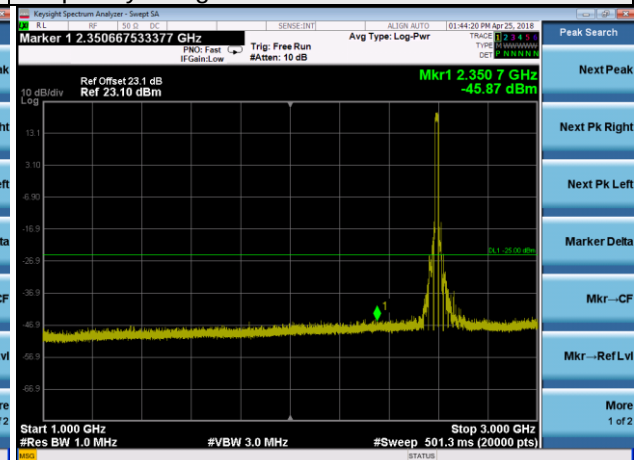
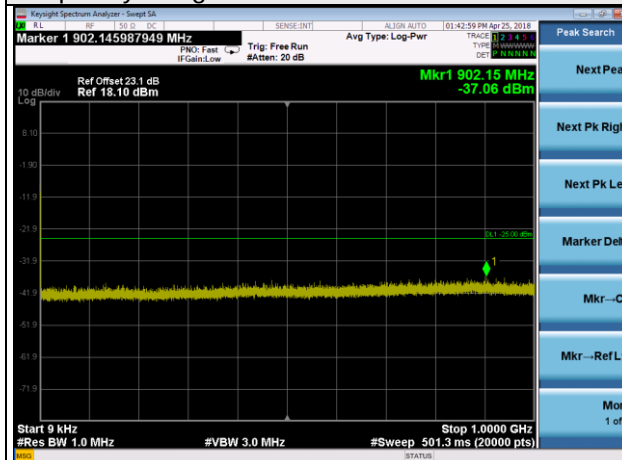


LTE Band 41 Channel Band width: 15MHz

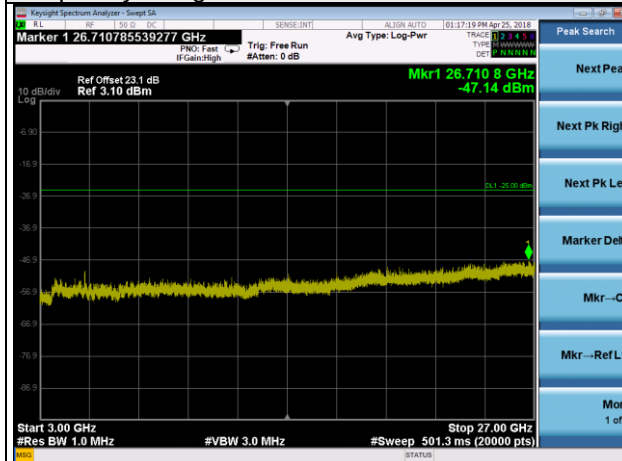
Channel 40620

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~27GHz

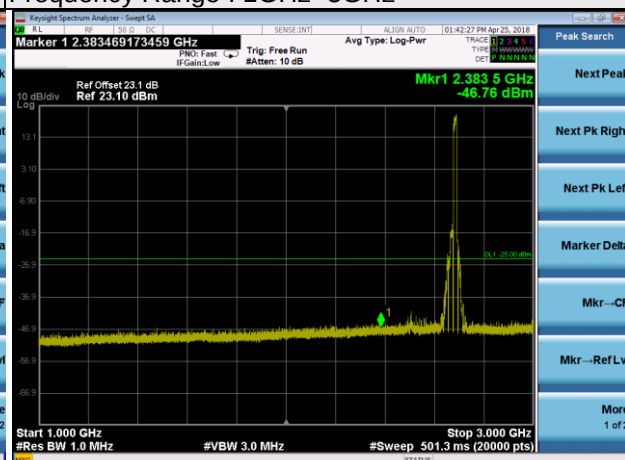
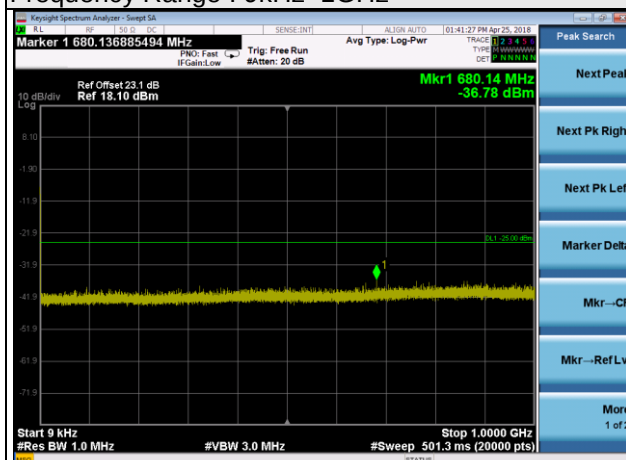


LTE Band 41 Channel Band width: 15MHz

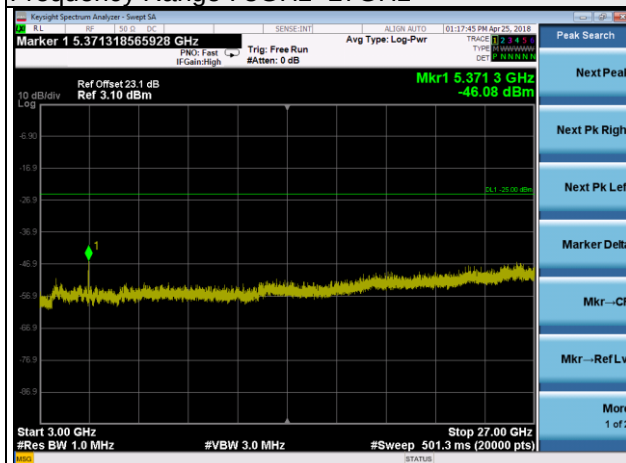
Channel 41515

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~27GHz

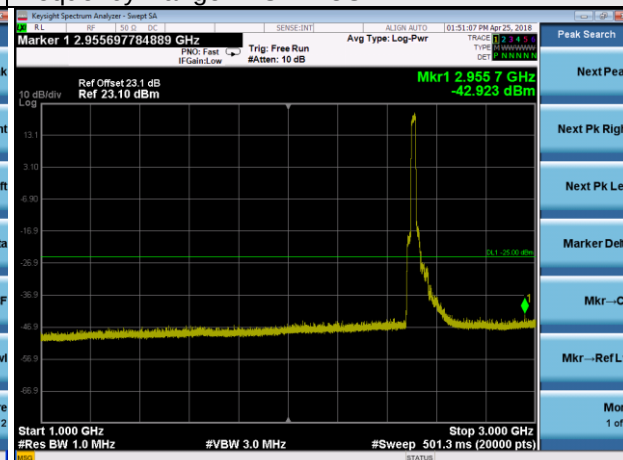
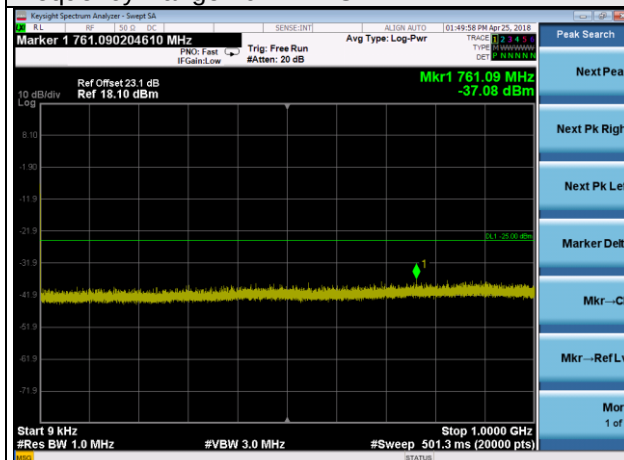


