



# 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: SZNS220609-25475E-RF-00D  
FCC ID: 2ADYY-CH6IS

## Test Standard (s)

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

## Sample Description

Product Type: Mobile Phone  
Model No.: CH6IS  
Multiple Model(s) No.: N/A  
Trade Mark: N/A  
Date Received: 2022/06/09  
Report Date: 2022/07/18

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

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

## Prepared and Checked By:

Audy Yu  
EMC Engineer

## Approved By:

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: -1.5 dBi<br>PCS1900/WCDMA Band 2/ LTE Band 2: -0.5 dBi<br>WCDMA Band 4/ LTE Band 4/ LTE Band 66: -0.7 dBi<br>LTE Band 7/ LTE Band 38/LTE Band 41: -0.4 dBi<br>LTE Band 12/LTE Band 13/LTE Band 17: -1.9 dBi<br>s(provided by the applicant)                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Voltage Range          | DC 3.85V from battery or DC 5.0V/7.5V from adapter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Sample serial number   | SZNS220609-25475E-RF-S1 for Conducted and Radiated Emissions<br>SZNS220609-25475E-RF-S5 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, Part 24-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  |
| DCS1900        | 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.

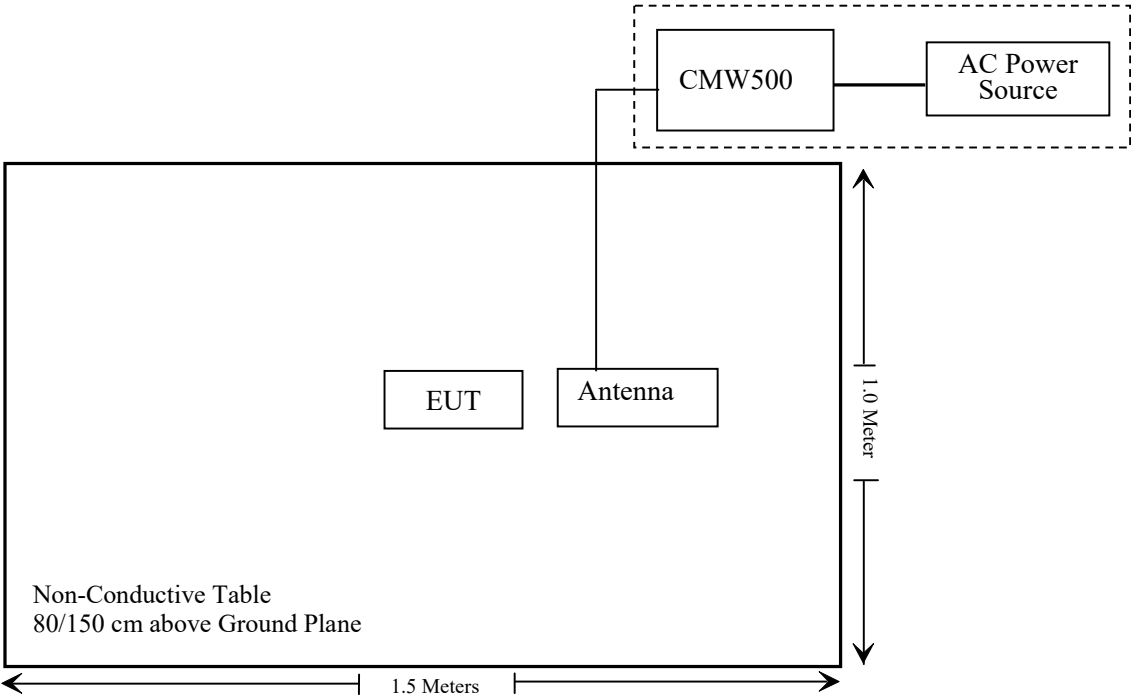
### Support Equipment List and Details

| Manufacturer    | Description                         | Model  | Serial Number |
|-----------------|-------------------------------------|--------|---------------|
| Rohde & Schwarz | Wideband Radio Communication tester | CMW500 | 146520        |

### 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      |

Note: \* Please refer to SAR report number: CR22060054-20.

**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 |                                     |             |               |                  |                      |
| Rohde&Schwarz     | Spectrum Analyzer                   | FSV-40      | 101948        | 2021/12/13       | 2022/12/12           |
| 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           |
| WEINSCHTEL        | 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: CR22060054-20.

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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.

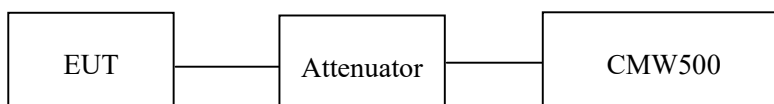
According to §27.50(d), Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

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:       | 27.2~28 °C |
| Relative Humidity: | 56.8~62 %  |
| ATM Pressure:      | 101.0 kPa  |

*The testing was performed by Audy Yu from 2022-06-26 to 2022-07-09.*

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

| Mode | Channel | Frequency (MHz) | Average Output Power (dBm) | ERP(dBm) | Limit (dBm) |
|------|---------|-----------------|----------------------------|----------|-------------|
| GSM  | 128     | 824.2           | 33.00                      | 29.35    | 38.45       |
|      | 190     | 836.6           | 33.10                      | 29.45    | 38.45       |
|      | 251     | 848.8           | 33.10                      | 29.45    | 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           | 33.06                      | 32.02   | 29.92   | 28.88   | 29.41    | 28.37   | 26.27   | 25.23   | 38.45       |
|      | 190     | 836.6           | 33.16                      | 32.10   | 30.05   | 28.98   | 29.51    | 28.45   | 26.40   | 25.33   | 38.45       |
|      | 251     | 848.8           | 33.16                      | 32.13   | 30.13   | 28.99   | 29.51    | 28.48   | 26.48   | 25.34   | 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           | 27.09                      | 25.84   | 23.15   | 21.96   | 23.44    | 22.19   | 19.50   | 18.31   | 38.45       |
|       | 190     | 836.6           | 27.10                      | 25.82   | 23.41   | 21.95   | 23.45    | 22.17   | 19.76   | 18.30   | 38.45       |
|       | 251     | 848.8           | 27.03                      | 25.65   | 23.30   | 21.83   | 23.38    | 22.00   | 19.65   | 18.18   | 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  |               | 23.02                      | 23.06 | 23.08 | 19.37    | 19.41 | 19.43 |
|                   | HSDPA     | 1             | 21.95                      | 21.98 | 22.05 | 18.30    | 18.33 | 18.40 |
|                   |           | 2             | 21.85                      | 21.82 | 21.88 | 18.20    | 18.17 | 18.23 |
|                   |           | 3             | 21.77                      | 21.86 | 21.86 | 18.12    | 18.21 | 18.21 |
|                   |           | 4             | 21.65                      | 21.69 | 21.92 | 18.00    | 18.04 | 18.27 |
|                   | HSUPA     | 1             | 21.56                      | 21.60 | 21.58 | 17.91    | 17.95 | 17.93 |
|                   |           | 2             | 21.44                      | 21.59 | 21.47 | 17.79    | 17.94 | 17.82 |
|                   |           | 3             | 21.38                      | 21.36 | 21.62 | 17.73    | 17.71 | 17.97 |
|                   |           | 4             | 21.49                      | 21.41 | 21.63 | 17.84    | 17.76 | 17.98 |
|                   |           | 5             | 21.53                      | 21.55 | 21.44 | 17.88    | 17.90 | 17.79 |
|                   | HSPA+     | 1             | 21.64                      | 21.48 | 21.59 | 17.99    | 17.83 | 17.94 |

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          | 26.30                      | 25.80     | 33          |
|      | 661     | 1880.0          | 26.50                      | 26.00     | 33          |
|      | 810     | 1909.8          | 26.60                      | 26.10     | 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          | 26.42                      | 26.35   | 26.23   | 26.11   | 25.92     | 25.85   | 25.73   | 25.61   | 33          |
|      | 661     | 1880.0          | 26.65                      | 26.55   | 26.42   | 26.31   | 26.15     | 26.05   | 25.92   | 25.81   | 33          |
|      | 810     | 1909.8          | 26.74                      | 26.66   | 26.54   | 26.46   | 26.24     | 26.16   | 26.04   | 25.96   | 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          | 26.41                      | 25.29   | 23.33   | 22.24   | 25.91     | 24.79   | 22.83   | 21.74   | 33          |
|       | 661     | 1880.0          | 26.55                      | 25.53   | 23.57   | 22.47   | 26.05     | 25.03   | 23.07   | 21.97   | 33          |
|       | 810     | 1909.8          | 26.34                      | 25.27   | 23.31   | 22.23   | 25.84     | 24.77   | 22.81   | 21.73   | 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  |               | 16.57                      | 16.39 | 16.27 | 16.07     | 15.89 | 15.77 |
|                   | HSDPA     | 1             | 15.74                      | 15.48 | 15.35 | 15.24     | 14.98 | 14.85 |
|                   |           | 2             | 15.72                      | 15.39 | 15.28 | 15.22     | 14.89 | 14.78 |
|                   |           | 3             | 15.66                      | 15.55 | 15.36 | 15.16     | 15.05 | 14.86 |
|                   |           | 4             | 15.69                      | 15.41 | 15.24 | 15.19     | 14.91 | 14.74 |
|                   | HSUPA     | 1             | 15.34                      | 15.15 | 15.04 | 14.84     | 14.65 | 14.54 |
|                   |           | 2             | 15.22                      | 15.22 | 15.14 | 14.72     | 14.72 | 14.64 |
|                   |           | 3             | 15.34                      | 15.26 | 15.12 | 14.84     | 14.76 | 14.62 |
|                   |           | 4             | 15.26                      | 15.27 | 15.26 | 14.76     | 14.77 | 14.76 |
|                   |           | 5             | 15.28                      | 15.26 | 15.26 | 14.78     | 14.76 | 14.76 |
|                   | HSPA+     | 1             | 15.34                      | 15.29 | 15.33 | 14.84     | 14.79 | 14.83 |

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  |               | 16.74                      | 16.76 | 16.77 | 16.04     | 16.06 | 16.07 |
|                | HSDPA     | 1             | 15.74                      | 15.95 | 15.90 | 15.04     | 15.25 | 15.20 |
|                |           | 2             | 15.68                      | 15.88 | 15.76 | 14.98     | 15.18 | 15.06 |
|                |           | 3             | 15.54                      | 15.77 | 15.84 | 14.84     | 15.07 | 15.14 |
|                |           | 4             | 15.39                      | 15.72 | 15.63 | 14.69     | 15.02 | 14.93 |
|                | HSUPA     | 1             | 15.52                      | 15.52 | 15.53 | 14.82     | 14.82 | 14.83 |
|                |           | 2             | 15.32                      | 15.36 | 15.62 | 14.62     | 14.66 | 14.92 |
|                |           | 3             | 15.41                      | 15.29 | 15.27 | 14.71     | 14.59 | 14.57 |
|                |           | 4             | 15.42                      | 15.24 | 15.29 | 14.72     | 14.54 | 14.59 |
|                |           | 5             | 15.32                      | 15.39 | 15.28 | 14.62     | 14.69 | 14.58 |
|                | HSPA+     | 1             | 15.18                      | 15.37 | 15.37 | 14.48     | 14.67 | 14.67 |

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

For Band4: Antenna Gain = -0.7dBi

Limit: EIRP ≤ 30dBm

**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                 | 15.57                                   | 15.49 | 15.37 | 15.07     | 14.99 | 14.87 |
|                    |            | RB1#3                 | 15.67                                   | 15.71 | 15.56 | 15.17     | 15.21 | 15.06 |
|                    |            | RB1#5                 | 15.64                                   | 15.46 | 15.37 | 15.14     | 14.96 | 14.87 |
|                    |            | RB3#0                 | 15.74                                   | 15.66 | 15.46 | 15.24     | 15.16 | 14.96 |
|                    |            | RB3#3                 | 15.74                                   | 15.71 | 15.46 | 15.24     | 15.21 | 14.96 |
|                    |            | RB6#0                 | 14.62                                   | 14.55 | 14.43 | 14.12     | 14.05 | 13.93 |
|                    | 16QAM      | RB1#0                 | 14.73                                   | 14.55 | 14.39 | 14.23     | 14.05 | 13.89 |
|                    |            | RB1#3                 | 14.87                                   | 14.78 | 14.63 | 14.37     | 14.28 | 14.13 |
|                    |            | RB1#5                 | 14.73                                   | 14.58 | 14.40 | 14.23     | 14.08 | 13.90 |
|                    |            | RB3#0                 | 14.79                                   | 14.79 | 14.67 | 14.29     | 14.29 | 14.17 |
|                    |            | RB3#3                 | 14.88                                   | 14.76 | 14.66 | 14.38     | 14.26 | 14.16 |
|                    |            | RB6#0                 | 13.71                                   | 13.53 | 13.44 | 13.21     | 13.03 | 12.94 |
| 3.0                | QPSK       | RB1#0                 | 15.62                                   | 15.60 | 15.43 | 15.12     | 15.10 | 14.93 |
|                    |            | RB1#8                 | 15.56                                   | 15.55 | 15.36 | 15.06     | 15.05 | 14.86 |
|                    |            | RB1#14                | 15.58                                   | 15.54 | 15.40 | 15.08     | 15.04 | 14.90 |
|                    |            | RB6#0                 | 14.56                                   | 14.50 | 14.33 | 14.06     | 14.00 | 13.83 |
|                    |            | RB6#9                 | 14.61                                   | 14.51 | 14.34 | 14.11     | 14.01 | 13.84 |
|                    |            | RB15#0                | 14.65                                   | 14.55 | 14.42 | 14.15     | 14.05 | 13.92 |
|                    | 16QAM      | RB1#0                 | 15.29                                   | 14.72 | 14.47 | 14.79     | 14.22 | 13.97 |
|                    |            | RB1#8                 | 15.25                                   | 14.72 | 14.43 | 14.75     | 14.22 | 13.93 |
|                    |            | RB1#14                | 15.23                                   | 14.65 | 14.41 | 14.73     | 14.15 | 13.91 |
|                    |            | RB6#0                 | 13.67                                   | 13.54 | 13.31 | 13.17     | 13.04 | 12.81 |
|                    |            | RB6#9                 | 13.69                                   | 13.58 | 13.29 | 13.19     | 13.08 | 12.79 |
|                    |            | RB15#0                | 13.74                                   | 13.56 | 13.46 | 13.24     | 13.06 | 12.96 |

| 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                 | 15.58                                   | 15.54 | 15.39 | 15.08     | 15.04 | 14.89 |
|                    |            | RB1#13                | 15.67                                   | 15.56 | 15.43 | 15.17     | 15.06 | 14.93 |
|                    |            | RB1#24                | 15.60                                   | 15.44 | 15.35 | 15.10     | 14.94 | 14.85 |
|                    |            | RB15#0                | 14.63                                   | 14.56 | 14.46 | 14.13     | 14.06 | 13.96 |
|                    |            | RB15#10               | 14.64                                   | 14.52 | 14.41 | 14.14     | 14.02 | 13.91 |
|                    |            | RB25#0                | 14.62                                   | 14.52 | 14.41 | 14.12     | 14.02 | 13.91 |
|                    | 16QAM      | RB1#0                 | 14.48                                   | 14.85 | 14.48 | 13.98     | 14.35 | 13.98 |
|                    |            | RB1#13                | 14.59                                   | 14.95 | 14.55 | 14.09     | 14.45 | 14.05 |
|                    |            | RB1#24                | 14.55                                   | 14.76 | 14.48 | 14.05     | 14.26 | 13.98 |
|                    |            | RB15#0                | 13.73                                   | 13.58 | 13.50 | 13.23     | 13.08 | 13.00 |
|                    |            | RB15#10               | 13.74                                   | 13.52 | 13.51 | 13.24     | 13.02 | 13.01 |
|                    |            | RB25#0                | 13.71                                   | 13.53 | 13.47 | 13.21     | 13.03 | 12.97 |
| 10.0               | QPSK       | RB1#0                 | 15.60                                   | 15.62 | 15.47 | 15.10     | 15.12 | 14.97 |
|                    |            | RB1#25                | 15.85                                   | 15.73 | 15.64 | 15.35     | 15.23 | 15.14 |
|                    |            | RB1#49                | 15.62                                   | 15.56 | 15.45 | 15.12     | 15.06 | 14.95 |
|                    |            | RB25#0                | 14.72                                   | 14.66 | 14.59 | 14.22     | 14.16 | 14.09 |
|                    |            | RB25#25               | 14.74                                   | 14.61 | 14.46 | 14.24     | 14.11 | 13.96 |
|                    |            | RB50#0                | 14.77                                   | 14.62 | 14.55 | 14.27     | 14.12 | 14.05 |
|                    | 16QAM      | RB1#0                 | 15.28                                   | 14.80 | 14.52 | 14.78     | 14.30 | 14.02 |
|                    |            | RB1#25                | 15.45                                   | 14.89 | 14.68 | 14.95     | 14.39 | 14.18 |
|                    |            | RB1#49                | 15.32                                   | 14.70 | 14.47 | 14.82     | 14.20 | 13.97 |
|                    |            | RB25#0                | 13.84                                   | 13.72 | 13.72 | 13.34     | 13.22 | 13.22 |
|                    |            | RB25#25               | 13.82                                   | 13.66 | 13.62 | 13.32     | 13.16 | 13.12 |
|                    |            | RB50#0                | 13.79                                   | 13.69 | 13.61 | 13.29     | 13.19 | 13.11 |

| 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                 | 15.55                                   | 15.55 | 15.40 | 15.05     | 15.05 | 14.90 |
|                    |            | RB1#38                | 15.62                                   | 15.62 | 15.41 | 15.12     | 15.12 | 14.91 |
|                    |            | RB1#74                | 15.55                                   | 15.45 | 15.35 | 15.05     | 14.95 | 14.85 |
|                    |            | RB36#0                | 14.66                                   | 14.61 | 14.54 | 14.16     | 14.11 | 14.04 |
|                    |            | RB36#39               | 14.64                                   | 14.53 | 14.45 | 14.14     | 14.03 | 13.95 |
|                    |            | RB75#0                | 14.67                                   | 14.54 | 14.53 | 14.17     | 14.04 | 14.03 |
|                    | 16QAM      | RB1#0                 | 15.24                                   | 14.71 | 14.86 | 14.74     | 14.21 | 14.36 |
|                    |            | RB1#38                | 15.28                                   | 14.77 | 14.92 | 14.78     | 14.27 | 14.42 |
|                    |            | RB1#74                | 15.23                                   | 14.62 | 14.78 | 14.73     | 14.12 | 14.28 |
|                    |            | RB36#0                | 13.71                                   | 13.66 | 13.55 | 13.21     | 13.16 | 13.05 |
|                    |            | RB36#39               | 13.64                                   | 13.56 | 13.47 | 13.14     | 13.06 | 12.97 |
|                    |            | RB75#0                | 13.68                                   | 13.58 | 13.51 | 13.18     | 13.08 | 13.01 |
| 20.0               | QPSK       | RB1#0                 | 15.47                                   | 15.45 | 15.25 | 14.97     | 14.95 | 14.75 |
|                    |            | RB1#50                | 15.82                                   | 15.79 | 15.59 | 15.32     | 15.29 | 15.09 |
|                    |            | RB1#99                | 15.45                                   | 15.36 | 15.19 | 14.95     | 14.86 | 14.69 |
|                    |            | RB50#0                | 14.71                                   | 14.69 | 14.66 | 14.21     | 14.19 | 14.16 |
|                    |            | RB50#50               | 14.66                                   | 14.60 | 14.44 | 14.16     | 14.10 | 13.94 |
|                    |            | RB100#0               | 14.70                                   | 14.67 | 14.54 | 14.20     | 14.17 | 14.04 |
|                    | 16QAM      | RB1#0                 | 14.79                                   | 14.71 | 14.88 | 14.29     | 14.21 | 14.38 |
|                    |            | RB1#50                | 15.14                                   | 15.00 | 15.19 | 14.64     | 14.50 | 14.69 |
|                    |            | RB1#99                | 14.78                                   | 14.58 | 14.84 | 14.28     | 14.08 | 14.34 |
|                    |            | RB50#0                | 13.75                                   | 13.71 | 13.68 | 13.25     | 13.21 | 13.18 |
|                    |            | RB50#50               | 13.65                                   | 13.61 | 13.47 | 13.15     | 13.11 | 12.97 |
|                    |            | RB100#0               | 13.73                                   | 13.66 | 13.61 | 13.23     | 13.16 | 13.11 |

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)  
 For Band2: Antenna Gain = -0.5dB  
 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                 | 15.49                                   | 15.57 | 15.50 | 14.79     | 14.87 | 14.80 |
|                    |            | RB1#3                 | 15.70                                   | 15.75 | 15.69 | 15.00     | 15.05 | 14.99 |
|                    |            | RB1#5                 | 15.54                                   | 15.59 | 15.52 | 14.84     | 14.89 | 14.82 |
|                    |            | RB3#0                 | 15.71                                   | 15.73 | 15.59 | 15.01     | 15.03 | 14.89 |
|                    |            | RB3#3                 | 15.79                                   | 15.71 | 15.60 | 15.09     | 15.01 | 14.90 |
|                    |            | RB6#0                 | 14.63                                   | 14.63 | 14.50 | 13.93     | 13.93 | 13.80 |
|                    | 16QAM      | RB1#0                 | 14.64                                   | 14.62 | 14.63 | 13.94     | 13.92 | 13.93 |
|                    |            | RB1#3                 | 14.84                                   | 14.83 | 14.84 | 14.14     | 14.13 | 14.14 |
|                    |            | RB1#5                 | 14.67                                   | 14.64 | 14.67 | 13.97     | 13.94 | 13.97 |
|                    |            | RB3#0                 | 14.85                                   | 14.95 | 14.62 | 14.15     | 14.25 | 13.92 |
|                    |            | RB3#3                 | 14.84                                   | 14.97 | 14.69 | 14.14     | 14.27 | 13.99 |
|                    |            | RB6#0                 | 13.66                                   | 13.74 | 13.67 | 12.96     | 13.04 | 12.97 |
| 3.0                | QPSK       | RB1#0                 | 15.61                                   | 15.62 | 15.54 | 14.91     | 14.92 | 14.84 |
|                    |            | RB1#8                 | 15.60                                   | 15.66 | 15.51 | 14.90     | 14.96 | 14.81 |
|                    |            | RB1#14                | 15.57                                   | 15.64 | 15.46 | 14.87     | 14.94 | 14.76 |
|                    |            | RB6#0                 | 14.56                                   | 14.57 | 14.49 | 13.86     | 13.87 | 13.79 |
|                    |            | RB6#9                 | 14.60                                   | 14.56 | 14.46 | 13.90     | 13.86 | 13.76 |
|                    |            | RB15#0                | 14.63                                   | 14.64 | 14.55 | 13.93     | 13.94 | 13.85 |
|                    | 16QAM      | RB1#0                 | 15.34                                   | 14.84 | 14.64 | 14.64     | 14.14 | 13.94 |
|                    |            | RB1#8                 | 15.29                                   | 14.83 | 14.57 | 14.59     | 14.13 | 13.87 |
|                    |            | RB1#14                | 15.30                                   | 14.80 | 14.56 | 14.60     | 14.10 | 13.86 |
|                    |            | RB6#0                 | 13.73                                   | 13.71 | 13.53 | 13.03     | 13.01 | 12.83 |
|                    |            | RB6#9                 | 13.77                                   | 13.71 | 13.50 | 13.07     | 13.01 | 12.80 |
|                    |            | RB15#0                | 13.81                                   | 13.72 | 13.71 | 13.11     | 13.02 | 13.01 |

| 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                 | 15.54                                   | 15.53 | 15.48 | 14.84     | 14.83 | 14.78 |
|                    |            | RB1#13                | 15.66                                   | 15.72 | 15.56 | 14.96     | 15.02 | 14.86 |
|                    |            | RB1#24                | 15.60                                   | 15.56 | 15.45 | 14.90     | 14.86 | 14.75 |
|                    |            | RB15#0                | 14.64                                   | 14.62 | 14.65 | 13.94     | 13.92 | 13.95 |
|                    |            | RB15#10               | 14.66                                   | 14.64 | 14.54 | 13.96     | 13.94 | 13.84 |
|                    |            | RB25#0                | 14.65                                   | 14.61 | 14.55 | 13.95     | 13.91 | 13.85 |
|                    | 16QAM      | RB1#0                 | 14.49                                   | 14.85 | 14.57 | 13.79     | 14.15 | 13.87 |
|                    |            | RB1#13                | 14.64                                   | 15.04 | 14.71 | 13.94     | 14.34 | 14.01 |
|                    |            | RB1#24                | 14.52                                   | 14.87 | 14.59 | 13.82     | 14.17 | 13.89 |
|                    |            | RB15#0                | 13.76                                   | 13.72 | 13.72 | 13.06     | 13.02 | 13.02 |
|                    |            | RB15#10               | 13.84                                   | 13.74 | 13.67 | 13.14     | 13.04 | 12.97 |
|                    |            | RB25#0                | 13.81                                   | 13.71 | 13.68 | 13.11     | 13.01 | 12.98 |
| 10.0               | QPSK       | RB1#0                 | 15.59                                   | 15.64 | 15.56 | 14.89     | 14.94 | 14.86 |
|                    |            | RB1#25                | 15.69                                   | 15.74 | 15.65 | 14.99     | 15.04 | 14.95 |
|                    |            | RB1#49                | 15.62                                   | 15.61 | 15.50 | 14.92     | 14.91 | 14.80 |
|                    |            | RB25#0                | 14.65                                   | 14.68 | 14.63 | 13.95     | 13.98 | 13.93 |
|                    |            | RB25#25               | 14.74                                   | 14.70 | 14.59 | 14.04     | 14.00 | 13.89 |
|                    |            | RB50#0                | 14.72                                   | 14.67 | 14.66 | 14.02     | 13.97 | 13.96 |
|                    | 16QAM      | RB1#0                 | 15.32                                   | 14.81 | 14.64 | 14.62     | 14.11 | 13.94 |
|                    |            | RB1#25                | 15.49                                   | 14.96 | 14.77 | 14.79     | 14.26 | 14.07 |
|                    |            | RB1#49                | 15.35                                   | 14.81 | 14.56 | 14.65     | 14.11 | 13.86 |
|                    |            | RB25#0                | 13.83                                   | 13.82 | 13.82 | 13.13     | 13.12 | 13.12 |
|                    |            | RB25#25               | 13.91                                   | 13.82 | 13.73 | 13.21     | 13.12 | 13.03 |
|                    |            | RB50#0                | 13.83                                   | 13.82 | 13.77 | 13.13     | 13.12 | 13.07 |

| 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                 | 15.54                                   | 15.64 | 15.55 | 14.84     | 14.94 | 14.85 |
|                    |            | RB1#38                | 15.59                                   | 15.67 | 15.58 | 14.89     | 14.97 | 14.88 |
|                    |            | RB1#74                | 15.53                                   | 15.53 | 15.44 | 14.83     | 14.83 | 14.74 |
|                    |            | RB36#0                | 14.61                                   | 14.65 | 14.61 | 13.91     | 13.95 | 13.91 |
|                    |            | RB36#39               | 14.67                                   | 14.62 | 14.54 | 13.97     | 13.92 | 13.84 |
|                    |            | RB75#0                | 14.66                                   | 14.59 | 14.56 | 13.96     | 13.89 | 13.86 |
|                    | 16QAM      | RB1#0                 | 15.30                                   | 14.79 | 15.04 | 14.60     | 14.09 | 14.34 |
|                    |            | RB1#38                | 15.31                                   | 14.81 | 15.05 | 14.61     | 14.11 | 14.35 |
|                    |            | RB1#74                | 15.27                                   | 14.70 | 14.95 | 14.57     | 14.00 | 14.25 |
|                    |            | RB36#0                | 13.77                                   | 13.73 | 13.67 | 13.07     | 13.03 | 12.97 |
|                    |            | RB36#39               | 13.79                                   | 13.72 | 13.59 | 13.09     | 13.02 | 12.89 |
|                    |            | RB75#0                | 13.74                                   | 13.75 | 13.63 | 13.04     | 13.05 | 12.93 |
| 20.0               | QPSK       | RB1#0                 | 15.44                                   | 15.44 | 15.38 | 14.74     | 14.74 | 14.68 |
|                    |            | RB1#50                | 15.82                                   | 15.81 | 15.70 | 15.12     | 15.11 | 15.00 |
|                    |            | RB1#99                | 15.47                                   | 15.43 | 15.28 | 14.77     | 14.73 | 14.58 |
|                    |            | RB50#0                | 14.65                                   | 14.71 | 14.69 | 13.95     | 14.01 | 13.99 |
|                    |            | RB50#50               | 14.71                                   | 14.66 | 14.61 | 14.01     | 13.96 | 13.91 |
|                    |            | RB100#0               | 14.72                                   | 14.71 | 14.67 | 14.02     | 14.01 | 13.97 |
|                    | 16QAM      | RB1#0                 | 14.83                                   | 14.73 | 15.03 | 14.13     | 14.03 | 14.33 |
|                    |            | RB1#50                | 15.19                                   | 15.12 | 15.37 | 14.49     | 14.42 | 14.67 |
|                    |            | RB1#99                | 14.83                                   | 14.69 | 14.94 | 14.13     | 13.99 | 14.24 |
|                    |            | RB50#0                | 13.78                                   | 13.84 | 13.83 | 13.08     | 13.14 | 13.13 |
|                    |            | RB50#50               | 13.83                                   | 13.83 | 13.74 | 13.13     | 13.13 | 13.04 |
|                    |            | RB100#0               | 13.83                                   | 13.82 | 13.77 | 13.13     | 13.12 | 13.07 |

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

For Band4: Antenna Gain = -0.7dBi

Limit: EIRP ≤ 30dBm

## LTE Band 5

| 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                 | 23.01                                   | 23.09 | 23.13 | 19.36    | 19.44 | 19.48 |
|                    |            | RB1#3                 | 23.21                                   | 23.34 | 23.37 | 19.56    | 19.69 | 19.72 |
|                    |            | RB1#5                 | 23.02                                   | 23.10 | 23.17 | 19.37    | 19.45 | 19.52 |
|                    |            | RB3#0                 | 23.10                                   | 23.15 | 23.27 | 19.45    | 19.50 | 19.62 |
|                    |            | RB3#3                 | 23.08                                   | 23.19 | 23.29 | 19.43    | 19.54 | 19.64 |
|                    |            | RB6#0                 | 22.16                                   | 22.20 | 22.25 | 18.51    | 18.55 | 18.60 |
|                    | 16QAM      | RB1#0                 | 22.03                                   | 22.23 | 22.22 | 18.38    | 18.58 | 18.57 |
|                    |            | RB1#3                 | 22.22                                   | 22.41 | 22.46 | 18.57    | 18.76 | 18.81 |
|                    |            | RB1#5                 | 22.08                                   | 22.23 | 22.24 | 18.43    | 18.58 | 18.59 |
|                    |            | RB3#0                 | 22.28                                   | 22.14 | 22.40 | 18.63    | 18.49 | 18.75 |
|                    |            | RB3#3                 | 22.28                                   | 22.09 | 22.36 | 18.63    | 18.44 | 18.71 |
|                    |            | RB6#0                 | 21.11                                   | 21.22 | 21.23 | 17.46    | 17.57 | 17.58 |
| 3.0                | QPSK       | RB1#0                 | 23.09                                   | 23.13 | 23.24 | 19.44    | 19.48 | 19.59 |
|                    |            | RB1#8                 | 23.07                                   | 23.16 | 23.21 | 19.42    | 19.51 | 19.56 |
|                    |            | RB1#14                | 23.08                                   | 23.16 | 23.20 | 19.43    | 19.51 | 19.55 |
|                    |            | RB6#0                 | 22.05                                   | 22.14 | 22.22 | 18.40    | 18.49 | 18.57 |
|                    |            | RB6#9                 | 22.08                                   | 22.15 | 22.23 | 18.43    | 18.50 | 18.58 |
|                    |            | RB15#0                | 22.06                                   | 22.14 | 22.28 | 18.41    | 18.49 | 18.63 |
|                    | 16QAM      | RB1#0                 | 22.62                                   | 22.28 | 22.30 | 18.97    | 18.63 | 18.65 |
|                    |            | RB1#8                 | 22.63                                   | 22.32 | 22.28 | 18.98    | 18.67 | 18.63 |
|                    |            | RB1#14                | 22.66                                   | 22.29 | 22.22 | 19.01    | 18.64 | 18.57 |
|                    |            | RB6#0                 | 21.14                                   | 21.09 | 21.18 | 17.49    | 17.44 | 17.53 |
|                    |            | RB6#9                 | 21.11                                   | 21.20 | 21.20 | 17.46    | 17.55 | 17.55 |
|                    |            | RB15#0                | 21.12                                   | 21.11 | 21.32 | 17.47    | 17.46 | 17.67 |

| 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                 | 22.94                                   | 23.06 | 23.10 | 19.29    | 19.41 | 19.45 |
|                    |            | RB1#13                | 23.15                                   | 23.19 | 23.25 | 19.50    | 19.54 | 19.60 |
|                    |            | RB1#24                | 23.07                                   | 23.08 | 23.16 | 19.42    | 19.43 | 19.51 |
|                    |            | RB15#0                | 22.07                                   | 22.13 | 22.31 | 18.42    | 18.48 | 18.66 |
|                    |            | RB15#10               | 22.11                                   | 22.14 | 22.30 | 18.46    | 18.49 | 18.65 |
|                    |            | RB25#0                | 22.08                                   | 22.14 | 22.29 | 18.43    | 18.49 | 18.64 |
|                    | 16QAM      | RB1#0                 | 21.93                                   | 22.36 | 22.27 | 18.28    | 18.71 | 18.62 |
|                    |            | RB1#13                | 22.05                                   | 22.46 | 22.36 | 18.40    | 18.81 | 18.71 |
|                    |            | RB1#24                | 21.98                                   | 22.36 | 22.28 | 18.33    | 18.71 | 18.63 |
|                    |            | RB15#0                | 21.15                                   | 21.12 | 21.36 | 17.50    | 17.47 | 17.71 |
|                    |            | RB15#10               | 21.14                                   | 21.12 | 21.29 | 17.49    | 17.47 | 17.64 |
|                    |            | RB25#0                | 21.17                                   | 21.14 | 21.30 | 17.52    | 17.49 | 17.65 |
| 10.0               | QPSK       | RB1#0                 | 23.05                                   | 23.13 | 23.15 | 19.40    | 19.48 | 19.50 |
|                    |            | RB1#25                | 23.22                                   | 23.28 | 23.34 | 19.57    | 19.63 | 19.69 |
|                    |            | RB1#49                | 23.12                                   | 23.15 | 23.21 | 19.47    | 19.50 | 19.56 |
|                    |            | RB25#0                | 22.15                                   | 22.20 | 22.29 | 18.50    | 18.55 | 18.64 |
|                    |            | RB25#25               | 22.19                                   | 22.23 | 22.26 | 18.54    | 18.58 | 18.61 |
|                    |            | RB50#0                | 22.15                                   | 22.15 | 22.31 | 18.50    | 18.50 | 18.66 |
|                    | 16QAM      | RB1#0                 | 22.62                                   | 22.26 | 22.19 | 18.97    | 18.61 | 18.54 |
|                    |            | RB1#25                | 22.83                                   | 22.44 | 22.43 | 19.18    | 18.79 | 18.78 |
|                    |            | RB1#49                | 22.64                                   | 22.34 | 22.27 | 18.99    | 18.69 | 18.62 |
|                    |            | RB25#0                | 21.17                                   | 21.21 | 21.38 | 17.52    | 17.56 | 17.73 |
|                    |            | RB25#25               | 21.26                                   | 21.21 | 21.34 | 17.61    | 17.56 | 17.69 |
|                    |            | RB50#0                | 21.16                                   | 21.18 | 21.34 | 17.51    | 17.53 | 17.69 |

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                 | 16.98                                   | 17.07 | 17.15 | 16.58     | 16.67 | 16.75 |
|                    |            | RB1#13                | 17.18                                   | 17.24 | 17.39 | 16.78     | 16.84 | 16.99 |
|                    |            | RB1#24                | 16.98                                   | 17.07 | 17.20 | 16.58     | 16.67 | 16.80 |
|                    |            | RB15#0                | 16.05                                   | 16.14 | 16.36 | 15.65     | 15.74 | 15.96 |
|                    |            | RB15#10               | 16.10                                   | 16.15 | 16.37 | 15.70     | 15.75 | 15.97 |
|                    |            | RB25#0                | 16.09                                   | 16.17 | 16.32 | 15.69     | 15.77 | 15.92 |
|                    | 16QAM      | RB1#0                 | 15.92                                   | 16.34 | 16.32 | 15.52     | 15.94 | 15.92 |
|                    |            | RB1#13                | 16.08                                   | 16.51 | 16.52 | 15.68     | 16.11 | 16.12 |
|                    |            | RB1#24                | 15.89                                   | 16.36 | 16.36 | 15.49     | 15.96 | 15.96 |
|                    |            | RB15#0                | 15.12                                   | 15.11 | 15.39 | 14.72     | 14.71 | 14.99 |
|                    |            | RB15#10               | 15.15                                   | 15.14 | 15.37 | 14.75     | 14.74 | 14.97 |
|                    |            | RB25#0                | 15.13                                   | 15.14 | 15.34 | 14.73     | 14.74 | 14.94 |
| 10.0               | QPSK       | RB1#0                 | 16.99                                   | 17.08 | 17.19 | 16.59     | 16.68 | 16.79 |
|                    |            | RB1#25                | 17.12                                   | 17.28 | 17.48 | 16.72     | 16.88 | 17.08 |
|                    |            | RB1#49                | 17.04                                   | 17.11 | 17.29 | 16.64     | 16.71 | 16.89 |
|                    |            | RB25#0                | 16.07                                   | 16.11 | 16.29 | 15.67     | 15.71 | 15.89 |
|                    |            | RB25#25               | 16.15                                   | 16.17 | 16.39 | 15.75     | 15.77 | 15.99 |
|                    |            | RB50#0                | 16.10                                   | 16.10 | 16.32 | 15.70     | 15.70 | 15.92 |
|                    | 16QAM      | RB1#0                 | 16.66                                   | 16.26 | 16.22 | 16.26     | 15.86 | 15.82 |
|                    |            | RB1#25                | 16.82                                   | 16.43 | 16.52 | 16.42     | 16.03 | 16.12 |
|                    |            | RB1#49                | 16.68                                   | 16.25 | 16.33 | 16.28     | 15.85 | 15.93 |
|                    |            | RB25#0                | 15.15                                   | 15.14 | 15.36 | 14.75     | 14.74 | 14.96 |
|                    |            | RB25#25               | 15.18                                   | 15.22 | 15.46 | 14.78     | 14.82 | 15.06 |
|                    |            | RB50#0                | 15.12                                   | 15.13 | 15.36 | 14.72     | 14.73 | 14.96 |

| 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                 | 16.91                                   | 17.05 | 17.11 | 16.51     | 16.65 | 16.71 |
|                    |            | RB1#38                | 17.10                                   | 17.16 | 17.29 | 16.70     | 16.76 | 16.89 |
|                    |            | RB1#74                | 16.96                                   | 17.06 | 17.19 | 16.56     | 16.66 | 16.79 |
|                    |            | RB36#0                | 16.10                                   | 16.10 | 16.24 | 15.70     | 15.70 | 15.84 |
|                    |            | RB36#39               | 16.10                                   | 16.13 | 16.36 | 15.70     | 15.73 | 15.96 |
|                    |            | RB75#0                | 16.09                                   | 16.10 | 16.28 | 15.69     | 15.70 | 15.88 |
|                    | 16QAM      | RB1#0                 | 16.65                                   | 16.16 | 16.60 | 16.25     | 15.76 | 16.20 |
|                    |            | RB1#38                | 16.76                                   | 16.31 | 16.71 | 16.36     | 15.91 | 16.31 |
|                    |            | RB1#74                | 16.62                                   | 16.18 | 16.64 | 16.22     | 15.78 | 16.24 |
|                    |            | RB36#0                | 15.10                                   | 15.11 | 15.19 | 14.70     | 14.71 | 14.79 |
|                    |            | RB36#39               | 15.13                                   | 15.18 | 15.33 | 14.73     | 14.78 | 14.93 |
|                    |            | RB75#0                | 15.10                                   | 15.15 | 15.28 | 14.70     | 14.75 | 14.88 |
| 20.0               | QPSK       | RB1#0                 | 16.84                                   | 16.87 | 16.85 | 16.44     | 16.47 | 16.45 |
|                    |            | RB1#50                | 17.30                                   | 17.33 | 17.38 | 16.90     | 16.93 | 16.98 |
|                    |            | RB1#99                | 16.89                                   | 16.93 | 17.03 | 16.49     | 16.53 | 16.63 |
|                    |            | RB50#0                | 16.08                                   | 16.10 | 16.29 | 15.68     | 15.70 | 15.89 |
|                    |            | RB50#50               | 16.12                                   | 16.16 | 16.32 | 15.72     | 15.76 | 15.92 |
|                    |            | RB100#0               | 16.14                                   | 16.13 | 16.30 | 15.74     | 15.73 | 15.90 |
|                    | 16QAM      | RB1#0                 | 16.18                                   | 16.09 | 16.51 | 15.78     | 15.69 | 16.11 |
|                    |            | RB1#50                | 16.66                                   | 16.56 | 17.01 | 16.26     | 16.16 | 16.61 |
|                    |            | RB1#99                | 16.21                                   | 16.18 | 16.70 | 15.81     | 15.78 | 16.30 |
|                    |            | RB50#0                | 15.06                                   | 15.09 | 15.30 | 14.66     | 14.69 | 14.90 |
|                    |            | RB50#50               | 15.13                                   | 15.14 | 15.33 | 14.73     | 14.74 | 14.93 |
|                    |            | RB100#0               | 15.16                                   | 15.14 | 15.34 | 14.76     | 14.74 | 14.94 |

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

For Band7: Antenna Gain = -0.4dBi

Limit: EIRP ≤ 33dBm

**LTE Band 12**

| 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                 | 23.24                                   | 23.20 | 23.07 | 19.19    | 19.15 | 19.02 |
|                    |            | RB1#3                 | 23.33                                   | 23.33 | 23.21 | 19.28    | 19.28 | 19.16 |
|                    |            | RB1#5                 | 23.19                                   | 23.13 | 23.08 | 19.14    | 19.08 | 19.03 |
|                    |            | RB3#0                 | 23.34                                   | 23.30 | 23.15 | 19.29    | 19.25 | 19.10 |
|                    |            | RB3#3                 | 23.44                                   | 23.19 | 23.08 | 19.39    | 19.14 | 19.03 |
|                    |            | RB6#0                 | 22.27                                   | 22.19 | 22.12 | 18.22    | 18.14 | 18.07 |
|                    | 16QAM      | RB1#0                 | 22.25                                   | 22.19 | 22.22 | 18.20    | 18.14 | 18.17 |
|                    |            | RB1#3                 | 22.35                                   | 22.34 | 22.35 | 18.30    | 18.29 | 18.30 |
|                    |            | RB1#5                 | 22.27                                   | 22.19 | 22.17 | 18.22    | 18.14 | 18.12 |
|                    |            | RB3#0                 | 22.42                                   | 22.56 | 22.15 | 18.37    | 18.51 | 18.10 |
|                    |            | RB3#3                 | 22.43                                   | 22.53 | 22.12 | 18.38    | 18.48 | 18.07 |
|                    |            | RB6#0                 | 21.29                                   | 21.28 | 21.16 | 17.24    | 17.23 | 17.11 |
| 3.0                | QPSK       | RB1#0                 | 23.23                                   | 23.24 | 23.12 | 19.18    | 19.19 | 19.07 |
|                    |            | RB1#8                 | 23.17                                   | 23.16 | 23.10 | 19.12    | 19.11 | 19.05 |
|                    |            | RB1#14                | 23.21                                   | 23.20 | 23.04 | 19.16    | 19.15 | 18.99 |
|                    |            | RB6#0                 | 22.20                                   | 22.13 | 22.00 | 18.15    | 18.08 | 17.95 |
|                    |            | RB6#9                 | 22.19                                   | 22.11 | 22.00 | 18.14    | 18.06 | 17.95 |
|                    |            | RB15#0                | 22.23                                   | 22.19 | 22.09 | 18.18    | 18.14 | 18.04 |
|                    | 16QAM      | RB1#0                 | 22.90                                   | 22.38 | 22.16 | 18.85    | 18.33 | 18.11 |
|                    |            | RB1#8                 | 22.84                                   | 22.37 | 22.08 | 18.79    | 18.32 | 18.03 |
|                    |            | RB1#14                | 22.78                                   | 22.35 | 22.06 | 18.73    | 18.30 | 18.01 |
|                    |            | RB6#0                 | 21.38                                   | 21.19 | 21.01 | 17.33    | 17.14 | 16.96 |
|                    |            | RB6#9                 | 21.30                                   | 21.22 | 21.01 | 17.25    | 17.17 | 16.96 |
|                    |            | RB15#0                | 21.39                                   | 21.19 | 21.11 | 17.34    | 17.14 | 17.06 |

| 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                 | 23.19                                   | 23.17 | 23.02 | 19.14    | 19.12 | 18.97 |
|                    |            | RB1#13                | 23.29                                   | 23.25 | 23.10 | 19.24    | 19.20 | 19.05 |
|                    |            | RB1#24                | 23.18                                   | 23.18 | 22.98 | 19.13    | 19.13 | 18.93 |
|                    |            | RB15#0                | 22.29                                   | 22.22 | 22.14 | 18.24    | 18.17 | 18.09 |
|                    |            | RB15#10               | 22.26                                   | 22.24 | 22.04 | 18.21    | 18.19 | 17.99 |
|                    |            | RB25#0                | 22.25                                   | 22.24 | 22.05 | 18.20    | 18.19 | 18.00 |
|                    | 16QAM      | RB1#0                 | 22.12                                   | 22.48 | 22.11 | 18.07    | 18.43 | 18.06 |
|                    |            | RB1#13                | 22.21                                   | 22.55 | 22.16 | 18.16    | 18.50 | 18.11 |
|                    |            | RB1#24                | 22.11                                   | 22.46 | 22.06 | 18.06    | 18.41 | 18.01 |
|                    |            | RB15#0                | 21.43                                   | 21.23 | 21.19 | 17.38    | 17.18 | 17.14 |
|                    |            | RB15#10               | 21.38                                   | 21.25 | 21.06 | 17.33    | 17.20 | 17.01 |
|                    |            | RB25#0                | 21.42                                   | 21.29 | 21.09 | 17.37    | 17.24 | 17.04 |
| 10.0               | QPSK       | RB1#0                 | 23.25                                   | 23.18 | 23.24 | 19.20    | 19.13 | 19.19 |
|                    |            | RB1#25                | 23.28                                   | 23.34 | 23.24 | 19.23    | 19.29 | 19.19 |
|                    |            | RB1#49                | 23.13                                   | 23.11 | 23.05 | 19.08    | 19.06 | 19.00 |
|                    |            | RB25#0                | 22.36                                   | 22.28 | 22.18 | 18.31    | 18.23 | 18.13 |
|                    |            | RB25#25               | 22.33                                   | 22.32 | 22.08 | 18.28    | 18.27 | 18.03 |
|                    |            | RB50#0                | 22.33                                   | 22.32 | 22.15 | 18.28    | 18.27 | 18.10 |
|                    | 16QAM      | RB1#0                 | 22.83                                   | 22.41 | 22.28 | 18.78    | 18.36 | 18.23 |
|                    |            | RB1#25                | 22.99                                   | 22.51 | 22.23 | 18.94    | 18.46 | 18.18 |
|                    |            | RB1#49                | 22.81                                   | 22.25 | 22.07 | 18.76    | 18.20 | 18.02 |
|                    |            | RB25#0                | 21.48                                   | 21.37 | 21.33 | 17.43    | 17.32 | 17.28 |
|                    |            | RB25#25               | 21.40                                   | 21.39 | 21.18 | 17.35    | 17.34 | 17.13 |
|                    |            | RB50#0                | 21.34                                   | 21.34 | 21.17 | 17.29    | 17.29 | 17.12 |

