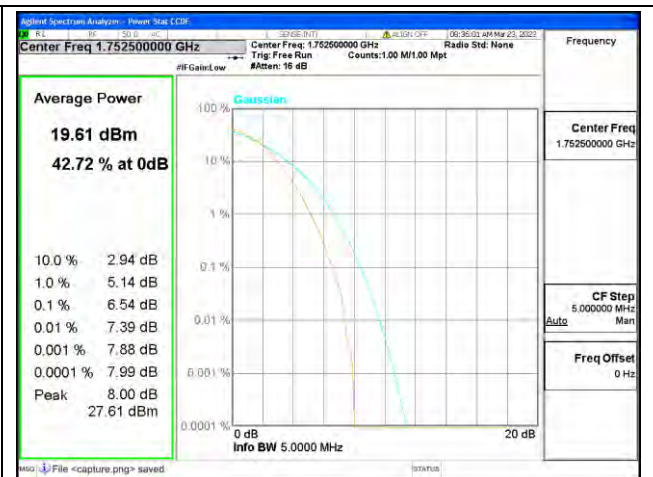




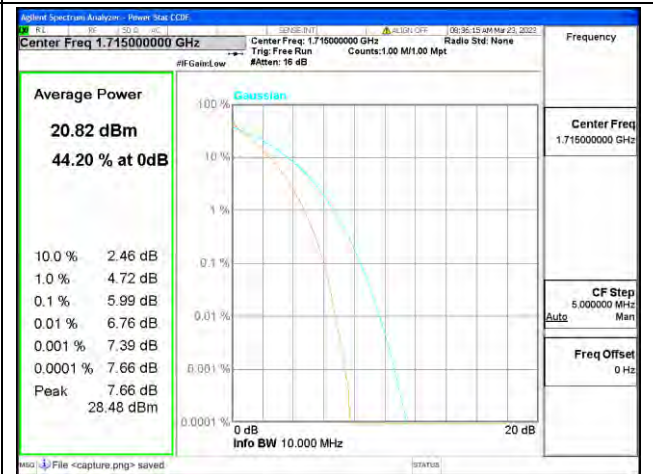
Band4 / 5MHz / High CH / QPSK



Band4 / 5MHz / High CH / 16QAM



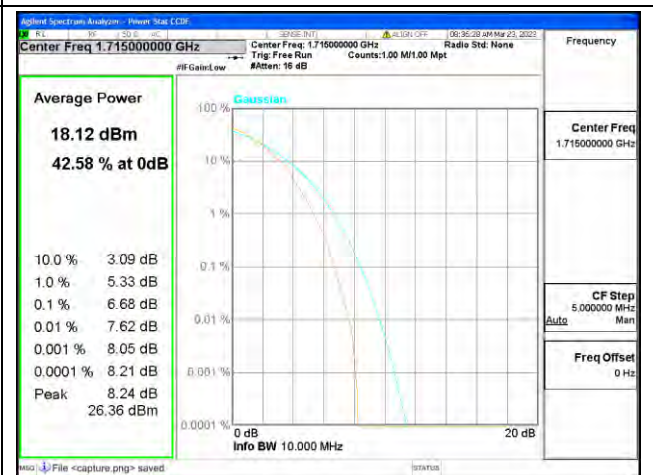
Band4 / 5MHz / High CH / 64QAM



Band4 / 10MHz / Low CH / QPSK



Band4 / 10MHz / Low CH / 16QAM



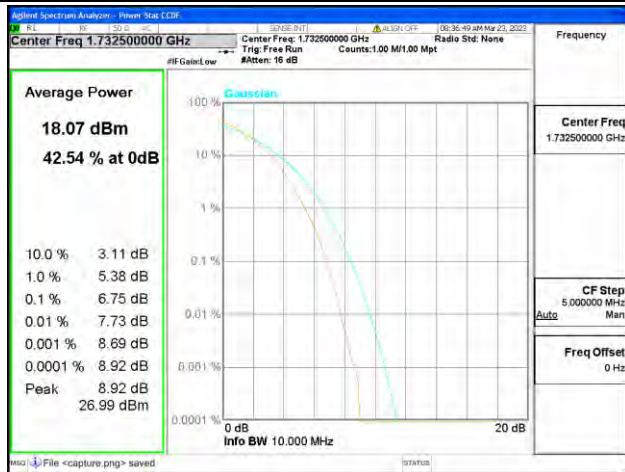
Band4 / 10MHz / Low CH / 64QAM



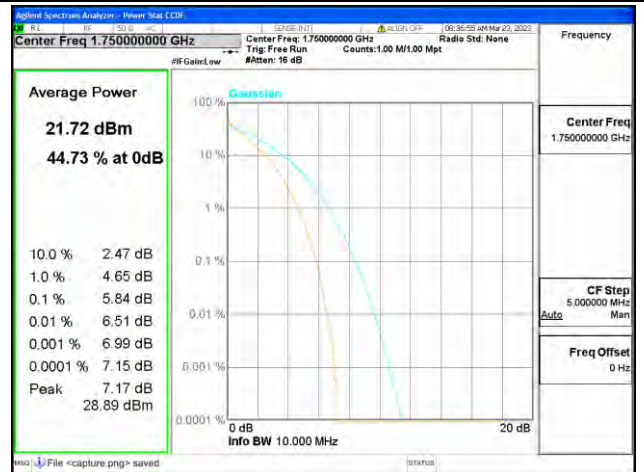
Band4 / 10MHz / Mid CH / QPSK



Band4 / 10MHz / Mid CH / 16QAM



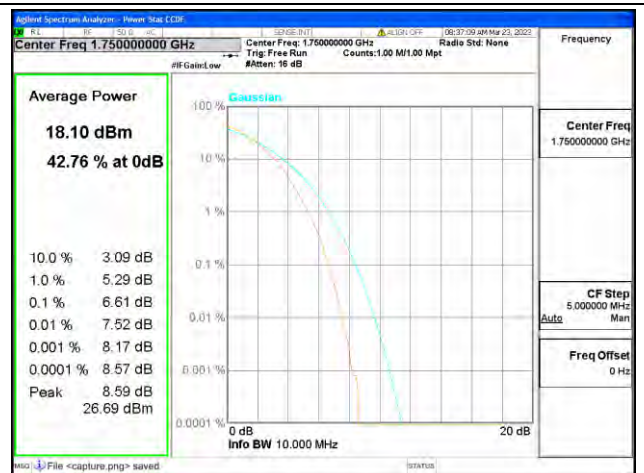
Band4 / 10MHz / Mid CH / 64QAM



Band4 / 10MHz / High CH / QPSK



Band4 / 10MHz / High CH / 16QAM



Band4 / 10MHz / High CH / 64QAM

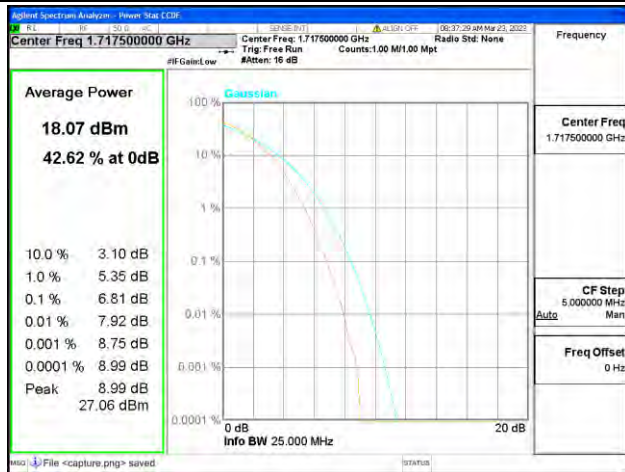




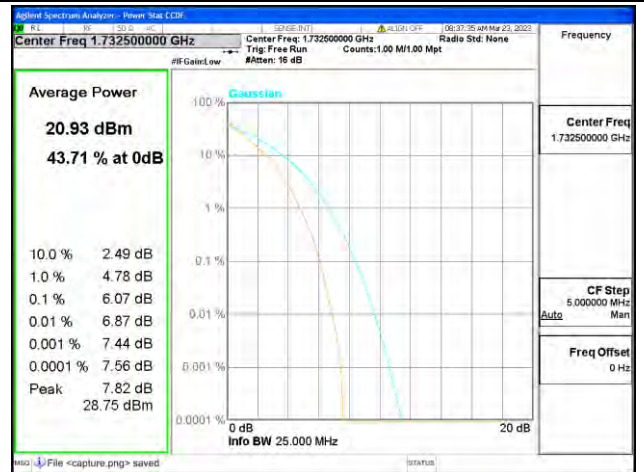
Band4 / 15MHz / Low CH / QPSK



Band4 / 15MHz / Low CH / 16QAM



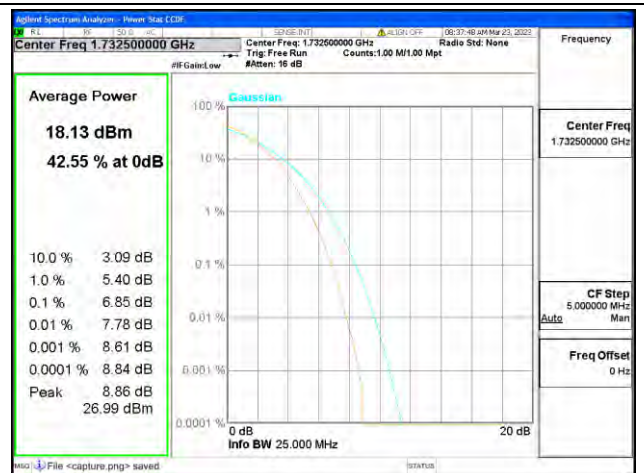
Band4 / 15MHz / Low CH / 64QAM



Band4 / 15MHz / Mid CH / QPSK



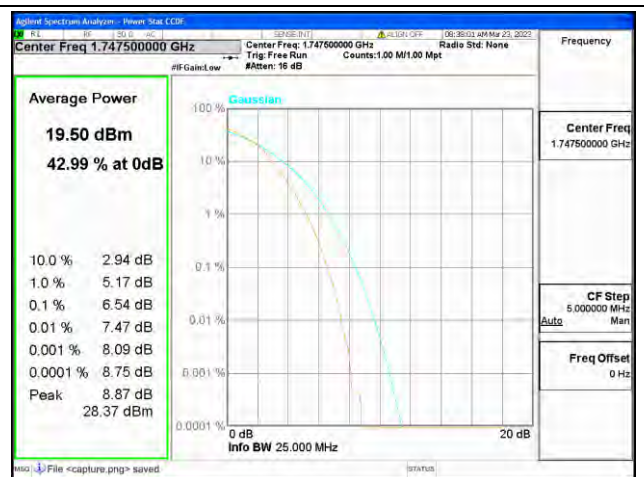
Band4 / 15MHz / Mid CH / 16QAM



