                   | 22.26 | 21.99 | 18.59    | 18.61 | 18.34 |
|                    |            | RB1#8                 | 22.59                                   | 22.71 | 22.31 | 18.94    | 19.06 | 18.66 |
|                    |            | RB1#14                | 22.14                                   | 22.14 | 21.92 | 18.49    | 18.49 | 18.27 |
|                    |            | RB6#0                 | 21.49                                   | 21.49 | 21.54 | 17.84    | 17.84 | 17.89 |
|                    |            | RB6#9                 | 21.39                                   | 21.41 | 21.49 | 17.74    | 17.76 | 17.84 |
|                    |            | RB15#0                | 21.27                                   | 21.55 | 21.49 | 17.62    | 17.90 | 17.84 |
|                    | 16QAM      | RB1#0                 | 21.43                                   | 21.56 | 21.68 | 17.78    | 17.91 | 18.03 |
|                    |            | RB1#8                 | 22.06                                   | 21.84 | 21.91 | 18.41    | 18.19 | 18.26 |
|                    |            | RB1#14                | 21.57                                   | 21.49 | 21.48 | 17.92    | 17.84 | 17.83 |
|                    |            | RB6#0                 | 20.29                                   | 20.46 | 20.69 | 16.64    | 16.81 | 17.04 |
|                    |            | RB6#9                 | 20.48                                   | 20.62 | 20.43 | 16.83    | 16.97 | 16.78 |
|                    |            | RB15#0                | 20.42                                   | 20.51 | 20.52 | 16.77    | 16.86 | 16.87 |

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | ERP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low      | Mid   | High  |
| 5.0                | QPSK       | RB1#0                 | 22.20                                   | 22.19 | 22.12 | 18.55    | 18.54 | 18.47 |
|                    |            | RB1#13                | 22.23                                   | 22.13 | 22.20 | 18.58    | 18.48 | 18.55 |
|                    |            | RB1#24                | 21.94                                   | 22.12 | 22.08 | 18.29    | 18.47 | 18.43 |
|                    |            | RB15#0                | 21.16                                   | 21.23 | 21.16 | 17.51    | 17.58 | 17.51 |
|                    |            | RB15#10               | 21.17                                   | 21.08 | 21.01 | 17.52    | 17.43 | 17.36 |
|                    |            | RB25#0                | 21.27                                   | 21.32 | 21.06 | 17.62    | 17.67 | 17.41 |
|                    | 16QAM      | RB1#0                 | 21.90                                   | 21.37 | 21.51 | 18.25    | 17.72 | 17.86 |
|                    |            | RB1#13                | 21.92                                   | 21.39 | 21.36 | 18.27    | 17.74 | 17.71 |
|                    |            | RB1#24                | 21.82                                   | 21.25 | 21.38 | 18.17    | 17.60 | 17.73 |
|                    |            | RB15#0                | 20.26                                   | 20.26 | 20.17 | 16.61    | 16.61 | 16.52 |
|                    |            | RB15#10               | 20.19                                   | 20.30 | 20.10 | 16.54    | 16.65 | 16.45 |
|                    |            | RB25#0                | 20.29                                   | 20.27 | 20.26 | 16.64    | 16.62 | 16.61 |
| 10.0               | QPSK       | RB1#0                 | 22.01                                   | 22.01 | 21.72 | 18.36    | 18.36 | 18.07 |
|                    |            | RB1#25                | 22.36                                   | 22.50 | 22.15 | 18.71    | 18.85 | 18.50 |
|                    |            | RB1#49                | 21.89                                   | 22.03 | 21.64 | 18.24    | 18.38 | 17.99 |
|                    |            | RB25#0                | 21.01                                   | 21.51 | 21.30 | 17.36    | 17.86 | 17.65 |
|                    |            | RB25#25               | 21.31                                   | 21.38 | 21.22 | 17.66    | 17.73 | 17.57 |
|                    |            | RB50#0                | 21.18                                   | 21.47 | 21.11 | 17.53    | 17.82 | 17.46 |
|                    | 16QAM      | RB1#0                 | 21.45                                   | 21.33 | 21.48 | 17.80    | 17.68 | 17.83 |
|                    |            | RB1#25                | 21.60                                   | 21.58 | 21.83 | 17.95    | 17.93 | 18.18 |
|                    |            | RB1#49                | 21.53                                   | 21.12 | 21.42 | 17.88    | 17.47 | 17.77 |
|                    |            | RB25#0                | 20.11                                   | 20.39 | 20.40 | 16.46    | 16.74 | 16.75 |
|                    |            | RB25#25               | 20.19                                   | 20.48 | 20.20 | 16.54    | 16.83 | 16.55 |
|                    |            | RB50#0                | 20.07                                   | 20.29 | 20.33 | 16.42    | 16.64 | 16.68 |

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)  
 For Band5: Antenna Gain = -1.5dBi = -3.65dBd (0dBd=2.15dBi)  
 Limit: ERP ≤ 38.45dBm

**LTE Band 7**

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 5.0                | QPSK       | RB1#0                 | 15.62                                   | 15.86 | 15.62 | 15.22     | 15.46 | 15.22 |
|                    |            | RB1#12                | 15.91                                   | 15.85 | 15.76 | 15.51     | 15.45 | 15.36 |
|                    |            | RB1#24                | 15.62                                   | 15.85 | 15.45 | 15.22     | 15.45 | 15.05 |
|                    |            | RB12#0                | 14.65                                   | 15.01 | 14.69 | 14.25     | 14.61 | 14.29 |
|                    |            | RB12#6                | 14.77                                   | 14.89 | 14.72 | 14.37     | 14.49 | 14.32 |
|                    |            | RB12#11               | 14.80                                   | 14.91 | 14.72 | 14.40     | 14.51 | 14.32 |
|                    |            | RB25#0                | 15.44                                   | 14.99 | 15.31 | 15.04     | 14.59 | 14.91 |
|                    | 16QAM      | RB1#0                 | 15.43                                   | 15.04 | 14.95 | 15.03     | 14.64 | 14.55 |
|                    |            | RB1#12                | 15.47                                   | 14.88 | 14.89 | 15.07     | 14.48 | 14.49 |
|                    |            | RB1#24                | 13.90                                   | 13.87 | 13.74 | 13.50     | 13.47 | 13.34 |
|                    |            | RB12#0                | 13.76                                   | 13.88 | 13.59 | 13.36     | 13.48 | 13.19 |
|                    |            | RB12#6                | 13.63                                   | 13.89 | 13.56 | 13.23     | 13.49 | 13.16 |
|                    |            | RB12#11               | 15.68                                   | 15.67 | 15.42 | 15.28     | 15.27 | 15.02 |
|                    |            | RB25#0                | 15.96                                   | 16.15 | 15.63 | 15.56     | 15.75 | 15.23 |
| 10.0               | QPSK       | RB1#0                 | 15.68                                   | 15.69 | 15.27 | 15.28     | 15.29 | 14.87 |
|                    |            | RB1#24                | 14.87                                   | 14.83 | 15.03 | 14.47     | 14.43 | 14.63 |
|                    |            | RB1#49                | 14.79                                   | 14.87 | 14.59 | 14.39     | 14.47 | 14.19 |
|                    |            | RB25#0                | 14.77                                   | 14.94 | 14.74 | 14.37     | 14.54 | 14.34 |
|                    |            | RB25#12               | 14.84                                   | 14.84 | 15.06 | 14.44     | 14.44 | 14.66 |
|                    |            | RB25#24               | 15.37                                   | 15.20 | 15.43 | 14.97     | 14.80 | 15.03 |
|                    |            | RB50#0                | 15.02                                   | 14.98 | 14.96 | 14.62     | 14.58 | 14.56 |
|                    | 16QAM      | RB1#0                 | 13.74                                   | 14.15 | 13.96 | 13.34     | 13.75 | 13.56 |
|                    |            | RB1#24                | 13.78                                   | 13.94 | 13.66 | 13.38     | 13.54 | 13.26 |
|                    |            | RB1#49                | 13.74                                   | 14.04 | 13.92 | 13.34     | 13.64 | 13.52 |
|                    |            | RB25#0                | 15.62                                   | 15.86 | 15.62 | 15.22     | 15.46 | 15.22 |
|                    |            | RB25#12               | 15.91                                   | 15.85 | 15.76 | 15.51     | 15.45 | 15.36 |
|                    |            | RB25#24               | 15.62                                   | 15.85 | 15.45 | 15.22     | 15.45 | 15.05 |
|                    |            | RB50#0                | 14.65                                   | 15.01 | 14.69 | 14.25     | 14.61 | 14.29 |

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 15.0               | QPSK       | RB1#0                 | 15.80                                   | 15.94 | 15.76 | 15.40     | 15.54 | 15.36 |
|                    |            | RB1#37                | 16.11                                   | 16.09 | 15.90 | 15.71     | 15.69 | 15.50 |
|                    |            | RB1#74                | 15.87                                   | 15.79 | 15.60 | 15.47     | 15.39 | 15.20 |
|                    |            | RB36#0                | 14.92                                   | 15.06 | 14.92 | 14.52     | 14.66 | 14.52 |
|                    |            | RB36#18               | 15.04                                   | 15.17 | 14.79 | 14.64     | 14.77 | 14.39 |
|                    |            | RB36#37               | 14.97                                   | 15.03 | 14.80 | 14.57     | 14.63 | 14.40 |
|                    |            | RB75#0                | 15.53                                   | 15.18 | 15.43 | 15.13     | 14.78 | 15.03 |
|                    | 16QAM      | RB1#0                 | 15.58                                   | 15.21 | 15.40 | 15.18     | 14.81 | 15.00 |
|                    |            | RB1#37                | 15.69                                   | 15.13 | 15.07 | 15.29     | 14.73 | 14.67 |
|                    |            | RB1#74                | 13.98                                   | 14.06 | 13.92 | 13.58     | 13.66 | 13.52 |
|                    |            | RB36#0                | 13.91                                   | 14.25 | 13.78 | 13.51     | 13.85 | 13.38 |
|                    |            | RB36#18               | 13.99                                   | 14.00 | 14.00 | 13.59     | 13.60 | 13.60 |
|                    |            | RB36#37               | 15.68                                   | 15.99 | 15.68 | 15.28     | 15.59 | 15.28 |
|                    |            | RB75#0                | 15.98                                   | 16.27 | 16.04 | 15.58     | 15.87 | 15.64 |
| 20.0               | QPSK       | RB1#0                 | 15.87                                   | 15.72 | 15.39 | 15.47     | 15.32 | 14.99 |
|                    |            | RB1#49                | 14.80                                   | 15.30 | 15.21 | 14.40     | 14.90 | 14.81 |
|                    |            | RB1#99                | 15.02                                   | 15.21 | 15.02 | 14.62     | 14.81 | 14.62 |
|                    |            | RB50#0                | 15.04                                   | 15.24 | 14.88 | 14.64     | 14.84 | 14.48 |
|                    |            | RB50#24               | 15.05                                   | 15.15 | 15.17 | 14.65     | 14.75 | 14.77 |
|                    |            | RB50#49               | 15.61                                   | 15.45 | 15.51 | 15.21     | 15.05 | 15.11 |
|                    |            | RB100#0               | 15.23                                   | 15.00 | 15.03 | 14.83     | 14.60 | 14.63 |
|                    | 16QAM      | RB1#0                 | 13.86                                   | 14.21 | 14.20 | 13.46     | 13.81 | 13.80 |
|                    |            | RB1#49                | 13.96                                   | 14.34 | 14.01 | 13.56     | 13.94 | 13.61 |
|                    |            | RB1#99                | 14.03                                   | 14.19 | 14.05 | 13.63     | 13.79 | 13.65 |
|                    |            | RB50#0                | 15.80                                   | 15.94 | 15.76 | 15.40     | 15.54 | 15.36 |
|                    |            | RB50#24               | 16.11                                   | 16.09 | 15.90 | 15.71     | 15.69 | 15.50 |
|                    |            | RB50#49               | 15.87                                   | 15.79 | 15.60 | 15.47     | 15.39 | 15.20 |
|                    |            | RB100#0               | 14.92                                   | 15.06 | 14.92 | 14.52     | 14.66 | 14.52 |

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)  
 For Band7: Antenna Gain = -0.40dBi  
 Limit: EIRP ≤ 33dBm

**LTE Band 12**

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 1.4                | QPSK       | RB1#0                 | 21.97                                   | 22.27 | 22.14 | 17.92     | 18.22 | 18.09 |
|                    |            | RB1#3                 | 22.15                                   | 22.37 | 22.08 | 18.10     | 18.32 | 18.03 |
|                    |            | RB1#5                 | 22.04                                   | 22.12 | 21.81 | 17.99     | 18.07 | 17.76 |
|                    |            | RB3#0                 | 21.04                                   | 21.23 | 21.22 | 16.99     | 17.18 | 17.17 |
|                    |            | RB3#3                 | 21.13                                   | 21.33 | 20.97 | 17.08     | 17.28 | 16.92 |
|                    |            | RB6#0                 | 21.31                                   | 21.31 | 21.15 | 17.26     | 17.26 | 17.10 |
|                    | 16QAM      | RB1#0                 | 21.80                                   | 21.51 | 21.53 | 17.75     | 17.46 | 17.48 |
|                    |            | RB1#3                 | 21.87                                   | 21.47 | 21.56 | 17.82     | 17.42 | 17.51 |
|                    |            | RB1#5                 | 21.92                                   | 21.26 | 21.46 | 17.87     | 17.21 | 17.41 |
|                    |            | RB3#0                 | 20.10                                   | 20.41 | 20.08 | 16.05     | 16.36 | 16.03 |
|                    |            | RB3#3                 | 20.35                                   | 20.31 | 19.98 | 16.30     | 16.26 | 15.93 |
|                    |            | RB6#0                 | 20.15                                   | 20.28 | 20.21 | 16.10     | 16.23 | 16.16 |
| 3.0                | QPSK       | RB1#0                 | 22.00                                   | 22.20 | 21.87 | 17.95     | 18.15 | 17.82 |
|                    |            | RB1#8                 | 22.48                                   | 22.31 | 22.20 | 18.43     | 18.26 | 18.15 |
|                    |            | RB1#14                | 22.00                                   | 21.92 | 21.73 | 17.95     | 17.87 | 17.68 |
|                    |            | RB6#0                 | 21.14                                   | 21.39 | 21.32 | 17.09     | 17.34 | 17.27 |
|                    |            | RB6#9                 | 21.24                                   | 21.31 | 21.15 | 17.19     | 17.26 | 17.10 |
|                    |            | RB15#0                | 21.13                                   | 21.20 | 21.28 | 17.08     | 17.15 | 17.23 |
|                    | 16QAM      | RB1#0                 | 21.40                                   | 21.17 | 21.40 | 17.35     | 17.12 | 17.35 |
|                    |            | RB1#8                 | 21.75                                   | 21.50 | 21.65 | 17.70     | 17.45 | 17.60 |
|                    |            | RB1#14                | 21.30                                   | 21.10 | 21.29 | 17.25     | 17.05 | 17.24 |
|                    |            | RB6#0                 | 20.20                                   | 20.32 | 20.28 | 16.15     | 16.27 | 16.23 |
|                    |            | RB6#9                 | 20.16                                   | 20.41 | 20.09 | 16.11     | 16.36 | 16.04 |
|                    |            | RB15#0                | 20.21                                   | 20.48 | 20.15 | 16.16     | 16.43 | 16.10 |

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 5.0                | QPSK       | RB1#0                 | 22.12                                   | 22.37 | 22.17 | 18.07     | 18.32 | 18.12 |
|                    |            | RB1#13                | 22.23                                   | 22.41 | 22.02 | 18.18     | 18.36 | 17.97 |
|                    |            | RB1#24                | 22.11                                   | 22.18 | 22.17 | 18.06     | 18.13 | 18.12 |
|                    |            | RB15#0                | 21.31                                   | 21.21 | 21.40 | 17.26     | 17.16 | 17.35 |
|                    |            | RB15#10               | 21.27                                   | 21.33 | 21.27 | 17.22     | 17.28 | 17.22 |
|                    |            | RB25#0                | 21.34                                   | 21.42 | 21.11 | 17.29     | 17.37 | 17.06 |
|                    | 16QAM      | RB1#0                 | 21.92                                   | 21.40 | 21.76 | 17.87     | 17.35 | 17.71 |
|                    |            | RB1#13                | 22.11                                   | 21.60 | 21.62 | 18.06     | 17.55 | 17.57 |
|                    |            | RB1#24                | 21.83                                   | 21.31 | 21.45 | 17.78     | 17.26 | 17.40 |
|                    |            | RB15#0                | 20.41                                   | 20.42 | 20.18 | 16.36     | 16.37 | 16.13 |
|                    |            | RB15#10               | 20.42                                   | 20.27 | 20.14 | 16.37     | 16.22 | 16.09 |
|                    |            | RB25#0                | 20.36                                   | 20.45 | 20.34 | 16.31     | 16.40 | 16.29 |
| 10.0               | QPSK       | RB1#0                 | 22.01                                   | 22.18 | 21.90 | 17.96     | 18.13 | 17.85 |
|                    |            | RB1#25                | 22.46                                   | 22.40 | 22.38 | 18.41     | 18.35 | 18.33 |
|                    |            | RB1#49                | 22.06                                   | 22.20 | 21.81 | 18.01     | 18.15 | 17.76 |
|                    |            | RB25#0                | 21.36                                   | 21.46 | 21.43 | 17.31     | 17.41 | 17.38 |
|                    |            | RB25#25               | 21.15                                   | 21.43 | 21.27 | 17.10     | 17.38 | 17.22 |
|                    |            | RB50#0                | 21.30                                   | 21.37 | 21.36 | 17.25     | 17.32 | 17.31 |
|                    | 16QAM      | RB1#0                 | 21.38                                   | 21.47 | 21.59 | 17.33     | 17.42 | 17.54 |
|                    |            | RB1#25                | 21.78                                   | 21.68 | 21.90 | 17.73     | 17.63 | 17.85 |
|                    |            | RB1#49                | 21.61                                   | 21.26 | 21.54 | 17.56     | 17.21 | 17.49 |
|                    |            | RB25#0                | 20.37                                   | 20.59 | 20.59 | 16.32     | 16.54 | 16.54 |
|                    |            | RB25#25               | 20.28                                   | 20.61 | 20.39 | 16.23     | 16.56 | 16.34 |
|                    |            | RB50#0                | 20.34                                   | 20.64 | 20.35 | 16.29     | 16.59 | 16.30 |

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)  
 For Band12: Antenna Gain = -1.9dBi = -4.05dBd (0dBd=2.15dBi)  
 Limit: ERP ≤ 34.77dBm

**LTE Band 13:**

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 5                  | QPSK       | RB1#0                 | 21.68                                   | 21.82 | 21.49 | 17.63     | 17.77 | 17.44 |
|                    |            | RB1#13                | 21.73                                   | 21.87 | 21.45 | 17.68     | 17.82 | 17.40 |
|                    |            | RB1#24                | 21.69                                   | 21.59 | 21.49 | 17.64     | 17.54 | 17.44 |
|                    |            | RB15#0                | 20.69                                   | 20.75 | 20.81 | 16.64     | 16.70 | 16.76 |
|                    |            | RB15#10               | 20.76                                   | 20.74 | 20.59 | 16.71     | 16.69 | 16.54 |
|                    |            | RB25#0                | 20.72                                   | 20.69 | 20.58 | 16.67     | 16.64 | 16.53 |
|                    | 16QAM      | RB1#0                 | 21.26                                   | 20.81 | 21.04 | 17.21     | 16.76 | 16.99 |
|                    |            | RB1#13                | 21.30                                   | 20.98 | 21.13 | 17.25     | 16.93 | 17.08 |
|                    |            | RB1#24                | 21.35                                   | 20.88 | 20.70 | 17.30     | 16.83 | 16.65 |
|                    |            | RB15#0                | 19.68                                   | 19.77 | 19.63 | 15.63     | 15.72 | 15.58 |
|                    |            | RB15#10               | 19.68                                   | 19.79 | 19.45 | 15.63     | 15.74 | 15.40 |
|                    |            | RB25#0                | 19.83                                   | 19.85 | 19.57 | 15.78     | 15.80 | 15.52 |
| 10                 | QPSK       | RB1#0                 | /                                       | 21.75 | /     | /         | 17.70 | /     |
|                    |            | RB1#25                | /                                       | 21.75 | /     | /         | 17.70 | /     |
|                    |            | RB1#49                | /                                       | 21.51 | /     | /         | 17.46 | /     |
|                    |            | RB25#0                | /                                       | 20.89 | /     | /         | 16.84 | /     |
|                    |            | RB25#25               | /                                       | 20.85 | /     | /         | 16.80 | /     |
|                    |            | RB50#0                | /                                       | 20.87 | /     | /         | 16.82 | /     |
|                    | 16QAM      | RB1#0                 | /                                       | 20.88 | /     | /         | 16.83 | /     |
|                    |            | RB1#25                | /                                       | 21.18 | /     | /         | 17.13 | /     |
|                    |            | RB1#49                | /                                       | 20.74 | /     | /         | 16.69 | /     |
|                    |            | RB25#0                | /                                       | 19.80 | /     | /         | 15.75 | /     |
|                    |            | RB25#25               | /                                       | 19.88 | /     | /         | 15.83 | /     |
|                    |            | RB50#0                | /                                       | 20.03 | /     | /         | 15.98 | /     |

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)  
 For Band13: Antenna Gain = -1.9dBi = -4.05dBd (0dBd=2.15dBi)  
 Limit: ERP ≤ 34.77dBm

**LTE Band17**

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | ERP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low      | Mid   | High  |
| 5.0                | QPSK       | RB1#0                 | 22.16                                   | 22.08 | 21.88 | 18.11    | 18.03 | 17.83 |
|                    |            | RB1#12                | 22.10                                   | 22.12 | 21.90 | 18.05    | 18.07 | 17.85 |
|                    |            | RB1#24                | 21.93                                   | 22.01 | 21.84 | 17.88    | 17.96 | 17.79 |
|                    |            | RB12#0                | 21.13                                   | 21.20 | 20.94 | 17.08    | 17.15 | 16.89 |
|                    |            | RB12#6                | 21.07                                   | 21.06 | 20.93 | 17.02    | 17.01 | 16.88 |
|                    |            | RB12#11               | 21.00                                   | 21.06 | 21.11 | 16.95    | 17.01 | 17.06 |
|                    |            | RB25#0                | 21.71                                   | 21.19 | 21.51 | 17.66    | 17.14 | 17.46 |
|                    | 16QAM      | RB1#0                 | 21.66                                   | 21.31 | 21.33 | 17.61    | 17.26 | 17.28 |
|                    |            | RB1#12                | 21.72                                   | 21.24 | 21.28 | 17.67    | 17.19 | 17.23 |
|                    |            | RB1#24                | 19.99                                   | 20.11 | 20.02 | 15.94    | 16.06 | 15.97 |
|                    |            | RB12#0                | 20.06                                   | 20.20 | 20.02 | 16.01    | 16.15 | 15.97 |
|                    |            | RB12#6                | 20.21                                   | 20.32 | 19.97 | 16.16    | 16.27 | 15.92 |
|                    |            | RB12#11               | 21.86                                   | 22.05 | 21.75 | 17.81    | 18.00 | 17.70 |
|                    |            | RB25#0                | 22.12                                   | 22.37 | 22.02 | 18.07    | 18.32 | 17.97 |
| 10.0               | QPSK       | RB1#0                 | 21.95                                   | 21.95 | 21.59 | 17.90    | 17.90 | 17.54 |
|                    |            | RB1#24                | 21.10                                   | 21.22 | 21.18 | 17.05    | 17.17 | 17.13 |
|                    |            | RB1#49                | 21.05                                   | 21.23 | 20.90 | 17.00    | 17.18 | 16.85 |
|                    |            | RB25#0                | 21.23                                   | 21.21 | 21.00 | 17.18    | 17.16 | 16.95 |
|                    |            | RB25#12               | 21.24                                   | 21.14 | 21.29 | 17.19    | 17.09 | 17.24 |
|                    |            | RB25#24               | 21.64                                   | 21.46 | 21.72 | 17.59    | 17.41 | 17.67 |
|                    |            | RB50#0                | 21.34                                   | 21.17 | 21.24 | 17.29    | 17.12 | 17.19 |
|                    | 16QAM      | RB1#0                 | 20.11                                   | 20.31 | 20.34 | 16.06    | 16.26 | 16.29 |
|                    |            | RB1#24                | 19.97                                   | 20.26 | 19.96 | 15.92    | 16.21 | 15.91 |
|                    |            | RB1#49                | 20.08                                   | 20.32 | 20.17 | 16.03    | 16.27 | 16.12 |
|                    |            | RB25#0                | 22.16                                   | 22.08 | 21.88 | 18.11    | 18.03 | 17.83 |
|                    |            | RB25#12               | 22.10                                   | 22.12 | 21.90 | 18.05    | 18.07 | 17.85 |
|                    |            | RB25#24               | 21.93                                   | 22.01 | 21.84 | 17.88    | 17.96 | 17.79 |
|                    |            | RB50#0                | 21.13                                   | 21.20 | 20.94 | 17.08    | 17.15 | 16.89 |

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)  
 For Band17: Antenna Gain = -1.9dBi = -4.05dBd (0dBd=2.15dBi)  
 Limit: ERP ≤ 34.77dBm

**LTE Band 38:**

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 5.0                | QP SK      | RB1#0                 | 18.58                                   | 18.62 | 18.59 | 18.18     | 18.22 | 18.19 |
|                    |            | RB1#13                | 18.69                                   | 18.68 | 18.64 | 18.29     | 18.28 | 18.24 |
|                    |            | RB1#24                | 18.62                                   | 18.58 | 18.57 | 18.22     | 18.18 | 18.17 |
|                    |            | RB15#0                | 17.61                                   | 17.64 | 17.64 | 17.21     | 17.24 | 17.24 |
|                    |            | RB15#10               | 17.63                                   | 17.59 | 17.59 | 17.23     | 17.19 | 17.19 |
|                    |            | RB25#0                | 17.63                                   | 17.62 | 17.63 | 17.23     | 17.22 | 17.23 |
|                    | 16QAM      | RB1#0                 | 17.67                                   | 17.85 | 17.54 | 17.27     | 17.45 | 17.14 |
|                    |            | RB1#13                | 17.78                                   | 17.94 | 17.66 | 17.38     | 17.54 | 17.26 |
|                    |            | RB1#24                | 17.69                                   | 17.81 | 17.56 | 17.29     | 17.41 | 17.16 |
|                    |            | RB15#0                | 16.69                                   | 16.74 | 16.61 | 16.29     | 16.34 | 16.21 |
|                    |            | RB15#10               | 16.72                                   | 16.72 | 16.56 | 16.32     | 16.32 | 16.16 |
|                    |            | RB25#0                | 16.71                                   | 16.66 | 16.67 | 16.31     | 16.26 | 16.27 |
| 10.0               | QPSK       | RB1#0                 | 18.53                                   | 18.71 | 18.67 | 18.13     | 18.31 | 18.27 |
|                    |            | RB1#25                | 18.94                                   | 18.98 | 18.96 | 18.54     | 18.58 | 18.56 |
|                    |            | RB1#49                | 18.66                                   | 18.69 | 18.63 | 18.26     | 18.29 | 18.23 |
|                    |            | RB25#0                | 17.64                                   | 17.65 | 17.62 | 17.24     | 17.25 | 17.22 |
|                    |            | RB25#25               | 17.62                                   | 17.65 | 17.61 | 17.22     | 17.25 | 17.21 |
|                    |            | RB50#0                | 17.67                                   | 17.65 | 17.60 | 17.27     | 17.25 | 17.20 |
|                    | 16QAM      | RB1#0                 | 17.87                                   | 17.64 | 17.75 | 17.47     | 17.24 | 17.35 |
|                    |            | RB1#25                | 18.16                                   | 17.89 | 18.03 | 17.76     | 17.49 | 17.63 |
|                    |            | RB1#49                | 17.89                                   | 17.58 | 17.74 | 17.49     | 17.18 | 17.34 |
|                    |            | RB25#0                | 16.61                                   | 16.74 | 16.68 | 16.21     | 16.34 | 16.28 |
|                    |            | RB25#25               | 16.68                                   | 16.73 | 16.67 | 16.28     | 16.33 | 16.27 |
|                    |            | RB50#0                | 16.69                                   | 16.68 | 16.67 | 16.29     | 16.28 | 16.27 |

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 15.0               | QPSK       | RB1#0                 | 18.61                                   | 18.62 | 18.59 | 18.21     | 18.22 | 18.19 |
|                    |            | RB1#38                | 18.69                                   | 18.73 | 18.70 | 18.29     | 18.33 | 18.30 |
|                    |            | RB1#74                | 18.55                                   | 18.55 | 18.55 | 18.15     | 18.15 | 18.15 |
|                    |            | RB36#0                | 17.65                                   | 17.70 | 17.65 | 17.25     | 17.30 | 17.25 |
|                    |            | RB36#39               | 17.65                                   | 17.68 | 17.64 | 17.25     | 17.28 | 17.24 |
|                    |            | RB75#0                | 17.64                                   | 17.68 | 17.65 | 17.24     | 17.28 | 17.25 |
|                    | 16QAM      | RB1#0                 | 17.80                                   | 17.58 | 17.82 | 17.40     | 17.18 | 17.42 |
|                    |            | RB1#38                | 17.92                                   | 17.70 | 17.91 | 17.52     | 17.30 | 17.51 |
|                    |            | RB1#74                | 17.78                                   | 17.53 | 17.78 | 17.38     | 17.13 | 17.38 |
|                    |            | RB36#0                | 16.71                                   | 16.64 | 16.74 | 16.31     | 16.24 | 16.34 |
|                    |            | RB36#39               | 16.73                                   | 16.66 | 16.71 | 16.33     | 16.26 | 16.31 |
|                    |            | RB75#0                | 16.65                                   | 16.73 | 16.67 | 16.25     | 16.33 | 16.27 |
| 20.0               | QPSK       | RB1#0                 | 18.42                                   | 18.42 | 18.53 | 18.02     | 18.02 | 18.13 |
|                    |            | RB1#50                | 18.94                                   | 18.94 | 18.99 | 18.54     | 18.54 | 18.59 |
|                    |            | RB1#99                | 18.40                                   | 18.37 | 18.45 | 18.00     | 17.97 | 18.05 |
|                    |            | RB50#0                | 17.67                                   | 17.66 | 17.64 | 17.27     | 17.26 | 17.24 |
|                    |            | RB50#50               | 17.70                                   | 17.63 | 17.65 | 17.30     | 17.23 | 17.25 |
|                    |            | RB100#0               | 17.66                                   | 17.68 | 17.62 | 17.26     | 17.28 | 17.22 |
|                    | 16QAM      | RB1#0                 | 17.50                                   | 17.44 | 17.72 | 17.10     | 17.04 | 17.32 |
|                    |            | RB1#50                | 18.02                                   | 17.93 | 18.21 | 17.62     | 17.53 | 17.81 |
|                    |            | RB1#99                | 17.49                                   | 17.36 | 17.69 | 17.09     | 16.96 | 17.29 |
|                    |            | RB50#0                | 16.74                                   | 16.75 | 16.71 | 16.34     | 16.35 | 16.31 |
|                    |            | RB50#50               | 16.72                                   | 16.78 | 16.69 | 16.32     | 16.38 | 16.29 |
|                    |            | RB100#0               | 16.71                                   | 16.73 | 16.69 | 16.31     | 16.33 | 16.29 |

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)  
 For Band38: Antenna Gain = -0.40dBi  
 Limit: EIRP ≤ 33dBm

**LTE Band 41:**

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 5.0                | QP SK      | RB1#0                 | 18.17                                   | 18.45 | 18.18 | 17.77     | 18.05 | 17.78 |
|                    |            | RB1#13                | 18.27                                   | 18.52 | 18.30 | 17.87     | 18.12 | 17.90 |
|                    |            | RB1#24                | 18.18                                   | 18.44 | 18.10 | 17.78     | 18.04 | 17.70 |
|                    |            | RB15#0                | 17.15                                   | 17.43 | 17.23 | 16.75     | 17.03 | 16.83 |
|                    |            | RB15#10               | 17.20                                   | 17.45 | 17.16 | 16.80     | 17.05 | 16.76 |
|                    |            | RB25#0                | 17.19                                   | 17.43 | 17.22 | 16.79     | 17.03 | 16.82 |
|                    | 16QAM      | RB1#0                 | 17.14                                   | 17.50 | 17.41 | 16.74     | 17.10 | 17.01 |
|                    |            | RB1#13                | 17.26                                   | 17.60 | 17.53 | 16.86     | 17.20 | 17.13 |
|                    |            | RB1#24                | 17.19                                   | 17.49 | 17.50 | 16.79     | 17.09 | 17.10 |
|                    |            | RB15#0                | 16.14                                   | 16.52 | 16.32 | 15.74     | 16.12 | 15.92 |
|                    |            | RB15#10               | 16.19                                   | 16.51 | 16.27 | 15.79     | 16.11 | 15.87 |
|                    |            | RB25#0                | 16.24                                   | 16.54 | 16.26 | 15.84     | 16.14 | 15.86 |
| 10.0               | QPSK       | RB1#0                 | 18.24                                   | 18.57 | 18.39 | 17.84     | 18.17 | 17.99 |
|                    |            | RB1#25                | 18.58                                   | 18.88 | 18.66 | 18.18     | 18.48 | 18.26 |
|                    |            | RB1#49                | 18.33                                   | 18.53 | 18.27 | 17.93     | 18.13 | 17.87 |
|                    |            | RB25#0                | 17.22                                   | 17.48 | 17.37 | 16.82     | 17.08 | 16.97 |
|                    |            | RB25#25               | 17.32                                   | 17.52 | 17.24 | 16.92     | 17.12 | 16.84 |
|                    |            | RB50#0                | 17.28                                   | 17.50 | 17.30 | 16.88     | 17.10 | 16.90 |
|                    | 16QAM      | RB1#0                 | 17.46                                   | 17.49 | 17.47 | 17.06     | 17.09 | 17.07 |
|                    |            | RB1#25                | 17.81                                   | 17.78 | 17.73 | 17.41     | 17.38 | 17.33 |
|                    |            | RB1#49                | 17.55                                   | 17.42 | 17.36 | 17.15     | 17.02 | 16.96 |
|                    |            | RB25#0                | 16.26                                   | 16.61 | 16.45 | 15.86     | 16.21 | 16.05 |
|                    |            | RB25#25               | 16.35                                   | 16.60 | 16.34 | 15.95     | 16.20 | 15.94 |
|                    |            | RB50#0                | 16.30                                   | 16.55 | 16.38 | 15.90     | 16.15 | 15.98 |

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 15.0               | QPSK       | RB1#0                 | 18.22                                   | 18.49 | 18.37 | 17.82     | 18.09 | 17.97 |
|                    |            | RB1#38                | 18.41                                   | 18.58 | 18.37 | 18.01     | 18.18 | 17.97 |
|                    |            | RB1#74                | 18.32                                   | 18.43 | 18.16 | 17.92     | 18.03 | 17.76 |
|                    |            | RB36#0                | 17.26                                   | 17.50 | 17.41 | 16.86     | 17.10 | 17.01 |
|                    |            | RB36#39               | 17.38                                   | 17.51 | 17.29 | 16.98     | 17.11 | 16.89 |
|                    |            | RB75#0                | 17.28                                   | 17.53 | 17.36 | 16.88     | 17.13 | 16.96 |
|                    | 16QAM      | RB1#0                 | 17.43                                   | 17.47 | 17.58 | 17.03     | 17.07 | 17.18 |
|                    |            | RB1#38                | 17.60                                   | 17.54 | 17.58 | 17.20     | 17.14 | 17.18 |
|                    |            | RB1#74                | 17.49                                   | 17.39 | 17.42 | 17.09     | 16.99 | 17.02 |
|                    |            | RB36#0                | 16.26                                   | 16.49 | 16.46 | 15.86     | 16.09 | 16.06 |
|                    |            | RB36#39               | 16.41                                   | 16.49 | 16.36 | 16.01     | 16.09 | 15.96 |
|                    |            | RB75#0                | 16.25                                   | 16.56 | 16.39 | 15.85     | 16.16 | 15.99 |
| 20.0               | QPSK       | RB1#0                 | 18.04                                   | 18.31 | 18.32 | 17.64     | 17.91 | 17.92 |
|                    |            | RB1#50                | 18.61                                   | 18.75 | 18.72 | 18.21     | 18.35 | 18.32 |
|                    |            | RB1#99                | 18.20                                   | 18.23 | 18.14 | 17.80     | 17.83 | 17.74 |
|                    |            | RB50#0                | 17.21                                   | 17.47 | 17.45 | 16.81     | 17.07 | 17.05 |
|                    |            | RB50#50               | 17.40                                   | 17.47 | 17.24 | 17.00     | 17.07 | 16.84 |
|                    |            | RB100#0               | 17.29                                   | 17.48 | 17.37 | 16.89     | 17.08 | 16.97 |
|                    | 16QAM      | RB1#0                 | 17.10                                   | 17.29 | 17.57 | 16.70     | 16.89 | 17.17 |
|                    |            | RB1#50                | 17.69                                   | 17.75 | 17.92 | 17.29     | 17.35 | 17.52 |
|                    |            | RB1#99                | 17.27                                   | 17.23 | 17.34 | 16.87     | 16.83 | 16.94 |
|                    |            | RB50#0                | 16.26                                   | 16.58 | 16.53 | 15.86     | 16.18 | 16.13 |
|                    |            | RB50#50               | 16.45                                   | 16.58 | 16.33 | 16.05     | 16.18 | 15.93 |
|                    |            | RB100#0               | 16.34                                   | 16.53 | 16.43 | 15.94     | 16.13 | 16.03 |

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)  
 For Band41: Antenna Gain = -0.40dBi  
 Limit: EIRP ≤ 33dBm

**LTE Band 66:**

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 1.4                | QP SK      | RB1#0                 | 16.44                                   | 16.42 | 16.24 | 15.74     | 15.72 | 15.54 |
|                    |            | RB1#3                 | 16.54                                   | 16.53 | 16.36 | 15.84     | 15.83 | 15.66 |
|                    |            | RB1#5                 | 16.46                                   | 16.38 | 16.24 | 15.76     | 15.68 | 15.54 |
|                    |            | RB3#0                 | 16.71                                   | 16.58 | 16.45 | 16.01     | 15.88 | 15.75 |
|                    |            | RB3#3                 | 16.59                                   | 16.59 | 16.37 | 15.89     | 15.89 | 15.67 |
|                    |            | RB6#0                 | 15.50                                   | 15.47 | 15.26 | 14.80     | 14.77 | 14.56 |
|                    | 16QAM      | RB1#0                 | 15.60                                   | 15.47 | 15.36 | 14.90     | 14.77 | 14.66 |
|                    |            | RB1#3                 | 15.77                                   | 15.63 | 15.32 | 15.07     | 14.93 | 14.62 |
|                    |            | RB1#5                 | 15.65                                   | 15.51 | 15.25 | 14.95     | 14.81 | 14.55 |
|                    |            | RB3#0                 | 15.56                                   | 15.72 | 15.63 | 14.86     | 15.02 | 14.93 |
|                    |            | RB3#3                 | 15.72                                   | 15.74 | 15.67 | 15.02     | 15.04 | 14.97 |
|                    |            | RB6#0                 | 14.53                                   | 14.45 | 14.30 | 13.83     | 13.75 | 13.60 |
| 3.0                | QPSK       | RB1#0                 | 16.39                                   | 16.46 | 16.20 | 15.69     | 15.76 | 15.50 |
|                    |            | RB1#8                 | 16.37                                   | 16.44 | 16.16 | 15.67     | 15.74 | 15.46 |
|                    |            | RB1#14                | 16.28                                   | 16.41 | 16.20 | 15.58     | 15.71 | 15.50 |
|                    |            | RB6#0                 | 15.34                                   | 15.38 | 15.18 | 14.64     | 14.68 | 14.48 |
|                    |            | RB6#9                 | 15.32                                   | 15.38 | 15.15 | 14.62     | 14.68 | 14.45 |
|                    |            | RB15#0                | 15.41                                   | 15.43 | 15.22 | 14.71     | 14.73 | 14.52 |
|                    | 16QAM      | RB1#0                 | 16.12                                   | 15.64 | 15.31 | 15.42     | 14.94 | 14.61 |
|                    |            | RB1#8                 | 16.06                                   | 15.64 | 15.24 | 15.36     | 14.94 | 14.54 |
|                    |            | RB1#14                | 16.01                                   | 15.60 | 15.33 | 15.31     | 14.90 | 14.63 |
|                    |            | RB6#0                 | 14.48                                   | 14.45 | 14.13 | 13.78     | 13.75 | 13.43 |
|                    |            | RB6#9                 | 14.43                                   | 14.47 | 14.10 | 13.73     | 13.77 | 13.40 |
|                    |            | RB15#0                | 14.48                                   | 14.46 | 14.28 | 13.78     | 13.76 | 13.58 |

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 5.0                | QP SK      | RB1#0                 | 16.37                                   | 16.44 | 16.17 | 15.67     | 15.74 | 15.47 |
|                    |            | RB1#13                | 16.40                                   | 16.47 | 16.25 | 15.70     | 15.77 | 15.55 |
|                    |            | RB1#24                | 16.31                                   | 16.39 | 16.13 | 15.61     | 15.69 | 15.43 |
|                    |            | RB15#0                | 15.35                                   | 15.45 | 15.26 | 14.65     | 14.75 | 14.56 |
|                    |            | RB15#10               | 15.45                                   | 15.45 | 15.21 | 14.75     | 14.75 | 14.51 |
|                    |            | RB25#0                | 15.36                                   | 15.45 | 15.22 | 14.66     | 14.75 | 14.52 |
|                    | 16QAM      | RB1#0                 | 15.29                                   | 15.76 | 15.30 | 14.59     | 15.06 | 14.60 |
|                    |            | RB1#13                | 15.30                                   | 15.80 | 15.34 | 14.60     | 15.10 | 14.64 |
|                    |            | RB1#24                | 15.23                                   | 15.69 | 15.24 | 14.53     | 14.99 | 14.54 |
|                    |            | RB15#0                | 14.44                                   | 14.47 | 14.31 | 13.74     | 13.77 | 13.61 |
|                    |            | RB15#10               | 14.46                                   | 14.51 | 14.27 | 13.76     | 13.81 | 13.57 |
|                    |            | RB25#0                | 14.46                                   | 14.51 | 14.24 | 13.76     | 13.81 | 13.54 |
| 10.0               | QPSK       | RB1#0                 | 16.37                                   | 16.48 | 16.29 | 15.67     | 15.78 | 15.59 |
|                    |            | RB1#25                | 16.38                                   | 16.58 | 16.38 | 15.68     | 15.88 | 15.68 |
|                    |            | RB1#49                | 16.31                                   | 16.40 | 16.17 | 15.61     | 15.70 | 15.47 |
|                    |            | RB25#0                | 15.36                                   | 15.51 | 15.32 | 14.66     | 14.81 | 14.62 |
|                    |            | RB25#25               | 15.44                                   | 15.52 | 15.25 | 14.74     | 14.82 | 14.55 |
|                    |            | RB50#0                | 15.42                                   | 15.51 | 15.30 | 14.72     | 14.81 | 14.60 |
|                    | 16QAM      | RB1#0                 | 16.10                                   | 15.67 | 15.32 | 15.40     | 14.97 | 14.62 |
|                    |            | RB1#25                | 16.18                                   | 15.79 | 15.42 | 15.48     | 15.09 | 14.72 |
|                    |            | RB1#49                | 16.05                                   | 15.58 | 15.18 | 15.35     | 14.88 | 14.48 |
|                    |            | RB25#0                | 14.48                                   | 14.60 | 14.42 | 13.78     | 13.90 | 13.72 |
|                    |            | RB25#25               | 14.54                                   | 14.57 | 14.40 | 13.84     | 13.87 | 13.70 |
|                    |            | RB50#0                | 14.45                                   | 14.57 | 14.35 | 13.75     | 13.87 | 13.65 |

| Bandwidth<br>(MHz) | Modulation | RB size/<br>RB Offset | Conducted Average Output<br>Power (dBm) |       |       | EIRP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|-----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low       | Mid   | High  |
| 15.0               | QPSK       | RB1#0                 | 16.31                                   | 16.43 | 16.25 | 15.61     | 15.73 | 15.55 |
|                    |            | RB1#38                | 16.38                                   | 16.46 | 16.25 | 15.68     | 15.76 | 15.55 |
|                    |            | RB1#74                | 16.27                                   | 16.29 | 16.11 | 15.57     | 15.59 | 15.41 |
|                    |            | RB36#0                | 15.35                                   | 15.49 | 15.34 | 14.65     | 14.79 | 14.64 |
|                    |            | RB36#39               | 15.38                                   | 15.45 | 15.24 | 14.68     | 14.75 | 14.54 |
|                    |            | RB75#0                | 15.35                                   | 15.44 | 15.30 | 14.65     | 14.74 | 14.60 |
|                    | 16QAM      | RB1#0                 | 16.02                                   | 15.61 | 15.76 | 15.32     | 14.91 | 15.06 |
|                    |            | RB1#38                | 16.05                                   | 15.62 | 15.72 | 15.35     | 14.92 | 15.02 |
|                    |            | RB1#74                | 16.04                                   | 15.46 | 15.55 | 15.34     | 14.76 | 14.85 |
|                    |            | RB36#0                | 14.37                                   | 14.47 | 14.35 | 13.67     | 13.77 | 13.65 |
|                    |            | RB36#39               | 14.41                                   | 14.50 | 14.26 | 13.71     | 13.80 | 13.56 |
|                    |            | RB75#0                | 14.40                                   | 14.49 | 14.31 | 13.70     | 13.79 | 13.61 |
| 20.0               | QPSK       | RB1#0                 | 16.15                                   | 16.29 | 16.04 | 15.45     | 15.59 | 15.34 |
|                    |            | RB1#50                | 16.49                                   | 16.60 | 16.37 | 15.79     | 15.90 | 15.67 |
|                    |            | RB1#99                | 16.22                                   | 16.15 | 15.88 | 15.52     | 15.45 | 15.18 |
|                    |            | RB50#0                | 15.37                                   | 15.54 | 15.53 | 14.67     | 14.84 | 14.83 |
|                    |            | RB50#50               | 15.39                                   | 15.52 | 15.33 | 14.69     | 14.82 | 14.63 |
|                    |            | RB100#0               | 15.40                                   | 15.51 | 15.41 | 14.70     | 14.81 | 14.71 |
|                    | 16QAM      | RB1#0                 | 15.54                                   | 15.54 | 15.70 | 14.84     | 14.84 | 15.00 |
|                    |            | RB1#50                | 15.89                                   | 15.81 | 15.98 | 15.19     | 15.11 | 15.28 |
|                    |            | RB1#99                | 15.57                                   | 15.41 | 15.55 | 14.87     | 14.71 | 14.85 |
|                    |            | RB50#0                | 14.39                                   | 14.57 | 14.57 | 13.69     | 13.87 | 13.87 |
|                    |            | RB50#50               | 14.41                                   | 14.57 | 14.38 | 13.71     | 13.87 | 13.68 |
|                    |            | RB100#0               | 14.41                                   | 14.58 | 14.46 | 13.71     | 13.88 | 13.76 |

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)  
 For Band66: Antenna Gain = -0.70dBi  
 Limit: EIRP ≤ 30dBm

**Peak-to-average ratio (PAR)****LTE Band 2****20MHz Bandwidth**

| Modulation         | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|--------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)    | 5.48             | 5.87                | 5.54              | 13             | Pass   |
| QPSK (100RB Size)  | 8.46             | 5.80                | 5.58              | 13             | Pass   |
| 16QAM (1RB Size)   | 8.52             | 6.96                | 6.67              | 13             | Pass   |
| 16QAM (100RB Size) | 6.51             | 6.47                | 6.51              | 13             | Pass   |

**LTE Band 4****20MHz Bandwidth**

| Modulation         | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|--------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)    | 5.96             | 5.64                | 6.19              | 13             | Pass   |
| QPSK (100RB Size)  | 5.80             | 5.74                | 5.80              | 13             | Pass   |
| 16QAM (1RB Size)   | 7.60             | 6.25                | 7.37              | 13             | Pass   |
| 16QAM (100RB Size) | 6.76             | 6.76                | 6.70              | 13             | Pass   |

**LTE Band 5****10MHz Bandwidth**

| Modulation        | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|-------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)   | 5.00             | 4.78                | 4.65              | 13             | Pass   |
| QPSK (50RB Size)  | 5.67             | 5.54                | 5.61              | 13             | Pass   |
| 16QAM (1RB Size)  | 5.87             | 6.09                | 5.61              | 13             | Pass   |
| 16QAM (50RB Size) | 6.41             | 6.41                | 6.51              | 13             | Pass   |

**LTE Band 7****20MHz Bandwidth**

| Modulation         | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|--------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)    | 5.58             | 5.71                | 6.09              | 13             | Pass   |
| QPSK (100RB Size)  | 5.61             | 5.77                | 5.67              | 13             | Pass   |
| 16QAM (1RB Size)   | 6.35             | 7.44                | 7.34              | 13             | Pass   |
| 16QAM (100RB Size) | 6.47             | 6.47                | 6.54              | 13             | Pass   |

**LTE Band 12****10MHz Bandwidth**

| Modulation        | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|-------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)   | 5.38             | 4.81                | 5.71              | 13             | Pass   |
| QPSK (50RB Size)  | 5.80             | 5.83                | 5.77              | 13             | Pass   |
| 16QAM (1RB Size)  | 6.12             | 5.90                | 6.38              | 13             | Pass   |
| 16QAM (50RB Size) | 6.67             | 6.76                | 6.67              | 13             | Pass   |

**LTE Band 13****10MHz Bandwidth**

| Modulation        | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|-------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)   | /                | 5.29                | /                 | 13             | Pass   |
| QPSK (50RB Size)  | /                | 5.58                | /                 | 13             | Pass   |
| 16QAM (1RB Size)  | /                | 6.22                | /                 | 13             | Pass   |
| 16QAM (50RB Size) | /                | 6.44                | /                 | 13             | Pass   |

**LTE Band 17****10MHz Bandwidth**

| Modulation        | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|-------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)   | 5.35             | 5.35                | 5.29              | 13             | Pass   |
| QPSK (50RB Size)  | 5.93             | 5.74                | 5.71              | 13             | Pass   |
| 16QAM (1RB Size)  | 6.41             | 6.79                | 6.25              | 13             | Pass   |
| 16QAM (50RB Size) | 6.63             | 6.51                | 6.60              | 13             | Pass   |

**LTE Band 38****20MHz Bandwidth**

| Modulation         | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|--------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)    | 8.97             | 8.06                | 7.31              | 13             | Pass   |
| QPSK (100RB Size)  | 7.98             | 8.04                | 7.95              | 13             | Pass   |
| 16QAM (1RB Size)   | 7.08             | 8.33                | 9.74              | 13             | Pass   |
| 16QAM (100RB Size) | 8.14             | 8.72                | 8.26              | 13             | Pass   |

**LTE Band 41****20MHz Bandwidth**

| Modulation         | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|--------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)    | 9.97             | 7.63                | 7.82              | 13             | Pass   |
| QPSK (100RB Size)  | 8.11             | 7.34                | 9.29              | 13             | Pass   |
| 16QAM (1RB Size)   | 8.33             | 9.42                | 9.47              | 13             | Pass   |
| 16QAM (100RB Size) | 9.10             | 8.10                | 8.69              | 13             | Pass   |

**LTE Band 66**  
**20MHz Bandwidth**

| Modulation         | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|--------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)    | 6.44             | 5.58                | 5.64              | 13             | Pass   |
| QPSK (100RB Size)  | 5.80             | 5.74                | 5.74              | 13             | Pass   |
| 16QAM (1RB Size)   | 7.63             | 6.60                | 7.56              | 13             | Pass   |
| 16QAM (100RB Size) | 6.73             | 6.70                | 6.70              | 13             | Pass   |

## FCC §2.1049, §22.917, §22.905 & §24.238&§27.53 - OCCUPIED BANDWIDTH

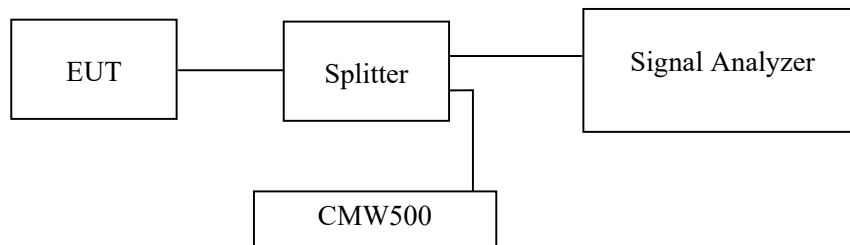
### Applicable Standard

FCC 47 §2.1049, §22.917, §22.905, §24.238, and §27.53.