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) |       |       | ERP(dBm) |       |       |
|--------------------|------------|-----------------------|-----------------------------------------|-------|-------|----------|-------|-------|
|                    |            |                       | Low                                     | Mid   | High  | Low      | Mid   | High  |
| 5.0                | QPSK       | RB1#0                 | 23.03                                   | 23.03 | 22.92 | 18.98    | 18.98 | 18.87 |
|                    |            | RB1#13                | 23.06                                   | 23.07 | 23.04 | 19.01    | 19.02 | 18.99 |
|                    |            | RB1#24                | 22.95                                   | 22.97 | 22.95 | 18.90    | 18.92 | 18.90 |
|                    |            | RB15#0                | 22.08                                   | 22.02 | 22.00 | 18.03    | 17.97 | 17.95 |
|                    |            | RB15#10               | 22.17                                   | 22.10 | 21.96 | 18.12    | 18.05 | 17.91 |
|                    |            | RB25#0                | 22.12                                   | 22.05 | 21.94 | 18.07    | 18.00 | 17.89 |
|                    | 16QAM      | RB1#0                 | 21.92                                   | 22.29 | 22.00 | 17.87    | 18.24 | 17.95 |
|                    |            | RB1#13                | 22.03                                   | 22.34 | 22.08 | 17.98    | 18.29 | 18.03 |
|                    |            | RB1#24                | 21.81                                   | 22.22 | 22.03 | 17.76    | 18.17 | 17.98 |
|                    |            | RB15#0                | 21.14                                   | 21.01 | 21.03 | 17.09    | 16.96 | 16.98 |
|                    |            | RB15#10               | 21.21                                   | 21.07 | 20.99 | 17.16    | 17.02 | 16.94 |
|                    |            | RB25#0                | 21.18                                   | 21.00 | 20.98 | 17.13    | 16.95 | 16.93 |
| 10.0               | QPSK       | RB1#0                 | /                                       | 23.03 | /     | /        | 18.98 | /     |
|                    |            | RB1#25                | /                                       | 23.06 | /     | /        | 19.01 | /     |
|                    |            | RB1#49                | /                                       | 22.95 | /     | /        | 18.90 | /     |
|                    |            | RB25#0                | /                                       | 22.08 | /     | /        | 18.03 | /     |
|                    |            | RB25#25               | /                                       | 22.17 | /     | /        | 18.12 | /     |
|                    |            | RB50#0                | /                                       | 22.12 | /     | /        | 18.07 | /     |
|                    | 16QAM      | RB1#0                 | /                                       | 21.92 | /     | /        | 17.87 | /     |
|                    |            | RB1#25                | /                                       | 22.03 | /     | /        | 17.98 | /     |
|                    |            | RB1#49                | /                                       | 21.81 | /     | /        | 17.76 | /     |
|                    |            | RB25#0                | /                                       | 21.14 | /     | /        | 17.09 | /     |
|                    |            | RB25#25               | /                                       | 21.21 | /     | /        | 17.16 | /     |
|                    |            | RB50#0                | /                                       | 21.18 | /     | /        | 17.13 | /     |

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

**LTE Band 17**

| 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                 | 22.99                                   | 23.01 | 22.83 | 18.94    | 18.96 | 18.78 |
|                    |            | RB1#13                | 23.10                                   | 23.03 | 22.94 | 19.05    | 18.98 | 18.89 |
|                    |            | RB1#24                | 23.03                                   | 22.83 | 22.86 | 18.98    | 18.78 | 18.81 |
|                    |            | RB15#0                | 22.11                                   | 22.01 | 22.02 | 18.06    | 17.96 | 17.97 |
|                    |            | RB15#10               | 22.09                                   | 22.07 | 21.89 | 18.04    | 18.02 | 17.84 |
|                    |            | RB25#0                | 22.13                                   | 22.01 | 21.89 | 18.08    | 17.96 | 17.84 |
|                    | 16QAM      | RB1#0                 | 21.89                                   | 22.33 | 21.97 | 17.84    | 18.28 | 17.92 |
|                    |            | RB1#13                | 22.00                                   | 22.35 | 22.01 | 17.95    | 18.30 | 17.96 |
|                    |            | RB1#24                | 21.90                                   | 22.14 | 21.93 | 17.85    | 18.09 | 17.88 |
|                    |            | RB15#0                | 21.19                                   | 21.04 | 21.02 | 17.14    | 16.99 | 16.97 |
|                    |            | RB15#10               | 21.19                                   | 21.02 | 20.92 | 17.14    | 16.97 | 16.87 |
|                    |            | RB25#0                | 21.16                                   | 21.03 | 20.97 | 17.11    | 16.98 | 16.92 |
| 10.0               | QPSK       | RB1#0                 | 23.03                                   | 23.06 | 23.03 | 18.98    | 19.01 | 18.98 |
|                    |            | RB1#25                | 23.17                                   | 23.19 | 23.10 | 19.12    | 19.14 | 19.05 |
|                    |            | RB1#49                | 22.89                                   | 22.89 | 22.92 | 18.84    | 18.84 | 18.87 |
|                    |            | RB25#0                | 22.10                                   | 22.01 | 21.97 | 18.05    | 17.96 | 17.92 |
|                    |            | RB25#25               | 22.11                                   | 21.96 | 21.89 | 18.06    | 17.91 | 17.84 |
|                    |            | RB50#0                | 22.11                                   | 22.00 | 21.96 | 18.06    | 17.95 | 17.91 |
|                    | 16QAM      | RB1#0                 | 22.65                                   | 22.19 | 22.08 | 18.60    | 18.14 | 18.03 |
|                    |            | RB1#25                | 22.79                                   | 22.32 | 22.10 | 18.74    | 18.27 | 18.05 |
|                    |            | RB1#49                | 22.48                                   | 22.05 | 21.96 | 18.43    | 18.00 | 17.91 |
|                    |            | RB25#0                | 21.18                                   | 21.05 | 21.10 | 17.13    | 17.00 | 17.05 |
|                    |            | RB25#25               | 21.16                                   | 21.00 | 20.99 | 17.11    | 16.95 | 16.94 |
|                    |            | RB50#0                | 21.14                                   | 21.00 | 21.00 | 17.09    | 16.95 | 16.95 |

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                | QPSK       | RB1#0                 | 22.12                                   | 22.16 | 22.16 | 21.72     | 21.76 | 21.76 |
|                    |            | RB1#13                | 22.26                                   | 22.32 | 22.26 | 21.86     | 21.92 | 21.86 |
|                    |            | RB1#24                | 22.15                                   | 22.21 | 22.17 | 21.75     | 21.81 | 21.77 |
|                    |            | RB15#0                | 21.14                                   | 21.20 | 21.21 | 20.74     | 20.80 | 20.81 |
|                    |            | RB15#10               | 21.22                                   | 21.23 | 21.19 | 20.82     | 20.83 | 20.79 |
|                    |            | RB25#0                | 21.12                                   | 21.24 | 21.20 | 20.72     | 20.84 | 20.80 |
|                    | 16QAM      | RB1#0                 | 21.17                                   | 21.39 | 21.12 | 20.77     | 20.99 | 20.72 |
|                    |            | RB1#13                | 21.33                                   | 21.54 | 21.25 | 20.93     | 21.14 | 20.85 |
|                    |            | RB1#24                | 21.20                                   | 21.44 | 21.12 | 20.80     | 21.04 | 20.72 |
|                    |            | RB15#0                | 20.15                                   | 20.25 | 20.15 | 19.75     | 19.85 | 19.75 |
|                    |            | RB15#10               | 20.21                                   | 20.28 | 20.14 | 19.81     | 19.88 | 19.74 |
|                    |            | RB25#0                | 20.18                                   | 20.22 | 20.20 | 19.78     | 19.82 | 19.80 |
| 10.0               | QPSK       | RB1#0                 | 22.18                                   | 22.29 | 22.31 | 21.78     | 21.89 | 21.91 |
|                    |            | RB1#25                | 22.51                                   | 22.57 | 22.58 | 22.11     | 22.17 | 22.18 |
|                    |            | RB1#49                | 22.21                                   | 22.30 | 22.30 | 21.81     | 21.90 | 21.90 |
|                    |            | RB25#0                | 21.22                                   | 21.24 | 21.29 | 20.82     | 20.84 | 20.89 |
|                    |            | RB25#25               | 21.28                                   | 21.31 | 21.25 | 20.88     | 20.91 | 20.85 |
|                    |            | RB50#0                | 21.24                                   | 21.25 | 21.29 | 20.84     | 20.85 | 20.89 |
|                    | 16QAM      | RB1#0                 | 21.40                                   | 21.15 | 21.36 | 21.00     | 20.75 | 20.96 |
|                    |            | RB1#25                | 21.71                                   | 21.49 | 21.62 | 21.31     | 21.09 | 21.22 |
|                    |            | RB1#49                | 21.38                                   | 21.19 | 21.34 | 20.98     | 20.79 | 20.94 |
|                    |            | RB25#0                | 20.18                                   | 20.26 | 20.31 | 19.78     | 19.86 | 19.91 |
|                    |            | RB25#25               | 20.27                                   | 20.32 | 20.27 | 19.87     | 19.92 | 19.87 |
|                    |            | RB50#0                | 20.21                                   | 20.25 | 20.27 | 19.81     | 19.85 | 19.87 |

| 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                 | 22.09                                   | 22.19 | 22.18 | 21.69     | 21.79 | 21.78 |
|                    |            | RB1#38                | 22.23                                   | 22.32 | 22.29 | 21.83     | 21.92 | 21.89 |
|                    |            | RB1#74                | 22.14                                   | 22.18 | 22.15 | 21.74     | 21.78 | 21.75 |
|                    |            | RB36#0                | 21.22                                   | 21.27 | 21.30 | 20.82     | 20.87 | 20.90 |
|                    |            | RB36#39               | 21.26                                   | 21.36 | 21.26 | 20.86     | 20.96 | 20.86 |
|                    |            | RB75#0                | 21.26                                   | 21.35 | 21.28 | 20.86     | 20.95 | 20.88 |
|                    | 16QAM      | RB1#0                 | 21.27                                   | 21.11 | 21.37 | 20.87     | 20.71 | 20.97 |
|                    |            | RB1#38                | 21.43                                   | 21.23 | 21.48 | 21.03     | 20.83 | 21.08 |
|                    |            | RB1#74                | 21.32                                   | 21.09 | 21.34 | 20.92     | 20.69 | 20.94 |
|                    |            | RB36#0                | 20.17                                   | 20.21 | 20.32 | 19.77     | 19.81 | 19.92 |
|                    |            | RB36#39               | 20.22                                   | 20.24 | 20.30 | 19.82     | 19.84 | 19.90 |
|                    |            | RB75#0                | 20.18                                   | 20.28 | 20.26 | 19.78     | 19.88 | 19.86 |
| 20.0               | QPSK       | RB1#0                 | 21.92                                   | 22.00 | 22.08 | 21.52     | 21.60 | 21.68 |
|                    |            | RB1#50                | 22.49                                   | 22.52 | 22.59 | 22.09     | 22.12 | 22.19 |
|                    |            | RB1#99                | 22.06                                   | 22.00 | 22.09 | 21.66     | 21.60 | 21.69 |
|                    |            | RB50#0                | 21.17                                   | 21.24 | 21.22 | 20.77     | 20.84 | 20.82 |
|                    |            | RB50#50               | 21.24                                   | 21.27 | 21.18 | 20.84     | 20.87 | 20.78 |
|                    |            | RB100#0               | 21.19                                   | 21.25 | 21.21 | 20.79     | 20.85 | 20.81 |
|                    | 16QAM      | RB1#0                 | 20.97                                   | 20.96 | 21.27 | 20.57     | 20.56 | 20.87 |
|                    |            | RB1#50                | 21.53                                   | 21.49 | 21.78 | 21.13     | 21.09 | 21.38 |
|                    |            | RB1#99                | 21.10                                   | 20.99 | 21.27 | 20.70     | 20.59 | 20.87 |
|                    |            | RB50#0                | 20.18                                   | 20.27 | 20.21 | 19.78     | 19.87 | 19.81 |
|                    |            | RB50#50               | 20.25                                   | 20.28 | 20.19 | 19.85     | 19.88 | 19.79 |
|                    |            | RB100#0               | 20.19                                   | 20.23 | 20.20 | 19.79     | 19.83 | 19.80 |

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

For Band38: Antenna Gain = -0.4dBi

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                | QPSK       | RB1#0                 | 22.08                                   | 22.33 | 22.24 | 21.68     | 21.93 | 21.84 |
|                    |            | RB1#13                | 22.19                                   | 22.42 | 22.36 | 21.79     | 22.02 | 21.96 |
|                    |            | RB1#24                | 22.12                                   | 22.3  | 22.2  | 21.72     | 21.9  | 21.8  |
|                    |            | RB15#0                | 21.13                                   | 21.35 | 21.27 | 20.73     | 20.95 | 20.87 |
|                    |            | RB15#10               | 21.21                                   | 21.33 | 21.25 | 20.81     | 20.93 | 20.85 |
|                    |            | RB25#0                | 21.15                                   | 21.36 | 21.27 | 20.75     | 20.96 | 20.87 |
|                    | 16QAM      | RB1#0                 | 21.08                                   | 21.31 | 21.45 | 20.68     | 20.91 | 21.05 |
|                    |            | RB1#13                | 21.22                                   | 21.46 | 21.57 | 20.82     | 21.06 | 21.17 |
|                    |            | RB1#24                | 21.14                                   | 21.32 | 21.43 | 20.74     | 20.92 | 21.03 |
|                    |            | RB15#0                | 20.13                                   | 20.38 | 20.31 | 19.73     | 19.98 | 19.91 |
|                    |            | RB15#10               | 20.16                                   | 20.38 | 20.29 | 19.76     | 19.98 | 19.89 |
|                    |            | RB25#0                | 20.22                                   | 20.43 | 20.27 | 19.82     | 20.03 | 19.87 |
| 10.0               | QPSK       | RB1#0                 | 22.14                                   | 22.42 | 22.34 | 21.74     | 22.02 | 21.94 |
|                    |            | RB1#25                | 22.46                                   | 22.67 | 22.62 | 22.06     | 22.27 | 22.22 |
|                    |            | RB1#49                | 22.19                                   | 22.4  | 22.35 | 21.79     | 22.00 | 21.95 |
|                    |            | RB25#0                | 21.14                                   | 21.41 | 21.37 | 20.74     | 21.01 | 20.97 |
|                    |            | RB25#25               | 21.28                                   | 21.39 | 21.29 | 20.88     | 20.99 | 20.89 |
|                    |            | RB50#0                | 21.21                                   | 21.39 | 21.34 | 20.81     | 20.99 | 20.94 |
|                    | 16QAM      | RB1#0                 | 21.32                                   | 21.28 | 21.38 | 20.92     | 20.88 | 20.98 |
|                    |            | RB1#25                | 21.66                                   | 21.56 | 21.65 | 21.26     | 21.16 | 21.25 |
|                    |            | RB1#49                | 21.44                                   | 21.32 | 21.38 | 21.04     | 20.92 | 20.98 |
|                    |            | RB25#0                | 20.15                                   | 20.46 | 20.4  | 19.75     | 20.06 | 20.00 |
|                    |            | RB25#25               | 20.28                                   | 20.44 | 20.34 | 19.88     | 20.04 | 19.94 |
|                    |            | RB50#0                | 20.25                                   | 20.41 | 20.36 | 19.85     | 20.01 | 19.96 |

| 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                 | 22.09                                   | 22.28 | 22.29 | 21.69     | 21.88 | 21.89 |
|                    |            | RB1#38                | 22.22                                   | 22.41 | 22.38 | 21.82     | 22.01 | 21.98 |
|                    |            | RB1#74                | 22.12                                   | 22.32 | 22.24 | 21.72     | 21.92 | 21.84 |
|                    |            | RB36#0                | 21.16                                   | 21.35 | 21.37 | 20.76     | 20.95 | 20.97 |
|                    |            | RB36#39               | 21.24                                   | 21.44 | 21.32 | 20.84     | 21.04 | 20.92 |
|                    |            | RB75#0                | 21.21                                   | 21.42 | 21.36 | 20.81     | 21.02 | 20.96 |
|                    | 16QAM      | RB1#0                 | 21.26                                   | 21.21 | 21.44 | 20.86     | 20.81 | 21.04 |
|                    |            | RB1#38                | 21.37                                   | 21.34 | 21.53 | 20.97     | 20.94 | 21.13 |
|                    |            | RB1#74                | 21.31                                   | 21.25 | 21.42 | 20.91     | 20.85 | 21.02 |
|                    |            | RB36#0                | 20.13                                   | 20.31 | 20.43 | 19.73     | 19.91 | 20.03 |
|                    |            | RB36#39               | 20.23                                   | 20.37 | 20.33 | 19.83     | 19.97 | 19.93 |
|                    |            | RB75#0                | 20.15                                   | 20.40 | 20.35 | 19.75     | 20.00 | 19.95 |
| 20.0               | QPSK       | RB1#0                 | 21.93                                   | 22.07 | 22.18 | 21.53     | 21.67 | 21.78 |
|                    |            | RB1#50                | 22.47                                   | 22.58 | 22.65 | 22.07     | 22.18 | 22.25 |
|                    |            | RB1#99                | 22.02                                   | 22.12 | 22.14 | 21.62     | 21.72 | 21.74 |
|                    |            | RB50#0                | 21.07                                   | 21.32 | 21.36 | 20.67     | 20.92 | 20.96 |
|                    |            | RB50#50               | 21.26                                   | 21.39 | 21.22 | 20.86     | 20.99 | 20.82 |
|                    |            | RB100#0               | 21.17                                   | 21.33 | 21.26 | 20.77     | 20.93 | 20.86 |
|                    | 16QAM      | RB1#0                 | 20.96                                   | 21.06 | 21.37 | 20.56     | 20.66 | 20.97 |
|                    |            | RB1#50                | 21.53                                   | 21.57 | 21.84 | 21.13     | 21.17 | 21.44 |
|                    |            | RB1#99                | 21.07                                   | 21.09 | 21.33 | 20.67     | 20.69 | 20.93 |
|                    |            | RB50#0                | 20.08                                   | 20.38 | 20.36 | 19.68     | 19.98 | 19.96 |
|                    |            | RB50#50               | 20.31                                   | 20.45 | 20.24 | 19.91     | 20.05 | 19.84 |
|                    |            | RB100#0               | 20.20                                   | 20.37 | 20.24 | 19.80     | 19.97 | 19.84 |

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

For Band41: Antenna Gain = -0.4dBi

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                | QPSK       | RB1#0                 | 15.73                                   | 15.67 | 15.47 | 15.03     | 14.97 | 14.77 |
|                    |            | RB1#3                 | 15.93                                   | 15.81 | 15.65 | 15.23     | 15.11 | 14.95 |
|                    |            | RB1#5                 | 15.67                                   | 15.65 | 15.44 | 14.97     | 14.95 | 14.74 |
|                    |            | RB3#0                 | 15.84                                   | 15.78 | 15.61 | 15.14     | 15.08 | 14.91 |
|                    |            | RB3#3                 | 15.86                                   | 15.79 | 15.65 | 15.16     | 15.09 | 14.95 |
|                    |            | RB6#0                 | 14.72                                   | 14.61 | 14.50 | 14.02     | 13.91 | 13.80 |
|                    | 16QAM      | RB1#0                 | 14.77                                   | 14.80 | 14.55 | 14.07     | 14.10 | 13.85 |
|                    |            | RB1#3                 | 14.94                                   | 14.86 | 14.71 | 14.24     | 14.16 | 14.01 |
|                    |            | RB1#5                 | 14.81                                   | 14.80 | 14.56 | 14.11     | 14.10 | 13.86 |
|                    |            | RB3#0                 | 15.11                                   | 14.77 | 14.74 | 14.41     | 14.07 | 14.04 |
|                    |            | RB3#3                 | 15.12                                   | 14.74 | 14.70 | 14.42     | 14.04 | 14.00 |
|                    |            | RB6#0                 | 13.90                                   | 13.74 | 13.50 | 13.20     | 13.04 | 12.80 |
| 3.0                | QPSK       | RB1#0                 | 15.73                                   | 15.67 | 15.47 | 15.03     | 14.97 | 14.77 |
|                    |            | RB1#8                 | 15.93                                   | 15.81 | 15.65 | 15.23     | 15.11 | 14.95 |
|                    |            | RB1#14                | 15.67                                   | 15.65 | 15.44 | 14.97     | 14.95 | 14.74 |
|                    |            | RB6#0                 | 15.84                                   | 15.78 | 15.61 | 15.14     | 15.08 | 14.91 |
|                    |            | RB6#9                 | 15.86                                   | 15.79 | 15.65 | 15.16     | 15.09 | 14.95 |
|                    |            | RB15#0                | 14.72                                   | 14.61 | 14.50 | 14.02     | 13.91 | 13.80 |
|                    | 16QAM      | RB1#0                 | 14.77                                   | 14.80 | 14.55 | 14.07     | 14.10 | 13.85 |
|                    |            | RB1#8                 | 14.94                                   | 14.86 | 14.71 | 14.24     | 14.16 | 14.01 |
|                    |            | RB1#14                | 14.81                                   | 14.80 | 14.56 | 14.11     | 14.10 | 13.86 |
|                    |            | RB6#0                 | 15.11                                   | 14.77 | 14.74 | 14.41     | 14.07 | 14.04 |
|                    |            | RB6#9                 | 15.12                                   | 14.74 | 14.70 | 14.42     | 14.04 | 14.00 |
|                    |            | RB15#0                | 13.90                                   | 13.74 | 13.50 | 13.20     | 13.04 | 12.80 |

| 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                 | 15.75                                   | 15.69 | 15.54 | 15.05     | 14.99 | 14.84 |
|                    |            | RB1#13                | 15.80                                   | 15.77 | 15.60 | 15.10     | 15.07 | 14.90 |
|                    |            | RB1#24                | 15.72                                   | 15.65 | 15.51 | 15.02     | 14.95 | 14.81 |
|                    |            | RB15#0                | 14.79                                   | 14.71 | 14.63 | 14.09     | 14.01 | 13.93 |
|                    |            | RB15#10               | 14.82                                   | 14.68 | 14.62 | 14.12     | 13.98 | 13.92 |
|                    |            | RB25#0                | 14.78                                   | 14.71 | 14.61 | 14.08     | 14.01 | 13.91 |
|                    | 16QAM      | RB1#0                 | 14.69                                   | 14.97 | 14.63 | 13.99     | 14.27 | 13.93 |
|                    |            | RB1#13                | 14.74                                   | 15.07 | 14.71 | 14.04     | 14.37 | 14.01 |
|                    |            | RB1#24                | 14.68                                   | 14.96 | 14.62 | 13.98     | 14.26 | 13.92 |
|                    |            | RB15#0                | 13.96                                   | 13.77 | 13.72 | 13.26     | 13.07 | 13.02 |
|                    |            | RB15#10               | 13.98                                   | 13.70 | 13.61 | 13.28     | 13.00 | 12.91 |
|                    |            | RB25#0                | 13.97                                   | 13.75 | 13.67 | 13.27     | 13.05 | 12.97 |
| 10.0               | QPSK       | RB1#0                 | 15.76                                   | 15.73 | 15.61 | 15.06     | 15.03 | 14.91 |
|                    |            | RB1#25                | 15.83                                   | 15.85 | 15.73 | 15.13     | 15.15 | 15.03 |
|                    |            | RB1#49                | 15.74                                   | 15.65 | 15.55 | 15.04     | 14.95 | 14.85 |
|                    |            | RB25#0                | 14.82                                   | 14.83 | 14.72 | 14.12     | 14.13 | 14.02 |
|                    |            | RB25#25               | 14.90                                   | 14.76 | 14.59 | 14.20     | 14.06 | 13.89 |
|                    |            | RB50#0                | 14.88                                   | 14.84 | 14.69 | 14.18     | 14.14 | 13.99 |
|                    | 16QAM      | RB1#0                 | 15.49                                   | 14.92 | 14.65 | 14.79     | 14.22 | 13.95 |
|                    |            | RB1#25                | 15.65                                   | 15.04 | 14.82 | 14.95     | 14.34 | 14.12 |
|                    |            | RB1#49                | 15.45                                   | 14.85 | 14.61 | 14.75     | 14.15 | 13.91 |
|                    |            | RB25#0                | 13.99                                   | 13.90 | 13.83 | 13.29     | 13.20 | 13.13 |
|                    |            | RB25#25               | 14.08                                   | 13.84 | 13.71 | 13.38     | 13.14 | 13.01 |
|                    |            | RB50#0                | 14.00                                   | 13.84 | 13.74 | 13.30     | 13.14 | 13.04 |

| 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                 | 15.73                                   | 15.79 | 15.57 | 15.03     | 15.09 | 14.87 |
|                    |            | RB1#38                | 15.80                                   | 15.80 | 15.62 | 15.10     | 15.10 | 14.92 |
|                    |            | RB1#74                | 15.66                                   | 15.61 | 15.48 | 14.96     | 14.91 | 14.78 |
|                    |            | RB36#0                | 14.80                                   | 14.78 | 14.72 | 14.10     | 14.08 | 14.02 |
|                    |            | RB36#39               | 14.83                                   | 14.72 | 14.57 | 14.13     | 14.02 | 13.87 |
|                    |            | RB75#0                | 14.83                                   | 14.76 | 14.63 | 14.13     | 14.06 | 13.93 |
|                    | 16QAM      | RB1#0                 | 15.44                                   | 14.90 | 15.05 | 14.74     | 14.20 | 14.35 |
|                    |            | RB1#38                | 15.50                                   | 14.98 | 15.10 | 14.80     | 14.28 | 14.40 |
|                    |            | RB1#74                | 15.42                                   | 14.75 | 14.95 | 14.72     | 14.05 | 14.25 |
|                    |            | RB36#0                | 13.90                                   | 13.83 | 13.66 | 13.20     | 13.13 | 12.96 |
|                    |            | RB36#39               | 13.91                                   | 13.74 | 13.57 | 13.21     | 13.04 | 12.87 |
|                    |            | RB75#0                | 13.91                                   | 13.80 | 13.61 | 13.21     | 13.10 | 12.91 |
| 20.0               | QPSK       | RB1#0                 | 15.63                                   | 15.59 | 15.39 | 14.93     | 14.89 | 14.69 |
|                    |            | RB1#50                | 15.96                                   | 15.94 | 15.72 | 15.26     | 15.24 | 15.02 |
|                    |            | RB1#99                | 15.62                                   | 15.50 | 15.31 | 14.92     | 14.80 | 14.61 |
|                    |            | RB50#0                | 14.85                                   | 14.87 | 14.81 | 14.15     | 14.17 | 14.11 |
|                    |            | RB50#50               | 14.84                                   | 14.77 | 14.57 | 14.14     | 14.07 | 13.87 |
|                    |            | RB100#0               | 14.88                                   | 14.81 | 14.71 | 14.18     | 14.11 | 14.01 |
|                    | 16QAM      | RB1#0                 | 15.01                                   | 14.87 | 15.06 | 14.31     | 14.17 | 14.36 |
|                    |            | RB1#50                | 15.32                                   | 15.18 | 15.42 | 14.62     | 14.48 | 14.72 |
|                    |            | RB1#99                | 14.93                                   | 14.74 | 14.96 | 14.23     | 14.04 | 14.26 |
|                    |            | RB50#0                | 13.93                                   | 13.89 | 13.83 | 13.23     | 13.19 | 13.13 |
|                    |            | RB50#50               | 14.01                                   | 13.79 | 13.61 | 13.31     | 13.09 | 12.91 |
|                    |            | RB100#0               | 13.96                                   | 13.84 | 13.71 | 13.26     | 13.14 | 13.01 |

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

For Band 66: Antenna Gain = -0.7dBi

Limit: EIRP ≤ 30dBm

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

| Mode | Channel | PAR (dB) | Limit (dB) |
|------|---------|----------|------------|
| GSM  | Low     | 3.97     | 13         |
|      | Middle  | 3.57     | 13         |
|      | High    | 3.52     | 13         |

| Mode  | Channel | PAR (dB) | Limit (dB) |
|-------|---------|----------|------------|
| EGPRS | Low     | 3.51     | 13         |
|       | Middle  | 3.66     | 13         |
|       | High    | 3.47     | 13         |

| Mode             | Channel | PAR (dB) | Limit (dB) |
|------------------|---------|----------|------------|
| RMC<br>(BPSK)    | Low     | 1.70     | 13         |
|                  | Middle  | 2.95     | 13         |
|                  | High    | 3.08     | 13         |
| HSDPA<br>(16QAM) | Low     | 3.17     | 13         |
|                  | Middle  | 3.85     | 13         |
|                  | High    | 3.17     | 13         |
| HSUPA<br>(QPSK)  | Low     | 3.81     | 13         |
|                  | Middle  | 3.33     | 13         |
|                  | High    | 1.36     | 13         |
| HSPA+            | Low     | 3.28     | 13         |
|                  | Middle  | 3.51     | 13         |
|                  | High    | 3.57     | 13         |

**PCS Band**

| Mode | Channel | PAR (dB) | Limit (dB) |
|------|---------|----------|------------|
| GSM  | Low     | 3.42     | 13         |
|      | Middle  | 3.57     | 13         |
|      | High    | 3.64     | 13         |

| Mode  | Channel | PAR (dB) | Limit (dB) |
|-------|---------|----------|------------|
| EGPRS | Low     | 3.61     | 13         |
|       | Middle  | 3.45     | 13         |
|       | High    | 3.48     | 13         |

| Mode             | Channel | PAR (dB) | Limit (dB) |
|------------------|---------|----------|------------|
| RMC<br>(BPSK)    | Low     | 3.21     | 13         |
|                  | Middle  | 3.17     | 13         |
|                  | High    | 3.17     | 13         |
| HSDPA<br>(16QAM) | Low     | 3.43     | 13         |
|                  | Middle  | 3.46     | 13         |
|                  | High    | 4.39     | 13         |
| HSUPA<br>(QPSK)  | Low     | 3.43     | 13         |
|                  | Middle  | 3.46     | 13         |
|                  | High    | 4.39     | 13         |
| HSPA+            | Low     | 3.39     | 13         |
|                  | Middle  | 3.57     | 13         |
|                  | High    | 3.46     | 13         |

**AWS Band**

| Mode             | Channel | PAR (dB) | Limit (dB) |
|------------------|---------|----------|------------|
| RMC<br>(BPSK)    | Low     | 3.27     | 13         |
|                  | Middle  | 3.27     | 13         |
|                  | High    | 3.33     | 13         |
| HSDPA<br>(16QAM) | Low     | 4.39     | 13         |
|                  | Middle  | 4.29     | 13         |
|                  | High    | 3.85     | 13         |
| HSUPA<br>(QPSK)  | Low     | 3.72     | 13         |
|                  | Middle  | 3.46     | 13         |
|                  | High    | 3.81     | 13         |
| HSPA+            | Low     | 3.46     | 13         |
|                  | Middle  | 3.48     | 13         |
|                  | High    | 3.62     | 13         |

**LTE Band 2 20MHz Bandwidth**

| Modulation         | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|--------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)    | 5.96             | 5.80                | 6.22              | 13             | Pass   |
| QPSK (100RB Size)  | 5.77             | 5.67                | 5.87              | 13             | Pass   |
| 16QAM (1RB Size)   | 6.60             | 6.44                | 7.40              | 13             | Pass   |
| 16QAM (100RB Size) | 6.76             | 6.70                | 6.67              | 13             | Pass   |

**LTE Band 4 20MHz Bandwidth**

| Modulation         | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|--------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)    | 5.26             | 4.33                | 4.52              | 13             | Pass   |
| QPSK (100RB Size)  | 5.58             | 5.45                | 5.48              | 13             | Pass   |
| 16QAM (1RB Size)   | 6.12             | 5.54                | 5.67              | 13             | Pass   |
| 16QAM (100RB Size) | 6.38             | 6.22                | 6.15              | 13             | Pass   |

**LTE Band 5 10MHz Bandwidth**

| Modulation        | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|-------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)   | 4.84             | 4.65                | 4.94              | 13             | Pass   |
| QPSK (50RB Size)  | 5.64             | 5.64                | 5.64              | 13             | Pass   |
| 16QAM (1RB Size)  | 6.15             | 5.99                | 5.90              | 13             | Pass   |
| 16QAM (50RB Size) | 6.44             | 6.51                | 6.44              | 13             | Pass   |

**LTE Band 7 20MHz Bandwidth**

| Modulation         | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|--------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)    | 3.91             | 4.70                | 4.67              | 13             | Pass   |
| QPSK (100RB Size)  | 5.10             | 5.10                | 4.90              | 13             | Pass   |
| 16QAM (1RB Size)   | 4.49             | 5.59                | 5.80              | 13             | Pass   |
| 16QAM (100RB Size) | 6.20             | 6.06                | 5.97              | 13             | Pass   |

**LTE Band 12 10MHz Bandwidth**

| Modulation        | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|-------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)   | 4.90             | 4.81                | 5.32              | 13             | Pass   |
| QPSK (50RB Size)  | 5.77             | 5.80                | 5.67              | 13             | Pass   |
| 16QAM (1RB Size)  | 5.90             | 5.90                | 5.80              | 13             | Pass   |
| 16QAM (50RB Size) | 6.60             | 6.67                | 6.60              | 13             | Pass   |

**LTE Band 13 10MHz Bandwidth**

| Modulation        | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|-------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)   | /                | 3.77                | /                 | 13             | Pass   |
| QPSK (50RB Size)  | /                | 4.64                | /                 | 13             | Pass   |
| 16QAM (1RB Size)  | /                | 4.96                | /                 | 13             | Pass   |
| 16QAM (50RB Size) | /                | 5.54                | /                 | 13             | Pass   |

**LTE Band 17 10MHz Bandwidth**

| Modulation        | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|-------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)   | 4.58             | 4.03                | 4.14              | 13             | Pass   |
| QPSK (50RB Size)  | 4.84             | 4.87                | 4.70              | 13             | Pass   |
| 16QAM (1RB Size)  | 5.36             | 4.87                | 4.75              | 13             | Pass   |
| 16QAM (50RB Size) | 5.80             | 5.74                | 5.68              | 13             | Pass   |

**LTE Band 38 20MHz Bandwidth**

| Modulation         | Low channel (dB) | Middle channel (dB) | High channel (dB) | PAR Limit (dB) | Result |
|--------------------|------------------|---------------------|-------------------|----------------|--------|
| QPSK (1RB Size)    | 3.57             | 4.14                | 3.68              | 13             | Pass   |
| QPSK (100RB Size)  | 4.32             | 4.81                | 4.84              | 13             | Pass   |
| 16QAM (1RB Size)   | 4.61             | 4.38                | 4.41              | 13             | Pass   |
| 16QAM (100RB Size) | 5.33             | 5.80                | 5.88              | 13             | Pass   |

**LTE Band 41 20MHz Bandwidth**

| <b>Modulation</b>     | <b>Low channel<br/>(dB)</b> | <b>Middle channel<br/>(dB)</b> | <b>High channel<br/>(dB)</b> | <b>PAR<br/>Limit<br/>(dB)</b> | <b>Result</b> |
|-----------------------|-----------------------------|--------------------------------|------------------------------|-------------------------------|---------------|
| QPSK<br>(1RB Size)    | 5.16                        | 5.10                           | 5.64                         | 13                            | Pass          |
| QPSK<br>(100RB Size)  | 5.74                        | 5.74                           | 5.67                         | 13                            | Pass          |
| 16QAM<br>(1RB Size)   | 6.54                        | 6.15                           | 6.92                         | 13                            | Pass          |
| 16QAM<br>(100RB Size) | 6.54                        | 6.57                           | 6.38                         | 13                            | Pass          |

**LTE Band 66 20MHz Bandwidth**

| <b>Modulation</b>     | <b>Low channel<br/>(dB)</b> | <b>Middle channel<br/>(dB)</b> | <b>High channel<br/>(dB)</b> | <b>PAR<br/>Limit<br/>(dB)</b> | <b>Result</b> |
|-----------------------|-----------------------------|--------------------------------|------------------------------|-------------------------------|---------------|
| QPSK<br>(1RB Size)    | 5.51                        | 5.19                           | 5.74                         | 13                            | Pass          |
| QPSK<br>(100RB Size)  | 5.54                        | 5.77                           | 5.61                         | 13                            | Pass          |
| 16QAM<br>(1RB Size)   | 6.06                        | 6.60                           | 6.83                         | 13                            | Pass          |
| 16QAM<br>(100RB Size) | 6.51                        | 6.41                           | 6.44                         | 13                            | Pass          |

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

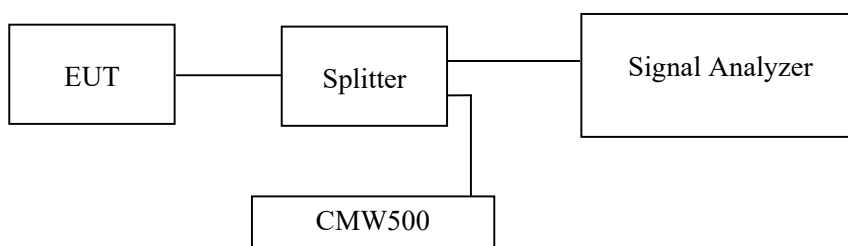
### Applicable Standard

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:       | 27.2~28 °C |
| Relative Humidity: | 56.8~62 %  |
| ATM Pressure:      | 101.0 kPa  |

*The testing was performed by Audy Yu from 2022-06-26 to 2022-07-18.*

*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           | 245.00                       | 321.00                         |
|             | 190     | 836.6           | 245.00                       | 314.00                         |
|             | 251     | 848.8           | 244.00                       | 314.00                         |
| EGPRS(8PSK) | 128     | 824.2           | 248.00                       | 321.00                         |
|             | 190     | 836.6           | 248.00                       | 317.00                         |
|             | 251     | 848.8           | 246.00                       | 309.00                         |

|       | Frequency (MHz) | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) |
|-------|-----------------|--------------------------|----------------------|
| RMC   | 826.4           | 4.17                     | 4.74                 |
|       | 836.6           | 4.17                     | 4.73                 |
|       | 846.6           | 4.16                     | 4.74                 |
| HSDPA | 826.4           | 4.22                     | 5.00                 |
|       | 836.6           | 4.20                     | 5.01                 |
|       | 846.6           | 4.19                     | 4.73                 |
| HSUPA | 826.4           | 4.22                     | 5.13                 |
|       | 836.6           | 4.23                     | 5.13                 |
|       | 846.6           | 4.22                     | 5.12                 |

**PCS Band (Part 24E)**

| Mode        | Channel | Frequency (MHz) | 99% Occupied Bandwidth (kHz) | 26 dB Emission Bandwidth (kHz) |
|-------------|---------|-----------------|------------------------------|--------------------------------|
| GSM (GMSK)  | 512     | 1850.2          | 245.00                       | 314.00                         |
|             | 661     | 1880.0          | 245.00                       | 321.00                         |
|             | 810     | 1909.8          | 246.00                       | 319.00                         |
| EGPRS(8PSK) | 512     | 1850.2          | 251.00                       | 314.00                         |
|             | 661     | 1880.0          | 245.00                       | 312.00                         |
|             | 810     | 1909.8          | 250.00                       | 314.00                         |

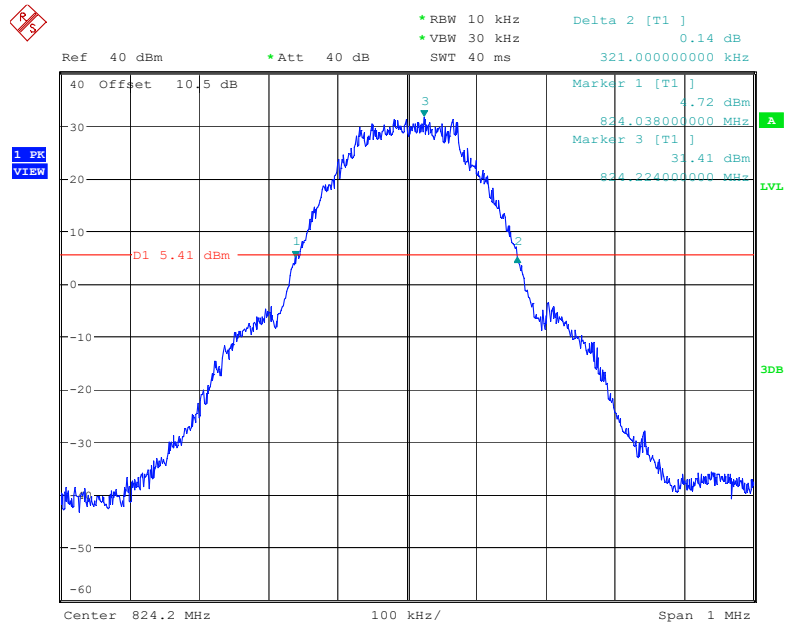
|       | Frequency (MHz) | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) |
|-------|-----------------|--------------------------|----------------------|
| RMC   | 1852.4          | 4.17                     | 4.74                 |
|       | 1880.0          | 4.17                     | 4.74                 |
|       | 1907.6          | 4.17                     | 4.71                 |
| HSDPA | 1852.4          | 4.17                     | 4.74                 |
|       | 1880.0          | 4.17                     | 4.74                 |
|       | 1907.6          | 4.15                     | 4.73                 |
| HSUPA | 1852.4          | 4.17                     | 4.74                 |
|       | 1880.0          | 4.19                     | 4.74                 |
|       | 1907.6          | 4.18                     | 4.74                 |

**AWS Band (Part 27)**

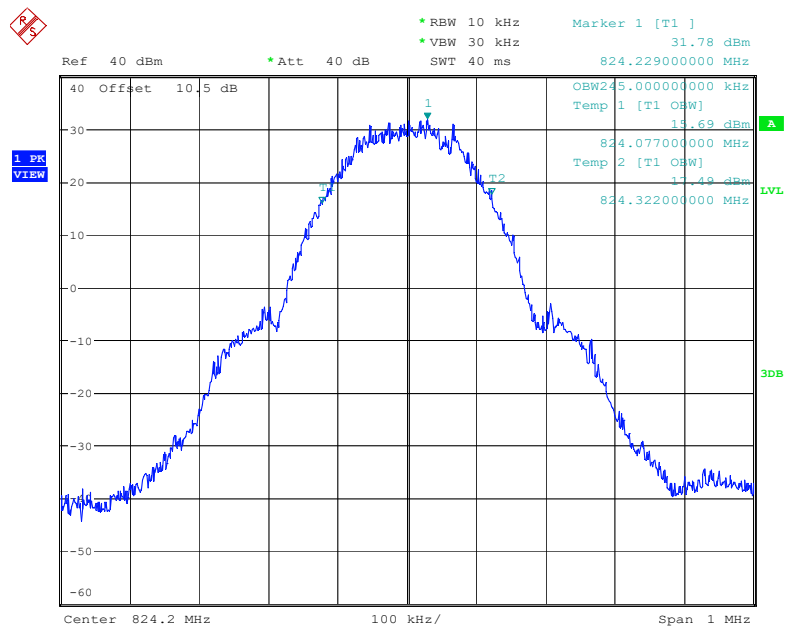
|       | Frequency (MHz) | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) |
|-------|-----------------|--------------------------|----------------------|
| RMC   | 1712.4          | 4.17                     | 4.73                 |
|       | 1732.6          | 4.17                     | 4.73                 |
|       | 1752.6          | 4.17                     | 4.73                 |
| HSDPA | 1712.4          | 4.19                     | 4.71                 |
|       | 1732.6          | 4.19                     | 4.76                 |
|       | 1752.6          | 4.19                     | 4.73                 |
| HSUPA | 1712.4          | 4.19                     | 4.73                 |
|       | 1732.6          | 4.20                     | 4.74                 |
|       | 1752.6          | 4.19                     | 4.73                 |

## Cellular Band (Part 22H)

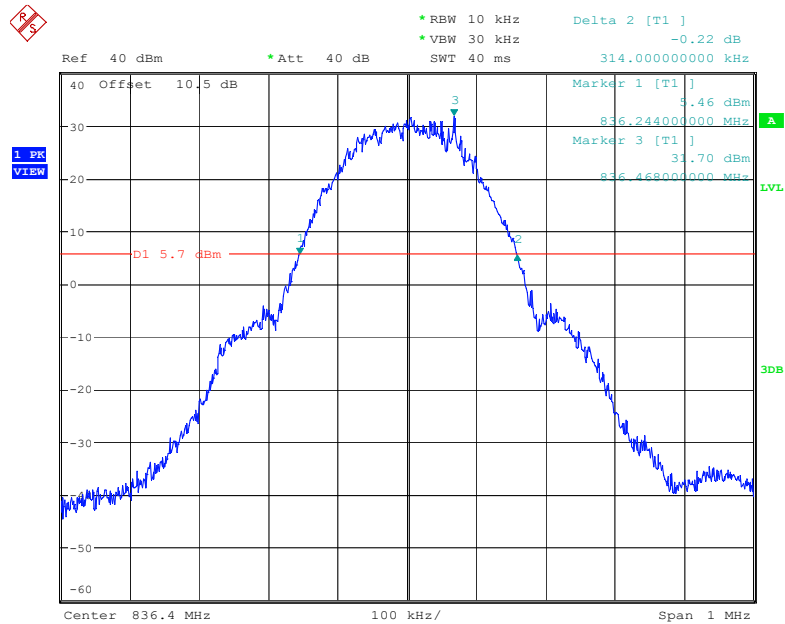
## 26 dB Emissions &amp; 99% Occupied Bandwidth for GSM (GMSK) Mode, Low channel