Band4 / 15MHz / Mid CH / 64QAM



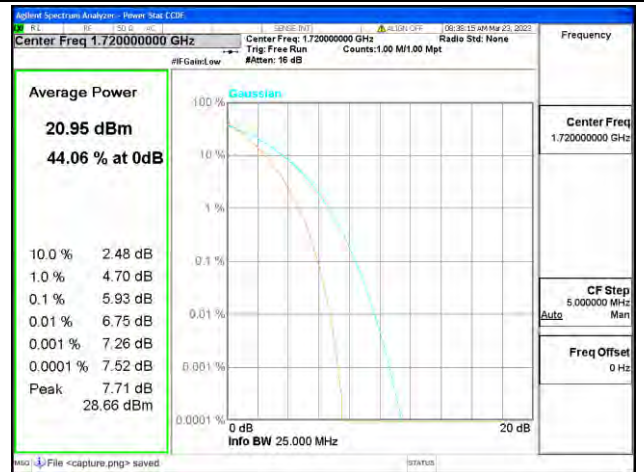
Band4 / 15MHz / High CH / QPSK



Band4 / 15MHz / High CH / 16QAM



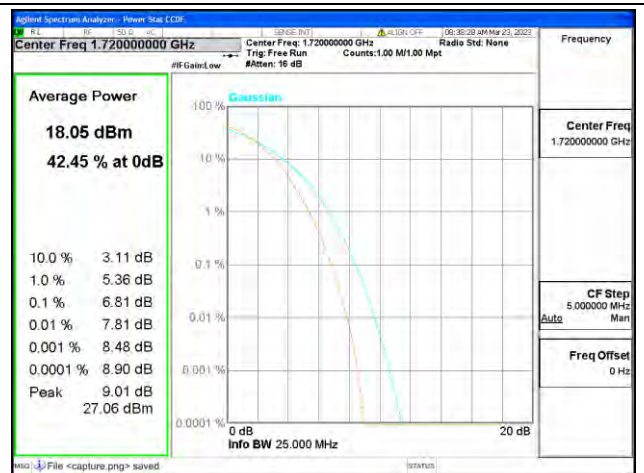
Band4 / 15MHz / High CH / 64QAM



Band4 / 20MHz / Low CH / QPSK



Band4 / 20MHz / Low CH / 16QAM



Band4 / 20MHz / Low CH / 64QAM

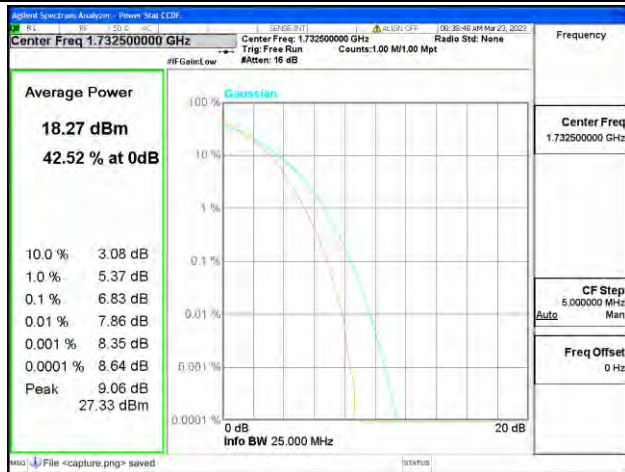




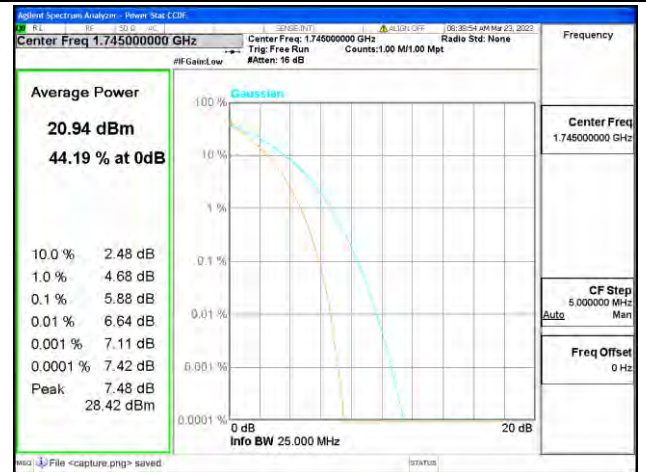
Band4 / 20MHz / Mid CH / QPSK



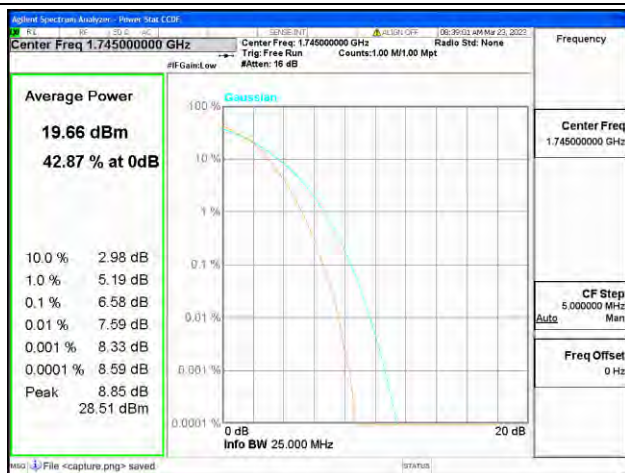
Band4 / 20MHz / Mid CH / 16QAM



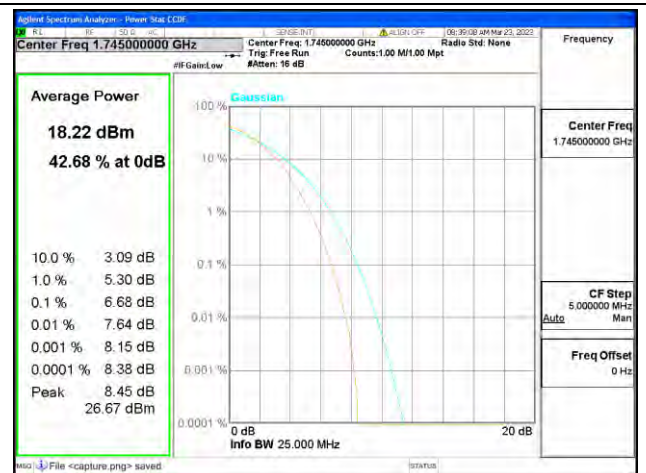
Band4 / 20MHz / Mid CH / 64QAM



Band4 / 20MHz / High CH / QPSK



Band4 / 20MHz / High CH / 16QAM



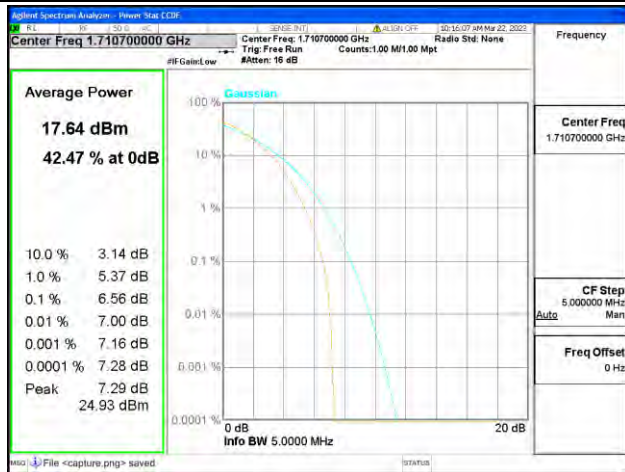
Band4 / 20MHz / High CH / 64QAM



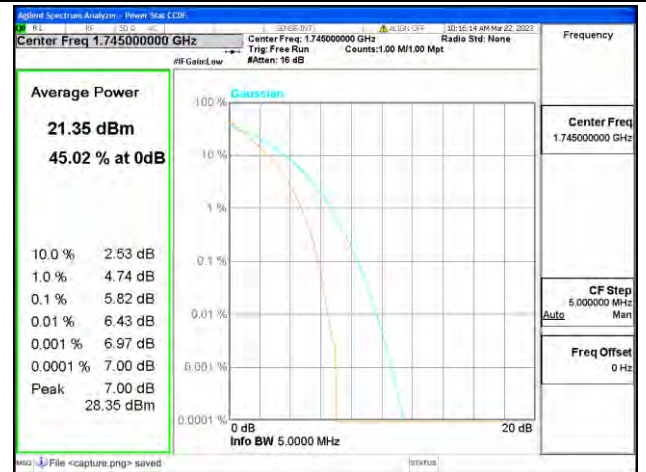
Band66 / 1.4MHz / Low CH / QPSK



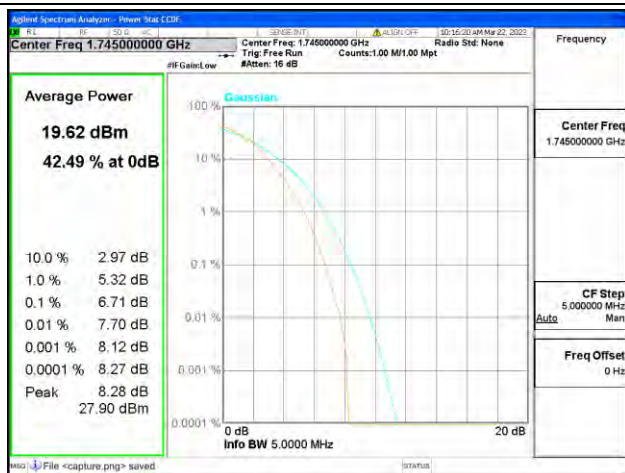
Band66 / 1.4MHz / Low CH / 16QAM



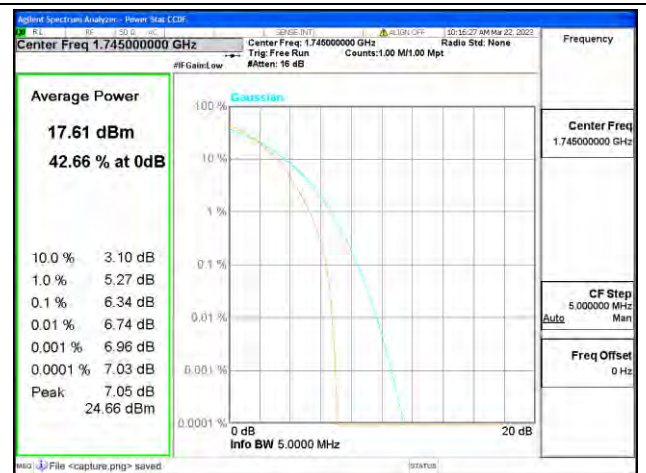
Band66 / 1.4MHz / Low CH / 64QAM



Band66 / 1.4MHz / Mid CH / QPSK