### Test Procedure

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

The resolution bandwidth of the spectrum analyzer was set at 1% to 5% of the anticipated emission bandwidth and the 26 dB & 99% bandwidth was recorded.



### Test Data

#### Environmental Conditions

|                    |            |
|--------------------|------------|
| Temperature:       | 27.1~27.3℃ |
| Relative Humidity: | 56~56.8 %  |
| ATM Pressure:      | 101.0 kPa  |

*The testing was performed by Roger Ling from 2022-06-28 to 2022-07-15.*

*EUT operation mode: Transmitting*

**Test Result: Pass**

*Please refer to the following tables and plots.*

**Cellular Band (Part 22H)**

| Mode        | Channel | Frequency (MHz) | 99% Occupied Bandwidth (kHz) | 26 dB Emission Bandwidth (kHz) |
|-------------|---------|-----------------|------------------------------|--------------------------------|
| GSM (GMSK)  | 128     | 824.2           | 246.00                       | 319.00                         |
|             | 190     | 836.4           | 245.00                       | 321.00                         |
|             | 251     | 848.8           | 246.00                       | 320.00                         |
| EGPRS(8PSK) | 128     | 824.2           | 248.00                       | 310.00                         |
|             | 190     | 836.4           | 249.00                       | 313.00                         |
|             | 251     | 848.8           | 248.00                       | 325.00                         |

|       | Frequency (MHz) | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) |
|-------|-----------------|--------------------------|----------------------|
| RMC   | 826.4           | 4.17                     | 4.74                 |
|       | 836.4           | 4.17                     | 4.73                 |
|       | 846.6           | 4.17                     | 4.74                 |
| HSDPA | 826.4           | 4.22                     | 5.04                 |
|       | 836.4           | 4.23                     | 5.13                 |
|       | 846.6           | 4.19                     | 4.71                 |
| HSUPA | 826.4           | 4.23                     | 5.30                 |
|       | 836.4           | 4.23                     | 5.12                 |
|       | 846.6           | 4.22                     | 5.04                 |

**PCS Band (Part 24E)**

| Mode        | Channel | Frequency (MHz) | 99% Occupied Bandwidth (kHz) | 26 dB Emission Bandwidth (kHz) |
|-------------|---------|-----------------|------------------------------|--------------------------------|
| GSM (GMSK)  | 512     | 1850.2          | 246.00                       | 313.00                         |
|             | 661     | 1880.0          | 245.00                       | 315.00                         |
|             | 810     | 1909.8          | 245.00                       | 317.00                         |
| EGPRS(8PSK) | 512     | 1850.2          | 250.00                       | 324.00                         |
|             | 661     | 1880.0          | 250.00                       | 319.00                         |
|             | 810     | 1909.8          | 250.00                       | 318.00                         |

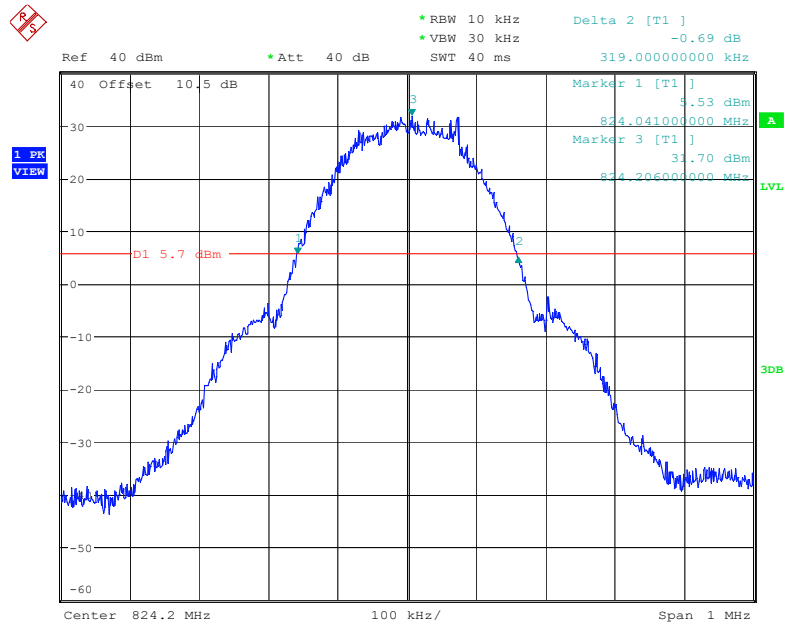
|       | Frequency (MHz) | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) |
|-------|-----------------|--------------------------|----------------------|
| RMC   | 1852.4          | 4.17                     | 4.74                 |
|       | 1880.0          | 4.17                     | 4.74                 |
|       | 1907.6          | 4.17                     | 4.74                 |
| HSDPA | 1852.4          | 4.17                     | 4.71                 |
|       | 1880.0          | 4.19                     | 4.74                 |
|       | 1907.6          | 4.18                     | 4.76                 |
| HSUPA | 1852.4          | 4.19                     | 4.73                 |
|       | 1880.0          | 4.17                     | 4.74                 |
|       | 1907.6          | 4.18                     | 4.76                 |

**AWS Band (Part 27)**

|       | Frequency (MHz) | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) |
|-------|-----------------|--------------------------|----------------------|
| RMC   | 1712.4          | 4.17                     | 4.74                 |
|       | 1732.6          | 4.17                     | 4.73                 |
|       | 1752.6          | 4.17                     | 4.73                 |
| HSDPA | 1712.4          | 4.19                     | 4.73                 |
|       | 1732.6          | 4.20                     | 4.74                 |
|       | 1752.6          | 4.19                     | 4.73                 |
| HSUPA | 1712.4          | 4.19                     | 4.71                 |
|       | 1732.6          | 4.20                     | 4.71                 |
|       | 1752.6          | 4.19                     | 4.74                 |

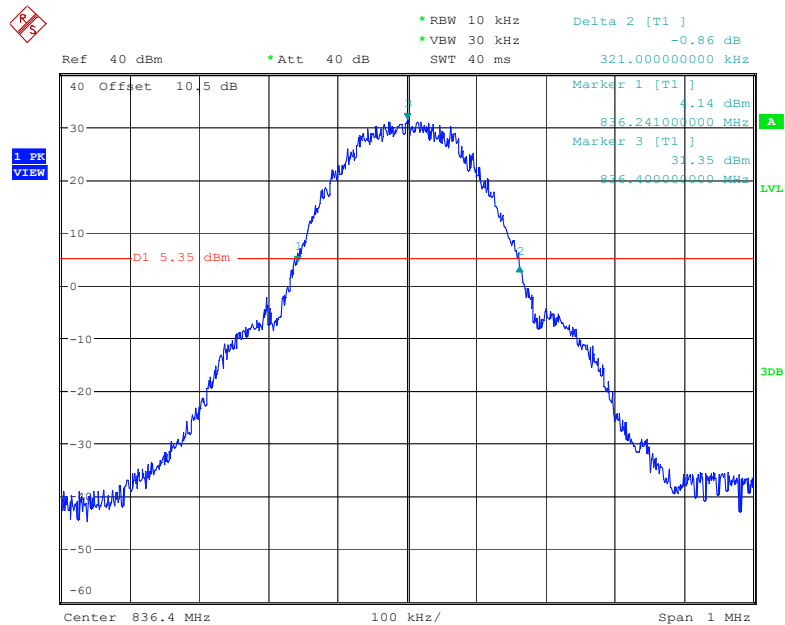
## Cellular Band (Part 22H)

## 26 dB Emissions for GSM (GMSK) Mode, Low channel

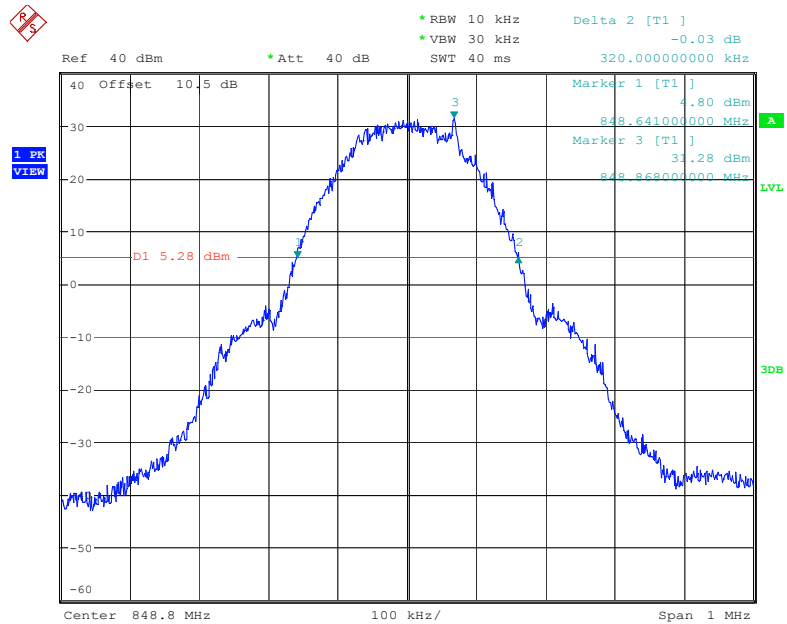


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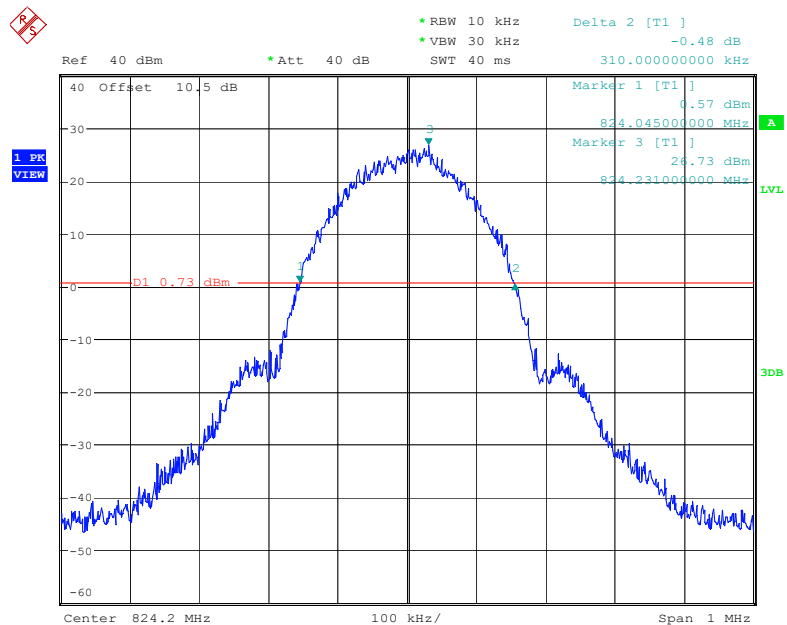
## 26 dB Emissions for GSM (GMSK) Mode, Middle channel



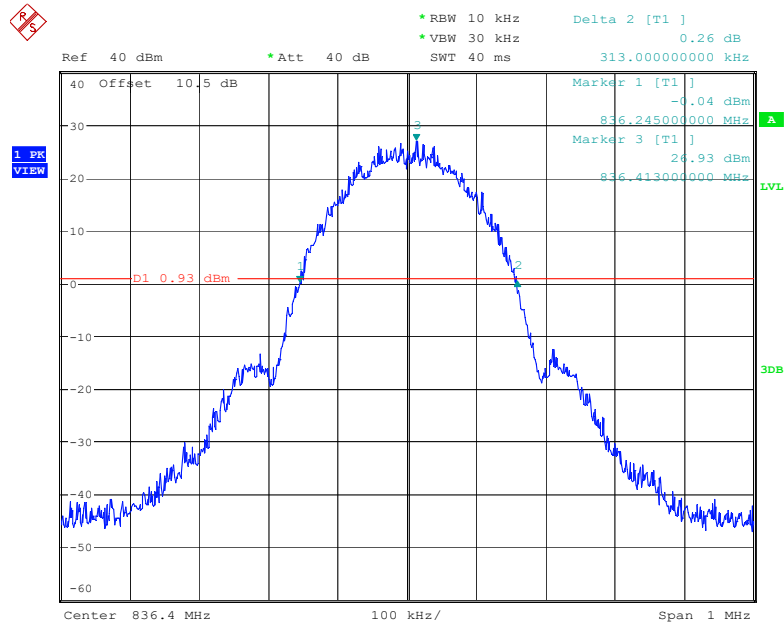
Date: 1.JUL.2022 16:35:43

**26 dB Emissions for GSM (GMSK) Mode, High channel**

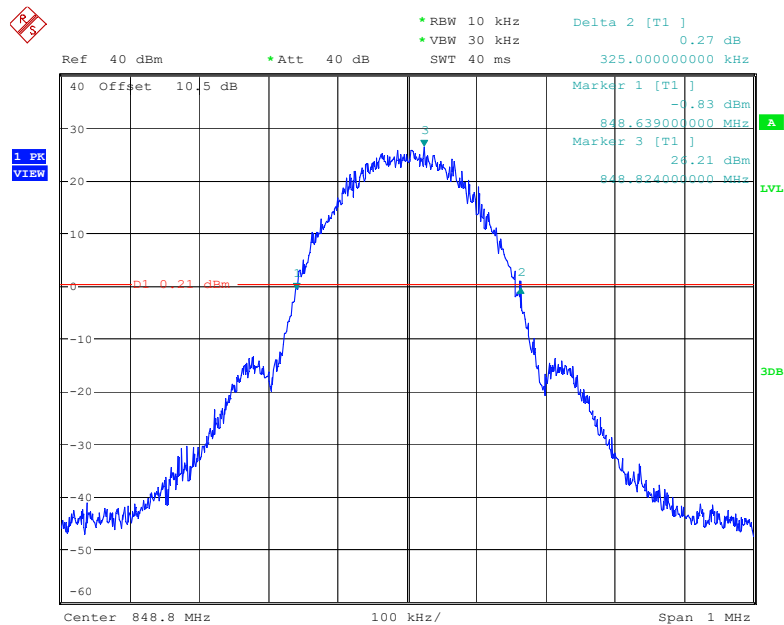
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**26 dB Emissions for EGPRS (8PSK) Mode, Low channel**

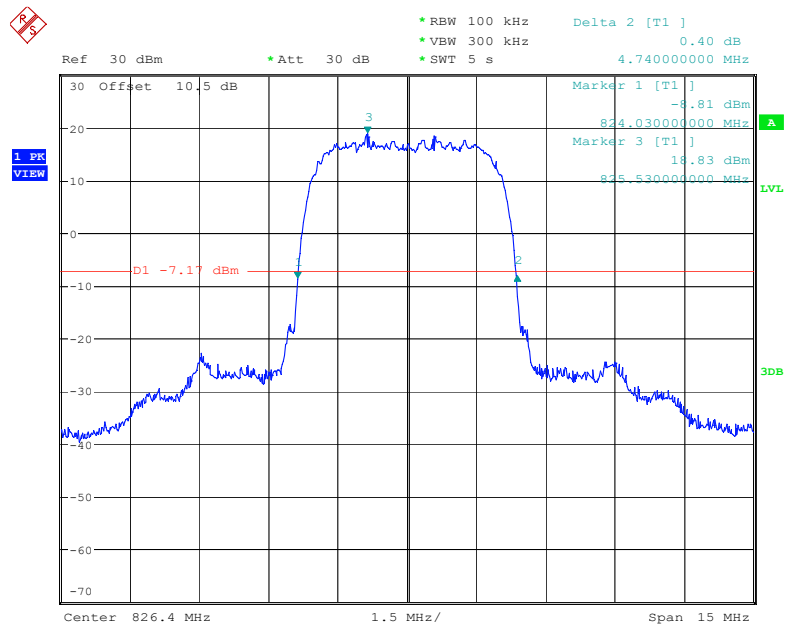
Date: 1.JUL.2022 16:19:53

**26 dB Emissions for EGPRS (8PSK) Mode, Middle channel**

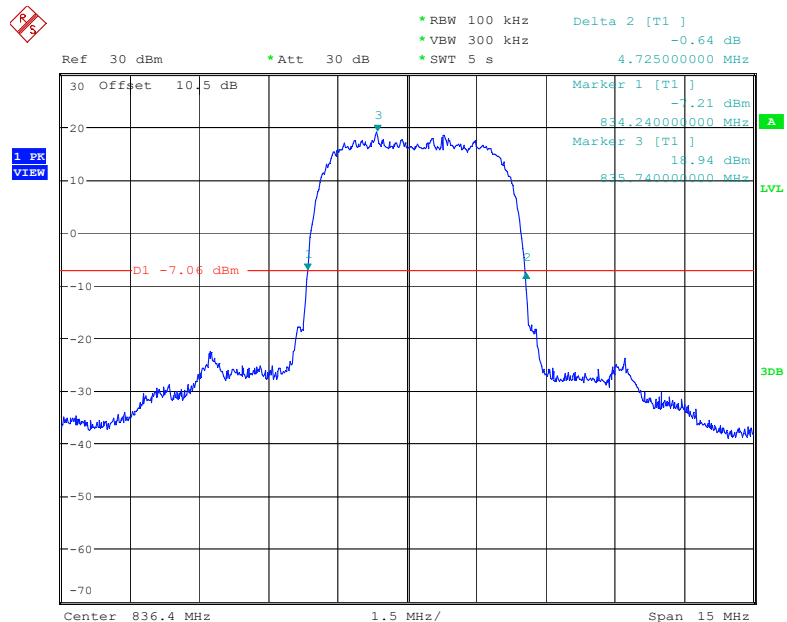
Date: 1.JUL.2022 16:25:40

**26 dB Emissions for EGPRS (8PSK) Mode, High channel**

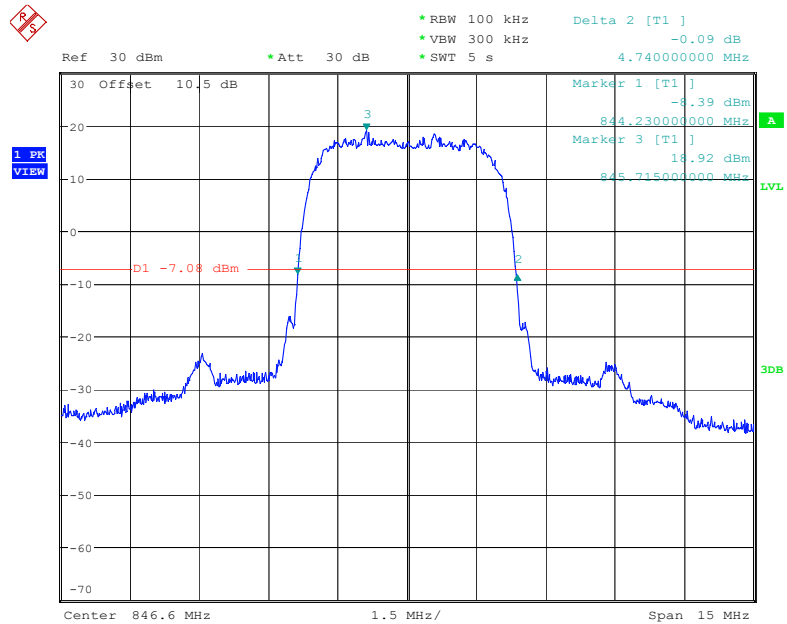
Date: 1.JUL.2022 16:27:54

**26 dB Emissions for RMC (BPSK) Mode, Low channel**

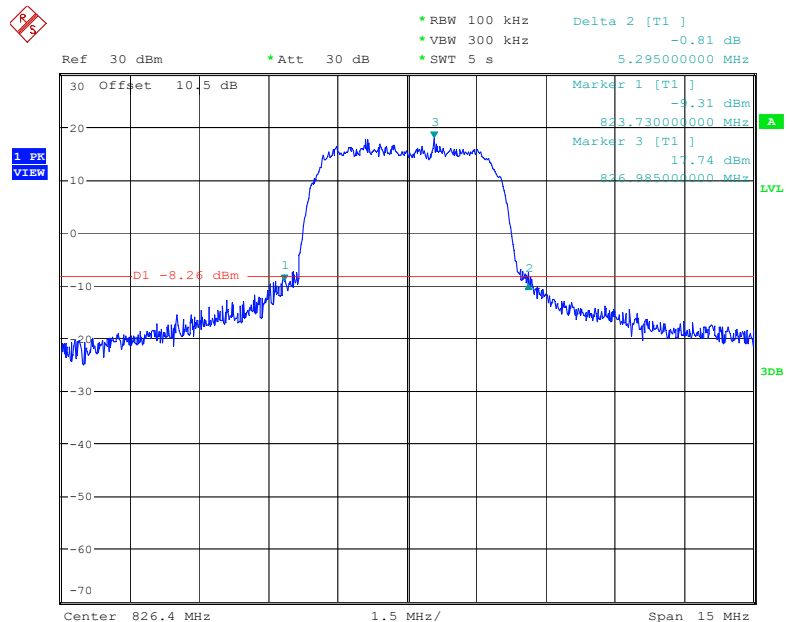
Date: 2.JUL.2022 10:00:01

**26 dB Emissions for RMC (BPSK) Mode, Middle channel**

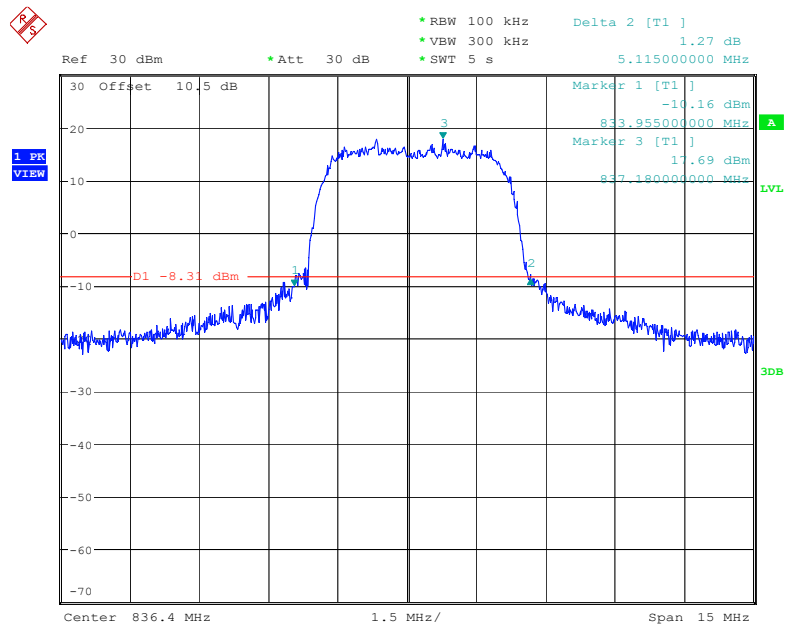
Date: 2.JUL.2022 10:03:12

**26 dB Emissions for RMC (BPSK) Mode, High channel**

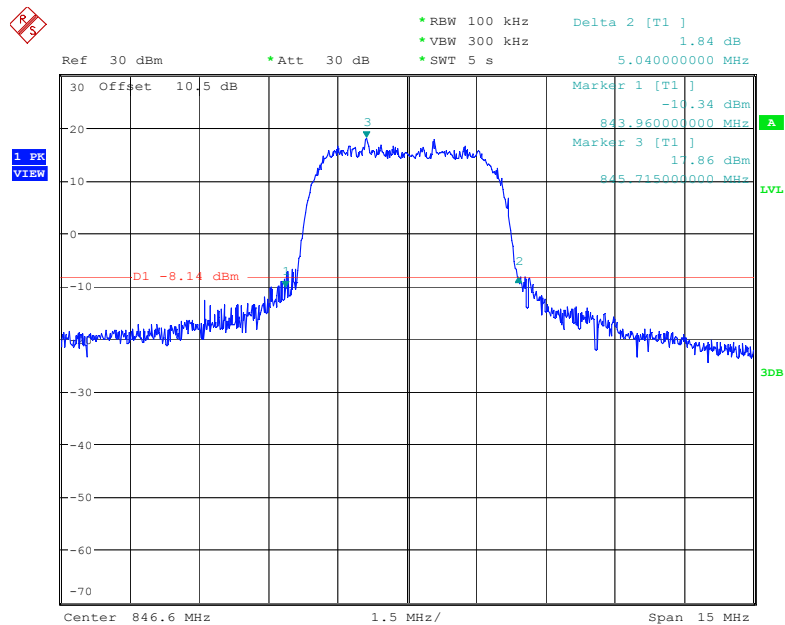
Date: 2.JUL.2022 10:05:39

**26 dB Emissions for HSUPA (QPSK) Mode, Low channel**

Date: 2.JUL.2022 10:12:03

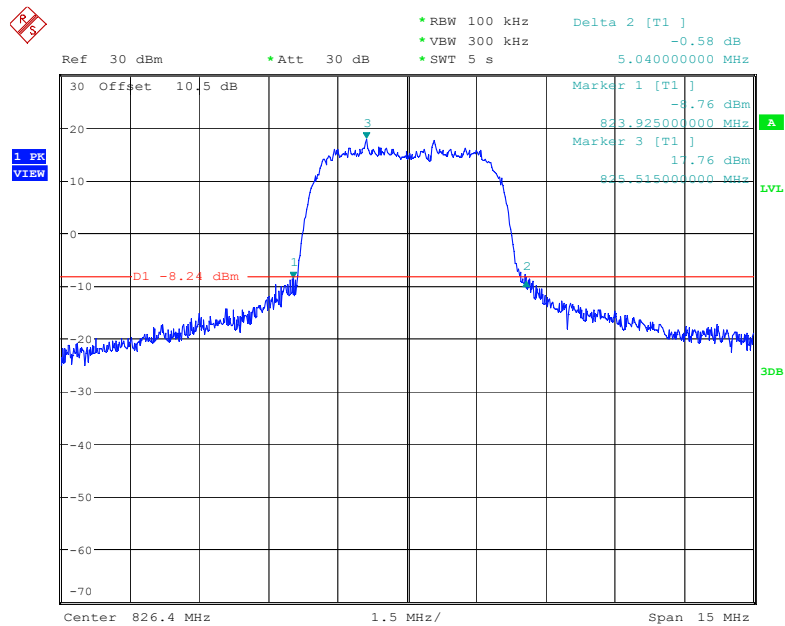
**26 dB Emissions for HSUPA (QPSK) Mode, Middle channel**

Date: 2.JUL.2022 10:15:56

**26 dB Emissions for HSUPA (QPSK) Mode, High channel**

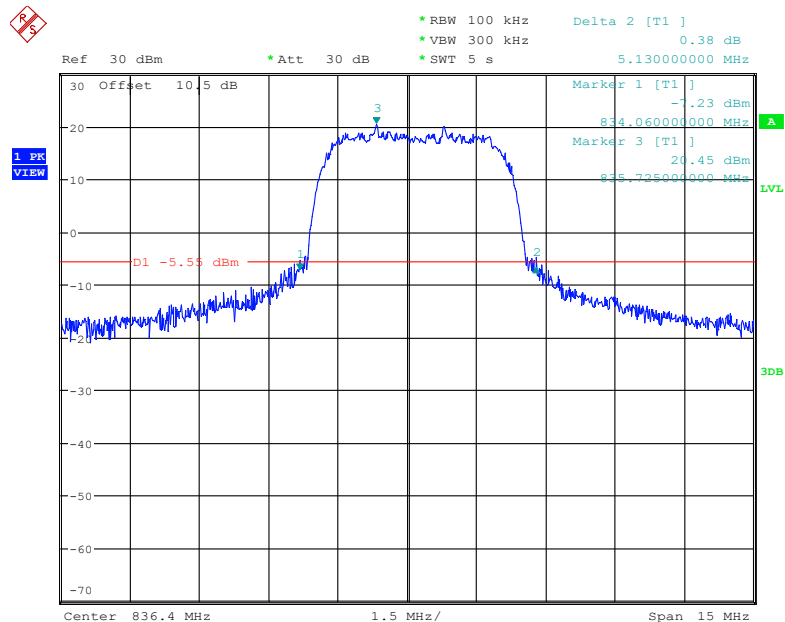
Date: 2.JUL.2022 10:18:24

## 26 dB Emissions for HSDPA (16QAM) Mode, Low channel



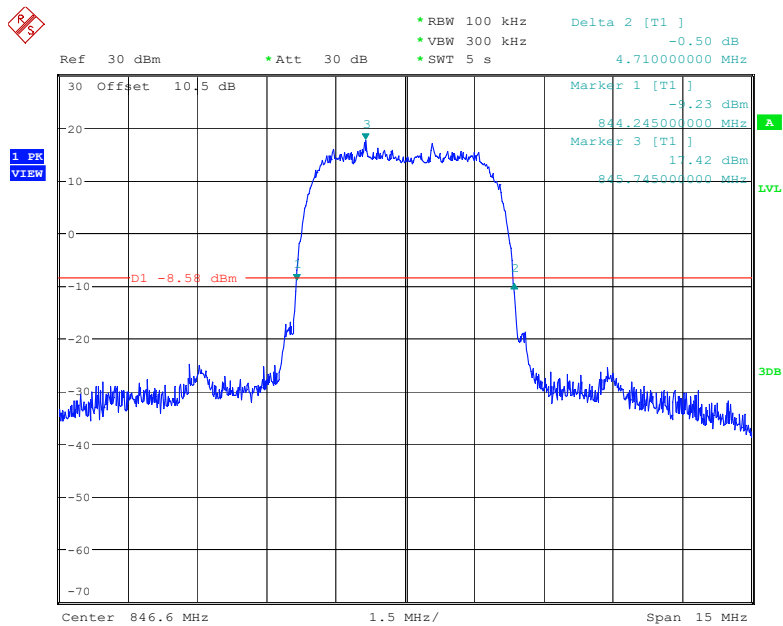
Date: 2.JUL.2022 10:25:09

## 26 dB Emissions for HSDPA (16QAM) Mode, Middle channel

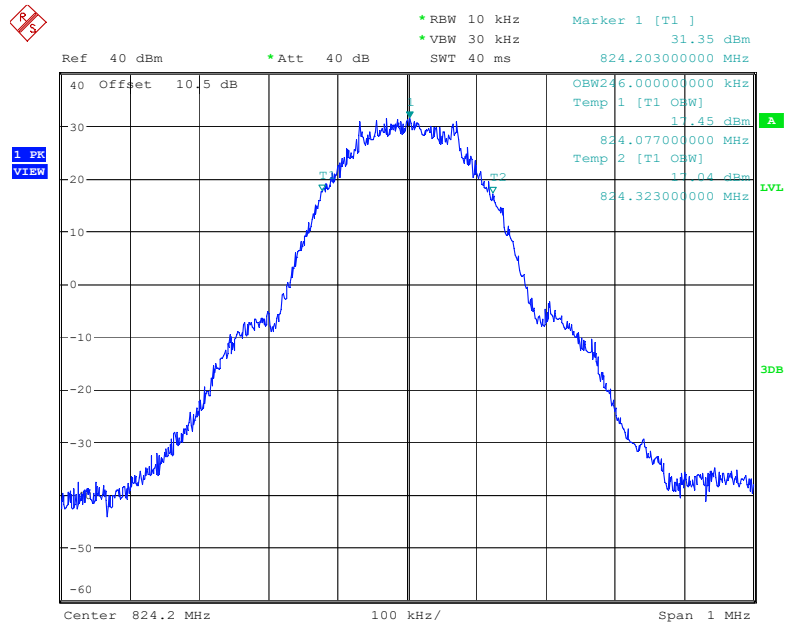


Date: 2.JUL.2022 18:38:53

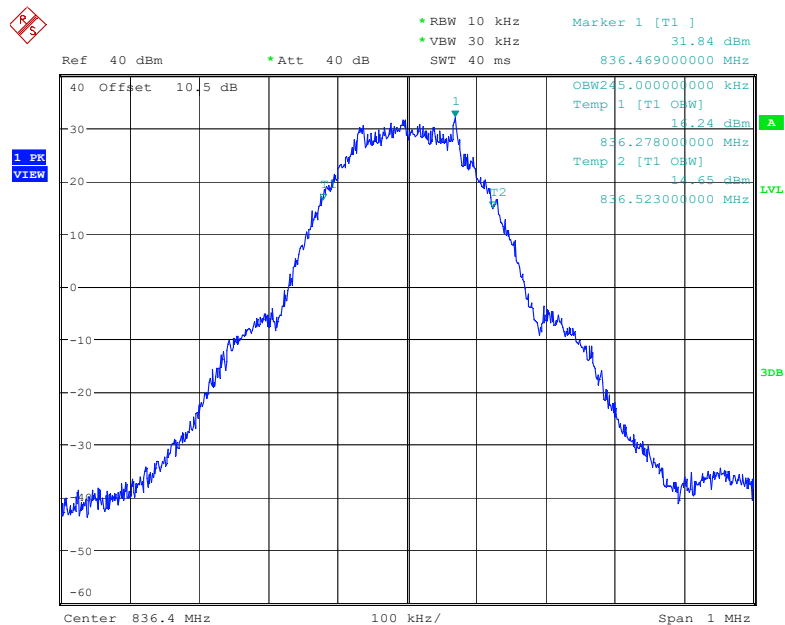
26 dB Emissions for HSDPA (16QAM) Mode, High channel



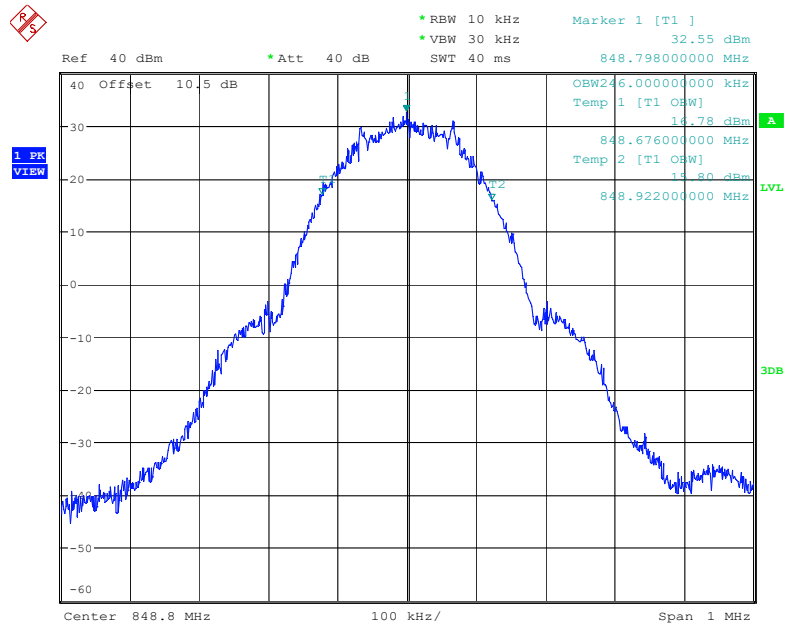
Date: 2.JUL.2022 10:39:04

**99% Occupied Bandwidth for GSM (GMSK) Mode, Low channel**

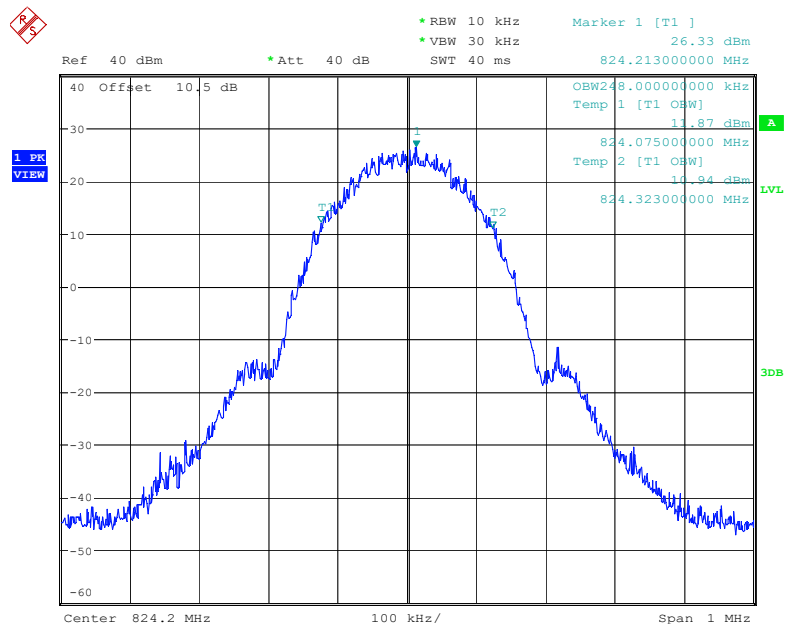
Date: 1.JUL.2022 16:30:47

**99% Occupied Bandwidth for GSM (GMSK) Mode, Middle channel**

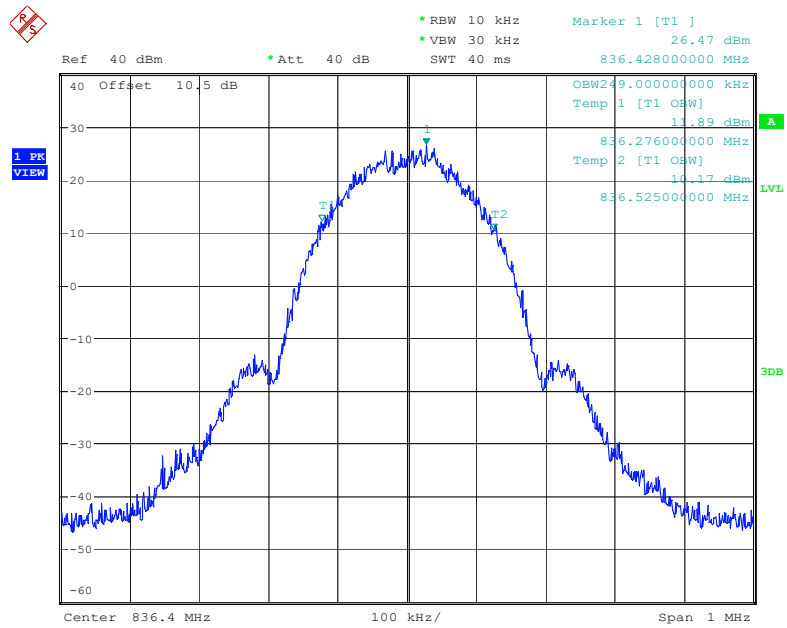
Date: 1.JUL.2022 16:35:15

**99% Occupied Bandwidth for GSM (GMSK) Mode, High channel**

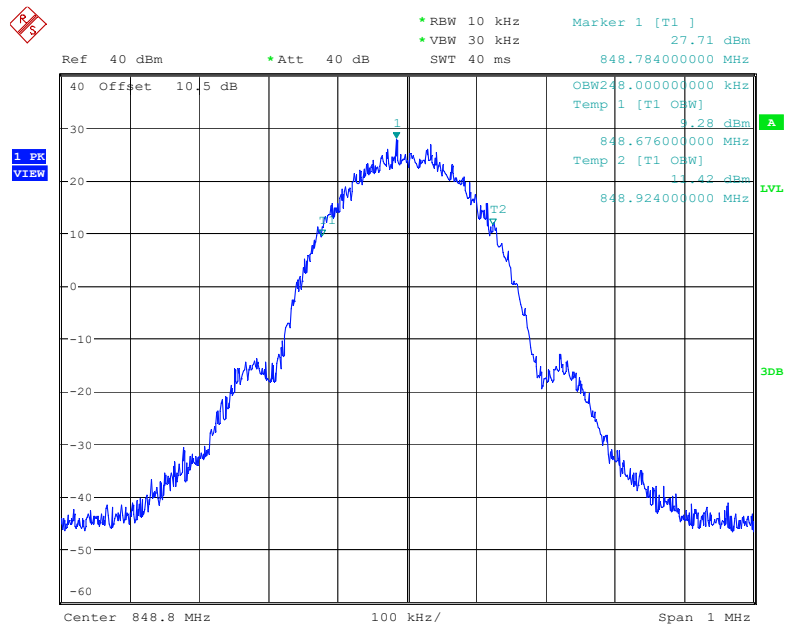
Date: 1.JUL.2022 16:37:43

**99% Occupied Bandwidth for EGPRS (8PSK) Mode, Low channel**

Date: 1.JUL.2022 16:19:25

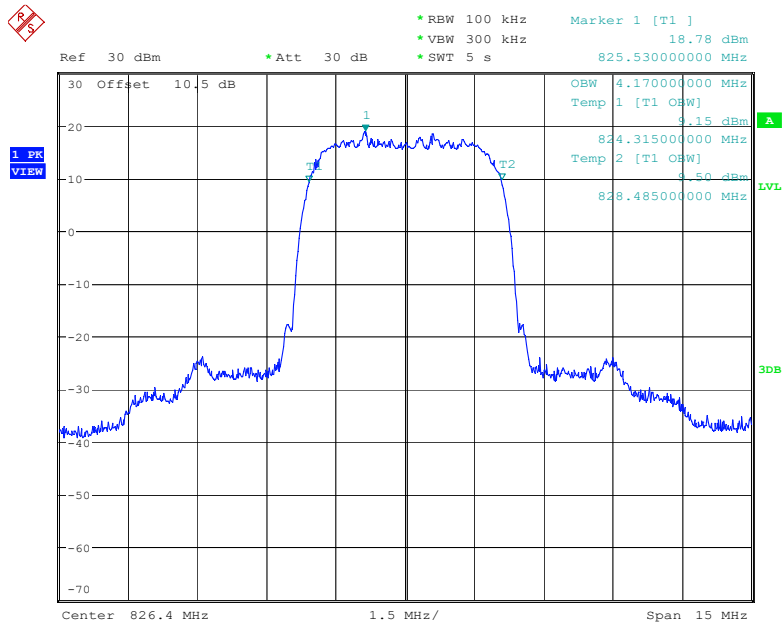
**99% Occupied Bandwidth for EGPRS (8PSK) Mode, Middle channel**