LTE Band 41 Channel Band width: 20MHz

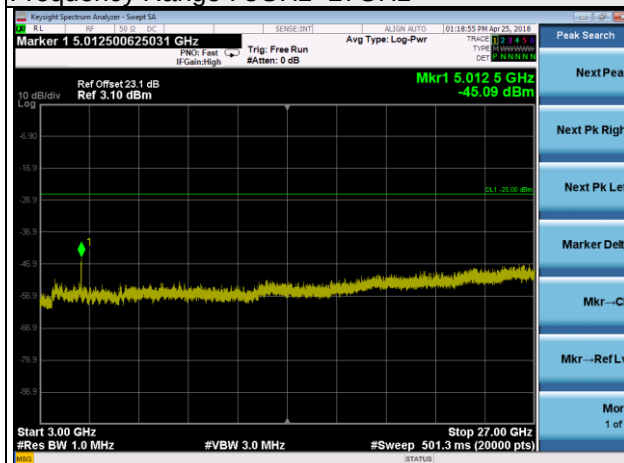
Channel 39750

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~27GHz

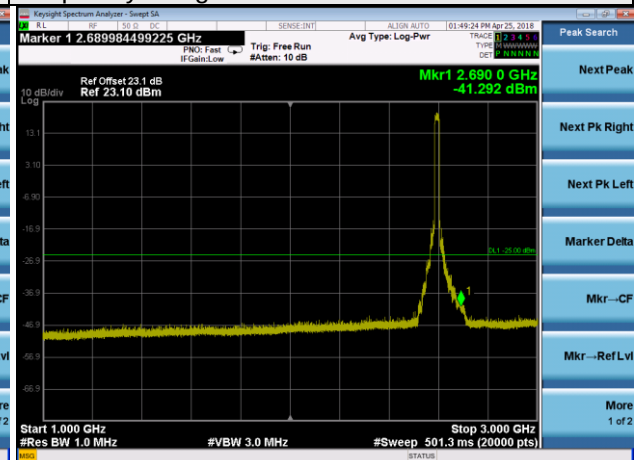
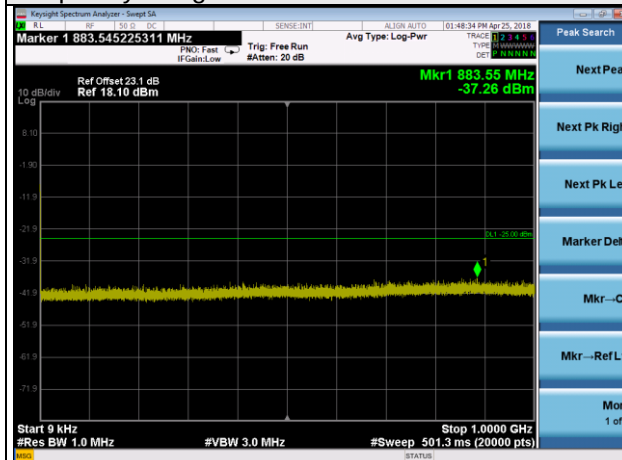


LTE Band 41 Channel Band width: 20MHz

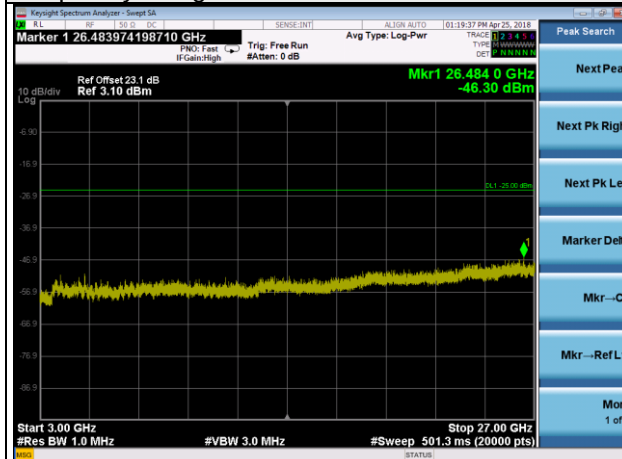
Channel 40620

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~27GHz

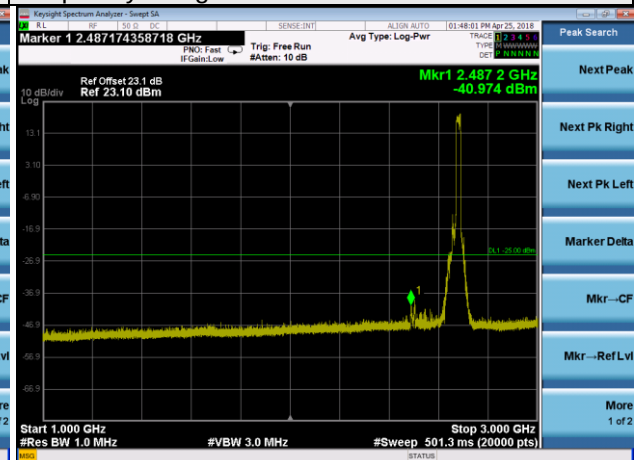
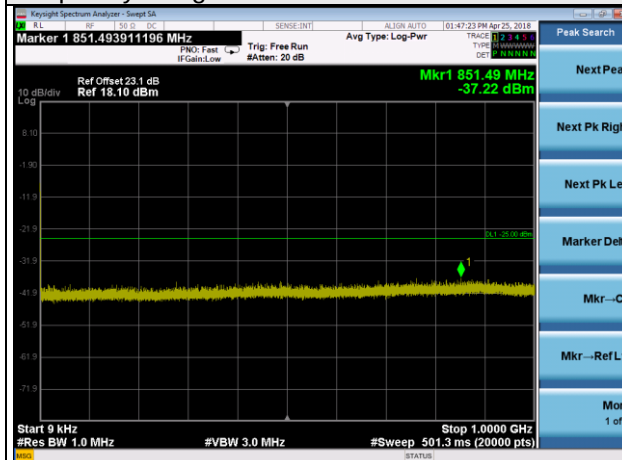


LTE Band 41 Channel Band width: 20MHz

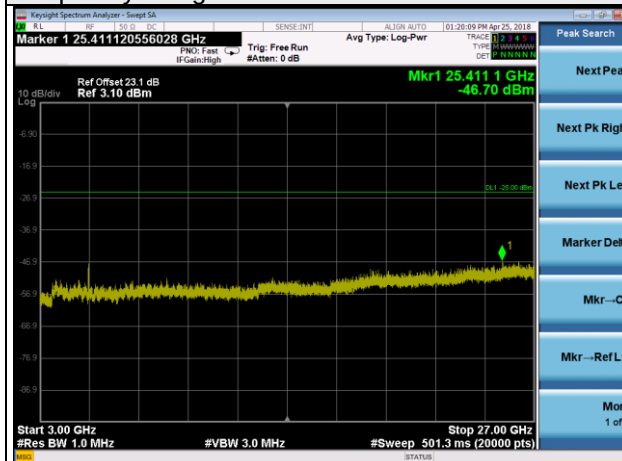
Channel 41490

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~3GHz



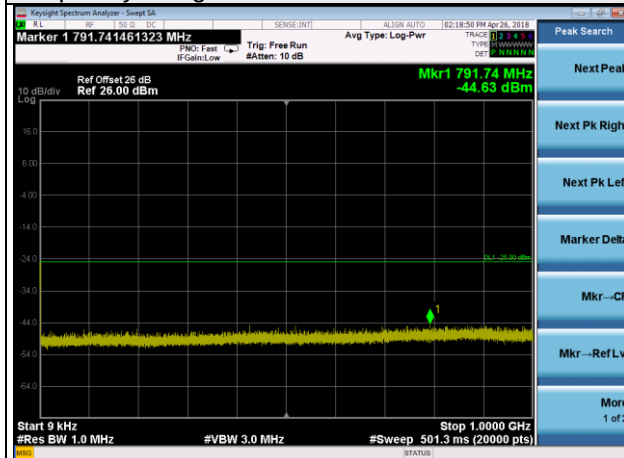
Frequency Range : 3GHz~27GHz



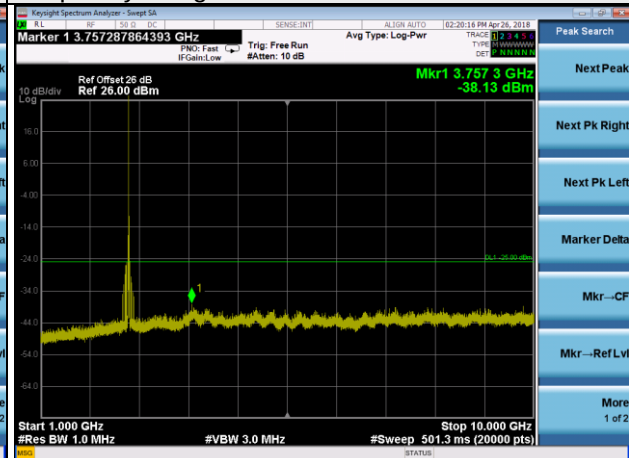
LTE CA 41C Channel Band width: 10+5MHz

Channel 40620+40692

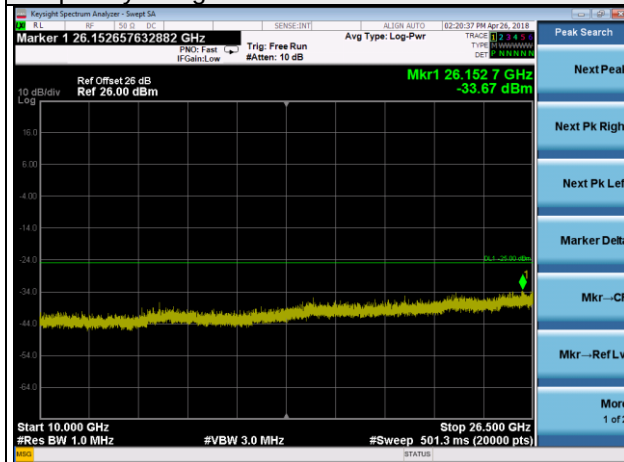
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

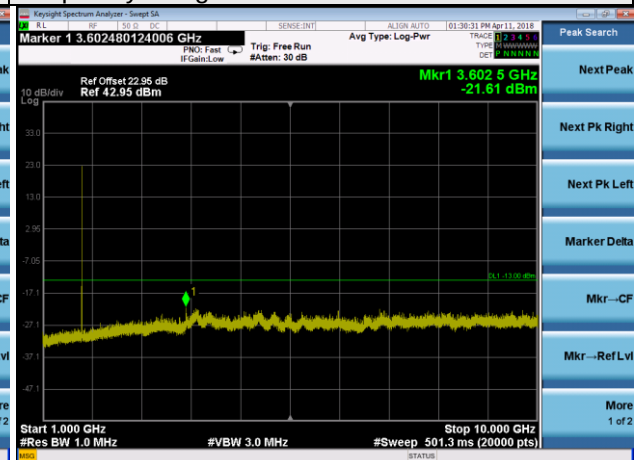
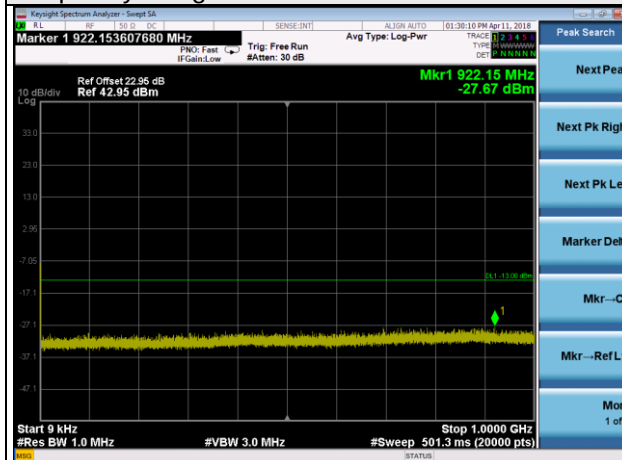