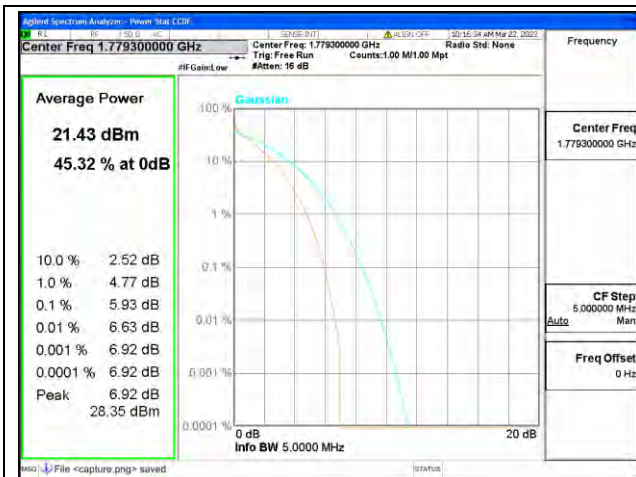


Band66 / 1.4MHz / Mid CH / 16QAM

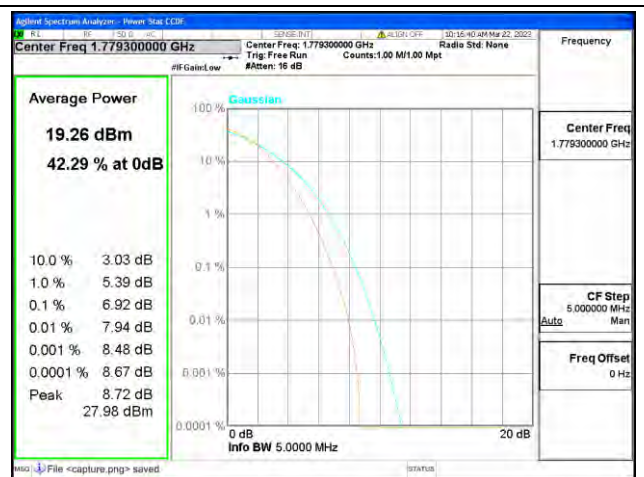


Band66 / 1.4MHz / Mid CH / 64QAM





Band66 / 1.4MHz / High CH / QPSK



Band66 / 1.4MHz / High CH / 16QAM



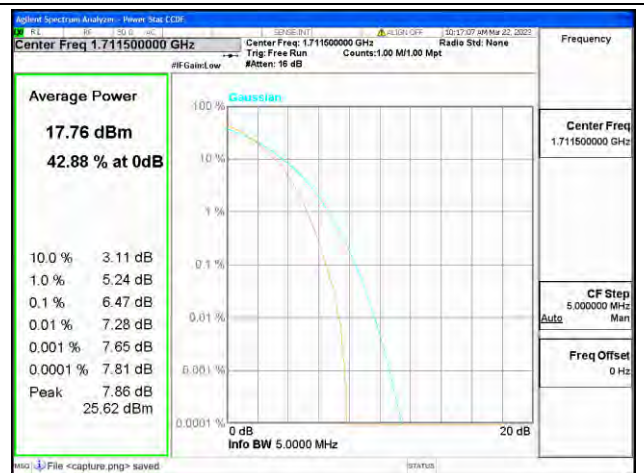
Band66 / 1.4MHz / High CH / 64QAM



Band66 / 3MHz / Low CH / QPSK



Band66 / 3MHz / Low CH / 16QAM



Band66 / 3MHz / Low CH / 64QAM



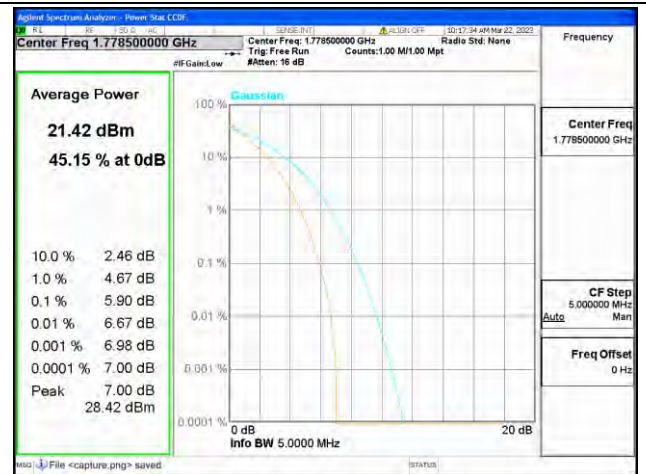
Band66 / 3MHz / Mid CH / QPSK



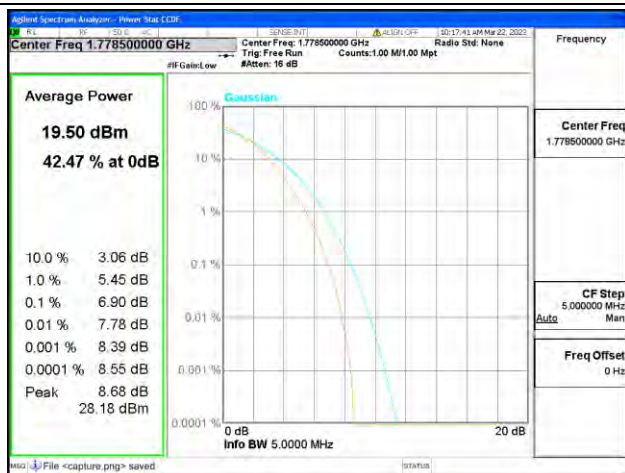
Band66 / 3MHz / Mid CH / 16QAM



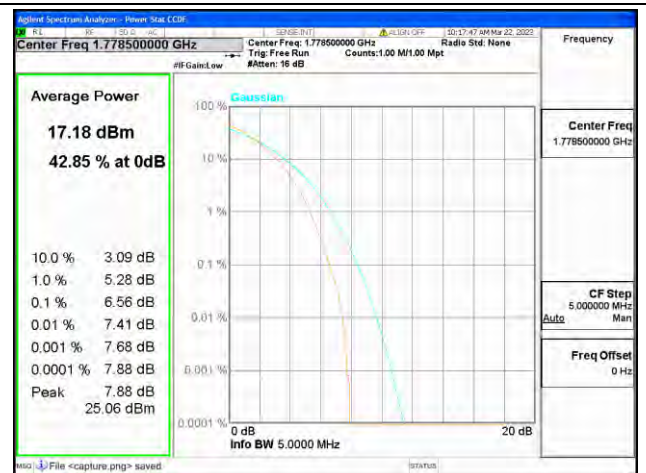
Band66 / 3MHz / Mid CH / 64QAM



Band66 / 3MHz / High CH / QPSK



Band66 / 3MHz / High CH / 16QAM

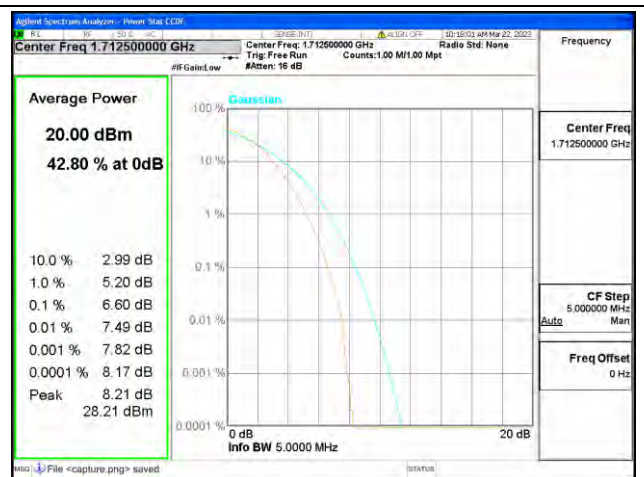


Band66 / 3MHz / High CH / 64QAM





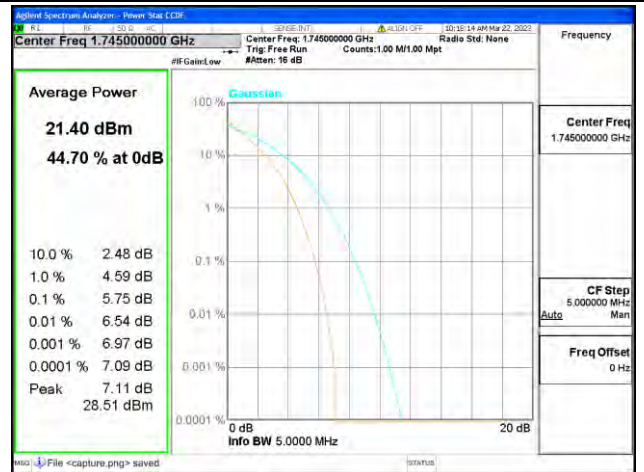
Band66 / 5MHz / Low CH / QPSK



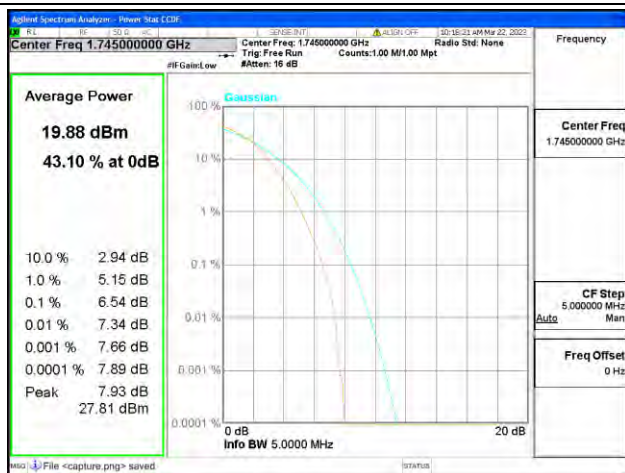
Band66 / 5MHz / Low CH / 16QAM



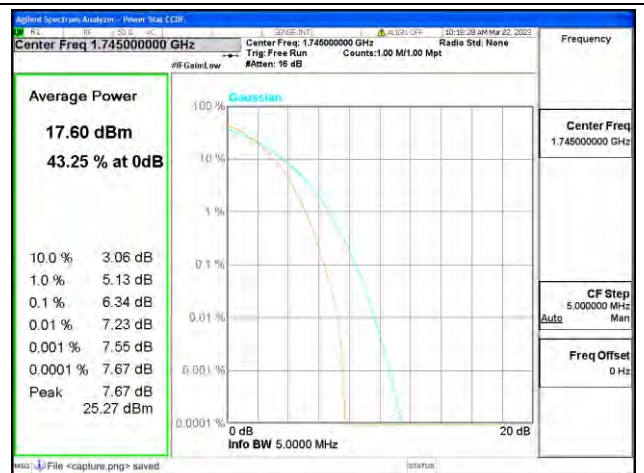