Date: 1.JUL.2022 16:25:12

**99% Occupied Bandwidth for EGPRS (8PSK) Mode, High channel**

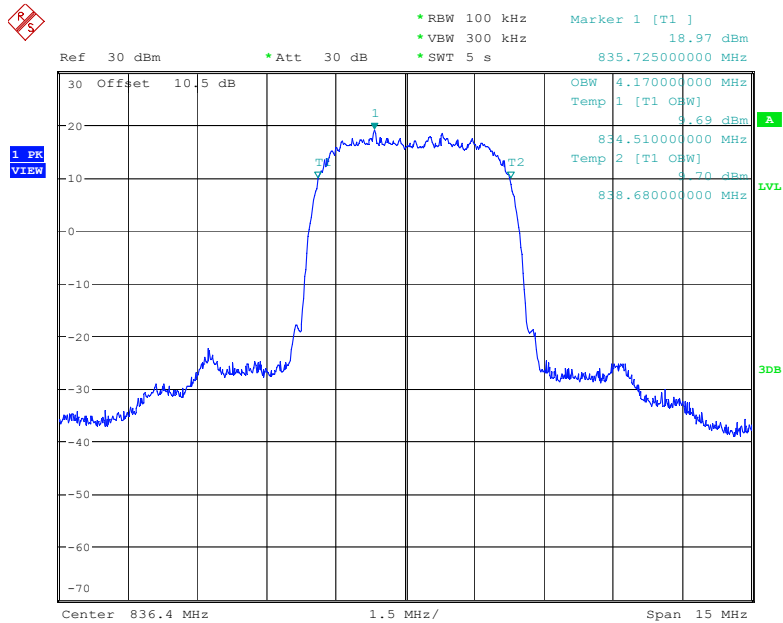
Date: 1.JUL.2022 16:27:27

99% Occupied Bandwidth for RMC (BPSK) Mode, Low channel

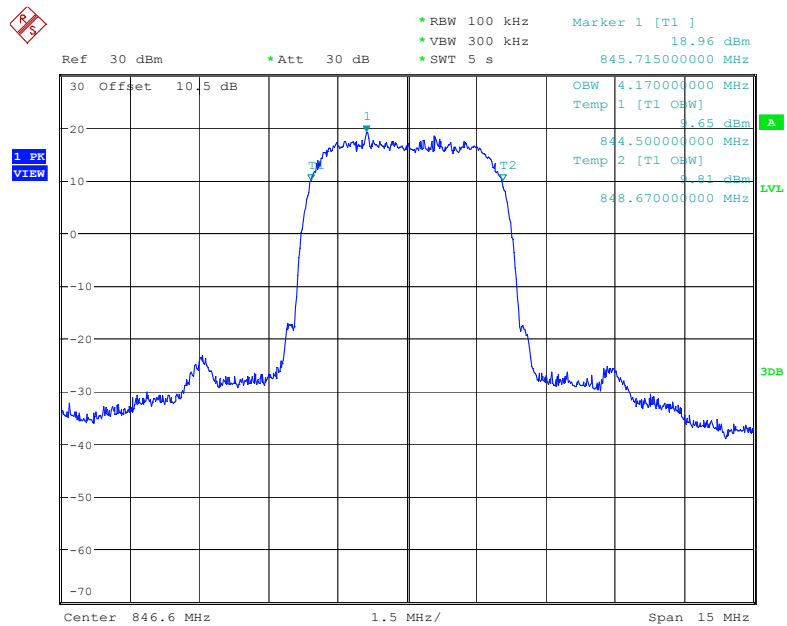


Date: 2.JUL.2022 09:59:23

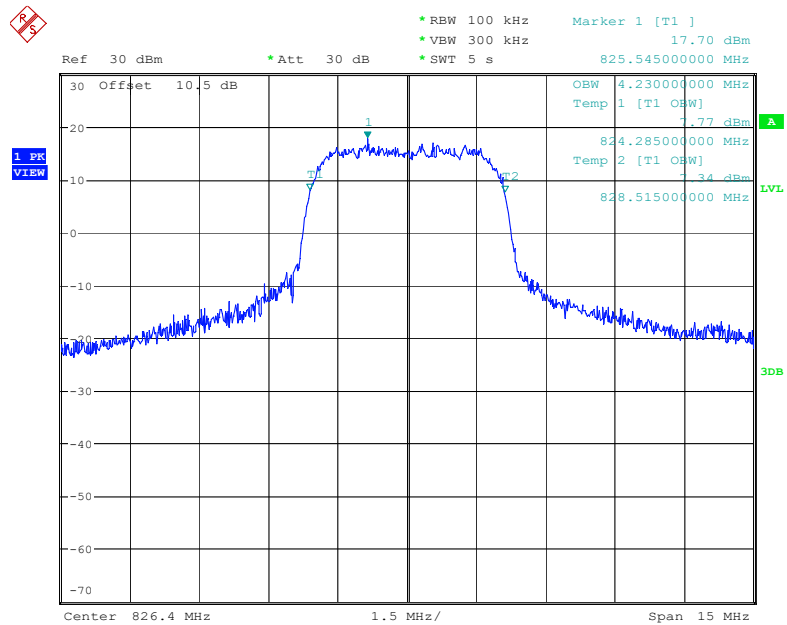
99% Occupied Bandwidth for RMC (BPSK) Mode, Middle channel



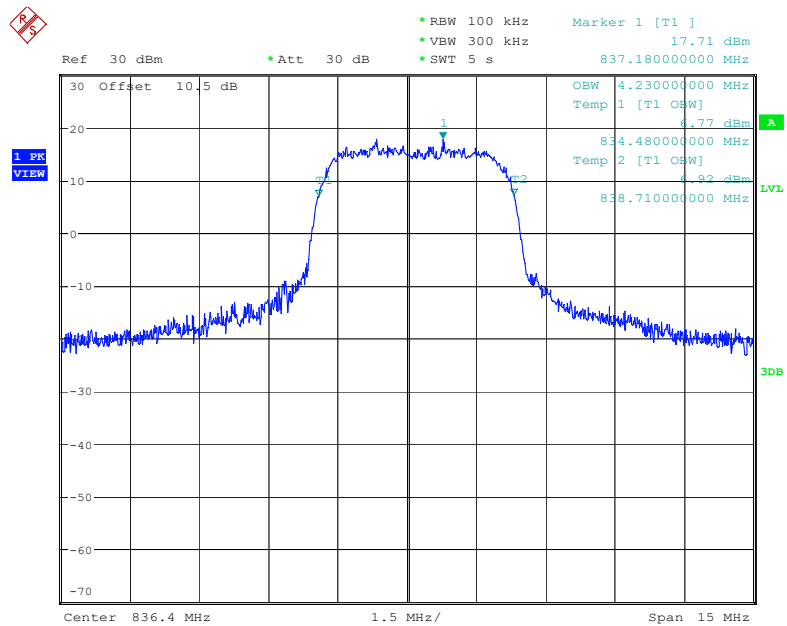
Date: 2.JUL.2022 10:02:34

**99% Occupied Bandwidth for RMC (BPSK) Mode, High channel**

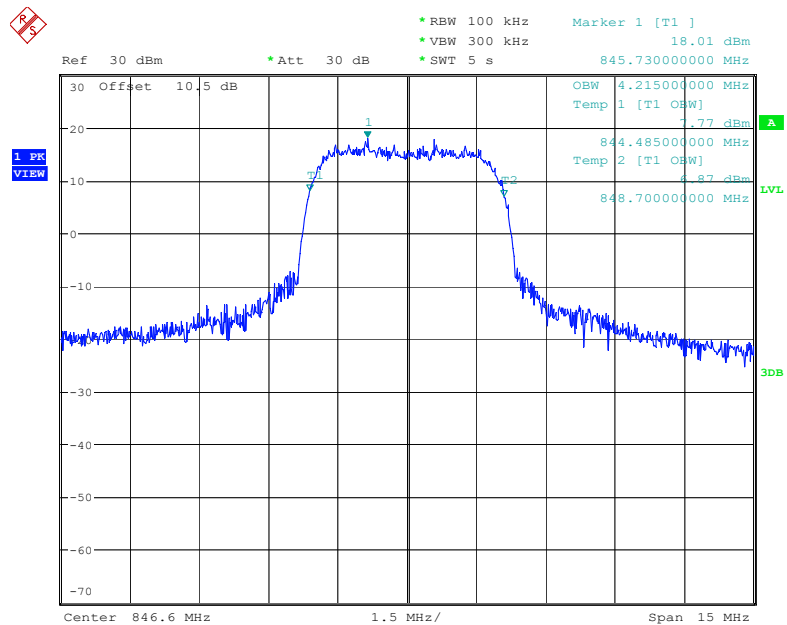
Date: 2.JUL.2022 10:05:01

**99% Occupied Bandwidth for HSUPA (QPSK) Mode, Low channel**

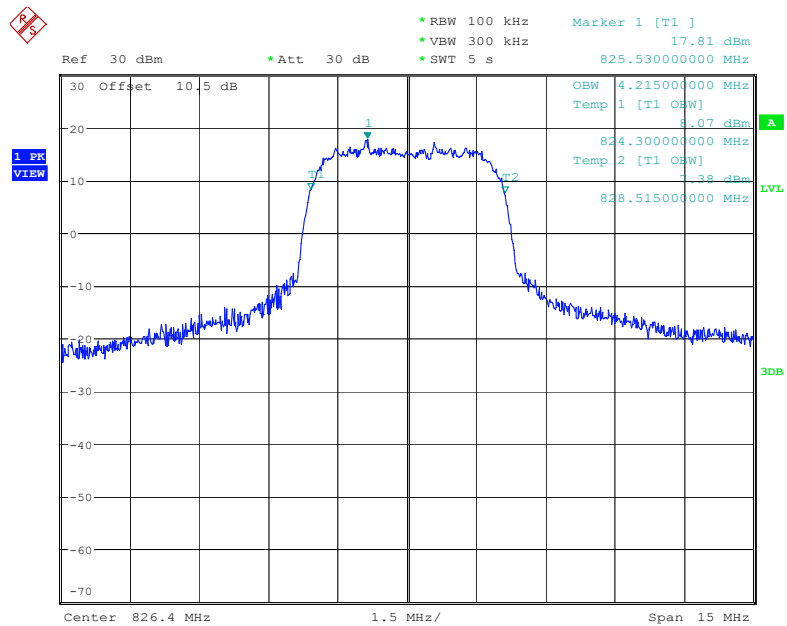
Date: 2.JUL.2022 10:11:26

**99% Occupied Bandwidth for HSUPA (QPSK) Mode, Middle channel**

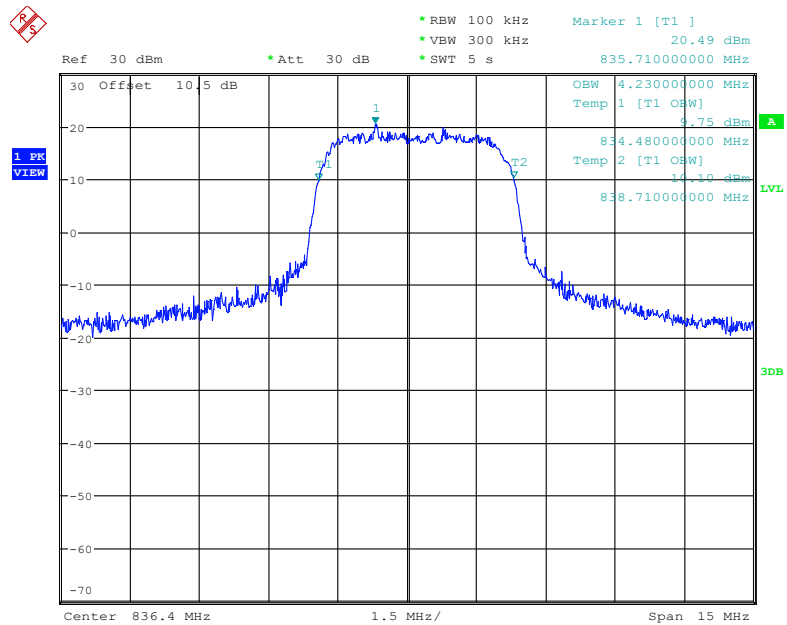
Date: 2.JUL.2022 10:15:19

**99% Occupied Bandwidth for HSUPA (QPSK) Mode, High channel**

Date: 2.JUL.2022 10:17:47

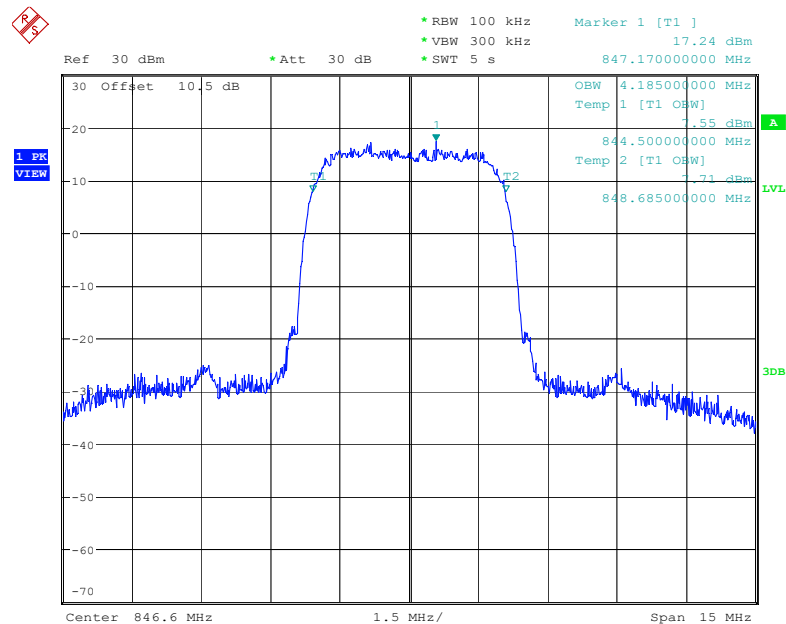
**99% Occupied Bandwidth for HSDPA (16QAM) Mode, Low channel**

Date: 2.JUL.2022 10:24:32

**99% Occupied Bandwidth for HSDPA (16QAM) Mode, Middle channel**

Date: 2.JUL.2022 18:38:15

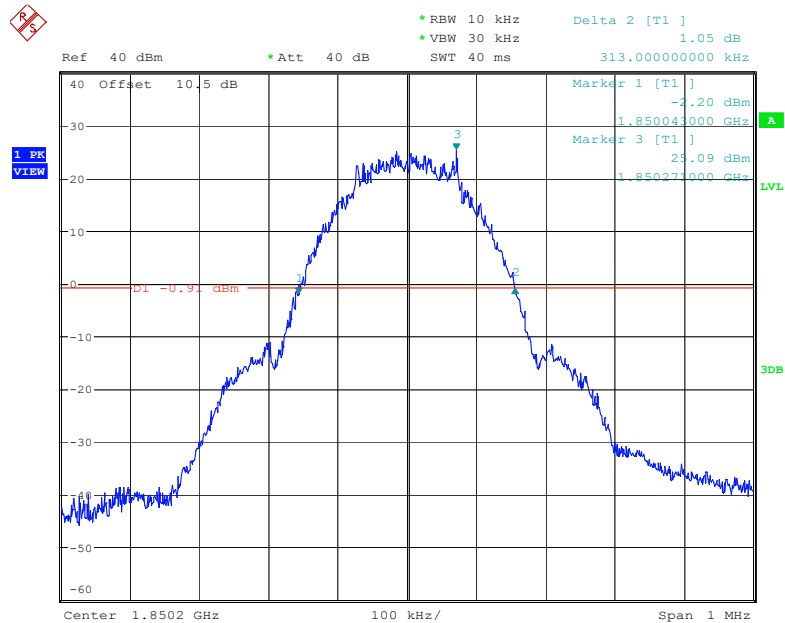
99% Occupied Bandwidth for HSDPA (16QAM) Mode, High channel



Date: 2.JUL.2022 10:38:27

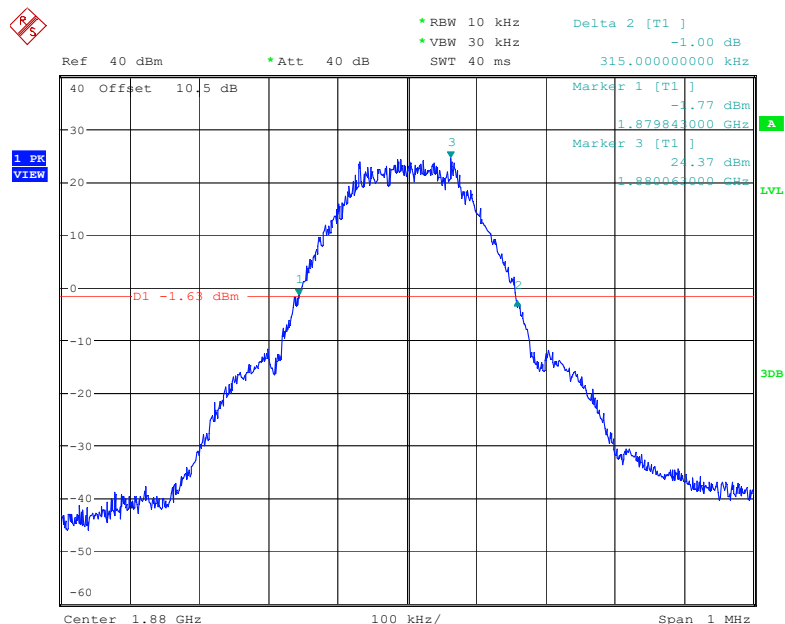
## PCS Band (Part 24E)

## 26 dB Emissions for GSM (GMSK) Mode, Low channel



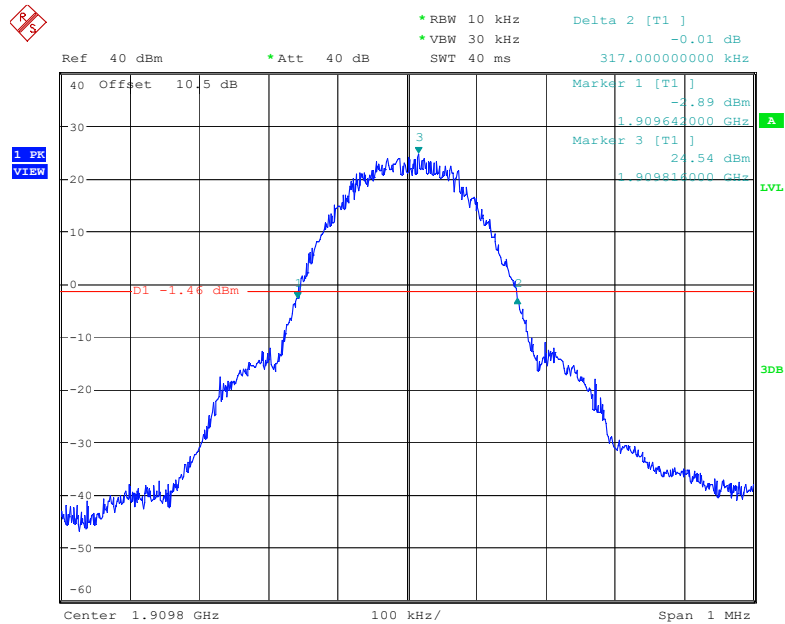
Date: 1.JUL.2022 16:53:43

## 26 dB Emissions for GSM (GMSK) Mode, Middle channel



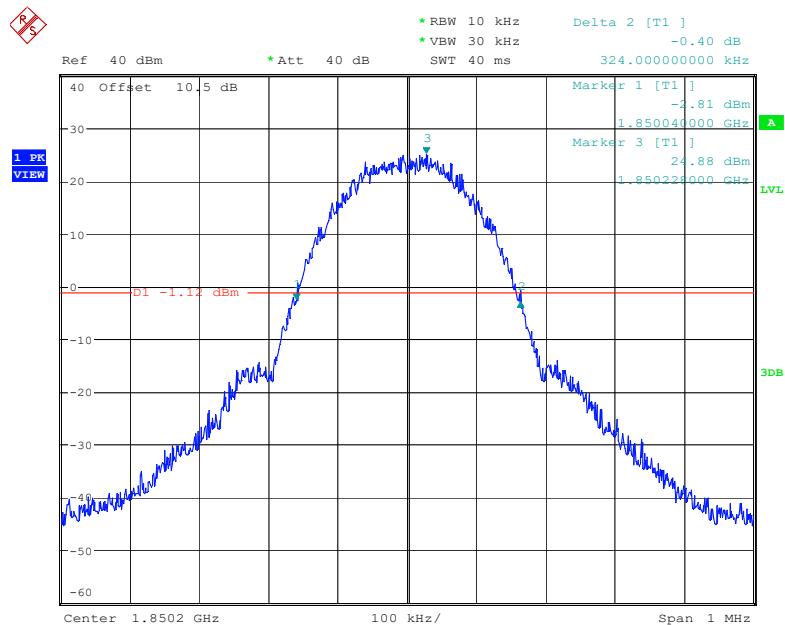
Date: 1.JUL.2022 16:58:03

### 26 dB Emissions for GSM (GMSK) Mode, High channel

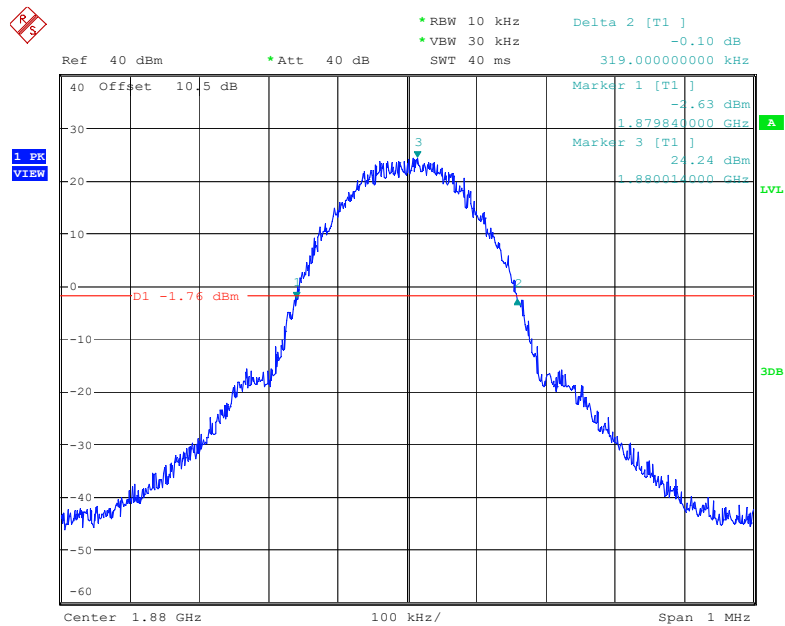


Date: 1.JUL.2022 17:01:21

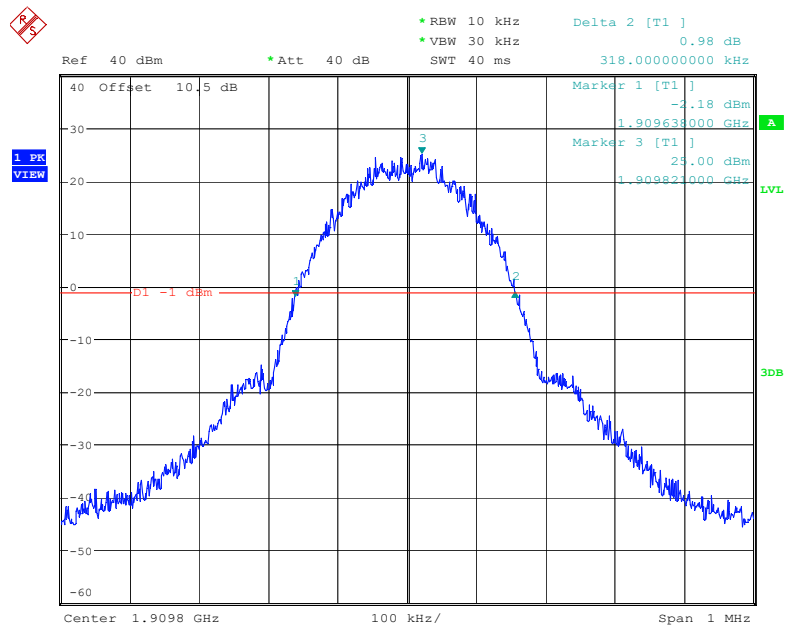
### 26 dB Emissions for EGPRS (8PSK) Mode, Low channel



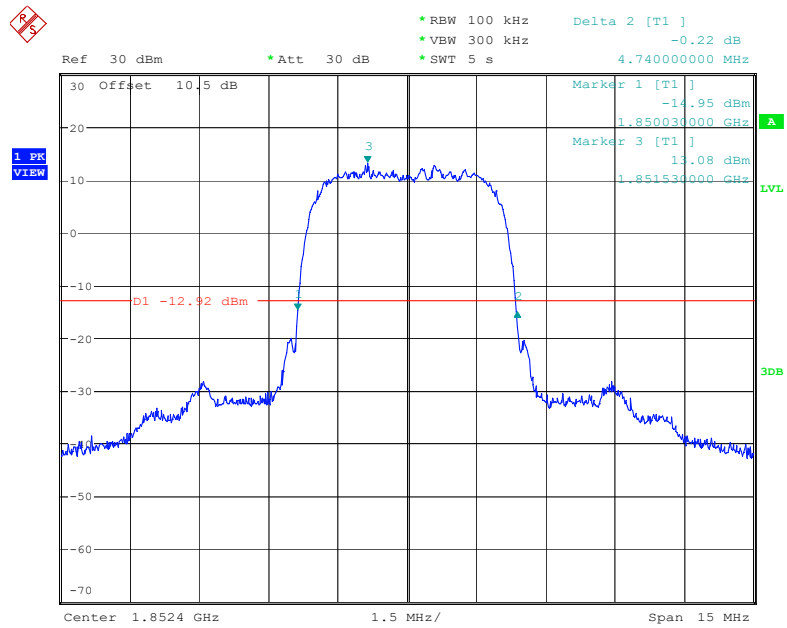
Date: 1.JUL.2022 16:42:18

**26 dB Emissions for EGPRS (8PSK) Mode, Middle channel**

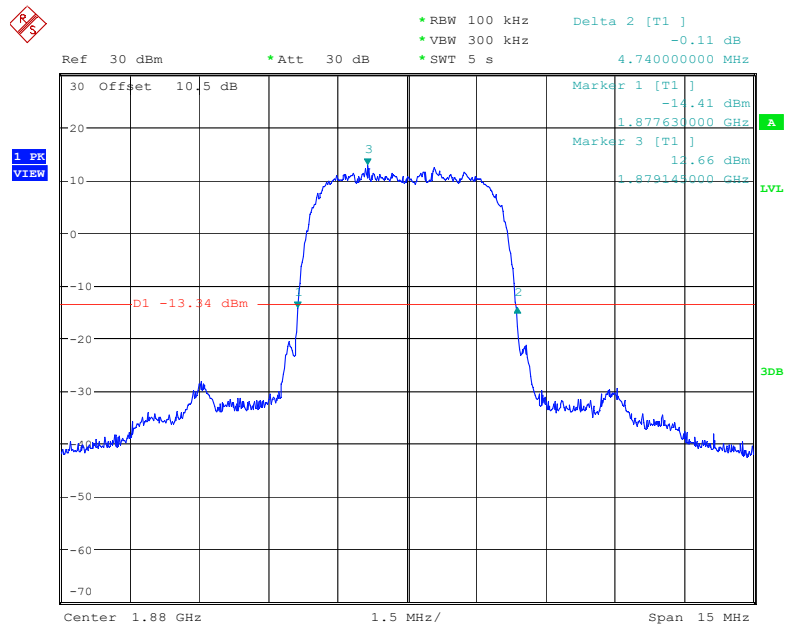
Date: 1.JUL.2022 16:45:46

**26 dB Emissions for EGPRS (8PSK) Mode, High channel**

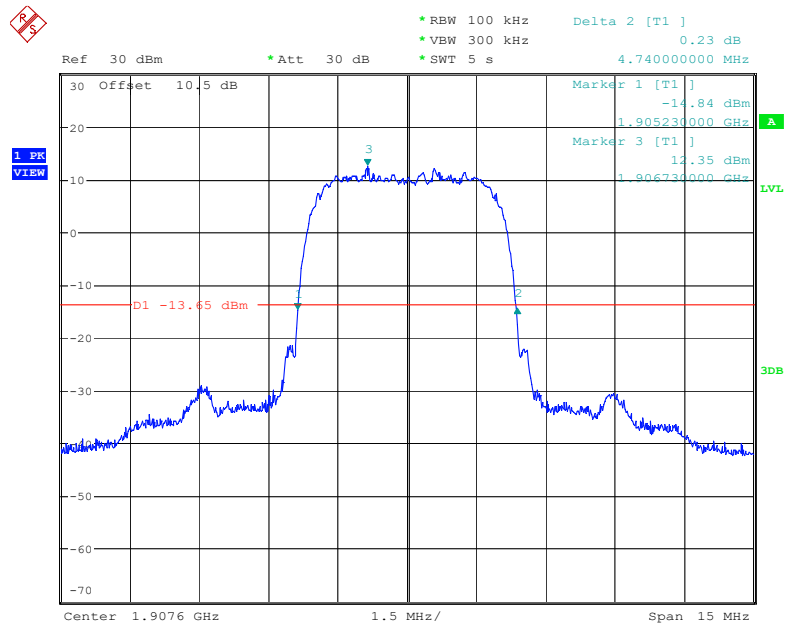
Date: 1.JUL.2022 16:48:37

**26 dB Emissions for RMC (BPSK) Mode, Low channel**

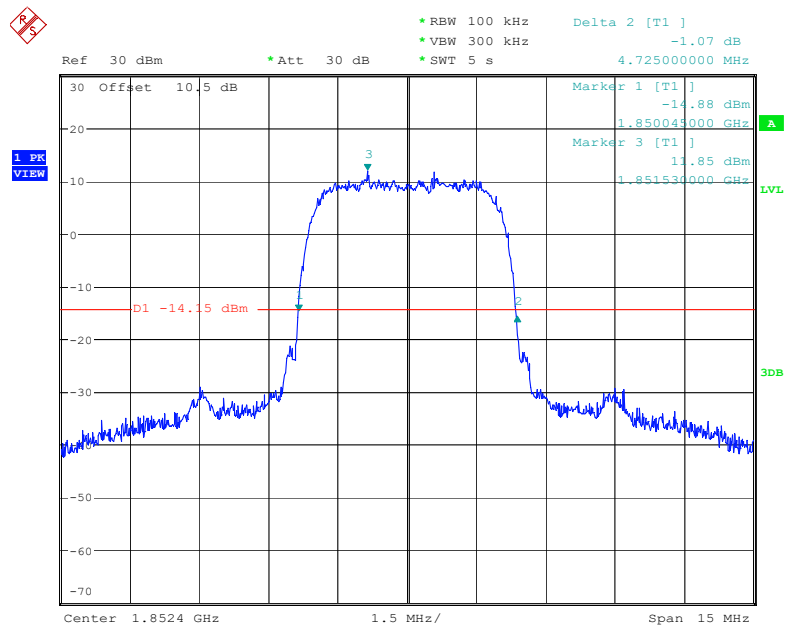
Date: 1.JUL.2022 17:07:46

**26 dB Emissions for RMC (BPSK) Mode, Middle channel**

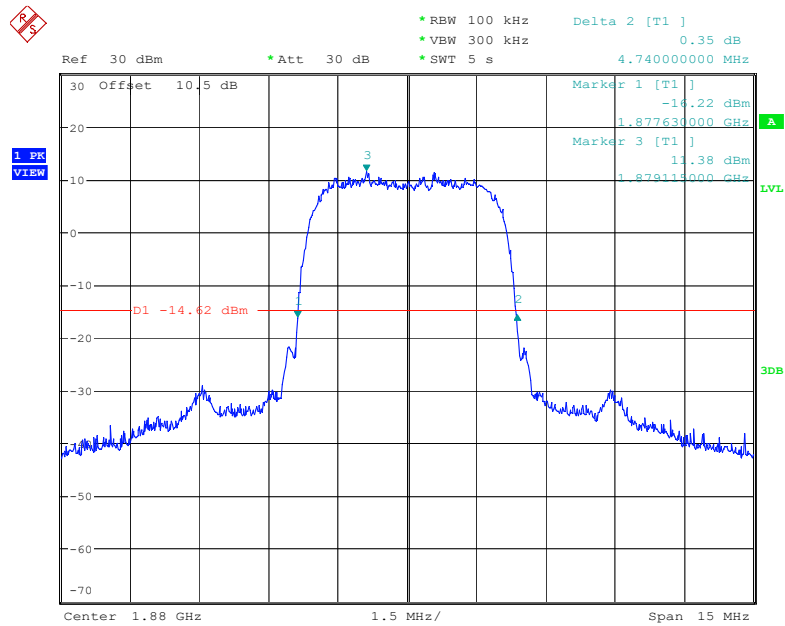
Date: 1.JUL.2022 17:11:32

**26 dB Emissions for RMC (BPSK) Mode, High channel**

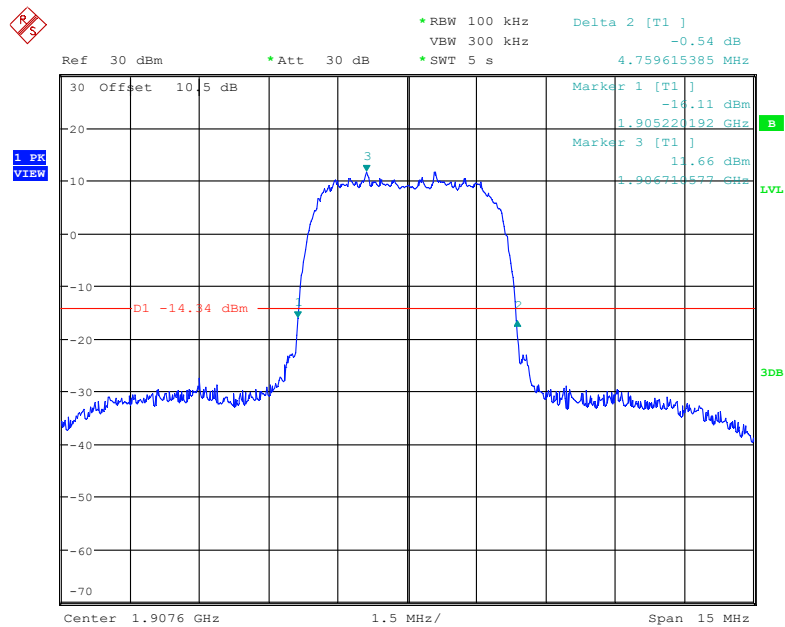
Date: 1.JUL.2022 17:37:36

**26 dB Emissions for HSUPA (QPSK) Mode, Low channel**

Date: 1.JUL.2022 18:22:14

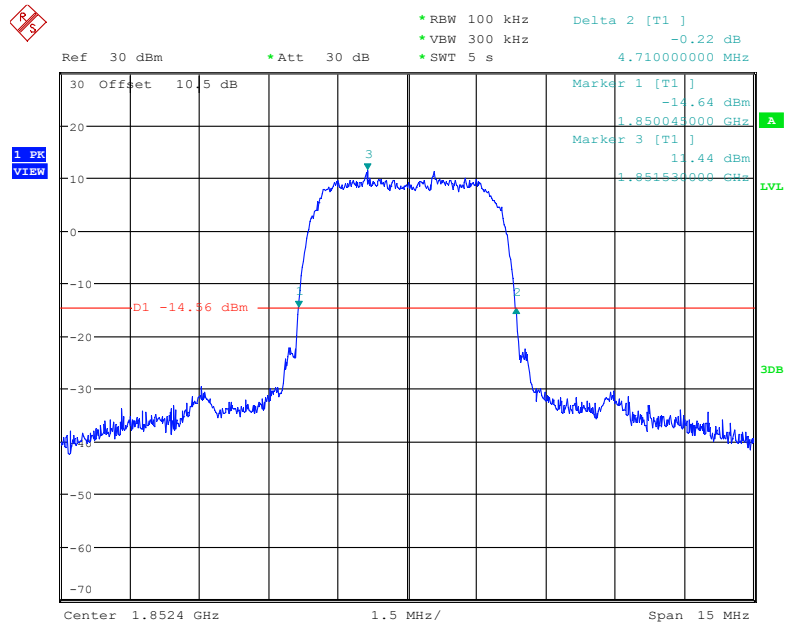
**26 dB Emissions for HSUPA (QPSK) Mode, Middle channel**

Date: 1.JUL.2022 18:26:25

**26 dB Emissions for HSUPA (QPSK) Mode, High channel**

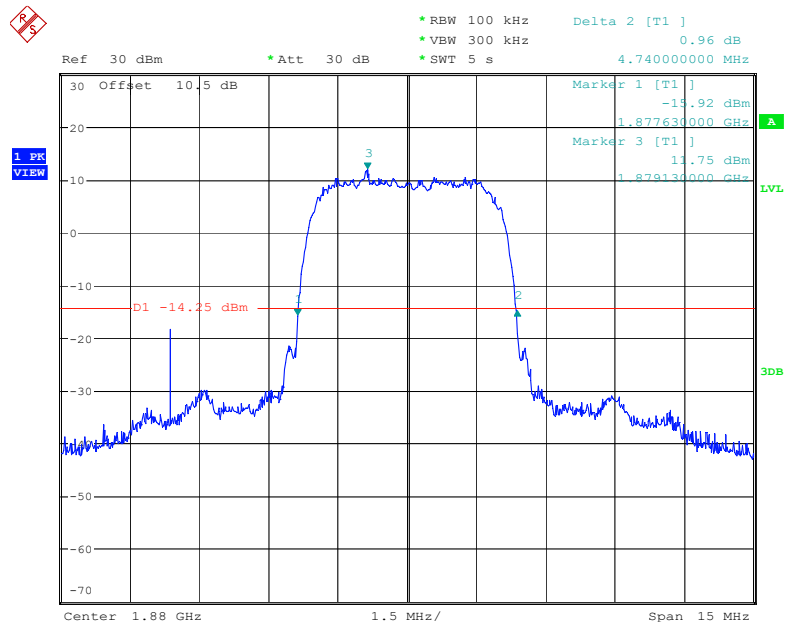
Date: 15.JUL.2022 13:04:42

## 26 dB Emissions for HSDPA (16QAM) Mode, Low channel



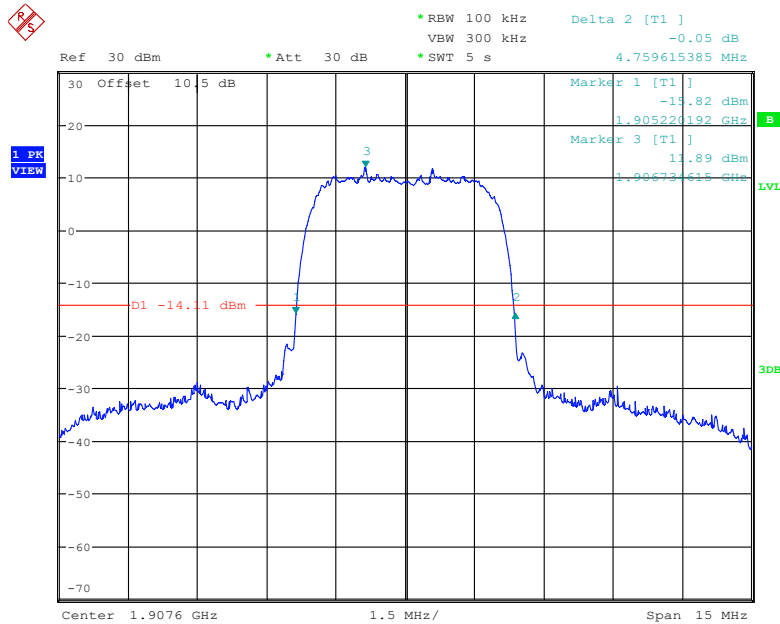
Date: 2.JUL.2022 18:35:22

## 26 dB Emissions for HSDPA (16QAM) Mode, Middle channel

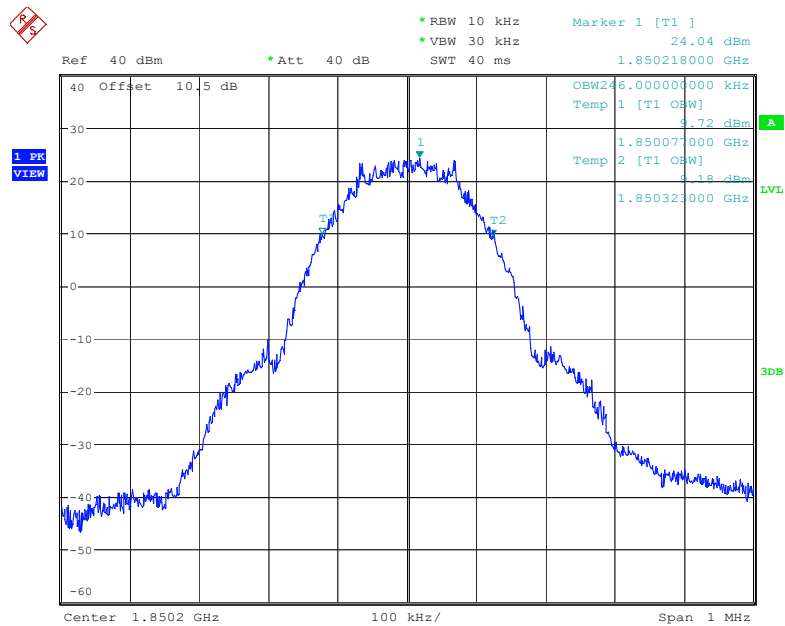


Date: 1.JUL.2022 18:12:35

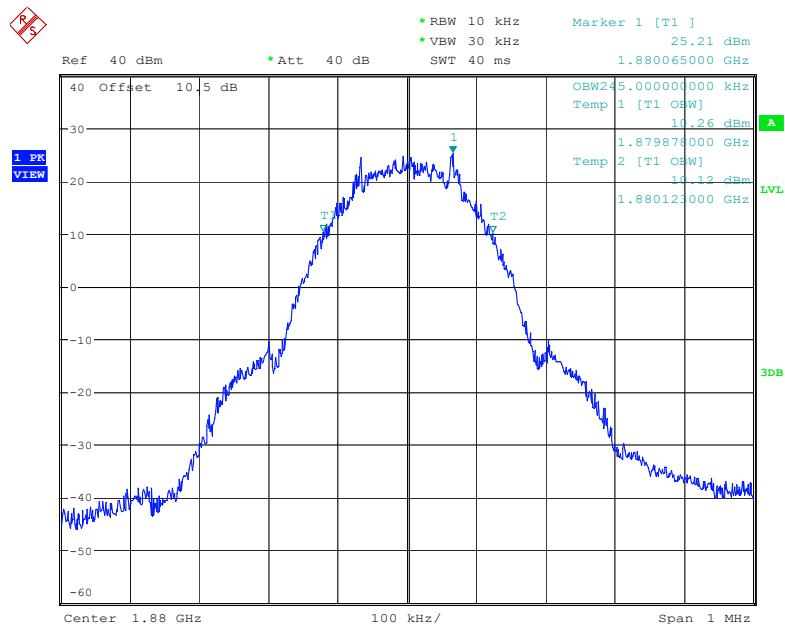
26 dB Emissions for HSDPA (16QAM) Mode, High channel