LTE Band 66 Channel Band width: 1.4MHz

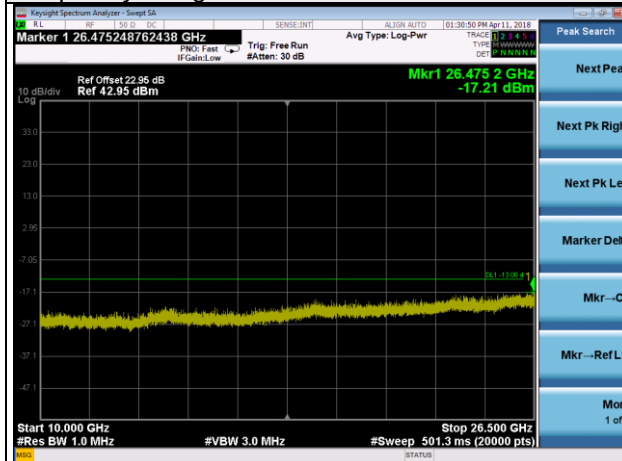
Channel 131979

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz

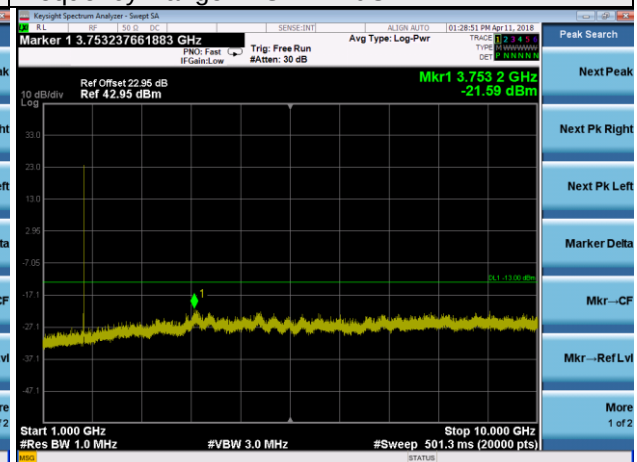
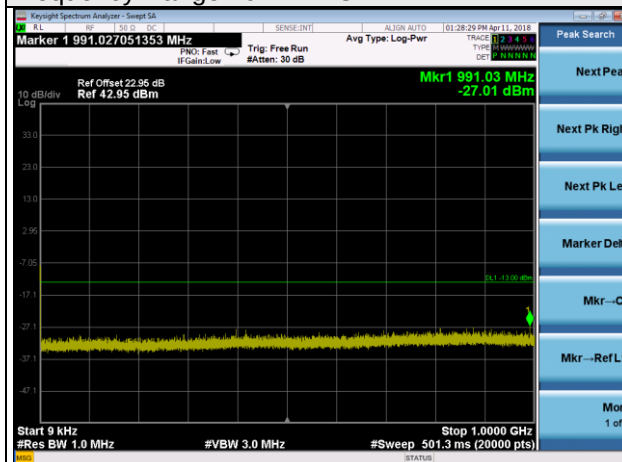


LTE Band 66 Channel Band width: 1.4MHz

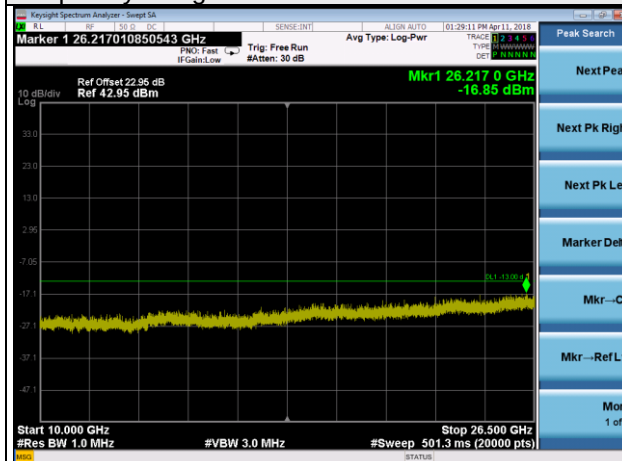
Channel 132322

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz



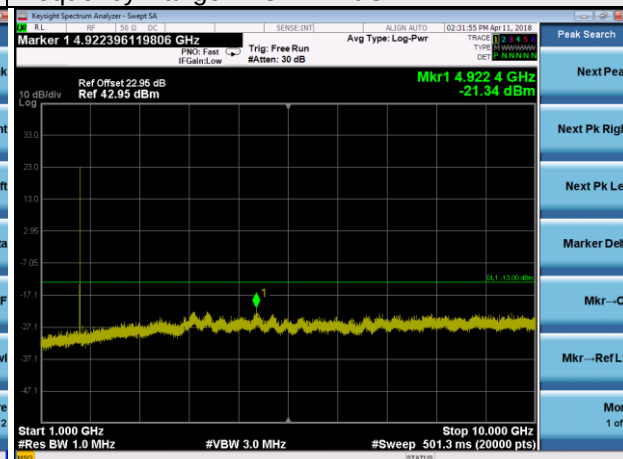
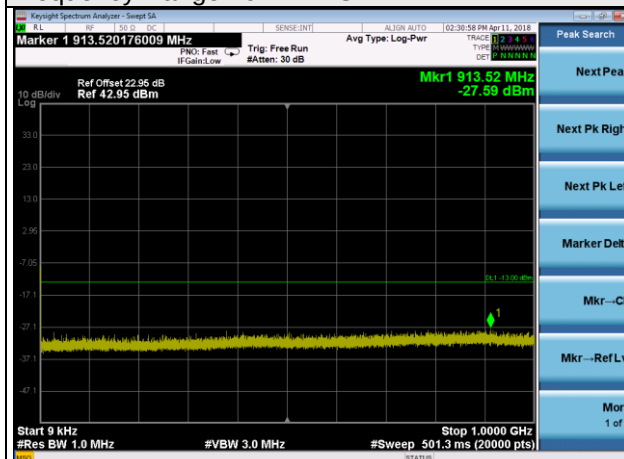


LTE Band 66 Channel Band width: 3MHz

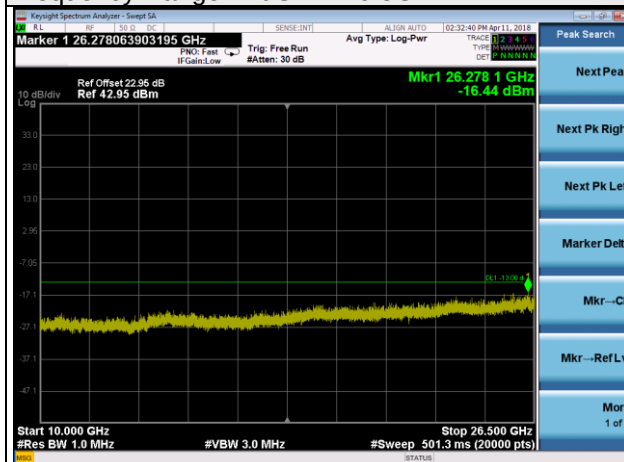
Channel 131987

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz

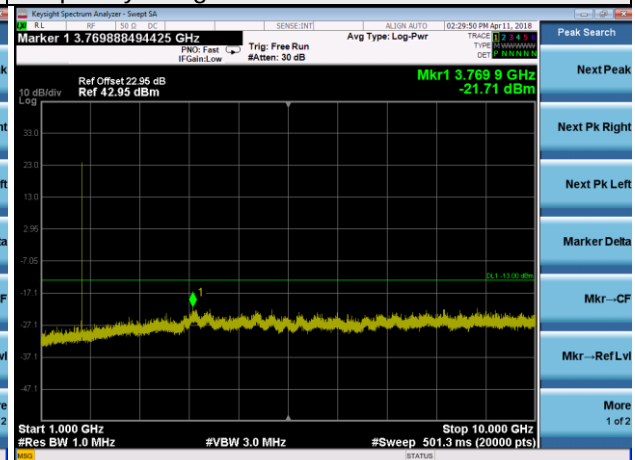
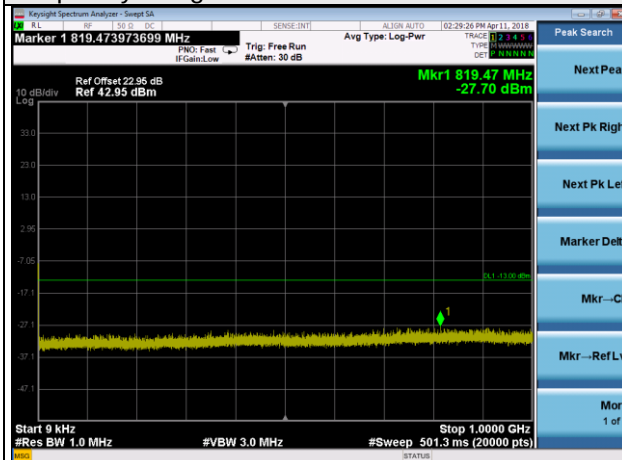