Band66 / 5MHz / Low CH / 64QAM



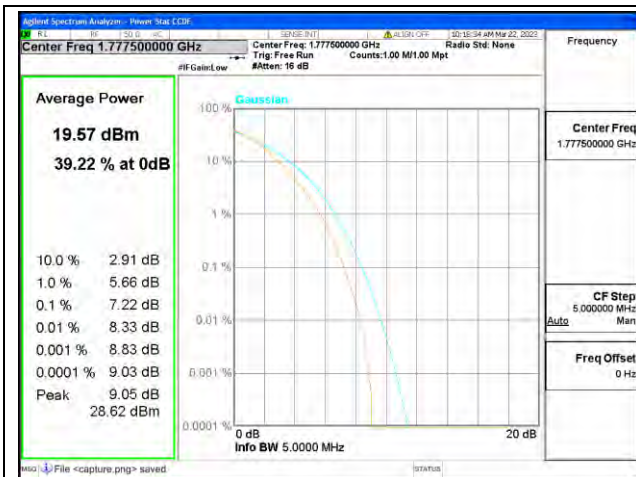
Band66 / 5MHz / Mid CH / QPSK



Band66 / 5MHz / Mid CH / 16QAM



Band66 / 5MHz / Mid CH / 64QAM



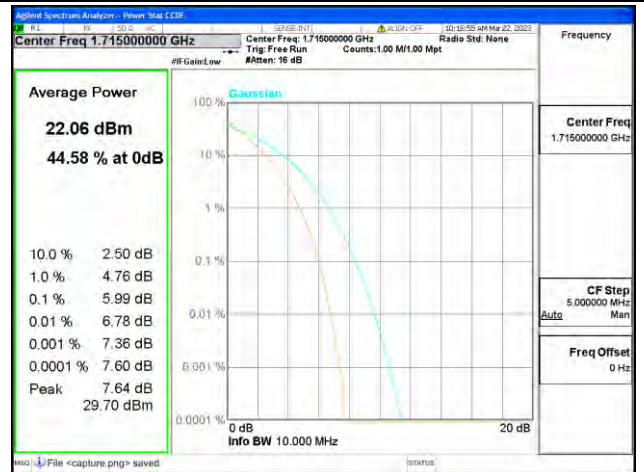
Band66 / 5MHz / High CH / QPSK



Band66 / 5MHz / High CH / 16QAM



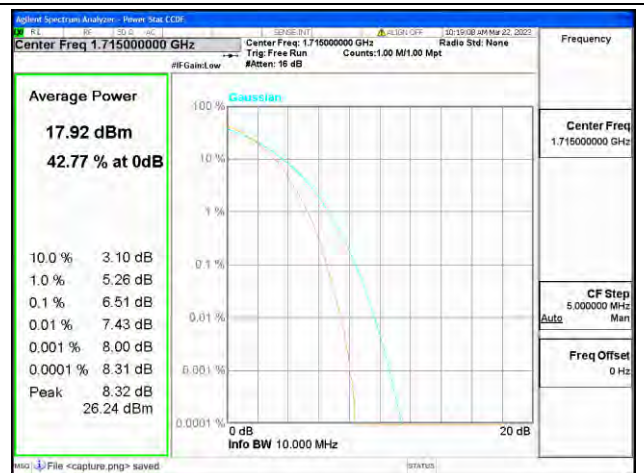
Band66 / 5MHz / High CH / 64QAM



Band66 / 10MHz / Low CH / QPSK

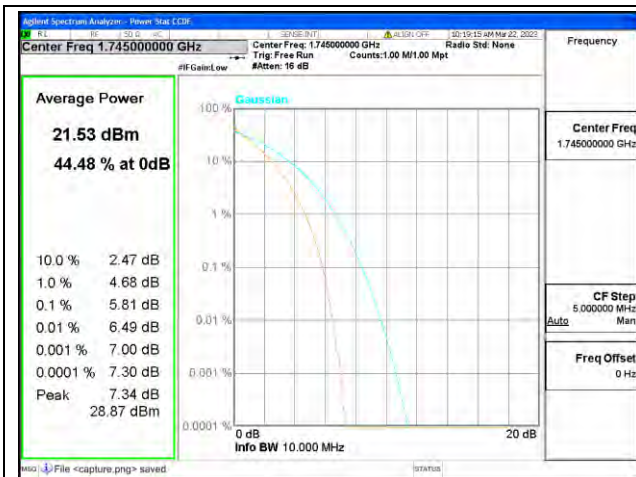


Band66 / 10MHz / Low CH / 16QAM



Band66 / 10MHz / Low CH / 64QAM





Band66 / 10MHz / Mid CH / QPSK



Band66 / 10MHz / Mid CH / 16QAM



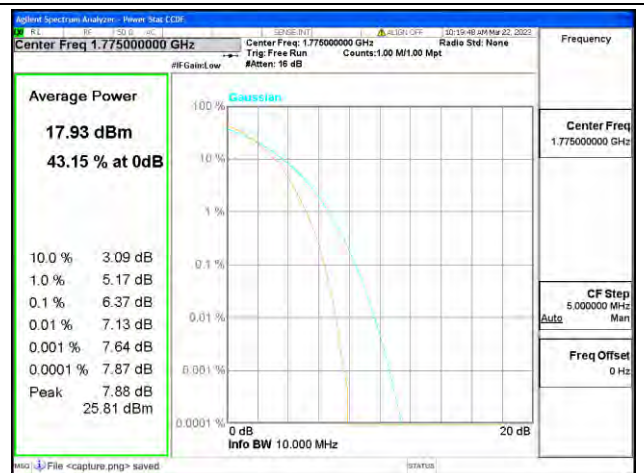
Band66 / 10MHz / Mid CH / 64QAM



Band66 / 10MHz / High CH / QPSK



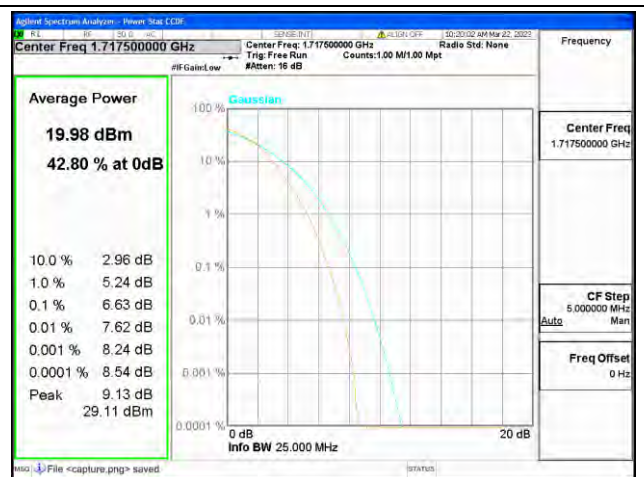
Band66 / 10MHz / High CH / 16QAM



Band66 / 10MHz / High CH / 64QAM



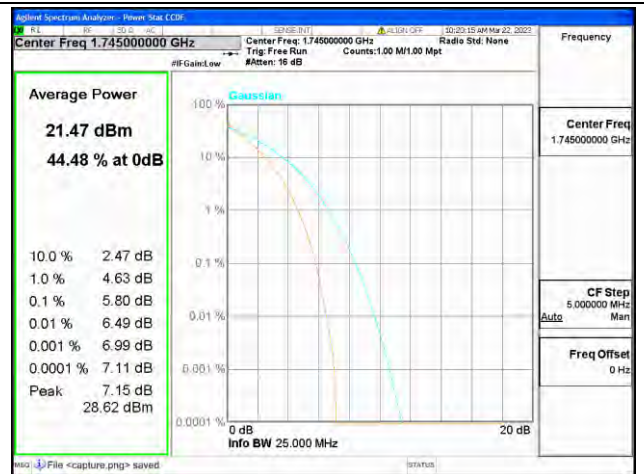
Band66 / 15MHz / Low CH / QPSK



Band66 / 15MHz / Low CH / 16QAM



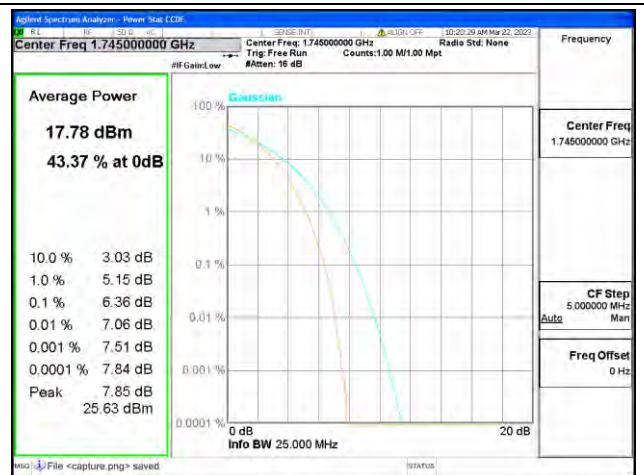
Band66 / 15MHz / Low CH / 64QAM