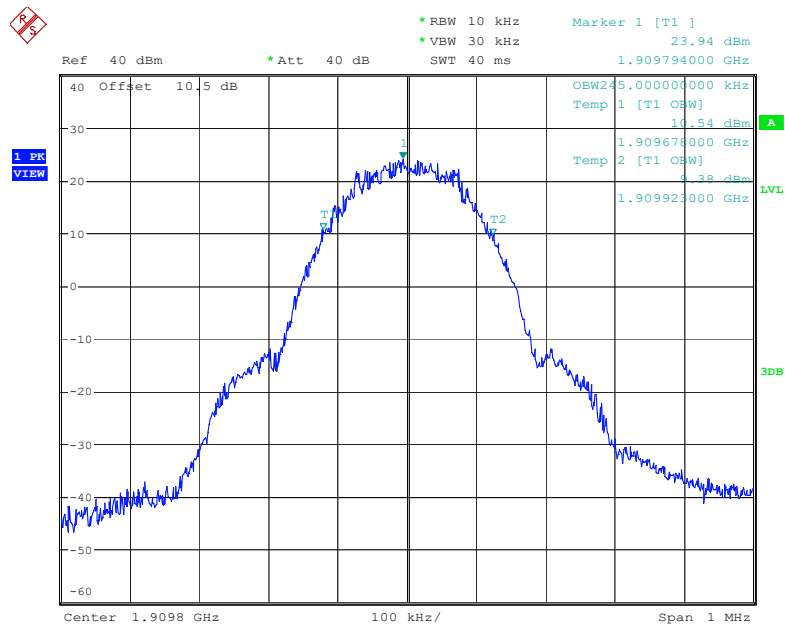
Date: 15.JUL.2022 13:10:19

**99% Occupied Bandwidth for GSM (GMSK) Mode, Low channel**

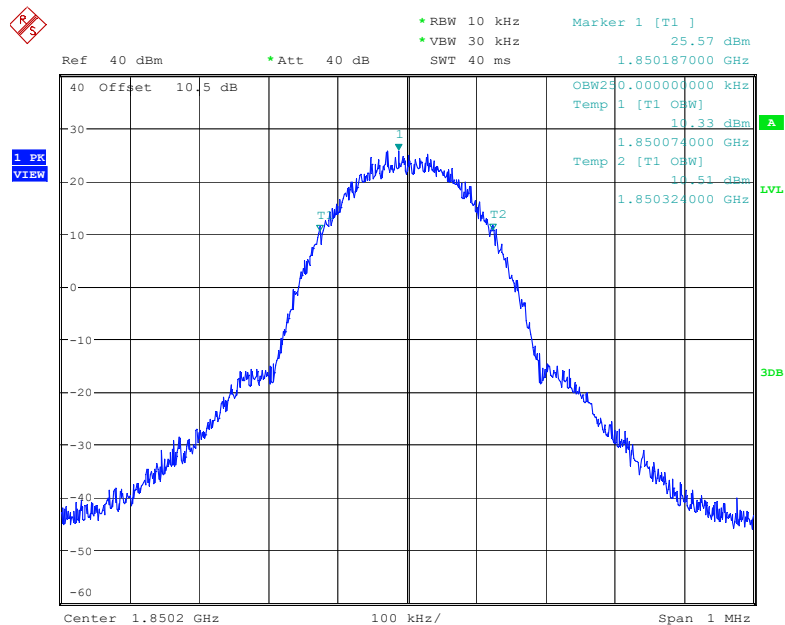
Date: 1.JUL.2022 16:53:15

**99% Occupied Bandwidth for GSM (GMSK) Mode, Middle channel**

Date: 1.JUL.2022 16:57:36

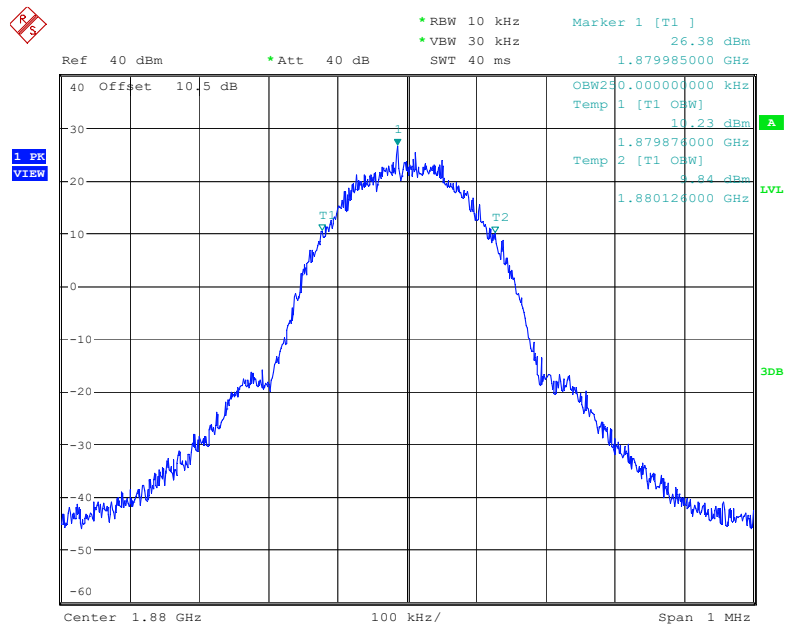
**99% Occupied Bandwidth for GSM (GMSK) Mode, High channel**

Date: 1.JUL.2022 17:00:54

**99% Occupied Bandwidth for EGPRS (8PSK) Mode, Low channel**

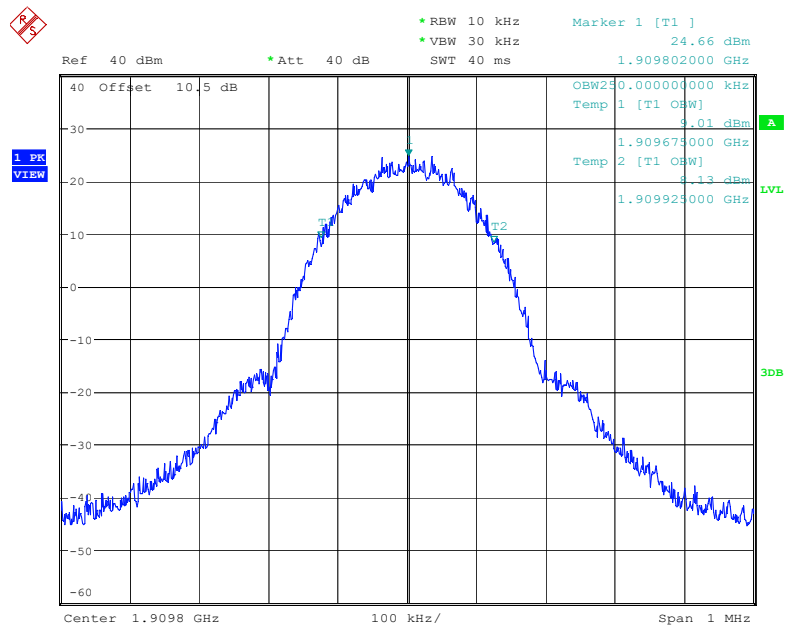
Date: 1.JUL.2022 16:41:51

## 99% Occupied Bandwidth for EGPRS (8PSK) Mode, Middle channel

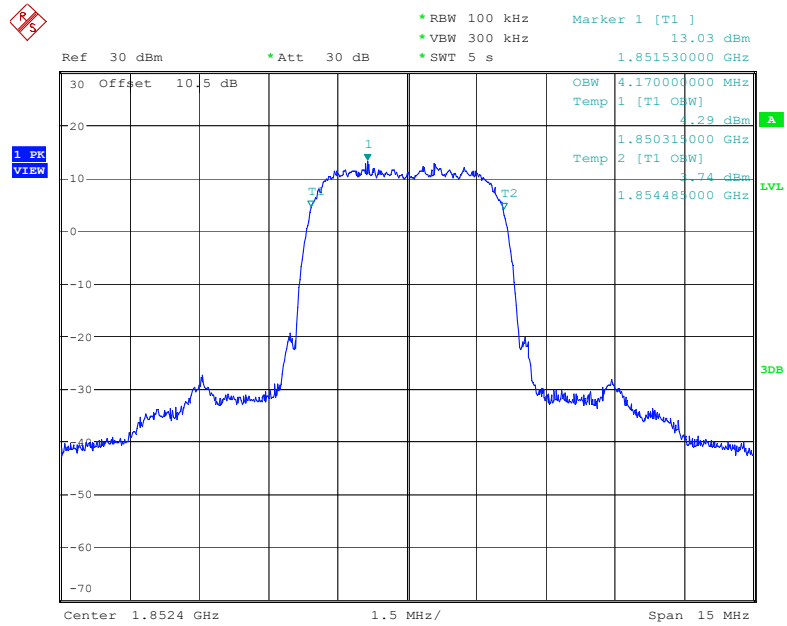


Date: 1.JUL.2022 16:45:18

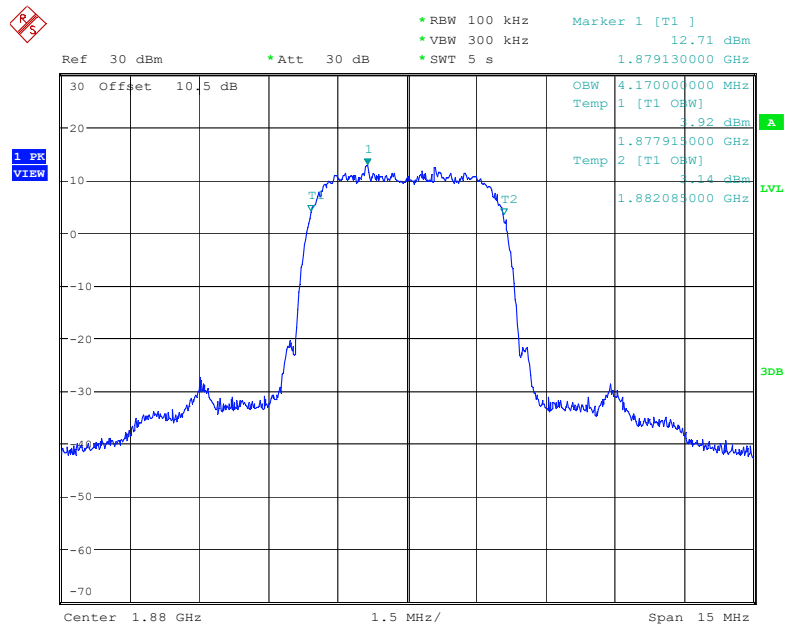
## 99% Occupied Bandwidth for EGPRS (8PSK) Mode, High channel



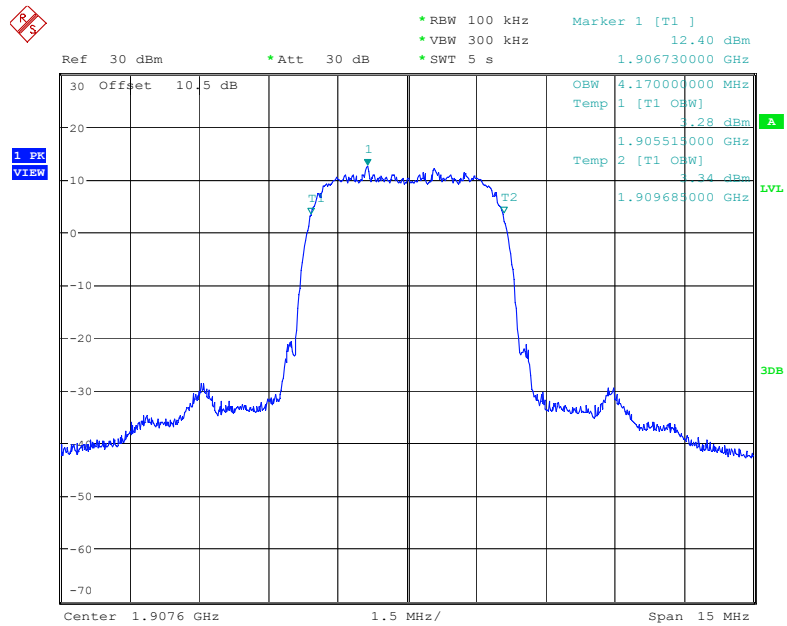
Date: 1.JUL.2022 16:48:10

**99% Occupied Bandwidth for RMC (BPSK) Mode, Low channel**

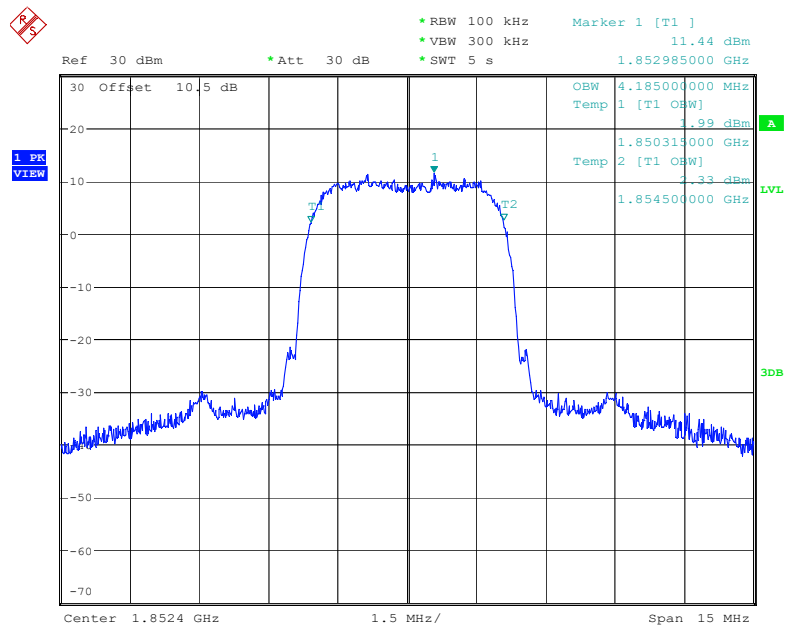
Date: 1.JUL.2022 17:07:09

**99% Occupied Bandwidth for RMC (BPSK) Mode, Middle channel**

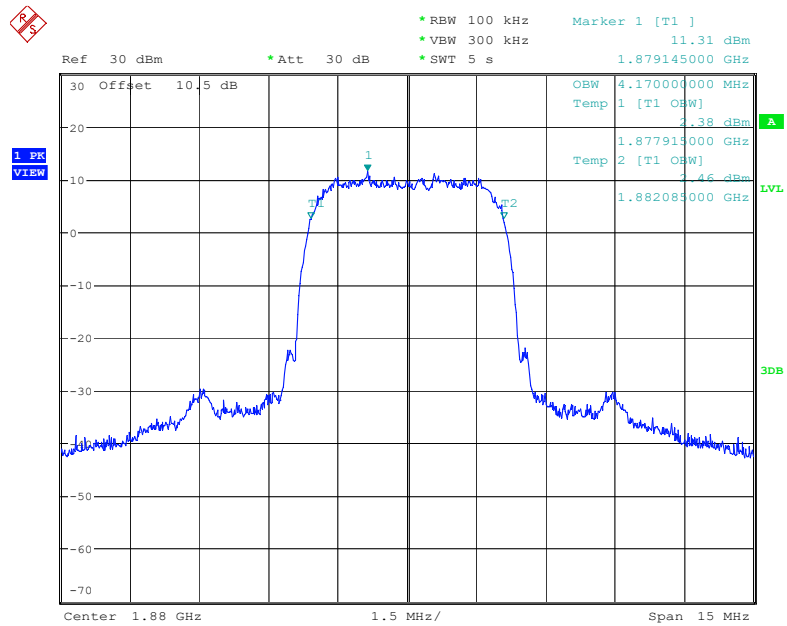
Date: 1.JUL.2022 17:10:54

**99% Occupied Bandwidth for RMC (BPSK) Mode, High channel**

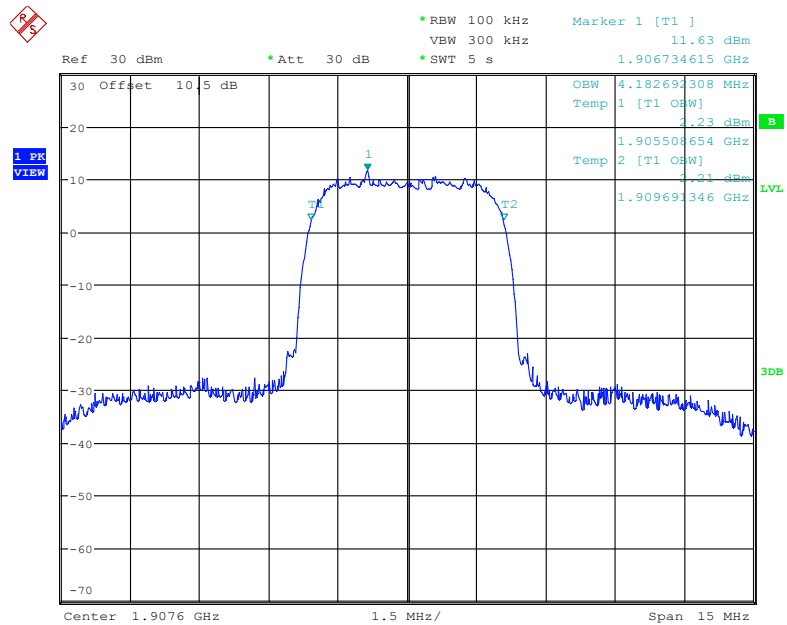
Date: 1.JUL.2022 17:36:58

**99% Occupied Bandwidth for HSUPA (QPSK) Mode, Low channel**

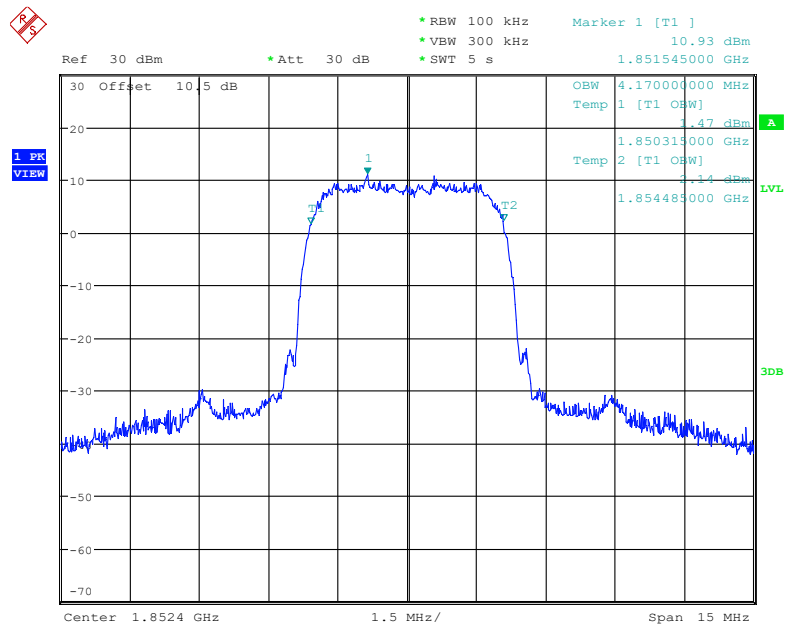
Date: 1.JUL.2022 18:21:36

**99% Occupied Bandwidth for HSUPA (QPSK) Mode, Middle channel**

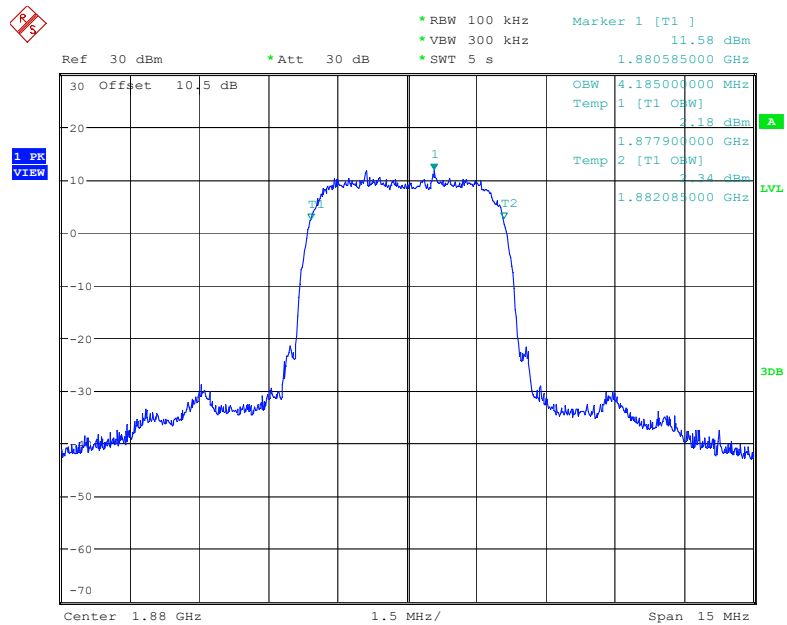
Date: 1.JUL.2022 18:25:48

**99% Occupied Bandwidth for HSUPA (QPSK) Mode, High channel**

Date: 15.JUL.2022 13:14:27

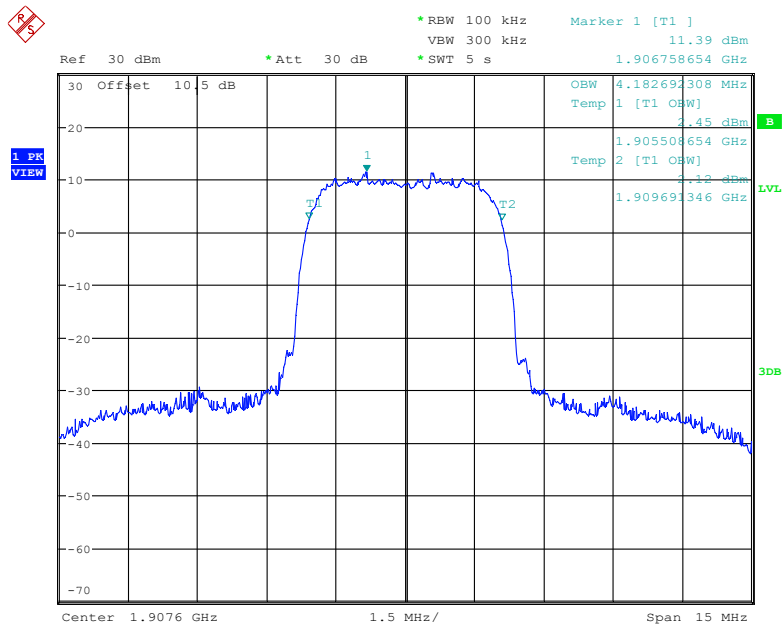
**99% Occupied Bandwidth for HSDPA (16QAM) Mode, Low channel**

Date: 2.JUL.2022 18:34:44

**99% Occupied Bandwidth for HSDPA (16QAM) Mode, Middle channel**

Date: 1.JUL.2022 18:11:57

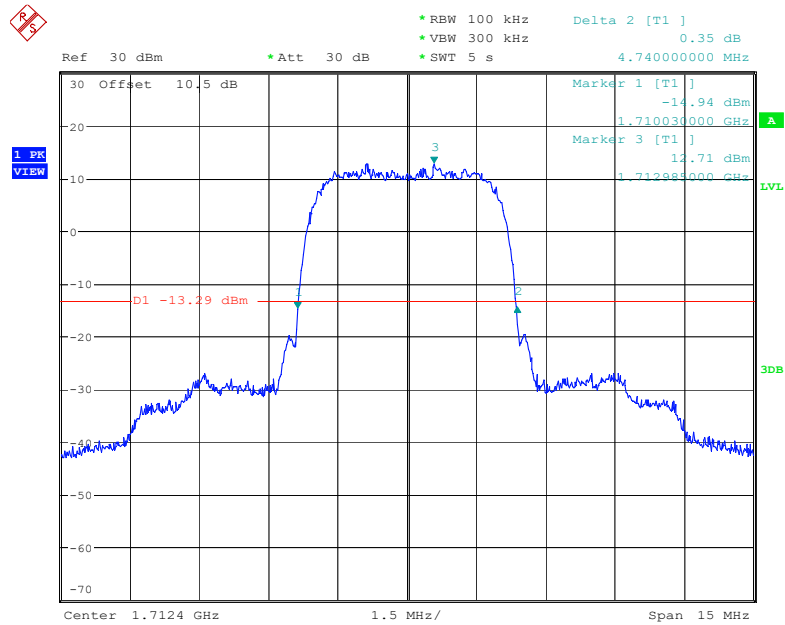
99% Occupied Bandwidth for HSDPA (16QAM) Mode, High channel



Date: 15.JUL.2022 13:12:15

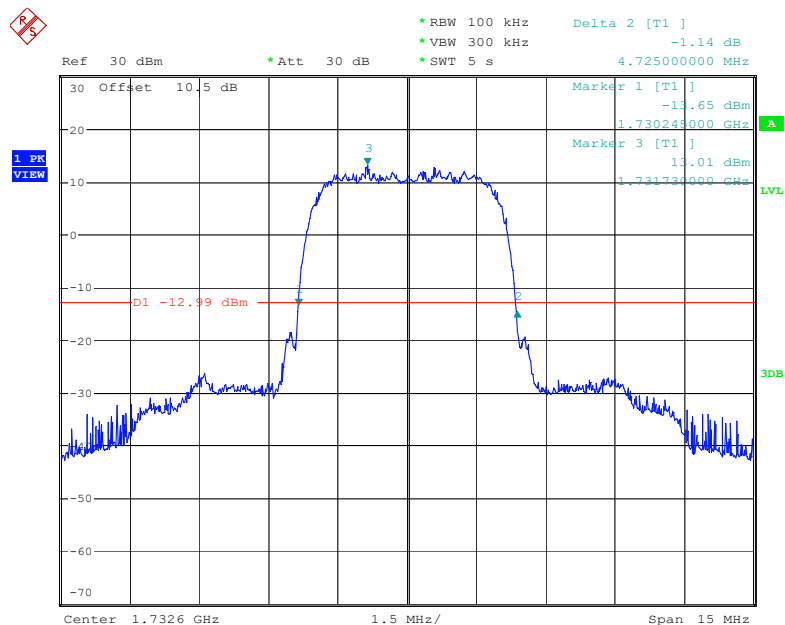
## AWS Band (Part 27)

## 26 dB Emissions for RMC (BPSK) Mode, Low channel

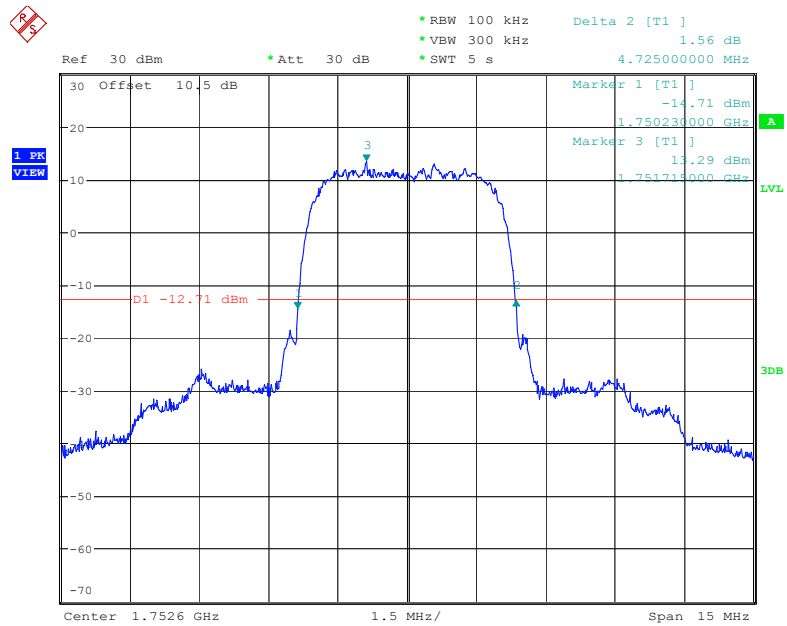


Date: 1.JUL.2022 18:37:30

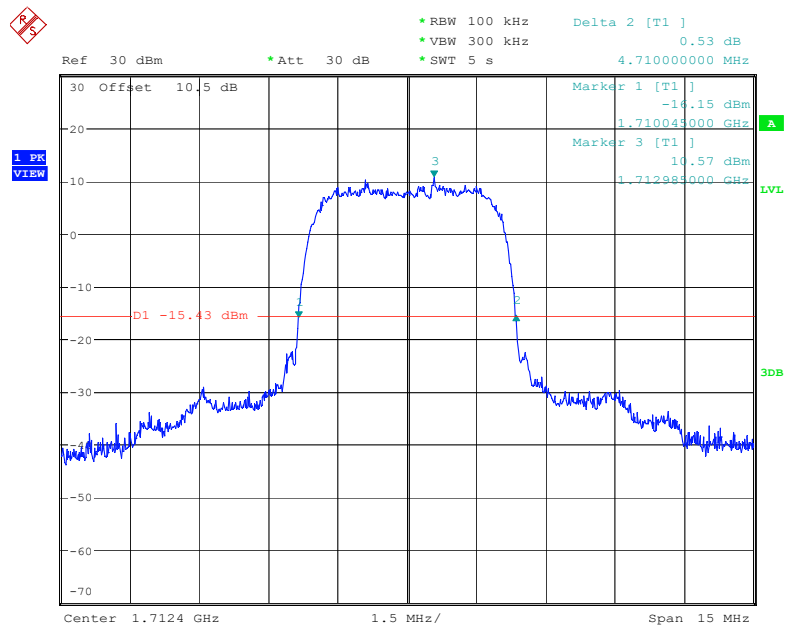
## 26 dB Emissions for RMC (BPSK) Mode, Middle channel



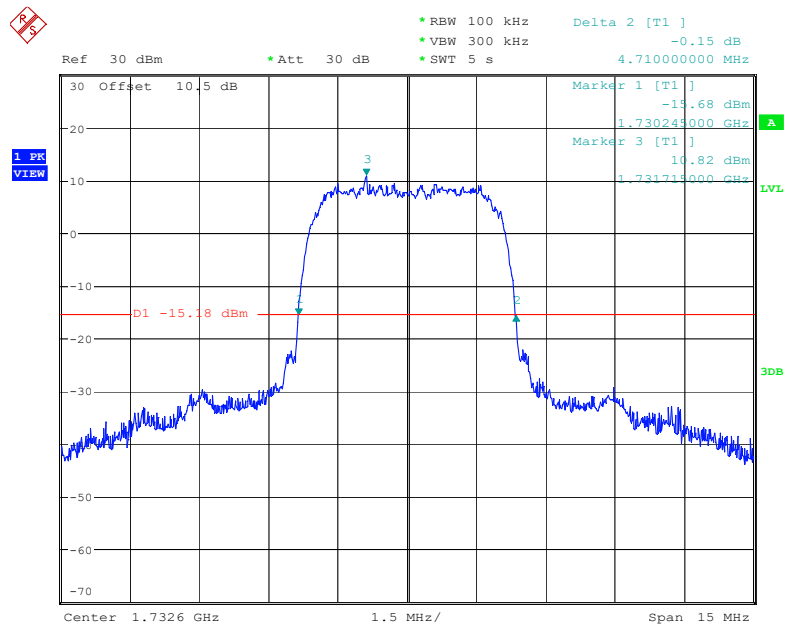
Date: 1.JUL.2022 18:41:18

**26 dB Emissions for RMC (BPSK) Mode, High channel**

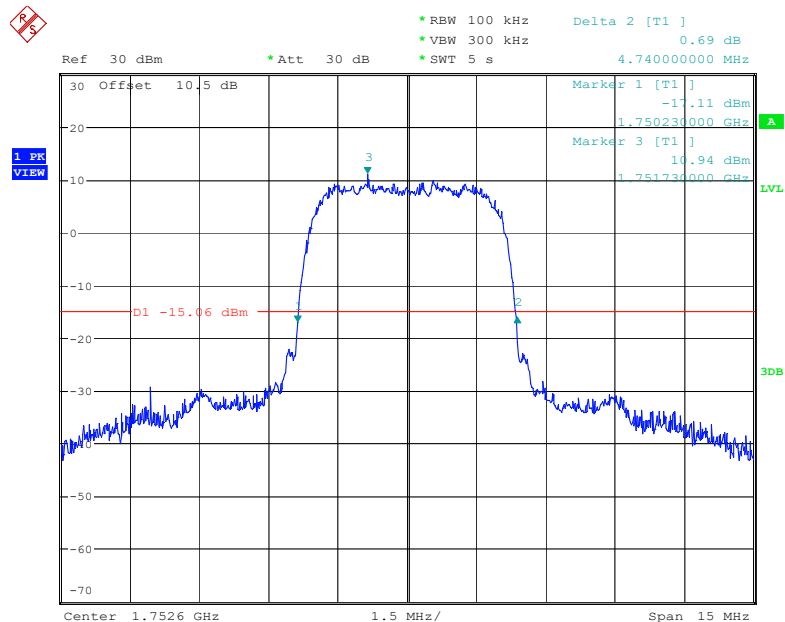
Date: 1.JUL.2022 18:44:26

**26 dB Emissions for HSUPA (QPSK) Mode, Low channel**

Date: 2.JUL.2022 09:47:42

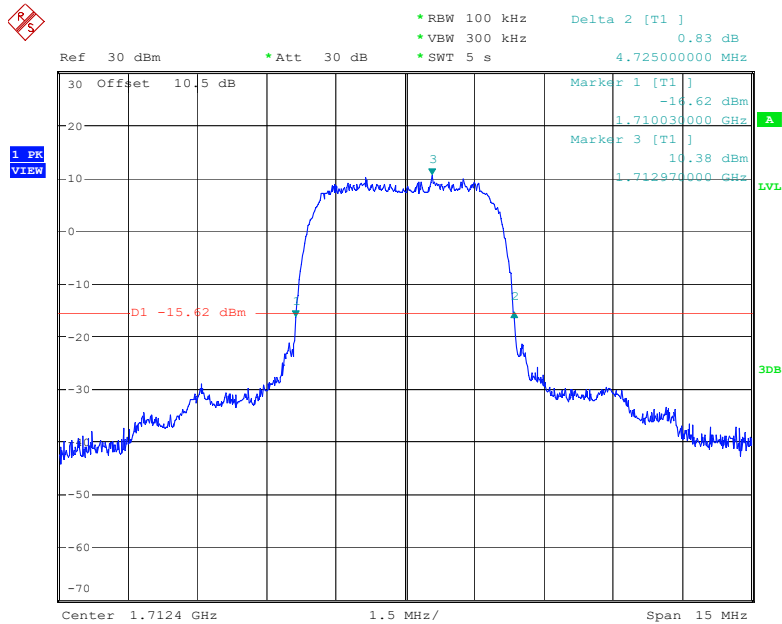
**26 dB Emissions & for HSUPA (QPSK) Mode, Middle channel**

Date: 2.JUL.2022 09:51:29

**26 dB Emissions for HSUPA (QPSK) Mode, High channel**

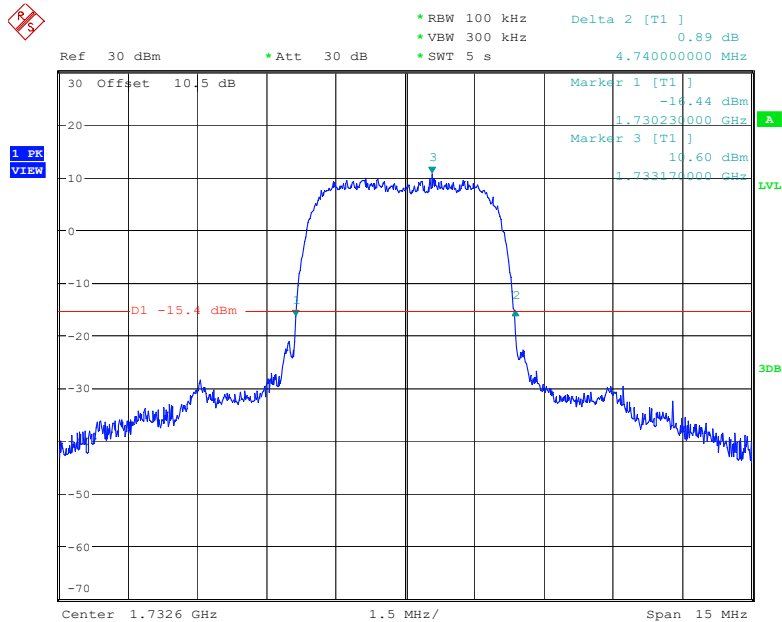
Date: 2.JUL.2022 09:54:48

26 dB Emissions for HSDPA (16QAM) Mode, Low channel

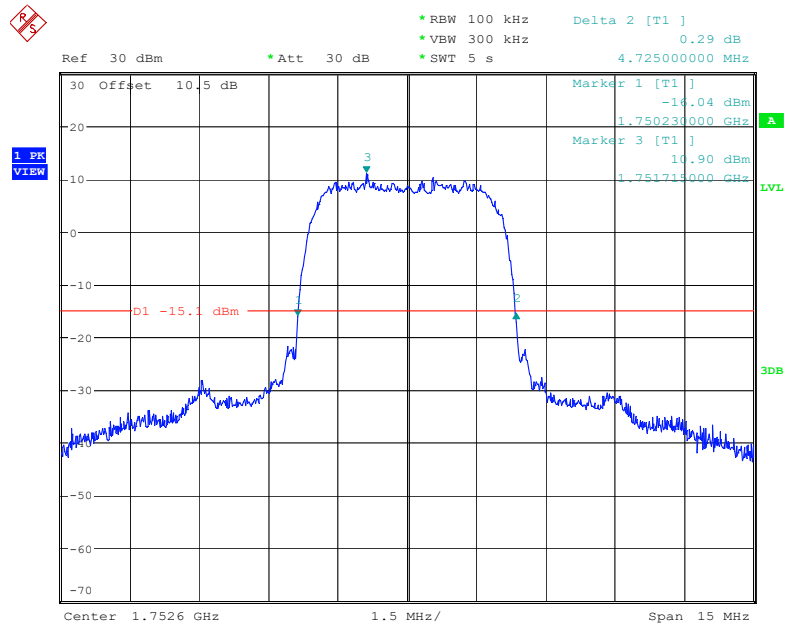


Date: 2.JUL.2022 09:35:21

26 dB Emissions for HSDPA (16QAM) Mode, Middle channel

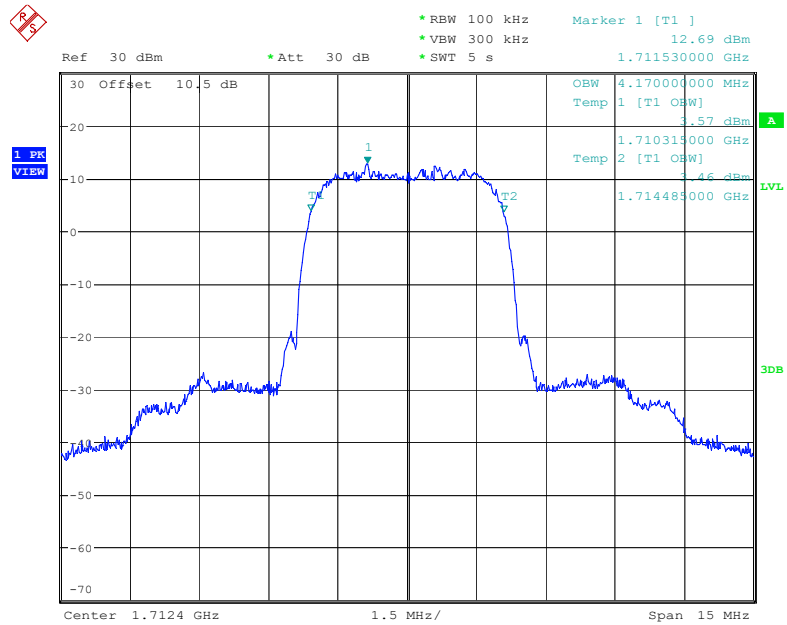


Date: 2.JUL.2022 09:39:16

**26 dB Emissions for HSDPA (16QAM) Mode, High channel**

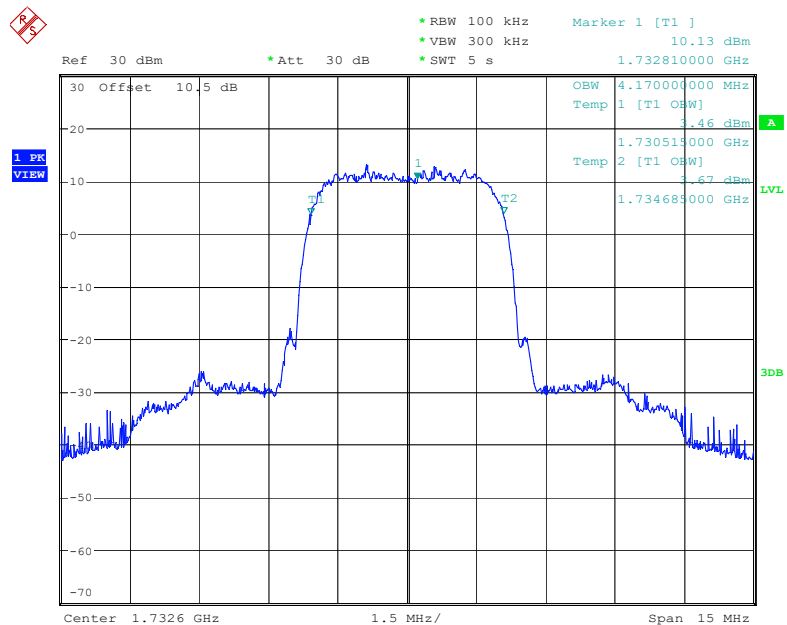
Date: 2.JUL.2022 09:42:28

## 99% Occupied Bandwidth for RMC (BPSK) Mode, Low channel

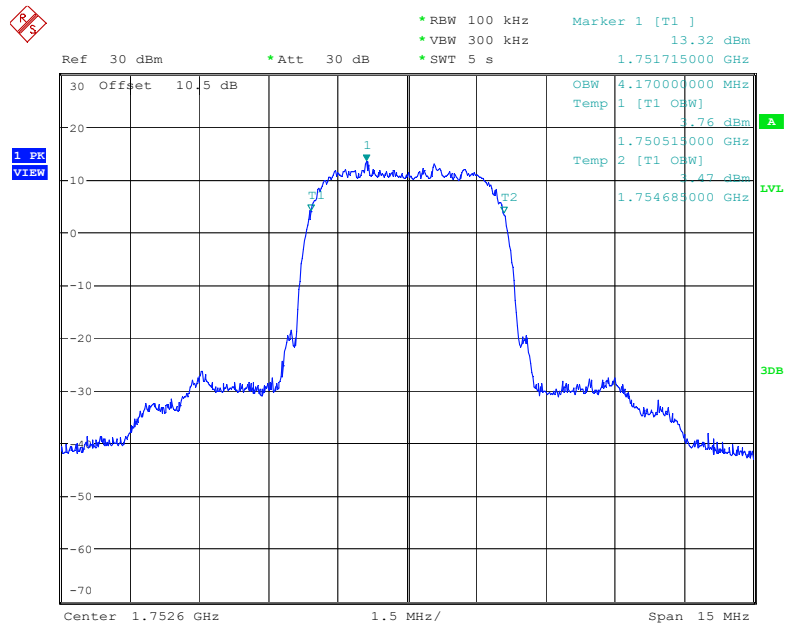


Date: 1.JUL.2022 18:36:52

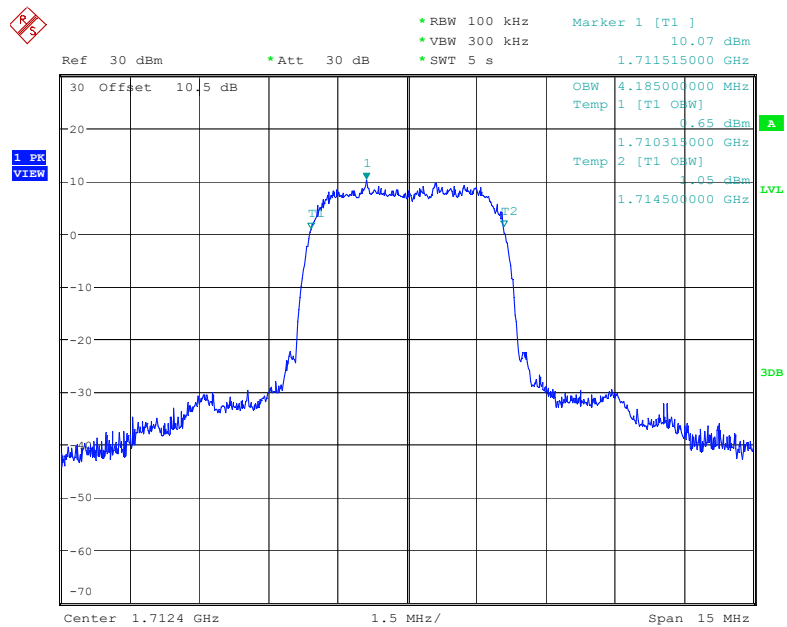
## 99% Occupied Bandwidth for RMC (BPSK) Mode, Middle channel