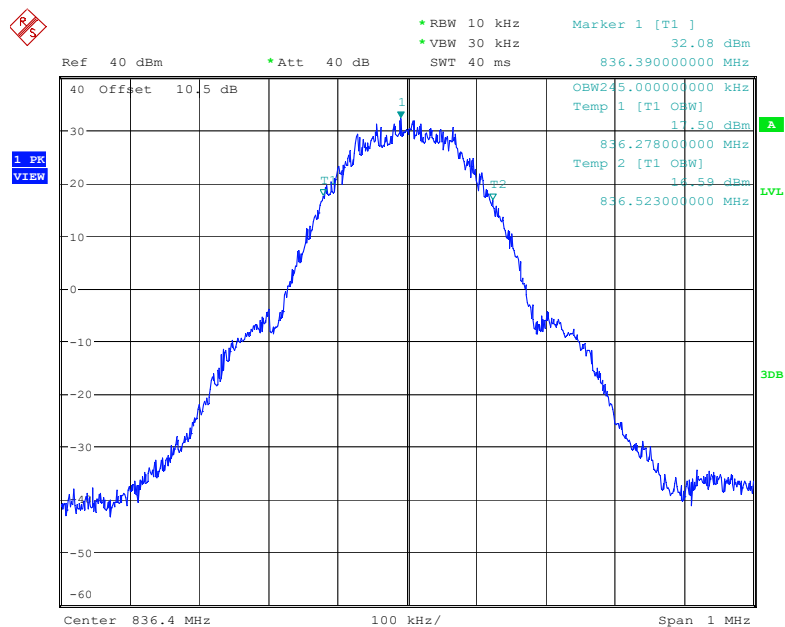
Date: 28.JUN.2022 15:02:51



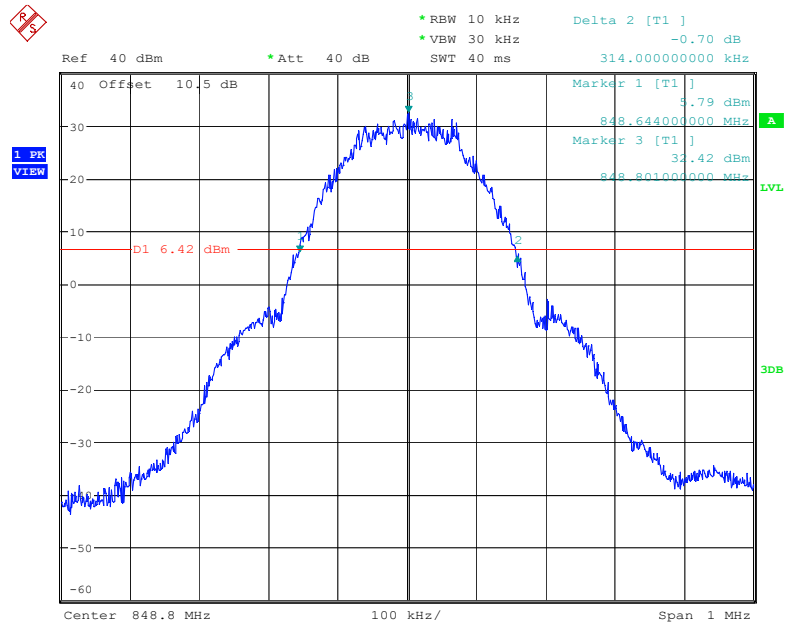
Date: 28.JUN.2022 15:02:24

**26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, Middle channel**

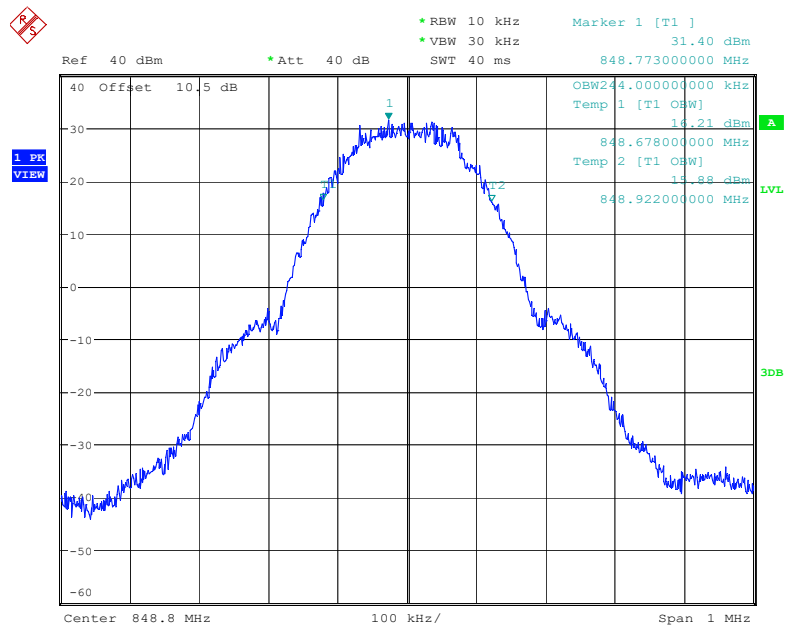
Date: 28.JUN.2022 15:07:19



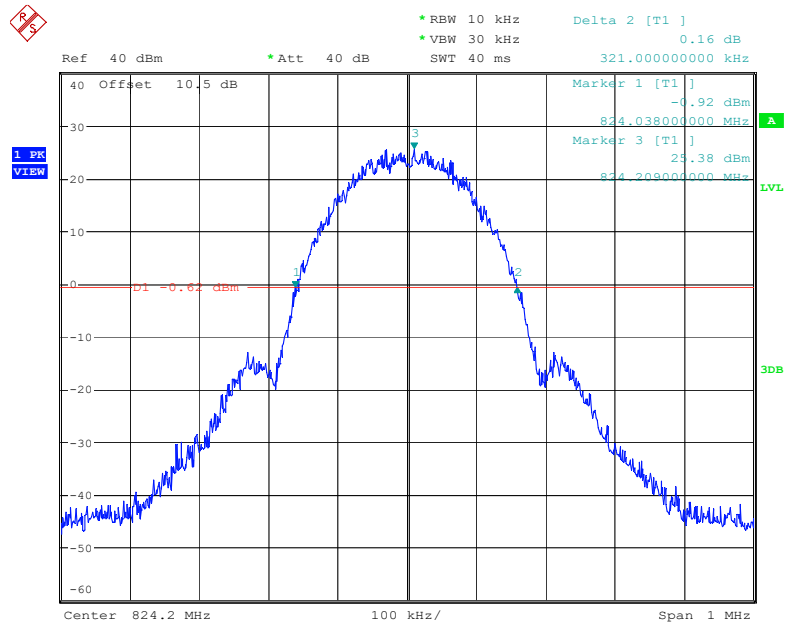
Date: 28.JUN.2022 15:06:52

**26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, High channel**

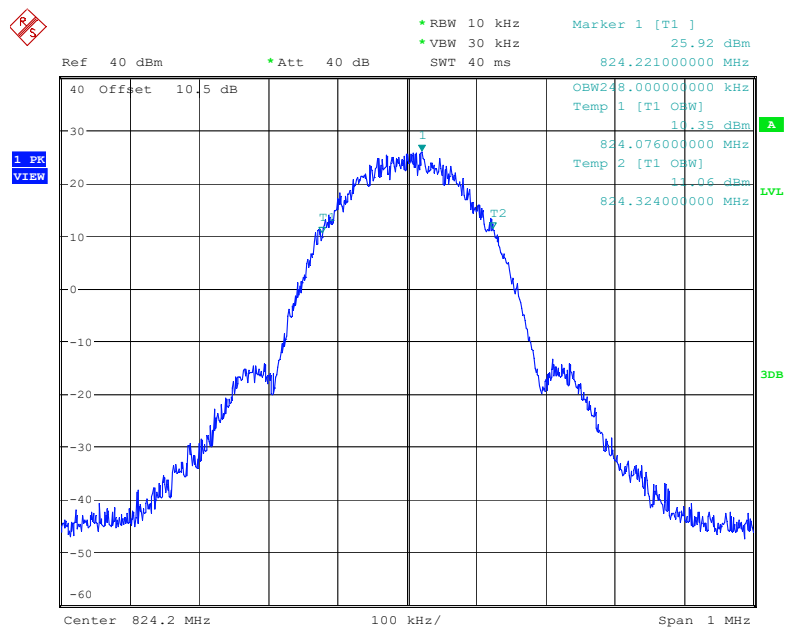
Date: 28.JUN.2022 15:12:07

**26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, High channel**

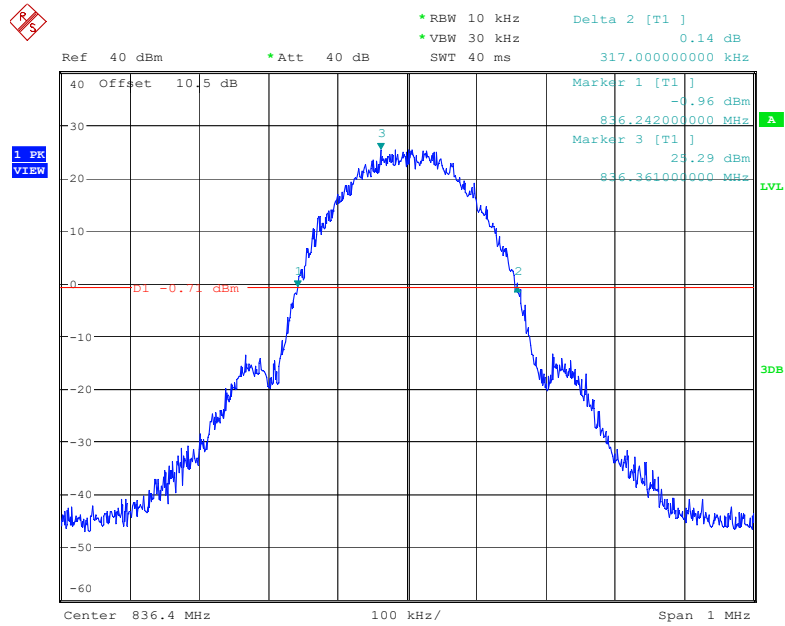
Date: 28.JUN.2022 15:11:39

**26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, Low channel**

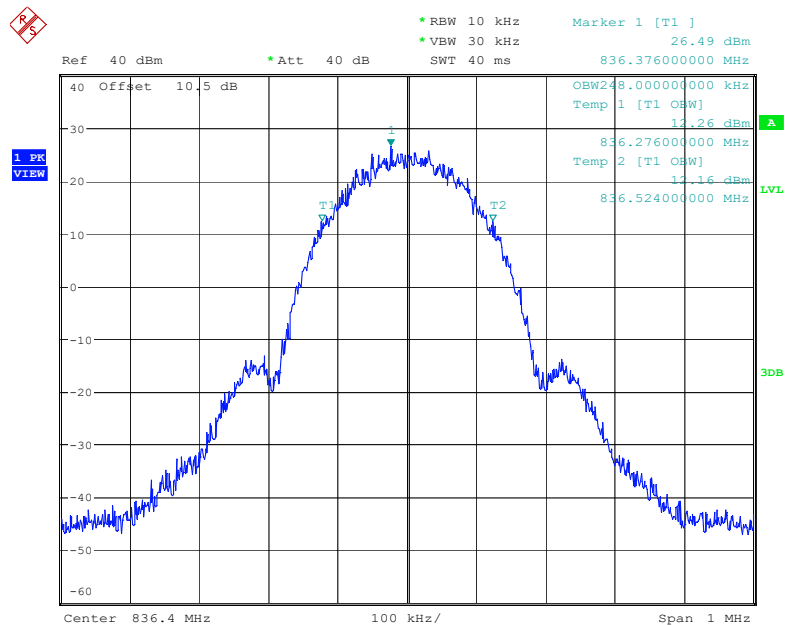
Date: 28.JUN.2022 15:18:25



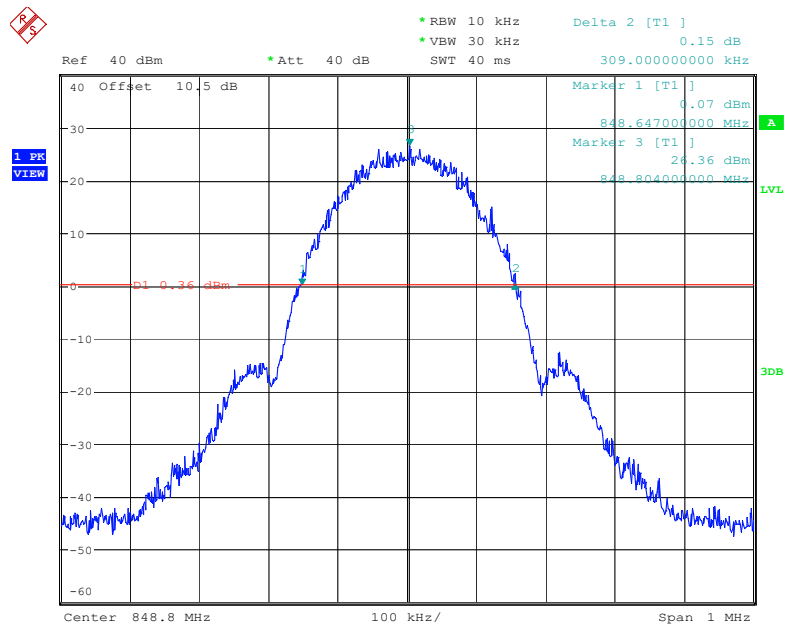
Date: 28.JUN.2022 15:17:58

**26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, Middle channel**

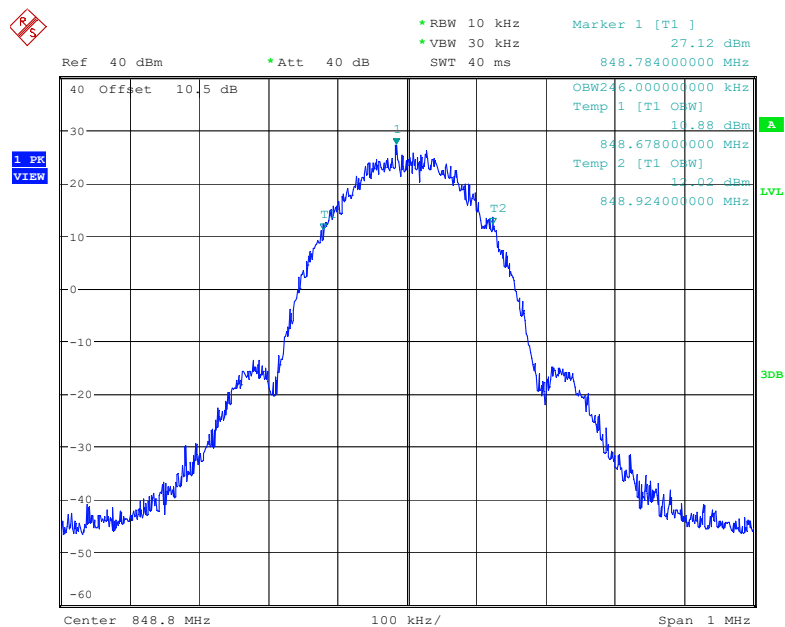
Date: 28.JUN.2022 15:21:31



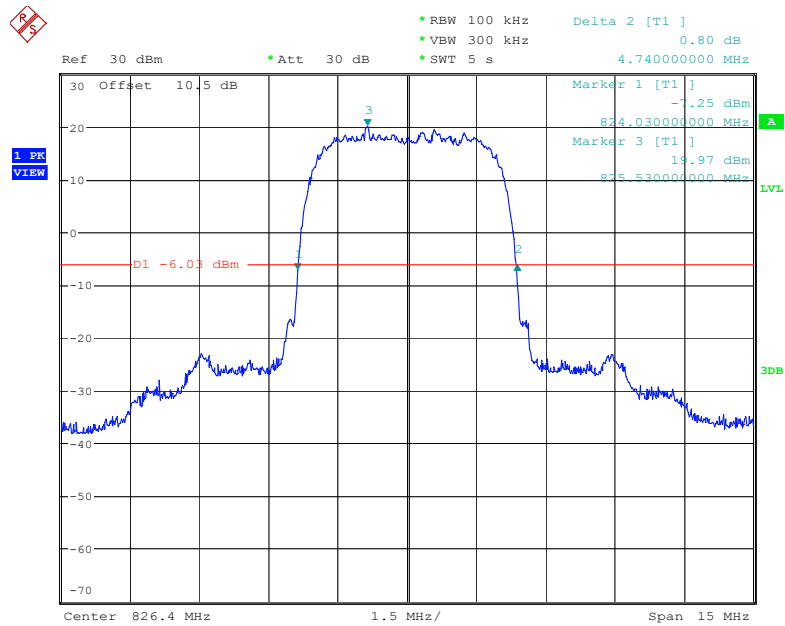
Date: 28.JUN.2022 15:21:04

**26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, High channel**

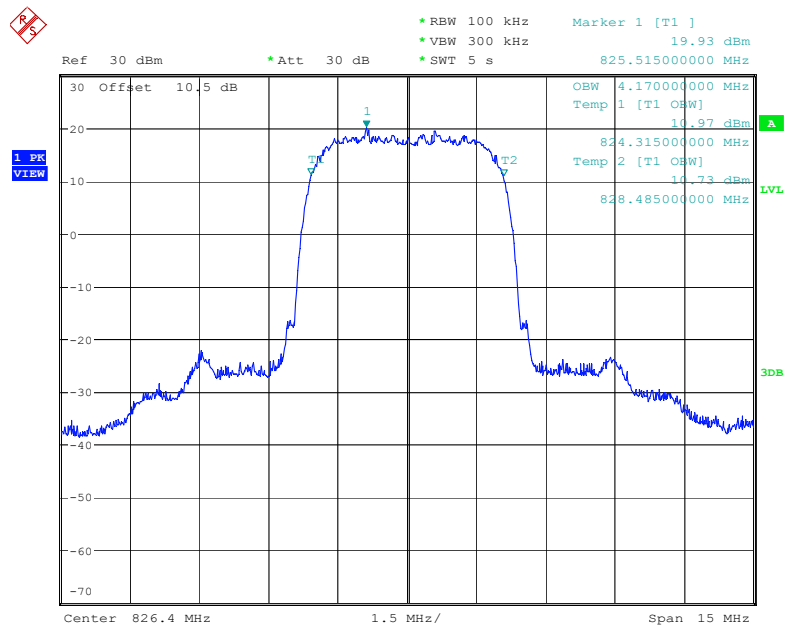
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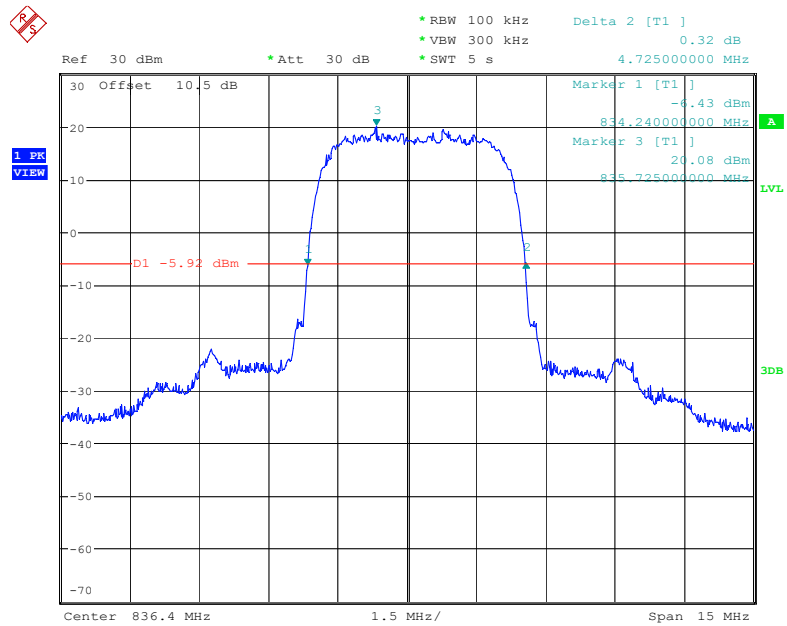
Date: 28.JUN.2022 15:24:10

**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Low channel**

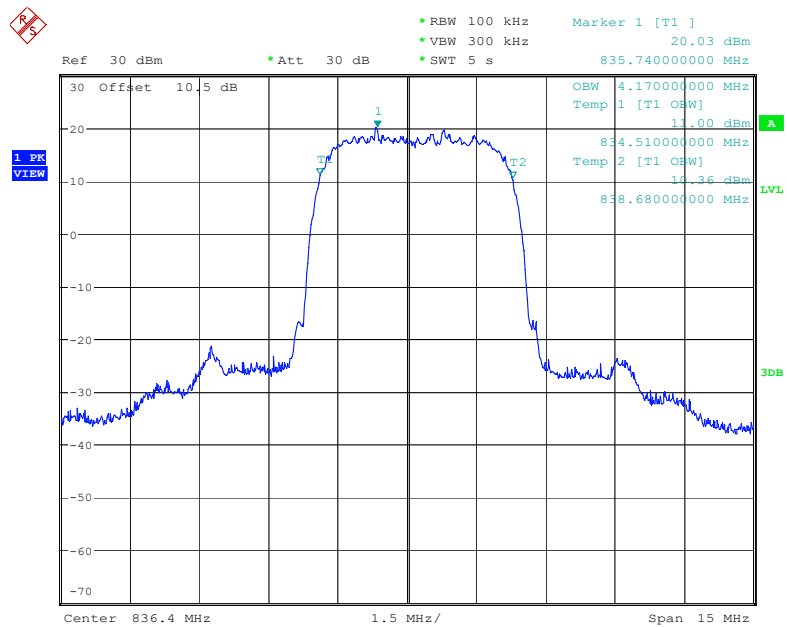
Date: 28.JUN.2022 17:25:11



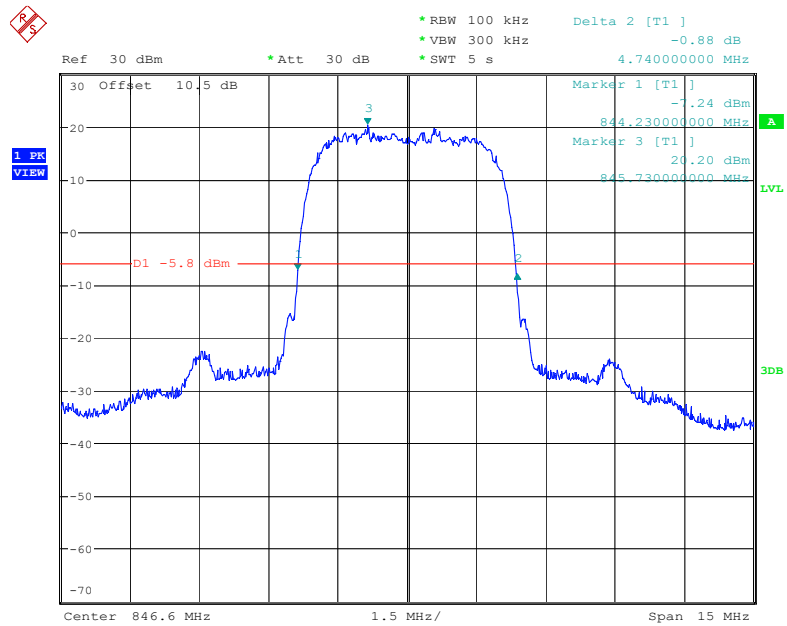
Date: 28.JUN.2022 17:24:34

**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Middle channel**

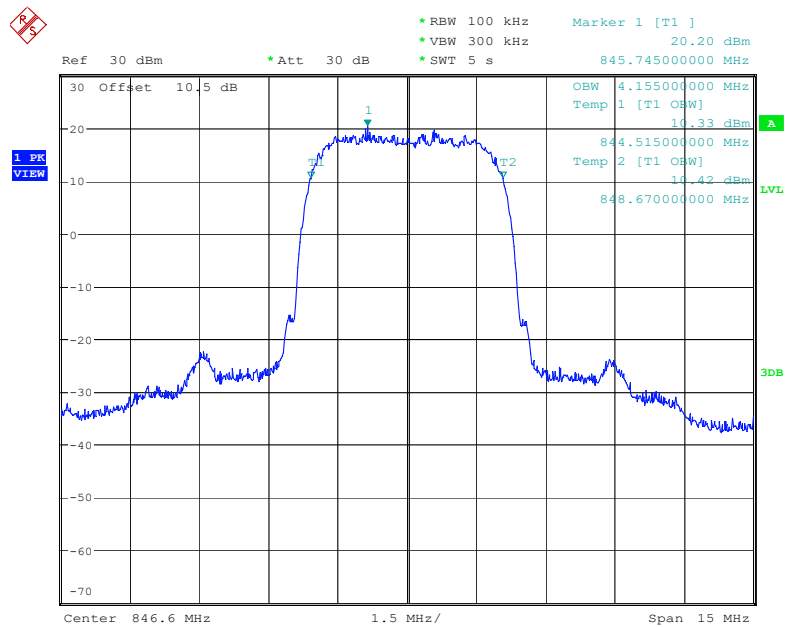
Date: 28.JUN.2022 17:28:47



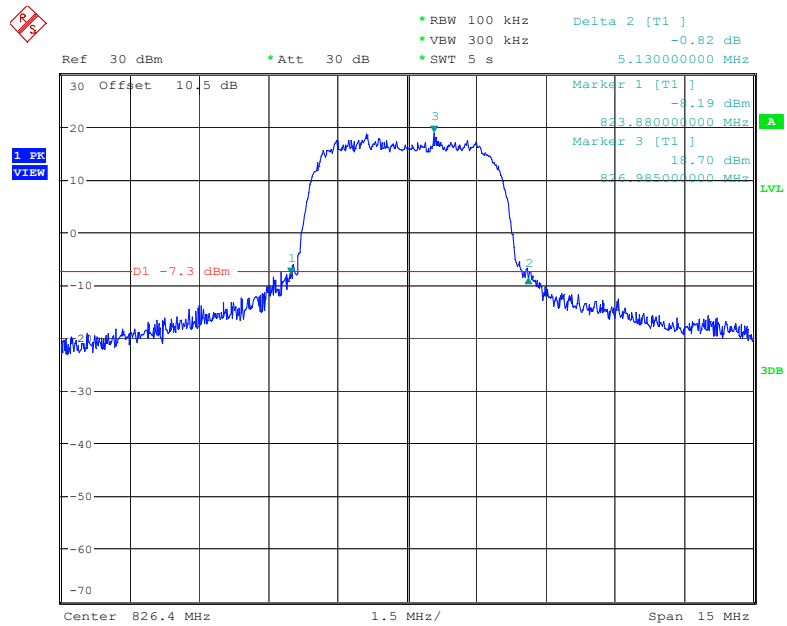
Date: 28.JUN.2022 17:28:10

**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, High channel**

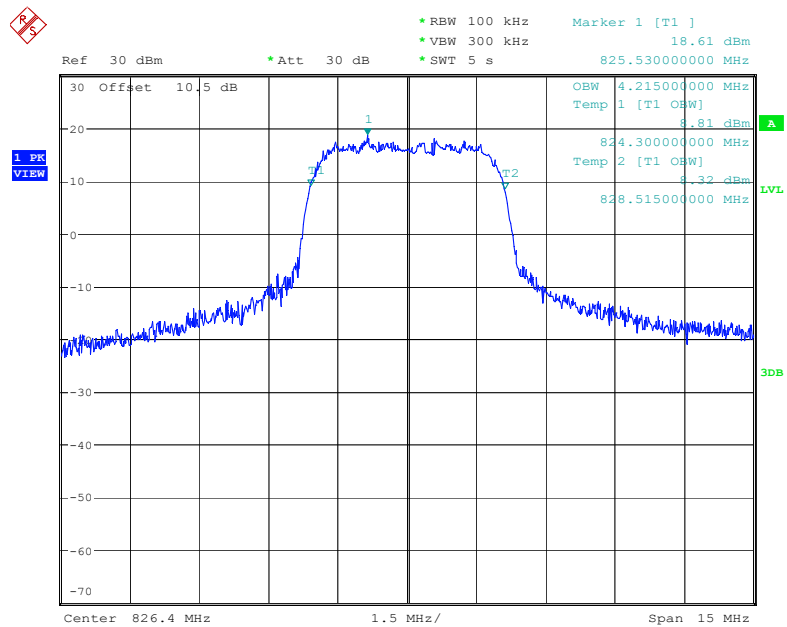
Date: 28.JUN.2022 17:32:02



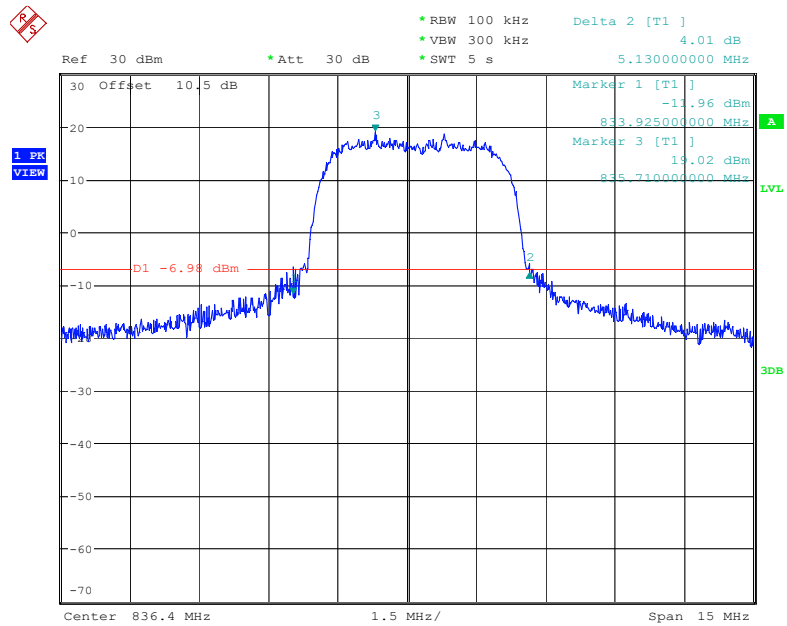
Date: 28.JUN.2022 17:31:25

**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, Low channel**

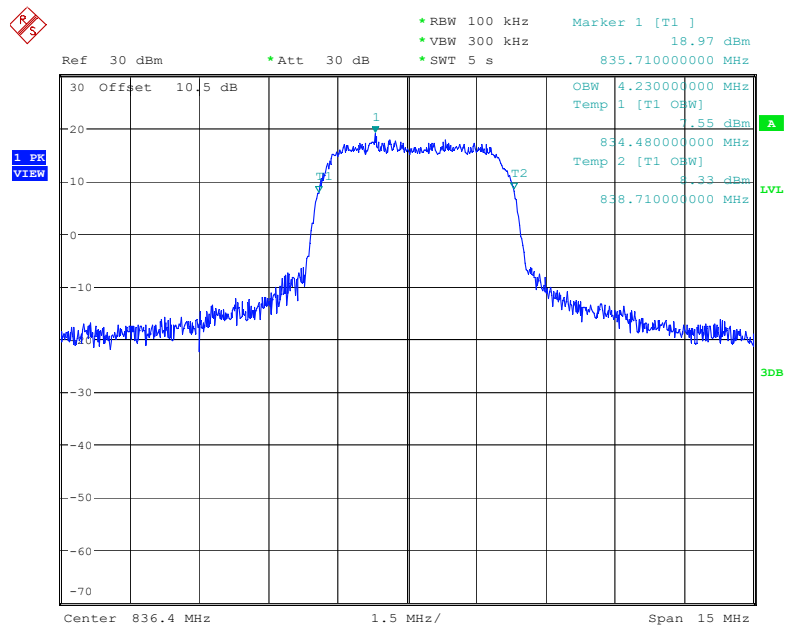
Date: 28.JUN.2022 18:11:58



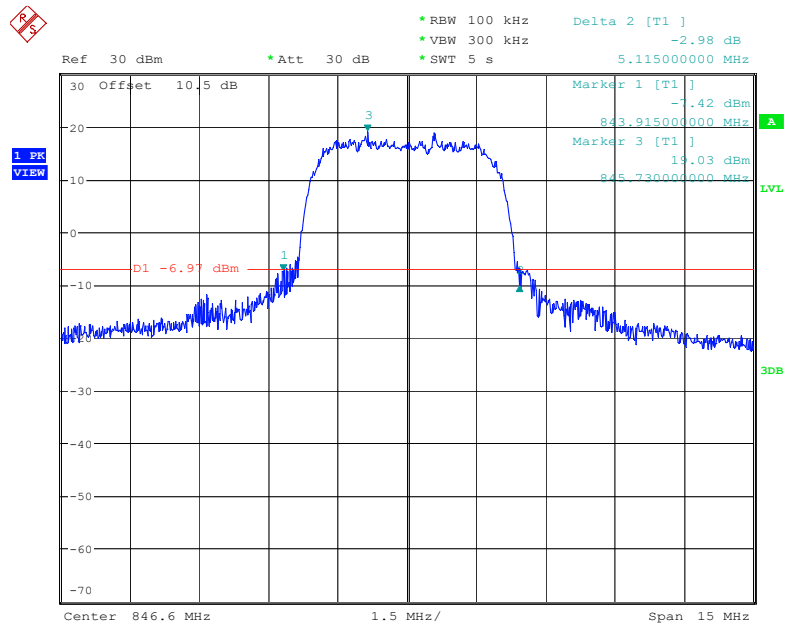
Date: 28.JUN.2022 18:11:21

**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, Middle channel**

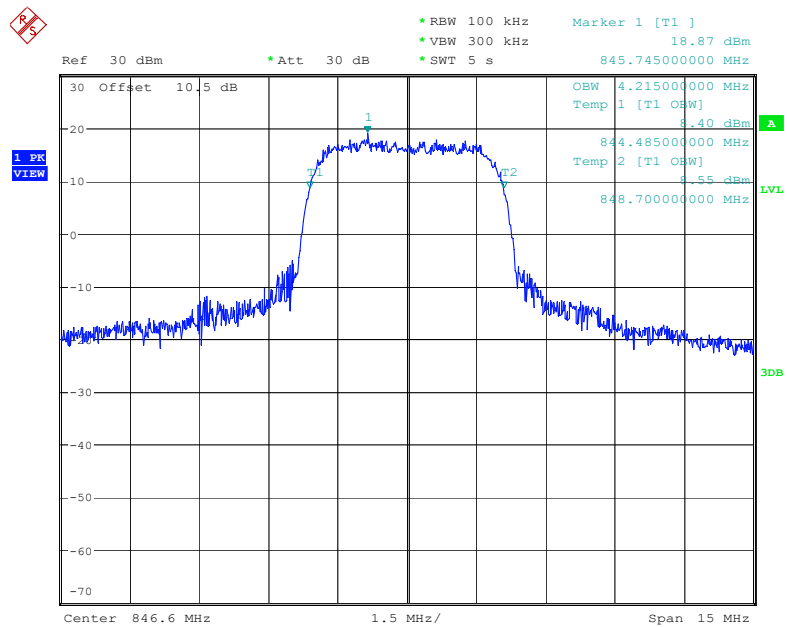
Date: 28.JUN.2022 18:15:38



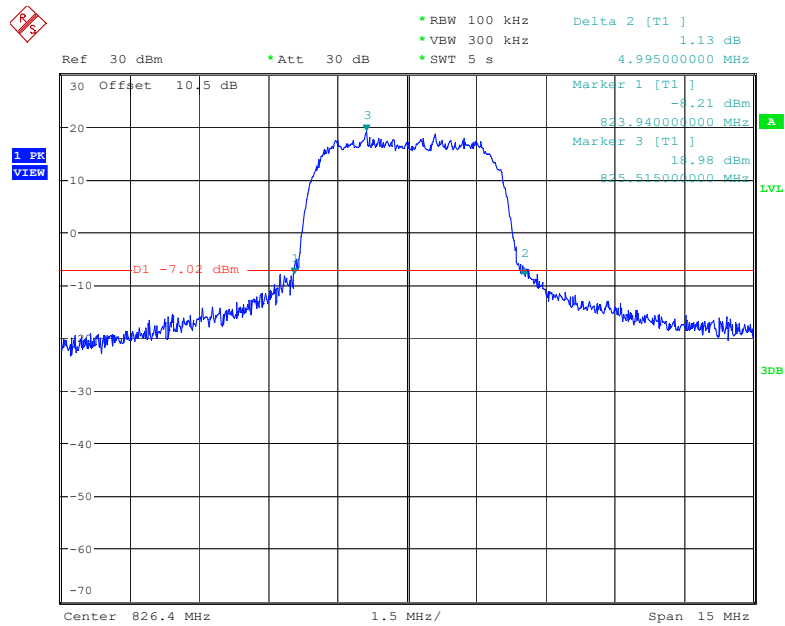
Date: 28.JUN.2022 18:15:01

**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, High channel**

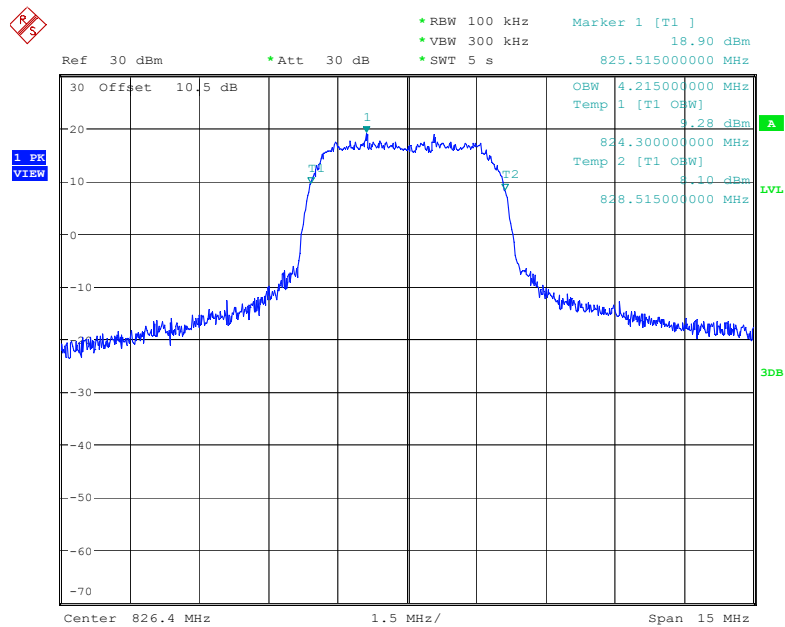
Date: 28.JUN.2022 18:19:20



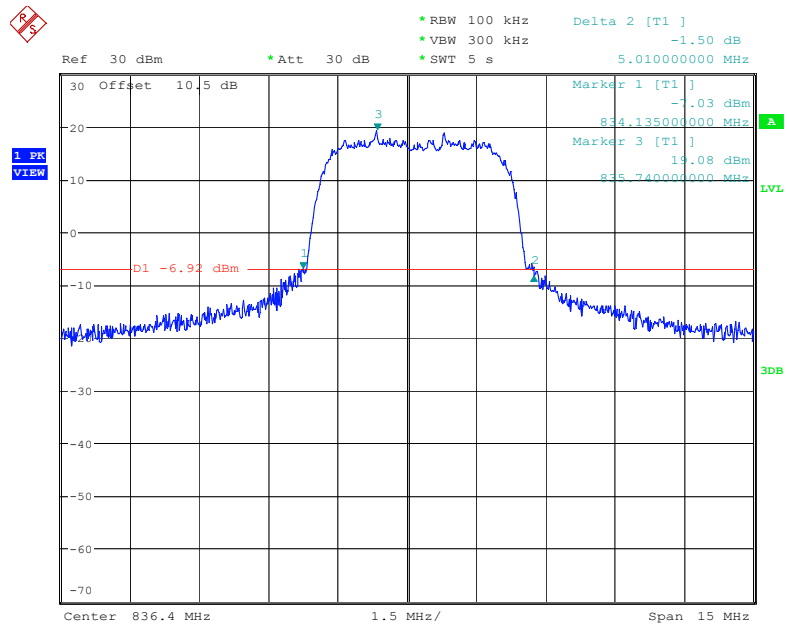
Date: 28.JUN.2022 18:18:43

**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, Low channel**

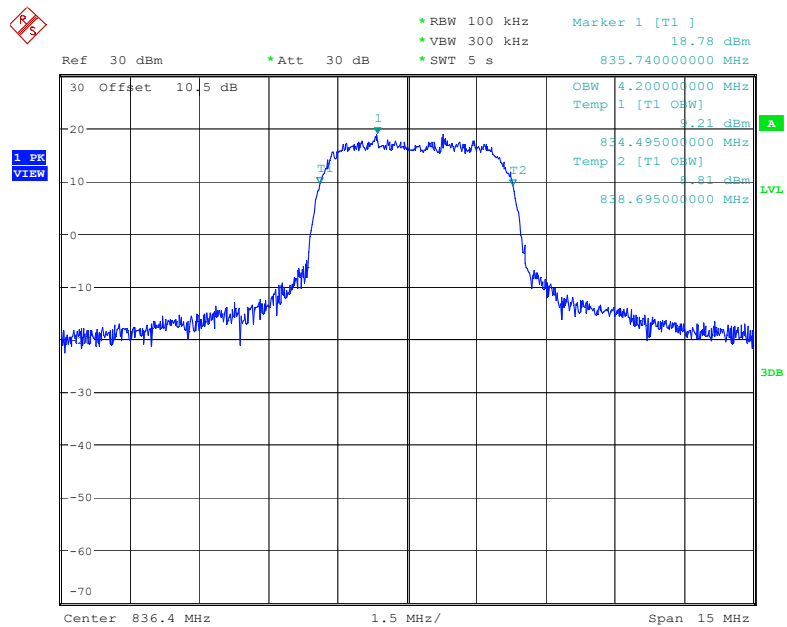
Date: 28.JUN.2022 18:00:25



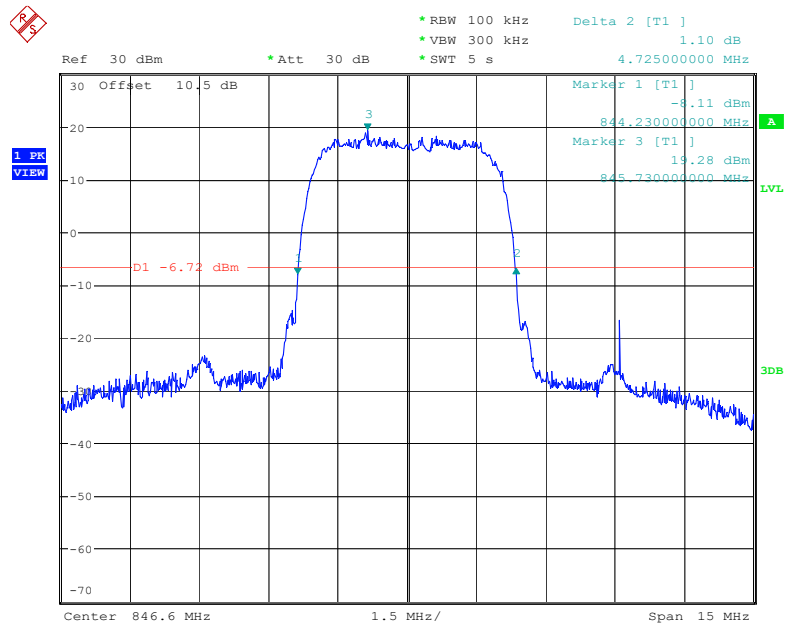
Date: 28.JUN.2022 17:59:47

**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, Middle channel**

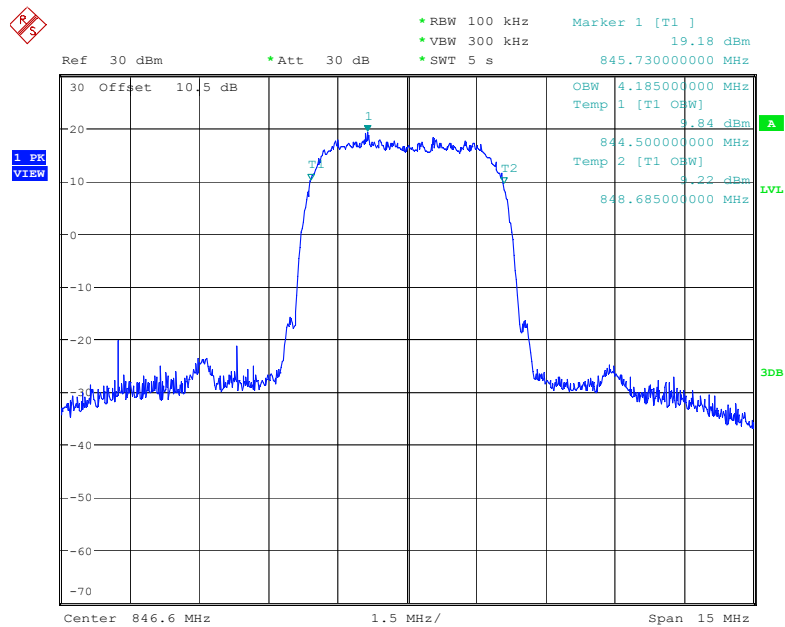
Date: 28.JUN.2022 18:03:39



Date: 28.JUN.2022 18:03:01

**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, High channel**

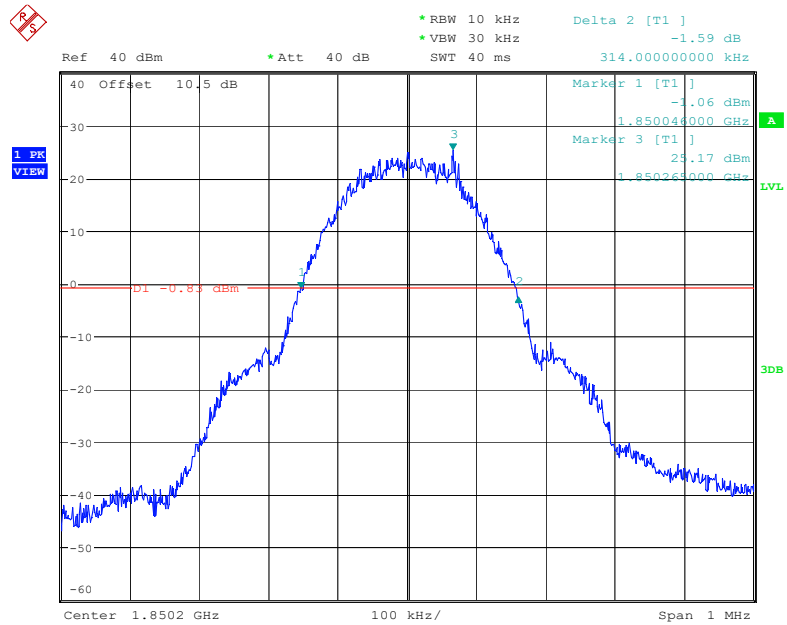
Date: 28.JUN.2022 18:06:35



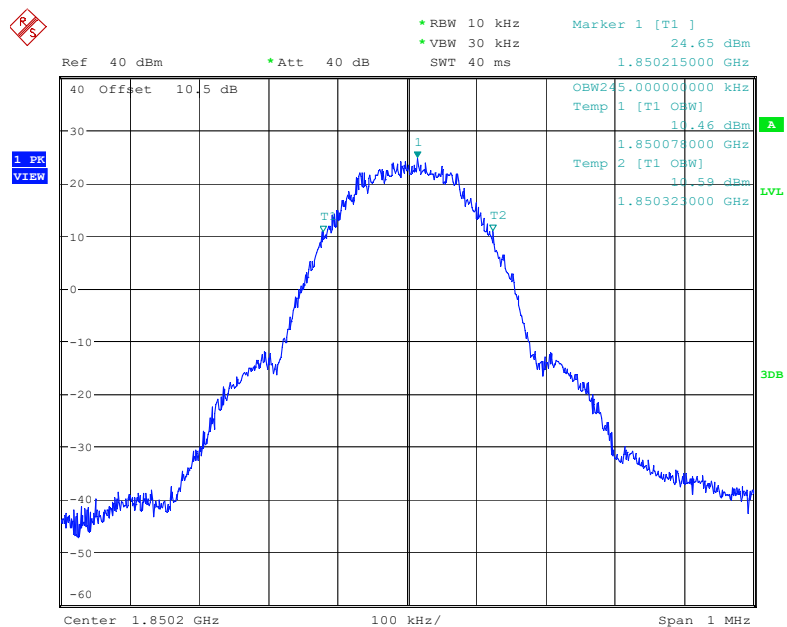
Date: 28.JUN.2022 18:05:58

## PCS Band (Part 24E)

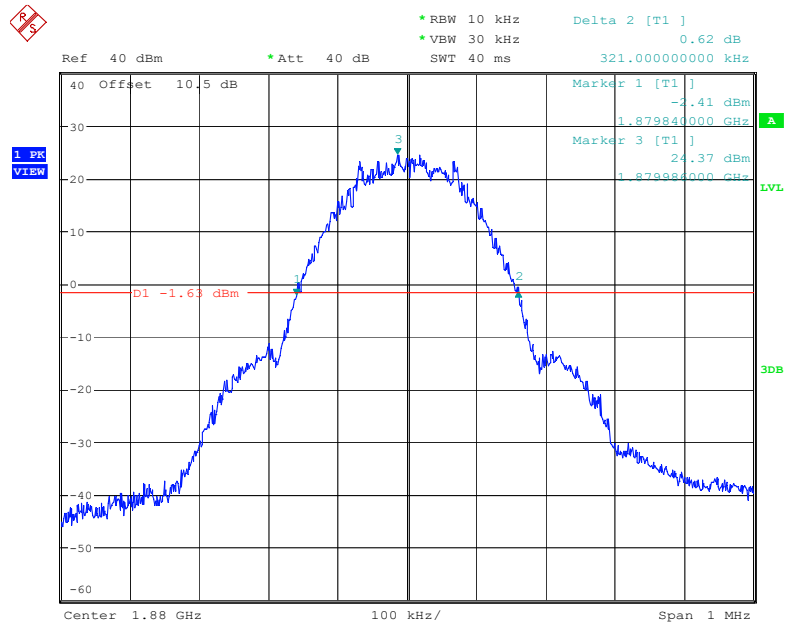
## 26 dB Emissions &amp; 99% Occupied Bandwidth for GSM (GMSK) Mode, Low channel