Band66 / 15MHz / Mid CH / QPSK

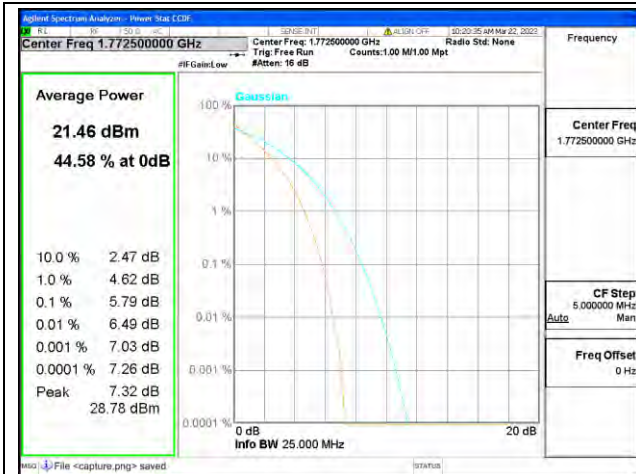


Band66 / 15MHz / Mid CH / 16QAM



Band66 / 15MHz / Mid CH / 64QAM

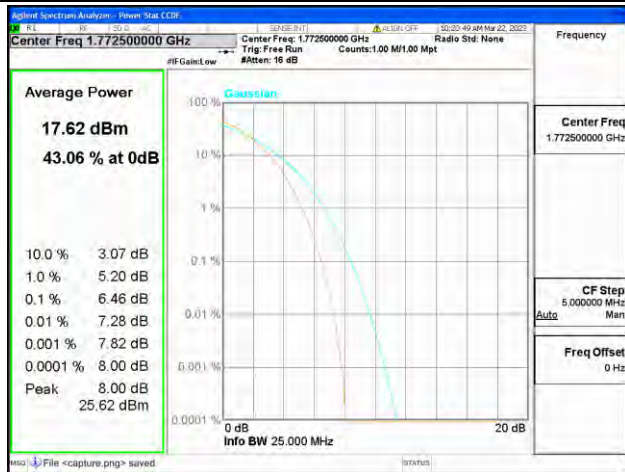




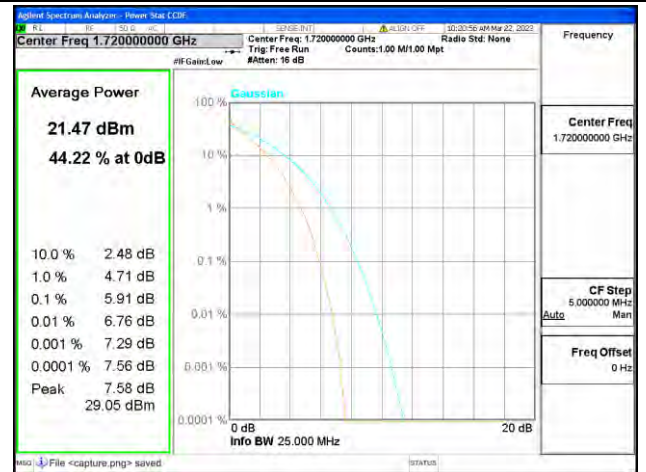
Band66 / 15MHz / High CH / QPSK



Band66 / 15MHz / High CH / 16QAM



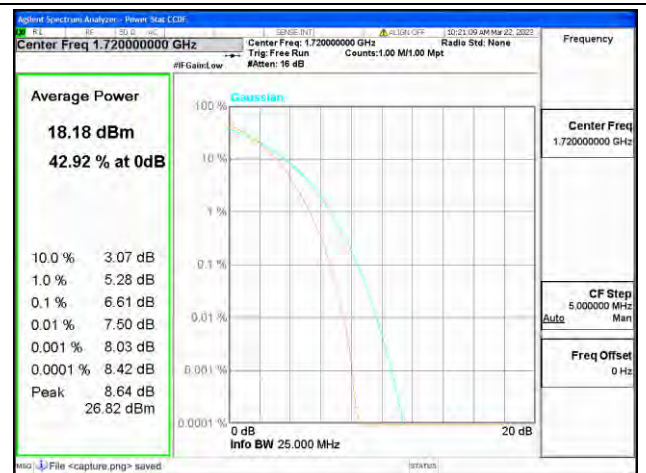
Band66 / 15MHz / High CH / 64QAM



Band66 / 20MHz / Low CH / QPSK



Band66 / 20MHz / Low CH / 16QAM



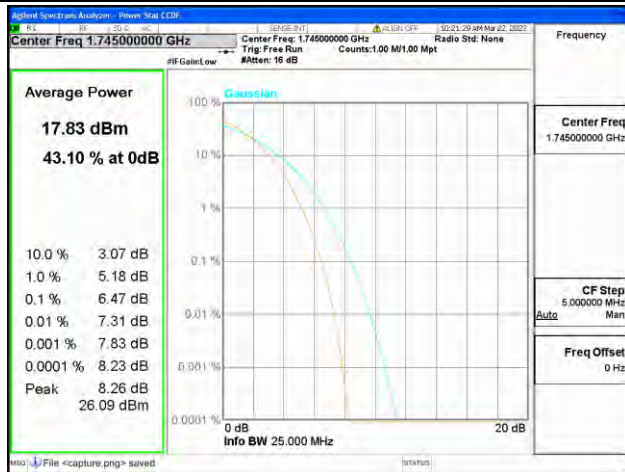
Band66 / 20MHz / Low CH / 64QAM



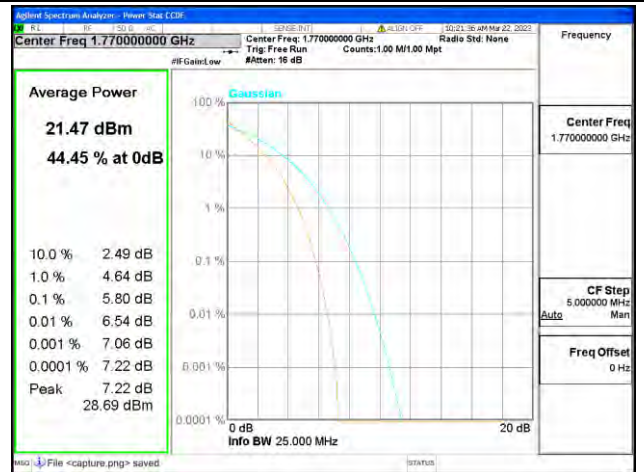
Band66 / 20MHz / Mid CH / QPSK



Band66 / 20MHz / Mid CH / 16QAM



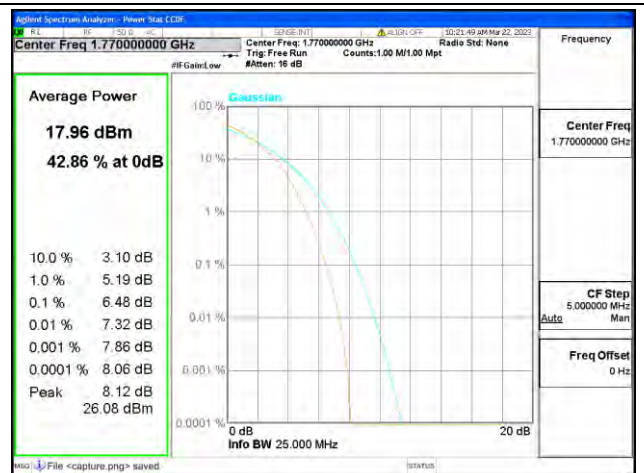
Band66 / 20MHz / Mid CH / 64QAM



Band66 / 20MHz / High CH / QPSK



Band66 / 20MHz / High CH / 16QAM



Band66 / 20MHz / High CH / 64QAM



## 2.5. Conducted Spurious Emissions

### 2.5.1. Requirement

According to FCC section 2.1051, 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. This calculated to be -13dBm.