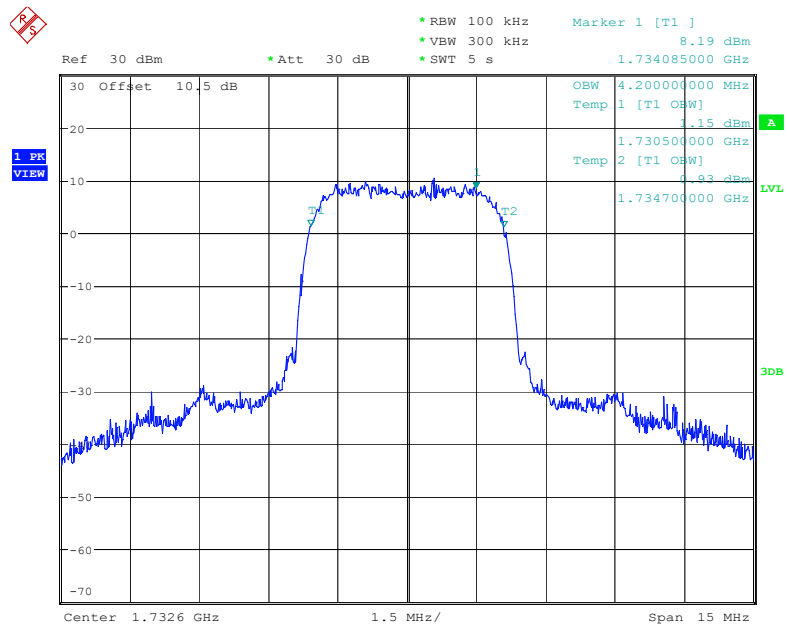
Date: 1.JUL.2022 18:40:41

**99% Occupied Bandwidth for RMC (BPSK) Mode, High channel**

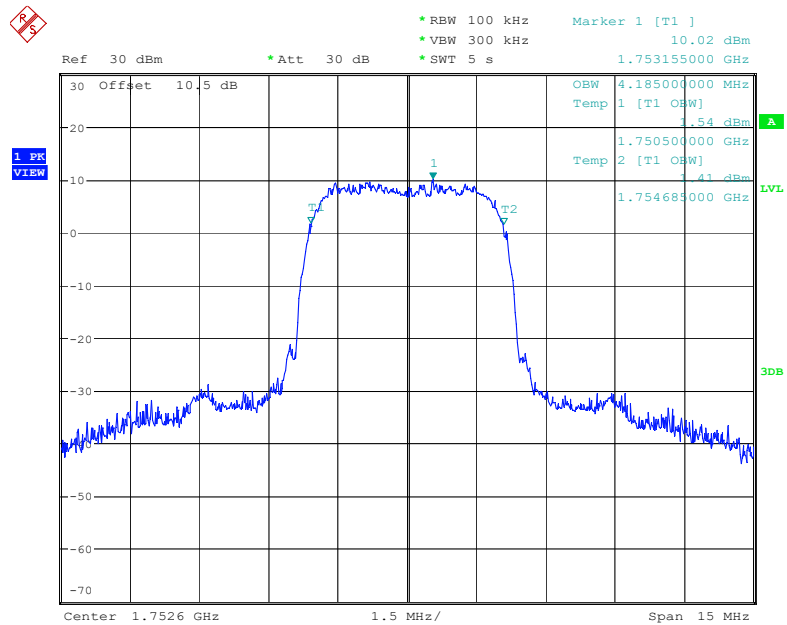
Date: 1.JUL.2022 18:43:48

**99% Occupied Bandwidth for HSUPA (QPSK) Mode, Low channel**

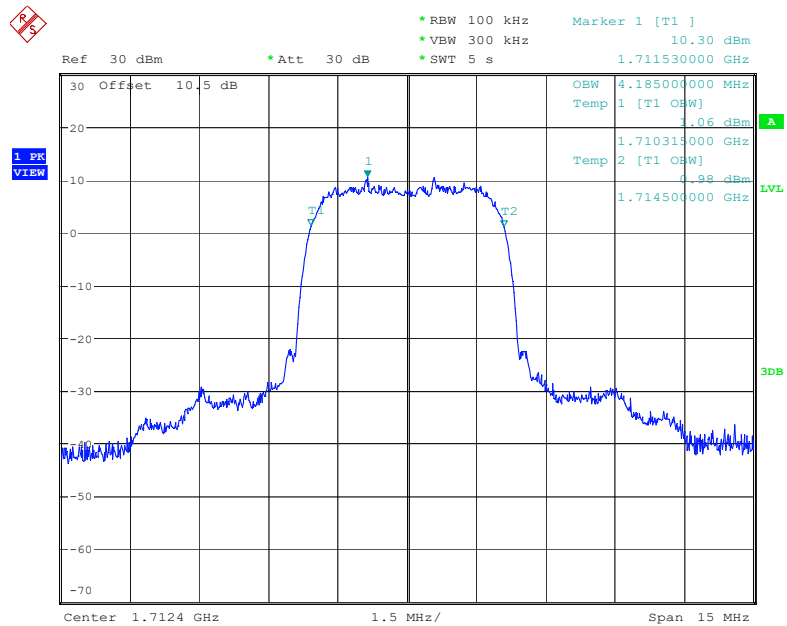
Date: 2.JUL.2022 09:47:04

**99% Occupied Bandwidth for HSUPA (QPSK) Mode, Middle channel**

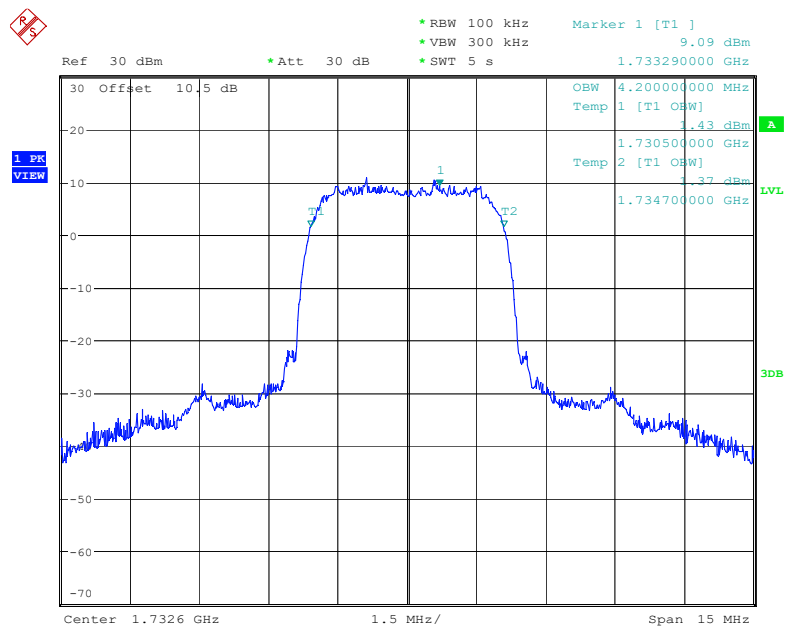
Date: 2.JUL.2022 09:50:52

**99% Occupied Bandwidth for HSUPA (QPSK) Mode, High channel**

Date: 2.JUL.2022 09:54:10

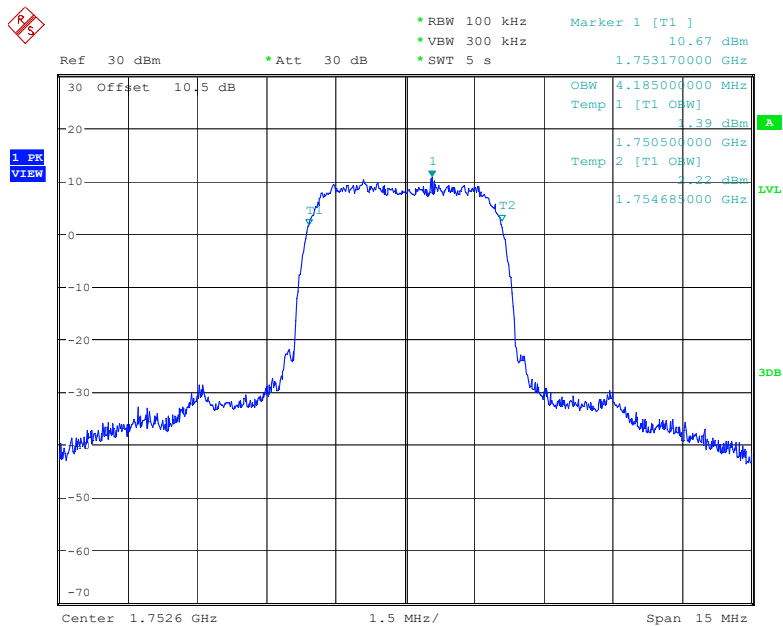
**99% Occupied Bandwidth for HSDPA (16QAM) Mode, Low channel**

Date: 2.JUL.2022 09:34:42

**99% Occupied Bandwidth for HSDPA (16QAM) Mode, Middle channel**

Date: 2.JUL.2022 09:38:38

99% Occupied Bandwidth for HSDPA (16QAM) Mode, High channel



Date: 2.JUL.2022 09:41:50

**LTE Band 2:**

| Bandwidth | Modulation | Low channel |                | Middle channel |                | High channel |                |
|-----------|------------|-------------|----------------|----------------|----------------|--------------|----------------|
|           |            | OBW (MHz)   | 26dB EBW (MHz) | OBW (MHz)      | 26dB EBW (MHz) | OBW (MHz)    | 26dB EBW (MHz) |
| 1.4 MHz   | QPSK       | 1.104       | 1.284          | 1.098          | 1.302          | 1.104        | 1.308          |
|           | 16QAM      | 1.098       | 1.290          | 1.110          | 1.314          | 1.092        | 1.284          |
| 3 MHz     | QPSK       | 2.688       | 2.880          | 2.688          | 2.880          | 2.688        | 2.892          |
|           | 16QAM      | 2.688       | 2.904          | 2.688          | 2.880          | 2.688        | 2.892          |
| 5 MHz     | QPSK       | 4.520       | 4.940          | 4.500          | 4.960          | 4.520        | 4.920          |
|           | 16QAM      | 4.500       | 4.880          | 4.520          | 4.980          | 4.520        | 4.960          |
| 10 MHz    | QPSK       | 8.960       | 9.680          | 8.960          | 9.560          | 8.960        | 9.600          |
|           | 16QAM      | 8.960       | 9.600          | 8.960          | 9.680          | 8.960        | 9.640          |
| 15 MHz    | QPSK       | 13.500      | 14.760         | 13.500         | 14.640         | 13.500       | 14.820         |
|           | 16QAM      | 13.500      | 14.700         | 13.560         | 14.700         | 13.500       | 14.700         |
| 20 MHz    | QPSK       | 18.000      | 19.200         | 18.000         | 19.440         | 18.000       | 19.600         |
|           | 16QAM      | 18.000      | 19.280         | 18.000         | 19.440         | 17.920       | 19.360         |

**LTE Band 4:**

| Bandwidth | Modulation | Low channel |                | Middle channel |                | High channel |                |
|-----------|------------|-------------|----------------|----------------|----------------|--------------|----------------|
|           |            | OBW (MHz)   | 26dB EBW (MHz) | OBW (MHz)      | 26dB EBW (MHz) | OBW (MHz)    | 26dB EBW (MHz) |
| 1.4 MHz   | QPSK       | 1.098       | 1.308          | 1.098          | 1.320          | 1.098        | 1.296          |
|           | 16QAM      | 1.098       | 1.320          | 1.098          | 1.296          | 1.098        | 1.296          |
| 3 MHz     | QPSK       | 2.688       | 2.856          | 2.688          | 2.880          | 2.688        | 2.892          |
|           | 16QAM      | 2.688       | 2.892          | 2.688          | 2.880          | 2.688        | 2.880          |
| 5 MHz     | QPSK       | 4.520       | 4.940          | 4.520          | 4.960          | 4.500        | 4.940          |
|           | 16QAM      | 4.500       | 4.900          | 4.520          | 4.960          | 4.500        | 4.960          |
| 10 MHz    | QPSK       | 9.000       | 9.560          | 8.960          | 9.600          | 8.960        | 9.600          |
|           | 16QAM      | 8.960       | 9.520          | 8.960          | 9.600          | 8.960        | 9.600          |
| 15 MHz    | QPSK       | 13.560      | 14.940         | 13.500         | 14.760         | 13.560       | 14.820         |
|           | 16QAM      | 13.500      | 14.640         | 13.500         | 14.820         | 13.560       | 14.700         |
| 20 MHz    | QPSK       | 18.000      | 19.280         | 18.000         | 19.280         | 18.000       | 19.360         |
|           | 16QAM      | 18.000      | 19.280         | 18.000         | 19.440         | 18.000       | 19.280         |

**LTE Band 5:**

| Bandwidth | Modulation | Low channel |                | Middle channel |                | High channel |                |
|-----------|------------|-------------|----------------|----------------|----------------|--------------|----------------|
|           |            | OBW (MHz)   | 26dB EBW (MHz) | OBW (MHz)      | 26dB EBW (MHz) | OBW (MHz)    | 26dB EBW (MHz) |
| 1.4 MHz   | QPSK       | 1.098       | 1.308          | 1.104          | 1.308          | 1.104        | 1.290          |
|           | 16QAM      | 1.110       | 1.314          | 1.098          | 1.290          | 1.098        | 1.290          |
| 3 MHz     | QPSK       | 2.688       | 2.868          | 2.688          | 2.880          | 2.688        | 2.892          |
|           | 16QAM      | 2.688       | 2.892          | 2.688          | 2.880          | 2.688        | 2.868          |
| 5 MHz     | QPSK       | 4.520       | 4.920          | 4.500          | 4.920          | 4.520        | 4.900          |
|           | 16QAM      | 4.500       | 4.940          | 4.520          | 4.960          | 4.520        | 4.960          |
| 10 MHz    | QPSK       | 8.960       | 9.600          | 8.960          | 9.520          | 8.960        | 9.640          |
|           | 16QAM      | 8.960       | 9.480          | 8.960          | 9.520          | 8.960        | 9.560          |

**LTE Band 7:**

| Bandwidth | Modulation | Low channel |                | Middle channel |                | High channel |                |
|-----------|------------|-------------|----------------|----------------|----------------|--------------|----------------|
|           |            | OBW (MHz)   | 26dB EBW (MHz) | OBW (MHz)      | 26dB EBW (MHz) | OBW (MHz)    | 26dB EBW (MHz) |
| 5 MHz     | QPSK       | 4.520       | 4.936          | 4.520          | 4.920          | 4.500        | 4.900          |
|           | 16QAM      | 4.520       | 4.936          | 4.500          | 4.980          | 4.500        | 4.960          |
| 10 MHz    | QPSK       | 8.960       | 9.551          | 8.960          | 9.640          | 8.960        | 9.600          |
|           | 16QAM      | 9.000       | 9.647          | 8.960          | 9.600          | 8.960        | 9.640          |
| 15 MHz    | QPSK       | 13.500      | 14.785         | 13.500         | 14.760         | 13.500       | 14.760         |
|           | 16QAM      | 13.500      | 14.820         | 13.500         | 14.760         | 13.500       | 14.760         |
| 20 MHz    | QPSK       | 17.920      | 19.280         | 17.920         | 19.360         | 18.000       | 19.440         |
|           | 16QAM      | 18.000      | 19.200         | 18.000         | 19.280         | 18.000       | 19.360         |

**LTE Band 12:**

| Bandwidth | Modulation | Low channel |                | Middle channel |                | High channel |                |
|-----------|------------|-------------|----------------|----------------|----------------|--------------|----------------|
|           |            | OBW (MHz)   | 26dB EBW (MHz) | OBW (MHz)      | 26dB EBW (MHz) | OBW (MHz)    | 26dB EBW (MHz) |
| 1.4 MHz   | QPSK       | 1.098       | 1.302          | 1.104          | 1.326          | 1.110        | 1.296          |
|           | 16QAM      | 1.104       | 1.308          | 1.098          | 1.290          | 1.098        | 1.296          |
| 3 MHz     | QPSK       | 2.688       | 2.880          | 2.688          | 2.904          | 2.688        | 2.892          |
|           | 16QAM      | 2.688       | 2.868          | 2.688          | 2.880          | 2.676        | 2.880          |
| 5 MHz     | QPSK       | 4.520       | 5.160          | 4.540          | 5.160          | 4.520        | 5.120          |
|           | 16QAM      | 4.520       | 5.100          | 4.520          | 5.220          | 4.540        | 5.180          |
| 10 MHz    | QPSK       | 8.960       | 9.960          | 8.960          | 9.800          | 8.960        | 9.760          |
|           | 16QAM      | 8.960       | 9.920          | 9.000          | 9.840          | 8.960        | 9.840          |

**LTE Band 13:**

| Bandwidth | Modulation | Low channel |                | Middle channel |                | High channel |                |
|-----------|------------|-------------|----------------|----------------|----------------|--------------|----------------|
|           |            | OBW (MHz)   | 26dB EBW (MHz) | OBW (MHz)      | 26dB EBW (MHz) | OBW (MHz)    | 26dB EBW (MHz) |
| 5 MHz     | QPSK       | 4.540       | 5.200          | 4.540          | 5.180          | 4.520        | 5.200          |
|           | 16QAM      | 4.540       | 5.260          | 4.540          | 5.220          | 4.540        | 5.160          |
| 10 MHz    | QPSK       | \           | \              | 8.960          | 9.880          | \            | \              |
|           | 16QAM      | \           | \              | 8.960          | 9.800          | \            | \              |

**LTE Band 17:**

| Bandwidth | Modulation | Low channel |                | Middle channel |                | High channel |                |
|-----------|------------|-------------|----------------|----------------|----------------|--------------|----------------|
|           |            | OBW (MHz)   | 26dB EBW (MHz) | OBW (MHz)      | 26dB EBW (MHz) | OBW (MHz)    | 26dB EBW (MHz) |
| 5 MHz     | QPSK       | 4.540       | 5.160          | 4.520          | 5.180          | 4.520        | 5.140          |
|           | 16QAM      | 4.540       | 5.160          | 4.540          | 5.180          | 4.540        | 5.200          |
| 10 MHz    | QPSK       | 9.000       | 9.960          | 8.960          | 9.800          | 8.960        | 9.760          |
|           | 16QAM      | 8.960       | 9.720          | 8.960          | 9.840          | 8.960        | 9.760          |

**LTE Band 38:**

| Bandwidth | Modulation | Low channel |                | Middle channel |                | High channel |                |
|-----------|------------|-------------|----------------|----------------|----------------|--------------|----------------|
|           |            | OBW (MHz)   | 26dB EBW (MHz) | OBW (MHz)      | 26dB EBW (MHz) | OBW (MHz)    | 26dB EBW (MHz) |
| 5 MHz     | QPSK       | 4.520       | 5.020          | 4.520          | 5.320          | 4.520        | 4.960          |
|           | 16QAM      | 4.520       | 5.100          | 4.500          | 5.040          | 4.500        | 5.160          |
| 10 MHz    | QPSK       | 8.960       | 9.640          | 8.960          | 9.640          | 8.960        | 9.720          |
|           | 16QAM      | 8.960       | 9.520          | 8.960          | 9.520          | 8.960        | 9.960          |
| 15 MHz    | QPSK       | 13.560      | 15.180         | 13.560         | 15.660         | 13.560       | 15.625         |
|           | 16QAM      | 13.560      | 16.260         | 13.560         | 15.780         | 13.560       | 16.440         |
| 20 MHz    | QPSK       | 18.000      | 19.360         | 18.000         | 19.440         | 18.000       | 19.513         |
|           | 16QAM      | 18.000      | 19.731         | 17.920         | 19.600         | 18.000       | 19.360         |

**LTE Band 41:**

| Bandwidth | Modulation | Low channel |                | Middle channel |                | High channel |                |
|-----------|------------|-------------|----------------|----------------|----------------|--------------|----------------|
|           |            | OBW (MHz)   | 26dB EBW (MHz) | OBW (MHz)      | 26dB EBW (MHz) | OBW (MHz)    | 26dB EBW (MHz) |
| 5 MHz     | QPSK       | 4.500       | 4.920          | 4.520          | 4.960          | 4.520        | 5.000          |
|           | 16QAM      | 4.500       | 5.120          | 4.500          | 5.020          | 4.500        | 4.980          |
| 10 MHz    | QPSK       | 9.000       | 9.800          | 8.960          | 9.680          | 8.960        | 9.600          |
|           | 16QAM      | 8.960       | 9.480          | 8.960          | 9.520          | 8.960        | 10.000         |
| 15 MHz    | QPSK       | 13.560      | 16.490         | 13.440         | 15.240         | 13.500       | 15.000         |
|           | 16QAM      | 13.560      | 15.540         | 13.560         | 15.240         | 13.560       | 16.920         |
| 20 MHz    | QPSK       | 18.000      | 19.600         | 17.920         | 20.080         | 18.000       | 20.080         |
|           | 16QAM      | 18.000      | 19.760         | 18.000         | 20.720         | 18.000       | 19.680         |

**LTE Band 66:**

| Bandwidth | Modulation | Low channel |                | Middle channel |                | High channel |                |
|-----------|------------|-------------|----------------|----------------|----------------|--------------|----------------|
|           |            | OBW (MHz)   | 26dB EBW (MHz) | OBW (MHz)      | 26dB EBW (MHz) | OBW (MHz)    | 26dB EBW (MHz) |
| 1.4 MHz   | QPSK       | 1.098       | 1.314          | 1.110          | 1.296          | 1.104        | 1.302          |
|           | 16QAM      | 1.092       | 1.290          | 1.098          | 1.290          | 1.104        | 1.320          |
| 3 MHz     | QPSK       | 2.688       | 2.880          | 2.688          | 2.892          | 2.688        | 2.892          |
|           | 16QAM      | 2.688       | 2.892          | 2.688          | 2.880          | 2.688        | 2.880          |
| 5 MHz     | QPSK       | 4.540       | 5.180          | 4.520          | 5.240          | 4.520        | 5.100          |
|           | 16QAM      | 4.520       | 5.160          | 4.540          | 5.180          | 4.540        | 5.200          |
| 10 MHz    | QPSK       | 8.960       | 9.920          | 8.960          | 9.880          | 8.960        | 9.800          |
|           | 16QAM      | 9.000       | 9.720          | 9.000          | 9.880          | 8.960        | 9.840          |
| 15 MHz    | QPSK       | 13.560      | 15.300         | 13.560         | 15.060         | 13.620       | 15.240         |
|           | 16QAM      | 13.560      | 15.060         | 13.620         | 15.120         | 13.620       | 15.180         |
| 20 MHz    | QPSK       | 18.000      | 19.520         | 17.920         | 19.680         | 18.080       | 19.821         |
|           | 16QAM      | 18.000      | 19.600         | 18.000         | 19.760         | 18.080       | 19.600         |

The test plots of LTE band please refer to the Appendix A.

## FCC §2.1051, §22.917(a) & §24.238(a)& §27.53 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

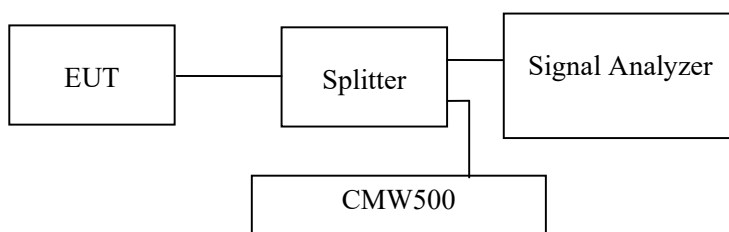
### Applicable Standard

FCC §2.1051, §22.917(a) & §24.238(a)&§27.53.

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

### Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz. Sufficient scans were taken to show any out of band emissions up to 10<sup>th</sup> harmonic.



### Test Data

#### Environmental Conditions

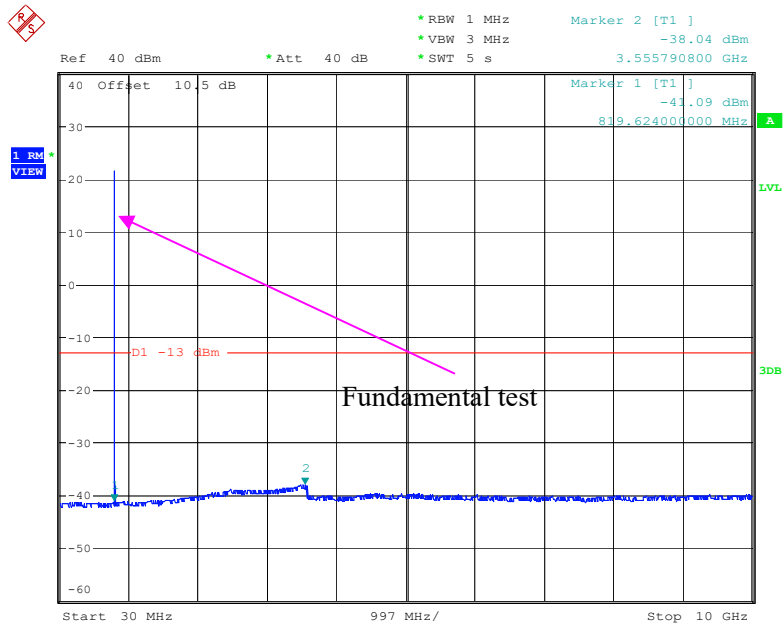
|                    |            |
|--------------------|------------|
| Temperature:       | 27.1~27.3℃ |
| Relative Humidity: | 56~56.8 %  |
| ATM Pressure:      | 101.0 kPa  |

*The testing was performed by Roger Ling from 2022-06-28 to 2022-07-02.*

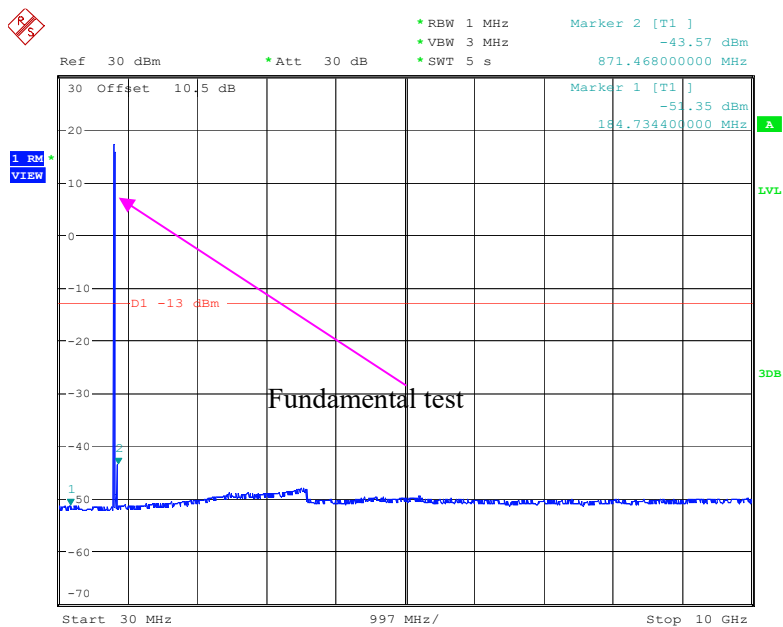
*EUT operation mode: Transmitting*

**Test result: Pass**

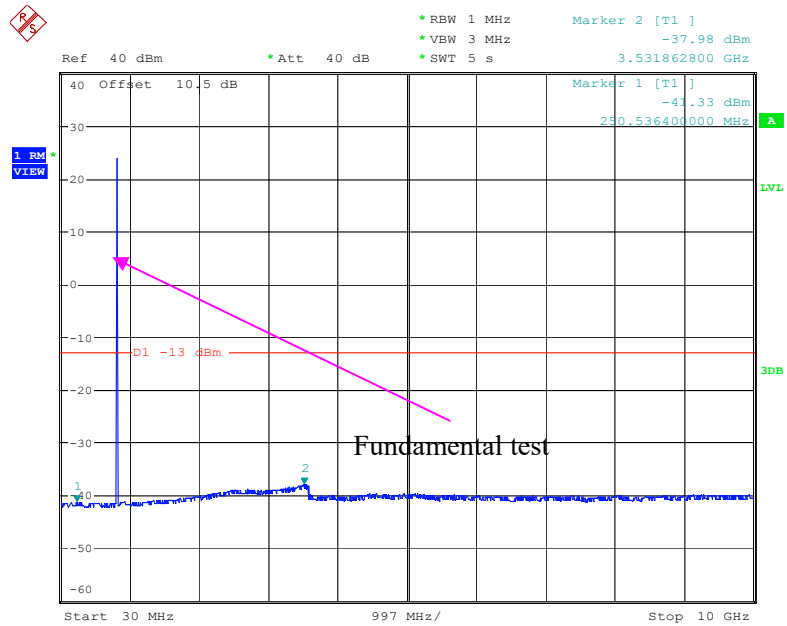
*Please refer to the following plots.*

**Cellular Band (Part 22H)**  
**Low Channel:****30 MHz – 10GHz (GSM Mode)**

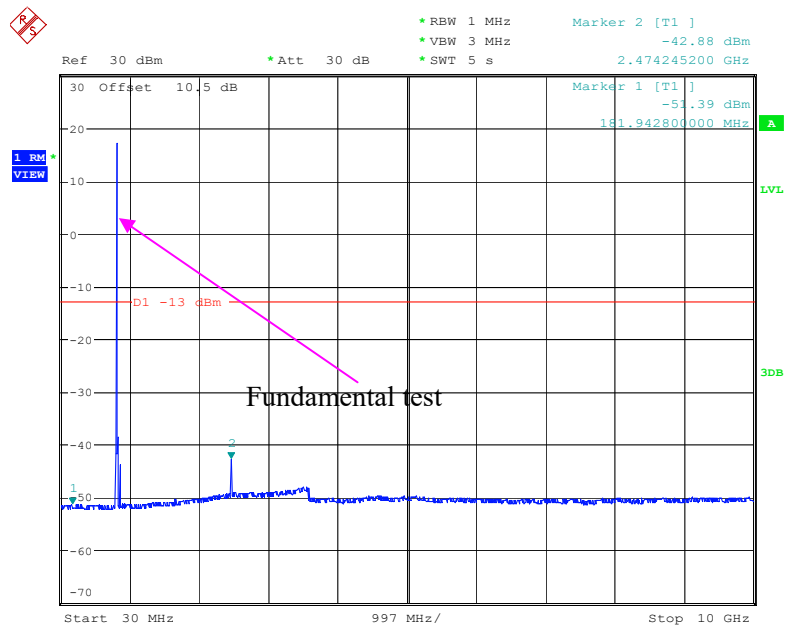
Date: 1.JUL.2022 16:32:23

**30 MHz – 10 GHz (WCDMA Mode)**

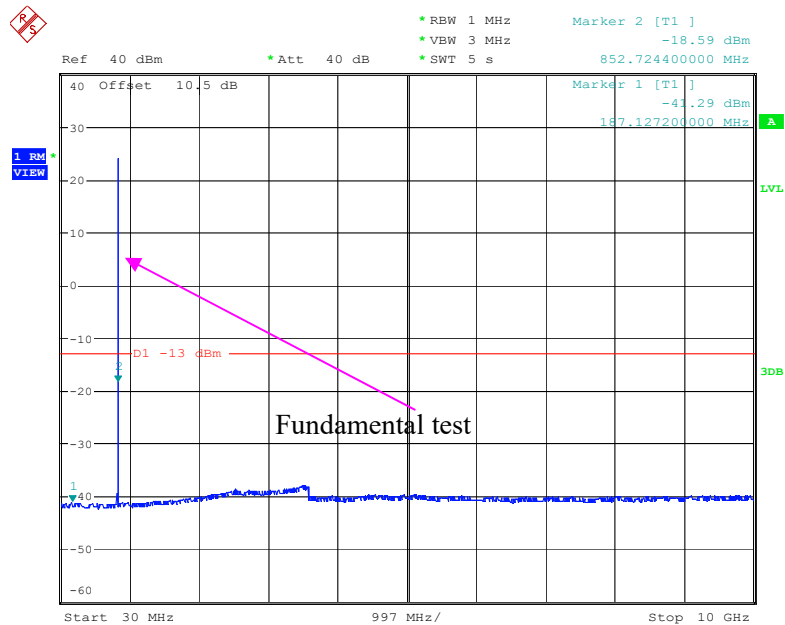
Date: 2.JUL.2022 10:01:17

**Middle Channel:****30 MHz – 10 GHz (GSM Mode)**

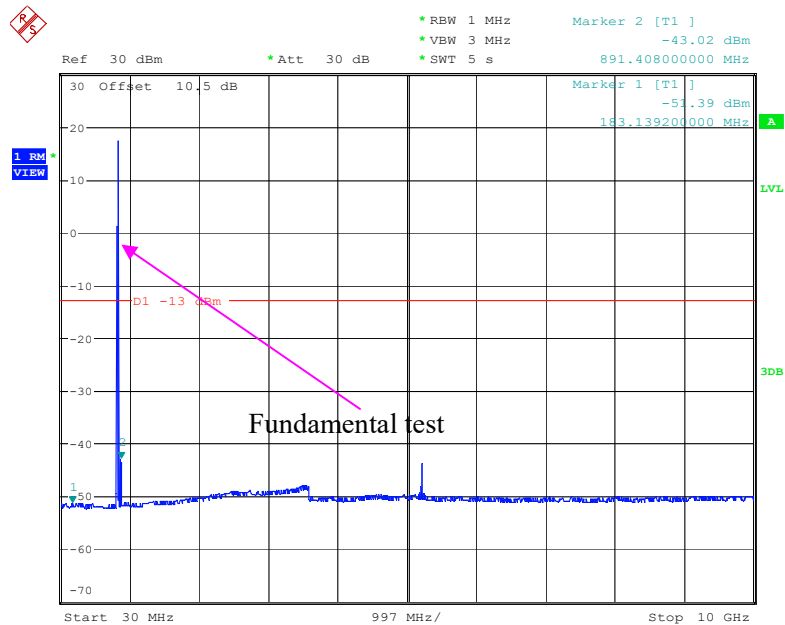
Date: 1.JUL.2022 16:36:21

**30 MHz – 10 GHz (WCDMA Mode)**

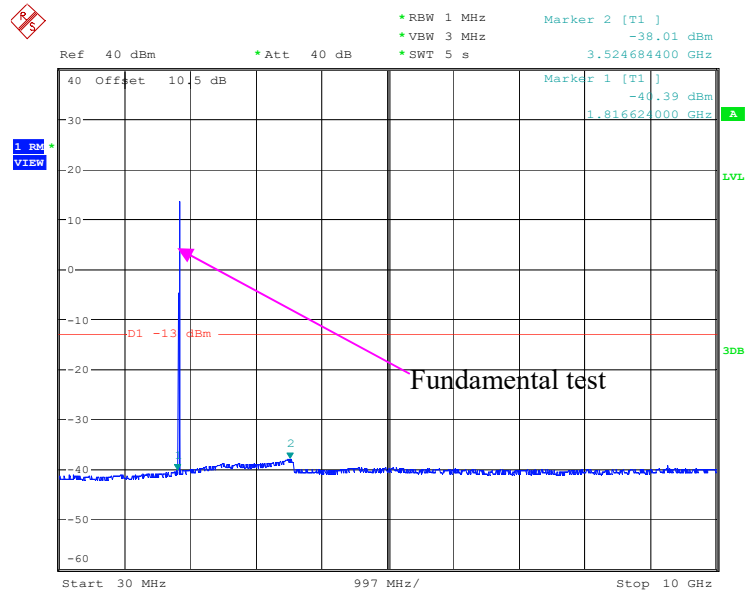
Date: 2.JUL.2022 10:03:50

**High Channel:****30 MHz – 10 GHz (GSM Mode)**

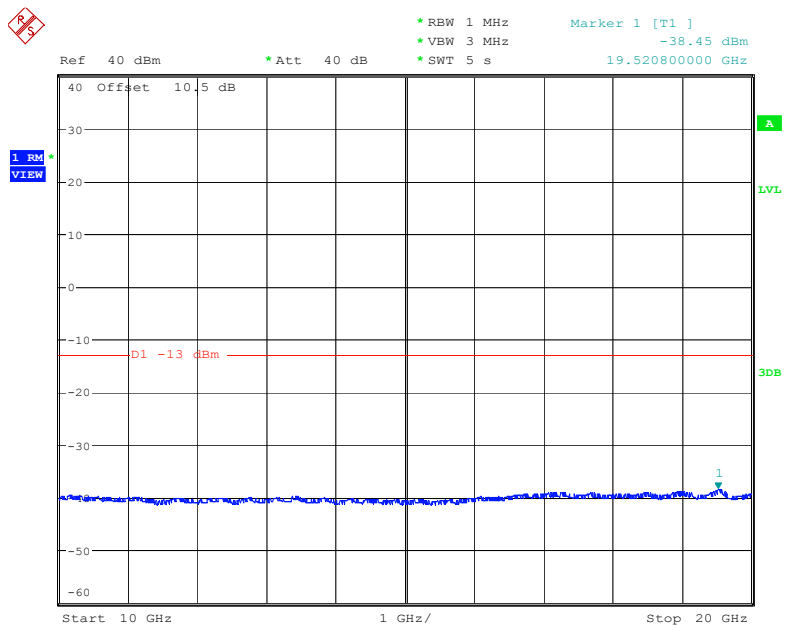
Date: 1.JUL.2022 16:39:16

**30 MHz – 10 GHz (WCDMA Mode)**

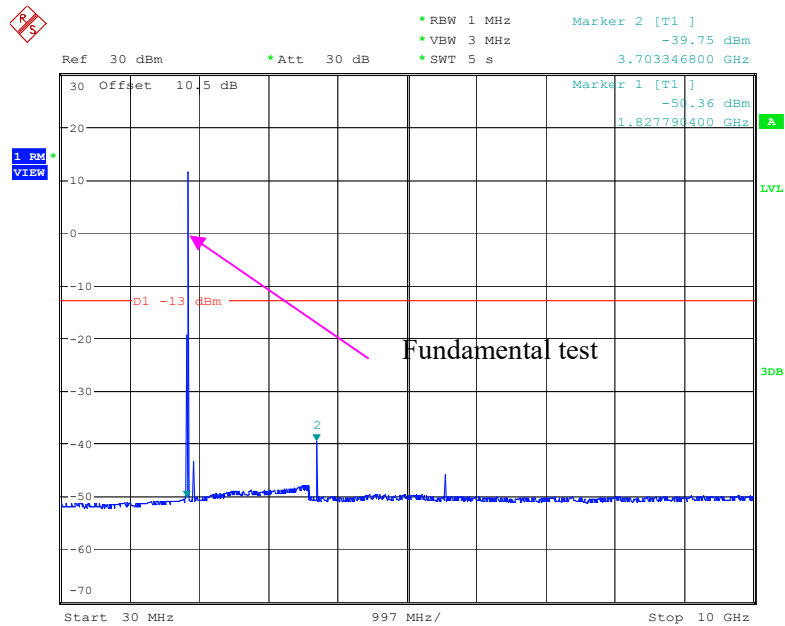
Date: 2.JUL.2022 10:06:55

**PCS Band (Part 24E)**  
**Low Channel:****30 MHz – 10 GHz (GSM Mode)**

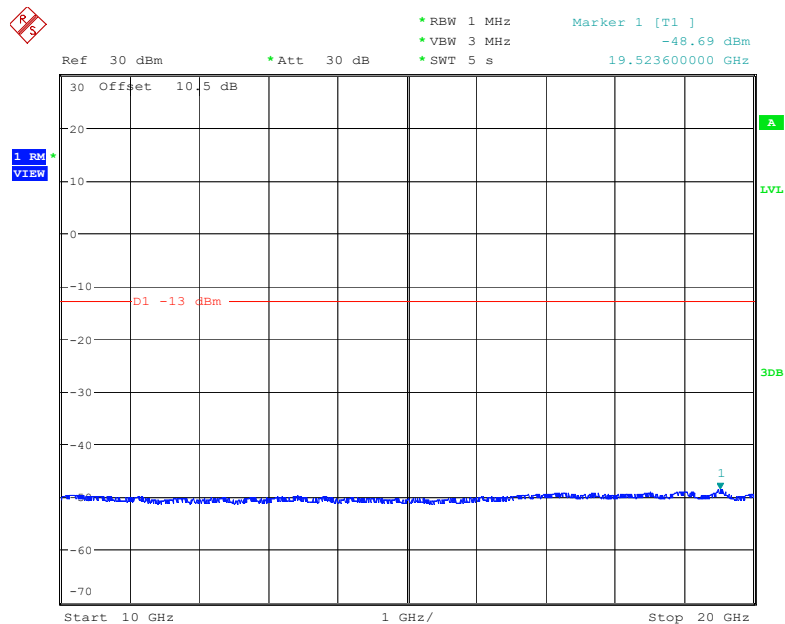
Date: 1.JUL.2022 16:54:59

**10 GHz – 20 GHz (GSM Mode)**

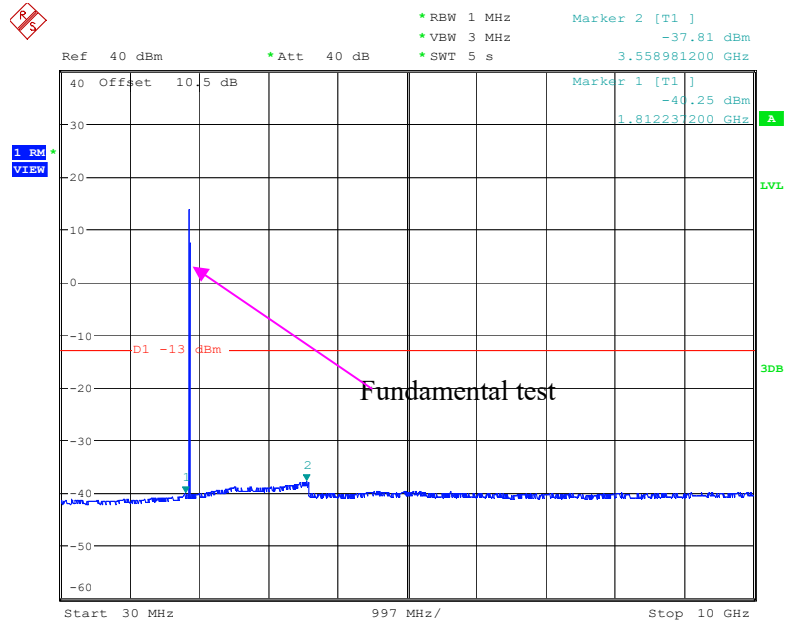
Date: 1.JUL.2022 16:55:38

**30 MHz – 10 GHz (WCDMA Mode)**

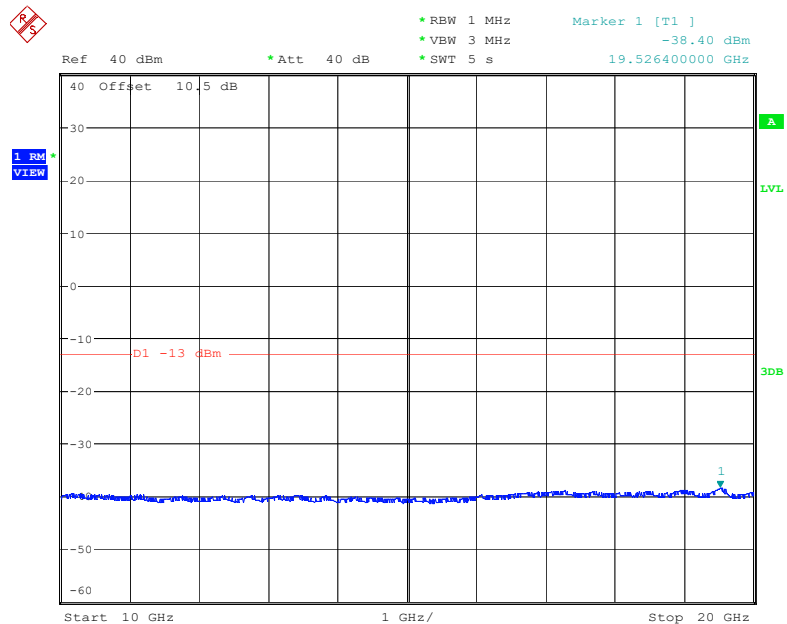
Date: 1.JUL.2022 17:09:02

**10 GHz – 20GHz (WCDMA Mode)**

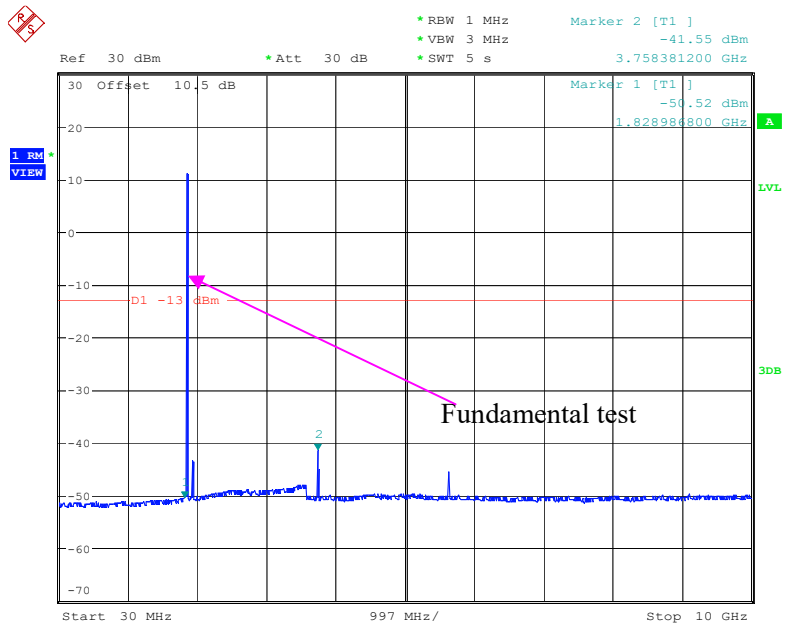
Date: 1.JUL.2022 17:09:41

**Middle Channel:****30 MHz – 10 GHz (GSM Mode)**

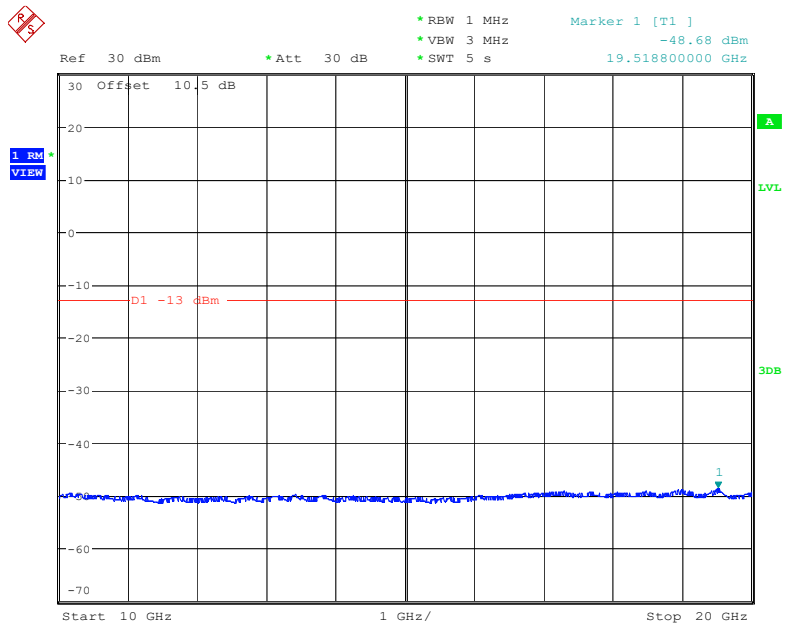
Date: 1.JUL.2022 16:58:41

**10 GHz – 20 GHz (GSM Mode)**

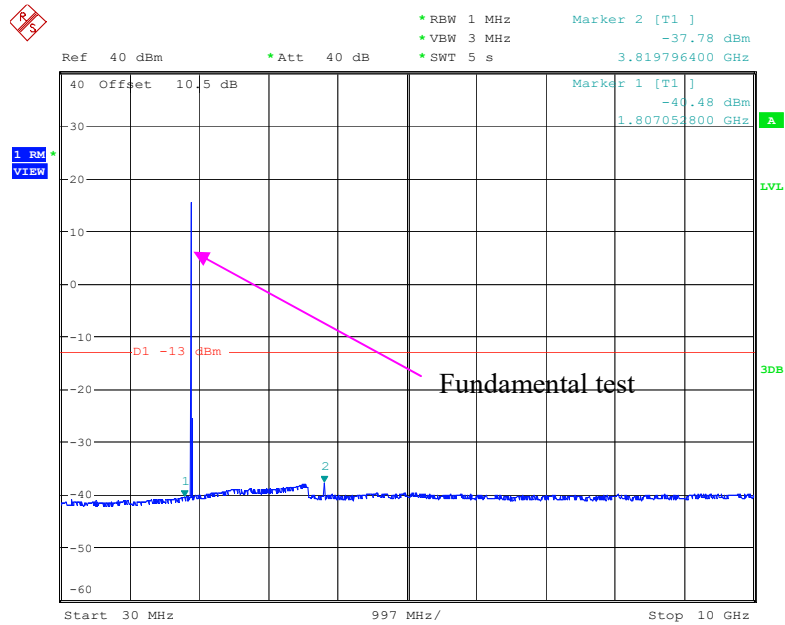
Date: 1.JUL.2022 16:59:21

**30 MHz – 10 GHz (WCDMA Mode)**

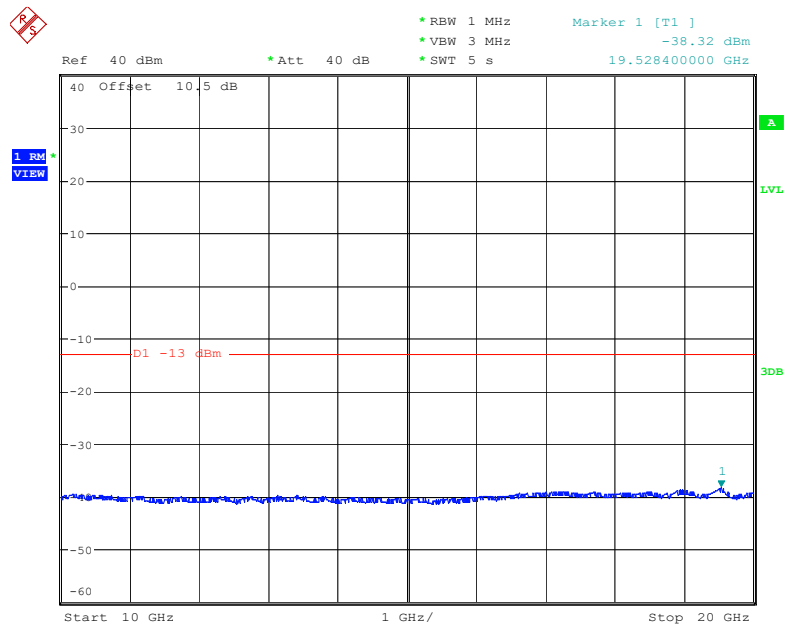
Date: 1.JUL.2022 17:12:10

**10 GHz – 20GHz (WCDMA Mode)**

Date: 1.JUL.2022 17:12:49

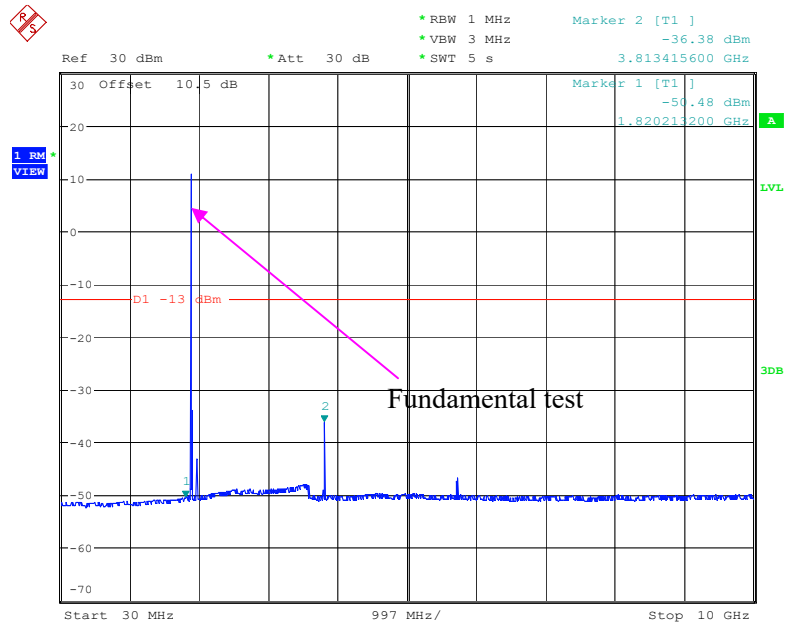
**High Channel:****30 MHz – 10 GHz (GSM Mode)**