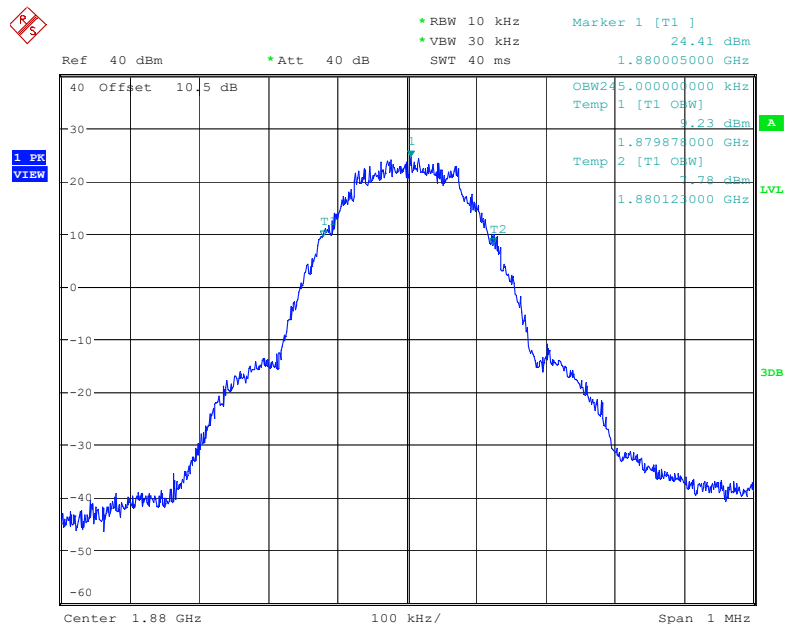
Date: 28.JUN.2022 15:42:29



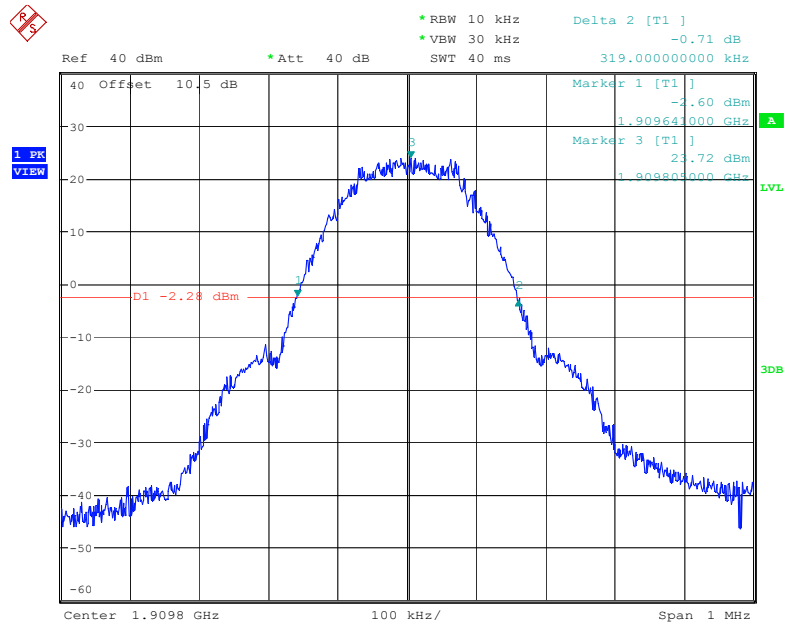
Date: 28.JUN.2022 15:42:02

**26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, Middle channel**

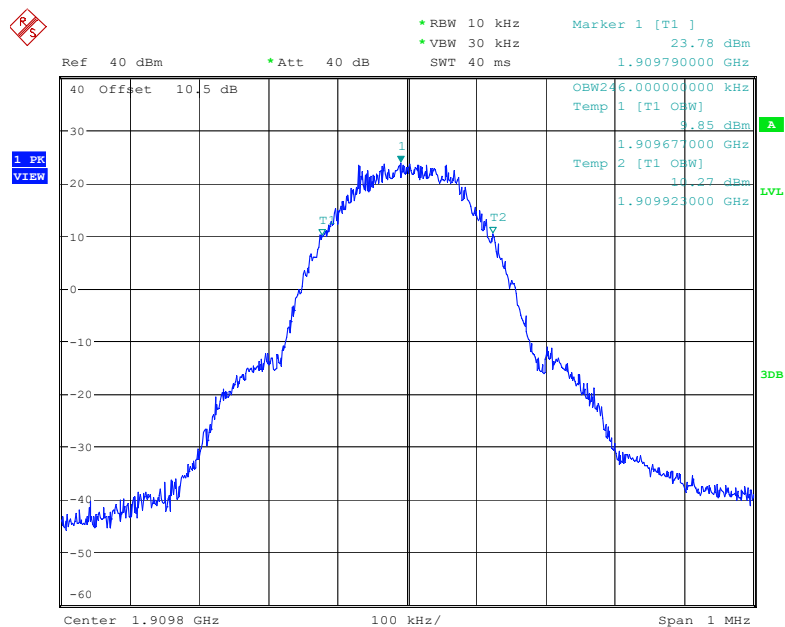
Date: 28.JUN.2022 15:46:10



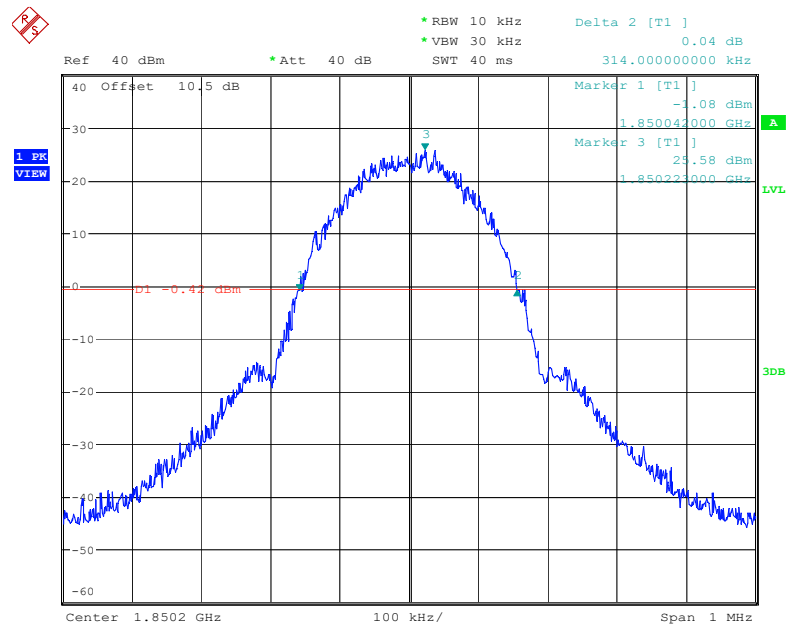
Date: 28.JUN.2022 15:45:43

**26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, High channel**

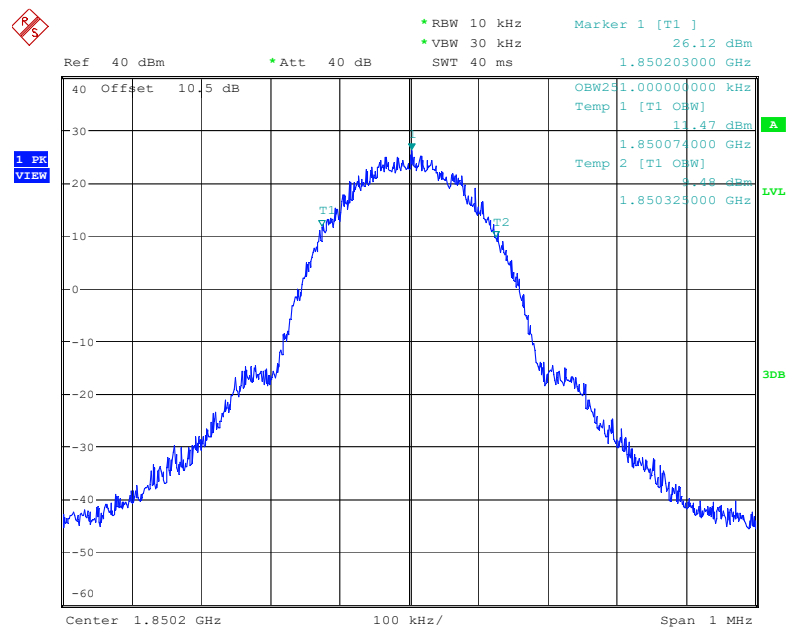
Date: 28.JUN.2022 15:49:25



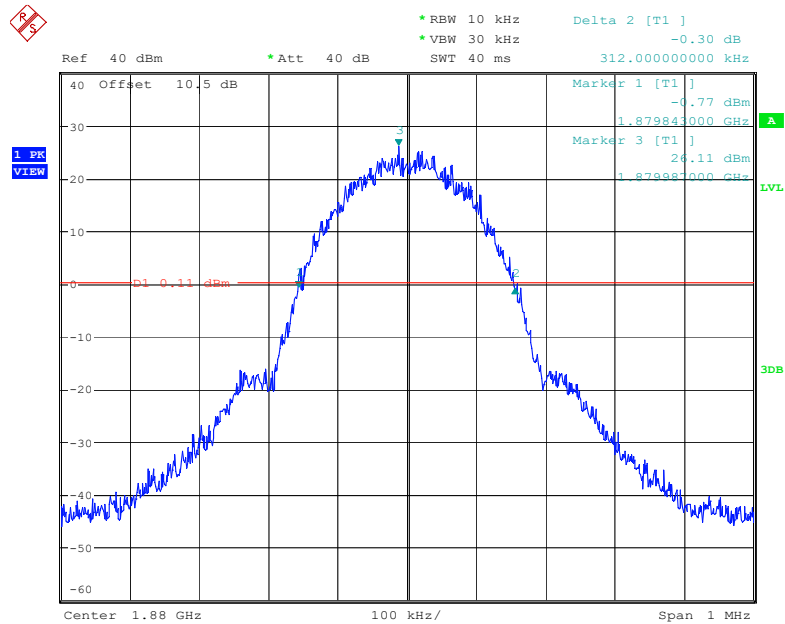
Date: 28.JUN.2022 15:48:58

**26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, Low channel**

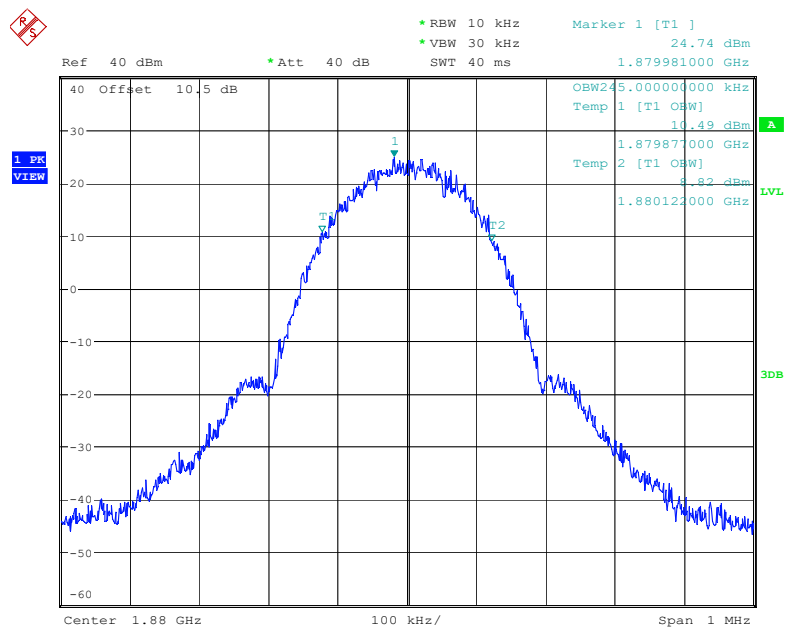
Date: 28.JUN.2022 15:30:13



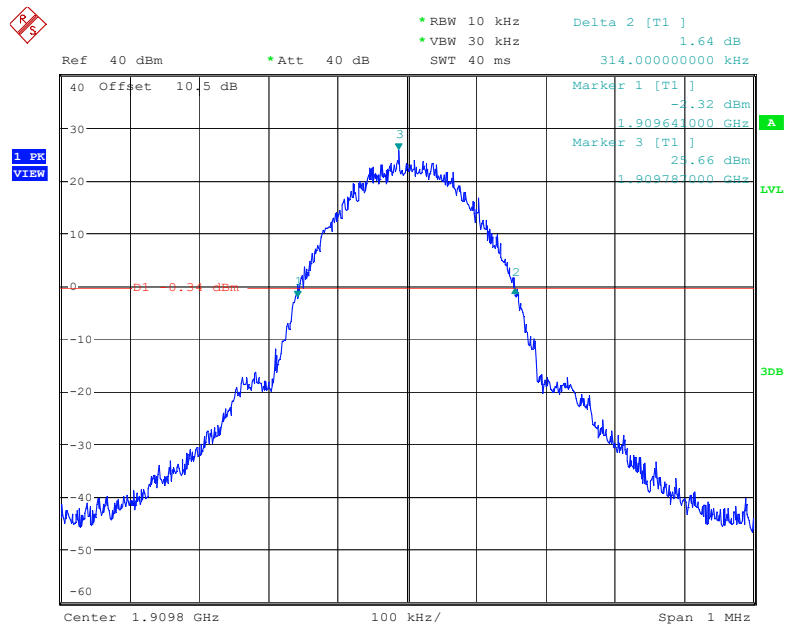
Date: 28.JUN.2022 15:29:46

**26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, Middle channel**

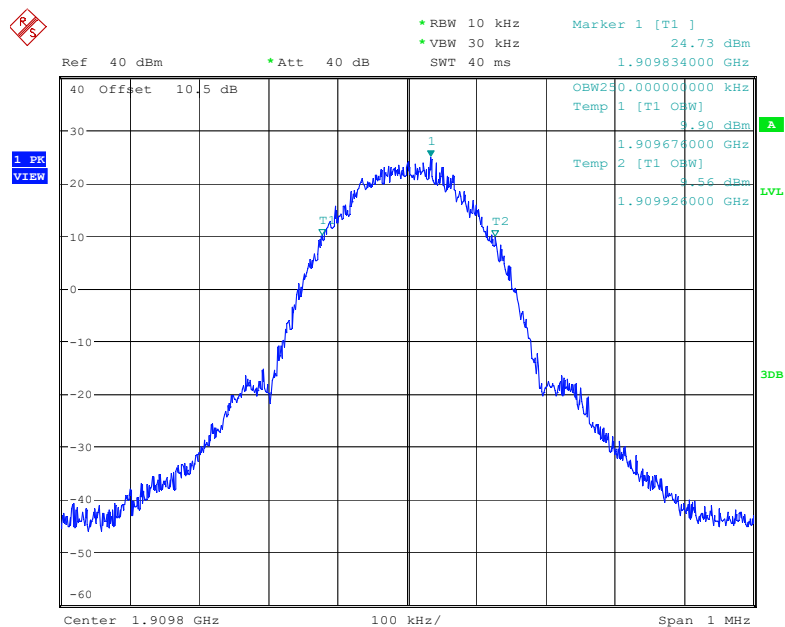
Date: 28.JUN.2022 15:33:50



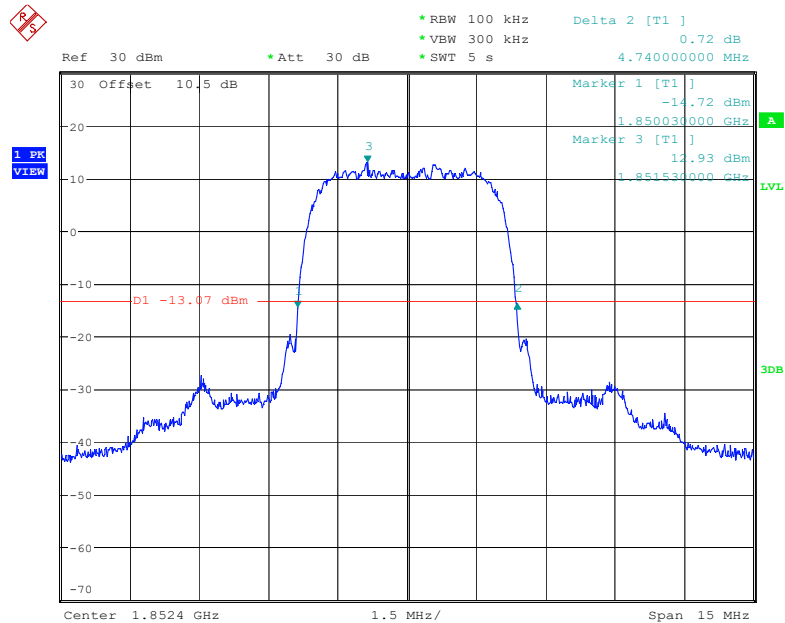
Date: 28.JUN.2022 15:33:22

**26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, High channel**

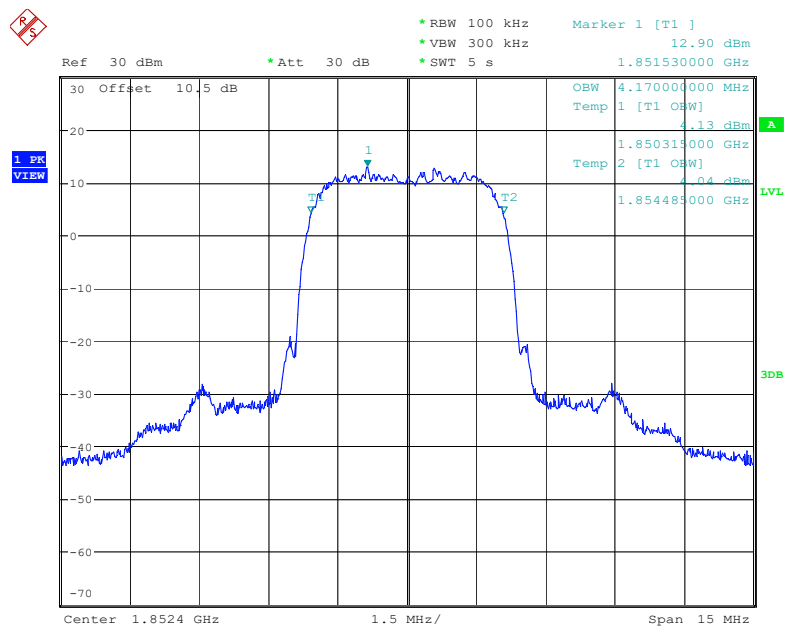
Date: 28.JUN.2022 15:37:31



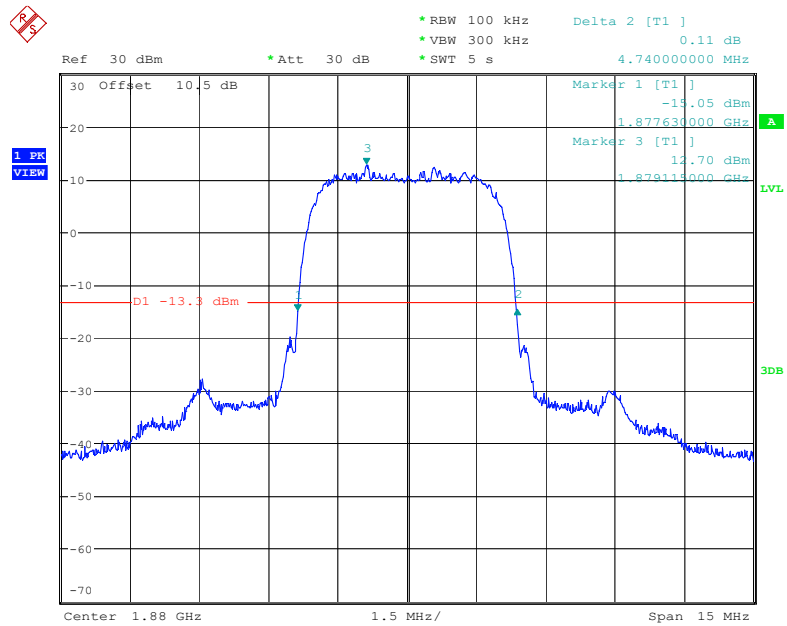
Date: 28.JUN.2022 15:37:04

**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Low channel**

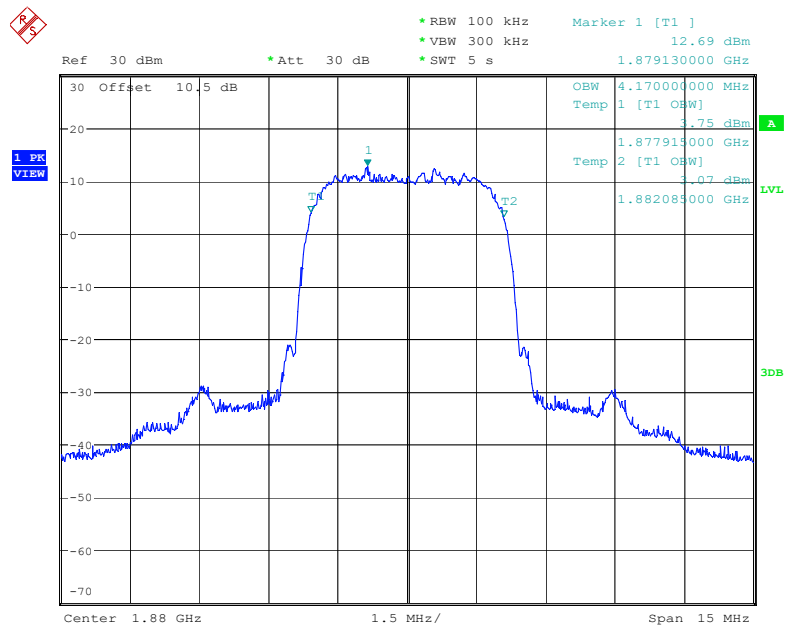
Date: 28.JUN.2022 15:56:59



Date: 28.JUN.2022 15:56:21

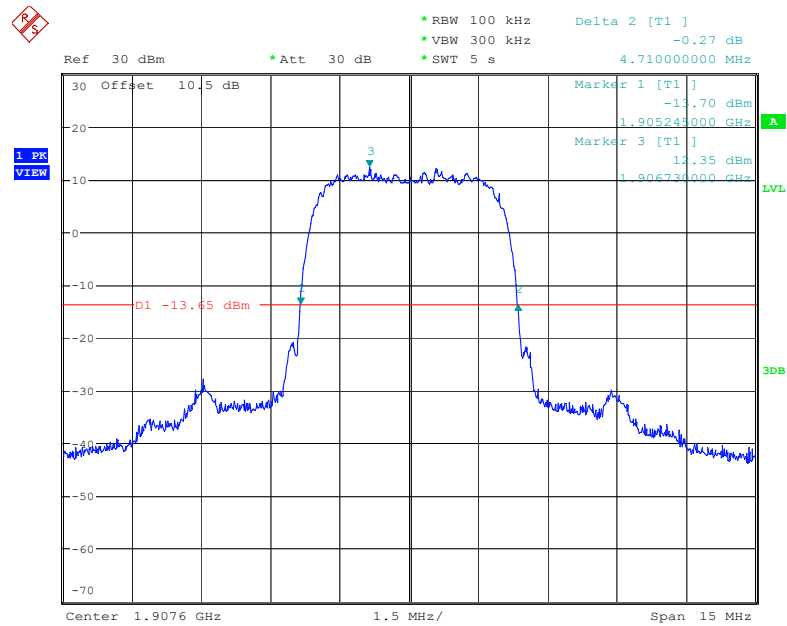
**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Middle channel**

Date: 28.JUN.2022 16:01:12

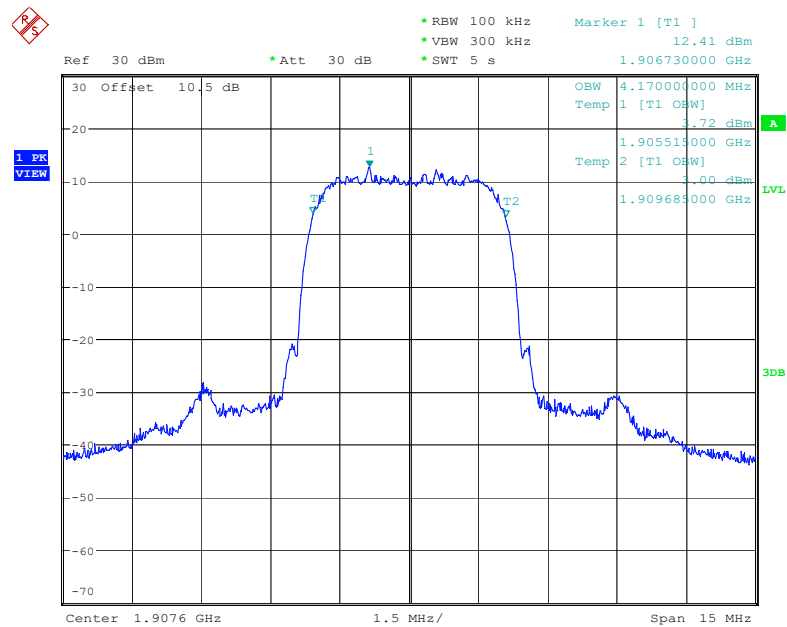


Date: 28.JUN.2022 16:00:35

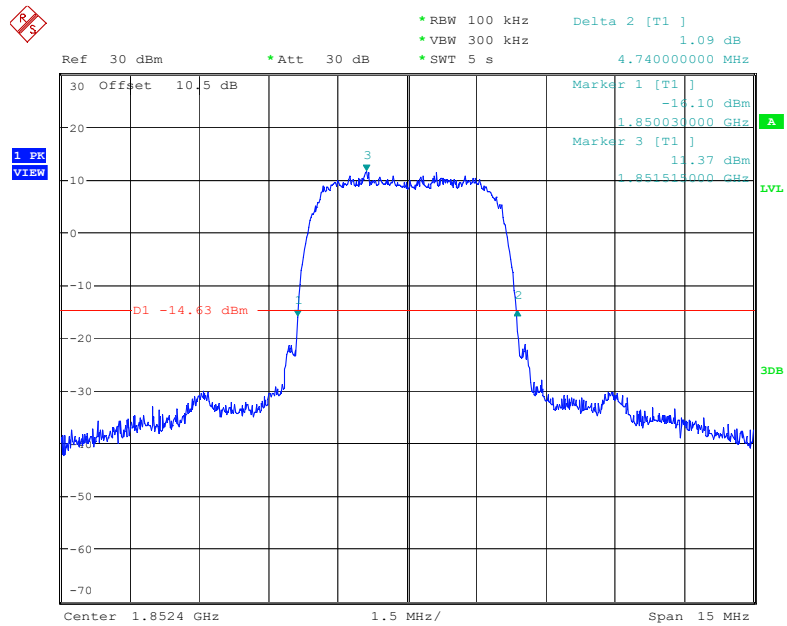
### 26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, High channel



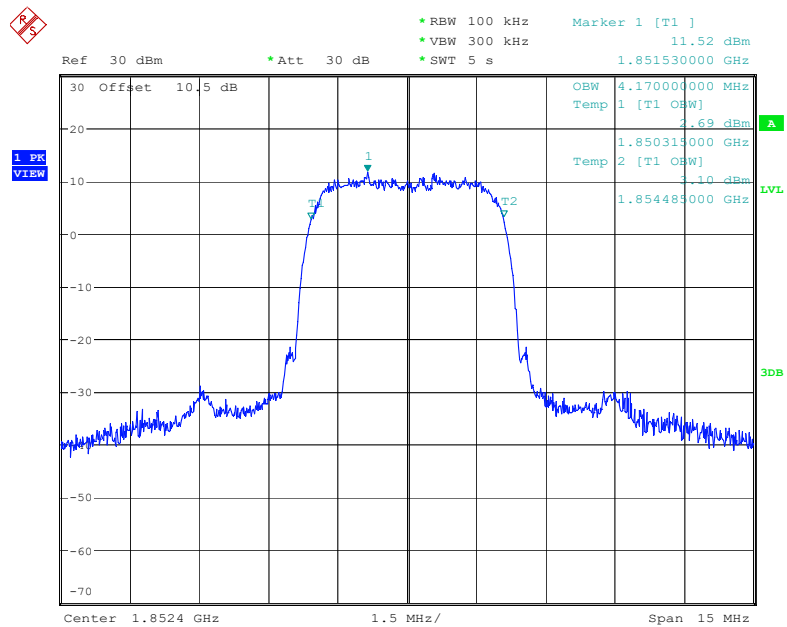
Date: 28.JUN.2022 16:05:09



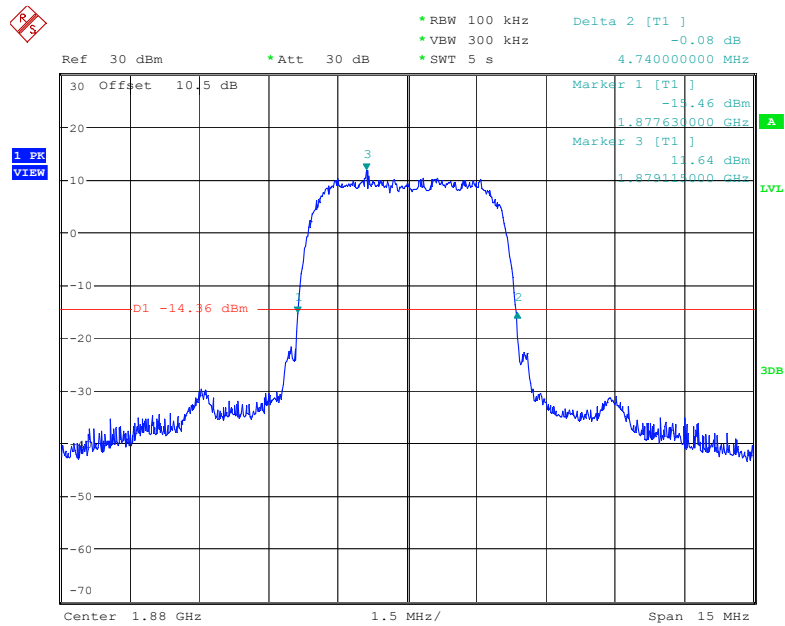
Date: 28.JUN.2022 16:04:32

**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, Low channel**

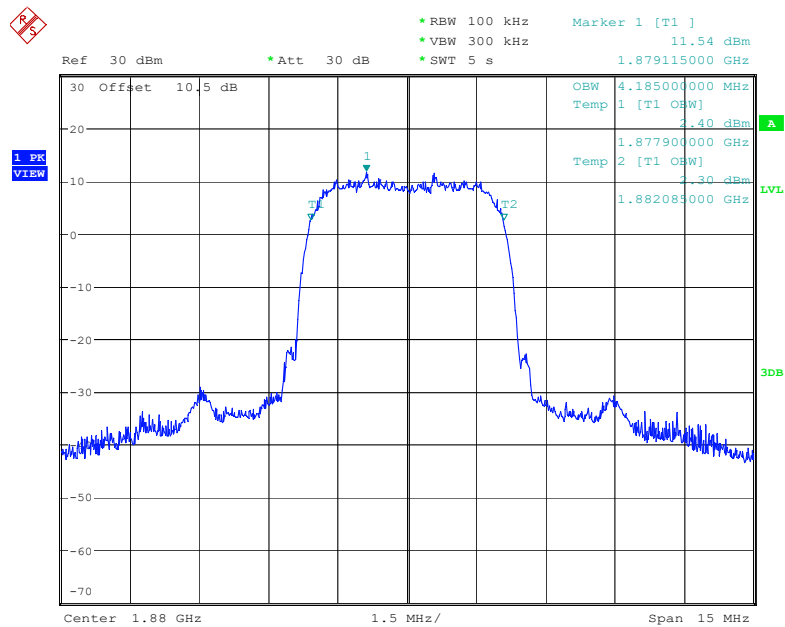
Date: 28.JUN.2022 16:23:56



Date: 28.JUN.2022 16:23:18

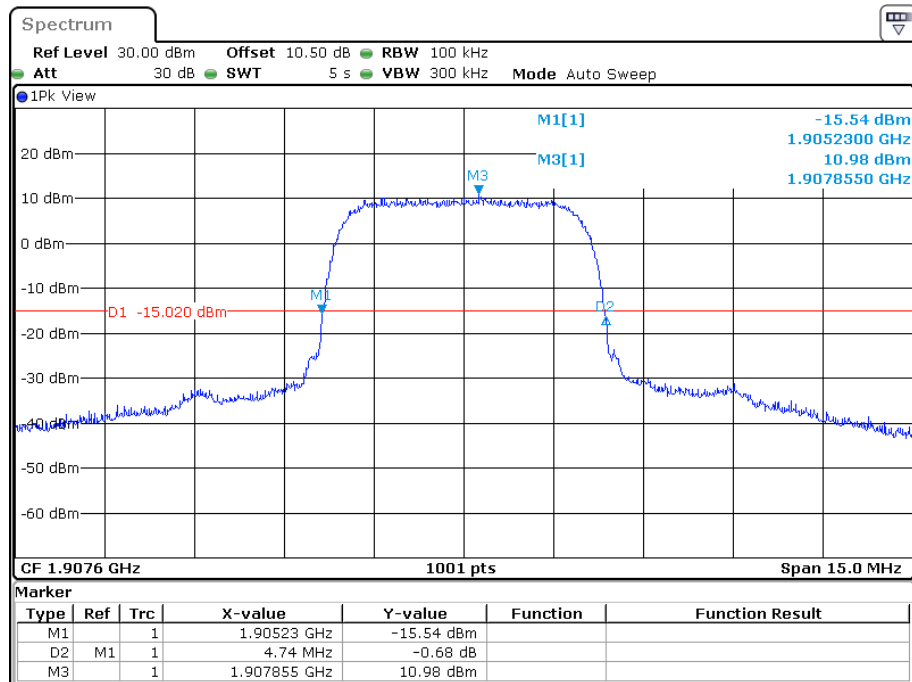
**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, Middle channel**

Date: 28.JUN.2022 16:28:26

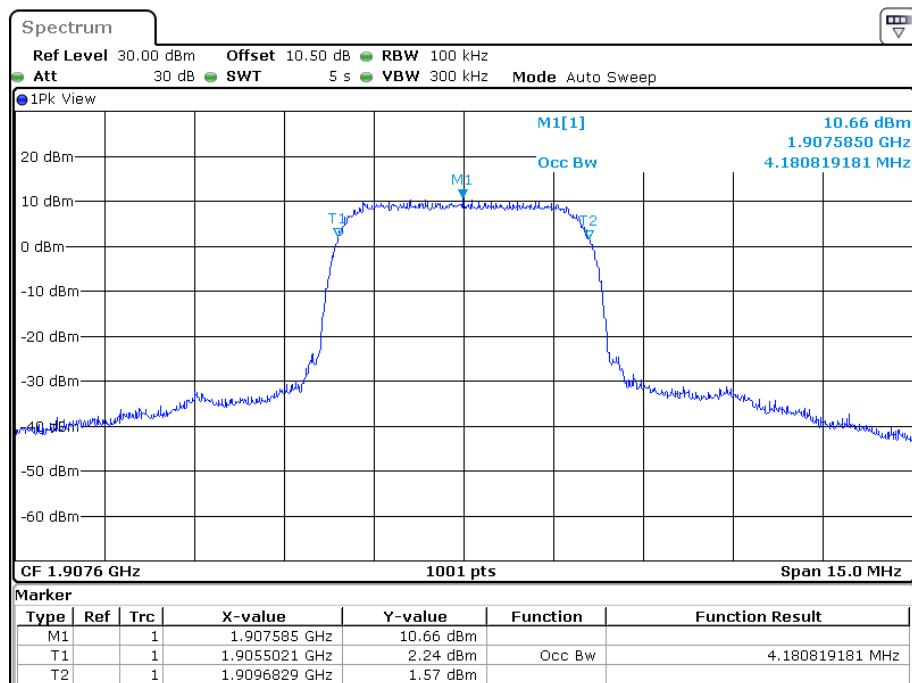


Date: 28.JUN.2022 16:27:48

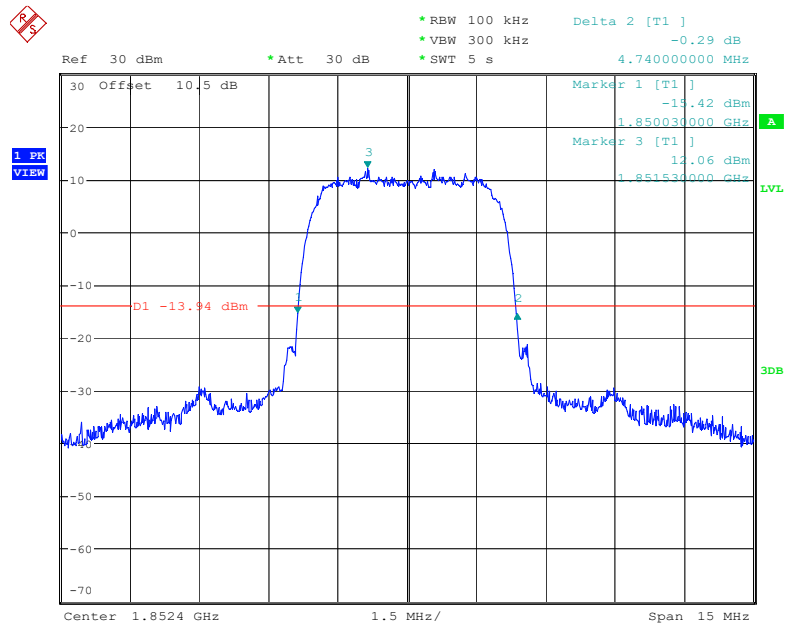
## 26 dB Emissions &amp; 99% Occupied Bandwidth for HSUPA (QPSK) Mode, High channel



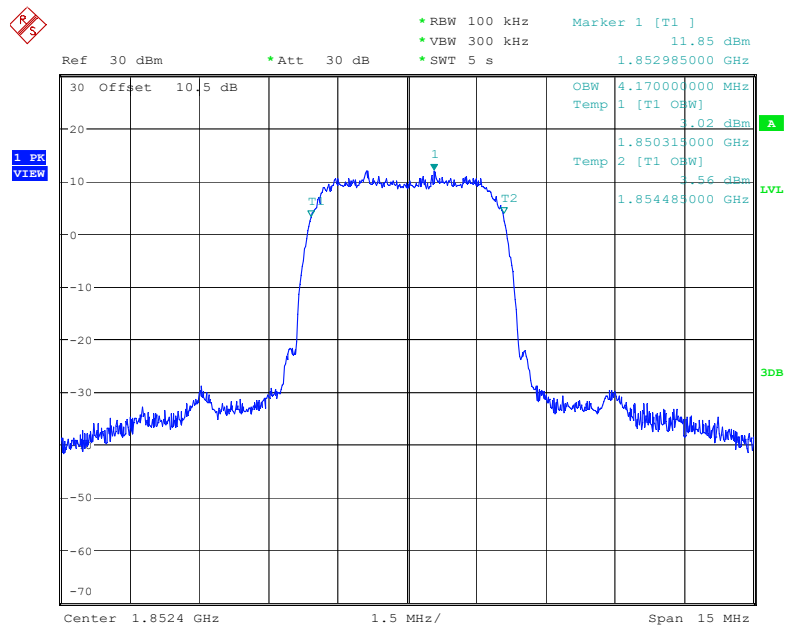
Date: 18.JUL.2022 14:24:49



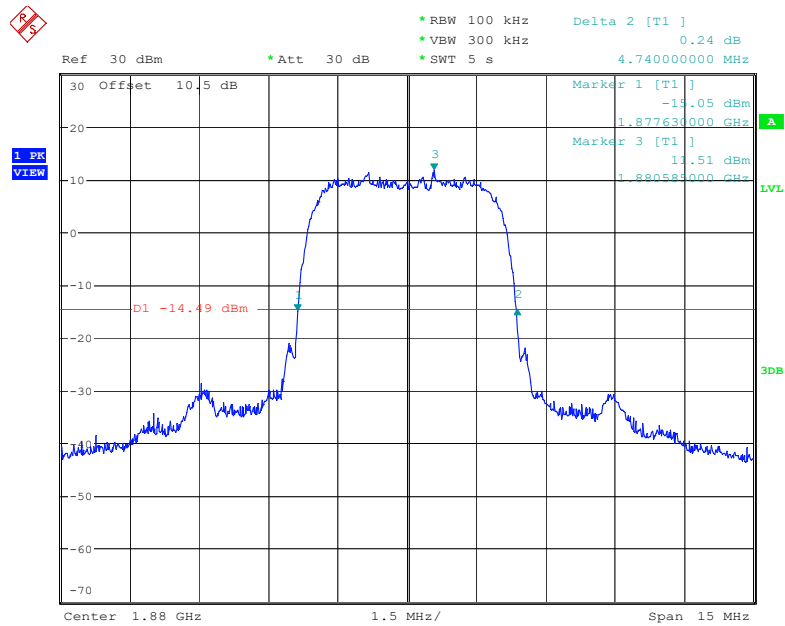
Date: 18.JUL.2022 14:24:12

**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, Low channel**

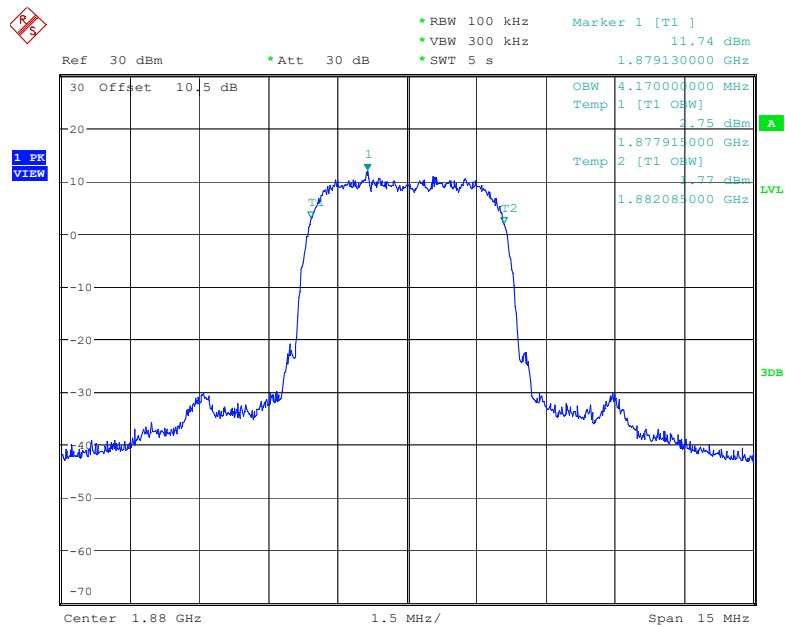
Date: 28.JUN.2022 16:10:50



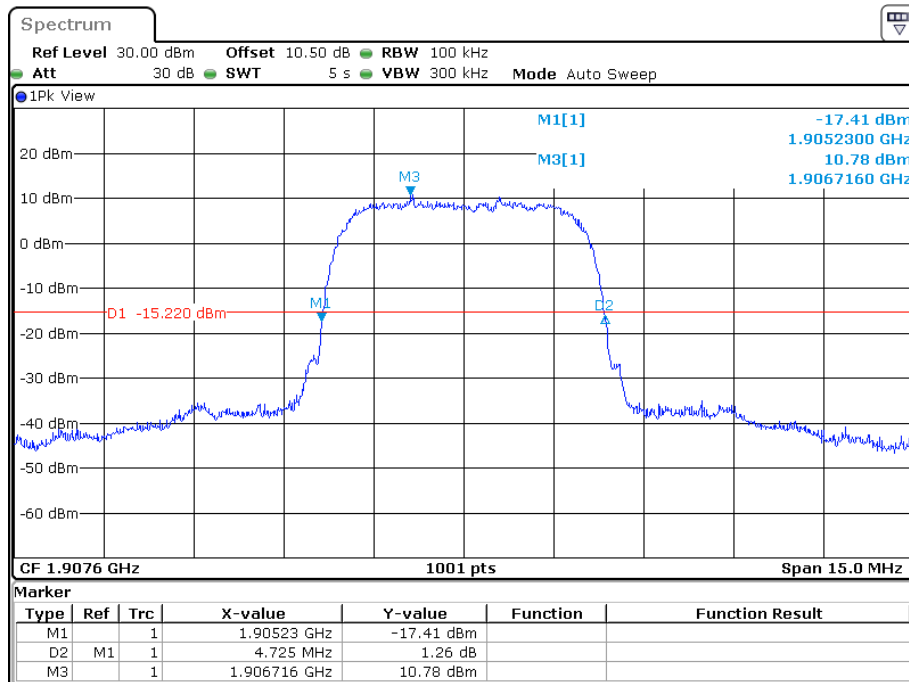
Date: 28.JUN.2022 16:10:12

**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, Middle channel**

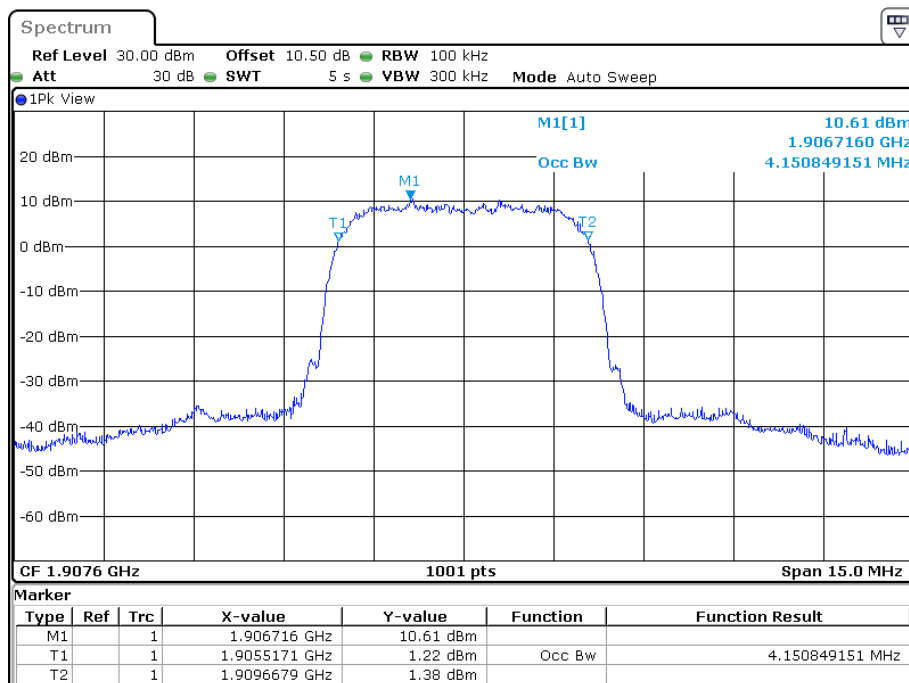
Date: 28.JUN.2022 16:14:57



Date: 28.JUN.2022 16:14:20

**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, High channel**

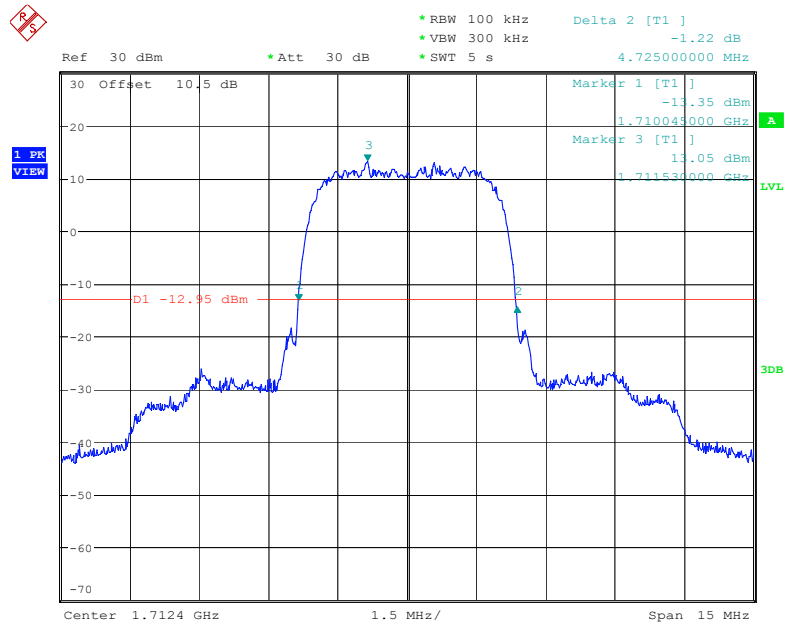
Date: 18.JUL.2022 15:33:10



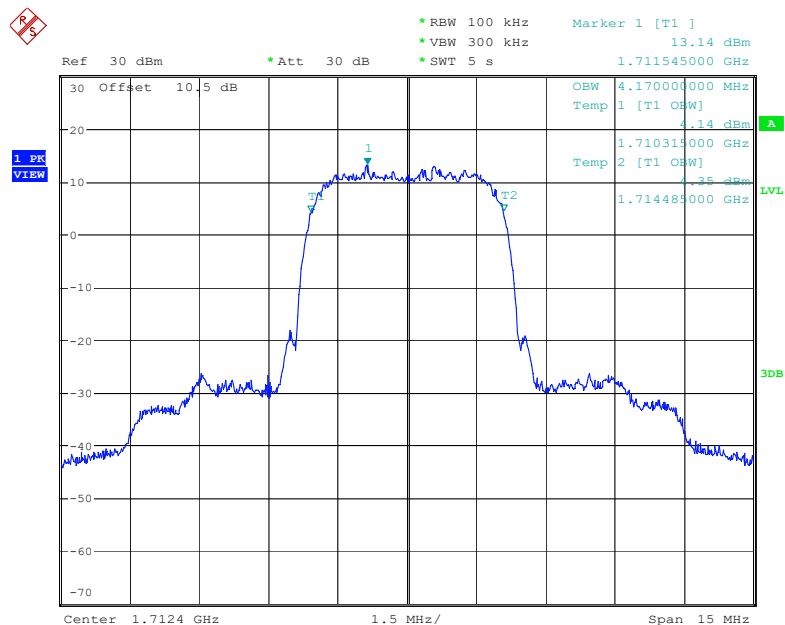
Date: 18.JUL.2022 15:32:33

## AWS Band (Part 27)

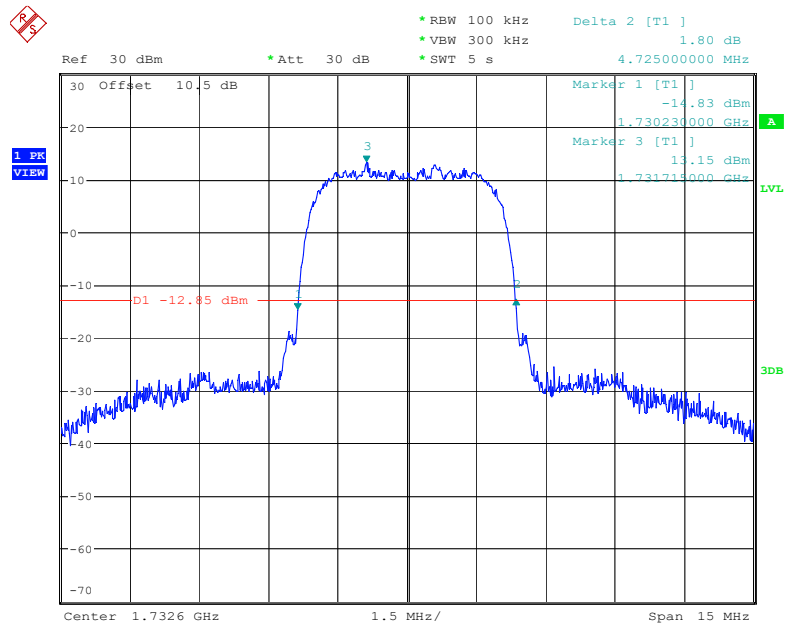
## 26 dB Emissions &amp; 99% Occupied Bandwidth for RMC (BPSK) Mode, Low channel