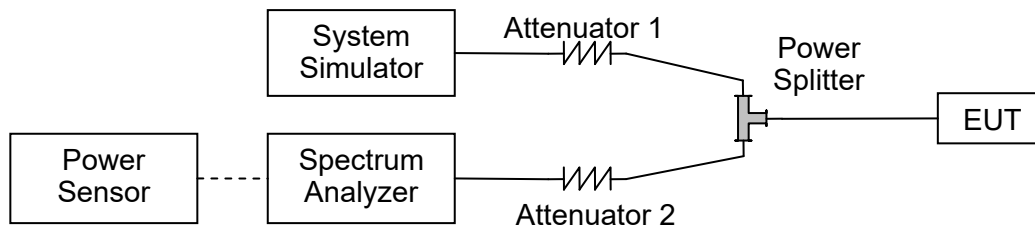
Additional requirement for LTE Band 7, 38, 41:

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  $55 + 10 \log(P)$  dB. This calculated to be -25dBm.

Additional requirement for LTE Band 40:

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $70 + 10 \log (P)$  dB. This calculated to be -40dBm.

### 2.5.2. Test Description



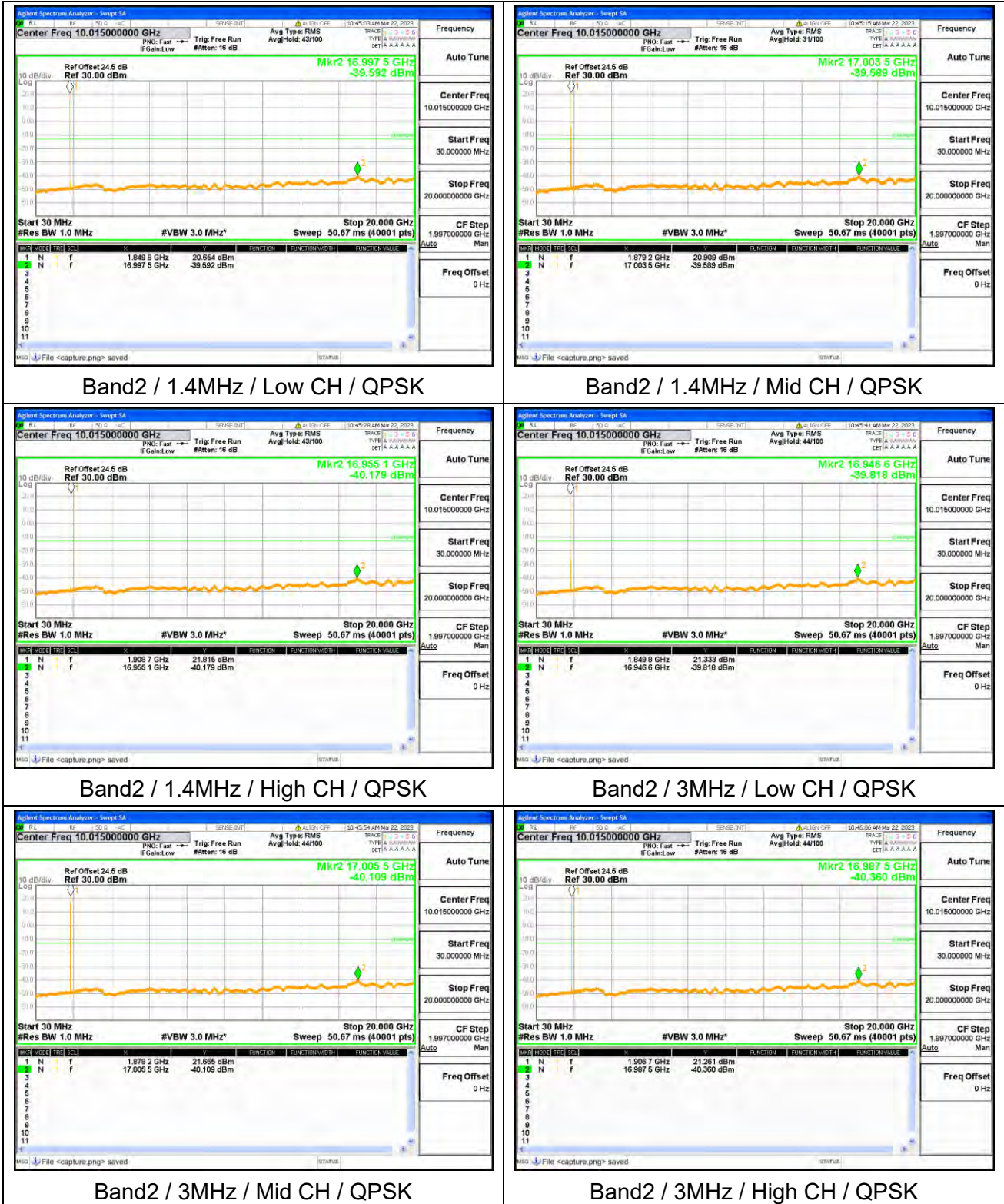
The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

### 2.5.3. Test Procedure

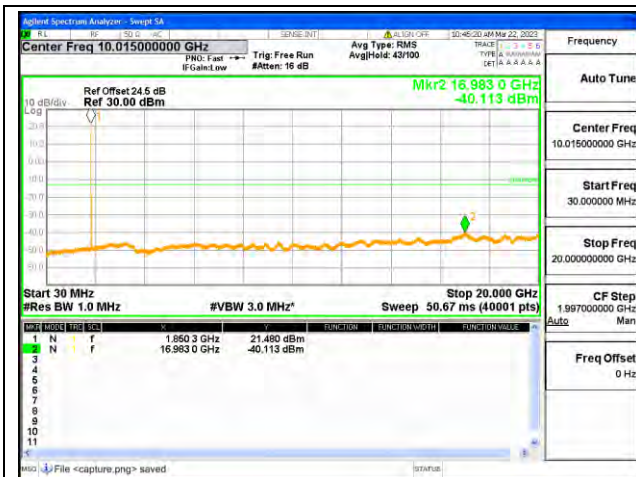
KDB 971168 D01v03 Section 6.0 and ANSI/TIA-603-E-2016.