Date: 1.JUL.2022 17:02:37

**10 GHz – 20 GHz (GSM Mode)**

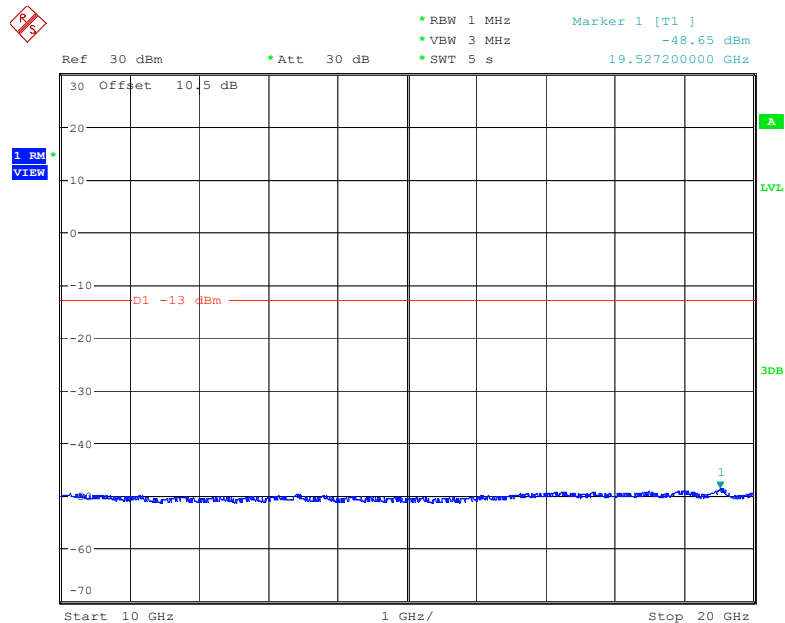
Date: 1.JUL.2022 17:03:16

## 30 MHz – 10 GHz (WCDMA Mode)

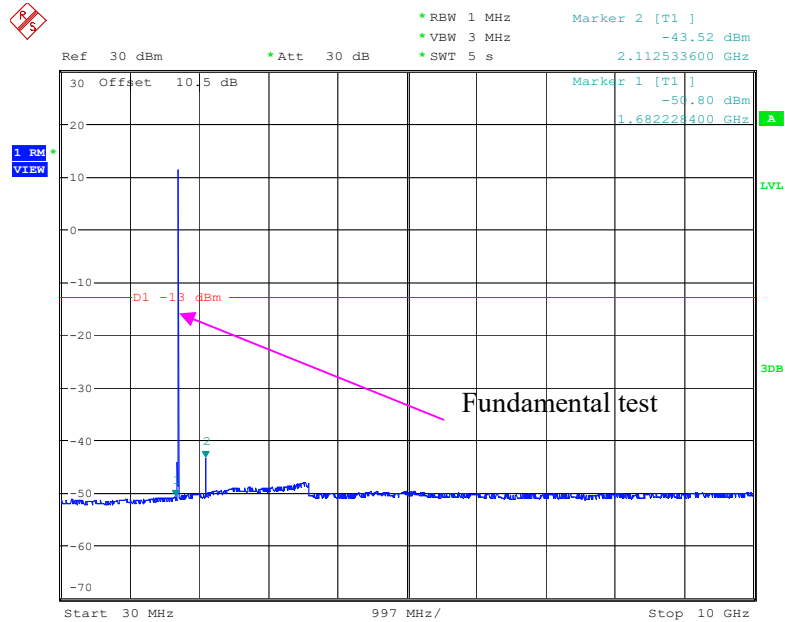


Date: 1.JUL.2022 17:38:52

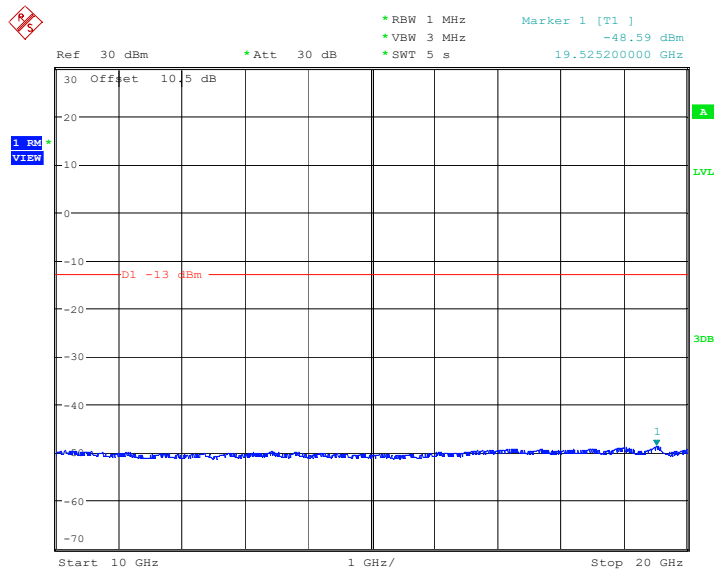
## 10 GHz – 20 GHz (WCDMA Mode)



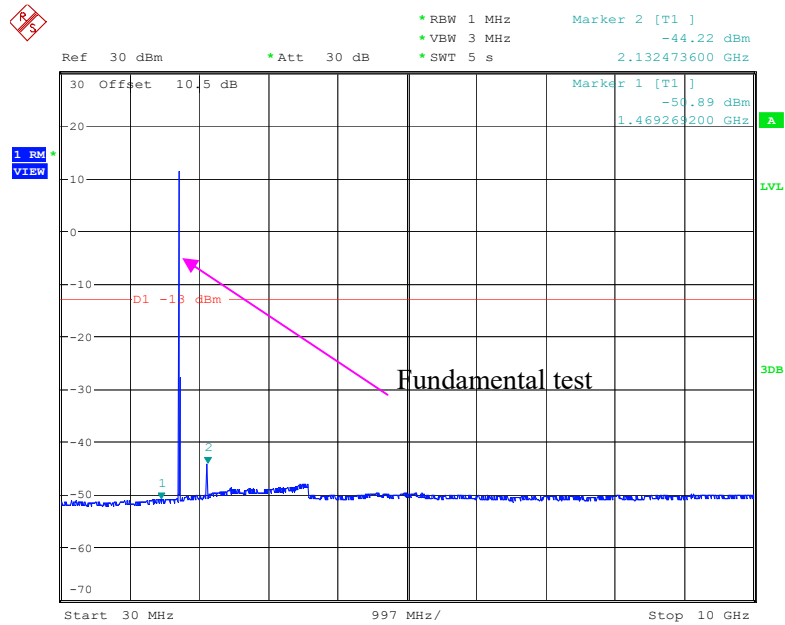
Date: 1.JUL.2022 17:39:31

**AWS Band (Part 27)  
Low Channel:****30 MHz – 10 GHz (WCDMA Mode)**

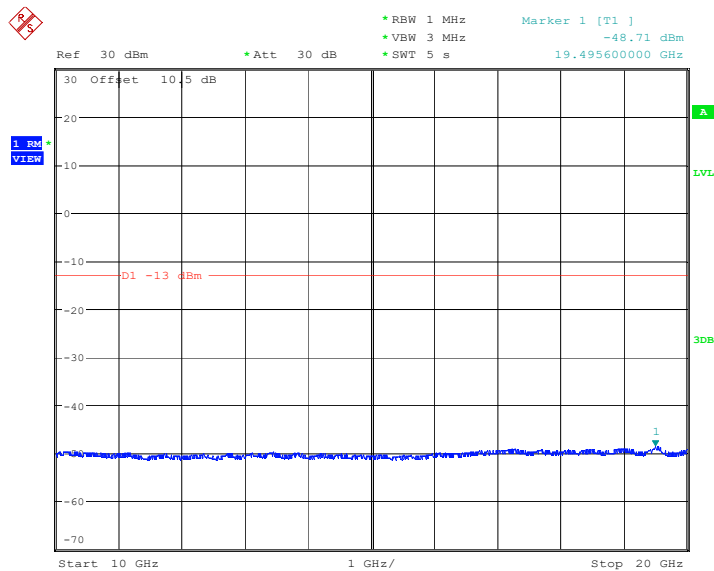
Date: 1.JUL.2022 18:38:46

**10 GHz – 20 GHz (WCDMA Mode)**

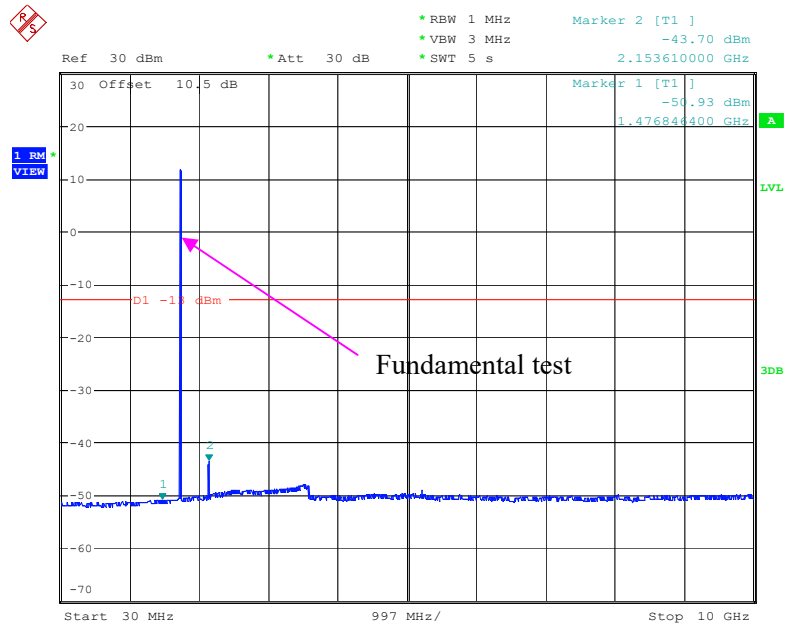
Date: 1.JUL.2022 18:39:25

**Middle Channel****30 MHz – 10 GHz (WCDMA Mode)**

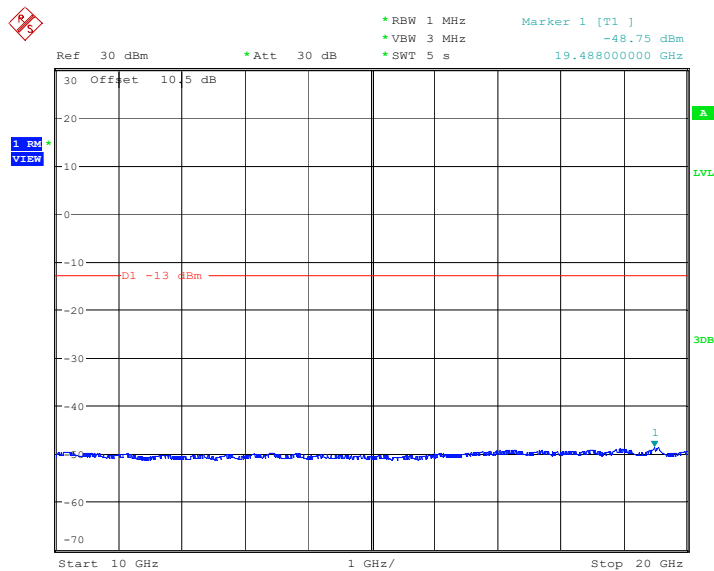
Date: 1.JUL.2022 18:41:57

**10GHz – 20 GHz (WCDMA Mode)**

Date: 1.JUL.2022 18:42:36

**High Channel:****30 MHz – 10 GHz (WCDMA Mode)**

Date: 1.JUL.2022 18:45:42

**10 GHz – 20 GHz (WCDMA Mode)**

Date: 1.JUL.2022 18:46:21

The test plots of LTE band please refer to the Appendix B.

## **FCC § 2.1053; § 22.917 (a); § 24.238 (a); §27.53- SPURIOUS RADIATED EMISSIONS**

### **Applicable Standard**

FCC § 2.1053, §22.917(a)& § 24.238(a) & § 27.53.

### **Test Procedure**

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the receiving antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

### **Test Data**

#### **Environmental Conditions**

|                           |           |
|---------------------------|-----------|
| <b>Temperature:</b>       | 26.5℃     |
| <b>Relative Humidity:</b> | 57 %      |
| <b>ATM Pressure:</b>      | 101.0 kPa |

*The testing was performed by Jeff Jiang from 2022-06-28 to 2022-07-03.*

*Test mode: Transmitting (Pre-scan in the X,Y and Z axes of orientation, the worst case Y-axis of orientation was recorded)*

*The worst case is as below:*

**30MHz-10GHz:****Cellular Band (Part 22H)**

| Frequency<br>(MHz) | Receiver<br>Reading<br>(dBm) | Turntable<br>Degree | Rx Antenna    |                | Substituted<br>Factor<br>(dB) | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|------------------------------|---------------------|---------------|----------------|-------------------------------|----------------------------|----------------|----------------|
|                    |                              |                     | Height<br>(m) | Polar<br>(H/V) |                               |                            |                |                |
| GSM850             |                              |                     |               |                |                               |                            |                |                |
| Low Channel        |                              |                     |               |                |                               |                            |                |                |
| 952.96             | -70.13                       | 153                 | 2.4           | H              | 10.0                          | -60.13                     | -13            | 47.13          |
| 952.96             | -77.60                       | 68                  | 2.3           | V              | 11.7                          | -65.90                     | -13            | 52.90          |
| 1648.4             | -48.4                        | 344                 | 1.8           | H              | 3.5                           | -44.9                      | -13            | 31.9           |
| 1648.4             | -50.9                        | 93                  | 2.1           | V              | 3.1                           | -47.8                      | -13            | 34.8           |
| 2472.6             | -53.3                        | 317                 | 1.7           | H              | 6.6                           | -46.7                      | -13            | 33.7           |
| 2472.6             | -51.2                        | 292                 | 2.4           | V              | 5.8                           | -45.4                      | -13            | 32.4           |
| 3296.8             | -49.6                        | 355                 | 1.4           | H              | 6.4                           | -43.2                      | -13            | 30.2           |
| 3296.8             | -50.6                        | 291                 | 2.2           | V              | 5.7                           | -44.9                      | -13            | 31.9           |
| Middle Channel     |                              |                     |               |                |                               |                            |                |                |
| 957.00             | -70.13                       | 153                 | 2.0           | H              | 10.0                          | -60.13                     | -13            | 47.13          |
| 957.00             | -76.91                       | 129                 | 1.8           | V              | 11.7                          | -65.21                     | -13            | 52.21          |
| 1672.8             | -49.5                        | 10                  | 2.0           | H              | 3.8                           | -45.7                      | -13            | 32.7           |
| 1672.8             | -49.9                        | 83                  | 1.5           | V              | 3.1                           | -46.8                      | -13            | 33.8           |
| 2509.8             | -52.6                        | 54                  | 1.8           | H              | 6.2                           | -46.4                      | -13            | 33.4           |
| 2509.8             | -51.1                        | 294                 | 2.2           | V              | 5.5                           | -45.6                      | -13            | 32.6           |
| 3345.6             | -51.0                        | 349                 | 1.6           | H              | 6.6                           | -44.4                      | -13            | 31.4           |
| 3345.6             | -50.7                        | 18                  | 1.2           | V              | 5.4                           | -45.3                      | -13            | 32.3           |
| High Channel       |                              |                     |               |                |                               |                            |                |                |
| 956.99             | -71.38                       | 172                 | 1.9           | H              | 10.0                          | -61.38                     | -13            | 48.38          |
| 956.99             | -76.37                       | 272                 | 1.8           | V              | 11.7                          | -64.67                     | -13            | 51.67          |
| 1697.6             | -49.9                        | 305                 | 1.2           | H              | 4.1                           | -45.8                      | -13            | 32.8           |
| 1697.6             | -50.5                        | 130                 | 1.6           | V              | 3.1                           | -47.4                      | -13            | 34.4           |
| 2546.4             | -52.9                        | 174                 | 1.2           | H              | 6.1                           | -46.8                      | -13            | 33.8           |
| 2546.4             | -51.3                        | 277                 | 1.1           | V              | 5.8                           | -45.5                      | -13            | 32.5           |
| 3395.2             | -50.0                        | 320                 | 2.0           | H              | 6.2                           | -43.8                      | -13            | 30.8           |
| 3395.2             | -49.3                        | 357                 | 1.6           | V              | 5.4                           | -43.9                      | -13            | 30.9           |

| Frequency<br>(MHz) | Receiver<br>Reading<br>(dBm) | Turntable<br>Degree | Rx Antenna    |                | Substituted<br>Factor<br>(dB) | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|------------------------------|---------------------|---------------|----------------|-------------------------------|----------------------------|----------------|----------------|
|                    |                              |                     | Height<br>(m) | Polar<br>(H/V) |                               |                            |                |                |
| WCDMA Band 5       |                              |                     |               |                |                               |                            |                |                |
| Low Channel        |                              |                     |               |                |                               |                            |                |                |
| 956.49             | -71.91                       | 35                  | 1.9           | H              | 10.0                          | -61.91                     | -13            | 48.91          |
| 956.49             | -76.64                       | 313                 | 1.6           | V              | 11.7                          | -64.94                     | -13            | 51.94          |
| 1652.8             | -57.6                        | 222                 | 1.2           | H              | 3.5                           | -54.1                      | -13            | 41.1           |
| 1652.8             | -52.5                        | 210                 | 1.6           | V              | 3.1                           | -49.4                      | -13            | 36.4           |
| 2479.2             | -58.0                        | 216                 | 1.9           | H              | 6.6                           | -51.4                      | -13            | 38.4           |
| 2479.2             | -56.5                        | 62                  | 2.1           | V              | 5.8                           | -50.7                      | -13            | 37.7           |
| 3305.6             | -52.7                        | 37                  | 1.0           | H              | 6.4                           | -46.3                      | -13            | 33.3           |
| 3305.6             | -52.4                        | 167                 | 1.2           | V              | 5.7                           | -46.7                      | -13            | 33.7           |
| Middle Channel     |                              |                     |               |                |                               |                            |                |                |
| 955.03             | -70.65                       | 222                 | 1.7           | H              | 10.0                          | -60.65                     | -13            | 47.65          |
| 955.03             | -75.97                       | 204                 | 1.4           | V              | 11.7                          | -64.27                     | -13            | 51.27          |
| 1673.2             | -58.1                        | 216                 | 1.8           | H              | 3.5                           | -54.6                      | -13            | 41.6           |
| 1673.2             | -56.5                        | 354                 | 2.3           | V              | 3.1                           | -53.4                      | -13            | 40.4           |
| 2509.8             | -57.5                        | 294                 | 1.7           | H              | 6.6                           | -50.9                      | -13            | 37.9           |
| 2509.8             | -56.9                        | 105                 | 2.5           | V              | 5.8                           | -51.1                      | -13            | 38.1           |
| 3345.6             | -52.7                        | 249                 | 2.3           | H              | 6.4                           | -46.3                      | -13            | 33.3           |
| 3345.6             | -51.7                        | 358                 | 2.0           | V              | 5.7                           | -46.0                      | -13            | 33.0           |
| High Channel       |                              |                     |               |                |                               |                            |                |                |
| 954.17             | -70.29                       | 218                 | 2.4           | H              | 10.0                          | -60.29                     | -13            | 47.29          |
| 954.17             | -76.65                       | 280                 | 1.9           | V              | 11.7                          | -64.95                     | -13            | 51.95          |
| 1693.2             | -58.2                        | 26                  | 1.7           | H              | 4.1                           | -54.1                      | -13            | 41.1           |
| 1693.2             | -56.7                        | 87                  | 2.2           | V              | 3.1                           | -53.6                      | -13            | 40.6           |
| 2539.8             | -57.2                        | 333                 | 1.2           | H              | 6.1                           | -51.1                      | -13            | 38.1           |
| 2539.8             | -56.5                        | 52                  | 1.4           | V              | 5.8                           | -50.7                      | -13            | 37.7           |
| 3386.4             | -52.6                        | 175                 | 1.7           | H              | 6.2                           | -46.4                      | -13            | 33.4           |
| 3386.4             | -51.4                        | 10                  | 1.7           | V              | 5.4                           | -46.0                      | -13            | 33.0           |

**30MHz-20GHz:****PCS Band (Part 24E)**

| Frequency<br>(MHz) | Receiver<br>Reading<br>(dBm) | Turntable<br>Degree | Rx Antenna    |                | Substituted<br>Factor<br>(dB) | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|------------------------------|---------------------|---------------|----------------|-------------------------------|----------------------------|----------------|----------------|
|                    |                              |                     | Height<br>(m) | Polar<br>(H/V) |                               |                            |                |                |
| GSM 1900           |                              |                     |               |                |                               |                            |                |                |
| Low Channel        |                              |                     |               |                |                               |                            |                |                |
| 953.50             | -71.82                       | 82                  | 2.2           | H              | 10.0                          | -61.82                     | -13            | 48.82          |
| 953.50             | -77.11                       | 350                 | 2.2           | V              | 11.7                          | -65.41                     | -13            | 52.41          |
| 3700.4             | -52.0                        | 103                 | 2.3           | H              | 8.1                           | -43.9                      | -13            | 30.9           |
| 3700.4             | -53.3                        | 33                  | 1.2           | V              | 7.6                           | -45.7                      | -13            | 32.7           |
| Middle Channel     |                              |                     |               |                |                               |                            |                |                |
| 953.09             | -72.60                       | 84                  | 2.4           | H              | 10.0                          | -62.60                     | -13            | 49.60          |
| 953.09             | -75.35                       | 315                 | 1.6           | V              | 11.7                          | -63.65                     | -13            | 50.65          |
| 3760               | -52.3                        | 332                 | 1.3           | H              | 8.8                           | -43.5                      | -13            | 30.5           |
| 3760               | -53.0                        | 144                 | 2.4           | V              | 8                             | -45.0                      | -13            | 32.0           |
| High Channel       |                              |                     |               |                |                               |                            |                |                |
| 956.47             | -71.11                       | 110                 | 1.7           | H              | 10.0                          | -61.11                     | -13            | 48.11          |
| 956.47             | -77.23                       | 112                 | 1.3           | V              | 11.7                          | -65.53                     | -13            | 52.53          |
| 3819.6             | -52.3                        | 75                  | 1.2           | H              | 8.7                           | -43.6                      | -13            | 30.6           |
| 3819.6             | -53.2                        | 278                 | 2.1           | V              | 8                             | -45.2                      | -13            | 32.2           |

| Frequency<br>(MHz) | Receiver<br>Reading<br>(dBm) | Turntable<br>Degree | Rx Antenna    |                | Substituted<br>Factor<br>(dB) | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|------------------------------|---------------------|---------------|----------------|-------------------------------|----------------------------|----------------|----------------|
|                    |                              |                     | Height<br>(m) | Polar<br>(H/V) |                               |                            |                |                |
| WCDMA Band 2       |                              |                     |               |                |                               |                            |                |                |
| Low Channel        |                              |                     |               |                |                               |                            |                |                |
| 952.89             | -72.56                       | 265                 | 1.1           | H              | 10.0                          | -62.56                     | -13            | 49.56          |
| 952.89             | -76.91                       | 51                  | 2.3           | V              | 11.7                          | -65.21                     | -13            | 52.21          |
| 3704.8             | -48.2                        | 118                 | 1.9           | H              | 8.1                           | -40.1                      | -13            | 27.1           |
| 3704.8             | -51.4                        | 46                  | 1.7           | V              | 7.6                           | -43.8                      | -13            | 30.8           |
| Middle Channel     |                              |                     |               |                |                               |                            |                |                |
| 956.73             | -72.17                       | 288                 | 2.1           | H              | 10.0                          | -62.17                     | -13            | 49.17          |
| 956.73             | -76.02                       | 205                 | 1.6           | V              | 11.7                          | -64.32                     | -13            | 51.32          |
| 3760               | -48.3                        | 5                   | 1.4           | H              | 8.8                           | -39.5                      | -13            | 26.5           |
| 3760               | -51.3                        | 213                 | 2.0           | V              | 8                             | -43.3                      | -13            | 30.3           |
| High Channel       |                              |                     |               |                |                               |                            |                |                |
| 952.35             | -72.24                       | 11                  | 1.4           | H              | 10.0                          | -62.24                     | -13            | 49.24          |
| 952.35             | -77.33                       | 195                 | 2.0           | V              | 11.7                          | -65.63                     | -13            | 52.63          |
| 3815.2             | -47.8                        | 148                 | 1.5           | H              | 8.7                           | -39.1                      | -13            | 26.1           |
| 3815.2             | -51.0                        | 54                  | 1.1           | V              | 8                             | -43.0                      | -13            | 30.0           |

**30MHz-20GHz:****AWS Band (Part 27E)**

| Frequency<br>(MHz) | Receiver<br>Reading<br>(dBm) | Turntable<br>Degree | Rx Antenna    |                | Substituted<br>Factor<br>(dB) | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------|------------------------------|---------------------|---------------|----------------|-------------------------------|----------------------------|----------------|----------------|
|                    |                              |                     | Height<br>(m) | Polar<br>(H/V) |                               |                            |                |                |
| WCDMA Band 4       |                              |                     |               |                |                               |                            |                |                |
| Low Channel        |                              |                     |               |                |                               |                            |                |                |
| 954.25             | -71.24                       | 39                  | 2.4           | H              | 10.0                          | -61.24                     | -13            | 48.24          |
| 954.25             | -75.22                       | 304                 | 1.4           | V              | 11.7                          | -63.52                     | -13            | 50.52          |
| 3424.8             | -45.7                        | 141                 | 2.2           | H              | 6.4                           | -39.3                      | -13            | 26.3           |
| 3424.8             | -48.5                        | 336                 | 1.7           | V              | 5.7                           | -42.8                      | -13            | 29.8           |
| Middle Channel     |                              |                     |               |                |                               |                            |                |                |
| 955.03             | -72.64                       | 180                 | 1.4           | H              | 10.0                          | -62.64                     | -13            | 49.64          |
| 955.03             | -77.06                       | 150                 | 2.1           | V              | 11.7                          | -65.36                     | -13            | 52.36          |
| 3465.2             | -44.5                        | 52                  | 1.2           | H              | 7                             | -37.5                      | -13            | 24.5           |
| 3465.2             | -49.3                        | 301                 | 2.0           | V              | 6.2                           | -43.1                      | -13            | 30.1           |
| High Channel       |                              |                     |               |                |                               |                            |                |                |
| 955.21             | -70.53                       | 306                 | 2.2           | H              | 10.0                          | -60.53                     | -13            | 47.53          |
| 955.21             | -75.91                       | 320                 | 1.5           | V              | 11.7                          | -64.21                     | -13            | 51.21          |
| 3505.2             | -46.0                        | 211                 | 1.7           | H              | 7.8                           | -38.2                      | -13            | 25.2           |
| 3505.2             | -48.8                        | 44                  | 2.0           | V              | 6.6                           | -42.2                      | -13            | 29.2           |

**LTE Band:** (Pre-scan with all the bandwidth and modulation, and worst case as below)

| Frequency<br>(MHz)                     | Receiver<br>Reading<br>(dBm) | Turntable<br>Degree | Rx Antenna    |                | Substituted<br>Factor<br>(dB) | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|----------------------------------------|------------------------------|---------------------|---------------|----------------|-------------------------------|----------------------------|----------------|----------------|
|                                        |                              |                     | Height<br>(m) | Polar<br>(H/V) |                               |                            |                |                |
| Band 2                                 |                              |                     |               |                |                               |                            |                |                |
| Test frequency range: 30MHz-20GHz      |                              |                     |               |                |                               |                            |                |                |
| QPSK, 1.4MHz bandwidth, Low Channel    |                              |                     |               |                |                               |                            |                |                |
| 956.13                                 | -72.29                       | 86                  | 2.3           | H              | 10.0                          | -62.29                     | -13            | 49.29          |
| 956.13                                 | -77.46                       | 107                 | 1.8           | V              | 11.7                          | -65.76                     | -13            | 52.76          |
| 3701.4                                 | -48.4                        | 16                  | 2.1           | H              | 8.1                           | -40.3                      | -13            | 27.3           |
| 3701.4                                 | -50.6                        | 189                 | 1.1           | V              | 7.6                           | -43                        | -13            | 30.0           |
| QPSK, 1.4MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 952.23                                 | -70.75                       | 188                 | 1.6           | H              | 10.0                          | -60.75                     | -13            | 47.75          |
| 952.23                                 | -75.35                       | 161                 | 2.3           | V              | 11.7                          | -63.65                     | -13            | 50.65          |
| 3760                                   | -50.4                        | 334                 | 2.1           | H              | 8.8                           | -41.6                      | -13            | 28.6           |
| 3760                                   | -52.6                        | 303                 | 1.7           | V              | 8                             | -44.6                      | -13            | 31.6           |
| QPSK, 1.4MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 951.96                                 | -72.08                       | 80                  | 1.8           | H              | 10.0                          | -62.08                     | -13            | 49.08          |
| 951.96                                 | -74.71                       | 241                 | 1.9           | V              | 11.7                          | -63.01                     | -13            | 50.01          |
| 3818.6                                 | -47.4                        | 313                 | 2.3           | H              | 8.7                           | -38.7                      | -13            | 25.7           |
| 3818.6                                 | -51.7                        | 41                  | 2.2           | V              | 8                             | -43.7                      | -13            | 30.7           |

| Frequency<br>(MHz)                     | Receiver<br>Reading<br>(dBm) | Turntable<br>Degree | Rx Antenna    |                | Substituted<br>Factor<br>(dB) | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|----------------------------------------|------------------------------|---------------------|---------------|----------------|-------------------------------|----------------------------|----------------|----------------|
|                                        |                              |                     | Height<br>(m) | Polar<br>(H/V) |                               |                            |                |                |
| Band 4                                 |                              |                     |               |                |                               |                            |                |                |
| Test frequency range: 30MHz-20GHz      |                              |                     |               |                |                               |                            |                |                |
| QPSK, 1.4MHz bandwidth, Low Channel    |                              |                     |               |                |                               |                            |                |                |
| 954.82                                 | -70.88                       | 138                 | 2.1           | H              | 10.0                          | -60.88                     | -13            | 47.88          |
| 954.82                                 | -74.97                       | 277                 | 1.5           | V              | 11.7                          | -63.27                     | -13            | 50.27          |
| 3421.4                                 | -46.5                        | 345                 | 2.2           | H              | 6.4                           | -40.1                      | -13            | 27.1           |
| 3421.4                                 | -48.5                        | 151                 | 2.1           | V              | 5.7                           | -42.8                      | -13            | 29.8           |
| QPSK, 1.4MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 950.96                                 | -72.65                       | 183                 | 1.1           | H              | 10.0                          | -62.65                     | -13            | 49.65          |
| 950.96                                 | -74.71                       | 277                 | 2.2           | V              | 11.7                          | -63.01                     | -13            | 50.01          |
| 3465                                   | -44.9                        | 93                  | 1.9           | H              | 7                             | -37.9                      | -13            | 24.9           |
| 3465                                   | -49.0                        | 90                  | 2.2           | V              | 6.2                           | -42.8                      | -13            | 29.8           |
| QPSK, 1.4MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 954.06                                 | -72.29                       | 329                 | 1.6           | H              | 10.0                          | -62.29                     | -13            | 49.29          |
| 954.06                                 | -77.41                       | 48                  | 2.2           | V              | 11.7                          | -65.71                     | -13            | 52.71          |
| 3508.6                                 | -44.3                        | 206                 | 2.3           | H              | 7.8                           | -36.5                      | -13            | 23.5           |
| 3508.6                                 | -49.6                        | 51                  | 2.3           | V              | 6.6                           | -43.0                      | -13            | 30.0           |

| Frequency<br>(MHz)                     | Receiver<br>Reading<br>(dBm) | Turntable<br>Degree | Rx Antenna    |                | Substituted<br>Factor<br>(dB) | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|----------------------------------------|------------------------------|---------------------|---------------|----------------|-------------------------------|----------------------------|----------------|----------------|
|                                        |                              |                     | Height<br>(m) | Polar<br>(H/V) |                               |                            |                |                |
| Band 5                                 |                              |                     |               |                |                               |                            |                |                |
| Test frequency range: 30MHz-10GHz      |                              |                     |               |                |                               |                            |                |                |
| QPSK, 1.4MHz bandwidth, Low Channel    |                              |                     |               |                |                               |                            |                |                |
| 950.71                                 | -71.45                       | 253                 | 1.3           | H              | 10.0                          | -61.45                     | -13            | 48.45          |
| 950.71                                 | -77.05                       | 94                  | 1.9           | V              | 11.7                          | -65.35                     | -13            | 52.35          |
| 1649.4                                 | -55.5                        | 225                 | 1.1           | H              | 3.5                           | -52                        | -13            | 39.0           |
| 1649.4                                 | -54.7                        | 342                 | 1.7           | V              | 3.1                           | -51.6                      | -13            | 38.6           |
| 2474.1                                 | -54.0                        | 142                 | 1.4           | H              | 6.6                           | -47.4                      | -13            | 34.4           |
| 2474.1                                 | -52.7                        | 136                 | 2.0           | V              | 5.8                           | -46.9                      | -13            | 33.9           |
| 3298.8                                 | -52.7                        | 145                 | 1.1           | H              | 6.4                           | -46.3                      | -13            | 33.3           |
| 3298.8                                 | -51.6                        | 154                 | 1.3           | V              | 5.7                           | -45.9                      | -13            | 32.9           |
| QPSK, 1.4MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 954.27                                 | -72.91                       | 61                  | 2.2           | H              | 10.0                          | -62.91                     | -13            | 49.91          |
| 954.27                                 | -75.30                       | 47                  | 1.2           | V              | 11.7                          | -63.60                     | -13            | 50.60          |
| 1673                                   | -54.3                        | 157                 | 2.5           | H              | 3.8                           | -50.5                      | -13            | 37.5           |
| 1673                                   | -52.9                        | 324                 | 2.3           | V              | 3.1                           | -49.8                      | -13            | 36.8           |
| 2509.5                                 | -53.6                        | 301                 | 1.5           | H              | 6.2                           | -47.4                      | -13            | 34.4           |
| 2509.5                                 | -51.5                        | 244                 | 2.3           | V              | 5.5                           | -46.0                      | -13            | 33.0           |
| 3346                                   | -53.2                        | 219                 | 1.2           | H              | 6.6                           | -46.6                      | -13            | 33.6           |
| 3346                                   | -51.5                        | 345                 | 2.0           | V              | 5.4                           | -46.1                      | -13            | 33.1           |
| QPSK, 1.4MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 954.66                                 | -70.67                       | 193                 | 2.4           | H              | 10.0                          | -60.67                     | -13            | 47.67          |
| 954.66                                 | -74.90                       | 261                 | 2.0           | V              | 11.7                          | -63.20                     | -13            | 50.20          |
| 1696.6                                 | -54.6                        | 134                 | 1.8           | H              | 4.1                           | -50.5                      | -13            | 37.5           |
| 1696.6                                 | -52.9                        | 246                 | 2.0           | V              | 3.1                           | -49.8                      | -13            | 36.8           |
| 2544.9                                 | -51.7                        | 56                  | 1.8           | H              | 6.1                           | -45.6                      | -13            | 32.6           |
| 2544.9                                 | -53.4                        | 204                 | 2.0           | V              | 5.8                           | -47.6                      | -13            | 34.6           |
| 3393.2                                 | -52.9                        | 237                 | 2.3           | H              | 6.2                           | -46.7                      | -13            | 33.7           |
| 3393.2                                 | -51.3                        | 316                 | 1.7           | V              | 5.4                           | -45.9                      | -13            | 32.9           |

| Frequency<br>(MHz)                   | Receiver<br>Reading<br>(dBm) | Turntable<br>Degree | Rx Antenna    |                | Substituted<br>Factor<br>(dB) | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------------------------|------------------------------|---------------------|---------------|----------------|-------------------------------|----------------------------|----------------|----------------|
|                                      |                              |                     | Height<br>(m) | Polar<br>(H/V) |                               |                            |                |                |
| Band 7                               |                              |                     |               |                |                               |                            |                |                |
| Test frequency range: 30MHz-26.5GHz  |                              |                     |               |                |                               |                            |                |                |
| QPSK, 5MHz bandwidth, Low Channel    |                              |                     |               |                |                               |                            |                |                |
| 950.33                               | -70.55                       | 110                 | 1.8           | H              | 10.0                          | -60.55                     | -25            | 35.55          |
| 950.33                               | -76.63                       | 312                 | 1.0           | V              | 11.7                          | -64.93                     | -25            | 39.93          |
| 5005                                 | -55.5                        | 165                 | 2.4           | H              | 10.8                          | -44.7                      | -25            | 19.7           |
| 5005                                 | -55.8                        | 172                 | 1.1           | V              | 10.2                          | -45.6                      | -25            | 20.6           |
| QPSK, 5MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 954.26                               | -70.07                       | 56                  | 1.6           | H              | 9.8                           | -60.27                     | -25            | 35.27          |
| 954.26                               | -77.47                       | 208                 | 2.3           | V              | 11.7                          | -65.77                     | -25            | 40.77          |
| 5070                                 | -54.0                        | 25                  | 1.6           | H              | 11.1                          | -42.9                      | -25            | 17.9           |
| 5070                                 | -56.0                        | 121                 | 1.6           | V              | 10.8                          | -45.2                      | -25            | 20.2           |
| QPSK, 5MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 954.94                               | -70.16                       | 331                 | 1.7           | H              | 10.0                          | -60.16                     | -25            | 35.16          |
| 954.94                               | -76.27                       | 172                 | 2.4           | V              | 11.7                          | -64.57                     | -25            | 39.57          |
| 5135                                 | -55.3                        | 87                  | 2.4           | H              | 11.3                          | -44                        | -25            | 19.0           |
| 5135                                 | -55.6                        | 297                 | 1.8           | V              | 10.8                          | -44.8                      | -25            | 19.8           |

| Frequency<br>(MHz)                     | Receiver<br>Reading<br>(dBm) | Turntable<br>Degree | Rx Antenna    |                | Substituted<br>Factor<br>(dB) | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|----------------------------------------|------------------------------|---------------------|---------------|----------------|-------------------------------|----------------------------|----------------|----------------|
|                                        |                              |                     | Height<br>(m) | Polar<br>(H/V) |                               |                            |                |                |
| Band 12                                |                              |                     |               |                |                               |                            |                |                |
| Test frequency range: 30MHz-8GHz       |                              |                     |               |                |                               |                            |                |                |
| QPSK, 1.4MHz bandwidth, Low Channel    |                              |                     |               |                |                               |                            |                |                |
| 955.84                                 | -62.62                       | 247                 | 1.6           | H              | -0.2                          | -62.82                     | -13            | 48.03          |
| 955.84                                 | -68.38                       | 106                 | 1.0           | V              | 3.1                           | -65.28                     | -13            | 52.29          |
| 1399.4                                 | -62.2                        | 82                  | 1.2           | H              | 5.9                           | -56.3                      | -13            | 43.3           |
| 1399.4                                 | -62.2                        | 31                  | 2.2           | V              | 5.9                           | -56.3                      | -13            | 43.3           |
| 2099.1                                 | -51.2                        | 56                  | 1.1           | H              | 6.3                           | -44.9                      | -13            | 31.9           |
| 2099.1                                 | -52.3                        | 329                 | 1.2           | V              | 5.1                           | -47.2                      | -13            | 34.2           |
| QPSK, 1.4MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 950.90                                 | -60.96                       | 2                   | 2.2           | H              | -0.2                          | -61.16                     | -13            | 48.90          |
| 950.90                                 | -70.85                       | 319                 | 1.6           | V              | 3.1                           | -67.75                     | -13            | 52.63          |
| 1415                                   | -63.5                        | 277                 | 1.7           | H              | 5.7                           | -57.8                      | -13            | 44.8           |
| 1415                                   | -61.6                        | 165                 | 1.0           | V              | 5.4                           | -56.2                      | -13            | 43.2           |
| 2122.5                                 | -55.1                        | 73                  | 1.9           | H              | 6.7                           | -48.4                      | -13            | 35.4           |
| 2122.5                                 | -54.4                        | 334                 | 1.2           | V              | 5.8                           | -48.6                      | -13            | 35.6           |
| QPSK, 1.4MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 954.31                                 | -62.98                       | 295                 | 2.1           | H              | -0.2                          | -63.18                     | -13            | 47.84          |
| 954.31                                 | -68.52                       | 211                 | 2.2           | V              | 3.1                           | -65.42                     | -13            | 50.43          |
| 1430.6                                 | -60.5                        | 72                  | 1.3           | H              | 5.4                           | -55.1                      | -13            | 42.1           |
| 1430.6                                 | -61.3                        | 147                 | 1.4           | V              | 4.8                           | -56.5                      | -13            | 43.5           |
| 2145.9                                 | -51.1                        | 77                  | 1.5           | H              | 7                             | -44.1                      | -13            | 31.1           |
| 2145.9                                 | -52.7                        | 45                  | 1.7           | V              | 6.6                           | -46.1                      | -13            | 33.1           |

| Frequency<br>(MHz)                   | Receiver<br>Reading<br>(dBm) | Turntable<br>Degree | Rx Antenna    |                | Substituted<br>Factor<br>(dB) | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------------------------|------------------------------|---------------------|---------------|----------------|-------------------------------|----------------------------|----------------|----------------|
|                                      |                              |                     | Height<br>(m) | Polar<br>(H/V) |                               |                            |                |                |
| Band 13                              |                              |                     |               |                |                               |                            |                |                |
| Test frequency range: 30MHz-8GHz     |                              |                     |               |                |                               |                            |                |                |
| QPSK, 5MHz bandwidth, Low Channel    |                              |                     |               |                |                               |                            |                |                |
| 955.17                               | -60.83                       | 83                  | 1.6           | H              | -0.2                          | -61.03                     | -13            | 48.03          |
| 955.17                               | -67.07                       | 102                 | 1.7           | V              | 3.1                           | -63.97                     | -13            | 50.97          |
| 1559                                 | -57.9                        | 157                 | 2.5           | H              | 4.2                           | -53.7                      | -40            | 13.7           |
| 1559                                 | -58.4                        | 347                 | 2.0           | V              | 3.3                           | -55.1                      | -40            | 15.1           |
| 2338.5                               | -57.5                        | 133                 | 1.0           | H              | 7.3                           | -50.2                      | -13            | 37.2           |
| 2338.5                               | -57.2                        | 141                 | 1.5           | V              | 6.5                           | -50.7                      | -13            | 37.7           |
| 3118                                 | -54.4                        | 123                 | 1.5           | H              | 7.3                           | -47.1                      | -13            | 34.1           |
| 3118                                 | -54.3                        | 293                 | 1.2           | V              | 6.5                           | -47.8                      | -13            | 34.8           |
| QPSK, 5MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 951.25                               | -70.10                       | 184                 | 1.3           | H              | 10.0                          | -60.10                     | -13            | 47.10          |
| 951.25                               | -75.44                       | 257                 | 2.2           | V              | 11.7                          | -63.74                     | -13            | 50.74          |
| 1564                                 | -57.5                        | 100                 | 1.4           | H              | 4.2                           | -53.3                      | -40            | 13.3           |
| 1564                                 | -58.2                        | 84                  | 1.7           | V              | 3.3                           | -54.9                      | -40            | 14.9           |
| 2346                                 | -56.9                        | 48                  | 1.3           | H              | 7.3                           | -49.6                      | -13            | 36.6           |
| 2346                                 | -57.2                        | 53                  | 1.7           | V              | 6.4                           | -50.8                      | -13            | 37.8           |
| 3128                                 | -54.7                        | 104                 | 2.4           | H              | 7.3                           | -47.4                      | -13            | 34.4           |
| 3128                                 | -53.7                        | 234                 | 1.1           | V              | 6.6                           | -47.1                      | -13            | 34.1           |
| QPSK, 5MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 953.23                               | -70.62                       | 49                  | 2.1           | H              | 10.0                          | -60.62                     | -13            | 47.62          |
| 953.23                               | -76.41                       | 222                 | 1.6           | V              | 11.7                          | -64.71                     | -13            | 51.71          |
| 1569                                 | -57.5                        | 43                  | 2.2           | H              | 4.2                           | -53.3                      | -40            | 13.3           |
| 1569                                 | -58.6                        | 306                 | 1.7           | V              | 3.3                           | -55.3                      | -40            | 15.3           |
| 2353.5                               | -56.5                        | 158                 | 1.6           | H              | 7.3                           | -49.2                      | -13            | 36.2           |
| 2353.5                               | -55.7                        | 42                  | 1.4           | V              | 6.4                           | -49.3                      | -13            | 36.3           |
| 3138                                 | -55.4                        | 38                  | 1.3           | H              | 7.4                           | -48.0                      | -13            | 35.0           |
| 3138                                 | -53.6                        | 111                 | 1.1           | V              | 6.6                           | -47.0                      | -13            | 34.0           |