LTE Band 66 Channel Band width: 3MHz

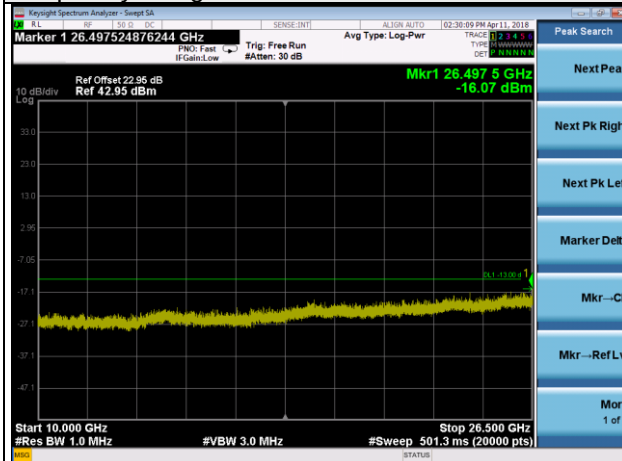
Channel 132322

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz

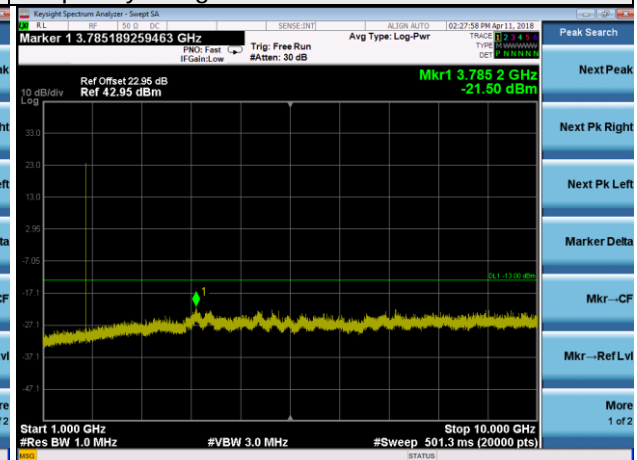
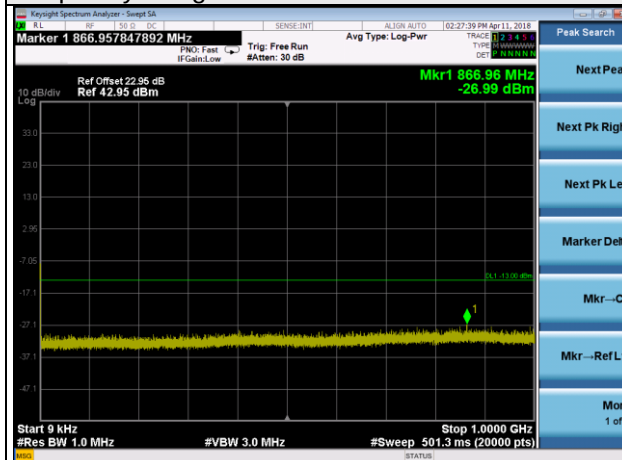


LTE Band 66 Channel Band width: 3MHz

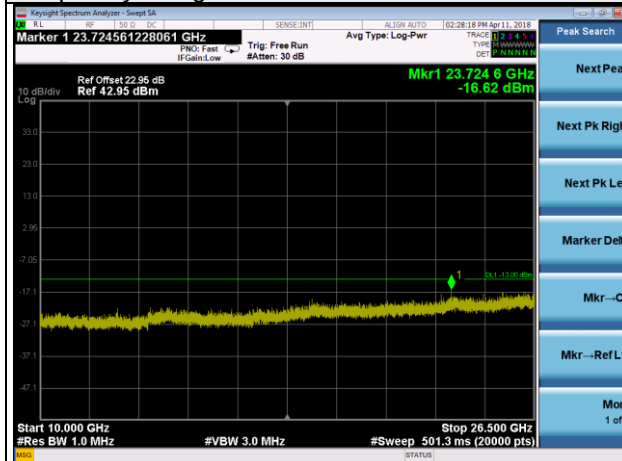
Channel 132657

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz

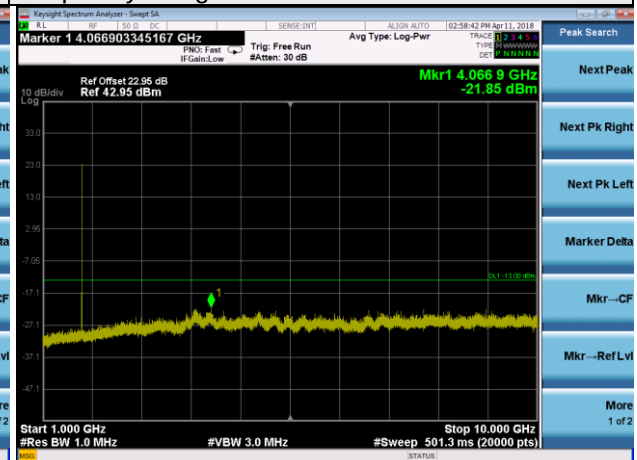
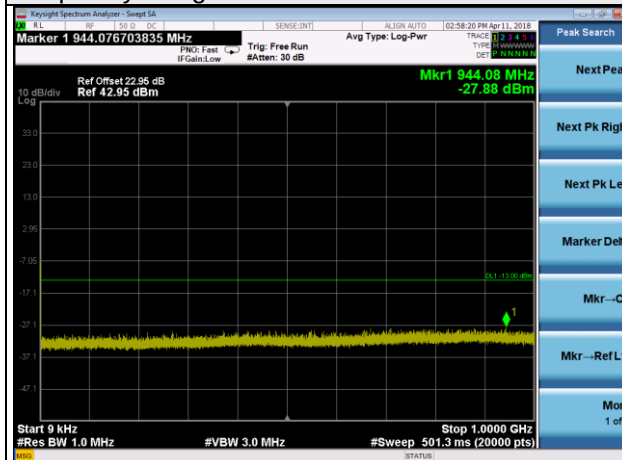


LTE Band 66 Channel Band width: 5MHz

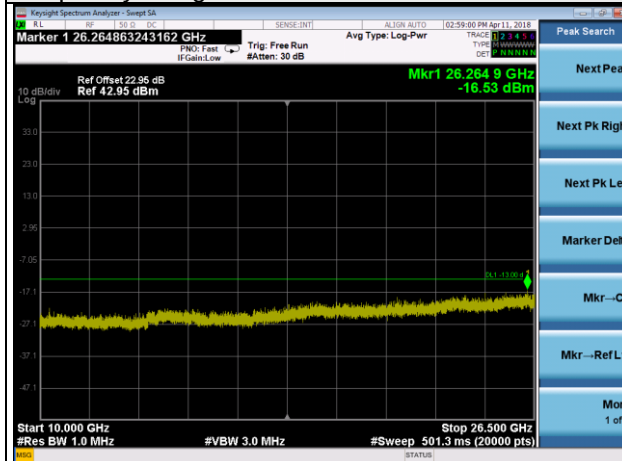
Channel 131997

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz

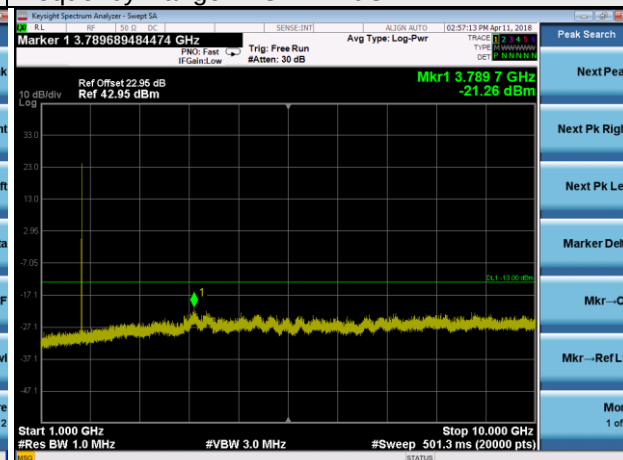
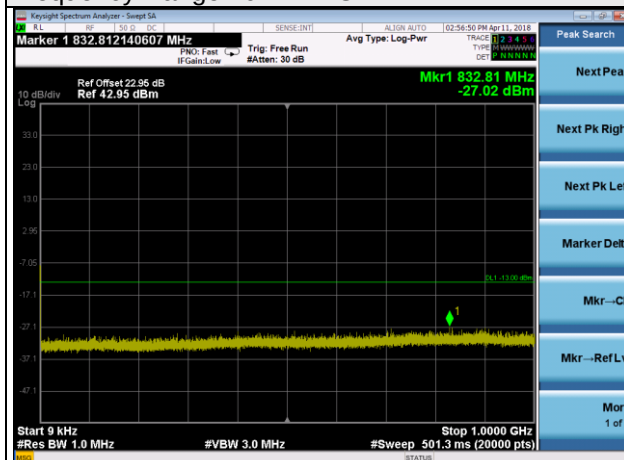