2.5.4. Test Result



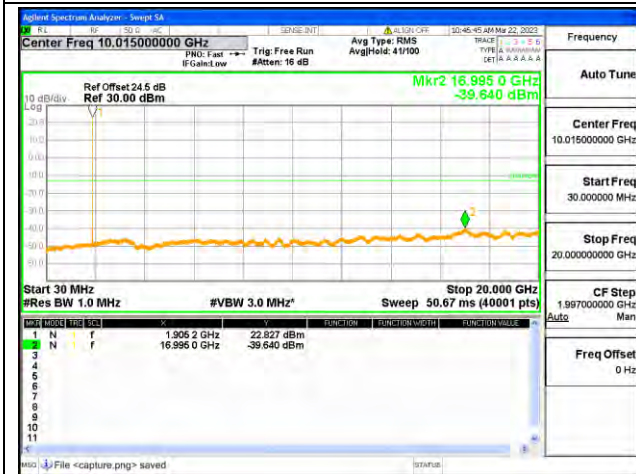




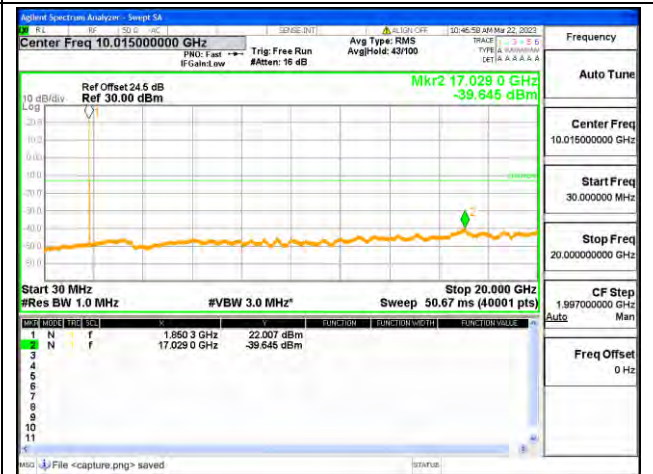
Band2 / 5MHz / Low CH / QPSK



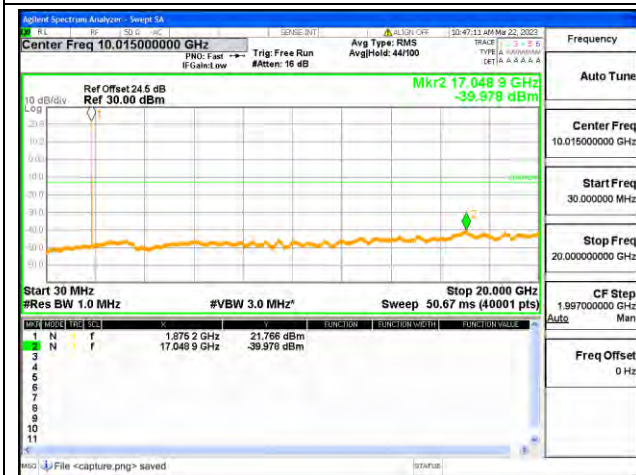
Band2 / 5MHz / Mid CH / QPSK



Band2 / 5MHz / High CH / QPSK



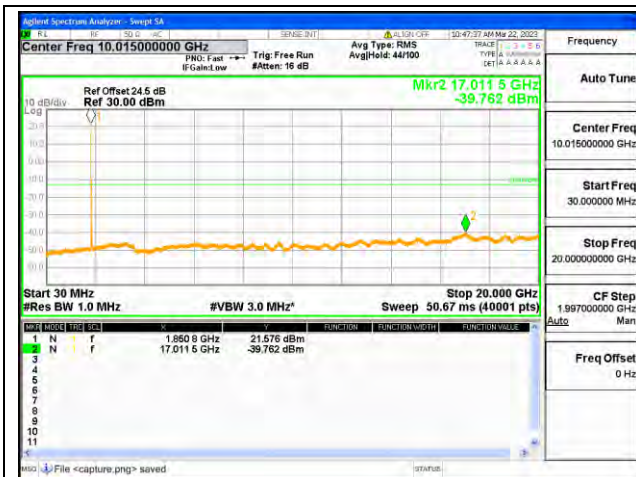
Band2 / 10MHz / Low CH / QPSK



Band2 / 10MHz / Mid CH / QPSK



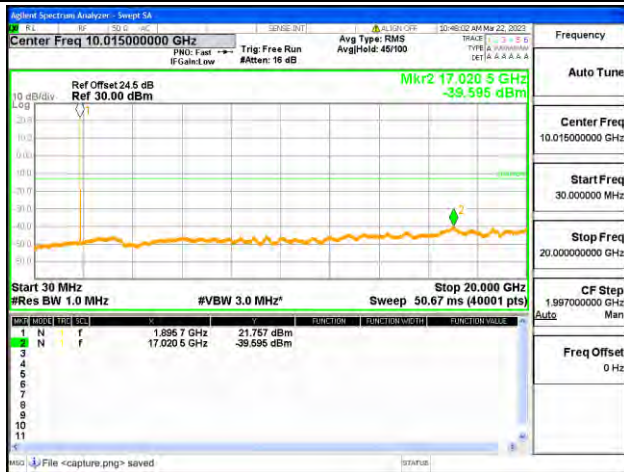
Band2 / 10MHz / High CH / QPSK



Band2 / 15MHz / Low CH / QPSK



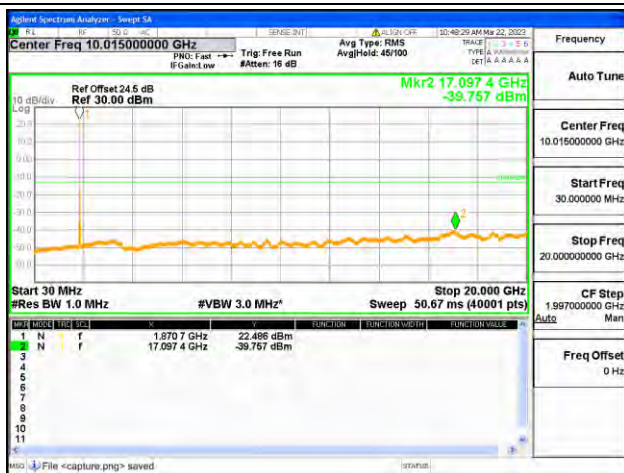
Band2 / 15MHz / Mid CH / QPSK



Band2 / 15MHz / High CH / QPSK



Band2 / 20MHz / Low CH / QPSK

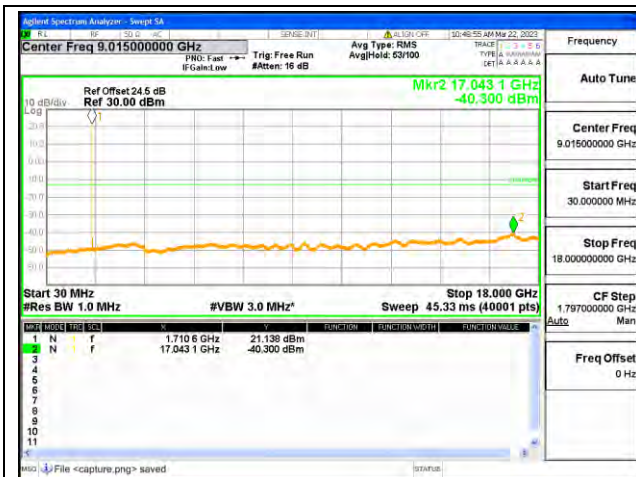


Band2 / 20MHz / Mid CH / QPSK



Band2 / 20MHz / High CH / QPSK

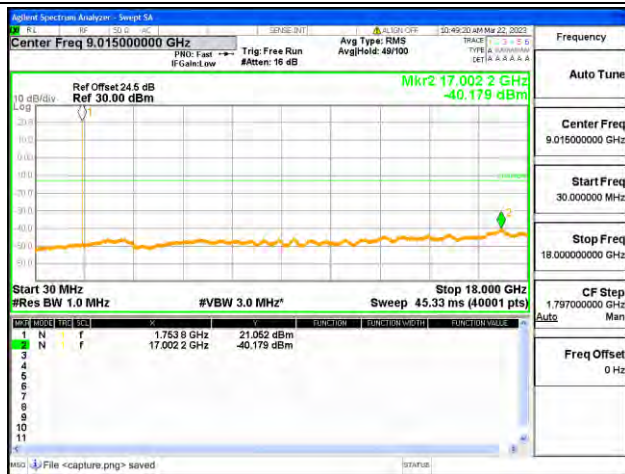




Band4 / 1.4MHz / Low CH / QPSK



Band4 / 1.4MHz / Mid CH / QPSK



Band4 / 1.4MHz / High CH / QPSK



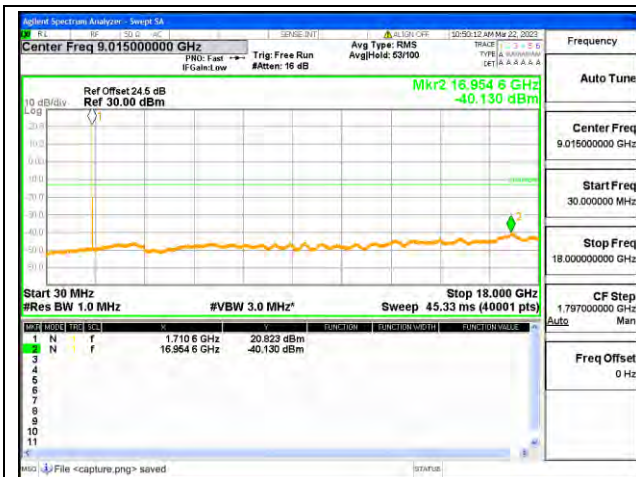
Band4 / 3MHz / Low CH / QPSK



Band4 / 3MHz / Mid CH / QPSK



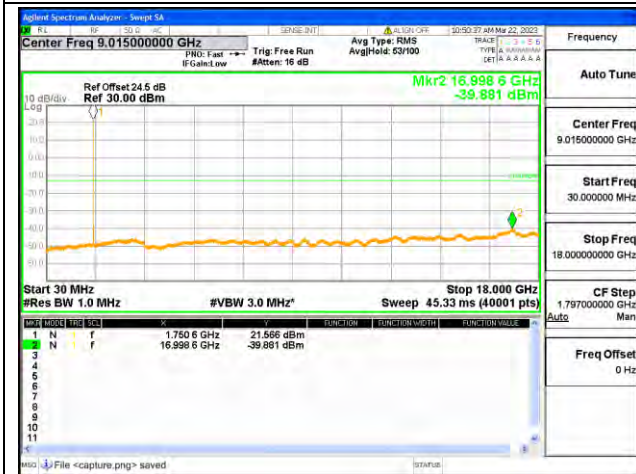
Band4 / 3MHz / High CH / QPSK



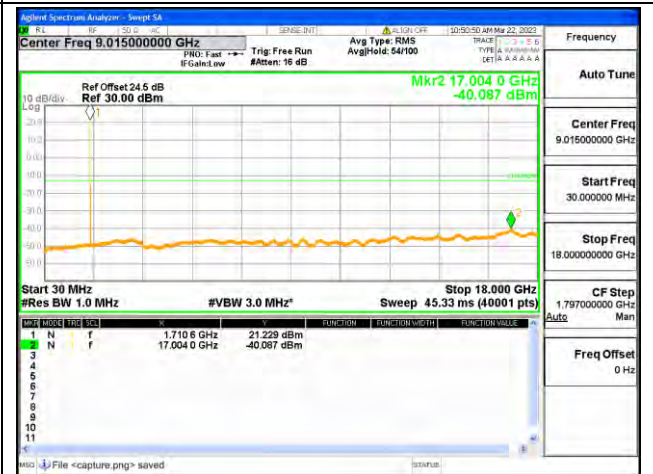
Band4 / 5MHz / Low CH / QPSK



Band4 / 5MHz / Mid CH / QPSK