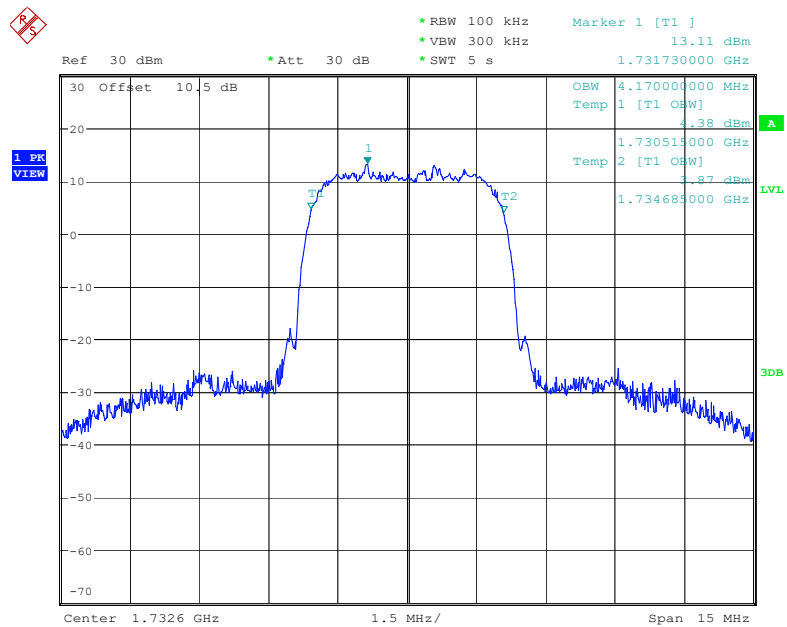
Date: 28.JUN.2022 16:37:43



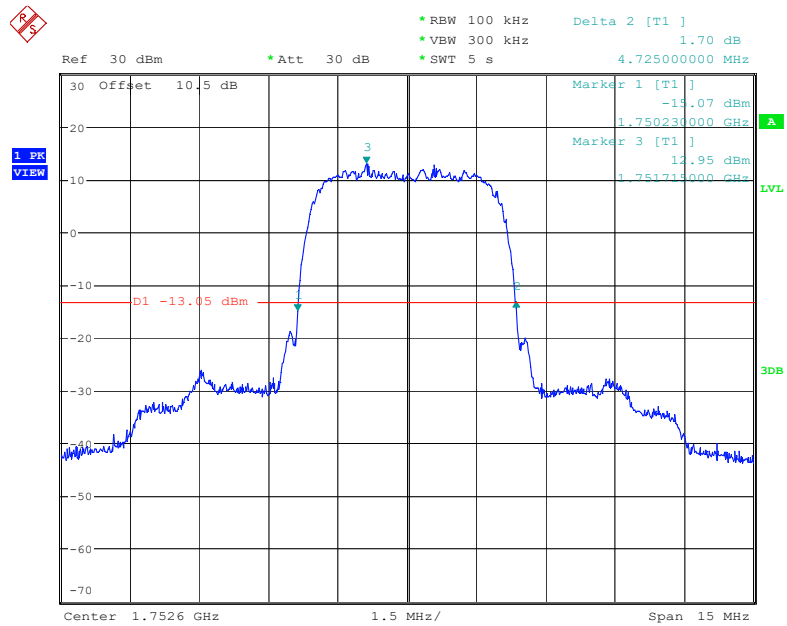
Date: 28.JUN.2022 16:37:06

**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Middle channel**

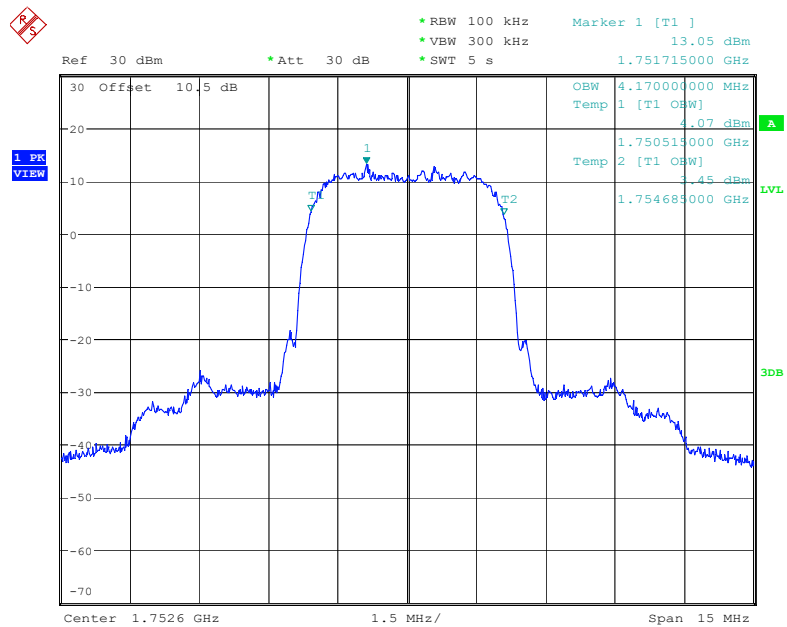
Date: 28.JUN.2022 16:42:12



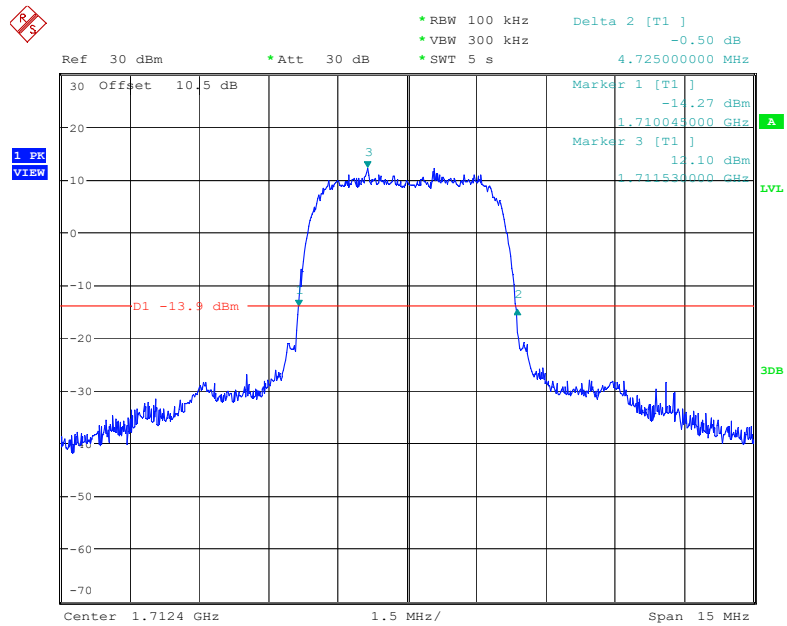
Date: 28.JUN.2022 16:41:35

**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, High channel**

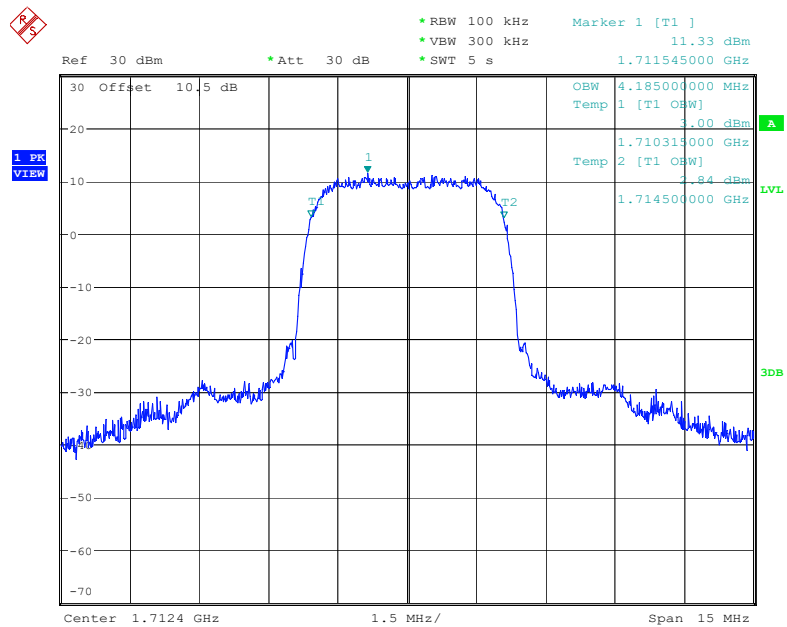
Date: 28.JUN.2022 16:46:49



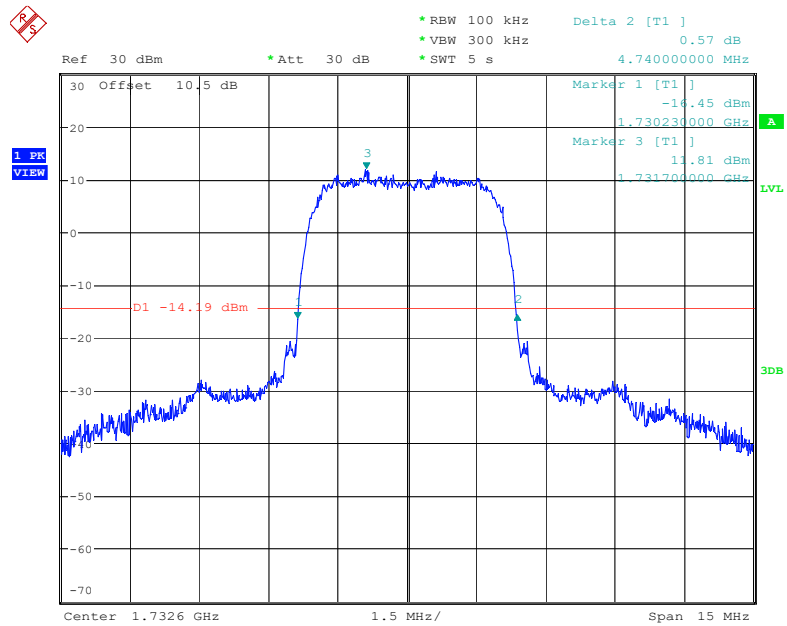
Date: 28.JUN.2022 16:46:12

**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, Low channel**

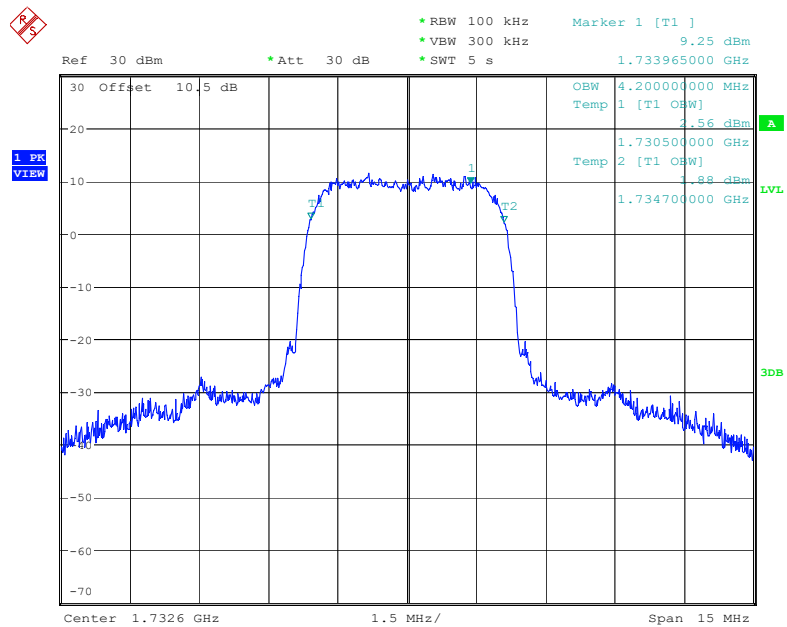
Date: 28.JUN.2022 16:56:01



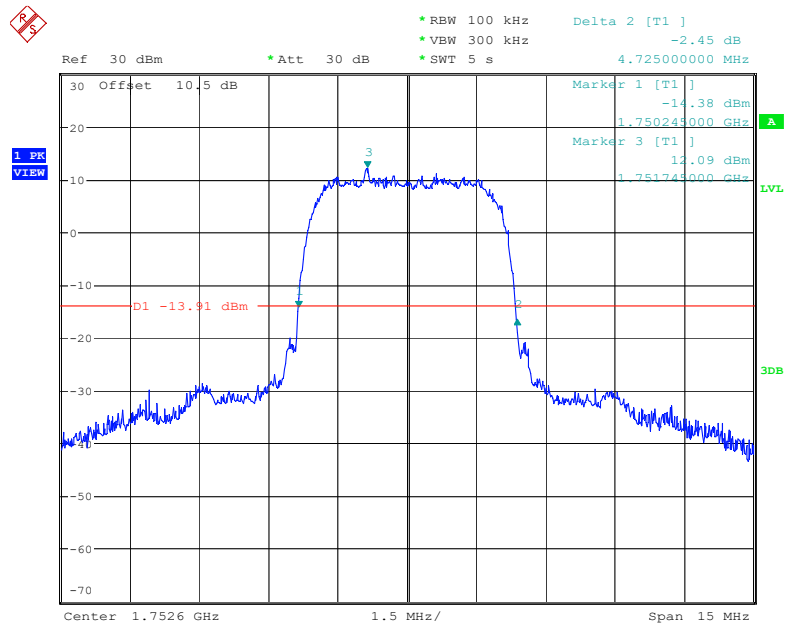
Date: 28.JUN.2022 16:55:24

**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, Middle channel**

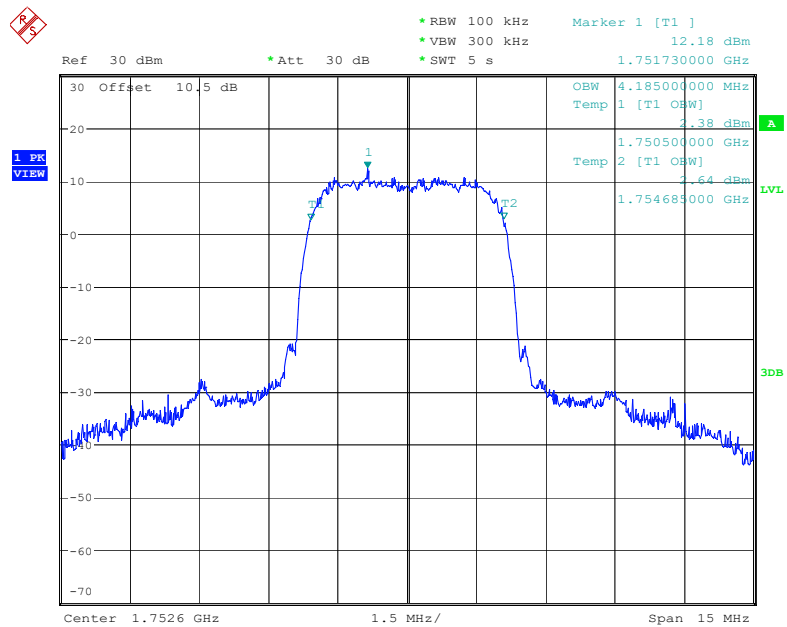
Date: 28.JUN.2022 17:00:02



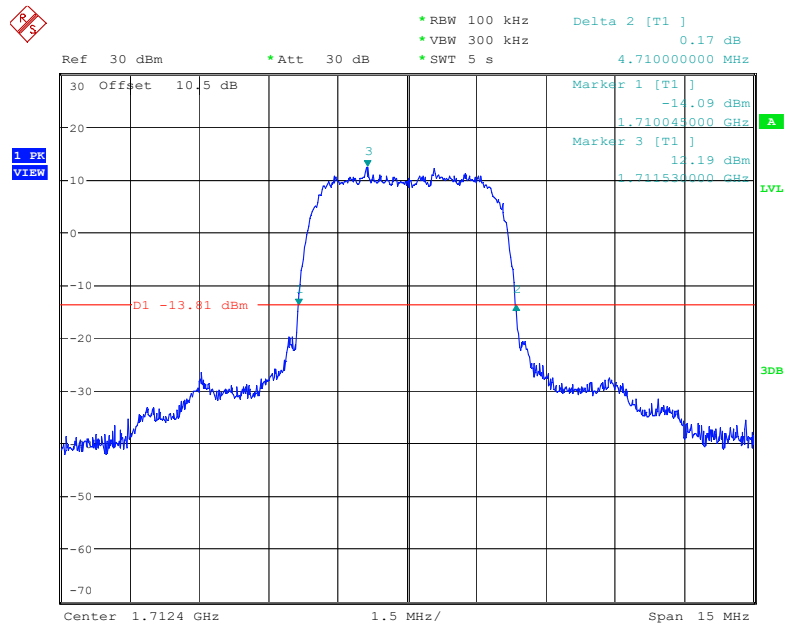
Date: 28.JUN.2022 16:59:24

**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, High channel**

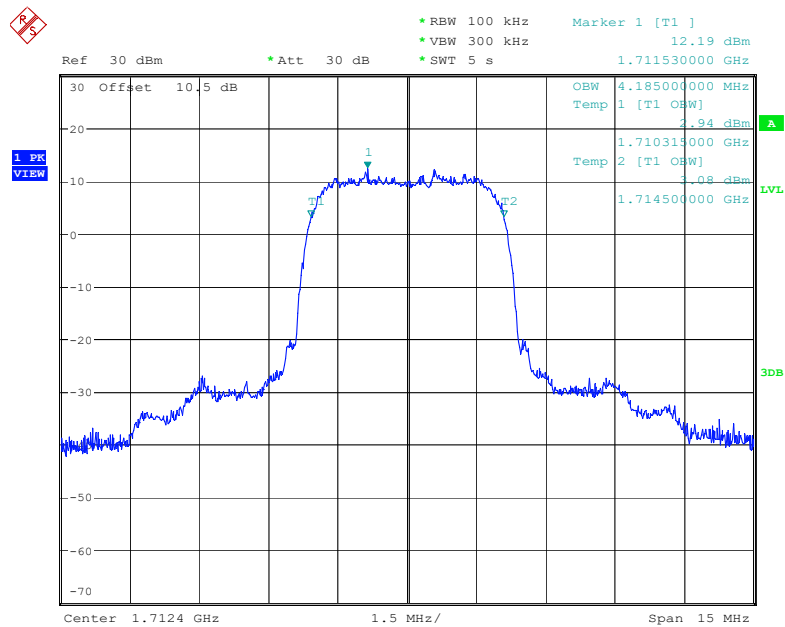
Date: 28.JUN.2022 17:05:17



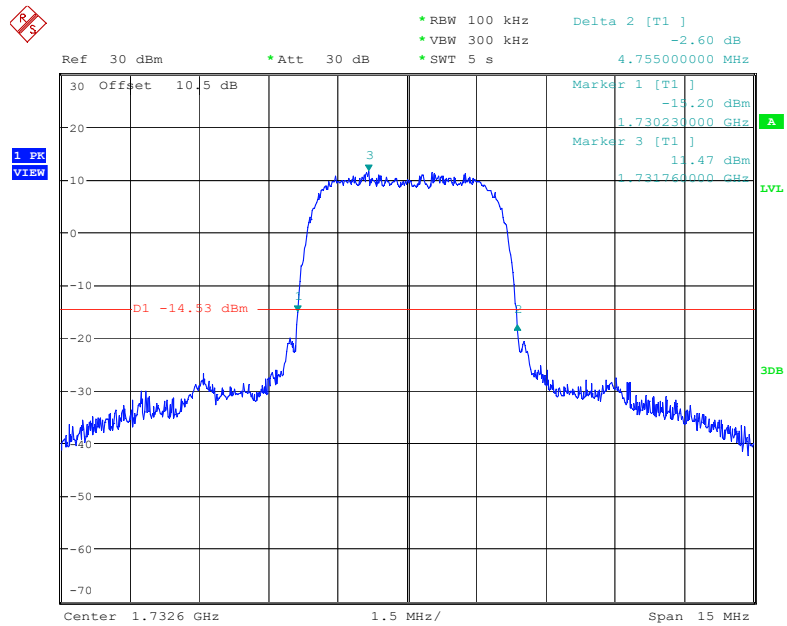
Date: 28.JUN.2022 17:04:40

**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, Low channel**

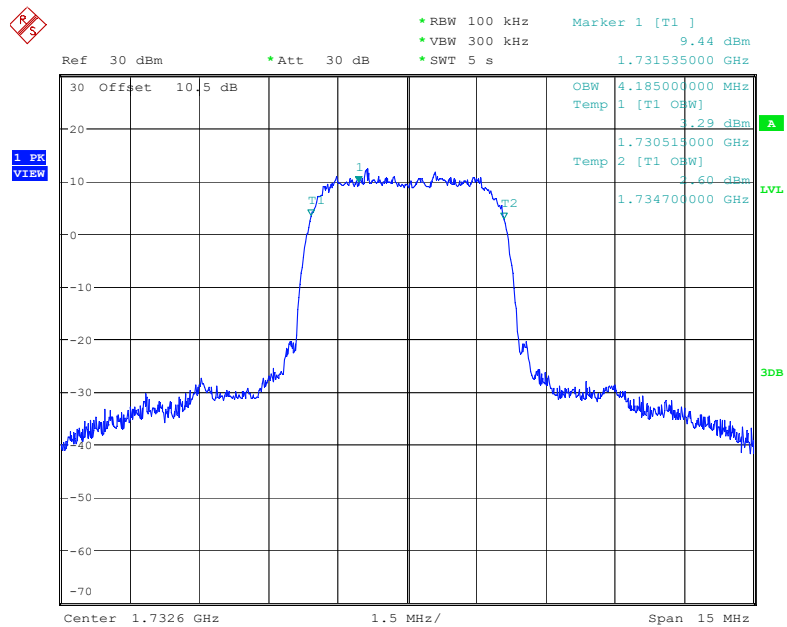
Date: 28.JUN.2022 17:12:08



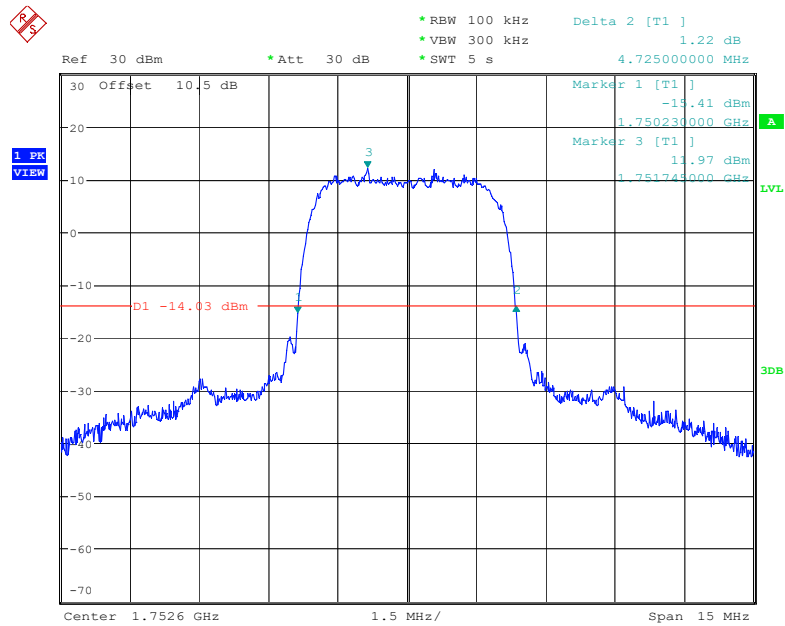
Date: 28.JUN.2022 17:11:31

**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, Middle channel**

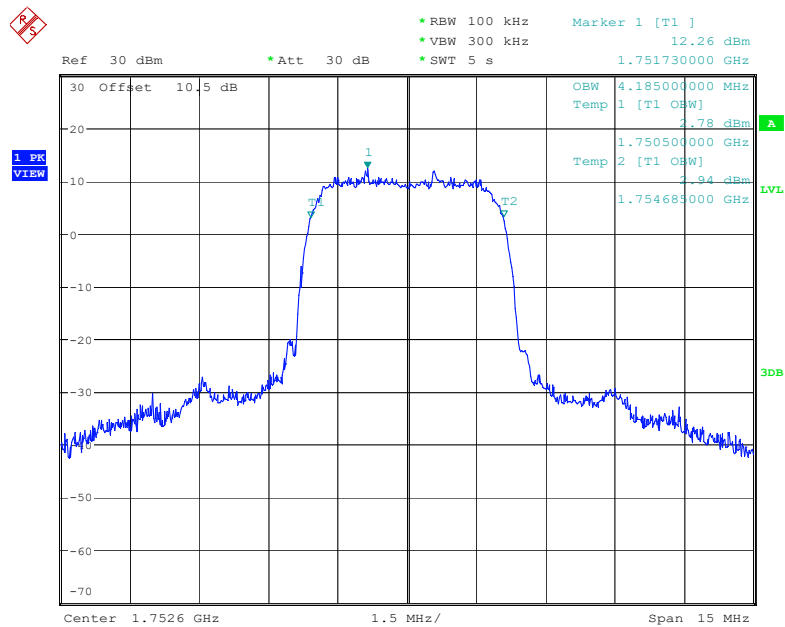
Date: 28.JUN.2022 17:16:27



Date: 28.JUN.2022 17:15:49

**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, High channel**

Date: 28.JUN.2022 17:20:09



Date: 28.JUN.2022 17:19:32

**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       | 1.098       | 1.302          | 1.104          | 1.320          | 1.104        | 1.296          |
|           | 16QAM      | 1.110       | 1.308          | 1.092          | 1.296          | 1.098        | 1.302          |
| 3 MHz     | QPSK       | 2.688       | 2.880          | 2.688          | 2.904          | 2.688        | 2.892          |
|           | 16QAM      | 2.688       | 2.880          | 2.688          | 2.880          | 2.688        | 2.880          |
| 5 MHz     | QPSK       | 4.520       | 4.940          | 4.520          | 4.960          | 4.520        | 4.880          |
|           | 16QAM      | 4.500       | 4.900          | 4.540          | 4.920          | 4.520        | 4.940          |
| 10 MHz    | QPSK       | 8.960       | 9.640          | 8.960          | 9.600          | 8.960        | 9.640          |
|           | 16QAM      | 8.960       | 9.640          | 8.960          | 9.560          | 8.960        | 9.640          |
| 15 MHz    | QPSK       | 13.500      | 14.760         | 13.500         | 14.820         | 13.500       | 14.760         |
|           | 16QAM      | 13.500      | 14.820         | 13.560         | 14.760         | 13.500       | 14.820         |
| 20 MHz    | QPSK       | 18.000      | 19.280         | 18.000         | 19.440         | 17.920       | 19.600         |
|           | 16QAM      | 18.000      | 19.360         | 18.000         | 24.480         | 18.000       | 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       | 1.110       | 1.320          | 1.104          | 1.296          | 1.098        | 1.296          |
|           | 16QAM      | 1.098       | 1.296          | 1.098          | 1.296          | 1.110        | 1.320          |
| 3 MHz     | QPSK       | 2.688       | 2.880          | 2.688          | 2.880          | 2.688        | 2.892          |
|           | 16QAM      | 2.688       | 2.880          | 2.688          | 2.880          | 2.688        | 2.892          |
| 5 MHz     | QPSK       | 4.520       | 4.940          | 4.520          | 4.940          | 4.520        | 4.920          |
|           | 16QAM      | 4.500       | 4.940          | 4.520          | 4.980          | 4.520        | 4.980          |
| 10 MHz    | QPSK       | 8.960       | 9.680          | 8.960          | 9.600          | 8.960        | 9.640          |
|           | 16QAM      | 8.960       | 9.520          | 8.960          | 9.640          | 8.960        | 9.680          |
| 15 MHz    | QPSK       | 13.560      | 14.760         | 13.500         | 14.820         | 13.560       | 14.940         |
|           | 16QAM      | 13.560      | 14.760         | 13.560         | 14.760         | 13.500       | 14.880         |
| 20 MHz    | QPSK       | 18.000      | 19.280         | 17.920         | 19.360         | 18.000       | 19.520         |
|           | 16QAM      | 18.000      | 19.360         | 18.000         | 19.440         | 18.000       | 19.440         |

**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       | 1.104       | 1.326          | 1.104          | 1.368          | 1.110        | 1.338          |
|           | 16QAM      | 1.110       | 1.338          | 1.098          | 1.404          | 1.104        | 1.302          |
| 3 MHz     | QPSK       | 2.688       | 2.868          | 2.688          | 2.880          | 2.688        | 2.892          |
|           | 16QAM      | 2.688       | 2.928          | 2.688          | 2.880          | 2.676        | 2.880          |
| 5 MHz     | QPSK       | 4.540       | 4.960          | 4.520          | 4.920          | 4.500        | 4.900          |
|           | 16QAM      | 4.500       | 4.920          | 4.520          | 4.960          | 4.520        | 4.980          |
| 10 MHz    | QPSK       | 8.960       | 9.680          | 8.960          | 9.640          | 8.960        | 9.560          |
|           | 16QAM      | 8.960       | 9.600          | 8.960          | 9.560          | 8.960        | 9.520          |

**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       | 4.500       | 4.940          | 4.520          | 4.900          | 4.500        | 4.900          |
|           | 16QAM      | 4.500       | 4.920          | 4.500          | 4.920          | 4.520        | 4.940          |
| 10 MHz    | QPSK       | 8.960       | 9.680          | 8.960          | 9.560          | 8.960        | 9.640          |
|           | 16QAM      | 8.920       | 9.520          | 8.920          | 9.560          | 8.960        | 9.600          |
| 15 MHz    | QPSK       | 13.560      | 14.880         | 13.500         | 14.700         | 13.500       | 14.820         |
|           | 16QAM      | 13.440      | 14.820         | 13.560         | 14.700         | 13.500       | 14.880         |
| 20 MHz    | QPSK       | 18.000      | 19.280         | 17.920         | 19.440         | 18.000       | 19.600         |
|           | 16QAM      | 18.080      | 19.280         | 18.000         | 19.360         | 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          | 1.110          | 1.470          | 1.110        | 1.290          |
|           | 16QAM      | 1.104       | 1.326          | 1.110          | 1.644          | 1.098        | 1.308          |
| 3 MHz     | QPSK       | 2.688       | 2.868          | 2.700          | 2.916          | 2.688        | 2.892          |
|           | 16QAM      | 2.676       | 2.892          | 2.688          | 2.976          | 2.676        | 2.880          |
| 5 MHz     | QPSK       | 4.520       | 5.180          | 4.540          | 5.220          | 4.520        | 5.140          |
|           | 16QAM      | 4.540       | 5.200          | 4.540          | 5.220          | 4.540        | 5.180          |
| 10 MHz    | QPSK       | 8.960       | 9.880          | 8.960          | 9.920          | 8.960        | 9.800          |
|           | 16QAM      | 8.960       | 9.760          | 9.000          | 9.920          | 8.960        | 9.800          |

**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       | 5.220          | 4.520          | 5.200          | 4.540        | 5.160          |
|           | 16QAM      | 4.540       | 5.180          | 4.540          | 5.180          | 4.520        | 5.160          |
| 10 MHz    | QPSK       | /           | /              | 8.960          | 9.920          | /            | /              |
|           | 16QAM      | /           | /              | 9.000          | 9.760          | /            | /              |

**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       | 4.520       | 5.240          | 4.520          | 5.160          | 4.520        | 5.140          |
|           | 16QAM      | 4.540       | 5.100          | 4.540          | 5.200          | 4.540        | 5.220          |
| 10 MHz    | QPSK       | 8.960       | 9.840          | 8.960          | 9.800          | 8.960        | 10.000         |
|           | 16QAM      | 8.960       | 9.920          | 8.960          | 9.880          | 8.960        | 9.920          |

**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       | 4.500       | 4.920          | 4.500          | 5.080          | 4.520        | 4.960          |
|           | 16QAM      | 4.500       | 4.980          | 4.500          | 5.020          | 4.520        | 5.080          |
| 10 MHz    | QPSK       | 8.960       | 9.680          | 9.000          | 9.640          | 8.960        | 9.800          |
|           | 16QAM      | 8.960       | 9.720          | 8.960          | 9.480          | 8.960        | 9.840          |
| 15 MHz    | QPSK       | 13.560      | 15.480         | 13.560         | 15.360         | 13.500       | 15.300         |
|           | 16QAM      | 13.560      | 15.600         | 13.560         | 15.720         | 13.620       | 16.740         |
| 20 MHz    | QPSK       | 18.000      | 19.520         | 18.000         | 21.360         | 18.000       | 20.160         |
|           | 16QAM      | 18.000      | 19.760         | 18.000         | 20.480         | 18.000       | 19.280         |

**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       | 4.491       | 4.980          | 4.511          | 4.920          | 4.511        | 5.080          |
|           | 16QAM      | 4.511       | 5.020          | 4.491          | 4.920          | 4.511        | 4.940          |
| 10 MHz    | QPSK       | 8.982       | 9.680          | 8.942          | 9.640          | 8.942        | 9.640          |
|           | 16QAM      | 8.982       | 9.480          | 8.942          | 9.560          | 8.942        | 9.960          |
| 15 MHz    | QPSK       | 13.533      | 15.120         | 13.473         | 15.240         | 13.413       | 15.240         |
|           | 16QAM      | 13.533      | 15.780         | 13.593         | 15.780         | 13.533       | 16.920         |
| 20 MHz    | QPSK       | 17.964      | 19.440         | 17.964         | 19.360         | 17.884       | 19.840         |
|           | 16QAM      | 17.964      | 19.440         | 17.964         | 20.560         | 17.884       | 19.600         |

**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       | 1.308          | 1.104          | 1.326          | 1.110        | 1.290          |
|           | 16QAM      | 1.104       | 1.320          | 1.098          | 1.290          | 1.104        | 1.308          |
| 3 MHz     | QPSK       | 2.688       | 2.880          | 2.688          | 2.880          | 2.688        | 2.892          |
|           | 16QAM      | 2.688       | 2.892          | 2.688          | 2.892          | 2.688        | 2.880          |
| 5 MHz     | QPSK       | 4.540       | 5.200          | 4.540          | 5.200          | 4.520        | 5.200          |
|           | 16QAM      | 4.520       | 5.160          | 4.540          | 5.180          | 4.540        | 5.200          |
| 10 MHz    | QPSK       | 9.000       | 9.840          | 8.960          | 9.800          | 8.960        | 9.920          |
|           | 16QAM      | 9.000       | 9.960          | 8.960          | 9.840          | 8.960        | 9.960          |
| 15 MHz    | QPSK       | 13.560      | 15.360         | 13.560         | 15.060         | 13.560       | 15.060         |
|           | 16QAM      | 13.560      | 15.180         | 13.620         | 15.180         | 13.560       | 15.180         |
| 20 MHz    | QPSK       | 17.920      | 19.600         | 18.000         | 19.600         | 18.000       | 19.760         |
|           | 16QAM      | 18.080      | 19.680         | 18.000         | 19.760         | 18.000       | 19.680         |

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

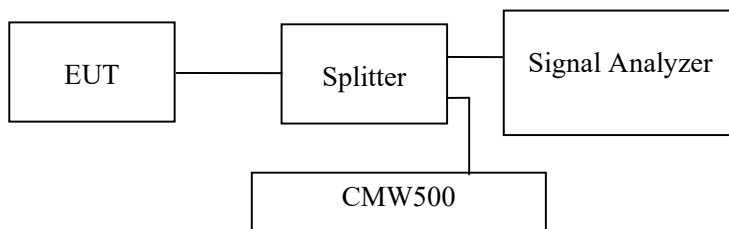
### Applicable Standard

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

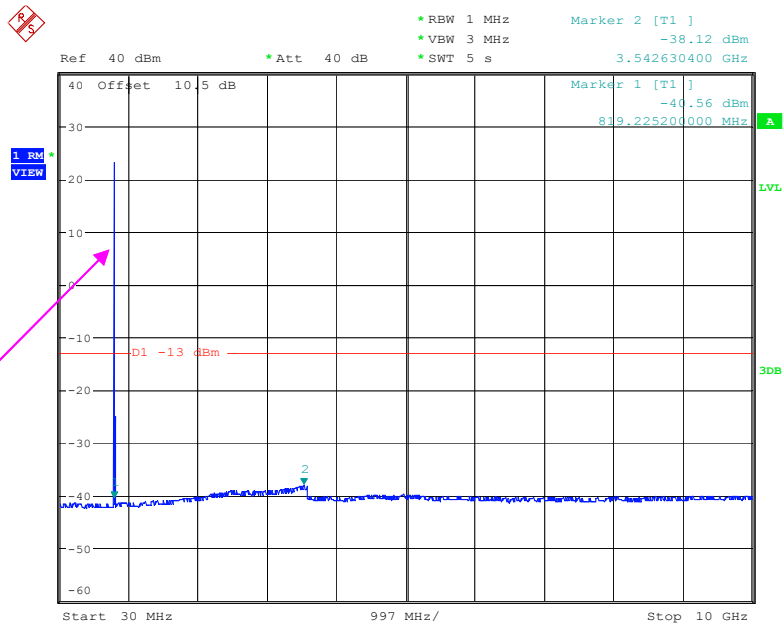
|                    |            |
|--------------------|------------|
| Temperature:       | 27.2~28 °C |
| Relative Humidity: | 56.8~62 %  |
| ATM Pressure:      | 101.0 kPa  |

The testing was performed by Audy Yu from 2022-06-26 to 2022-07-12.

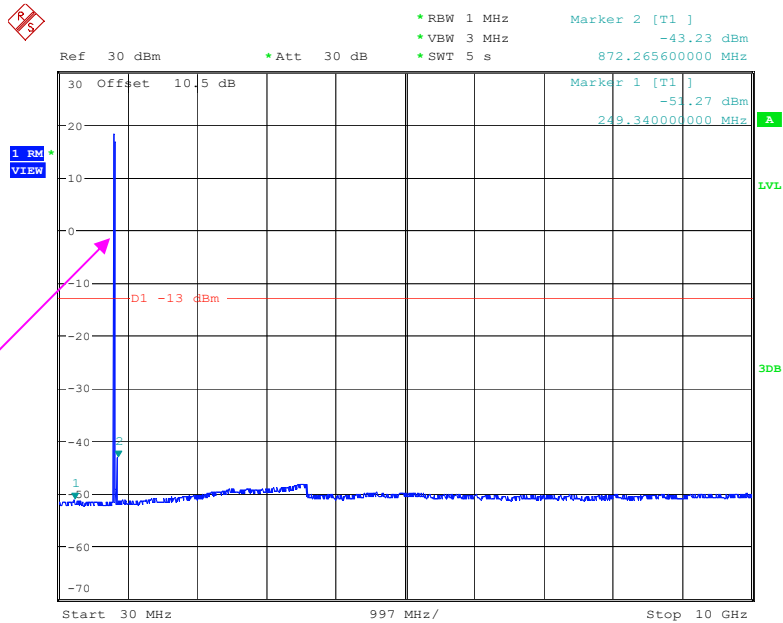
EUT operation mode: Transmitting

**Test result: Pass**

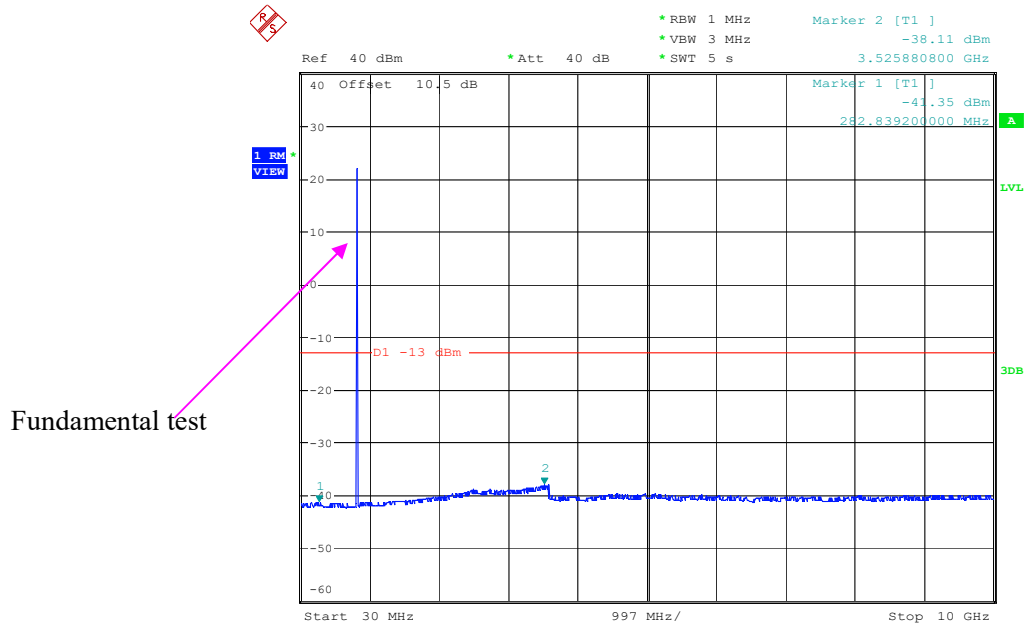
Please refer to the following plots.