LTE Band 66 Channel Band width: 5MHz

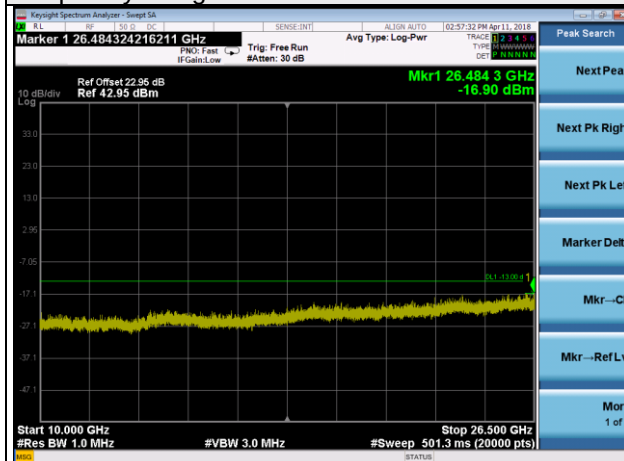
Channel 132322

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz

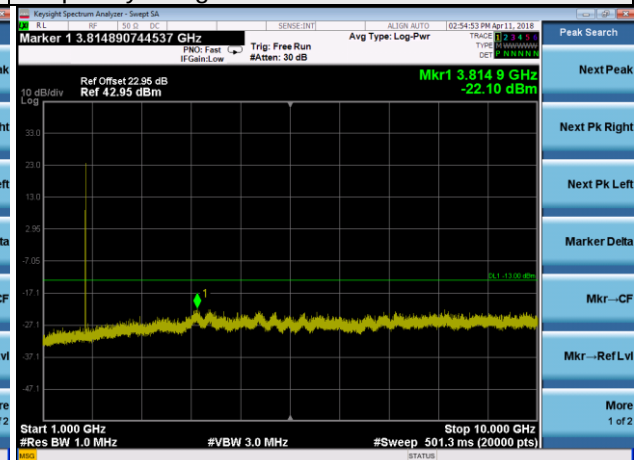
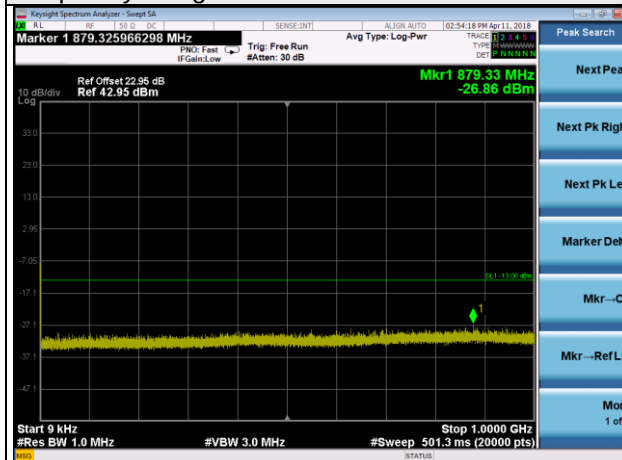


LTE Band 66 Channel Band width: 5MHz

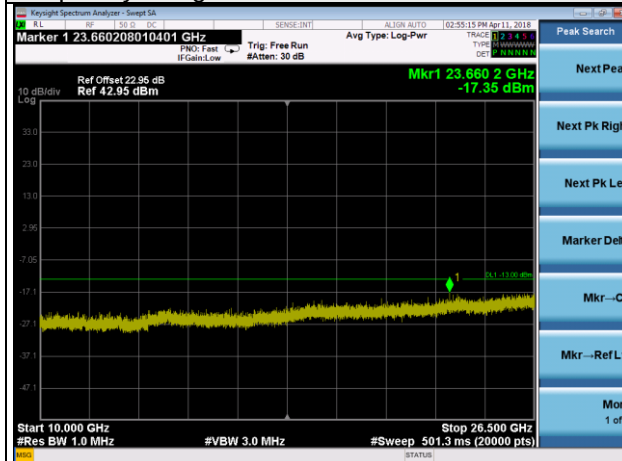
Channel 132647

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz

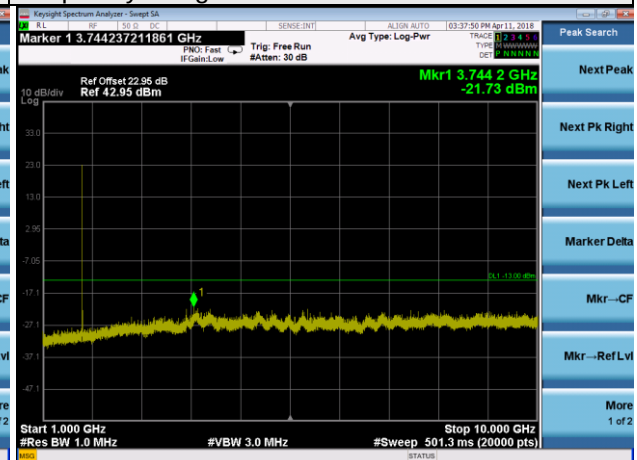
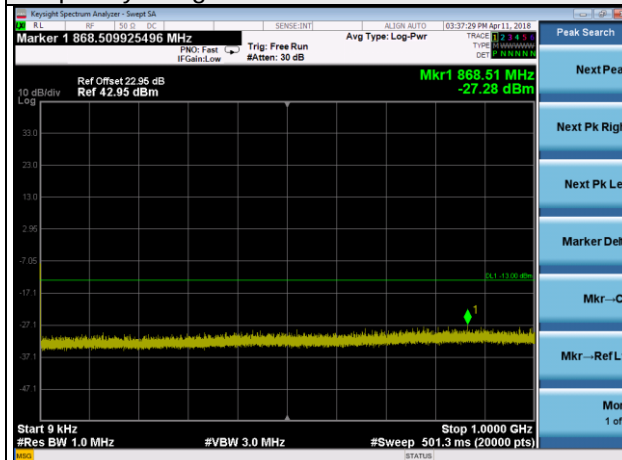


LTE Band 66 Channel Band width: 10MHz

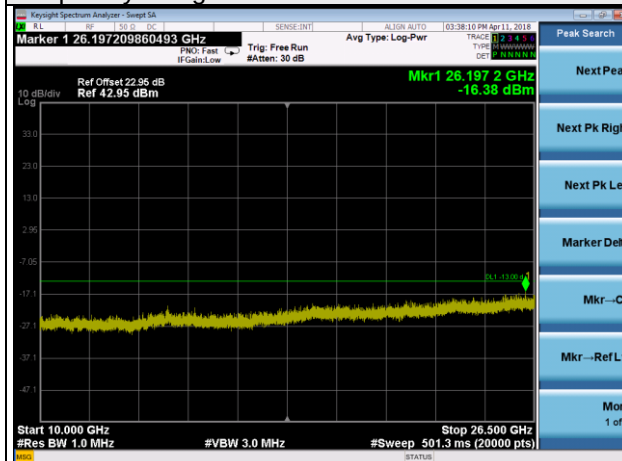
Channel 132022

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz

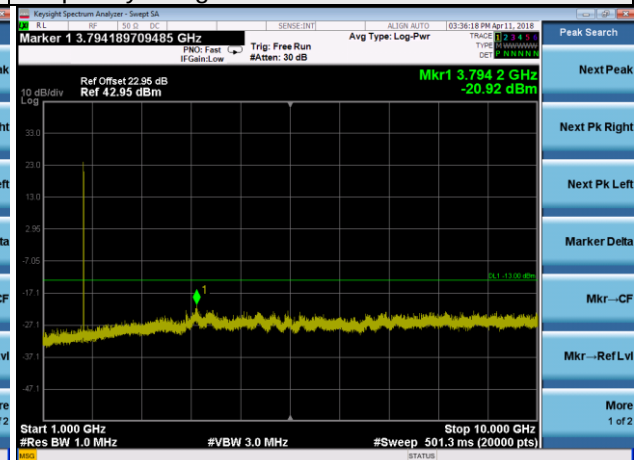
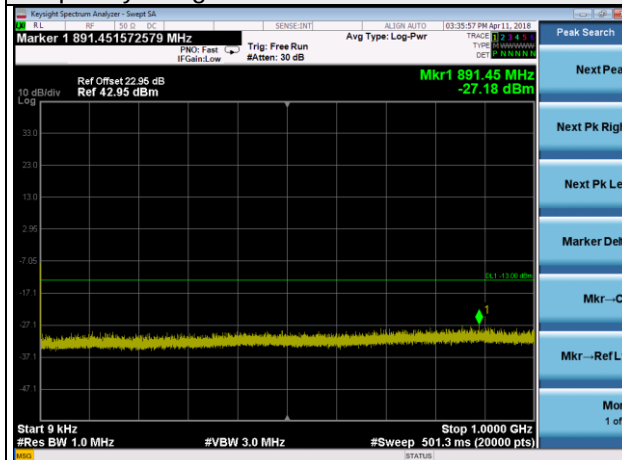