| Frequency<br>(MHz)                   | Receiver<br>Reading<br>(dBm) | Turntable<br>Degree | Rx Antenna    |                | Substituted<br>Factor<br>(dB) | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------------------------|------------------------------|---------------------|---------------|----------------|-------------------------------|----------------------------|----------------|----------------|
|                                      |                              |                     | Height<br>(m) | Polar<br>(H/V) |                               |                            |                |                |
| Band 17                              |                              |                     |               |                |                               |                            |                |                |
| Test frequency range: 30MHz-8GHz     |                              |                     |               |                |                               |                            |                |                |
| QPSK, 5MHz bandwidth, Low Channel    |                              |                     |               |                |                               |                            |                |                |
| 951.80                               | -70.75                       | 188                 | 2.3           | H              | 10.0                          | -60.75                     | -13            | 47.75          |
| 951.80                               | -75.01                       | 117                 | 1.3           | V              | 11.7                          | -63.31                     | -13            | 50.31          |
| 1413                                 | -62.1                        | 150                 | 2.3           | H              | 5.7                           | -56.4                      | -13            | 43.4           |
| 1413                                 | -62.2                        | 70                  | 1.3           | V              | 5.4                           | -56.8                      | -13            | 43.8           |
| 2119.5                               | -50.5                        | 334                 | 1.5           | H              | 6.6                           | -43.9                      | -13            | 30.9           |
| 2119.5                               | -52.1                        | 324                 | 2.4           | V              | 5.7                           | -46.4                      | -13            | 33.4           |
| 2826                                 | -57.7                        | 154                 | 1.0           | H              | 7.1                           | -50.6                      | -13            | 37.6           |
| 2826                                 | -57.0                        | 124                 | 1.9           | V              | 6.5                           | -50.5                      | -13            | 37.5           |
| QPSK, 5MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 953.88                               | -70.46                       | 228                 | 1.7           | H              | 10.0                          | -60.46                     | -13            | 47.46          |
| 953.88                               | -77.67                       | 242                 | 2.2           | V              | 11.7                          | -65.97                     | -13            | 52.97          |
| 1420                                 | -61.8                        | 266                 | 2.4           | H              | 5.6                           | -56.2                      | -13            | 43.2           |
| 1420                                 | -61.4                        | 308                 | 1.7           | V              | 5.2                           | -56.2                      | -13            | 43.2           |
| 2130                                 | -48.5                        | 313                 | 2.1           | H              | 6.8                           | -41.7                      | -13            | 28.7           |
| 2130                                 | -50.1                        | 62                  | 1.7           | V              | 6.1                           | -44                        | -13            | 31.0           |
| 2840                                 | -57.9                        | 335                 | 1.9           | H              | 7                             | -50.9                      | -13            | 37.9           |
| 2840                                 | -57.0                        | 345                 | 1.7           | V              | 6.6                           | -50.4                      | -13            | 37.4           |
| QPSK, 5MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 952.24                               | -70.98                       | 121                 | 1.8           | H              | 10.0                          | -60.98                     | -13            | 47.98          |
| 952.24                               | -74.82                       | 168                 | 1.9           | V              | 11.7                          | -63.12                     | -13            | 50.12          |
| 1427                                 | -62.2                        | 154                 | 2.1           | H              | 5.5                           | -56.7                      | -13            | 43.7           |
| 1427                                 | -61.3                        | 311                 | 1.9           | V              | 4.9                           | -56.4                      | -13            | 43.4           |
| 2140.5                               | -48.9                        | 121                 | 2.4           | H              | 7                             | -41.9                      | -13            | 28.9           |
| 2140.5                               | -51.0                        | 296                 | 1.1           | V              | 6.4                           | -44.6                      | -13            | 31.6           |
| 2854                                 | -58.5                        | 87                  | 1.0           | H              | 7.4                           | -51.1                      | -13            | 38.1           |
| 2854                                 | -58.0                        | 122                 | 1.4           | V              | 6.4                           | -51.6                      | -13            | 38.6           |

| Frequency<br>(MHz)                  | Receiver<br>Reading<br>(dBm) | Turntable<br>Degree | Rx Antenna    |                | Substituted<br>Factor<br>(dB) | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|-------------------------------------|------------------------------|---------------------|---------------|----------------|-------------------------------|----------------------------|----------------|----------------|
|                                     |                              |                     | Height<br>(m) | Polar<br>(H/V) |                               |                            |                |                |
| Band 38                             |                              |                     |               |                |                               |                            |                |                |
| Test frequency range: 30MHz-26.5GHz |                              |                     |               |                |                               |                            |                |                |
| QPSK, 5MHz, Low Channel             |                              |                     |               |                |                               |                            |                |                |
| 950.94                              | -71.60                       | 242                 | 2.3           | H              | 10.0                          | -61.60                     | -25            | 36.60          |
| 950.94                              | -76.34                       | 219                 | 1.1           | V              | 11.7                          | -64.64                     | -25            | 39.64          |
| 5145                                | -54.4                        | 116                 | 1.0           | H              | 11.4                          | -43.0                      | -25            | 18.0           |
| 5145                                | -51.6                        | 283                 | 1.2           | V              | 10.7                          | -40.9                      | -25            | 15.9           |
| QPSK, 5MHz, Middle Channel          |                              |                     |               |                |                               |                            |                |                |
| 952.25                              | -84.79                       | 15                  | 1.4           | H              | 10.0                          | -74.79                     | -25            | 49.79          |
| 952.25                              | -87.63                       | 75                  | 1.2           | V              | 11.7                          | -75.93                     | -25            | 50.93          |
| 5190                                | -53.3                        | 245                 | 2.0           | H              | 10.5                          | -42.8                      | -25            | 17.8           |
| 5190                                | -52.2                        | 88                  | 2.2           | V              | 10                            | -42.2                      | -25            | 17.2           |
| QPSK, 5MHz, High Channel            |                              |                     |               |                |                               |                            |                |                |
| 950.65                              | -71.86                       | 7                   | 1.7           | H              | 10.0                          | -61.86                     | -25            | 36.86          |
| 950.65                              | -75.81                       | 307                 | 1.4           | V              | 11.7                          | -64.11                     | -25            | 39.11          |
| 5235                                | -52.5                        | 182                 | 1.6           | H              | 9.7                           | -42.8                      | -25            | 17.8           |
| 5235                                | -50.2                        | 63                  | 2.1           | V              | 9.3                           | -40.9                      | -25            | 15.9           |

| Frequency<br>(MHz)                   | Receiver<br>Reading<br>(dBm) | Turntable<br>Degree | Rx Antenna    |                | Substituted<br>Factor<br>(dB) | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------------------------|------------------------------|---------------------|---------------|----------------|-------------------------------|----------------------------|----------------|----------------|
|                                      |                              |                     | Height<br>(m) | Polar<br>(H/V) |                               |                            |                |                |
| Band 41                              |                              |                     |               |                |                               |                            |                |                |
| Test frequency range: 30-26.5GHz     |                              |                     |               |                |                               |                            |                |                |
| QPSK, 5MHz, Low Channel              |                              |                     |               |                |                               |                            |                |                |
| 953.33                               | -71.69                       | 162                 | 1.3           | H              | 10.0                          | -61.69                     | -25            | 36.69          |
| 953.33                               | -75.31                       | 176                 | 1.7           | V              | 11.7                          | -63.61                     | -25            | 38.61          |
| 5075                                 | -54.2                        | 176                 | 2.0           | H              | 11.2                          | -43                        | -25            | 18.0           |
| 5075                                 | -50.7                        | 247                 | 1.6           | V              | 10.8                          | -39.9                      | -25            | 14.9           |
| QPSK, 5MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 954.50                               | -70.19                       | 42                  | 1.9           | H              | 10.0                          | -60.19                     | -25            | 35.19          |
| 954.50                               | -76.16                       | 258                 | 2.3           | V              | 11.7                          | -64.46                     | -25            | 39.46          |
| 5190                                 | -54.0                        | 215                 | 1.2           | H              | 10.52                         | -43.5                      | -25            | 18.5           |
| 5190                                 | -50.0                        | 302                 | 2.2           | V              | 10                            | -40.0                      | -25            | 15.0           |
| QPSK, 5MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 954.81                               | -70.54                       | 84                  | 1.8           | H              | 10.0                          | -60.54                     | -25            | 35.54          |
| 954.81                               | -77.62                       | 206                 | 2.1           | V              | 11.7                          | -65.92                     | -25            | 40.92          |
| 5305                                 | -52.3                        | 128                 | 1.9           | H              | 9.6                           | -42.7                      | -25            | 17.7           |
| 5305                                 | -48.4                        | 284                 | 1.2           | V              | 8.8                           | -39.6                      | -25            | 14.6           |

| Frequency<br>(MHz)                     | Receiver<br>Reading<br>(dBm) | Turntable<br>Degree | Rx Antenna    |                | Substituted<br>Factor<br>(dB) | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|----------------------------------------|------------------------------|---------------------|---------------|----------------|-------------------------------|----------------------------|----------------|----------------|
|                                        |                              |                     | Height<br>(m) | Polar<br>(H/V) |                               |                            |                |                |
| Band 66                                |                              |                     |               |                |                               |                            |                |                |
| Test frequency range: 30-20GHz         |                              |                     |               |                |                               |                            |                |                |
| QPSK, 1.4MHz, Low Channel              |                              |                     |               |                |                               |                            |                |                |
| 955.27                                 | -72.62                       | 107                 | 1.6           | H              | 10.0                          | -62.62                     | -13            | 49.62          |
| 955.27                                 | -74.72                       | 208                 | 1.7           | V              | 11.7                          | -63.02                     | -13            | 50.02          |
| 3421.4                                 | -46.7                        | 348                 | 1.3           | H              | 6.4                           | -40.32                     | -13            | 27.3           |
| 3421.4                                 | -45.2                        | 58                  | 1.5           | V              | 5.7                           | -39.5                      | -13            | 26.5           |
| 5132.1                                 | -55.2                        | 295                 | 1.9           | H              | 11.7                          | -43.5                      | -13            | 30.5           |
| 5132.1                                 | -55.1                        | 269                 | 1.2           | V              | 10.8                          | -44.3                      | -13            | 31.3           |
| QPSK, 1.4MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 953.70                                 | -72.80                       | 103                 | 1.4           | H              | 10.0                          | -62.80                     | -13            | 49.80          |
| 953.70                                 | -77.60                       | 160                 | 1.1           | V              | 11.7                          | -65.90                     | -13            | 52.90          |
| 3510                                   | -47.6                        | 159                 | 1.7           | H              | 7.8                           | -39.8                      | -13            | 26.8           |
| 3510                                   | -47.0                        | 109                 | 1.1           | V              | 6.6                           | -40.4                      | -13            | 27.4           |
| 5265                                   | -54.1                        | 239                 | 1.0           | H              | 9.5                           | -44.6                      | -13            | 31.6           |
| 5265                                   | -52.7                        | 158                 | 2.0           | V              | 8.9                           | -43.8                      | -13            | 30.8           |
| QPSK, 1.4MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 950.94                                 | -70.98                       | 149                 | 1.9           | H              | 10.0                          | -60.98                     | -13            | 47.98          |
| 950.94                                 | -76.54                       | 199                 | 1.0           | V              | 11.7                          | -64.84                     | -13            | 51.84          |
| 3558.6                                 | -47.6                        | 83                  | 1.0           | H              | 7.8                           | -39.8                      | -13            | 26.8           |
| 3558.6                                 | -47.7                        | 116                 | 2.2           | V              | 7                             | -40.7                      | -13            | 27.7           |
| 5337.9                                 | -54.7                        | 238                 | 2.2           | H              | 9.4                           | -45.3                      | -13            | 32.3           |
| 5337.9                                 | -54.6                        | 78                  | 1.5           | V              | 8.7                           | -45.9                      | -13            | 32.9           |

**Note:**

Absolute Level = Reading Level + Substituted Factor

Substituted Factor contains: SG Level - Cable loss+ Antenna Gain

Margin = Limit- Absolute Level

**FCC§ 22.917 (a);§ 24.238 (a); §27.53 (c)(g)(h)(m) - BAND EDGES****Applicable Standard**

According to § 22.917(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

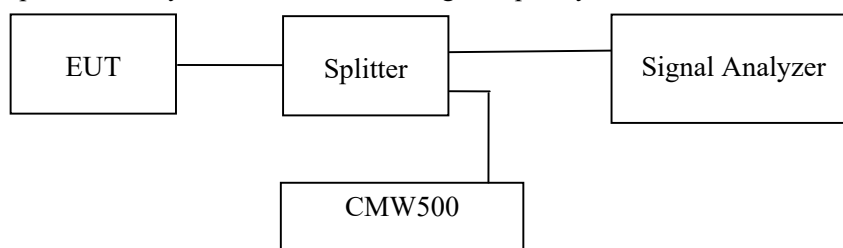
According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

According to FCC §27.53 (c)(g)(h)(m), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

**Test Procedure**

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

The center of the spectrum analyzer was set to block edge frequency

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

|                    |            |
|--------------------|------------|
| Temperature:       | 27.1~27.3℃ |
| Relative Humidity: | 56~56.8 %  |
| ATM Pressure:      | 101.0 kPa  |

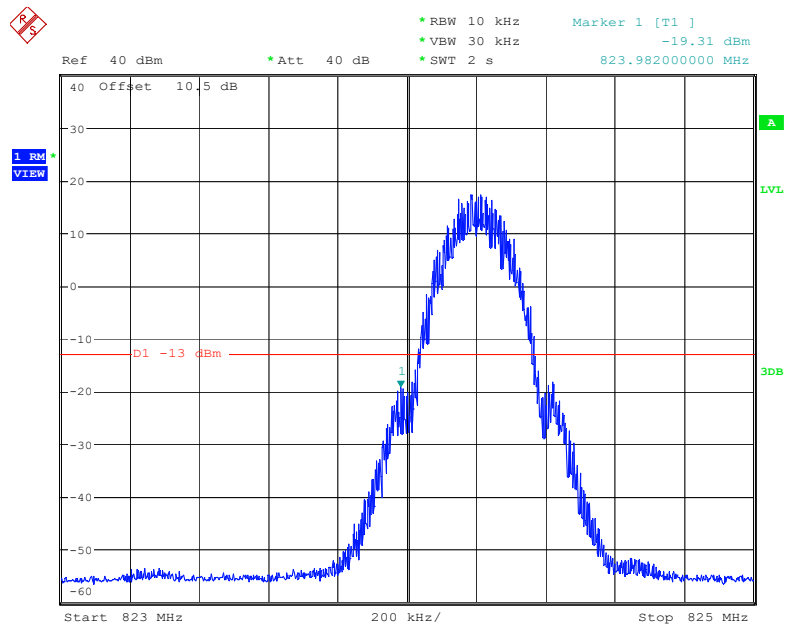
*The testing was performed by Roger Ling from 2022-06-28 to 2022-07-02.*

*EUT operation mode: Transmitting (Worst case)*

**Test Result: Pass**

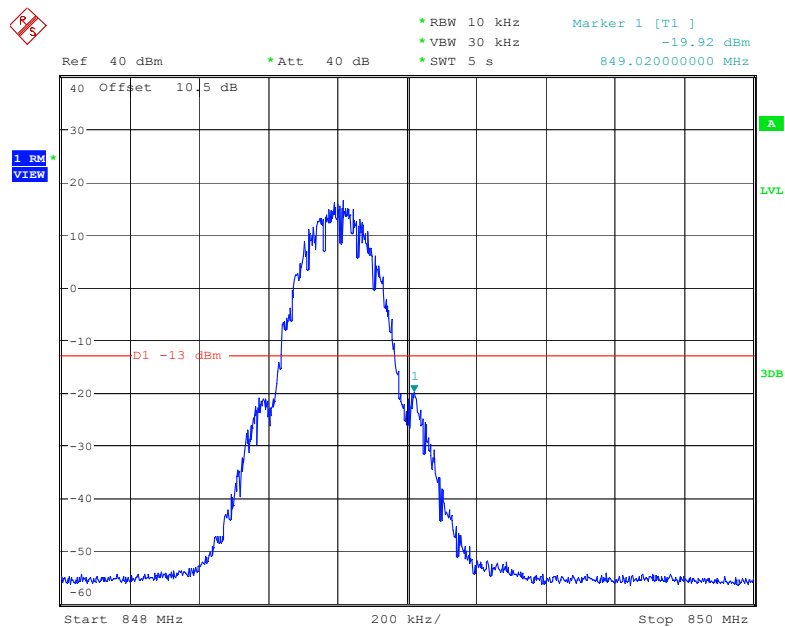
*Please refer to the following plots.*

## Cellular Band, Left Band Edge for GSM (GMSK) Mode

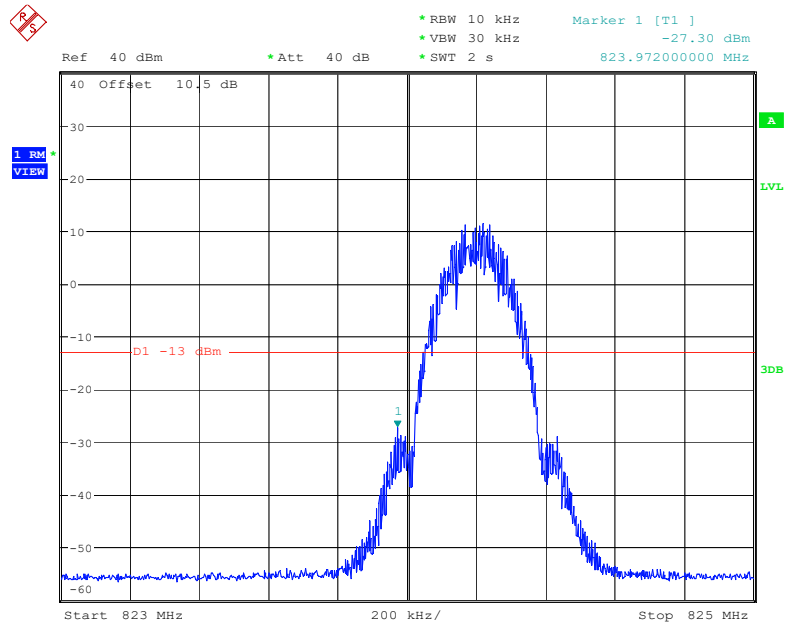


Date: 1.JUL.2022 16:31:43

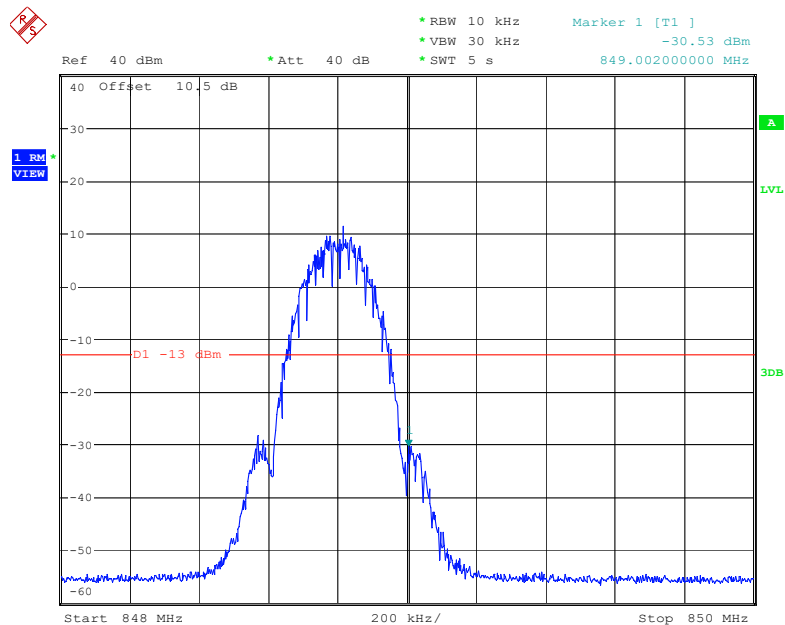
## Cellular Band, Right Band Edge for GSM (GMSK) Mode



Date: 1.JUL.2022 16:38:38

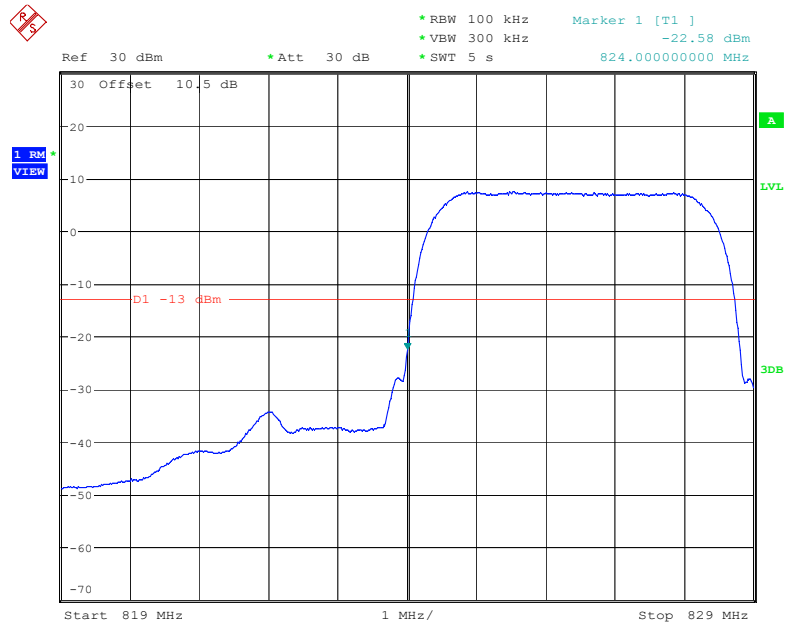
**Cellular Band, Left Band Edge for EGPRS (8PSK) Mode**

Date: 1.JUL.2022 16:20:20

**Cellular Band, Right Band Edge for EGPRS (8PSK) Mode**

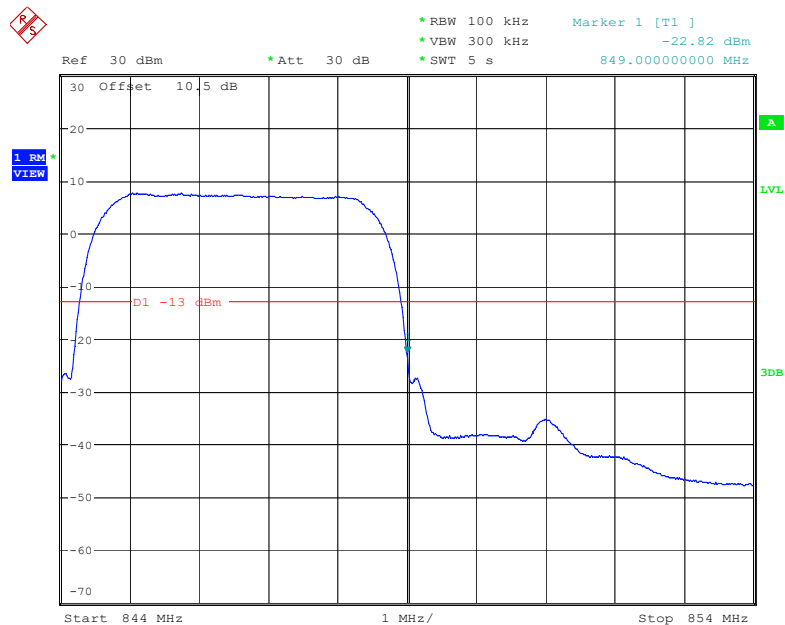
Date: 1.JUL.2022 16:28:22

## Cellular Band, Left Band Edge for RMC (BPSK) Mode

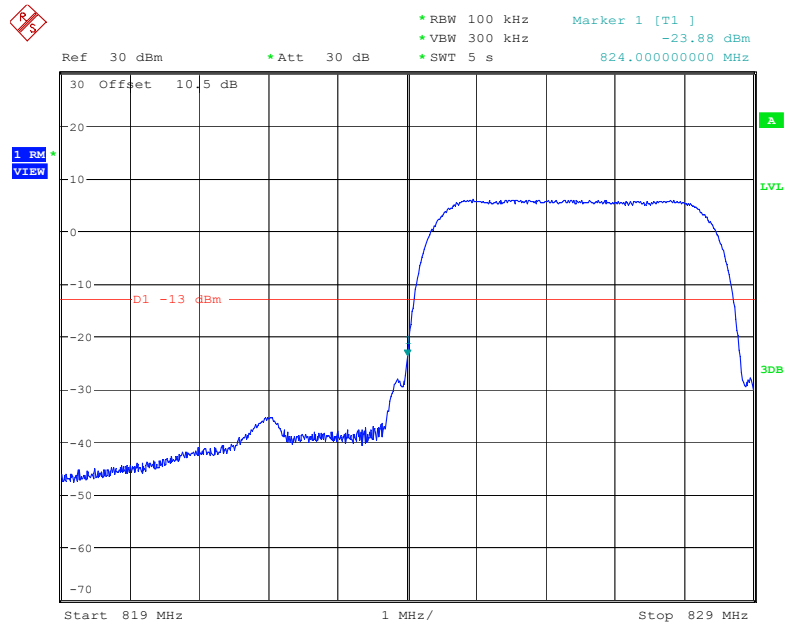


Date: 2.JUL.2022 10:00:39

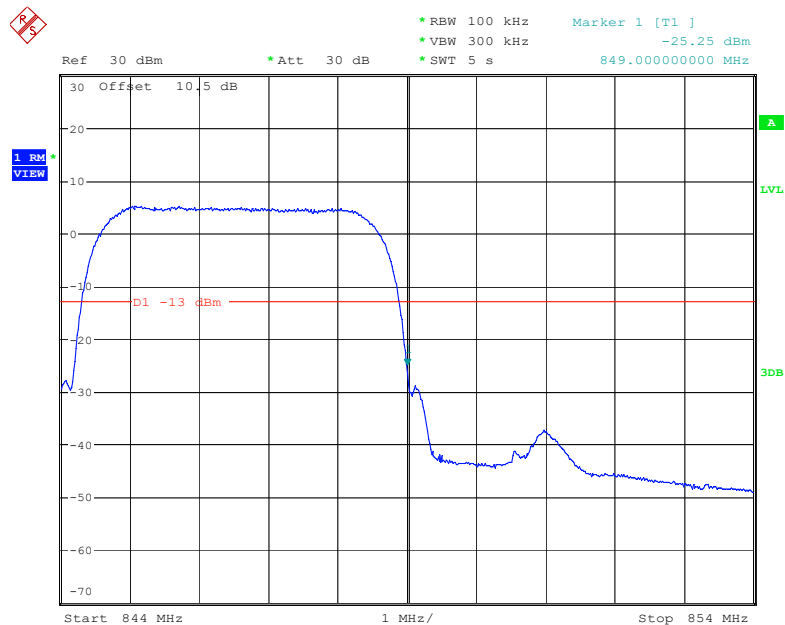
## Cellular Band, Right Band Edge for RMC (BPSK) Mode



Date: 2.JUL.2022 10:06:17

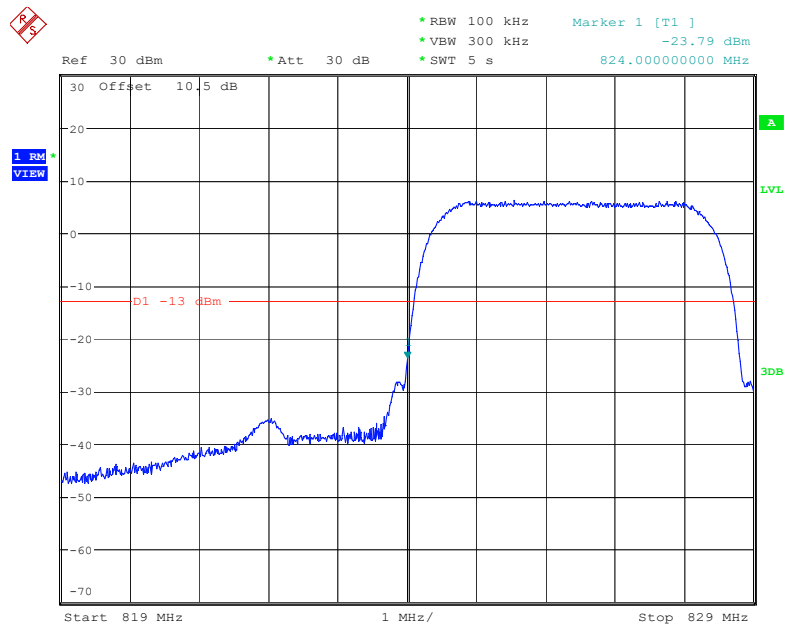
**Cellular Band, Left Band Edge for HSDPA(16QAM) Mode**

Date: 2.JUL.2022 10:25:47

**Cellular Band, Right Band Edge for HSDPA (16QAM) Mode**

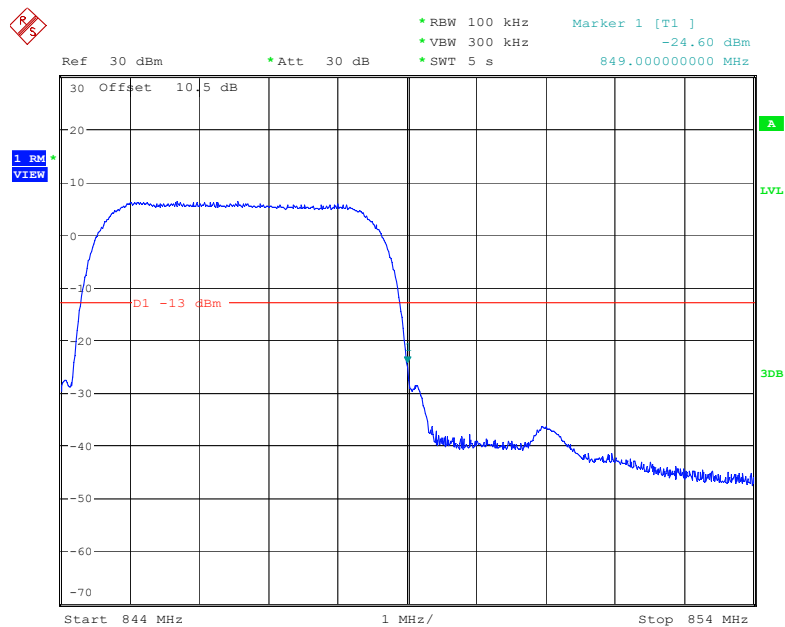
Date: 2.JUL.2022 10:39:43

## Cellular Band, Left Band Edge for HSUPA (QPSK) Mode



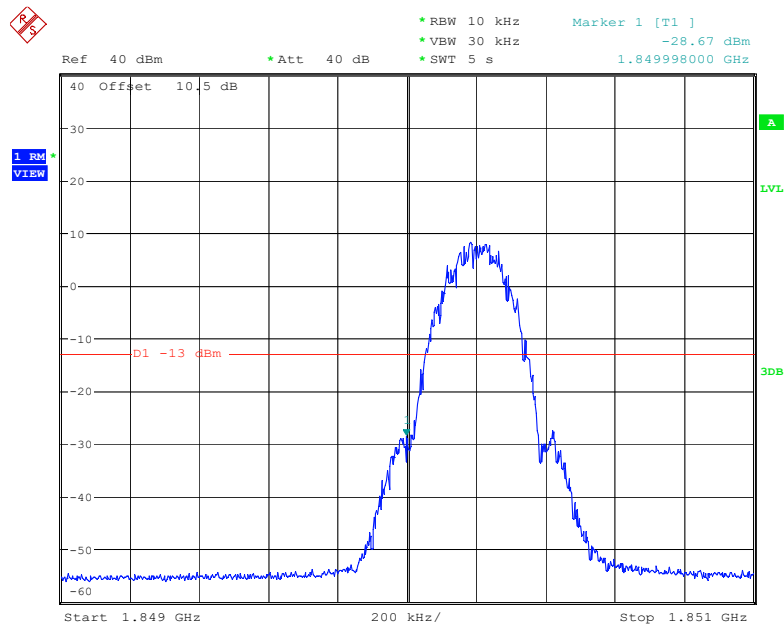
Date: 2.JUL.2022 10:12:41

## Cellular Band, Right Band Edge for HSUPA (QPSK) Mode



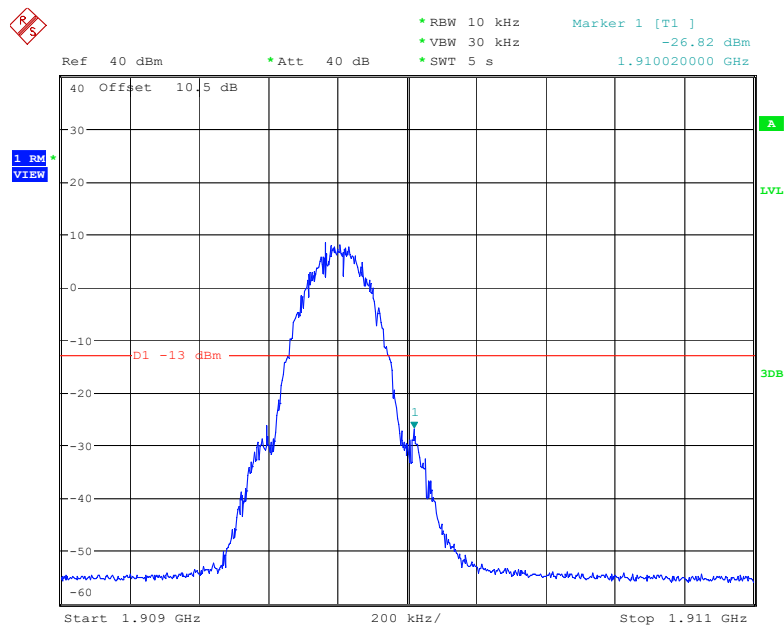
Date: 2.JUL.2022 10:19:02

PCS Band, Left Band Edge for GSM (GMSK) Mode

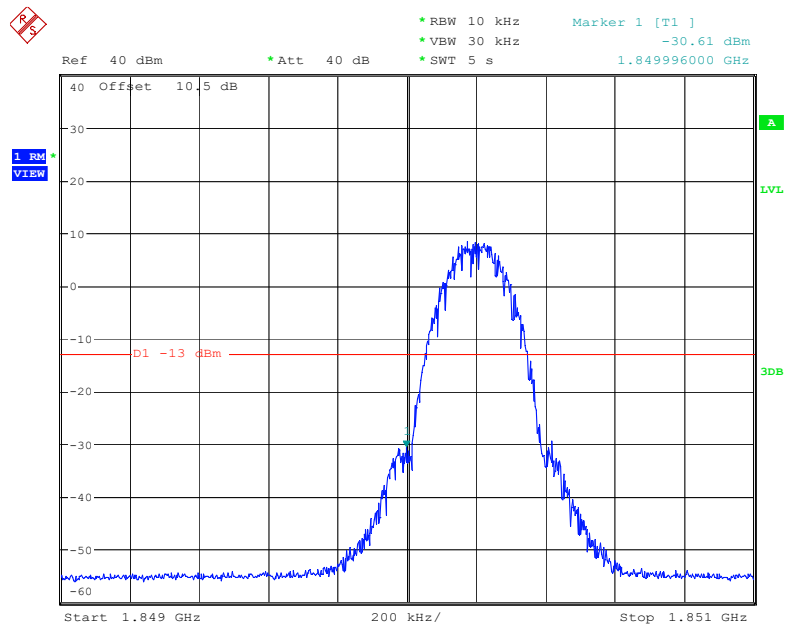


Date: 1.JUL.2022 16:54:21

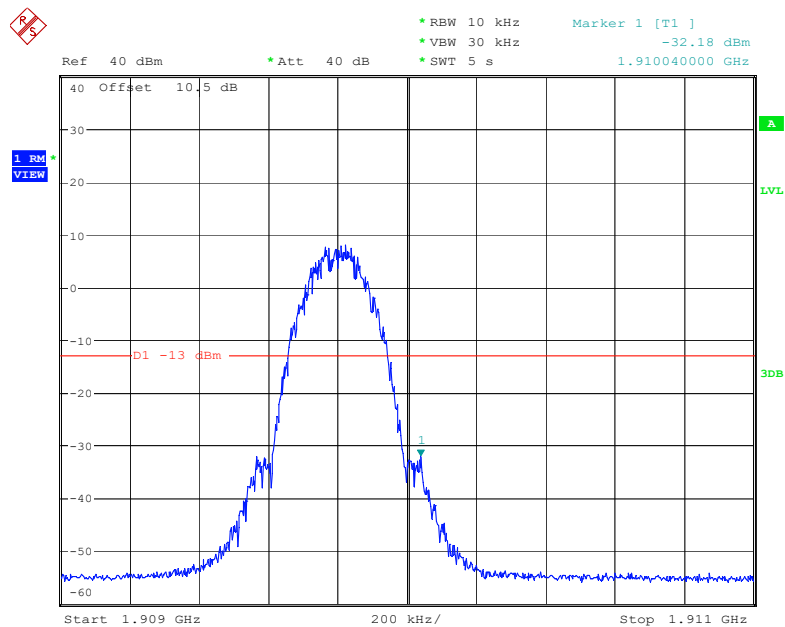
PCS Band, Right Band Edge for GSM (GMSK) Mode



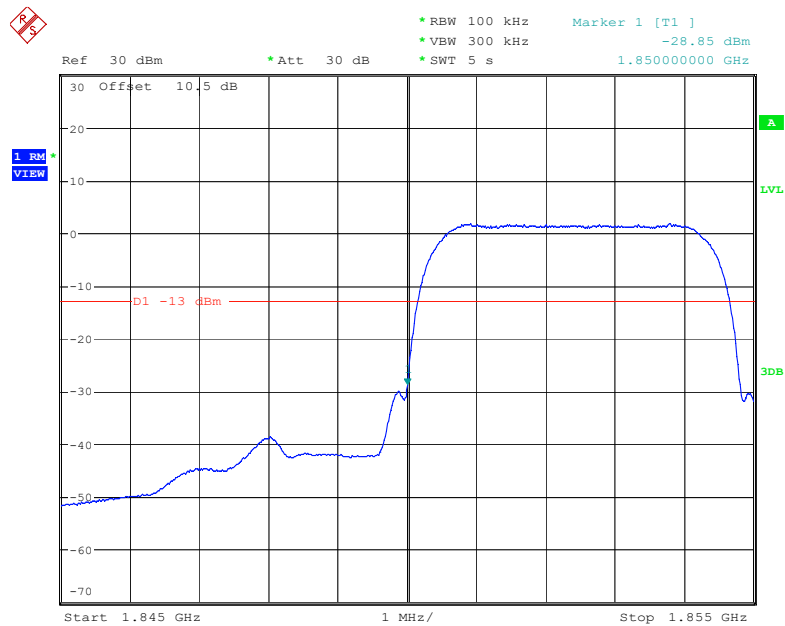
Date: 1.JUL.2022 17:01:59

**PCS Band, Left Band Edge for EGPRS (8PSK) Mode**

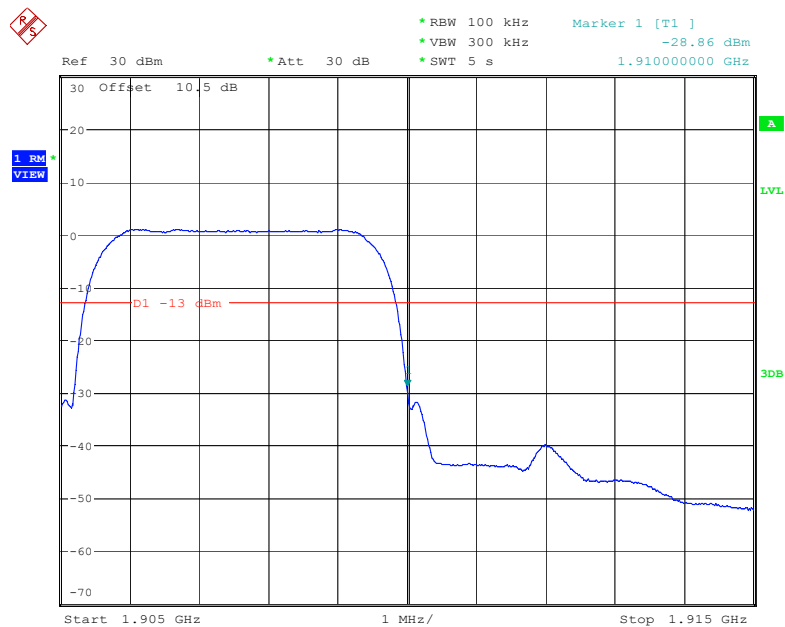
Date: 1.JUL.2022 16:42:56

**PCS Band, Right Band Edge for EGPRS (8PSK) Mode**

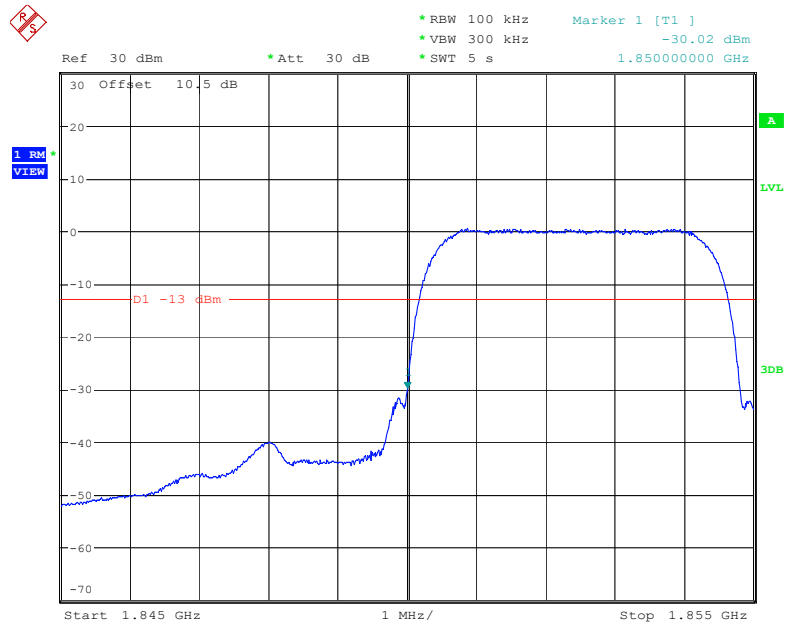
Date: 1.JUL.2022 16:49:15

**PCS Band, Left Band Edge for RMC (BPSK) Mode**

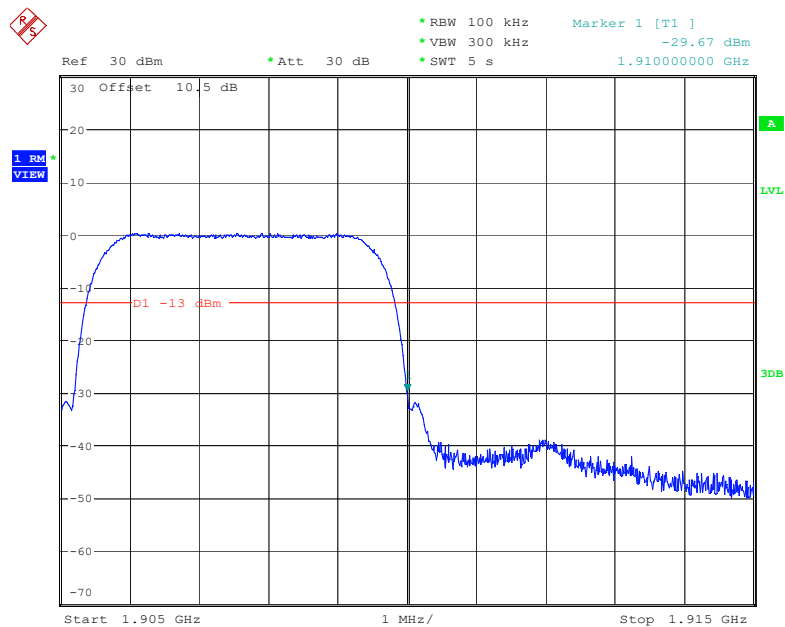
Date: 1.JUL.2022 17:08:24

**PCS Band, Right Band Edge for RMC (BPSK) Mode**

Date: 1.JUL.2022 17:38:14

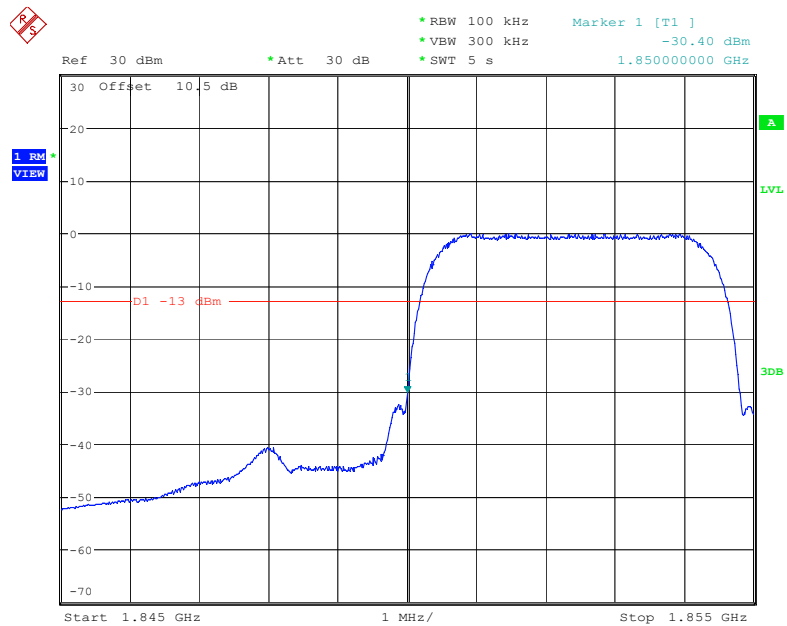
**PCS Band, Left Band Edge for HSDPA(16QAM) Mode**