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

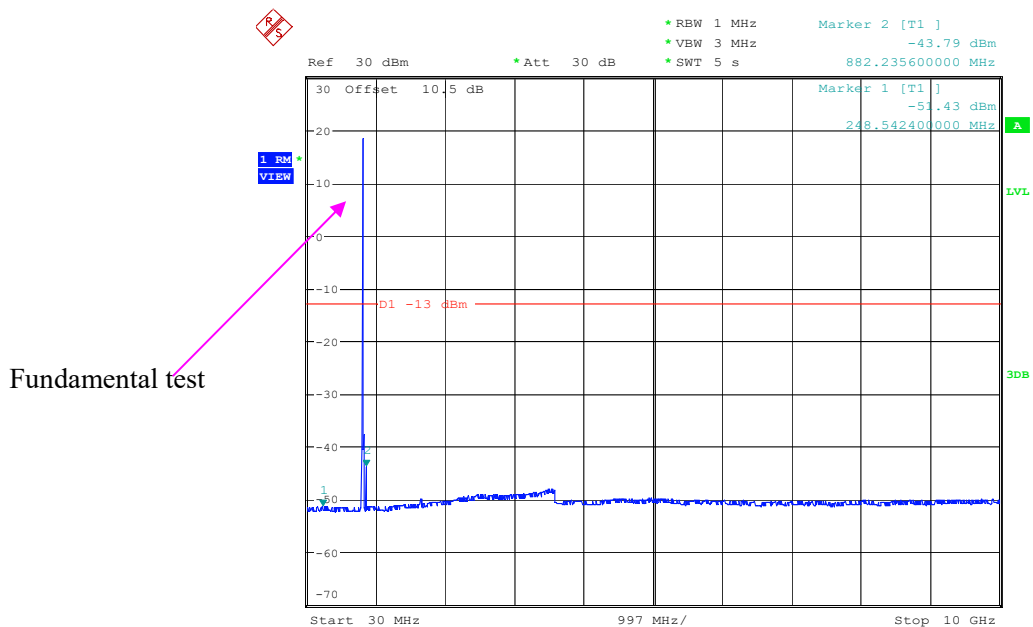
Date: 28.JUN.2022 15:03:56

**30 MHz – 10 GHz (WCDMA Mode)**

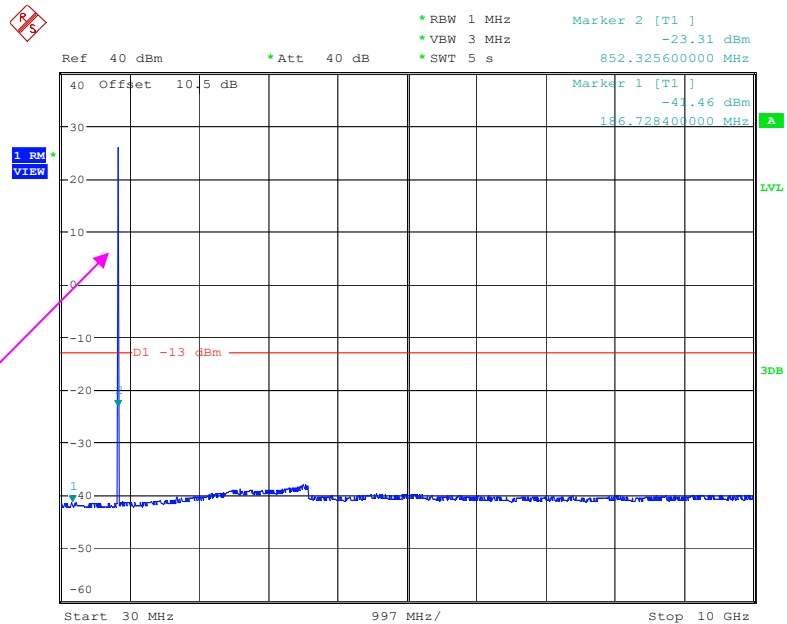
Date: 28.JUN.2022 17:26:27

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

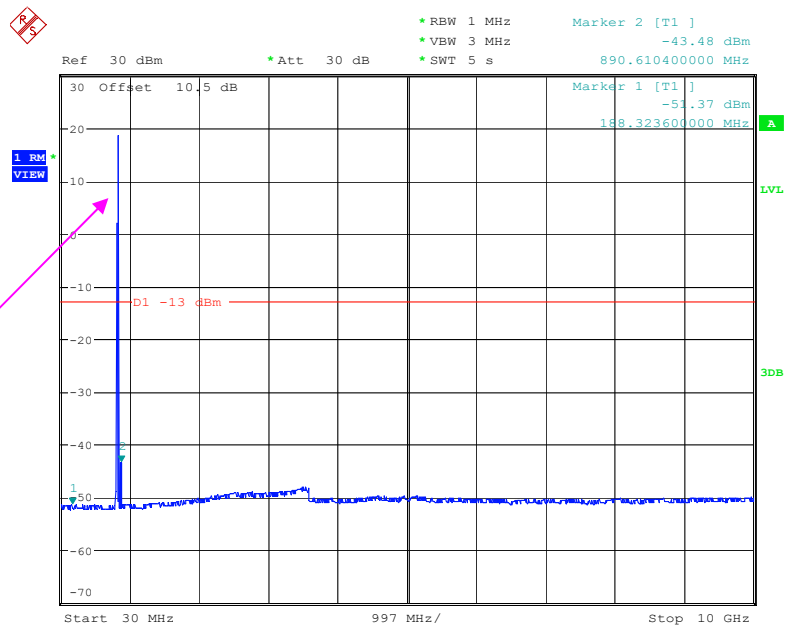
Date: 28.JUN.2022 15:07:56

**30 MHz – 10 GHz (WCDMA Mode)**

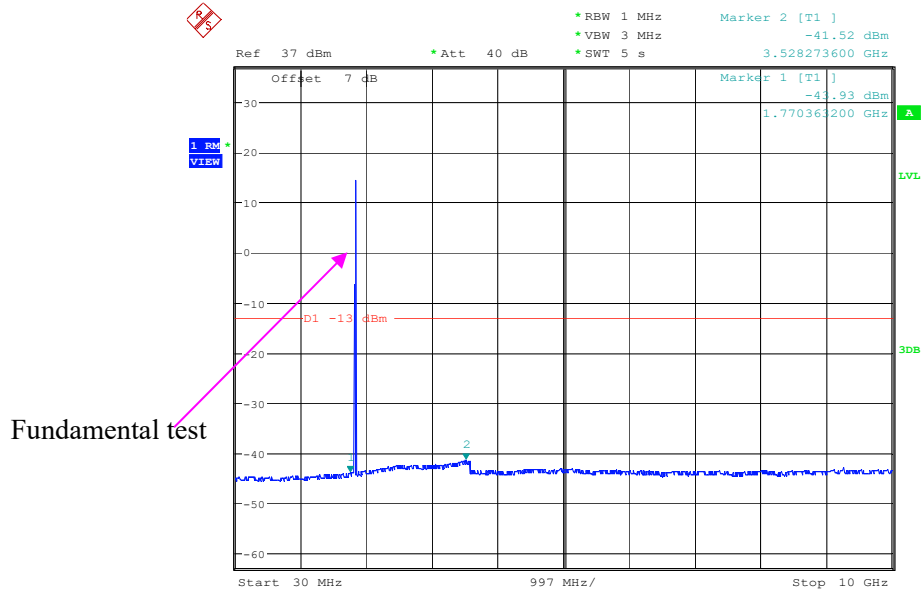
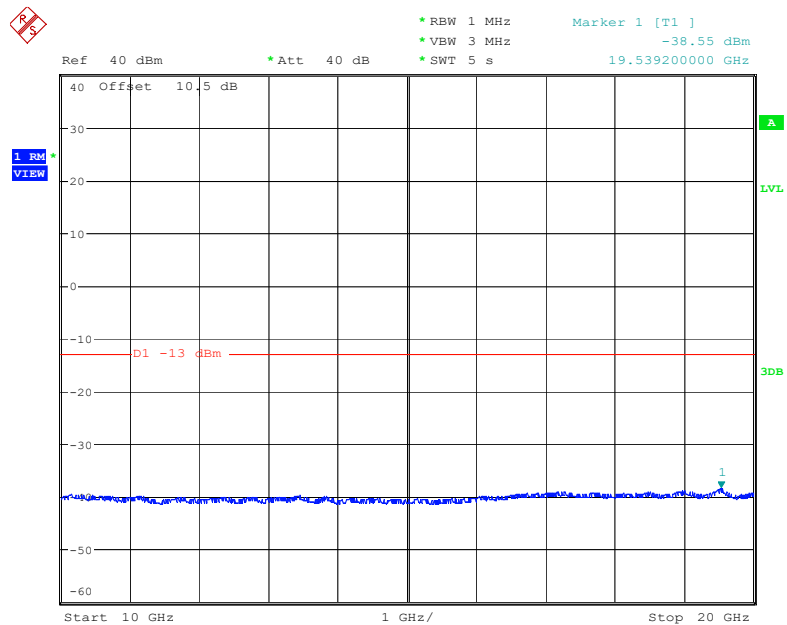
Date: 28.JUN.2022 17:29:24

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

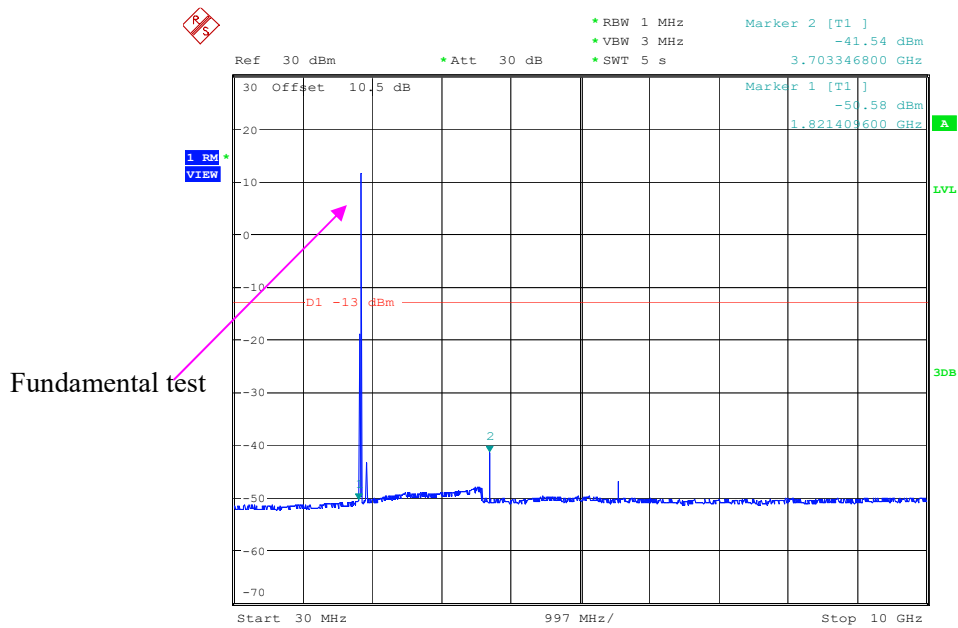
Date: 28.JUN.2022 15:13:12

**30 MHz – 10 GHz (WCDMA Mode)**

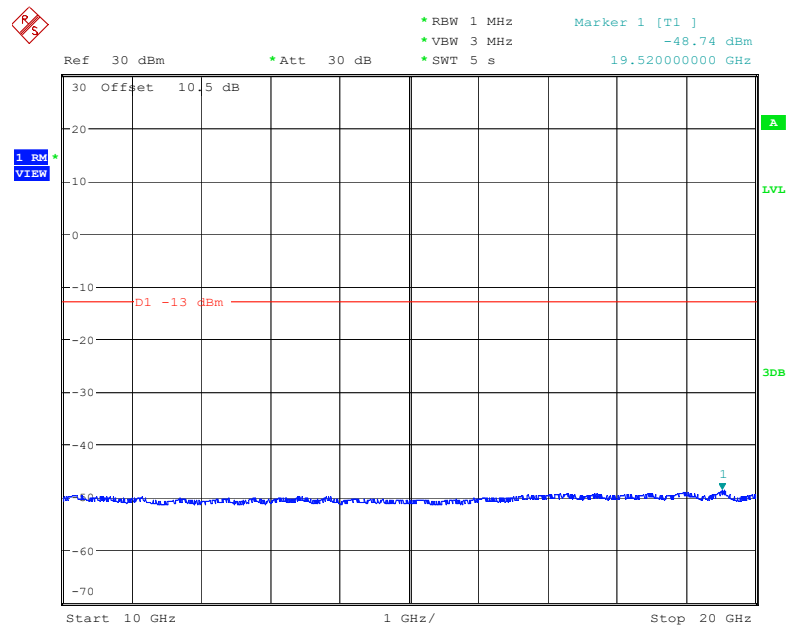
Date: 28.JUN.2022 17:33:17

**PCS Band (Part 24E)**  
**Low Channel:****30 MHz – 10 GHz (GSM Mode)****10 GHz – 20 GHz (GSM Mode)**

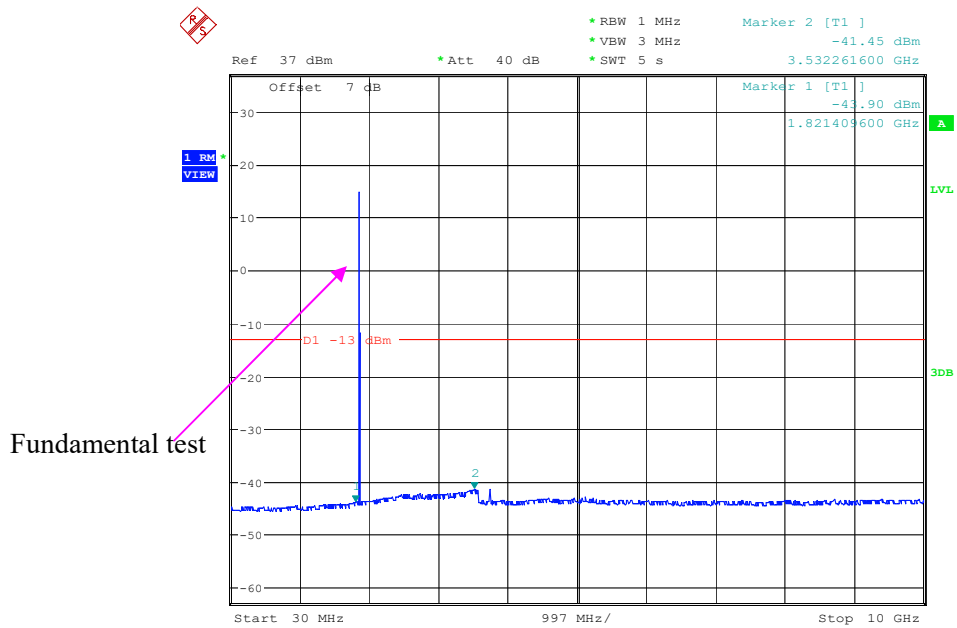
Date: 28.JUN.2022 15:44:24

**30 MHz – 10 GHz (WCDMA Mode)**

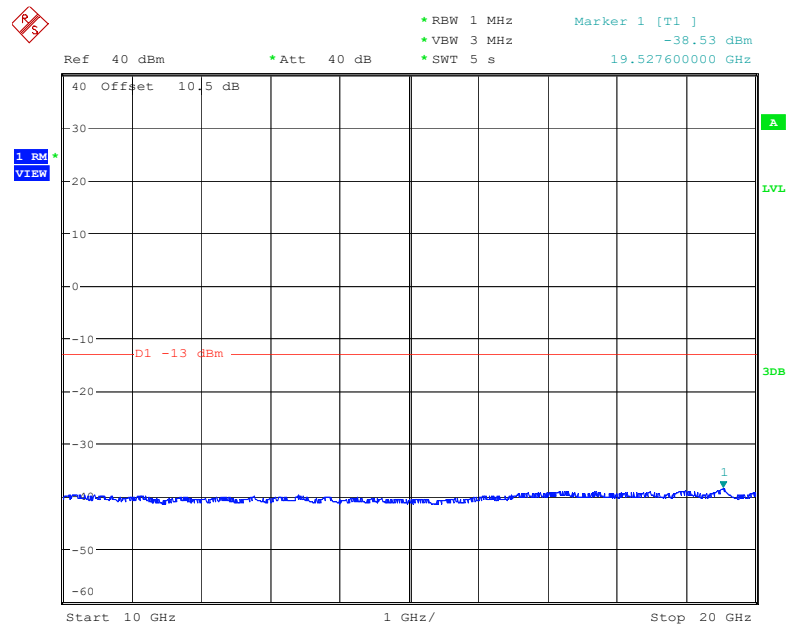
Date: 28.JUN.2022 15:58:14

**10 GHz – 20 GHz (WCDMA Mode)**

Date: 28.JUN.2022 15:58:52

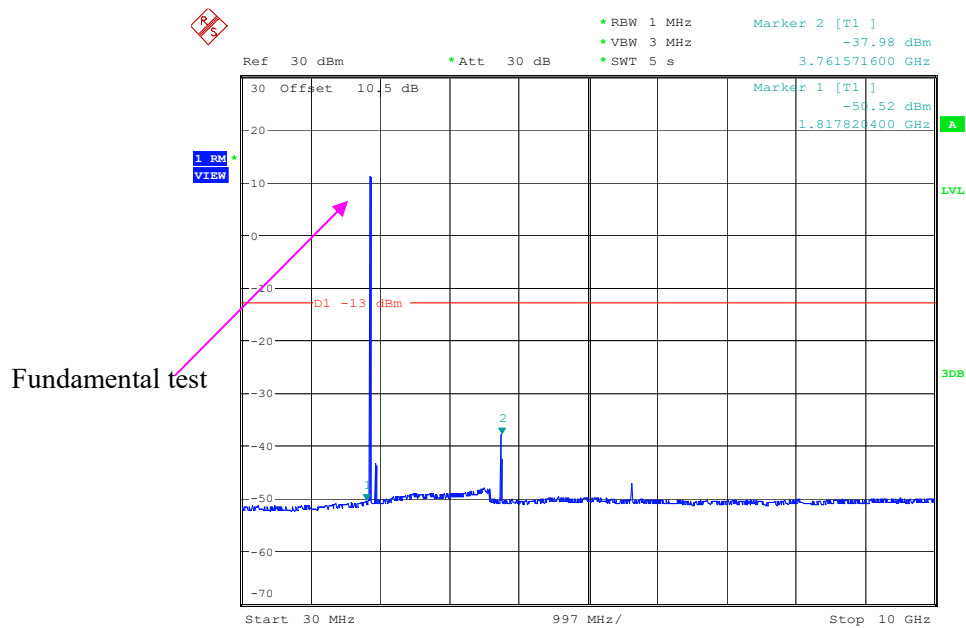
**Middle Channel:****30 MHz – 10 GHz (GSM Mode)**

Date: 12.JUL.2022 19:24:30

**10 GHz – 20 GHz (GSM Mode)**

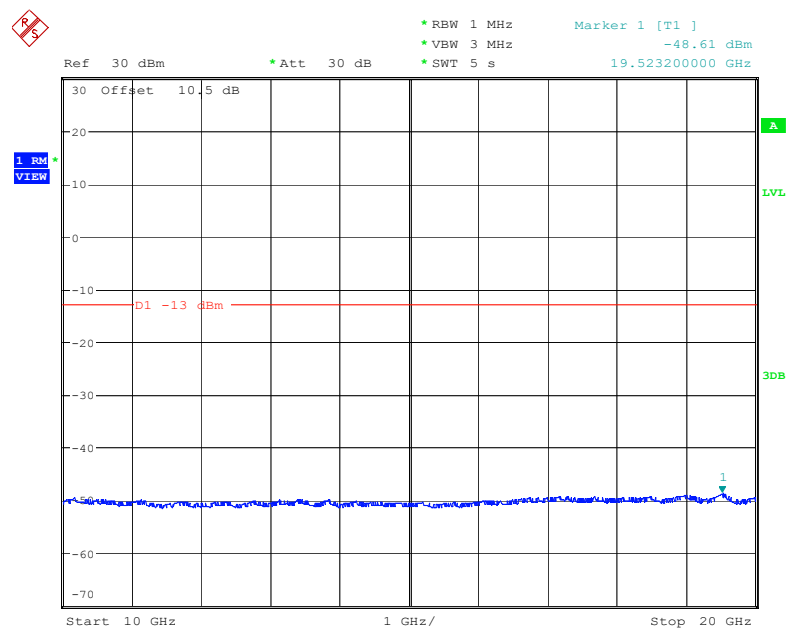
Date: 28.JUN.2022 15:47:26

## 30 MHz – 10 GHz (WCDMA Mode)

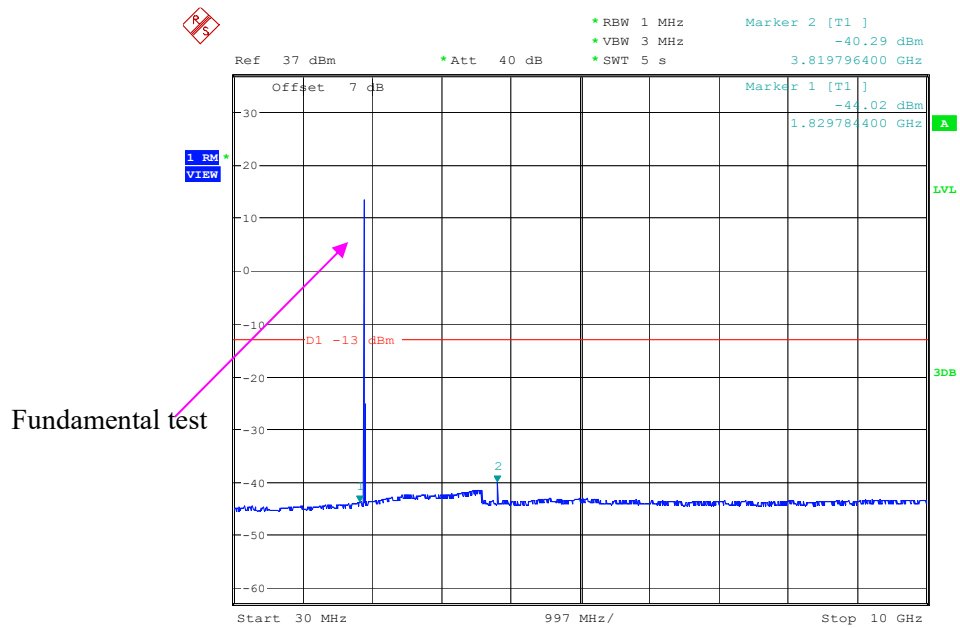


Date: 28.JUN.2022 16:01:50

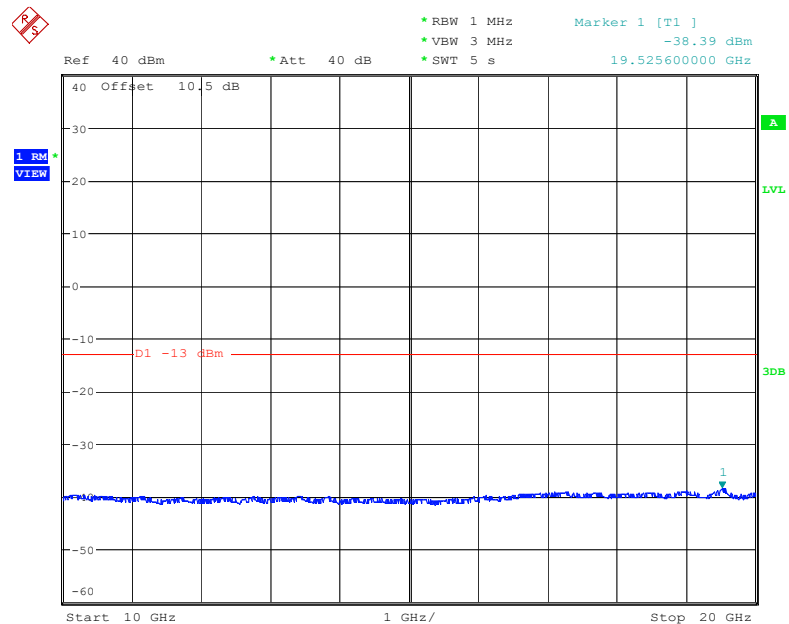
## 10 GHz – 20GHz (WCDMA Mode)



Date: 28.JUN.2022 16:02:28

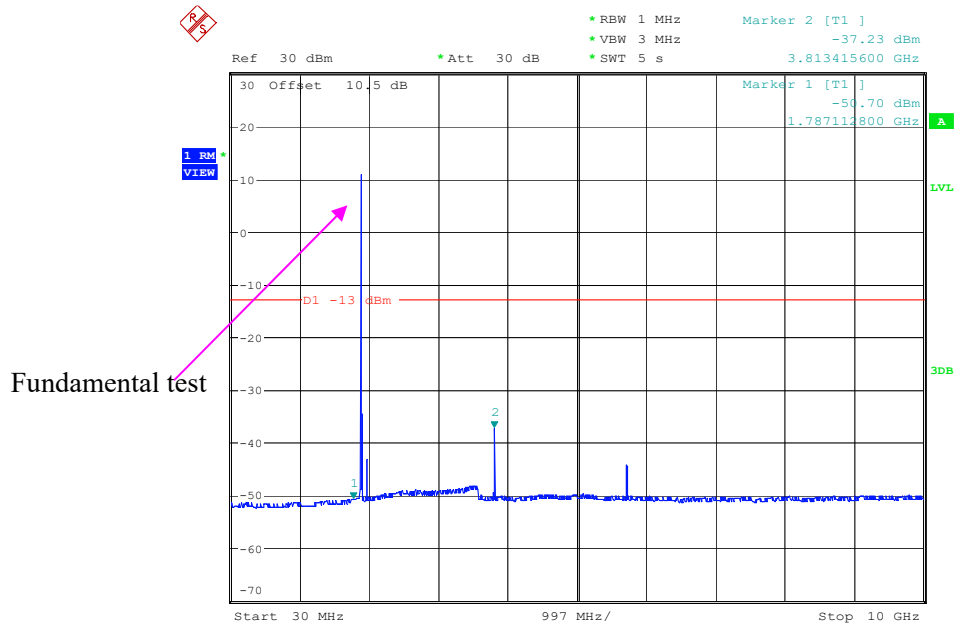
**High Channel:****30 MHz – 10 GHz (GSM Mode)**

Date: 12.JUL.2022 19:34:42

**10 GHz – 20 GHz (GSM Mode)**

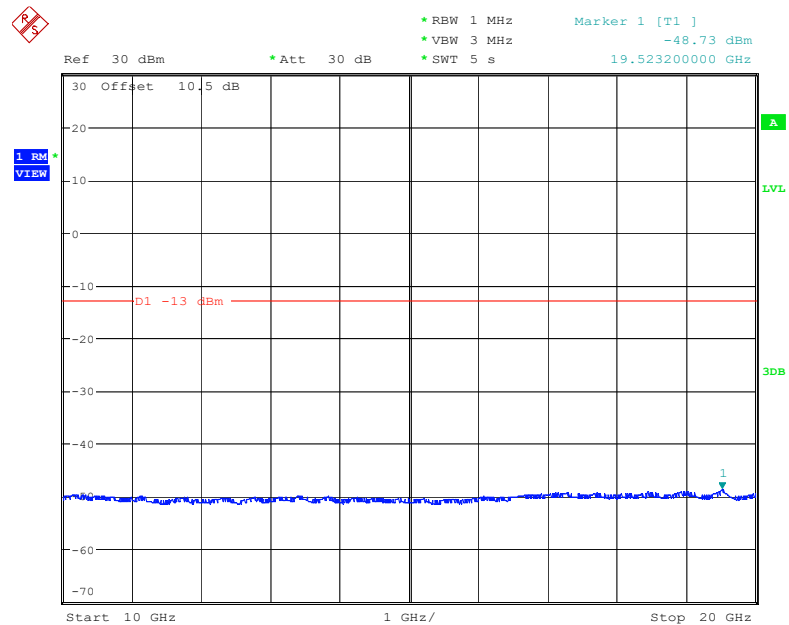
Date: 28.JUN.2022 15:51:19

## 30 MHz – 10 GHz (WCDMA Mode)

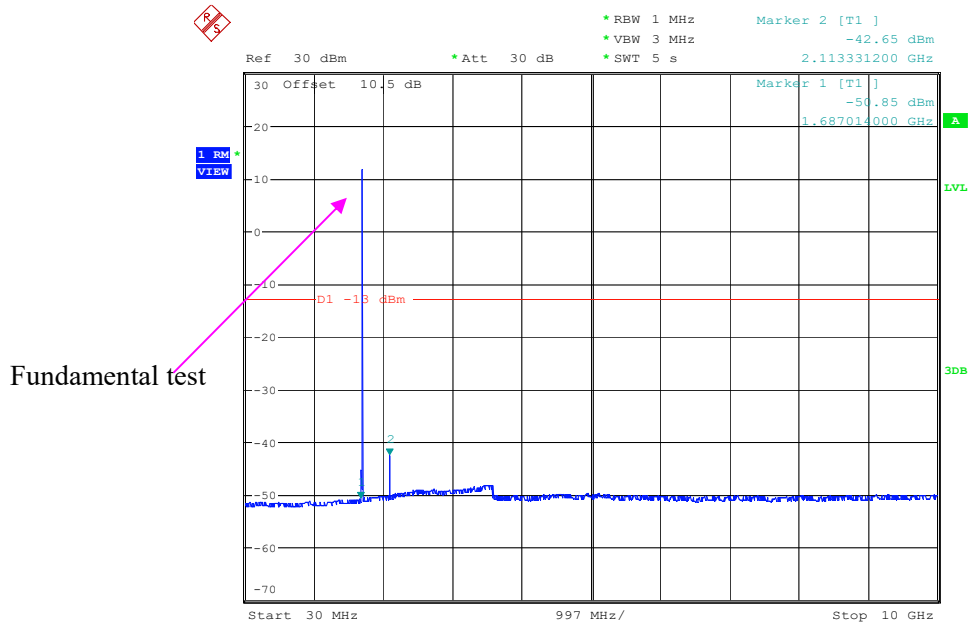


Date: 28.JUN.2022 16:06:24

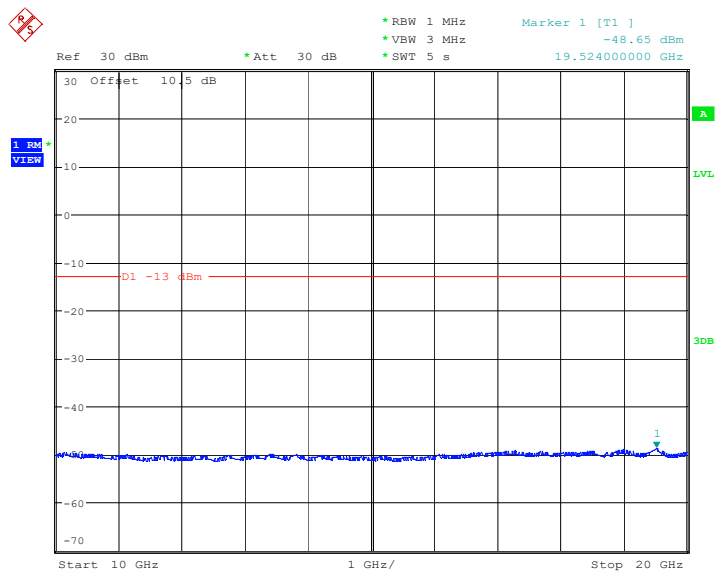
## 10 GHz – 20 GHz (WCDMA Mode)



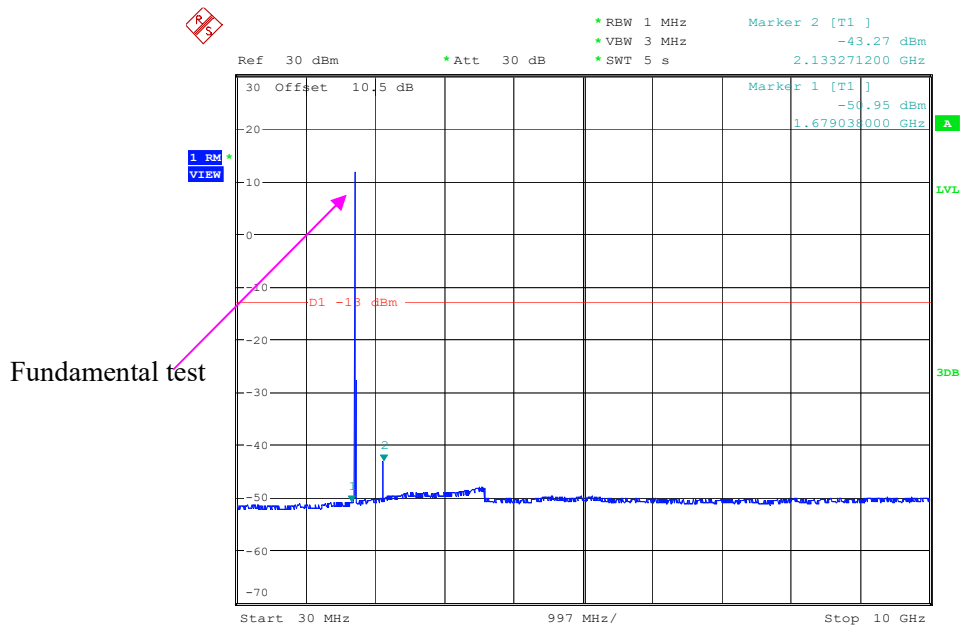
Date: 28.JUN.2022 16:07:04

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

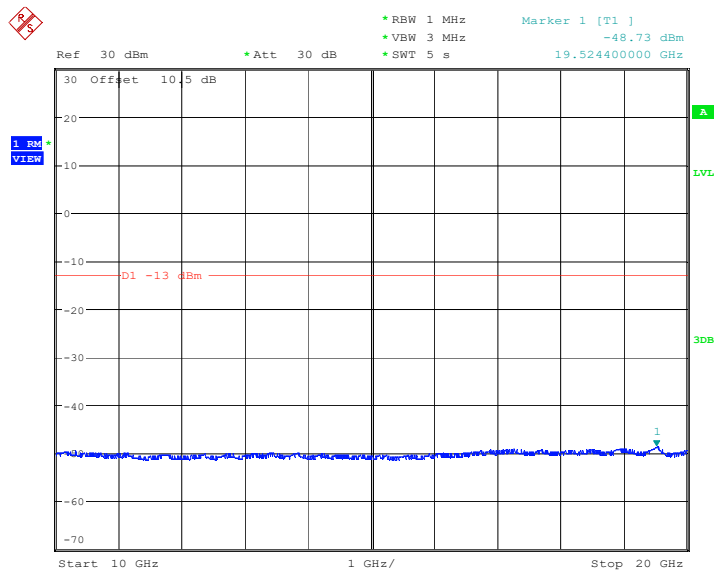
Date: 28.JUN.2022 16:38:58

**10 GHz – 20 GHz (WCDMA Mode)**

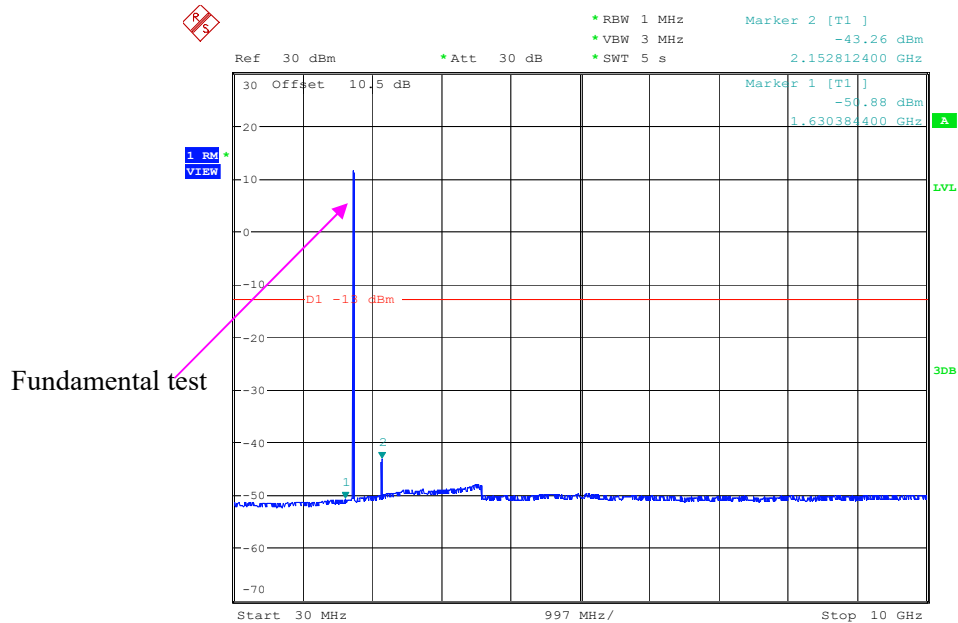
Date: 28.JUN.2022 16:39:37

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

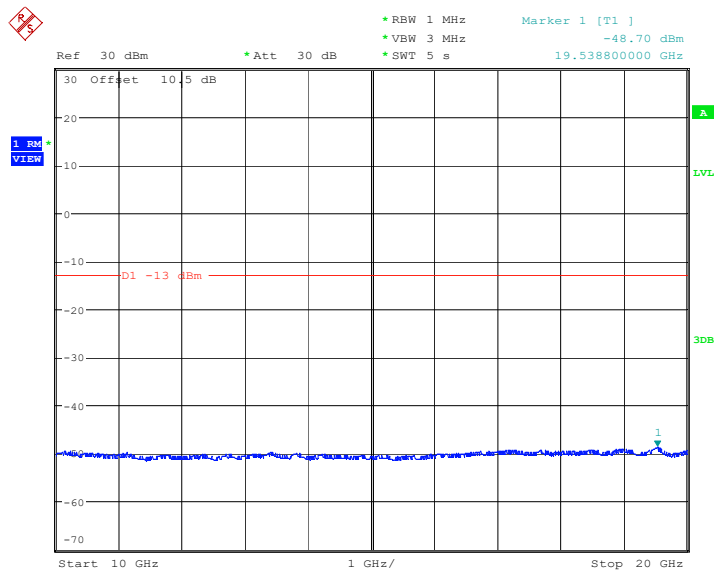
Date: 28.JUN.2022 16:42:50

**10 GHz – 20 GHz (WCDMA Mode)**

Date: 28.JUN.2022 16:43:28

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

Date: 28.JUN.2022 16:48:04

**10 GHz – 20 GHz (WCDMA Mode)**

Date: 28.JUN.2022 16:48:43

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>       | 23~25.6 °C |
| <b>Relative Humidity:</b> | 52~60 %    |
| <b>ATM Pressure:</b>      | 101.0 kPa  |

*The testing was performed by Level Li from 2022-07-02 to 2022-07-05.*

*Test mode: Transmitting (Pre-scan in the X,Y and Z axes of orientation, the worst case Z-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        |                              |                     |               |                |                               |                            |                |                |
| 961.96             | -63.2                        | 129                 | 2.3           | H              | 10                            | -53.2                      | -13            | -40.2          |
| 961.96             | -64.47                       | 306                 | 2             | V              | 11.7                          | -52.77                     | -13            | -39.77         |
| 1648.4             | -54.10                       | 318                 | 2.2           | H              | 3.5                           | -50.60                     | -13            | -37.60         |
| 1648.4             | -51.00                       | 200                 | 1.9           | V              | 3.1                           | -47.90                     | -13            | -34.90         |
| 2472.6             | -53.60                       | 160                 | 1.8           | H              | 6.6                           | -47.00                     | -13            | -34.00         |
| 2472.6             | -52.80                       | 305                 | 1.1           | V              | 5.8                           | -47.00                     | -13            | -34.00         |
| 3296.8             | -52.30                       | 305                 | 2             | H              | 6.4                           | -45.90                     | -13            | -32.90         |
| 3296.8             | -51.50                       | 35                  | 2             | V              | 5.7                           | -45.80                     | -13            | -32.80         |
| Middle Channel     |                              |                     |               |                |                               |                            |                |                |
| 961.45             | -62.96                       | 322                 | 1.9           | H              | 10                            | -52.96                     | -13            | -39.96         |
| 961.45             | -64.03                       | 224                 | 2.5           | V              | 11.7                          | -52.33                     | -13            | -39.33         |
| 1672.8             | -45.90                       | 254                 | 2.4           | H              | 3.8                           | -42.10                     | -13            | -29.10         |
| 1672.8             | -47.80                       | 136                 | 2.5           | V              | 3.1                           | -44.70                     | -13            | -31.70         |
| 2509.2             | -54.00                       | 255                 | 2.2           | H              | 6.2                           | -47.80                     | -13            | -34.80         |
| 2509.2             | -53.00                       | 147                 | 1.4           | V              | 5.6                           | -47.40                     | -13            | -34.40         |
| 3345.6             | -53.10                       | 241                 | 1.6           | H              | 6.6                           | -46.50                     | -13            | -33.50         |
| 3345.6             | -52.00                       | 6                   | 2.3           | V              | 5.4                           | -46.60                     | -13            | -33.60         |
| High Channel       |                              |                     |               |                |                               |                            |                |                |
| 961.82             | -63.13                       | 214                 | 2.4           | H              | 10                            | -53.13                     | -13            | -40.13         |
| 961.82             | -64.17                       | 207                 | 1.4           | V              | 11.7                          | -52.47                     | -13            | -39.47         |
| 1697.6             | -45.20                       | 215                 | 1.5           | H              | 4.1                           | -41.10                     | -13            | -28.10         |
| 1697.6             | -42.20                       | 304                 | 1.4           | V              | 3.1                           | -39.10                     | -13            | -26.10         |
| 2546.4             | -53.20                       | 88                  | 1.1           | H              | 6.1                           | -47.10                     | -13            | -34.10         |
| 2546.4             | -52.30                       | 7                   | 2.5           | V              | 5.8                           | -46.50                     | -13            | -33.50         |
| 3395.2             | -52.70                       | 248                 | 1.3           | H              | 6.2                           | -46.50                     | -13            | -33.50         |
| 3395.2             | -51.30                       | 135                 | 2.1           | V              | 5.4                           | -45.90                     | -13            | -32.90         |

| 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        |                              |                     |               |                |                               |                            |                |                |
| 962.08             | -63.57                       | 7                   | 1.7           | H              | 10                            | -53.57                     | -13            | -40.57         |
| 962.08             | -63.82                       | 281                 | 1.7           | V              | 11.7                          | -52.12                     | -13            | -39.12         |
| 1652.8             | -54.10                       | 115                 | 2.2           | H              | 3.5                           | -50.60                     | -13            | -37.60         |
| 1652.8             | -54.50                       | 84                  | 1.6           | V              | 3.1                           | -51.40                     | -13            | -38.40         |
| 2479.2             | -55.50                       | 243                 | 1.5           | H              | 6.6                           | -48.90                     | -13            | -35.90         |
| 2479.2             | -54.00                       | 124                 | 2.3           | V              | 5.8                           | -48.20                     | -13            | -35.20         |
| 3305.6             | -52.50                       | 25                  | 1.3           | H              | 6.4                           | -46.10                     | -13            | -33.10         |
| 3305.6             | -52.00                       | 271                 | 1.4           | V              | 5.7                           | -46.30                     | -13            | -33.30         |
| Middle Channel     |                              |                     |               |                |                               |                            |                |                |
| 961.56             | -63.42                       | 235                 | 1.2           | H              | 10                            | -53.42                     | -13            | -40.42         |
| 961.56             | -64.08                       | 329                 | 1.5           | V              | 11.7                          | -52.38                     | -13            | -39.38         |
| 1672.8             | -54.40                       | 248                 | 1             | H              | 3.8                           | -50.60                     | -13            | -37.60         |
| 1672.8             | -55.10                       | 312                 | 2.4           | V              | 3.1                           | -52.00                     | -13            | -39.00         |
| 2509.2             | -55.20                       | 340                 | 2.1           | H              | 6.2                           | -49.00                     | -13            | -36.00         |
| 2509.2             | -54.60                       | 205                 | 1.8           | V              | 5.6                           | -49.00                     | -13            | -36.00         |
| 3345.6             | -52.30                       | 170                 | 2             | H              | 6.6                           | -45.70                     | -13            | -32.70         |
| 3345.6             | -51.40                       | 267                 | 1.2           | V              | 5.4                           | -46.00                     | -13            | -33.00         |
| High Channel       |                              |                     |               |                |                               |                            |                |                |
| 961.66             | -63.62                       | 66                  | 1.5           | H              | 10                            | -53.62                     | -13            | -40.62         |
| 961.66             | -64.35                       | 134                 | 1.7           | V              | 11.7                          | -52.65                     | -13            | -39.65         |
| 1693.2             | -54.80                       | 212                 | 1.9           | H              | 4.1                           | -50.70                     | -13            | -37.70         |
| 1693.2             | -54.60                       | 181                 | 1.1           | V              | 3.1                           | -51.50                     | -13            | -38.50         |
| 2539.8             | -55.40                       | 243                 | 2.2           | H              | 6.1                           | -49.30                     | -13            | -36.30         |
| 2539.8             | -54.70                       | 206                 | 1.3           | V              | 5.8                           | -48.90                     | -13            | -35.90         |
| 3386.4             | -52.30                       | 165                 | 2.4           | H              | 6.2                           | -46.10                     | -13            | -33.10         |
| 3386.4             | -51.20                       | 295                 | 2.2           | V              | 5.4                           | -45.80                     | -13            | -32.80         |

**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        |                              |                     |               |                |                               |                            |                |                |
| 961.53             | -63.33                       | 97                  | 1.5           | H              | 10                            | -53.33                     | -13            | -40.33         |
| 961.53             | -64.74                       | 249                 | 1.7           | V              | 11.7                          | -53.04                     | -13            | -40.04         |
| 3700.4             | -48.70                       | 292                 | 1.9           | H              | 8.1                           | -40.60                     | -13            | -27.60         |
| 3700.4             | -49.10                       | 232                 | 2.0           | V              | 7.6                           | -41.50                     | -13            | -28.50         |
| Middle Channel     |                              |                     |               |                |                               |                            |                |                |
| 961.9              | -63.55                       | 171                 | 1.6           | H              | 10                            | -53.55                     | -13            | -40.55         |
| 961.9              | -63.81                       | 152                 | 1.9           | V              | 11.7                          | -52.11                     | -13            | -39.11         |
| 3760               | -50.00                       | 32                  | 1.7           | H              | 8.8                           | -41.20                     | -13            | -28.20         |
| 3760               | -49.60                       | 351                 | 1.8           | V              | 8                             | -41.60                     | -13            | -28.60         |
| High Channel       |                              |                     |               |                |                               |                            |                |                |
| 961.48             | -63.38                       | 345                 | 1.7           | H              | 10                            | -53.38                     | -13            | -40.38         |
| 961.48             | -64.59                       | 15                  | 1.7           | V              | 11.7                          | -52.89                     | -13            | -39.89         |
| 3819.6             | -50.30                       | 184                 | 2             | H              | 8.7                           | -41.60                     | -13            | -28.60         |
| 3819.6             | -49.80                       | 126                 | 1.9           | V              | 7.9                           | -41.90                     | -13            | -28.90         |
| WCDMA Band 2       |                              |                     |               |                |                               |                            |                |                |
| Low Channel        |                              |                     |               |                |                               |                            |                |                |
| 962.09             | -63.54                       | 231                 | 1             | H              | 10                            | -53.54                     | -13            | -40.54         |
| 962.09             | -63.89                       | 214                 | 2.2           | V              | 11.7                          | -52.19                     | -13            | -39.19         |
| 3704.8             | -47.20                       | 216                 | 1.9           | H              | 8.1                           | -39.10                     | -13            | -26.10         |
| 3704.8             | -44.10                       | 352                 | 2.1           | V              | 7.6                           | -36.50                     | -13            | -23.50         |
| Middle Channel     |                              |                     |               |                |                               |                            |                |                |
| 962.12             | -62.96                       | 173                 | 1.9           | H              | 10                            | -52.96                     | -13            | -39.96         |
| 962.12             | -64.73                       | 247                 | 1.8           | V              | 11.7                          | -53.03                     | -13            | -40.03         |
| 3760               | -46.70                       | 212                 | 1.1           | H              | 8.8                           | -37.90                     | -13            | -24.90         |
| 3760               | -45.30                       | 251                 | 2.5           | V              | 8                             | -37.30                     | -13            | -24.30         |
| High Channel       |                              |                     |               |                |                               |                            |                |                |
| 961.71             | -63.18                       | 299                 | 1.1           | H              | 10                            | -53.18                     | -13            | -40.18         |
| 961.71             | -63.83                       | 301                 | 2.1           | V              | 11.7                          | -52.13                     | -13            | -39.13         |
| 3815.2             | -46.50                       | 349                 | 2.2           | H              | 8.7                           | -37.80                     | -13            | -24.80         |
| 3815.2             | -43.20                       | 179                 | 2.5           | V              | 7.9                           | -35.30                     | -13            | -22.30         |