LTE Band 66 Channel Band width: 10MHz

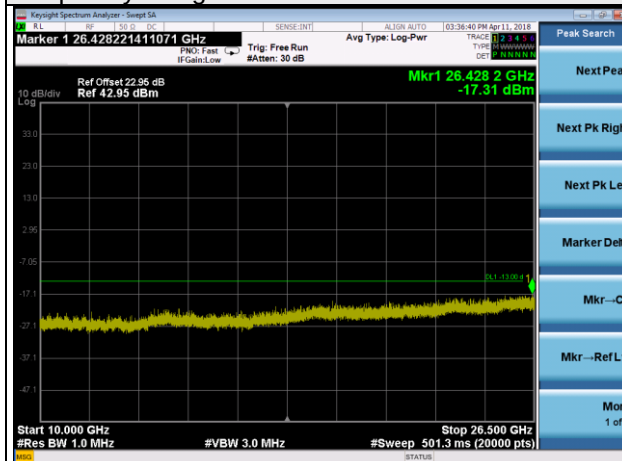
Channel 132322

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz

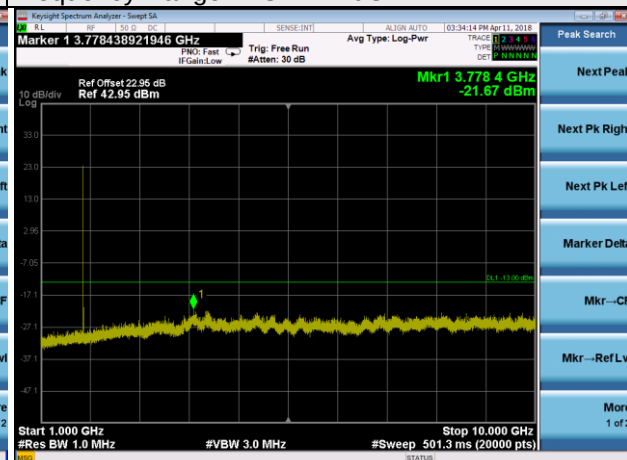
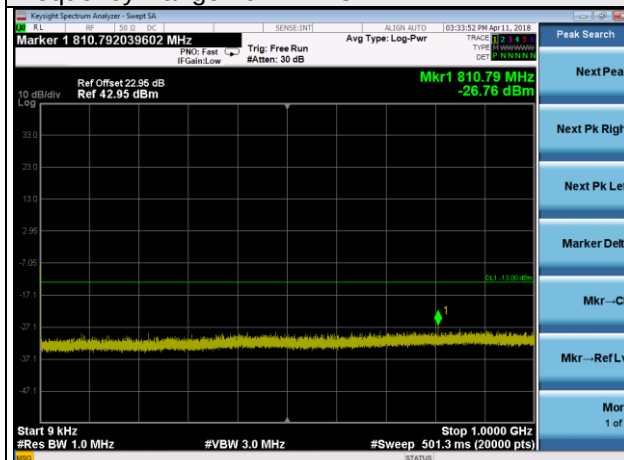


LTE Band 66 Channel Band width: 10MHz

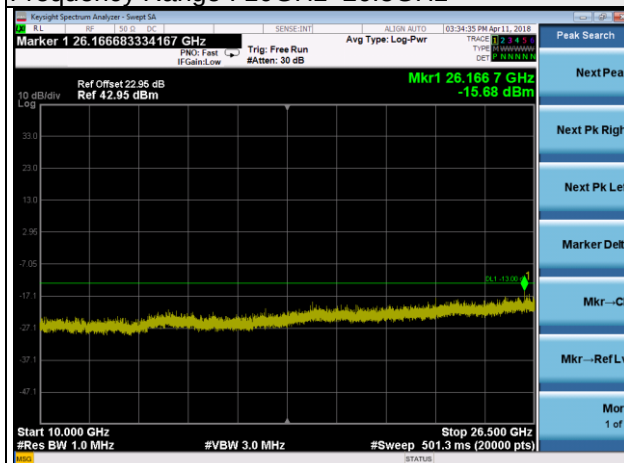
Channel 132622

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz

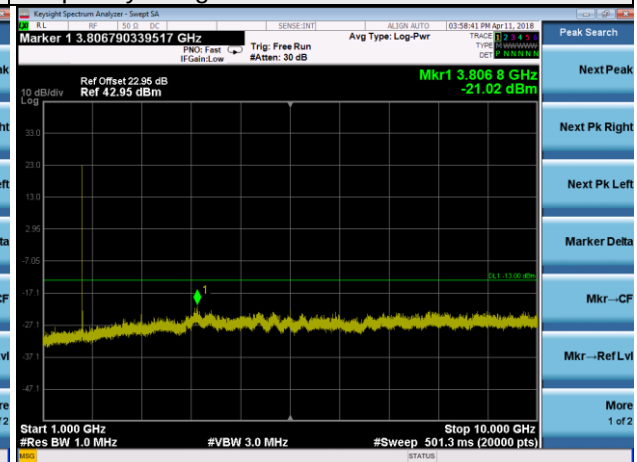
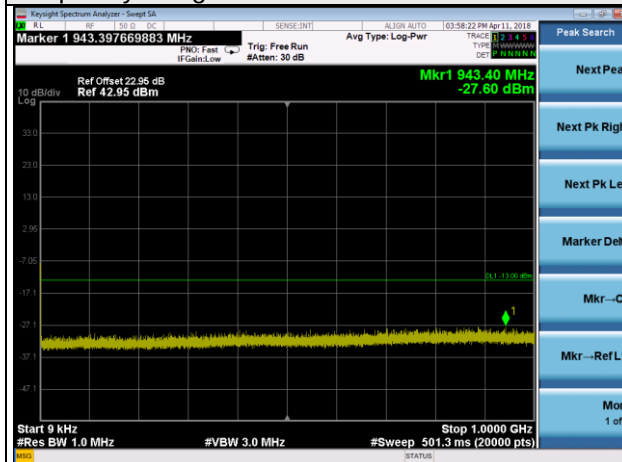


LTE Band 66 Channel Band width: 15MHz

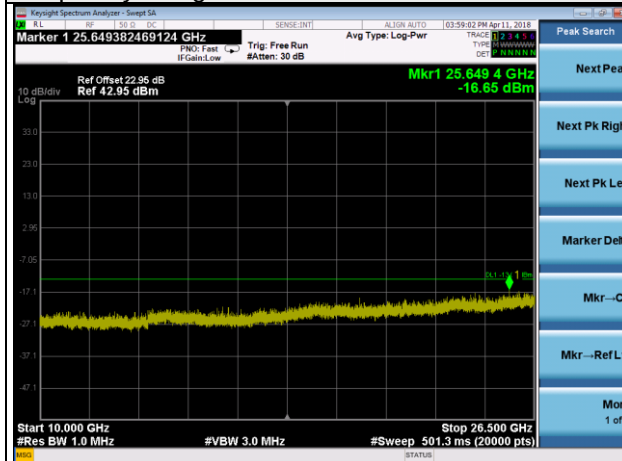
Channel 132047

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz

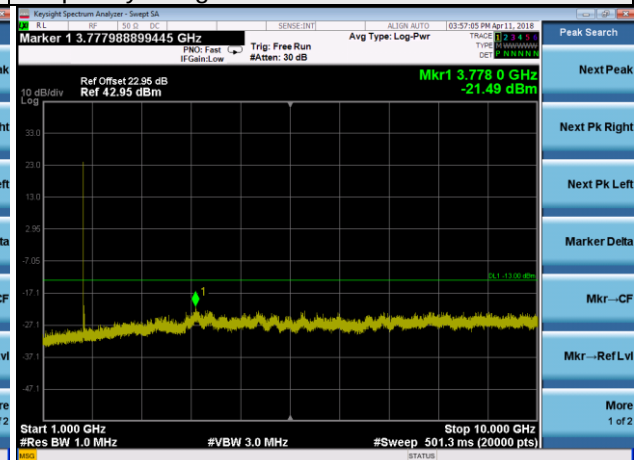
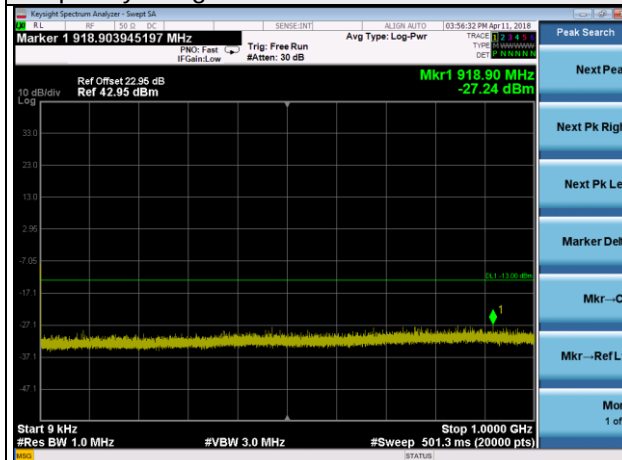