Date: 1.JUL.2022 18:08:24

**PCS Band, Right Band Edge for HSDPA (16QAM) Mode**

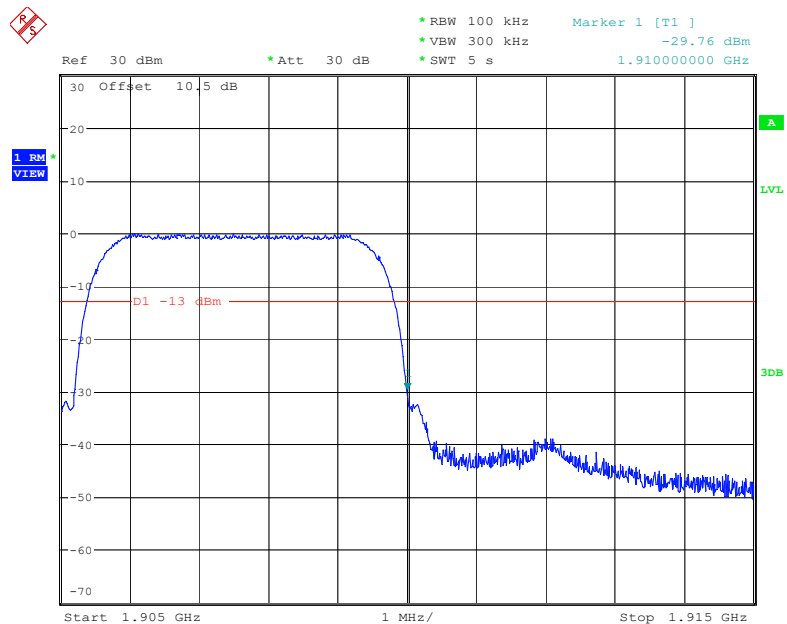
Date: 1.JUL.2022 18:18:19

## PCS Band, Left Band Edge for HSUPA (QPSK) Mode

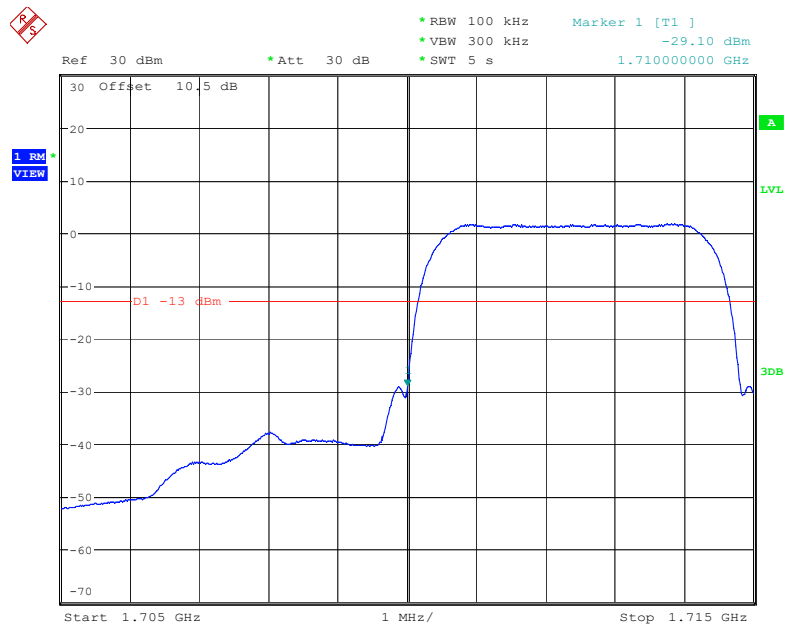


Date: 1.JUL.2022 18:22:51

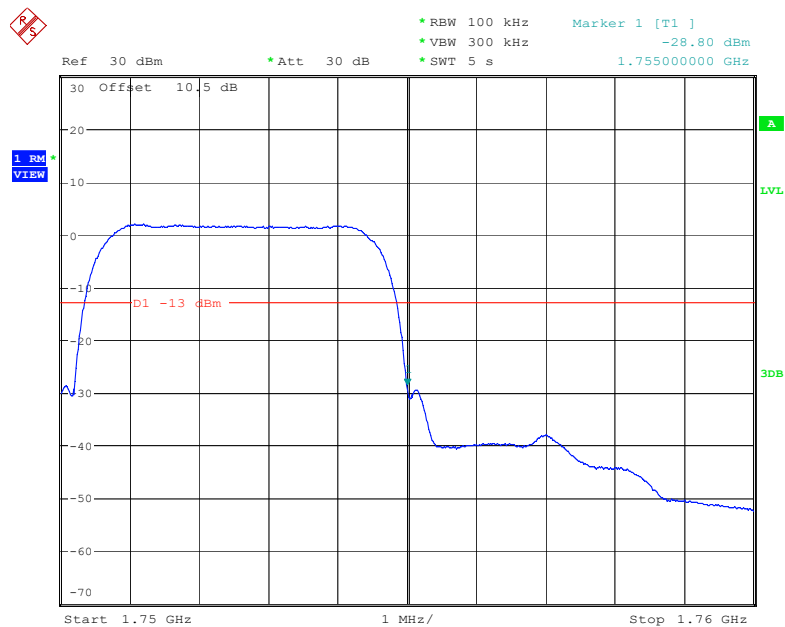
## PCS Band, Right Band Edge for HSUPA (QPSK) Mode



Date: 1.JUL.2022 18:32:58

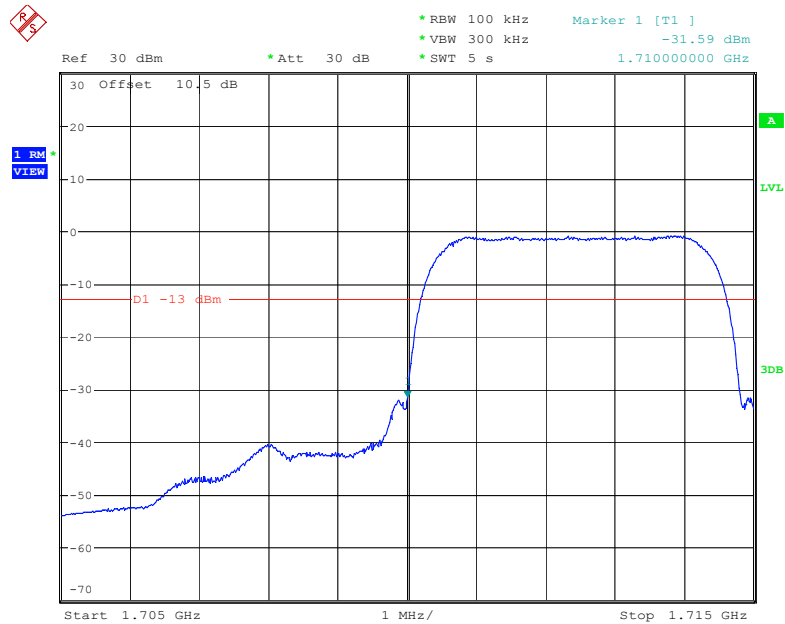
**AWS Band, Left Band Edge for RMC (BPSK) Mode**

Date: 1.JUL.2022 18:38:08

**AWS Band, Right Band Edge for RMC (BPSK) Mode**

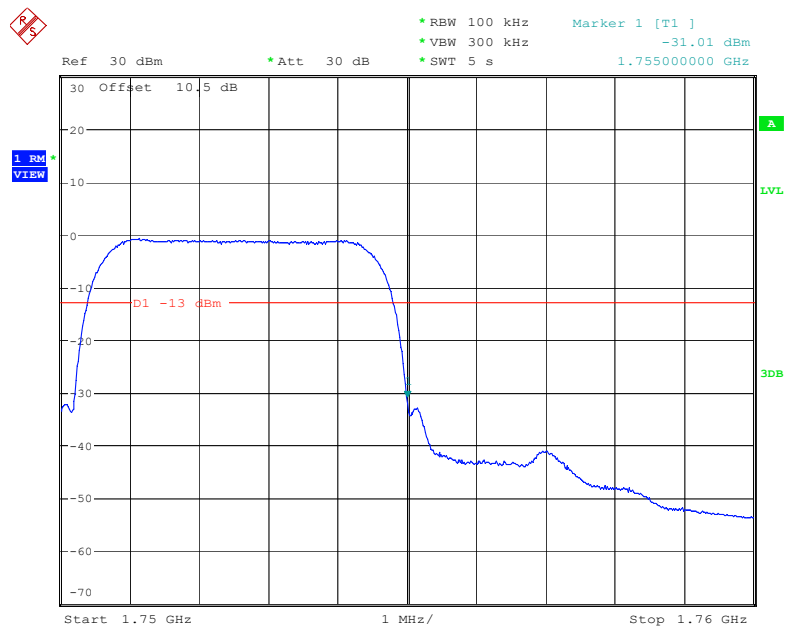
Date: 1.JUL.2022 18:45:04

## AWS Band, Left Band Edge for HSDPA(16QAM) Mode

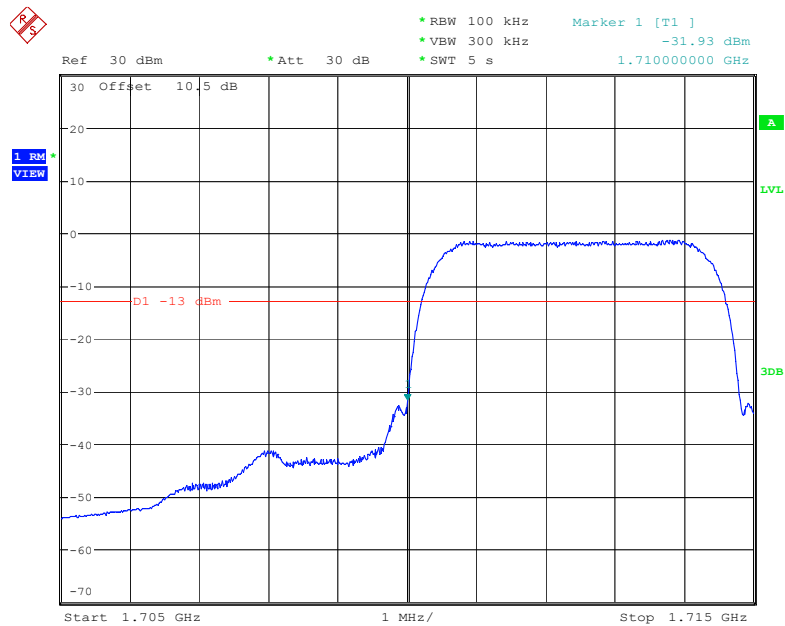


Date: 2.JUL.2022 09:35:59

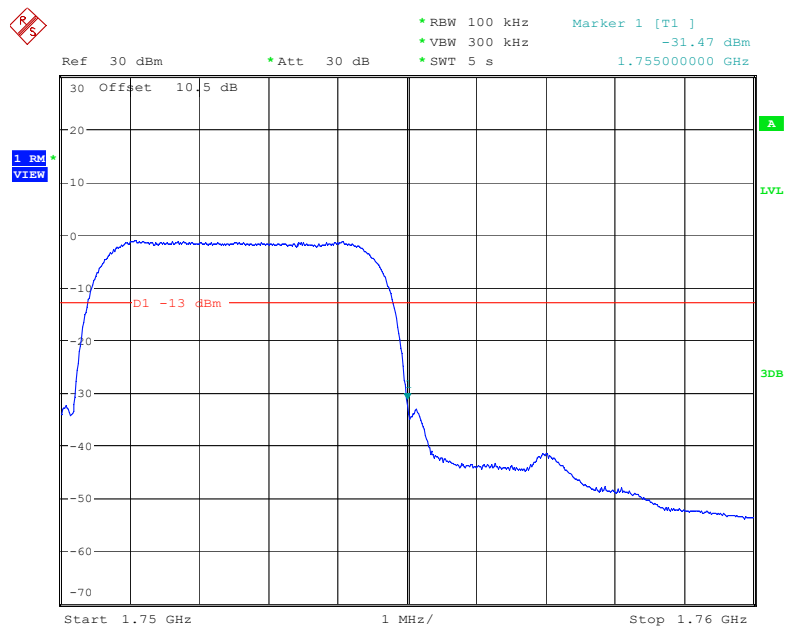
## AWS Band, Right Band Edge for HSDPA (16QAM) Mode



Date: 2.JUL.2022 09:43:06

**AWS Band, Left Band Edge for HSUPA (QPSK) Mode**

Date: 2.JUL.2022 09:48:20

**AWS Band, Right Band Edge for HSUPA (QPSK) Mode**

Date: 2.JUL.2022 09:55:26

The test plots of LTE bands please refer to the Appendix C.

## **FCC § 2.1055; § 22.355; § 24.235; §27.54 - FREQUENCY STABILITY**

### **Applicable Standard**

FCC § 2.1055, §22.355, §24.235&§27.54.

According to FCC §2.1055, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

Frequency Tolerance for Transmitters in the Public Mobile Services

| Frequency Range (MHz) | Base, fixed (ppm) | Mobile ≤ 3 watts (ppm) | Mobile > 3 watts (ppm) |
|-----------------------|-------------------|------------------------|------------------------|
| 25 to 50              | 20.0              | 20.0                   | 50.0                   |
| 50 to 450             | 5.0               | 5.0                    | 50.0                   |
| 450 to 512            | 2.5               | 5.0                    | 5.0                    |
| 821 to 896            | 1.5               | 2.5                    | 2.5                    |
| 928 to 929.           | 5.0               | N/A                    | N/A                    |
| 929 to 960.           | 1.5               | N/A                    | N/A                    |
| 2110 to 2220          | 10.0              | N/A                    | N/A                    |

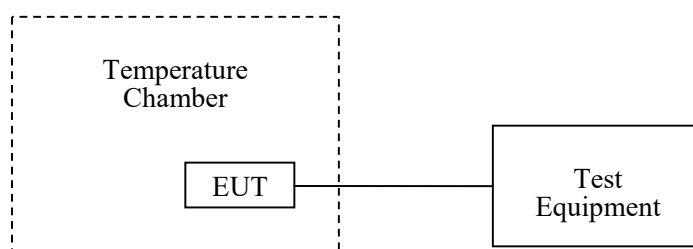
According to §24.235&§27.54, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

### **Test Procedure**

Frequency Stability vs. Temperature: The equipment under test was connected to an external AC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The AC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: For hand carried, battery powered equipment; reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.



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

|                           |            |
|---------------------------|------------|
| <b>Temperature:</b>       | 27.1~27.3℃ |
| <b>Relative Humidity:</b> | 56~56.8 %  |
| <b>ATM Pressure:</b>      | 101.0 kPa  |

*The testing was performed by Roger Ling from 2022-06-28 to 2022-07-02.*

*EUT operation mode: Transmitting*

**Test Result: Pass**

*Please refer to the following tables.*

**Cellular Band (Part 22H)****GSM Mode**

| Middle Channel, $f_0 = 836.4\text{MHz}$ |                                     |                      |                       |             |
|-----------------------------------------|-------------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                        | Voltage Supplied (V <sub>DC</sub> ) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -30                                     | N.V.                                | 1                    | 0.0012                | 2.5         |
| -20                                     |                                     | 4                    | 0.0048                | 2.5         |
| -10                                     |                                     | 3                    | 0.0036                | 2.5         |
| 0                                       |                                     | 2                    | 0.0024                | 2.5         |
| 10                                      |                                     | 6                    | 0.0072                | 2.5         |
| 20                                      |                                     | -3                   | -0.0036               | 2.5         |
| 30                                      |                                     | 3                    | 0.0036                | 2.5         |
| 40                                      |                                     | 4                    | 0.0048                | 2.5         |
| 50                                      |                                     | 3                    | 0.0036                | 2.5         |
| 20                                      | L.V.                                | 2                    | 0.0024                | 2.5         |
|                                         | H.V.                                | 5                    | 0.0060                | 2.5         |

**EDGE Mode**

| Middle Channel, $f_0 = 836.4\text{MHz}$ |                                     |                      |                       |             |
|-----------------------------------------|-------------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                        | Voltage Supplied (V <sub>DC</sub> ) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -30                                     | N.V.                                | 1.36                 | 0.0016                | 2.5         |
| -20                                     |                                     | 1.54                 | 0.0018                | 2.5         |
| -10                                     |                                     | 1.62                 | 0.0019                | 2.5         |
| 0                                       |                                     | 1.45                 | 0.0017                | 2.5         |
| 10                                      |                                     | 1.28                 | 0.0015                | 2.5         |
| 20                                      |                                     | 1.60                 | 0.0019                | 2.5         |
| 30                                      |                                     | 1.28                 | 0.0015                | 2.5         |
| 40                                      |                                     | 1.55                 | 0.0019                | 2.5         |
| 50                                      |                                     | 1.41                 | 0.0017                | 2.5         |
| 20                                      | L.V.                                | 1.33                 | 0.0016                | 2.5         |
|                                         | H.V.                                | 1.26                 | 0.0015                | 2.5         |

**WCDMA Mode**

| Middle Channel, $f_0 = 836.4\text{MHz}$ |                                     |                      |                       |             |
|-----------------------------------------|-------------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                        | Voltage Supplied (V <sub>DC</sub> ) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -30                                     | N.V.                                | 1.11                 | 0.0013                | 2.5         |
| -20                                     |                                     | 1.25                 | 0.0015                | 2.5         |
| -10                                     |                                     | 1.31                 | 0.0016                | 2.5         |
| 0                                       |                                     | 1.24                 | 0.0015                | 2.5         |
| 10                                      |                                     | 1.41                 | 0.0017                | 2.5         |
| 20                                      |                                     | 1.05                 | 0.0013                | 2.5         |
| 30                                      |                                     | 1.22                 | 0.0015                | 2.5         |
| 40                                      |                                     | 1.26                 | 0.0015                | 2.5         |
| 50                                      |                                     | 1.54                 | 0.0018                | 2.5         |
| 20                                      | L.V.                                | 1.39                 | 0.0017                | 2.5         |
|                                         | H.V.                                | 1.44                 | 0.0017                | 2.5         |

**PCS Band (Part 24E)****GSM Mode**

| Middle Channel, $f_0 = 1880.0$ MHz |                                     |                      |                       |        |
|------------------------------------|-------------------------------------|----------------------|-----------------------|--------|
| Temperature (°C)                   | Voltage Supplied (V <sub>DC</sub> ) | Frequency Error (Hz) | Frequency Error (ppm) | Result |
| -30                                | N.V.                                | 8                    | 0.0043                | Pass   |
| -20                                |                                     | 9                    | 0.0048                | Pass   |
| -10                                |                                     | 16                   | 0.0085                | Pass   |
| 0                                  |                                     | 14                   | 0.0074                | Pass   |
| 10                                 |                                     | 11                   | 0.0059                | Pass   |
| 20                                 |                                     | 25                   | 0.0133                | Pass   |
| 30                                 |                                     | 6                    | 0.0032                | Pass   |
| 40                                 |                                     | 10                   | 0.0053                | Pass   |
| 50                                 |                                     | 9                    | 0.0048                | Pass   |
| 20                                 | L.V.                                | 13                   | 0.0069                | Pass   |
|                                    | H.V.                                | 11                   | 0.0059                | Pass   |

**EDGE Mode**

| Middle Channel, $f_0 = 1880.0$ MHz |                                     |                      |                       |        |
|------------------------------------|-------------------------------------|----------------------|-----------------------|--------|
| Temperature (°C)                   | Voltage Supplied (V <sub>DC</sub> ) | Frequency Error (Hz) | Frequency Error (ppm) | Result |
| -30                                | N.V.                                | 3.48                 | 0.0019                | Pass   |
| -20                                |                                     | 3.35                 | 0.0018                | Pass   |
| -10                                |                                     | 3.41                 | 0.0018                | Pass   |
| 0                                  |                                     | 3.55                 | 0.0019                | Pass   |
| 10                                 |                                     | 3.69                 | 0.0020                | Pass   |
| 20                                 |                                     | 3.70                 | 0.0020                | Pass   |
| 30                                 |                                     | 3.56                 | 0.0019                | Pass   |
| 40                                 |                                     | 3.38                 | 0.0018                | Pass   |
| 50                                 |                                     | 3.55                 | 0.0019                | Pass   |
| 20                                 | L.V.                                | 3.34                 | 0.0018                | Pass   |
|                                    | H.V.                                | 3.17                 | 0.0017                | Pass   |

**WCDMA Mode**

| Middle Channel, $f_0 = 1880.0$ MHz |                                     |                      |                       |        |
|------------------------------------|-------------------------------------|----------------------|-----------------------|--------|
| Temperature (°C)                   | Voltage Supplied (V <sub>DC</sub> ) | Frequency Error (Hz) | Frequency Error (ppm) | Result |
| -30                                | N.V.                                | 1.49                 | 0.0008                | Pass   |
| -20                                |                                     | 1.55                 | 0.0008                | Pass   |
| -10                                |                                     | 1.34                 | 0.0007                | Pass   |
| 0                                  |                                     | 1.64                 | 0.0009                | Pass   |
| 10                                 |                                     | 1.28                 | 0.0007                | Pass   |
| 20                                 |                                     | 1.04                 | 0.0006                | Pass   |
| 30                                 |                                     | 1.26                 | 0.0007                | Pass   |
| 40                                 |                                     | 1.37                 | 0.0007                | Pass   |
| 50                                 |                                     | 1.42                 | 0.0008                | Pass   |
| 20                                 | L.V.                                | 1.36                 | 0.0007                | Pass   |
|                                    | H.V.                                | 1.54                 | 0.0008                | Pass   |

**AWS Band (Part 27)**

| Temperature (°C) | Power Supplied (V <sub>DC</sub> ) | F <sub>L</sub> (MHz) | F <sub>H</sub> (MHz) | F <sub>L</sub> Limit (MHz) | F <sub>H</sub> Limit (MHz) |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| -30              | N.V.                              | 1710.0162            | 1754.9733            | 1710                       | 1755                       |
| -20              |                                   | 1710.0158            | 1754.9722            | 1710                       | 1755                       |
| -10              |                                   | 1710.0154            | 1754.9715            | 1710                       | 1755                       |
| 0                |                                   | 1710.0143            | 1754.9733            | 1710                       | 1755                       |
| 10               |                                   | 1710.0137            | 1754.9745            | 1710                       | 1755                       |
| 20               |                                   | 1710.0125            | 1754.9722            | 1710                       | 1755                       |
| 30               |                                   | 1710.0134            | 1754.9725            | 1710                       | 1755                       |
| 40               |                                   | 1710.0123            | 1754.9736            | 1710                       | 1755                       |
| 50               |                                   | 1710.0114            | 1754.9731            | 1710                       | 1755                       |
| 20               | L.V.                              | 1710.0135            | 1754.9724            | 1710                       | 1755                       |
|                  | H.V.                              | 1710.0146            | 1754.9732            | 1710                       | 1755                       |

**LTE (Worst case at maximum bandwidth)****QPSK:****Band 2:**

| 20.0 MHz Middle Channel, $f_0=1880\text{MHz}$ |                                     |                      |                       |        |
|-----------------------------------------------|-------------------------------------|----------------------|-----------------------|--------|
| Temperature (°C)                              | Voltage Supplied (V <sub>DC</sub> ) | Frequency Error (Hz) | Frequency Error (ppm) | Result |
| -30                                           | N.V.                                | -7.28                | -0.0039               | Pass   |
| -20                                           |                                     | -9.97                | -0.0053               | Pass   |
| -10                                           |                                     | -6.13                | -0.0033               | Pass   |
| 0                                             |                                     | 6.17                 | 0.0033                | Pass   |
| 10                                            |                                     | 7.92                 | 0.0042                | Pass   |
| 20                                            |                                     | 6.46                 | 0.0034                | Pass   |
| 30                                            |                                     | -6.52                | -0.0035               | Pass   |
| 40                                            |                                     | 7.18                 | 0.0038                | Pass   |
| 50                                            |                                     | -9.69                | -0.0052               | Pass   |
| 20                                            | L.V.                                | -8.17                | -0.0043               | Pass   |
|                                               | H.V.                                | -7.05                | -0.0038               | Pass   |

**Band 4:**

| 20 MHz Bandwidth |                                   |                      |                      |                            |                            |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V <sub>DC</sub> ) | F <sub>L</sub> (MHz) | F <sub>H</sub> (MHz) | F <sub>L</sub> Limit (MHz) | F <sub>H</sub> Limit (MHz) |
| -30              | N.V.                              | 1710.0930            | 1754.9430            | 1710                       | 1755                       |
| -20              |                                   | 1710.1006            | 1754.9060            | 1710                       | 1755                       |
| -10              |                                   | 1710.0651            | 1754.8531            | 1710                       | 1755                       |
| 0                |                                   | 1710.0157            | 1754.8549            | 1710                       | 1755                       |
| 10               |                                   | 1710.0483            | 1754.8717            | 1710                       | 1755                       |
| 20               |                                   | 1710.0670            | 1754.9488            | 1710                       | 1755                       |
| 30               |                                   | 1710.0995            | 1754.8910            | 1710                       | 1755                       |
| 40               |                                   | 1710.0204            | 1754.8706            | 1710                       | 1755                       |
| 50               |                                   | 1710.0666            | 1754.8539            | 1710                       | 1755                       |
| 20               | L.V.                              | 1710.0337            | 1754.8975            | 1710                       | 1755                       |
|                  | H.V.                              | 1710.0160            | 1754.8865            | 1710                       | 1755                       |

**Band 5:**

| 10.0 MHz Middle Channel, $f_o=836.5\text{MHz}$ |                               |                      |                       |             |
|------------------------------------------------|-------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                               | Voltage Supplied ( $V_{DC}$ ) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -30                                            | N.V.                          | -4.28                | -0.0051               | 2.5         |
| -20                                            |                               | -6.97                | -0.0083               | 2.5         |
| -10                                            |                               | -5.50                | -0.0066               | 2.5         |
| 0                                              |                               | 6.06                 | 0.0072                | 2.5         |
| 10                                             |                               | 9.80                 | 0.0117                | 2.5         |
| 20                                             |                               | 5.03                 | 0.006                 | 2.5         |
| 30                                             |                               | -6.62                | -0.0079               | 2.5         |
| 40                                             |                               | -8.73                | -0.0104               | 2.5         |
| 50                                             |                               | -7.05                | -0.0084               | 2.5         |
| 20                                             | L.V.                          | 8.99                 | 0.0107                | 2.5         |
|                                                | H.V.                          | -7.17                | -0.0086               | 2.5         |

**Band 7:**

| 20 MHz Bandwidth |                             |             |             |                   |                   |
|------------------|-----------------------------|-------------|-------------|-------------------|-------------------|
| Temperature (°C) | Power Supplied ( $V_{DC}$ ) | $F_L$ (MHz) | $F_H$ (MHz) | $F_L$ Limit (MHz) | $F_H$ Limit (MHz) |
| -30              | N.V.                        | 2500.0454   | 2569.7854   | 2500              | 2570              |
| -20              |                             | 2500.0948   | 2569.9481   | 2500              | 2570              |
| -10              |                             | 2500.0119   | 2569.8268   | 2500              | 2570              |
| 0                |                             | 2500.0353   | 2569.9018   | 2500              | 2570              |
| 10               |                             | 2500.0997   | 2569.9545   | 2500              | 2570              |
| 20               |                             | 2500.0428   | 2569.8825   | 2500              | 2570              |
| 30               |                             | 2500.0352   | 2569.8576   | 2500              | 2570              |
| 40               |                             | 2500.0898   | 2569.9141   | 2500              | 2570              |
| 50               |                             | 2500.0935   | 2569.8529   | 2500              | 2570              |
| 20               | L.V.                        | 2500.0982   | 2569.9195   | 2500              | 2570              |
|                  | H.V.                        | 2500.0546   | 2569.8364   | 2500              | 2570              |

**Band 12:**

| 10 MHz Bandwidth |                                   |                      |                      |                            |                            |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V <sub>DC</sub> ) | F <sub>L</sub> (MHz) | F <sub>H</sub> (MHz) | F <sub>L</sub> Limit (MHz) | F <sub>H</sub> Limit (MHz) |
| -30              | N.V.                              | 699.0671             | 715.9565             | 699                        | 716                        |
| -20              |                                   | 699.0380             | 715.9699             | 699                        | 716                        |
| -10              |                                   | 699.0308             | 715.9925             | 699                        | 716                        |
| 0                |                                   | 699.0027             | 715.9536             | 699                        | 716                        |
| 10               |                                   | 699.0405             | 715.9490             | 699                        | 716                        |
| 20               |                                   | 699.0857             | 715.9360             | 699                        | 716                        |
| 30               |                                   | 699.0540             | 715.9633             | 699                        | 716                        |
| 40               |                                   | 699.0815             | 715.9791             | 699                        | 716                        |
| 50               |                                   | 699.0791             | 715.9754             | 699                        | 716                        |
| 20               | L.V.                              | 699.0834             | 715.9695             | 699                        | 716                        |
|                  | H.V.                              | 699.1278             | 715.9341             | 699                        | 716                        |

**Band 13**

| 10 MHz Bandwidth |                                   |                      |                      |                            |                            |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V <sub>DC</sub> ) | F <sub>L</sub> (MHz) | F <sub>H</sub> (MHz) | F <sub>L</sub> Limit (MHz) | F <sub>H</sub> Limit (MHz) |
| -30              | N.V.                              | 777.0279             | 786.9404             | 777                        | 787                        |
| -20              |                                   | 777.0343             | 786.9014             | 777                        | 787                        |
| -10              |                                   | 777.0196             | 786.9880             | 777                        | 787                        |
| 0                |                                   | 777.0482             | 786.8363             | 777                        | 787                        |
| 10               |                                   | 777.0989             | 786.9822             | 777                        | 787                        |
| 20               |                                   | 777.3078             | 786.9147             | 777                        | 787                        |
| 30               |                                   | 777.0248             | 786.6013             | 777                        | 787                        |
| 40               |                                   | 777.0112             | 786.8897             | 777                        | 787                        |
| 50               |                                   | 777.0175             | 786.8731             | 777                        | 787                        |
| 20               | L.V.                              | 777.0418             | 786.9075             | 777                        | 787                        |
|                  | H.V.                              | 777.0289             | 786.8428             | 777                        | 787                        |

**Band 17:**

| 10 MHz Bandwidth |                                   |                      |                      |                            |                            |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V <sub>DC</sub> ) | F <sub>L</sub> (MHz) | F <sub>H</sub> (MHz) | F <sub>L</sub> Limit (MHz) | F <sub>H</sub> Limit (MHz) |
| -30              | N.V.                              | 704.0187             | 715.9491             | 704                        | 716                        |
| -20              |                                   | 704.0406             | 715.9687             | 704                        | 716                        |
| -10              |                                   | 704.0135             | 715.9486             | 704                        | 716                        |
| 0                |                                   | 704.0780             | 715.9099             | 704                        | 716                        |
| 10               |                                   | 704.0790             | 715.9632             | 704                        | 716                        |
| 20               |                                   | 704.0438             | 715.9796             | 704                        | 716                        |
| 30               |                                   | 704.0752             | 715.9213             | 704                        | 716                        |
| 40               |                                   | 704.0528             | 715.9056             | 704                        | 716                        |
| 50               |                                   | 704.0997             | 715.9163             | 704                        | 716                        |
| 20               | L.V.                              | 704.0418             | 715.9840             | 704                        | 716                        |
|                  | H.V.                              | 704.0659             | 715.9098             | 704                        | 716                        |

**Band 38**

| 20 MHz Bandwidth |                                   |                      |                      |                            |                            |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V <sub>DC</sub> ) | F <sub>L</sub> (MHz) | F <sub>H</sub> (MHz) | F <sub>L</sub> Limit (MHz) | F <sub>H</sub> Limit (MHz) |
| -30              | N.V.                              | 2570.0057            | 2619.9643            | 2570                       | 2620                       |
| -20              |                                   | 2570.0288            | 2619.9700            | 2570                       | 2620                       |
| -10              |                                   | 2570.0881            | 2619.9924            | 2570                       | 2620                       |
| 0                |                                   | 2570.1203            | 2619.8962            | 2570                       | 2620                       |
| 10               |                                   | 2570.0960            | 2619.9320            | 2570                       | 2620                       |
| 20               |                                   | 2570.0378            | 2619.9554            | 2570                       | 2620                       |
| 30               |                                   | 2570.0964            | 2619.9057            | 2570                       | 2620                       |
| 40               |                                   | 2570.0598            | 2619.9442            | 2570                       | 2620                       |
| 50               |                                   | 2570.0780            | 2619.9780            | 2570                       | 2620                       |
| 20               | L.V.                              | 2570.0546            | 2619.9774            | 2570                       | 2620                       |
|                  | H.V.                              | 2570.0722            | 2619.9248            | 2570                       | 2620                       |

**Band 41**

| 20 MHz Bandwidth |                                   |                      |                      |                            |                            |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V <sub>DC</sub> ) | F <sub>L</sub> (MHz) | F <sub>H</sub> (MHz) | F <sub>L</sub> Limit (MHz) | F <sub>H</sub> Limit (MHz) |
| -30              | N.V.                              | 2535.0267            | 2654.9259            | 2535                       | 2655                       |
| -20              |                                   | 2535.0802            | 2654.8024            | 2535                       | 2655                       |
| -10              |                                   | 2535.0129            | 2654.9965            | 2535                       | 2655                       |
| 0                |                                   | 2535.0719            | 2654.9503            | 2535                       | 2655                       |
| 10               |                                   | 2535.0125            | 2654.8196            | 2535                       | 2655                       |
| 20               |                                   | 2535.0252            | 2654.7609            | 2535                       | 2655                       |
| 30               |                                   | 2535.0964            | 2654.8892            | 2535                       | 2655                       |
| 40               |                                   | 2535.0250            | 2654.8651            | 2535                       | 2655                       |
| 50               |                                   | 2535.0431            | 2654.6230            | 2535                       | 2655                       |
| 20               | L.V.                              | 2535.0848            | 2654.8843            | 2535                       | 2655                       |
|                  | H.V.                              | 2535.0567            | 2654.9414            | 2535                       | 2655                       |

**Band 66**

| 20 MHz Bandwidth |                                   |                      |                      |                            |                            |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V <sub>DC</sub> ) | F <sub>L</sub> (MHz) | F <sub>H</sub> (MHz) | F <sub>L</sub> Limit (MHz) | F <sub>H</sub> Limit (MHz) |
| -30              | N.V.                              | 1710.1977            | 1779.7317            | 1710                       | 1780                       |
| -20              |                                   | 1710.0782            | 1779.8542            | 1710                       | 1780                       |
| -10              |                                   | 1710.3694            | 1779.8981            | 1710                       | 1780                       |
| 0                |                                   | 1710.2169            | 1779.7708            | 1710                       | 1780                       |
| 10               |                                   | 1710.0747            | 1779.8544            | 1710                       | 1780                       |
| 20               |                                   | 1710.0281            | 1779.9492            | 1710                       | 1780                       |
| 30               |                                   | 1710.4542            | 1779.8734            | 1710                       | 1780                       |
| 40               |                                   | 1710.4190            | 1779.8285            | 1710                       | 1780                       |
| 50               |                                   | 1710.0261            | 1779.8304            | 1710                       | 1780                       |
| 20               | L.V.                              | 1710.0757            | 1779.9602            | 1710                       | 1780                       |
|                  | H.V.                              | 1710.2123            | 1779.8813            | 1710                       | 1780                       |

**16QAM:****Band 2:**

| 20.0 MHz Middle Channel, $f_0=1880\text{MHz}$ |                                     |                      |                       |        |
|-----------------------------------------------|-------------------------------------|----------------------|-----------------------|--------|
| Temperature (°C)                              | Voltage Supplied (V <sub>DC</sub> ) | Frequency Error (Hz) | Frequency Error (ppm) | Result |
| -30                                           | N.V.                                | -5.82                | -0.0031               | Pass   |
| -20                                           |                                     | -6.68                | -0.0036               | Pass   |
| -10                                           |                                     | 9.77                 | 0.0052                | Pass   |
| 0                                             |                                     | -7.62                | -0.0041               | Pass   |
| 10                                            |                                     | -9.91                | -0.0053               | Pass   |
| 20                                            |                                     | -9.82                | -0.0052               | Pass   |
| 30                                            |                                     | -6.68                | -0.0036               | Pass   |
| 40                                            |                                     | -8.85                | -0.0047               | Pass   |
| 50                                            |                                     | 5.67                 | 0.003                 | Pass   |
| 20                                            | L.V.                                | 6.05                 | 0.0032                | Pass   |
|                                               | H.V.                                | 7.52                 | 0.004                 | Pass   |

**Band 4:**

| 20 MHz Bandwidth |                                   |                      |                      |                            |                            |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V <sub>DC</sub> ) | F <sub>L</sub> (MHz) | F <sub>H</sub> (MHz) | F <sub>L</sub> Limit (MHz) | F <sub>H</sub> Limit (MHz) |
| -30              | N.V.                              | 1710.0685            | 1754.9385            | 1710                       | 1755                       |
| -20              |                                   | 1710.0818            | 1754.8904            | 1710                       | 1755                       |
| -10              |                                   | 1710.0887            | 1754.8885            | 1710                       | 1755                       |
| 0                |                                   | 1710.0531            | 1754.9021            | 1710                       | 1755                       |
| 10               |                                   | 1710.0492            | 1754.8427            | 1710                       | 1755                       |
| 20               |                                   | 1710.0489            | 1754.9488            | 1710                       | 1755                       |
| 30               |                                   | 1710.0375            | 1754.9009            | 1710                       | 1755                       |
| 40               |                                   | 1710.0924            | 1754.9117            | 1710                       | 1755                       |
| 50               |                                   | 1710.0418            | 1754.8635            | 1710                       | 1755                       |
| 20               | L.V.                              | 1710.0240            | 1754.9137            | 1710                       | 1755                       |
|                  | H.V.                              | 1710.0481            | 1754.9259            | 1710                       | 1755                       |

**Band 5:**

| 10.0 MHz Middle Channel, $f_0=836.5\text{MHz}$ |                                     |                      |                       |             |
|------------------------------------------------|-------------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                               | Voltage Supplied (V <sub>DC</sub> ) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -30                                            | N.V.                                | -6.94                | -0.0083               | 2.5         |
| -20                                            |                                     | 8.10                 | 0.0097                | 2.5         |
| -10                                            |                                     | -8.59                | -0.0103               | 2.5         |
| 0                                              |                                     | 9.33                 | 0.0112                | 2.5         |
| 10                                             |                                     | -6.94                | -0.0083               | 2.5         |
| 20                                             |                                     | 7.54                 | 0.009                 | 2.5         |
| 30                                             |                                     | 6.43                 | 0.0077                | 2.5         |
| 40                                             |                                     | -6.17                | -0.0074               | 2.5         |
| 50                                             |                                     | -6.44                | -0.0077               | 2.5         |
| 20                                             | L.V.                                | 6.34                 | 0.0076                | 2.5         |
|                                                | H.V.                                | -6.89                | -0.0082               | 2.5         |

**Band 7:**

| 20 MHz Bandwidth |                                   |                      |                      |                            |                            |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V <sub>DC</sub> ) | F <sub>L</sub> (MHz) | F <sub>H</sub> (MHz) | F <sub>L</sub> Limit (MHz) | F <sub>H</sub> Limit (MHz) |
| -30              | N.V.                              | 2500.0103            | 2569.8391            | 2500                       | 2570                       |
| -20              |                                   | 2500.0678            | 2569.9385            | 2500                       | 2570                       |
| -10              |                                   | 2500.0806            | 2569.8294            | 2500                       | 2570                       |
| 0                |                                   | 2500.0596            | 2569.9676            | 2500                       | 2570                       |
| 10               |                                   | 2500.0840            | 2569.9108            | 2500                       | 2570                       |
| 20               |                                   | 2500.0008            | 2569.8752            | 2500                       | 2570                       |
| 30               |                                   | 2500.0189            | 2569.9071            | 2500                       | 2570                       |
| 40               |                                   | 2500.0769            | 2569.9232            | 2500                       | 2570                       |
| 50               |                                   | 2500.0551            | 2569.9093            | 2500                       | 2570                       |
| 20               | L.V.                              | 2500.0820            | 2569.9567            | 2500                       | 2570                       |
|                  | H.V.                              | 2500.0541            | 2569.8307            | 2500                       | 2570                       |

**Band 12:**

| 10 MHz Bandwidth |                                   |                      |                      |                            |                            |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V <sub>DC</sub> ) | F <sub>L</sub> (MHz) | F <sub>H</sub> (MHz) | F <sub>L</sub> Limit (MHz) | F <sub>H</sub> Limit (MHz) |
| -30              | N.V.                              | 699.1083             | 715.9616             | 699                        | 716                        |
| -20              |                                   | 699.0440             | 715.9990             | 699                        | 716                        |
| -10              |                                   | 699.0406             | 715.9756             | 699                        | 716                        |
| 0                |                                   | 699.0248             | 715.9066             | 699                        | 716                        |
| 10               |                                   | 699.0316             | 715.9515             | 699                        | 716                        |
| 20               |                                   | 699.0605             | 715.9711             | 699                        | 716                        |
| 30               |                                   | 699.0883             | 715.9572             | 699                        | 716                        |
| 40               |                                   | 699.0264             | 715.8907             | 699                        | 716                        |
| 50               |                                   | 699.0721             | 715.9464             | 699                        | 716                        |
| 20               | L.V.                              | 699.0558             | 715.9560             | 699                        | 716                        |
|                  | H.V.                              | 699.0021             | 715.9355             | 699                        | 716                        |

**Band 13**

| 10 MHz Bandwidth |                                   |                      |                      |                            |                            |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V <sub>DC</sub> ) | F <sub>L</sub> (MHz) | F <sub>H</sub> (MHz) | F <sub>L</sub> Limit (MHz) | F <sub>H</sub> Limit (MHz) |
| -30              | N.V.                              | 777.0453             | 786.0603             | 777                        | 787                        |
| -20              |                                   | 777.3284             | 786.0175             | 777                        | 787                        |
| -10              |                                   | 777.3884             | 786.0554             | 777                        | 787                        |
| 0                |                                   | 777.1568             | 786.4972             | 777                        | 787                        |
| 10               |                                   | 777.2101             | 786.0439             | 777                        | 787                        |
| 20               |                                   | 777.4657             | 786.0422             | 777                        | 787                        |
| 30               |                                   | 777.3078             | 786.0567             | 777                        | 787                        |
| 40               |                                   | 777.1858             | 786.0294             | 777                        | 787                        |
| 50               |                                   | 777.3177             | 786.0919             | 777                        | 787                        |
| 20               | L.V.                              | 777.0935             | 786.1230             | 777                        | 787                        |
|                  | H.V.                              | 777.3933             | 786.0183             | 777                        | 787                        |

**Band 17:**

| 10 MHz Bandwidth |                                   |                      |                      |                            |                            |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V <sub>DC</sub> ) | F <sub>L</sub> (MHz) | F <sub>H</sub> (MHz) | F <sub>L</sub> Limit (MHz) | F <sub>H</sub> Limit (MHz) |
| -30              | N.V.                              | 704.0462             | 715.9280             | 704                        | 716                        |
| -20              |                                   | 704.0666             | 715.9285             | 704                        | 716                        |
| -10              |                                   | 704.0596             | 715.9479             | 704                        | 716                        |
| 0                |                                   | 704.0714             | 715.8856             | 704                        | 716                        |
| 10               |                                   | 704.0427             | 715.9836             | 704                        | 716                        |
| 20               |                                   | 704.0536             | 715.9736             | 704                        | 716                        |
| 30               |                                   | 704.0648             | 715.9370             | 704                        | 716                        |
| 40               |                                   | 704.0462             | 715.8906             | 704                        | 716                        |
| 50               |                                   | 704.0222             | 715.9084             | 704                        | 716                        |
| 20               | L.V.                              | 704.0522             | 715.9274             | 704                        | 716                        |
|                  | H.V.                              | 704.0647             | 715.9511             | 704                        | 716                        |

**Band 38**

| 20 MHz Bandwidth |                                   |                      |                      |                            |                            |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V <sub>DC</sub> ) | F <sub>L</sub> (MHz) | F <sub>H</sub> (MHz) | F <sub>L</sub> Limit (MHz) | F <sub>H</sub> Limit (MHz) |
| -30              | N.V.                              | 2570.0163            | 2619.9551            | 2570                       | 2620                       |
| -20              |                                   | 2570.0532            | 2619.9533            | 2570                       | 2620                       |
| -10              |                                   | 2570.0426            | 2619.9731            | 2570                       | 2620                       |
| 0                |                                   | 2570.0600            | 2619.9266            | 2570                       | 2620                       |
| 10               |                                   | 2570.0867            | 2619.9272            | 2570                       | 2620                       |
| 20               |                                   | 2570.0367            | 2619.9761            | 2570                       | 2620                       |
| 30               |                                   | 2570.0857            | 2619.9273            | 2570                       | 2620                       |
| 40               |                                   | 2570.0507            | 2619.9103            | 2570                       | 2620                       |
| 50               |                                   | 2570.0374            | 2619.9496            | 2570                       | 2620                       |
| 20               | L.V.                              | 2570.0664            | 2619.9303            | 2570                       | 2620                       |
|                  | H.V.                              | 2570.0528            | 2619.9525            | 2570                       | 2620                       |

**Band 41**

| 20 MHz Bandwidth |                                   |                      |                      |                            |                            |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V <sub>DC</sub> ) | F <sub>L</sub> (MHz) | F <sub>H</sub> (MHz) | F <sub>L</sub> Limit (MHz) | F <sub>H</sub> Limit (MHz) |
| -30              | N.V.                              | 2535.0286            | 2654.9683            | 2535                       | 2655                       |
| -20              |                                   | 2535.0822            | 2654.8392            | 2535                       | 2655                       |
| -10              |                                   | 2535.0135            | 2654.8849            | 2535                       | 2655                       |
| 0                |                                   | 2535.0648            | 2654.9880            | 2535                       | 2655                       |
| 10               |                                   | 2535.0226            | 2654.8545            | 2535                       | 2655                       |
| 20               |                                   | 2535.0302            | 2654.7426            | 2535                       | 2655                       |
| 30               |                                   | 2535.1138            | 2654.8905            | 2535                       | 2655                       |
| 40               |                                   | 2535.0396            | 2654.8831            | 2535                       | 2655                       |
| 50               |                                   | 2535.0465            | 2654.6267            | 2535                       | 2655                       |
| 20               | L.V.                              | 2535.0919            | 2654.9078            | 2535                       | 2655                       |
|                  | H.V.                              | 2535.0408            | 2654.9779            | 2535                       | 2655                       |

**Band 66**

| 20 MHz Bandwidth |                                   |                      |                      |                            |                            |
|------------------|-----------------------------------|----------------------|----------------------|----------------------------|----------------------------|
| Temperature (°C) | Power Supplied (V <sub>DC</sub> ) | F <sub>L</sub> (MHz) | F <sub>H</sub> (MHz) | F <sub>L</sub> Limit (MHz) | F <sub>H</sub> Limit (MHz) |
| -30              | N.V.                              | 1710.1871            | 1779.0298            | 1710                       | 1780                       |
| -20              |                                   | 1710.0262            | 1779.0393            | 1710                       | 1780                       |
| -10              |                                   | 1710.3567            | 1779.0477            | 1710                       | 1780                       |
| 0                |                                   | 1710.2037            | 1779.0378            | 1710                       | 1780                       |
| 10               |                                   | 1710.0927            | 1779.0974            | 1710                       | 1780                       |
| 20               |                                   | 1710.0385            | 1779.0716            | 1710                       | 1780                       |
| 30               |                                   | 1710.4550            | 1779.5719            | 1710                       | 1780                       |
| 40               |                                   | 1710.4014            | 1779.0235            | 1710                       | 1780                       |
| 50               |                                   | 1710.2918            | 1779.0937            | 1710                       | 1780                       |
| 20               | L.V.                              | 1710.0354            | 1779.4546            | 1710                       | 1780                       |
|                  | H.V.                              | 1710.2390            | 1779.0831            | 1710                       | 1780                       |

\*\*\*\*\* **END OF REPORT** \*\*\*\*\*