**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        |                              |                     |               |                |                               |                            |                |                |
| 961.46             | -63.35                       | 250                 | 2.2           | H              | 10                            | -53.35                     | -13            | -40.35         |
| 961.46             | -64.11                       | 330                 | 1.2           | V              | 11.7                          | -52.41                     | -13            | -39.41         |
| 3424.8             | -49.80                       | 221                 | 1.9           | H              | 6.4                           | -43.40                     | -13            | -30.40         |
| 3424.8             | -48.20                       | 88                  | 2             | V              | 5.8                           | -42.40                     | -13            | -29.40         |
| Middle Channel     |                              |                     |               |                |                               |                            |                |                |
| 962.2              | -62.8                        | 295                 | 1.6           | H              | 10                            | -52.8                      | -13            | -39.8          |
| 962.2              | -63.82                       | 310                 | 1.8           | V              | 11.7                          | -52.12                     | -13            | -39.12         |
| 3465.2             | -50                          | 2                   | 2             | H              | 7                             | -43.00                     | -13            | -30.00         |
| 3465.2             | -49.4                        | 35                  | 2             | V              | 6.2                           | -43.20                     | -13            | -30.20         |
| High Channel       |                              |                     |               |                |                               |                            |                |                |
| 961.44             | -63.1                        | 295                 | 1.8           | H              | 10                            | -53.1                      | -13            | -40.1          |
| 961.44             | -63.98                       | 291                 | 1.8           | V              | 11.7                          | -52.28                     | -13            | -39.28         |
| 3505.2             | -50.40                       | 263                 | 2.2           | H              | 7.8                           | -42.60                     | -13            | -29.60         |
| 3505.2             | -50.30                       | 273                 | 2.1           | V              | 6.5                           | -43.80                     | -13            | -30.80         |

**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    |                              |                     |               |                |                               |                            |                |                |
| 961.98                                 | -63.32                       | 234                 | 1.7           | H              | 10                            | -53.32                     | -13            | -40.32         |
| 961.98                                 | -64.47                       | 126                 | 1.3           | V              | 11.7                          | -52.77                     | -13            | -39.77         |
| 3701.4                                 | -46.10                       | 311                 | 1.7           | H              | 8.1                           | -38.00                     | -13            | -25.00         |
| 3701.4                                 | -42.60                       | 319                 | 1.7           | V              | 7.6                           | -35.00                     | -13            | -22.00         |
| QPSK, 1.4MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 961.45                                 | -63.2                        | 25                  | 2.3           | H              | 10                            | -53.2                      | -13            | -40.2          |
| 961.45                                 | -63.87                       | 71                  | 2.4           | V              | 11.7                          | -52.17                     | -13            | -39.17         |
| 3760                                   | -46.20                       | 40                  | 1.6           | H              | 8.8                           | -37.40                     | -13            | -24.40         |
| 3760                                   | -44.00                       | 62                  | 2.1           | V              | 8                             | -36.00                     | -13            | -23.00         |
| QPSK, 1.4MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 961.93                                 | -63.15                       | 254                 | 1.2           | H              | 10                            | -53.15                     | -13            | -40.15         |
| 961.93                                 | -64.56                       | 165                 | 1.7           | V              | 11.7                          | -52.86                     | -13            | -39.86         |
| 3818.6                                 | -46.10                       | 131                 | 1.3           | H              | 8.7                           | -37.40                     | -13            | -24.40         |
| 3818.6                                 | -42.80                       | 114                 | 2.4           | V              | 7.9                           | -34.90                     | -13            | -21.90         |
| Band 4                                 |                              |                     |               |                |                               |                            |                |                |
| Test frequency range: 30MHz-20GHz      |                              |                     |               |                |                               |                            |                |                |
| QPSK, 1.4MHz bandwidth, Low Channel    |                              |                     |               |                |                               |                            |                |                |
| 961.88                                 | -62.94                       | 203                 | 1.8           | H              | 10                            | -52.94                     | -13            | -39.94         |
| 961.88                                 | -64.13                       | 59                  | 1.6           | V              | 11.7                          | -52.43                     | -13            | -39.43         |
| 3421.4                                 | -49.60                       | 190                 | 1.7           | H              | 6.4                           | -43.20                     | -13            | -30.20         |
| 3421.4                                 | -50.60                       | 30                  | 1.3           | V              | 5.8                           | -44.80                     | -13            | -31.80         |
| QPSK, 1.4MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 961.55                                 | -63.77                       | 102                 | 1.4           | H              | 10                            | -53.77                     | -13            | -40.77         |
| 961.55                                 | -64.33                       | 319                 | 1.2           | V              | 11.7                          | -52.63                     | -13            | -39.63         |
| 3465                                   | -49.7                        | 328                 | 1.1           | H              | 7                             | -42.70                     | -13            | -29.70         |
| 3465                                   | -52                          | 193                 | 2.2           | V              | 6.2                           | -45.80                     | -13            | -32.80         |
| QPSK, 1.4MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 961.67                                 | -63.73                       | 359                 | 2.1           | H              | 10                            | -53.73                     | -13            | -40.73         |
| 961.67                                 | -63.92                       | 137                 | 1.9           | V              | 11.7                          | -52.22                     | -13            | -39.22         |
| 3508.6                                 | -50.70                       | 236                 | 1.3           | H              | 7.8                           | -42.90                     | -13            | -29.90         |
| 3508.6                                 | -51.90                       | 301                 | 2             | V              | 6.5                           | -45.40                     | -13            | -32.40         |

| 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    |                              |                     |               |                |                               |                            |                |                |
| 962.27                                 | -63.37                       | 162                 | 1.9           | H              | 10                            | -53.37                     | -13            | -40.37         |
| 962.27                                 | -64.29                       | 167                 | 2.2           | V              | 11.7                          | -52.59                     | -13            | -39.59         |
| 1649.4                                 | -54.30                       | 154                 | 1.8           | H              | 3.5                           | -50.80                     | -13            | -37.80         |
| 1649.4                                 | -55.20                       | 33                  | 1.9           | V              | 3.1                           | -52.10                     | -13            | -39.10         |
| 2474.1                                 | -56.30                       | 349                 | 1.3           | H              | 6.6                           | -49.70                     | -13            | -36.70         |
| 2474.1                                 | -54.70                       | 318                 | 1.8           | V              | 5.8                           | -48.90                     | -13            | -35.90         |
| 3298.8                                 | -52.50                       | 25                  | 2.3           | H              | 6.4                           | -46.10                     | -13            | -33.10         |
| 3298.8                                 | -51.60                       | 144                 | 2.5           | V              | 5.7                           | -45.90                     | -13            | -32.90         |
| QPSK, 1.4MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 962                                    | -63.34                       | 0                   | 1.6           | H              | 10                            | -53.34                     | -13            | -40.34         |
| 962                                    | -63.97                       | 188                 | 1             | V              | 11.7                          | -52.27                     | -13            | -39.27         |
| 1673.0                                 | -52.50                       | 325                 | 2.3           | H              | 3.8                           | -48.70                     | -13            | -35.70         |
| 1673.0                                 | -52.50                       | 277                 | 1             | V              | 3.1                           | -49.40                     | -13            | -36.40         |
| 2509.5                                 | -55.10                       | 126                 | 1.6           | H              | 6.2                           | -48.90                     | -13            | -35.90         |
| 2509.5                                 | -53.30                       | 240                 | 1.9           | V              | 5.6                           | -47.70                     | -13            | -34.70         |
| 3346.0                                 | -52.90                       | 318                 | 1.7           | H              | 6.6                           | -46.30                     | -13            | -33.30         |
| 3346.0                                 | -51.70                       | 76                  | 2.1           | V              | 5.4                           | -46.30                     | -13            | -33.30         |
| QPSK, 1.4MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 962.05                                 | -63.51                       | 310                 | 2.2           | H              | 10                            | -53.51                     | -13            | -40.51         |
| 962.05                                 | -64.47                       | 181                 | 1.4           | V              | 11.7                          | -52.77                     | -13            | -39.77         |
| 1696.6                                 | -53.00                       | 161                 | 2.0           | H              | 4.1                           | -48.90                     | -13            | -35.90         |
| 1696.6                                 | -52.50                       | 175                 | 1.1           | V              | 3.1                           | -49.40                     | -13            | -36.40         |
| 2544.9                                 | -55.00                       | 63                  | 1.3           | H              | 6.1                           | -48.90                     | -13            | -35.90         |
| 2544.9                                 | -54.70                       | 286                 | 1.4           | V              | 5.8                           | -48.90                     | -13            | -35.90         |
| 3393.2                                 | -52.50                       | 153                 | 1.1           | H              | 6.2                           | -46.30                     | -13            | -33.30         |
| 3393.2                                 | -51.60                       | 241                 | 1.6           | V              | 5.4                           | -46.20                     | -13            | -33.20         |

| 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    |                              |                     |               |                |                               |                            |                |                |
| 961.42                               | -63.66                       | 139                 | 2.2           | H              | 10                            | -53.66                     | -25            | -28.66         |
| 961.42                               | -64.22                       | 323                 | 1.8           | V              | 11.7                          | -52.52                     | -25            | -27.52         |
| 5005                                 | -56.90                       | 142                 | 1.6           | H              | 10.8                          | -46.10                     | -25            | -21.10         |
| 5005                                 | -55.40                       | 0                   | 2.5           | V              | 10.2                          | -45.20                     | -25            | -20.20         |
| QPSK, 5MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 961.46                               | -63.44                       | 135                 | 1.9           | H              | 10                            | -53.44                     | -25            | -28.44         |
| 961.46                               | -64.17                       | 331                 | 1.8           | V              | 11.7                          | -52.47                     | -25            | -27.47         |
| 5070                                 | -56.60                       | 148                 | 2.5           | H              | 11.1                          | -45.50                     | -25            | -20.50         |
| 5070                                 | -55.70                       | 51                  | 1.3           | V              | 10.8                          | -44.90                     | -25            | -19.90         |
| QPSK, 5MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 962.18                               | -63.31                       | 64                  | 1.3           | H              | 10                            | -53.31                     | -25            | -28.31         |
| 962.18                               | -64.54                       | 176                 | 2.4           | V              | 11.7                          | -52.84                     | -25            | -27.84         |
| 5135                                 | -56.30                       | 7                   | 1.4           | H              | 11.3                          | -45.00                     | -25            | -20.00         |
| 5135                                 | -55.50                       | 168                 | 1.4           | V              | 10.8                          | -44.70                     | -25            | -19.70         |

| 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-10GHz      |                              |                     |               |                |                               |                            |                |                |
| QPSK, 1.4MHz bandwidth, Low Channel    |                              |                     |               |                |                               |                            |                |                |
| 962.06                                 | -63.72                       | 5                   | 2.5           | H              | 10                            | -53.72                     | -13            | -40.72         |
| 962.06                                 | -64.05                       | 295                 | 1             | V              | 11.7                          | -52.35                     | -13            | -39.35         |
| 1399.4                                 | -61.9                        | 211                 | 2             | H              | 5.9                           | -56.00                     | -13            | -43.00         |
| 1399.4                                 | -62.9                        | 91                  | 1.6           | V              | 5.9                           | -57.00                     | -13            | -44.00         |
| 2099.1                                 | -41                          | 344                 | 2.5           | H              | 6.3                           | -34.70                     | -13            | -21.70         |
| 2099.1                                 | -38.7                        | 260                 | 1.8           | V              | 5.1                           | -33.60                     | -13            | -20.60         |
| 2798.8                                 | -57.6                        | 100                 | 2.1           | H              | 6.7                           | -50.90                     | -13            | -37.90         |
| 2798.8                                 | -57.6                        | 237                 | 2.1           | V              | 6.7                           | -50.90                     | -13            | -37.90         |
| QPSK, 1.4MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 962.1                                  | -62.86                       | 103                 | 1.3           | H              | 10                            | -52.86                     | -13            | -39.86         |
| 962.1                                  | -64.68                       | 43                  | 2.2           | V              | 11.7                          | -52.98                     | -13            | -39.98         |
| 1415                                   | -62.5                        | 9                   | 1.9           | H              | 5.9                           | -56.60                     | -13            | -43.60         |
| 1415                                   | -62.7                        | 298                 | 2.1           | V              | 5.9                           | -56.80                     | -13            | -43.80         |
| 2122.5                                 | -44.6                        | 150                 | 2             | H              | 6.3                           | -38.30                     | -13            | -25.30         |
| 2122.5                                 | -40.6                        | 27                  | 1.4           | V              | 5.1                           | -35.50                     | -13            | -22.50         |
| 2830                                   | -57.1                        | 76                  | 2             | H              | 6.7                           | -50.40                     | -13            | -37.40         |
| 2830                                   | -57.5                        | 239                 | 1.4           | V              | 6.7                           | -50.80                     | -13            | -37.80         |
| QPSK, 1.4MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 962.29                                 | -63.01                       | 145                 | 2             | H              | 10                            | -53.01                     | -13            | -40.01         |
| 962.29                                 | -64.72                       | 187                 | 1.9           | V              | 11.7                          | -53.02                     | -13            | -40.02         |
| 1430.6                                 | -58.8                        | 151                 | 2.3           | H              | 5.9                           | -52.90                     | -13            | -39.90         |
| 1430.6                                 | -59.9                        | 316                 | 2.1           | V              | 5.9                           | -54.00                     | -13            | -41.00         |
| 2145.9                                 | -46.4                        | 270                 | 1.2           | H              | 6.3                           | -40.10                     | -13            | -27.10         |
| 2145.9                                 | -43                          | 255                 | 1.5           | V              | 5.1                           | -37.90                     | -13            | -24.90         |
| 2861.2                                 | -58.1                        | 190                 | 2.4           | H              | 6.7                           | -51.40                     | -13            | -38.40         |
| 2861.2                                 | -58.3                        | 0                   | 1.5           | V              | 6.7                           | -51.60                     | -13            | -38.60         |

| 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-10GHz    |                              |                     |               |                |                               |                            |                |                |
| QPSK, 5MHz bandwidth, Low Channel    |                              |                     |               |                |                               |                            |                |                |
| 962.06                               | -62.92                       | 73                  | 2.3           | H              | 10                            | -52.92                     | -13            | -39.92         |
| 962.06                               | -64.44                       | 46                  | 1.1           | V              | 11.7                          | -52.74                     | -13            | -39.74         |
| 1559                                 | -50.09                       | 359                 | 2.1           | H              | -2.81                         | -52.90                     | -40            | -12.90         |
| 1559                                 | -51.61                       | 155                 | 1.2           | V              | -2.89                         | -54.50                     | -40            | -14.50         |
| 2338.5                               | -51.92                       | 270                 | 1.9           | H              | 1.22                          | -50.70                     | -13            | -37.70         |
| 2338.5                               | -52.28                       | 117                 | 2.3           | V              | 1.18                          | -51.10                     | -13            | -38.10         |
| 3118                                 | -50.44                       | 22                  | 1.5           | H              | 2.84                          | -47.60                     | -13            | -34.60         |
| 3118                                 | -49.87                       | 184                 | 2.3           | V              | 2.97                          | -46.90                     | -13            | -33.90         |
| QPSK, 5MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 961.84                               | -62.82                       | 111                 | 1.2           | H              | 10                            | -52.82                     | -13            | -39.82         |
| 961.84                               | -64.79                       | 260                 | 2.5           | V              | 11.7                          | -53.09                     | -13            | -40.09         |
| 1564                                 | -50.79                       | 359                 | 2.1           | H              | -2.81                         | -53.60                     | -40            | -13.60         |
| 1564                                 | -51.51                       | 155                 | 1.2           | V              | -2.89                         | -54.40                     | -40            | -14.40         |
| 2346                                 | -52.12                       | 270                 | 1.9           | H              | 1.22                          | -50.90                     | -13            | -37.90         |
| 2346                                 | -52.18                       | 117                 | 2.3           | V              | 1.18                          | -51.00                     | -13            | -38.00         |
| 3128                                 | -50.64                       | 22                  | 1.5           | H              | 2.84                          | -47.80                     | -13            | -34.80         |
| 3128                                 | -50.37                       | 184                 | 2.3           | V              | 2.97                          | -47.40                     | -13            | -34.40         |
| QPSK, 5MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 961.96                               | -62.98                       | 191                 | 1.1           | H              | 10                            | -52.98                     | -13            | -39.98         |
| 961.96                               | -64.13                       | 131                 | 1.2           | V              | 11.7                          | -52.43                     | -13            | -39.43         |
| 1569                                 | -50.59                       | 359                 | 2.1           | H              | -2.81                         | -53.40                     | -40            | -13.40         |
| 1569                                 | -51.61                       | 155                 | 1.2           | V              | -2.89                         | -54.50                     | -40            | -14.50         |
| 2353.5                               | -52.42                       | 270                 | 1.9           | H              | 1.22                          | -51.20                     | -13            | -38.20         |
| 2353.5                               | -50.88                       | 117                 | 2.3           | V              | 1.18                          | -49.70                     | -13            | -36.70         |
| 3138                                 | -50.24                       | 22                  | 1.5           | H              | 2.84                          | -47.40                     | -13            | -34.40         |
| 3138                                 | -49.97                       | 184                 | 2.3           | V              | 2.97                          | -47.00                     | -13            | -34.00         |

| 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    |                              |                     |               |                |                               |                            |                |                |
| 961.96                               | -62.96                       | 315                 | 2.2           | H              | 10                            | -52.96                     | -13            | -39.96         |
| 961.96                               | -64.56                       | 194                 | 2.1           | V              | 11.7                          | -52.86                     | -13            | -39.86         |
| 1413                                 | -53.07                       | 301                 | 1.8           | H              | -0.53                         | -53.60                     | -13            | -40.60         |
| 1413                                 | -54.46                       | 305                 | 2.2           | V              | -0.74                         | -55.20                     | -13            | -42.20         |
| 2119.5                               | -40.11                       | 273                 | 1.8           | H              | -0.89                         | -41.00                     | -13            | -28.00         |
| 2119.5                               | -37.18                       | 204                 | 1.1           | V              | -1.12                         | -38.30                     | -13            | -25.30         |
| 2826                                 | -53.44                       | 354                 | 1.5           | H              | 2.24                          | -51.20                     | -13            | -38.20         |
| 2826                                 | -52.93                       | 167                 | 1.8           | V              | 2.33                          | -50.60                     | -13            | -37.60         |
| QPSK, 5MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 961.68                               | -63.4                        | 258                 | 1.1           | H              | 10                            | -53.4                      | -13            | -40.4          |
| 961.68                               | -64.3                        | 286                 | 1.5           | V              | 11.7                          | -52.6                      | -13            | -39.6          |
| 1420                                 | -53.77                       | 80                  | 1.1           | H              | -0.53                         | -54.30                     | -13            | -41.30         |
| 1420                                 | -55.36                       | 160                 | 2.1           | V              | -0.74                         | -56.10                     | -13            | -43.10         |
| 2130                                 | -39.71                       | 3                   | 1.6           | H              | -0.89                         | -40.60                     | -13            | -27.60         |
| 2130                                 | -35.48                       | 14                  | 1.5           | V              | -1.12                         | -36.60                     | -13            | -23.60         |
| 2840                                 | -52.64                       | 27                  | 1.7           | H              | 2.24                          | -50.40                     | -13            | -37.40         |
| 2840                                 | -53.03                       | 182                 | 1.1           | V              | 2.33                          | -50.70                     | -13            | -37.70         |
| QPSK, 5MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 961.93                               | -63.08                       | 134                 | 2.1           | H              | 10                            | -53.08                     | -13            | -40.08         |
| 961.93                               | -64.47                       | 175                 | 2.4           | V              | 11.7                          | -52.77                     | -13            | -39.77         |
| 1427                                 | -52.57                       | 16                  | 1.4           | H              | -0.53                         | -53.10                     | -13            | -40.10         |
| 1427                                 | -54.66                       | 76                  | 1.7           | V              | -0.74                         | -55.40                     | -13            | -42.40         |
| 2140.5                               | -42.01                       | 126                 | 2.4           | H              | -0.89                         | -42.90                     | -13            | -29.90         |
| 2140.5                               | -40.08                       | 29                  | 1.8           | V              | -1.12                         | -41.20                     | -13            | -28.20         |
| 2854                                 | -53.34                       | 353                 | 1.9           | H              | 2.24                          | -51.10                     | -13            | -38.10         |
| 2854                                 | -53.43                       | 202                 | 1.3           | V              | 2.33                          | -51.10                     | -13            | -38.10         |

| 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              |                              |                     |               |                |                               |                            |                |                |
| 962.06                               | -62.84                       | 299                 | 1.1           | H              | 10                            | -52.84                     | -25            | -27.84         |
| 962.06                               | -64.67                       | 275                 | 1.1           | V              | 11.7                          | -52.97                     | -25            | -27.97         |
| 5145                                 | -57                          | 209                 | 2.2           | H              | 11.4                          | -45.60                     | -25            | -20.60         |
| 5145                                 | -57.3                        | 339                 | 1.4           | V              | 10.7                          | -46.60                     | -25            | -21.60         |
| QPSK, 5MHz, Middle Channel           |                              |                     |               |                |                               |                            |                |                |
| 961.86                               | -63.13                       | 84                  | 2.4           | H              | 10                            | -53.13                     | -25            | -28.13         |
| 961.86                               | -64.4                        | 112                 | 2.5           | V              | 11.7                          | -52.7                      | -25            | -27.7          |
| 5190                                 | -55.1                        | 344                 | 1.4           | H              | 10.5                          | -44.60                     | -25            | -19.60         |
| 5190                                 | -54.2                        | 131                 | 1.5           | V              | 10                            | -44.20                     | -25            | -19.20         |
| QPSK, 5MHz, High Channel             |                              |                     |               |                |                               |                            |                |                |
| 961.96                               | -62.86                       | 325                 | 1.2           | H              | 10                            | -52.86                     | -25            | -27.86         |
| 961.96                               | -63.95                       | 10                  | 1.1           | V              | 11.7                          | -52.25                     | -25            | -27.25         |
| 5235                                 | -55.1                        | 80                  | 2.2           | H              | 9.7                           | -45.40                     | -25            | -20.40         |
| 5235                                 | -53.7                        | 163                 | 2.4           | V              | 9.2                           | -44.50                     | -25            | -19.50         |
| Band 41                              |                              |                     |               |                |                               |                            |                |                |
| Test frequency range: 30-26.5GHz     |                              |                     |               |                |                               |                            |                |                |
| QPSK, 5MHz, Low Channel              |                              |                     |               |                |                               |                            |                |                |
| 962.29                               | -62.96                       | 167                 | 1.3           | H              | 10                            | -52.96                     | -25            | -27.96         |
| 962.29                               | -64.75                       | 326                 | 1.6           | V              | 11.7                          | -53.05                     | -25            | -28.05         |
| 5075                                 | -56.5                        | 261                 | 2.5           | H              | 11.2                          | -45.30                     | -25            | -20.30         |
| 5075                                 | -54.5                        | 101                 | 1.1           | V              | 10.8                          | -43.70                     | -25            | -18.70         |
| QPSK, 5MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 962.15                               | -62.88                       | 56                  | 1.2           | H              | 10                            | -52.88                     | -25            | -27.88         |
| 962.15                               | -64.45                       | 276                 | 2.3           | V              | 11.7                          | -52.75                     | -25            | -27.75         |
| 5190                                 | -56.1                        | 205                 | 1.1           | H              | 10.5                          | -45.60                     | -25            | -20.60         |
| 5190                                 | -54.9                        | 182                 | 1.6           | V              | 10                            | -44.90                     | -25            | -19.90         |
| QPSK, 5MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 961.66                               | -62.82                       | 37                  | 1.4           | H              | 10                            | -52.82                     | -25            | -27.82         |
| 961.66                               | -63.84                       | 281                 | 2             | V              | 11.7                          | -52.14                     | -25            | -27.14         |
| 5305                                 | -54                          | 74                  | 1.2           | H              | 9.6                           | -44.40                     | -25            | -19.40         |
| 5305                                 | -51.6                        | 343                 | 1.1           | V              | 8.8                           | -42.80                     | -25            | -17.80         |

| 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              |                              |                     |               |                |                               |                            |                |                |
| 961.45                                 | -62.95                       | 89                  | 2.5           | H              | 10                            | -52.95                     | -13            | -39.95         |
| 961.45                                 | -64.15                       | 124                 | 1.9           | V              | 11.7                          | -52.45                     | -13            | -39.45         |
| 3421.4                                 | -49.4                        | 24                  | 1.7           | H              | 6.4                           | -43.00                     | -13            | -30.00         |
| 3421.4                                 | -49.4                        | 271                 | 1.3           | V              | 5.7                           | -43.70                     | -13            | -30.70         |
| QPSK, 1.4MHz bandwidth, Middle Channel |                              |                     |               |                |                               |                            |                |                |
| 961.98                                 | -63.49                       | 345                 | 2.4           | H              | 10                            | -53.49                     | -13            | -40.49         |
| 961.98                                 | -63.81                       | 254                 | 1.6           | V              | 11.7                          | -52.11                     | -13            | -39.11         |
| 3490                                   | -50.3                        | 54                  | 2.3           | H              | 7.6                           | -42.70                     | -13            | -29.70         |
| 3490                                   | -50.7                        | 132                 | 2             | V              | 6.4                           | -44.30                     | -13            | -31.30         |
| QPSK, 1.4MHz bandwidth, High Channel   |                              |                     |               |                |                               |                            |                |                |
| 961.92                                 | -63.75                       | 326                 | 2.4           | H              | 10                            | -53.75                     | -13            | -40.75         |
| 961.92                                 | -63.81                       | 33                  | 2             | V              | 11.7                          | -52.11                     | -13            | -39.11         |
| 3598.6                                 | -50.9                        | 175                 | 1.6           | H              | 7.8                           | -43.10                     | -13            | -30.10         |
| 3598.6                                 | -50.8                        | 84                  | 1.6           | V              | 7                             | -43.80                     | -13            | -30.80         |

**Note:**

Absolute Level = Reading Level + Substituted Factor

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

Margin = Absolute Level - Limit

**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.

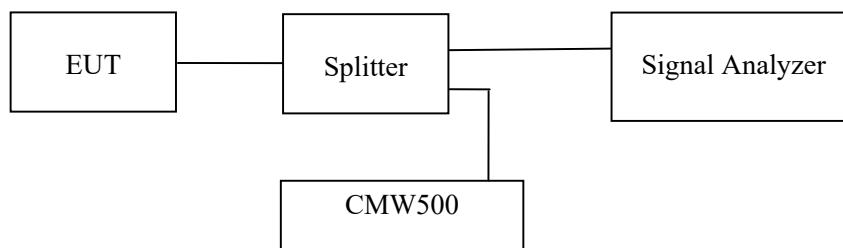
According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

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:       | 27.2~28 °C |
| Relative Humidity: | 56.8~62 %  |
| ATM Pressure:      | 101.0 kPa  |

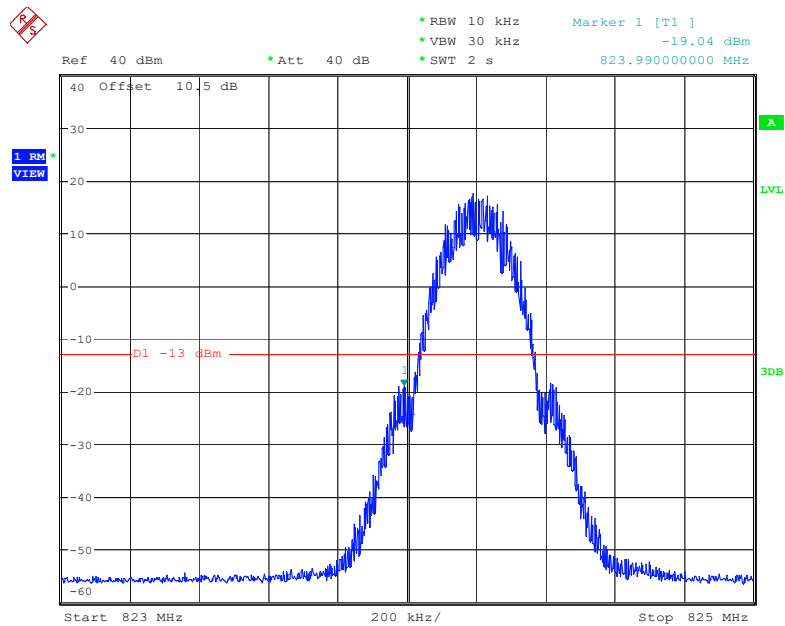
*The testing was performed by Audy Yu from 2022-06-26 to 2022-07-09*

*EUT operation mode: Transmitting (Worst case)*

**Test Result: Pass**

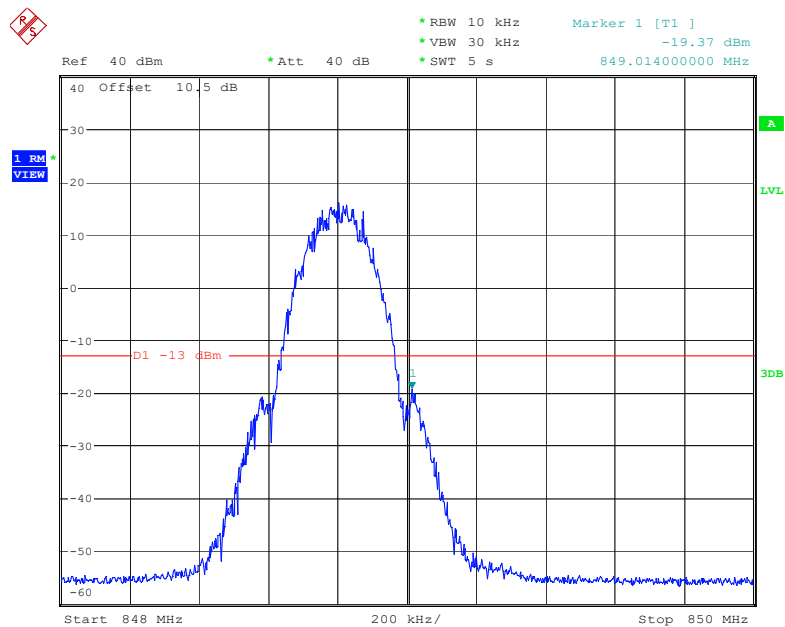
*Please refer to the following plots.*

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

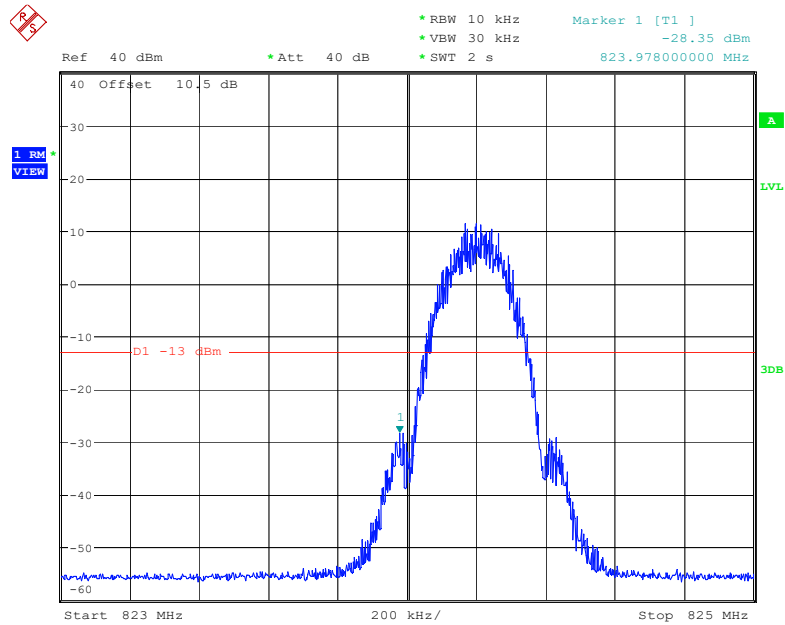


Date: 28.JUN.2022 15:03:18

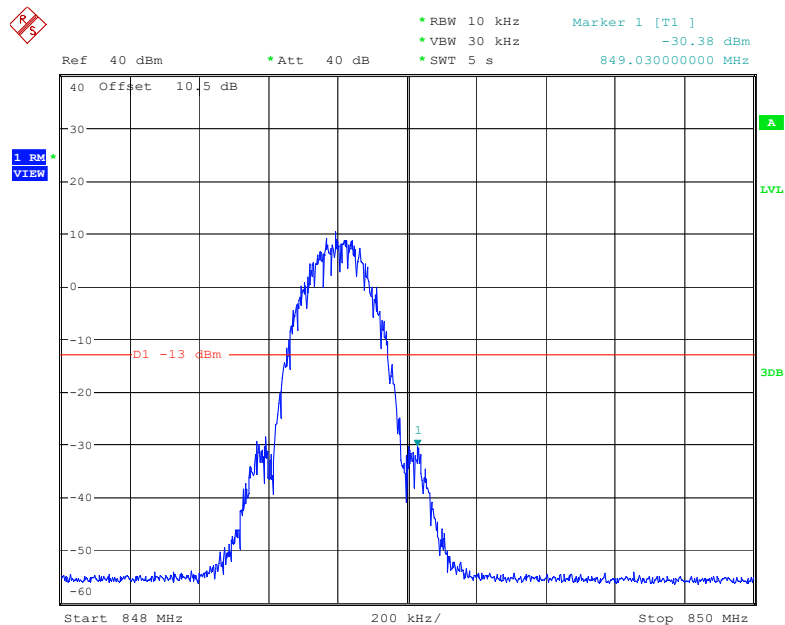
## Cellular Band, Right Band Edge for GSM (GMSK) Mode



Date: 28.JUN.2022 15:12:34

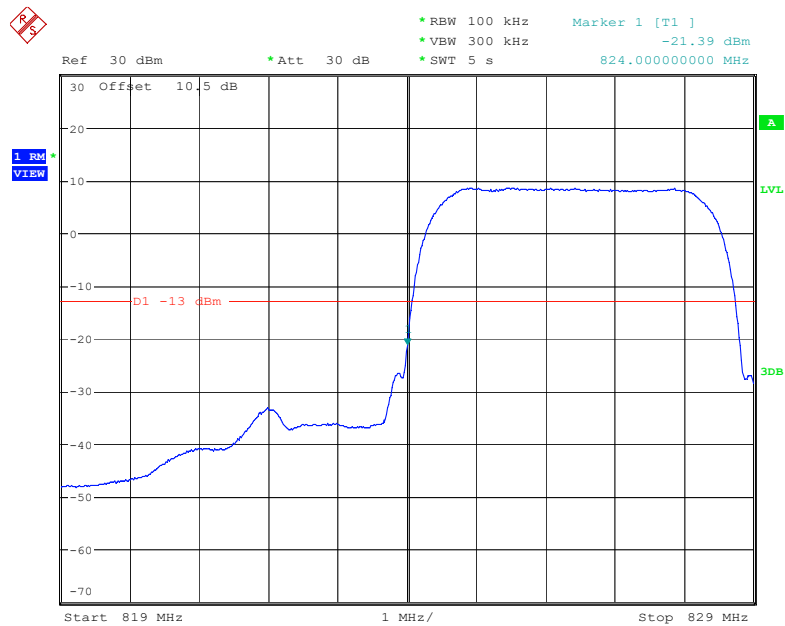
**Cellular Band, Left Band Edge for EGPRS (8PSK) Mode**

Date: 28.JUN.2022 15:18:52

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

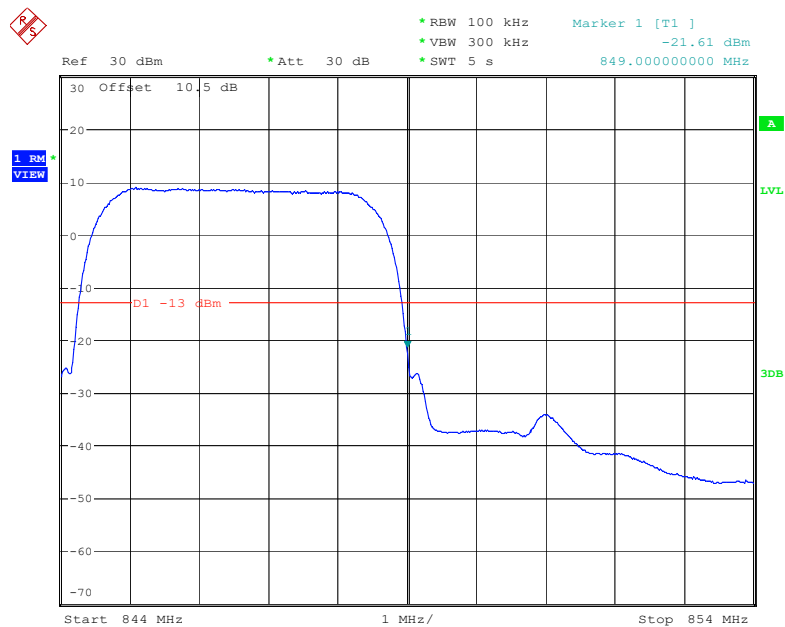
Date: 28.JUN.2022 15:25:05

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



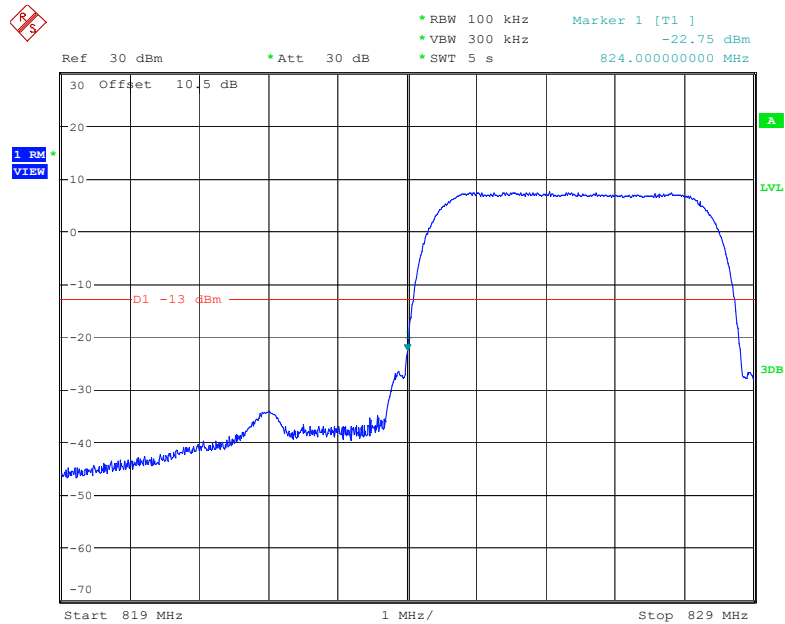
Date: 28.JUN.2022 17:25:49

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



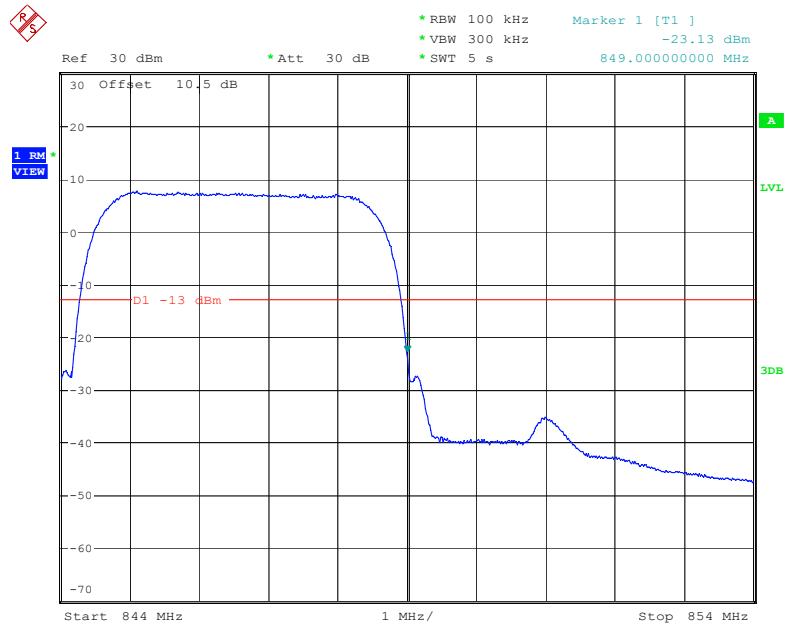
Date: 28.JUN.2022 17:32:39

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



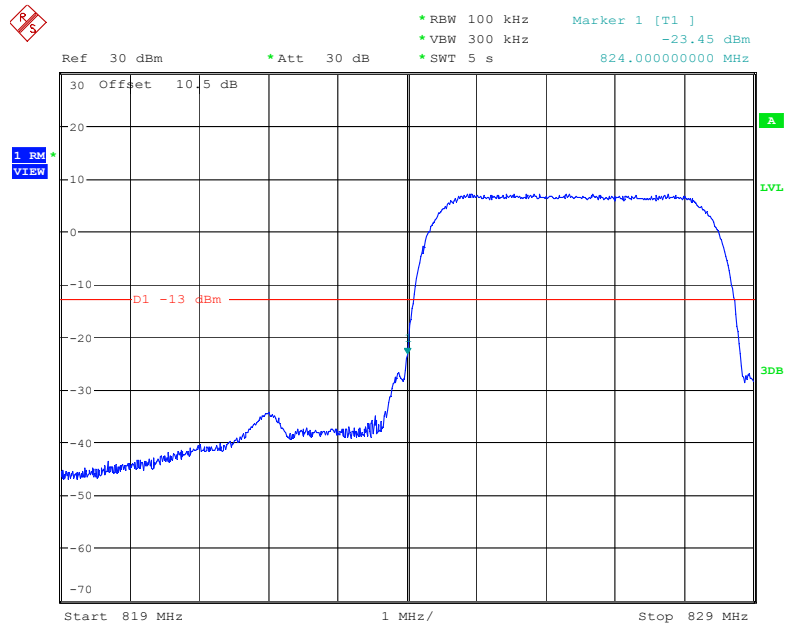
Date: 28.JUN.2022 18:01:03

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



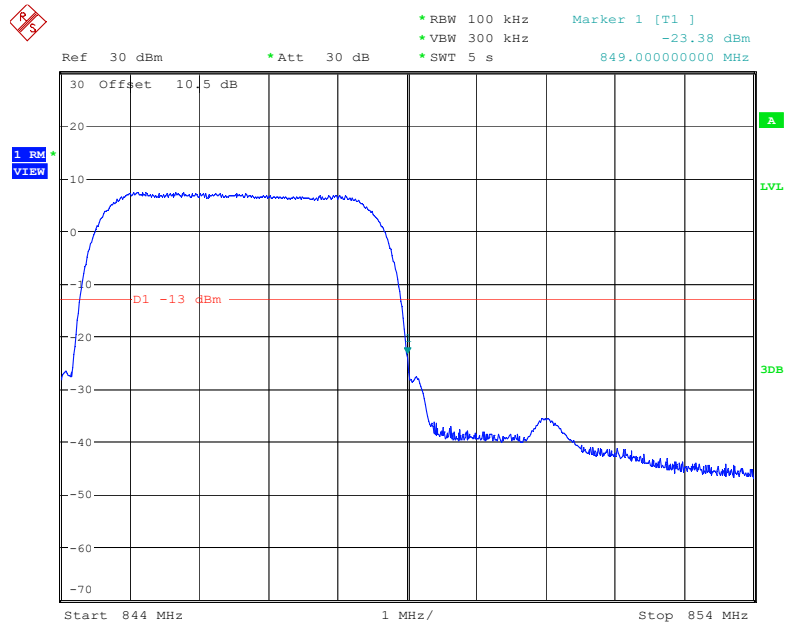
Date: 28.JUN.2022 18:07:12

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

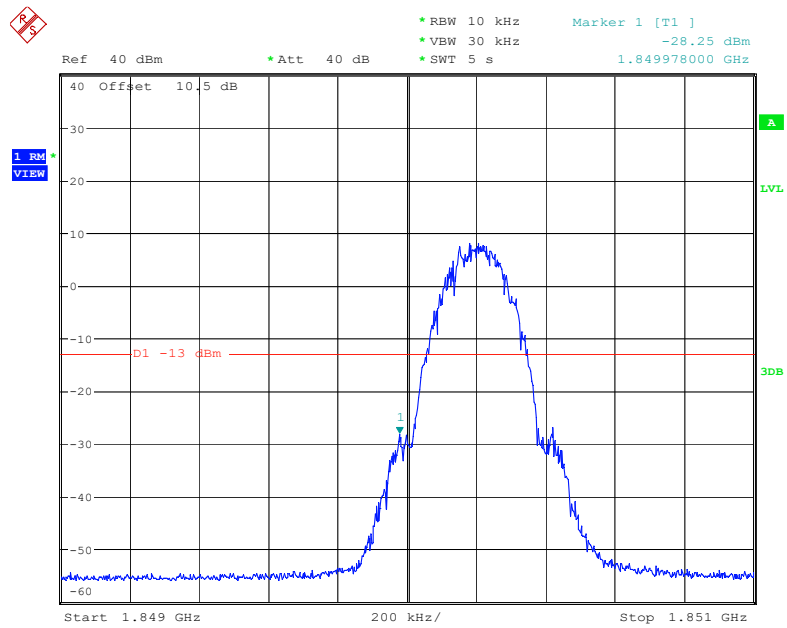


Date: 28.JUN.2022 18:12:36

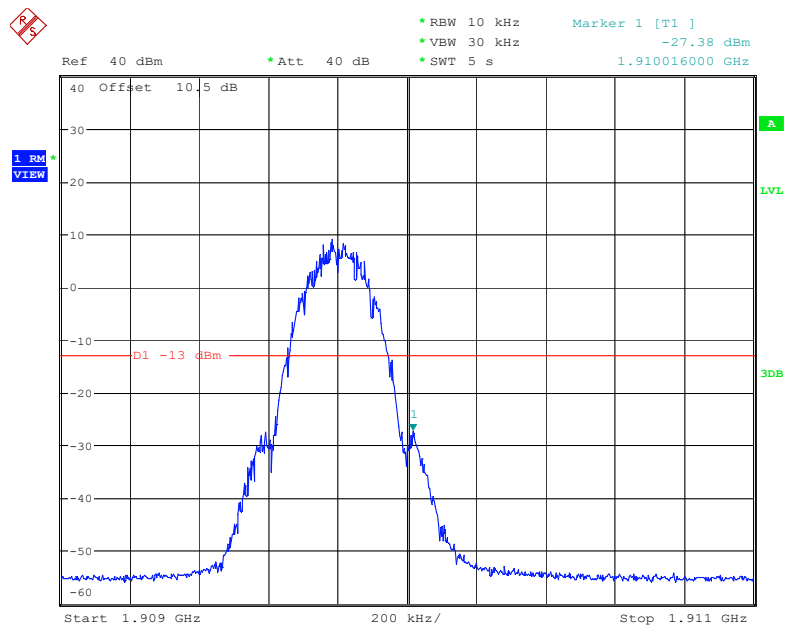
## Cellular Band, Right Band Edge for HSUPA (QPSK) Mode