LTE Band 66 Channel Band width: 15MHz

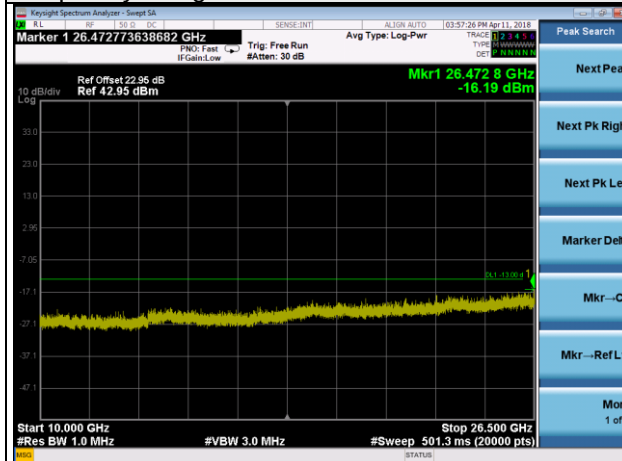
Channel 132322

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz

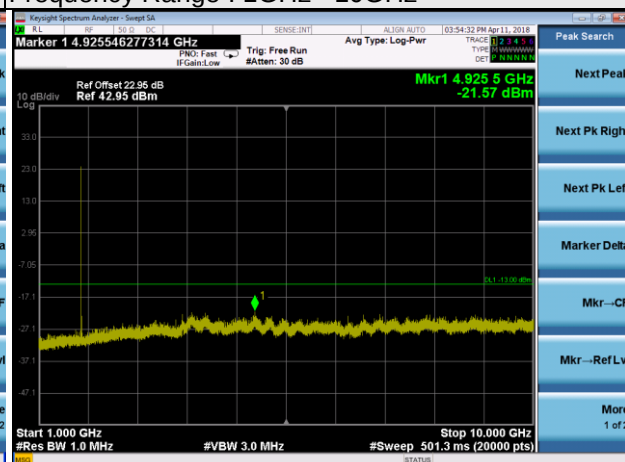
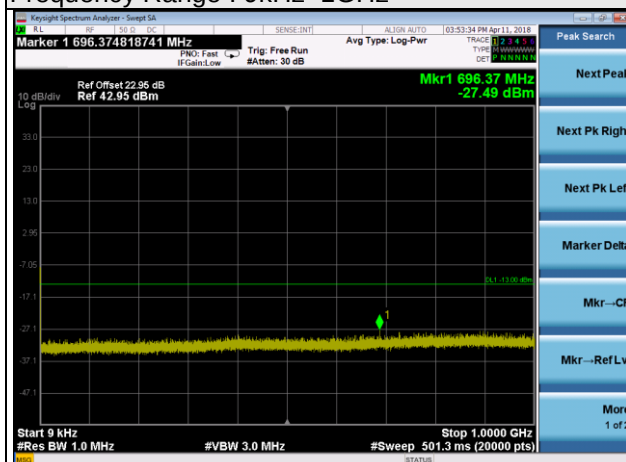


LTE Band 66 Channel Band width: 15MHz

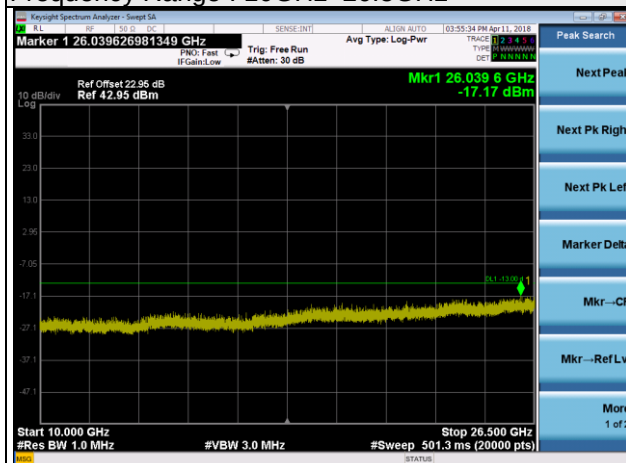
Channel 132597

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz

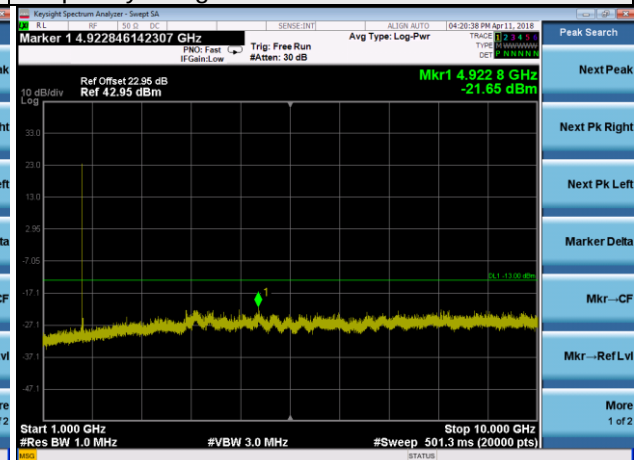
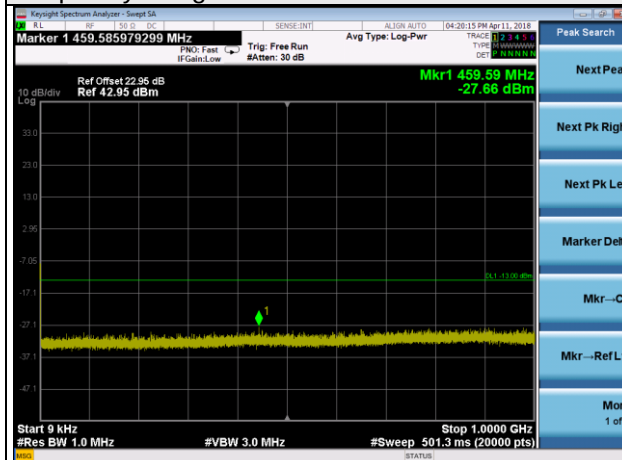


LTE Band 66 Channel Band width: 20MHz

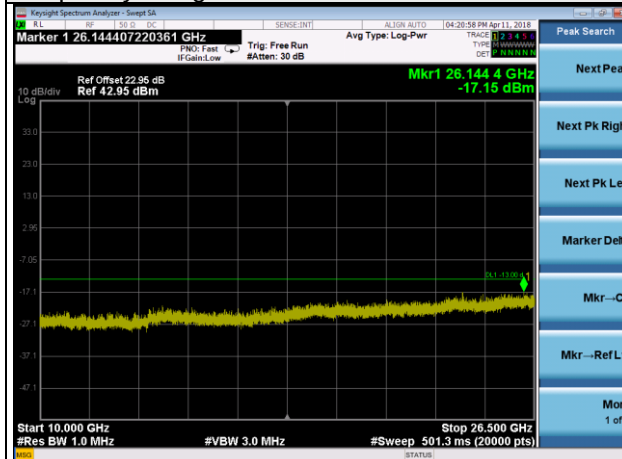
Channel 132072

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz

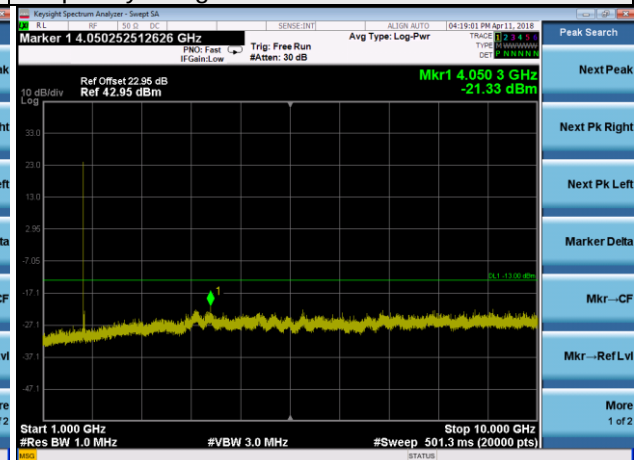
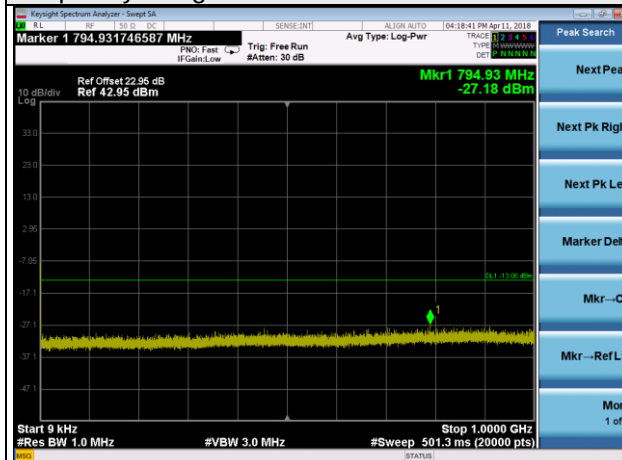


LTE Band 66 Channel Band width: 20MHz

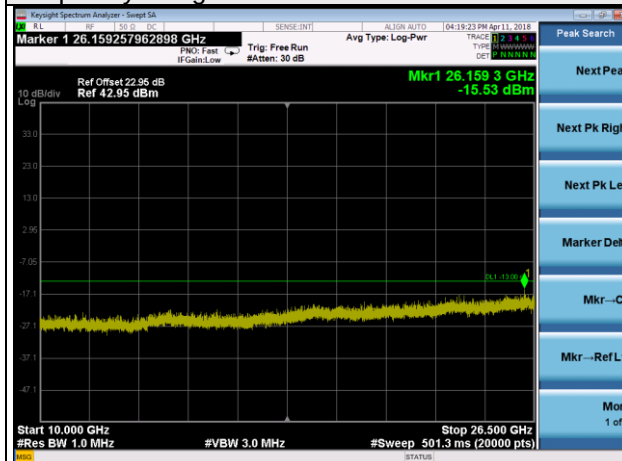
Channel 132322

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz

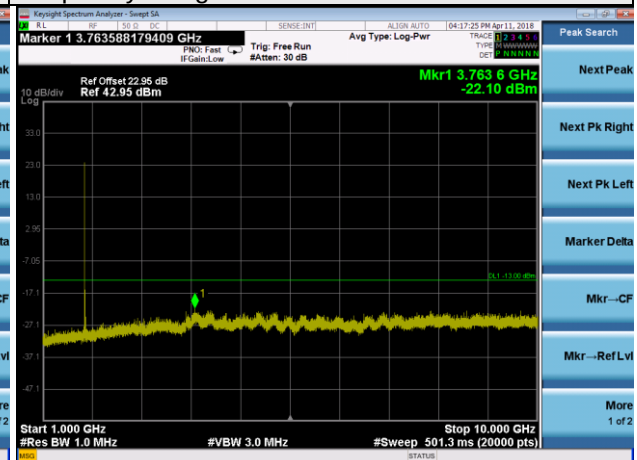
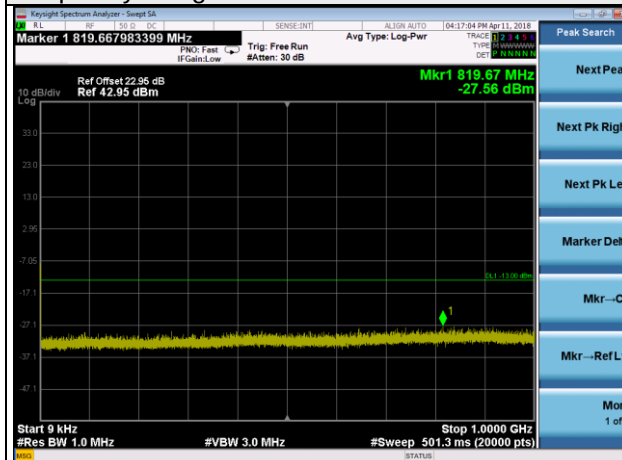


LTE Band 66 Channel Band width: 20MHz

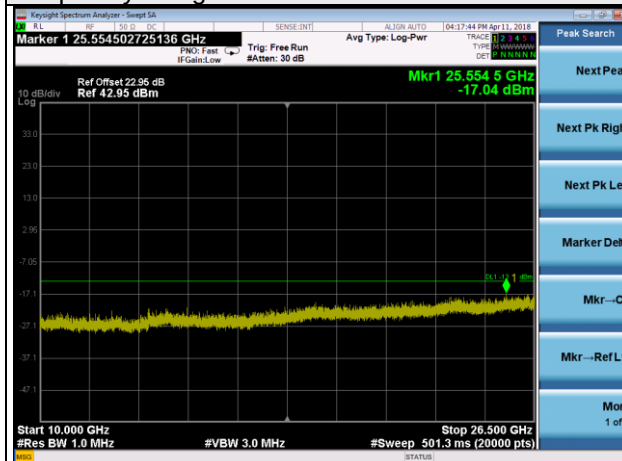
Channel 132572

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz ~10GHz



Frequency Range : 10GHz~26.5GHz



## 4.8 Radiated Emission Measurement

### 4.8.1 Limits of Radiated Emission Measurement

According to FCC 27.53(a)(4) For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands: (i) By a factor of not less than:  $43 + 10 \log (P)$  dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than  $55 + 10 \log (P)$  dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than  $61 + 10 \log (P)$  dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than  $67 + 10 \log (P)$  dB on all frequencies between 2328 and 2337 MHz; (ii) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2300 and 2305 MHz,  $55 + 10 \log (P)$  dB on all frequencies between 2296 and 2300 MHz,  $61 + 10 \log (P)$  dB on all frequencies between 2292 and 2296 MHz,  $67 + 10 \log (P)$  dB on all frequencies between 2288 and 2292 MHz, and  $70 + 10 \log (P)$  dB below 2288 MHz; (iii) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2360 and 2365 MHz, and not less than  $70 + 10 \log (P)$  dB above 2365 MHz.

According to FCC 27.53 (c) For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB;
- (2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB;
- (3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than  $76 + 10 \log (P)$  dB in a 6.25 kHz band segment, for base and fixed stations;
- (4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than  $65 + 10 \log (P)$  dB in a 6.25 kHz band segment, for mobile and portable stations;
- (5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;
- (6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

According to FCC 27.53(f) For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

According to FCC 27.53(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log (P)$  dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

According to FCC 27.53(h) AWS emission limits— General protection levels. Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10 \log (P)$  dB.

According to FCC 27.53(v)(4) For mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log (P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log (P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log (P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than  $43 + 10 \log (P)$  dB on all frequencies between 2490.5 MHz and 2496 MHz and  $55 + 10 \log (P)$  dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

#### 4.8.2 Test Procedure

- e. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high channel of operational frequency range.)
- f. Substitution method is used for EIRP measurement. In the semi-anechoic chamber, EUT placed on the 0.8m/1.5m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- g. The substitution antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step b. Record the power level of S.G
- h.  $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution antenna}.$

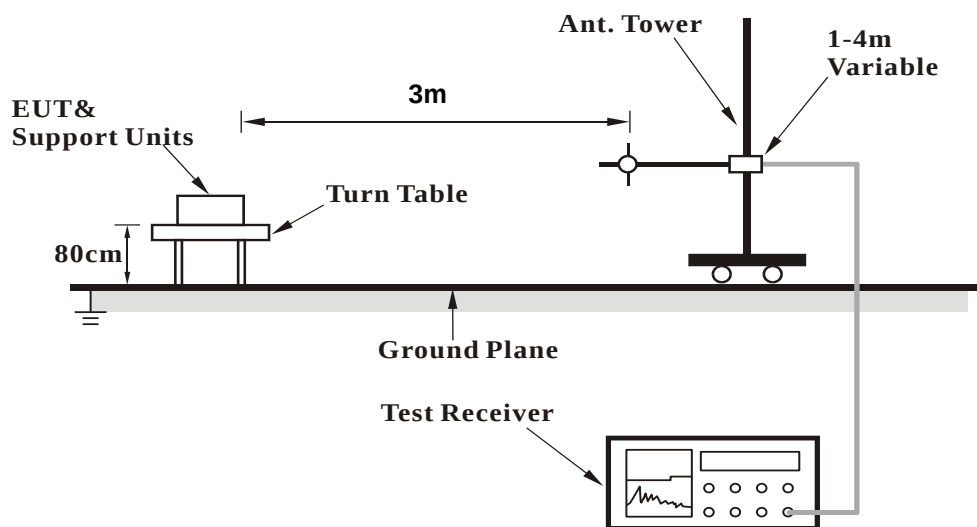
**NOTE:** The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

#### 4.8.3 Deviation from Test Standard

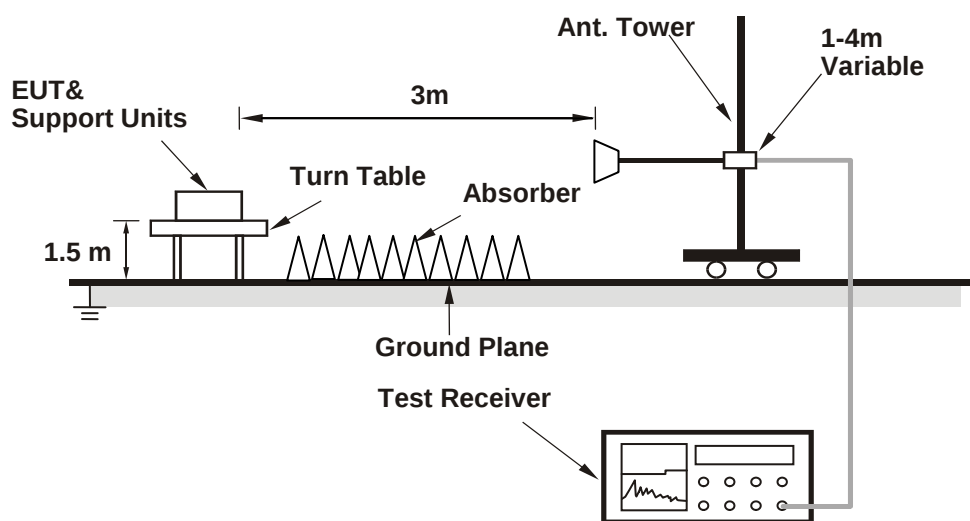
No deviation.

#### 4.8.4 Test Setup

##### <Frequency Range below 1GHz>



##### <Frequency Range above 1GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 4.8.5 Test Results

Below 1GHz

WCDMA:

|      |                 |                 |                |
|------|-----------------|-----------------|----------------|
| Mode | TX channel 1312 | Frequency Range | Below 1000 MHz |
|------|-----------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |                      |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 92.88       | 33.75         | -58.16                | -1.04                  | -59.21               | -13         | -46.21      |
| 2                                                   | 237.9       | 35.53         | -59.83                | 3.84                   | -55.99               | -13         | -42.99      |
| 3                                                   | 289.15      | 32.54         | -62.93                | 3.78                   | -59.14               | -13         | -46.14      |
| 4                                                   | 344.76      | 31.96         | -65.73                | 3.61                   | -62.12               | -13         | -49.12      |
| 5                                                   | 472.1       | 35.04         | -62.14                | 2.84                   | -59.30               | -13         | -46.30      |
| 6                                                   | 735.93      | 28.98         | -67.39                | 1.02                   | -66.36               | -13         | -53.36      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 68.37       | 29.98         | -57.65                | -4.91                  | -62.56               | -13         | -49.56      |
| 2                                                   | 94.25       | 30.82         | -60.98                | -1.00                  | -61.99               | -13         | -48.99      |
| 3                                                   | 129.78      | 25.80         | -65.55                | -1.23                  | -66.79               | -13         | -53.79      |
| 4                                                   | 238.03      | 30.02         | -65.34                | 3.82                   | -61.52               | -13         | -48.52      |
| 5                                                   | 509.74      | 31.04         | -64.35                | 2.81                   | -61.54               | -13         | -48.54      |
| 6                                                   | 609.71      | 33.47         | -61.22                | 1.78                   | -59.44               | -13         | -46.44      |

Remarks:

1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).