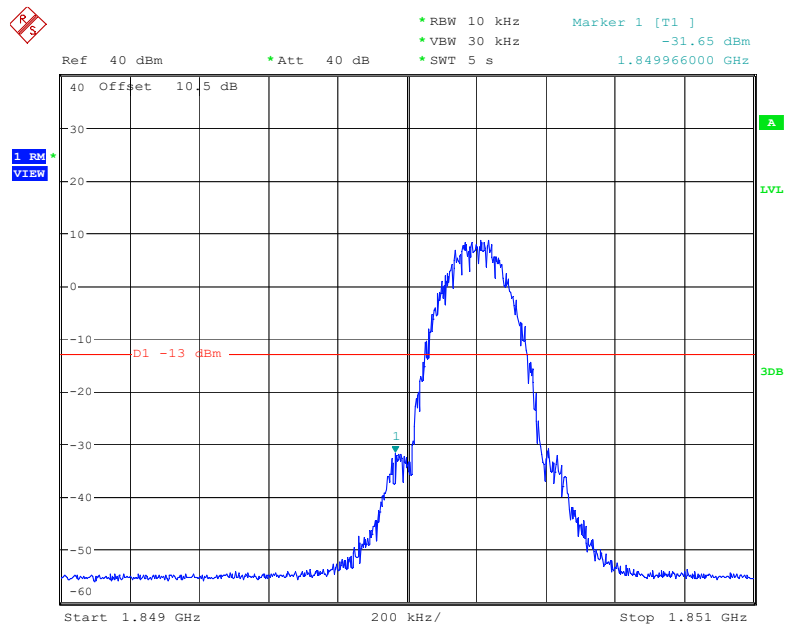
Date: 28.JUN.2022 18:19:57

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

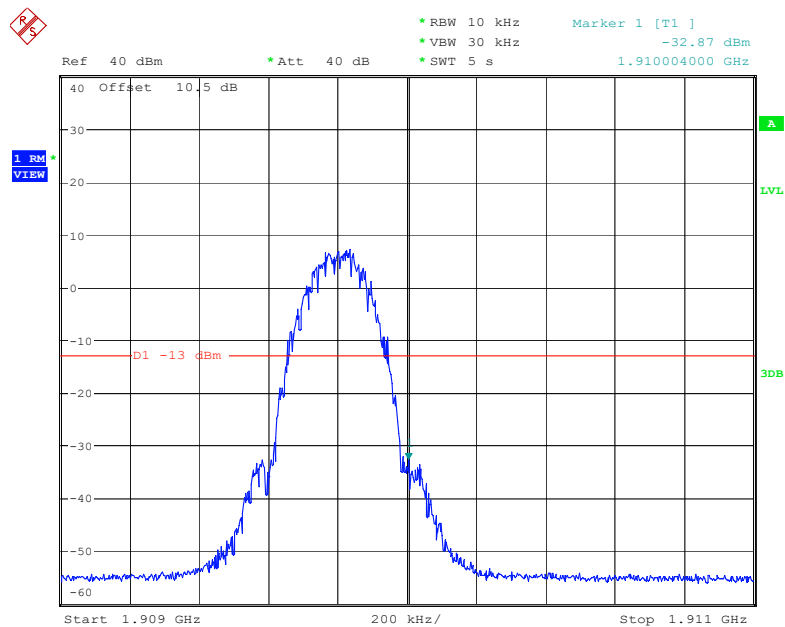
Date: 28.JUN.2022 15:43:07

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

Date: 28.JUN.2022 15:50:02

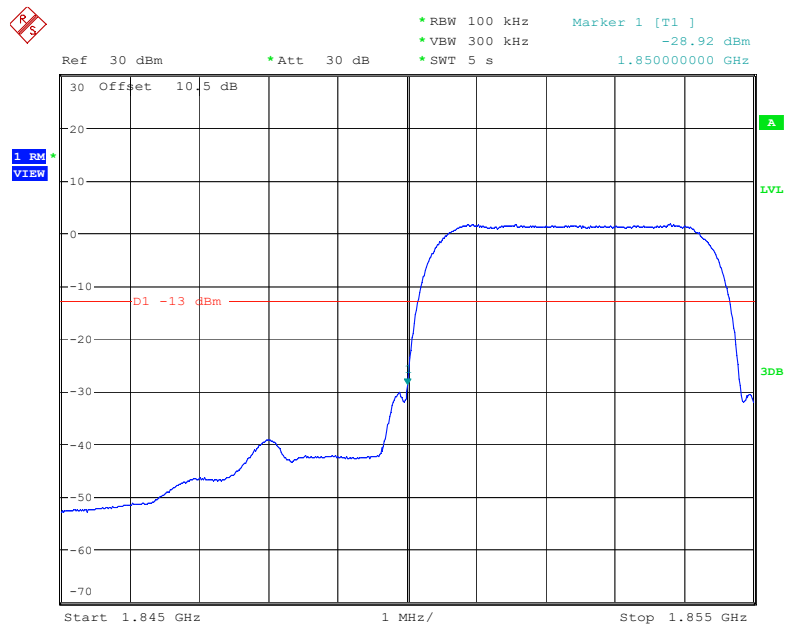
**PCS Band, Left Band Edge for EGPRS (8PSK) Mode**

Date: 28.JUN.2022 15:30:50

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

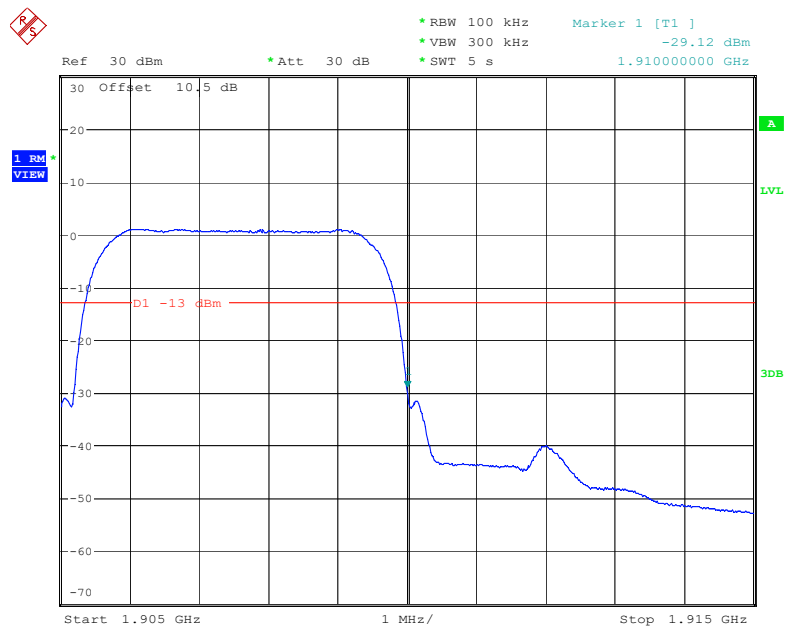
Date: 28.JUN.2022 15:38:08

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

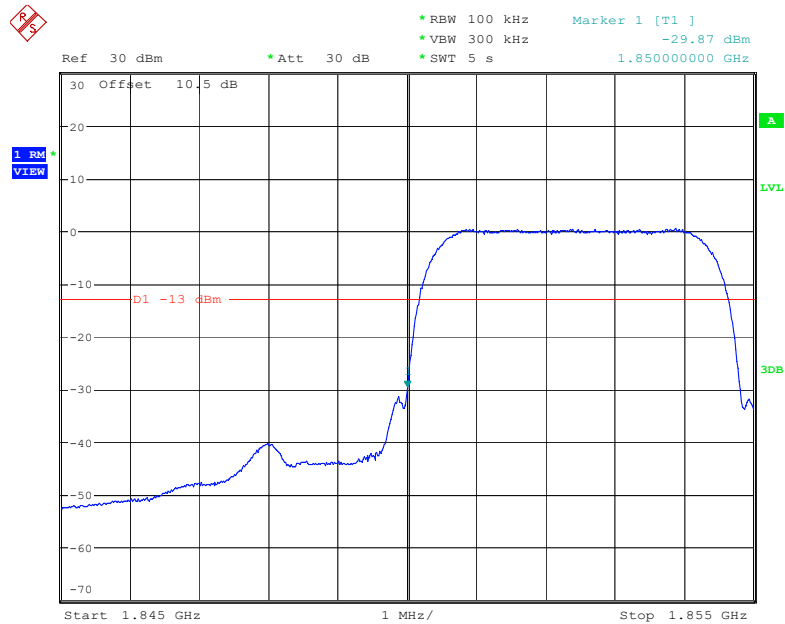


Date: 28.JUN.2022 15:57:36

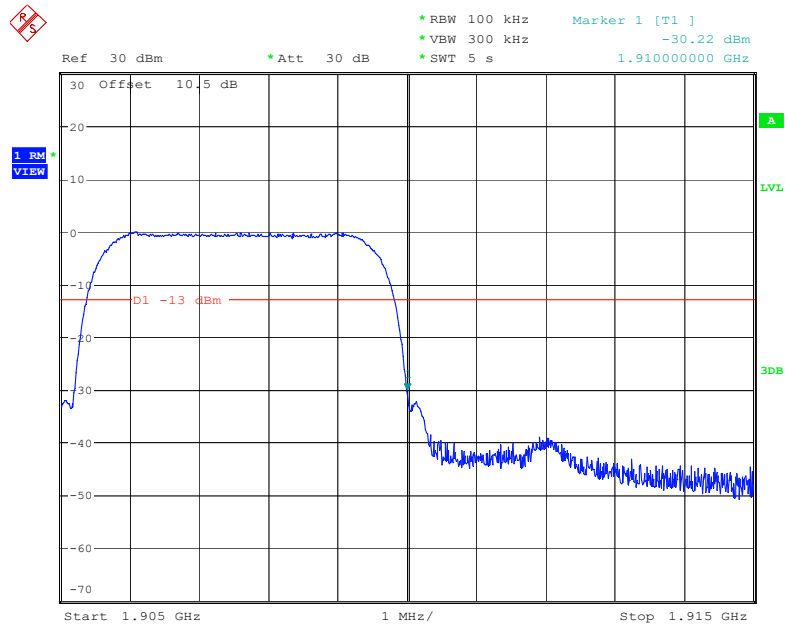
## PCS Band, Right Band Edge for RMC (BPSK) Mode



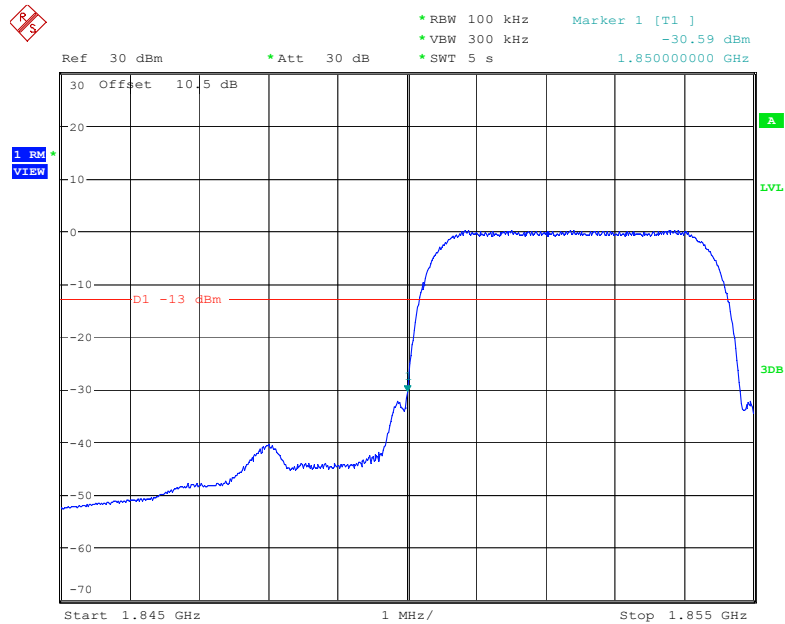
Date: 28.JUN.2022 16:05:47

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

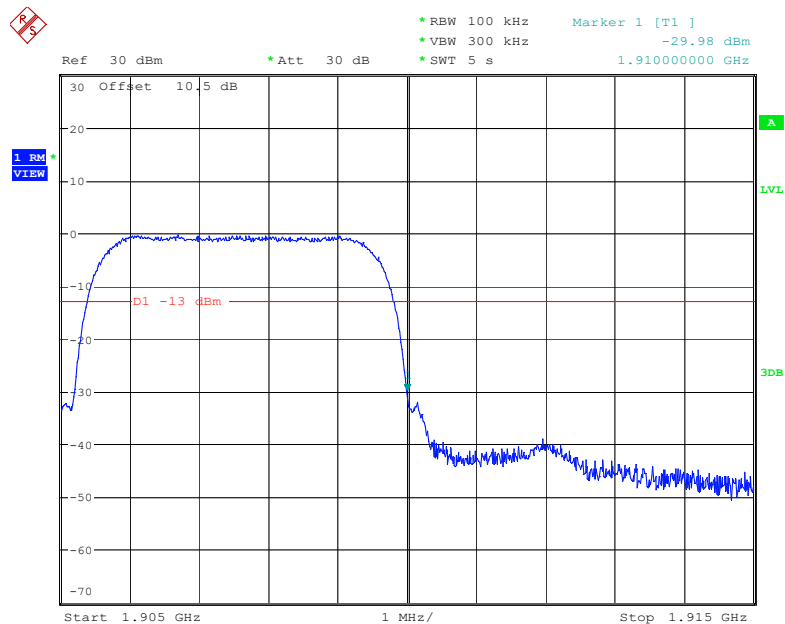
Date: 28.JUN.2022 16:11:28

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

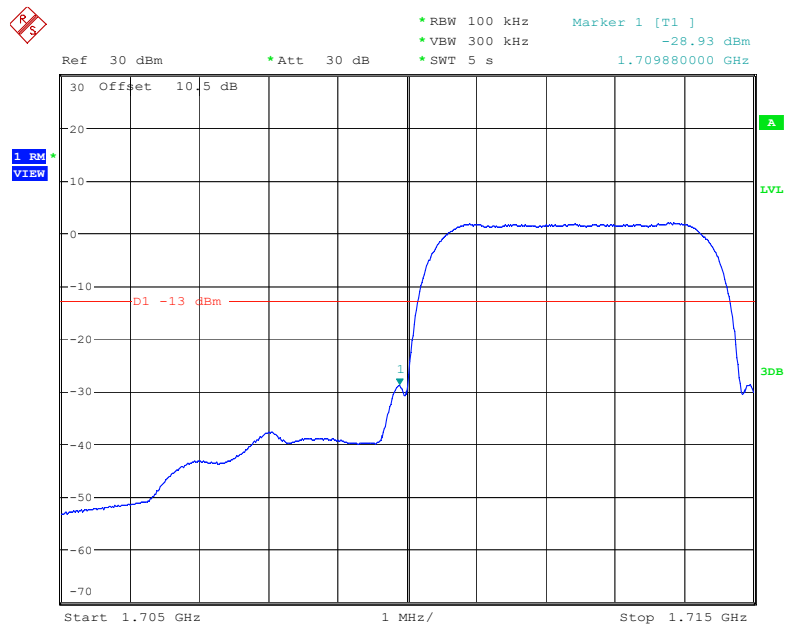
Date: 28.JUN.2022 16:19:37

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

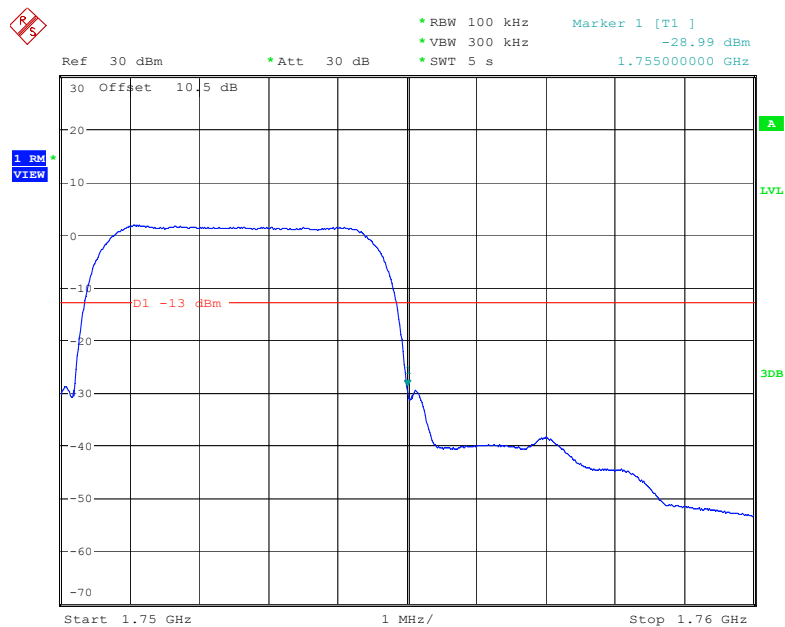
Date: 28.JUN.2022 16:24:34

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

Date: 28.JUN.2022 16:32:39

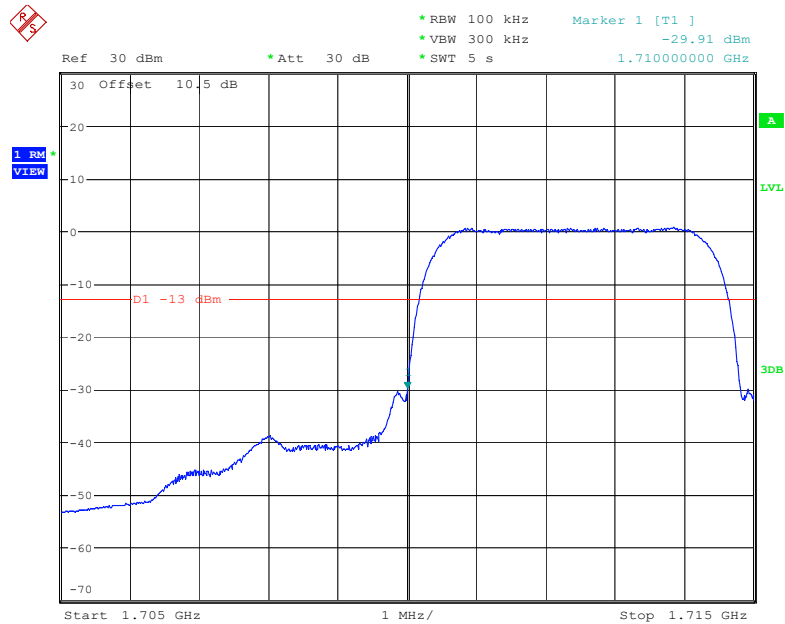
**AWS Band, Left Band Edge for RMC (BPSK) Mode**

Date: 28.JUN.2022 16:38:20

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

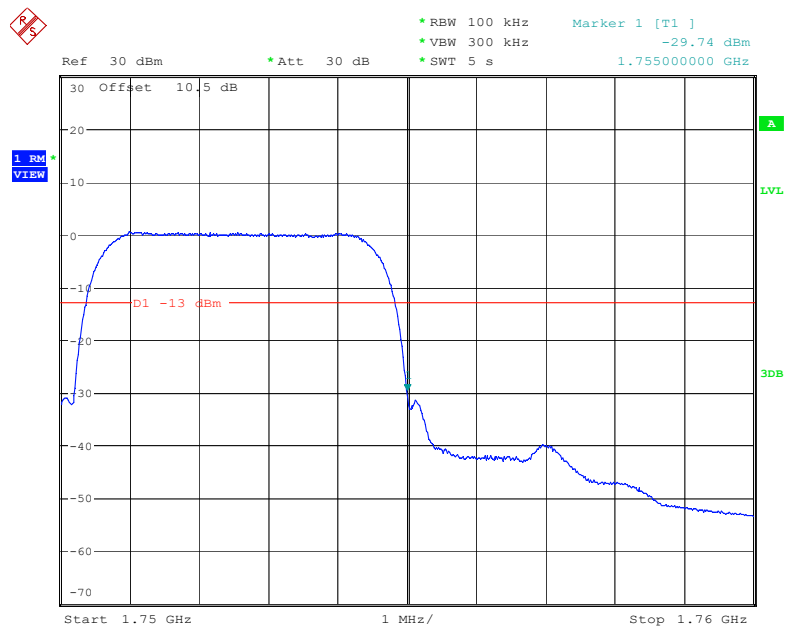
Date: 28.JUN.2022 16:47:27

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

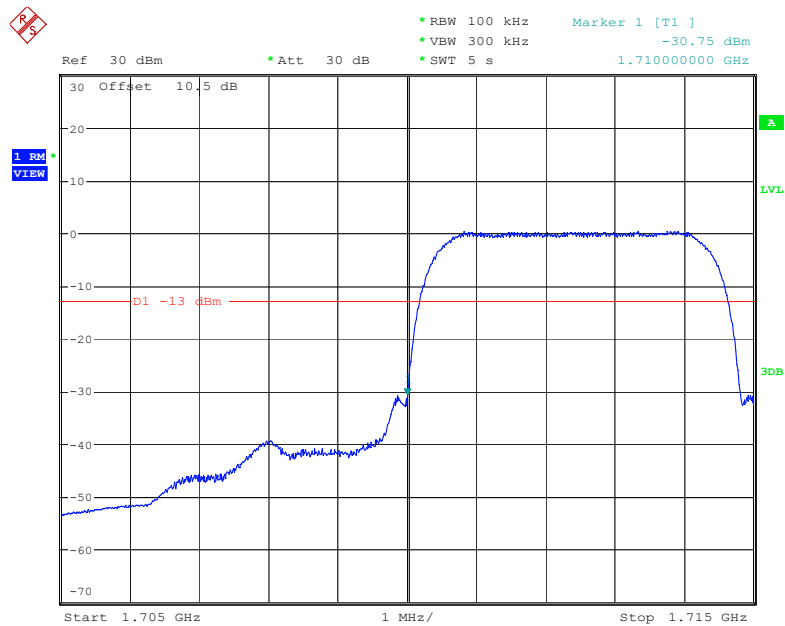


Date: 28.JUN.2022 17:12:46

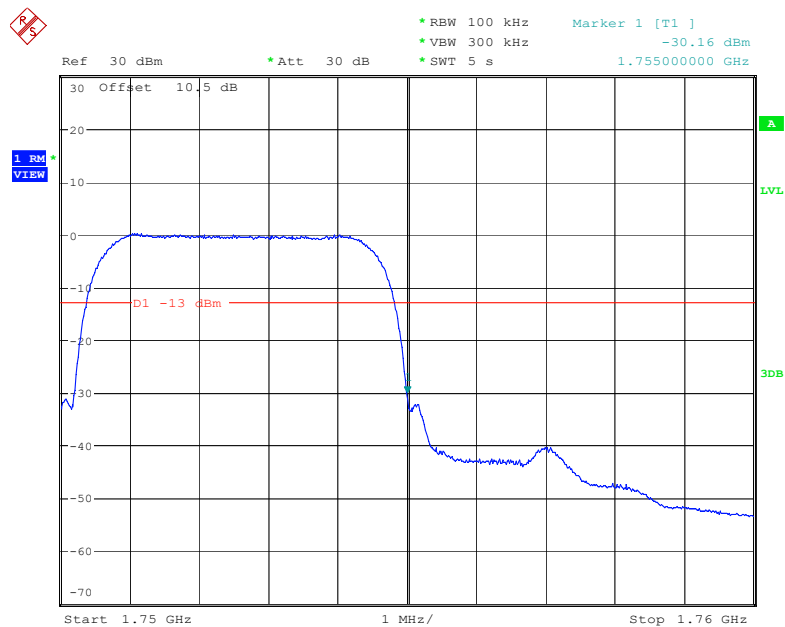
## AWS Band, Right Band Edge for HSDPA (16QAM) Mode



Date: 28.JUN.2022 17:20:46

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

Date: 28.JUN.2022 16:56:38

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

Date: 28.JUN.2022 17:05:55

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                    |

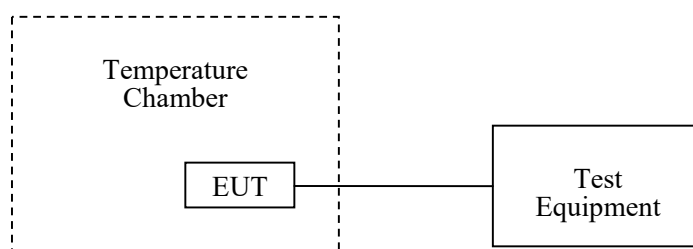
According to §24.235&§27.54, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

### **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>       | 27.2~28 °C |
| <b>Relative Humidity:</b> | 56.8~62 %  |
| <b>ATM Pressure:</b>      | 101.0 kPa  |

*The testing was performed by Audy Yu from 2022-06-26 to 2022-07-09.*

*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                                      |                                     | 0                    | 0.0000                | 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                                      |                                     | 1.30                 | 0.0016                | 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                                    |                                     | 1.08                 | 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, $f_0=1880.0\text{ MHz}$ |                                     |                      |                       |        |
|-----------------------------------------|-------------------------------------|----------------------|-----------------------|--------|
| 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                                      |                                     | 23                   | 0.0122                | 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.                                | 2.48                 | 0.0013                | pass   |
| -20                                |                                     | 2.35                 | 0.0013                | pass   |
| -10                                |                                     | 2.41                 | 0.0013                | pass   |
| 0                                  |                                     | 2.55                 | 0.0014                | pass   |
| 10                                 |                                     | 2.69                 | 0.0014                | pass   |
| 20                                 |                                     | 2.40                 | 0.0013                | pass   |
| 30                                 |                                     | 2.56                 | 0.0014                | pass   |
| 40                                 |                                     | 2.38                 | 0.0013                | pass   |
| 50                                 |                                     | 2.55                 | 0.0014                | pass   |
| 20                                 | L.V.                                | 2.34                 | 0.0012                | pass   |
|                                    | H.V.                                | 2.17                 | 0.0012                | 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                                 |                                     | 1.18                 | 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 as below)****QPSK:****Band 2:**

| 10.0 MHz Middle Channel, f <sub>0</sub> =1880MHz |                                     |                      |                       |        |
|--------------------------------------------------|-------------------------------------|----------------------|-----------------------|--------|
| Temperature (°C)                                 | Voltage Supplied (V <sub>DC</sub> ) | Frequency Error (Hz) | Frequency Error (ppm) | Result |
| -30                                              | N.V.                                | -17.37               | -0.0092               | pass   |
| -20                                              |                                     | -9.98                | -0.0053               | pass   |
| -10                                              |                                     | -5.29                | -0.0028               | pass   |
| 0                                                |                                     | -8.51                | -0.0045               | pass   |
| 10                                               |                                     | 9.71                 | 0.0052                | pass   |
| 20                                               |                                     | 8.68                 | 0.0046                | pass   |
| 30                                               |                                     | -6.43                | -0.0034               | pass   |
| 40                                               |                                     | 7.15                 | 0.0038                | pass   |
| 50                                               |                                     | -9.30                | -0.0049               | pass   |
| 20                                               | L.V.                                | -9.83                | -0.0052               | pass   |
|                                                  | H.V.                                | 6.04                 | 0.0032                | pass   |

**Band 4:**

| 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.                              | 1710.1164            | 1754.8734            | 1710                       | 1755                       |
| -20              |                                   | 1710.1153            | 1754.8736            | 1710                       | 1755                       |
| -10              |                                   | 1710.1191            | 1754.8724            | 1710                       | 1755                       |
| 0                |                                   | 1710.1152            | 1754.8731            | 1710                       | 1755                       |
| 10               |                                   | 1710.1143            | 1754.8752            | 1710                       | 1755                       |
| 20               |                                   | 1710.1152            | 1754.8745            | 1710                       | 1755                       |
| 30               |                                   | 1710.1134            | 1754.8755            | 1710                       | 1755                       |
| 40               |                                   | 1710.1121            | 1754.8734            | 1710                       | 1755                       |
| 50               |                                   | 1710.1125            | 1754.8746            | 1710                       | 1755                       |
| 20               | L.V.                              | 1710.1132            | 1754.8735            | 1710                       | 1755                       |
|                  | H.V.                              | 1710.1045            | 1754.8746            | 1710                       | 1755                       |

**Band 5:**

| 10.0 MHz Middle Channel, f <sub>0</sub> =836.5MHz |                                     |                      |                       |             |
|---------------------------------------------------|-------------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                                  | Voltage Supplied (V <sub>DC</sub> ) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -30                                               | N.V.                                | 1.12                 | 0.0013                | 2.5         |
| -20                                               |                                     | -9.47                | -0.0113               | 2.5         |
| -10                                               |                                     | 8.02                 | 0.0096                | 2.5         |
| 0                                                 |                                     | -5.80                | -0.0069               | 2.5         |
| 10                                                |                                     | 7.23                 | 0.0086                | 2.5         |
| 20                                                |                                     | 9.28                 | 0.0111                | 2.5         |
| 30                                                |                                     | 8.99                 | 0.0107                | 2.5         |
| 40                                                |                                     | -5.37                | -0.0064               | 2.5         |
| 50                                                |                                     | -5.34                | -0.0064               | 2.5         |
| 20                                                | L.V.                                | 7.95                 | 0.0095                | 2.5         |
|                                                   | H.V.                                | -5.62                | -0.0067               | 2.5         |

**Band 7:**

| 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.                              | 2500.8756            | 2569.9851            | 2500                       | 2570                       |
| -20              |                                   | 2500.8742            | 2569.9942            | 2500                       | 2570                       |
| -10              |                                   | 2500.8752            | 2569.9854            | 2500                       | 2570                       |
| 0                |                                   | 2500.8784            | 2569.9762            | 2500                       | 2570                       |
| 10               |                                   | 2500.7937            | 2569.9825            | 2500                       | 2570                       |
| 20               |                                   | 2500.7872            | 2569.9421            | 2500                       | 2570                       |
| 30               |                                   | 2500.7753            | 2569.9331            | 2500                       | 2570                       |
| 40               |                                   | 2500.7654            | 2569.9922            | 2500                       | 2570                       |
| 50               |                                   | 2500.7541            | 2569.9872            | 2500                       | 2570                       |
| 20               | L.V.                              | 2500.7526            | 2569.9834            | 2500                       | 2570                       |
|                  | H.V.                              | 2500.7432            | 2569.9745            | 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.                              | 699.9636             | 715.8862             | 699                        | 716                        |
| -20              |                                   | 699.9642             | 715.7724             | 699                        | 716                        |
| -10              |                                   | 699.4525             | 715.7454             | 699                        | 716                        |
| 0                |                                   | 699.4422             | 715.7631             | 699                        | 716                        |
| 10               |                                   | 699.3233             | 715.5412             | 699                        | 716                        |
| 20               |                                   | 699.4421             | 715.5241             | 699                        | 716                        |
| 30               |                                   | 699.2284             | 715.6324             | 699                        | 716                        |
| 40               |                                   | 699.3343             | 715.6316             | 699                        | 716                        |
| 50               |                                   | 699.4242             | 715.5455             | 699                        | 716                        |
| 20               | L.V.                              | 699.3376             | 715.5671             | 699                        | 716                        |
|                  | H.V.                              | 699.3345             | 715.5547             | 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.                              | 777.1286             | 786.8456             | 777                        | 787                        |
| -20              |                                   | 777.1237             | 786.8435             | 777                        | 787                        |
| -10              |                                   | 777.1272             | 786.8423             | 777                        | 787                        |
| 0                |                                   | 777.1214             | 786.8431             | 777                        | 787                        |
| 10               |                                   | 777.1246             | 786.8446             | 777                        | 787                        |
| 20               |                                   | 777.1295             | 786.8458             | 777                        | 787                        |
| 30               |                                   | 777.1246             | 786.8455             | 777                        | 787                        |
| 40               |                                   | 777.1292             | 786.8494             | 777                        | 787                        |
| 50               |                                   | 777.1265             | 786.8434             | 777                        | 787                        |
| 20               | L.V.                              | 777.1237             | 786.8452             | 777                        | 787                        |
|                  | H.V.                              | 777.1252             | 786.8416             | 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.                              | 704.3348             | 715.8824             | 704                        | 716                        |
| -20              |                                   | 704.3156             | 715.8762             | 704                        | 716                        |
| -10              |                                   | 704.2557             | 715.8424             | 704                        | 716                        |
| 0                |                                   | 704.2612             | 715.8515             | 704                        | 716                        |
| 10               |                                   | 704.5143             | 715.4683             | 704                        | 716                        |
| 20               |                                   | 704.5028             | 715.4524             | 704                        | 716                        |
| 30               |                                   | 704.4561             | 715.3342             | 704                        | 716                        |
| 40               |                                   | 704.3565             | 715.3626             | 704                        | 716                        |
| 50               |                                   | 704.3324             | 715.2834             | 704                        | 716                        |
| 20               | L.V.                              | 704.2956             | 715.2642             | 704                        | 716                        |
|                  | H.V.                              | 704.3114             | 715.3315             | 704                        | 716                        |

**Band 38:**

| 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.                              | 2570.8375            | 2619.9826            | 2570                       | 2620                       |
| -20              |                                   | 2570.8065            | 2619.8721            | 2570                       | 2620                       |
| -10              |                                   | 2570.7242            | 2619.7636            | 2570                       | 2620                       |
| 0                |                                   | 2570.6152            | 2619.6554            | 2570                       | 2620                       |
| 10               |                                   | 2570.5054            | 2619.5423            | 2570                       | 2620                       |
| 20               |                                   | 2570.5934            | 2619.6324            | 2570                       | 2620                       |
| 30               |                                   | 2570.6833            | 2619.5222            | 2570                       | 2620                       |
| 40               |                                   | 2570.4722            | 2619.6121            | 2570                       | 2620                       |
| 50               |                                   | 2570.5614            | 2619.6323            | 2570                       | 2620                       |
| 20               | L.V.                              | 2570.5522            | 2619.6251            | 2570                       | 2620                       |
|                  | H.V.                              | 2570.5823            | 2619.6127            | 2570                       | 2620                       |

**Band 41:**

| 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.                              | 2535.8753            | 2654.1873            | 2535                       | 2655                       |
| -20              |                                   | 2535.8672            | 2654.1853            | 2535                       | 2655                       |
| -10              |                                   | 2535.7567            | 2654.1761            | 2535                       | 2655                       |
| 0                |                                   | 2535.6424            | 2654.1652            | 2535                       | 2655                       |
| 10               |                                   | 2535.7327            | 2654.1557            | 2535                       | 2655                       |
| 20               |                                   | 2535.8222            | 2654.1433            | 2535                       | 2655                       |
| 30               |                                   | 2535.8156            | 2654.1354            | 2535                       | 2655                       |
| 40               |                                   | 2535.8154            | 2654.1236            | 2535                       | 2655                       |
| 50               |                                   | 2535.7931            | 2654.1065            | 2535                       | 2655                       |
| 20               | L.V.                              | 2535.8621            | 2654.0037            | 2535                       | 2655                       |
|                  | H.V.                              | 2535.8527            | 2654.0016            | 2535                       | 2655                       |

Note: The applicant declared the frequency range is 2535-2655MHz for Band 41.

**Band 66:**

| 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.                              | 1710.0246            | 1779.9751            | 1710                       | 1780                       |
| -20              |                                   | 1710.0234            | 1779.9725            | 1710                       | 1780                       |
| -10              |                                   | 1710.0242            | 1779.9836            | 1710                       | 1780                       |
| 0                |                                   | 1710.0232            | 1779.9752            | 1710                       | 1780                       |
| 10               |                                   | 1710.0234            | 1779.9756            | 1710                       | 1780                       |
| 20               |                                   | 1710.0227            | 1779.9745            | 1710                       | 1780                       |
| 30               |                                   | 1710.0253            | 1779.9744            | 1710                       | 1780                       |
| 40               |                                   | 1710.0257            | 1779.9753            | 1710                       | 1780                       |
| 50               |                                   | 1710.0234            | 1779.9841            | 1710                       | 1780                       |
| 20               | L.V.                              | 1710.0228            | 1779.9721            | 1710                       | 1780                       |
|                  | H.V.                              | 1710.0226            | 1779.9752            | 1710                       | 1780                       |

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

| 10.0 MHz Middle Channel, f <sub>0</sub> =1880MHz |                                     |                      |                       |        |
|--------------------------------------------------|-------------------------------------|----------------------|-----------------------|--------|
| Temperature (°C)                                 | Voltage Supplied (V <sub>DC</sub> ) | Frequency Error (Hz) | Frequency Error (ppm) | Result |
| -30                                              | N.V.                                | -25.91               | -0.0138               | pass   |
| -20                                              |                                     | -8.17                | -0.0043               | pass   |
| -10                                              |                                     | 9.46                 | 0.0050                | pass   |
| 0                                                |                                     | 5.81                 | 0.0031                | pass   |
| 10                                               |                                     | -9.19                | -0.0049               | pass   |
| 20                                               |                                     | 7.63                 | 0.0041                | pass   |
| 30                                               |                                     | -8.63                | -0.0046               | pass   |
| 40                                               |                                     | 9.69                 | 0.0052                | pass   |
| 50                                               |                                     | -8.51                | -0.0045               | pass   |
| 20                                               | L.V.                                | -9.64                | -0.0051               | pass   |
|                                                  | H.V.                                | -9.49                | -0.0050               | pass   |

**Band 4:**

| 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.                              | 1710.2936            | 1754.7671            | 1710                       | 1755                       |
| -20              |                                   | 1710.2952            | 1754.7562            | 1710                       | 1755                       |
| -10              |                                   | 1710.2751            | 1754.7672            | 1710                       | 1755                       |
| 0                |                                   | 1710.2654            | 1754.7456            | 1710                       | 1755                       |
| 10               |                                   | 1710.2632            | 1754.7432            | 1710                       | 1755                       |
| 20               |                                   | 1710.2646            | 1754.7625            | 1710                       | 1755                       |
| 30               |                                   | 1710.2572            | 1754.7624            | 1710                       | 1755                       |
| 40               |                                   | 1710.2654            | 1754.7657            | 1710                       | 1755                       |
| 50               |                                   | 1710.2613            | 1754.7752            | 1710                       | 1755                       |
| 20               | L.V.                              | 1710.2625            | 1754.7536            | 1710                       | 1755                       |
|                  | H.V.                              | 1710.2712            | 1754.7527            | 1710                       | 1755                       |

**Band 5:**

| 10.0 MHz Middle Channel, f <sub>0</sub> =836.5MHz |                                     |                      |                       |             |
|---------------------------------------------------|-------------------------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                                  | Voltage Supplied (V <sub>DC</sub> ) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| -30                                               | N.V.                                | 1.60                 | 0.0019                | 2.5         |
| -20                                               |                                     | -8.58                | -0.0103               | 2.5         |
| -10                                               |                                     | 6.44                 | 0.0077                | 2.5         |
| 0                                                 |                                     | -9.33                | -0.0112               | 2.5         |
| 10                                                |                                     | 7.00                 | 0.0084                | 2.5         |
| 20                                                |                                     | -6.58                | -0.0079               | 2.5         |
| 30                                                |                                     | 5.12                 | 0.0061                | 2.5         |
| 40                                                |                                     | -7.14                | -0.0085               | 2.5         |
| 50                                                |                                     | -8.32                | -0.0099               | 2.5         |
| 20                                                | L.V.                                | 6.71                 | 0.0080                | 2.5         |
|                                                   | H.V.                                | 7.62                 | 0.0091                | 2.5         |

**Band 7:**

| 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.                              | 2500.8459            | 2569.8373            | 2500                       | 2570                       |
| -20              |                                   | 2500.8421            | 2569.8555            | 2500                       | 2570                       |
| -10              |                                   | 2500.7642            | 2569.8421            | 2500                       | 2570                       |
| 0                |                                   | 2500.7254            | 2569.8534            | 2500                       | 2570                       |
| 10               |                                   | 2500.6326            | 2569.8283            | 2500                       | 2570                       |
| 20               |                                   | 2500.6231            | 2569.7824            | 2500                       | 2570                       |
| 30               |                                   | 2500.6352            | 2569.7833            | 2500                       | 2570                       |
| 40               |                                   | 2500.6226            | 2569.8425            | 2500                       | 2570                       |
| 50               |                                   | 2500.6224            | 2569.8456            | 2500                       | 2570                       |
| 20               | L.V.                              | 2500.6235            | 2569.8352            | 2500                       | 2570                       |
|                  | H.V.                              | 2500.6143            | 2569.8231            | 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.                              | 699.3123             | 715.7364             | 699                        | 716                        |
| -20              |                                   | 699.3133             | 715.6223             | 699                        | 716                        |
| -10              |                                   | 699.3012             | 715.5952             | 699                        | 716                        |
| 0                |                                   | 699.2911             | 715.6127             | 699                        | 716                        |
| 10               |                                   | 699.1724             | 715.3903             | 699                        | 716                        |
| 20               |                                   | 699.2914             | 715.3771             | 699                        | 716                        |
| 30               |                                   | 699.0785             | 715.4812             | 699                        | 716                        |
| 40               |                                   | 699.1836             | 715.3914             | 699                        | 716                        |
| 50               |                                   | 699.2734             | 715.3943             | 699                        | 716                        |
| 20               | L.V.                              | 699.1853             | 715.4161             | 699                        | 716                        |
|                  | H.V.                              | 699.1861             | 715.4174             | 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.                              | 777.0317             | 786.9215             | 777                        | 787                        |
| -20              |                                   | 777.0362             | 786.9234             | 777                        | 787                        |
| -10              |                                   | 777.0352             | 786.9242             | 777                        | 787                        |
| 0                |                                   | 777.0363             | 786.9271             | 777                        | 787                        |
| 10               |                                   | 777.0311             | 786.9234             | 777                        | 787                        |
| 20               |                                   | 777.0327             | 786.9243             | 777                        | 787                        |
| 30               |                                   | 777.0332             | 786.9232             | 777                        | 787                        |
| 40               |                                   | 777.0315             | 786.9244             | 777                        | 787                        |
| 50               |                                   | 777.0294             | 786.9243             | 777                        | 787                        |
| 20               | L.V.                              | 777.0321             | 786.9251             | 777                        | 787                        |
|                  | H.V.                              | 777.0346             | 786.9211             | 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.                              | 704.3364             | 715.8872             | 704                        | 716                        |
| -20              |                                   | 704.5985             | 715.7656             | 704                        | 716                        |
| -10              |                                   | 704.2983             | 715.6984             | 704                        | 716                        |
| 0                |                                   | 704.2684             | 715.6434             | 704                        | 716                        |
| 10               |                                   | 704.3321             | 715.4987             | 704                        | 716                        |
| 20               |                                   | 704.3592             | 715.4586             | 704                        | 716                        |
| 30               |                                   | 704.6236             | 715.5932             | 704                        | 716                        |
| 40               |                                   | 704.5684             | 715.5537             | 704                        | 716                        |
| 50               |                                   | 704.2692             | 715.4932             | 704                        | 716                        |
| 20               | L.V.                              | 704.2851             | 715.5863             | 704                        | 716                        |
|                  | H.V.                              | 704.3327             | 715.5322             | 704                        | 716                        |

**Band 38:**

| 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.                              | 2570.9871            | 2619.9854            | 2570                       | 2620                       |
| -20              |                                   | 2570.8924            | 2619.8762            | 2570                       | 2620                       |
| -10              |                                   | 2570.7822            | 2619.7691            | 2570                       | 2620                       |
| 0                |                                   | 2570.6735            | 2619.6553            | 2570                       | 2620                       |
| 10               |                                   | 2570.5633            | 2619.5492            | 2570                       | 2620                       |
| 20               |                                   | 2570.4521            | 2619.4347            | 2570                       | 2620                       |
| 30               |                                   | 2570.3412            | 2619.3292            | 2570                       | 2620                       |
| 40               |                                   | 2570.2376            | 2619.2116            | 2570                       | 2620                       |
| 50               |                                   | 2570.1282            | 2619.1124            | 2570                       | 2620                       |
| 20               | L.V.                              | 2570.2172            | 2619.8784            | 2570                       | 2620                       |
|                  | H.V.                              | 2570.2137            | 2619.7646            | 2570                       | 2620                       |

**Band 41:**

| 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.                              | 2535.9434            | 2654.3652            | 2535                       | 2655                       |
| -20              |                                   | 2535.8445            | 2654.3583            | 2535                       | 2655                       |
| -10              |                                   | 2535.7371            | 2654.3484            | 2535                       | 2655                       |
| 0                |                                   | 2535.6262            | 2654.2373            | 2535                       | 2655                       |
| 10               |                                   | 2535.5136            | 2654.2287            | 2535                       | 2655                       |
| 20               |                                   | 2535.6173            | 2654.3182            | 2535                       | 2655                       |
| 30               |                                   | 2535.5981            | 2654.3583            | 2535                       | 2655                       |
| 40               |                                   | 2535.5889            | 2654.1981            | 2535                       | 2655                       |
| 50               |                                   | 2535.5824            | 2654.1883            | 2535                       | 2655                       |
| 20               | L.V.                              | 2535.6615            | 2654.0762            | 2535                       | 2655                       |
|                  | H.V.                              | 2535.6574            | 2654.0341            | 2535                       | 2655                       |

Note: The applicant declared the frequency range is 2535-2655MHz for Band 41.

**Band 66:**

| 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.                              | 1710.0272            | 1779.8392            | 1710                       | 1780                       |
| -20              |                                   | 1710.0242            | 1779.8444            | 1710                       | 1780                       |
| -10              |                                   | 1710.0245            | 1779.8364            | 1710                       | 1780                       |
| 0                |                                   | 1710.0274            | 1779.8355            | 1710                       | 1780                       |
| 10               |                                   | 1710.0264            | 1779.8363            | 1710                       | 1780                       |
| 20               |                                   | 1710.0231            | 1779.8335            | 1710                       | 1780                       |
| 30               |                                   | 1710.0244            | 1779.8346            | 1710                       | 1780                       |
| 40               |                                   | 1710.0243            | 1779.8363            | 1710                       | 1780                       |
| 50               |                                   | 1710.0232            | 1779.8372            | 1710                       | 1780                       |
| 20               | L.V.                              | 1710.0291            | 1779.8351            | 1710                       | 1780                       |
|                  | H.V.                              | 1710.0257            | 1779.8354            | 1710                       | 1780                       |

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