Band4 / 5MHz / High CH / QPSK



Band4 / 10MHz / Low CH / QPSK

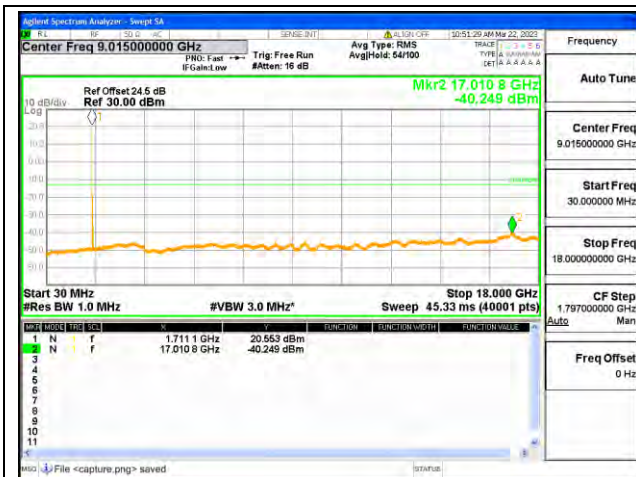


Band4 / 10MHz / Mid CH / QPSK



Band4 / 10MHz / High CH / QPSK

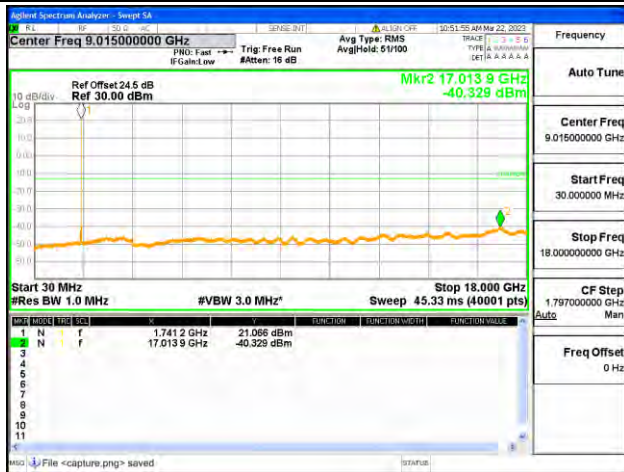




Band4 / 15MHz / Low CH / QPSK



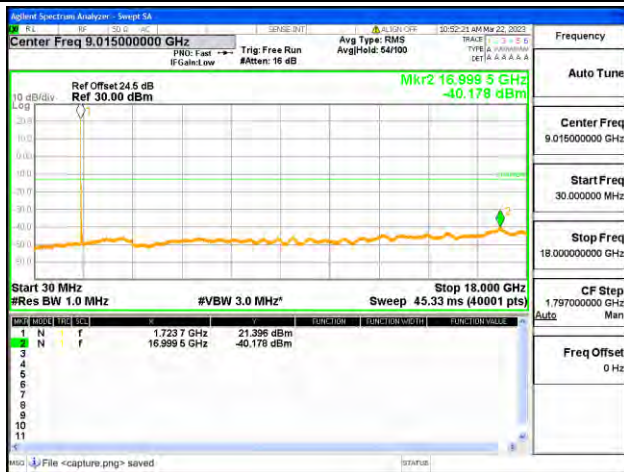
Band4 / 15MHz / Mid CH / QPSK



Band4 / 15MHz / High CH / QPSK



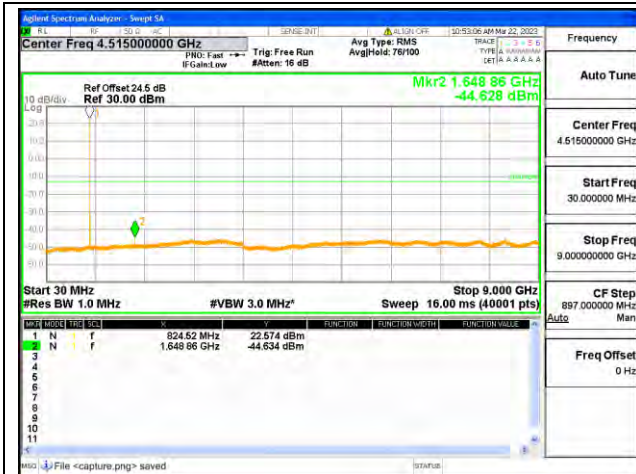
Band4 / 20MHz / Low CH / QPSK



Band4 / 20MHz / Mid CH / QPSK



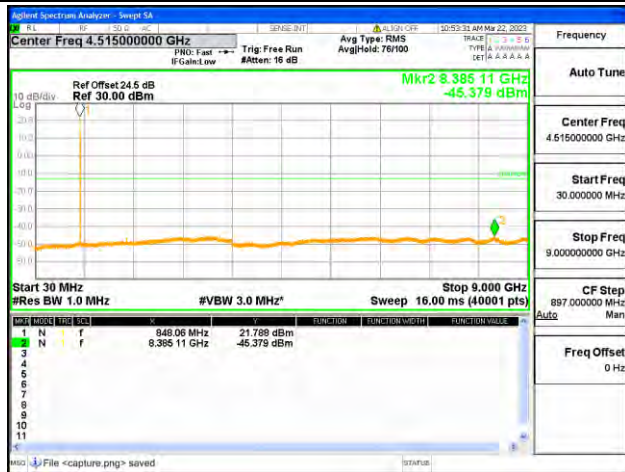
Band4 / 20MHz / High CH / QPSK



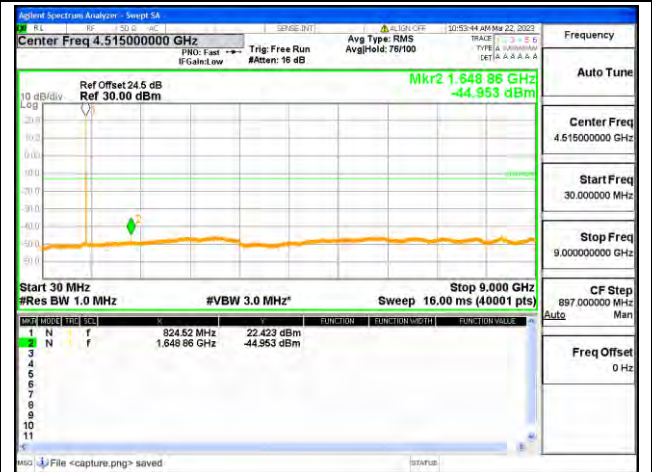
Band5 / 1.4MHz / Low CH / QPSK



Band5 / 1.4MHz / Mid CH / QPSK



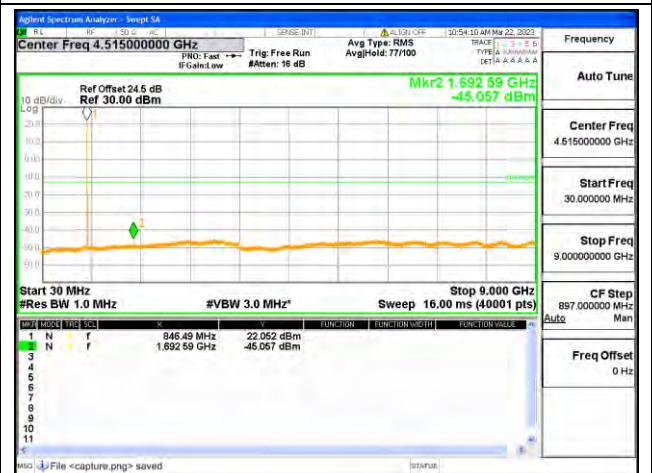
Band5 / 1.4MHz / High CH / QPSK



Band5 / 3MHz / Low CH / QPSK

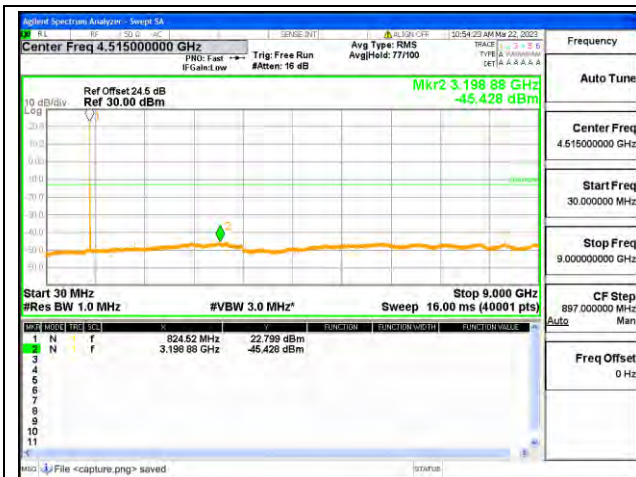


Band5 / 3MHz / Mid CH / QPSK



Band5 / 3MHz / High CH / QPSK

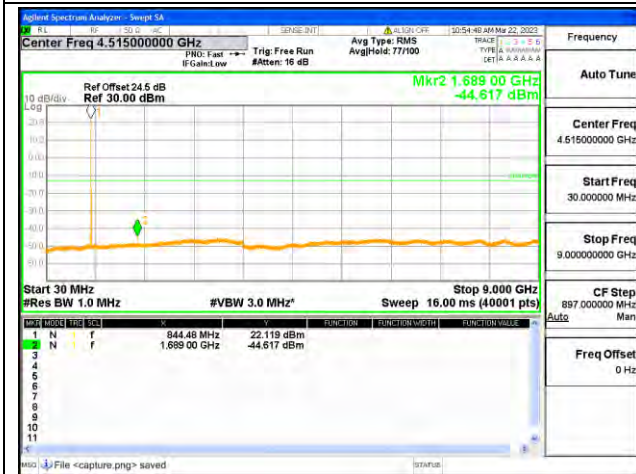




Band5 / 5MHz / Low CH / QPSK



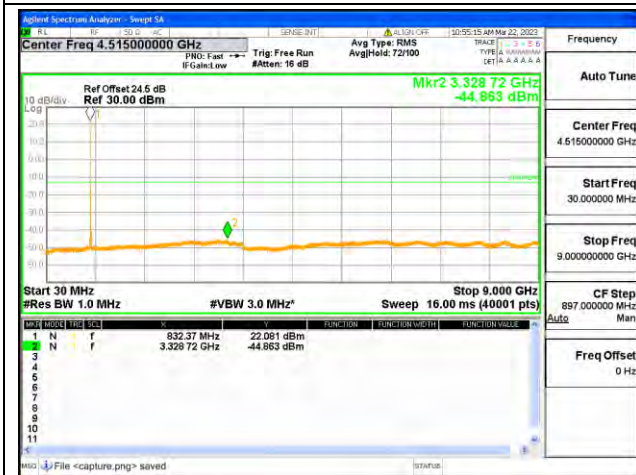
Band5 / 5MHz / Mid CH / QPSK



Band5 / 5MHz / High CH / QPSK



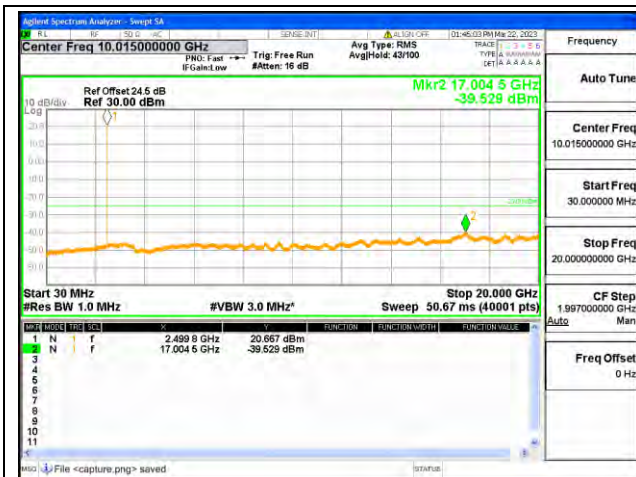
Band5 / 10MHz / Low CH / QPSK



Band5 / 10MHz / Mid CH / QPSK



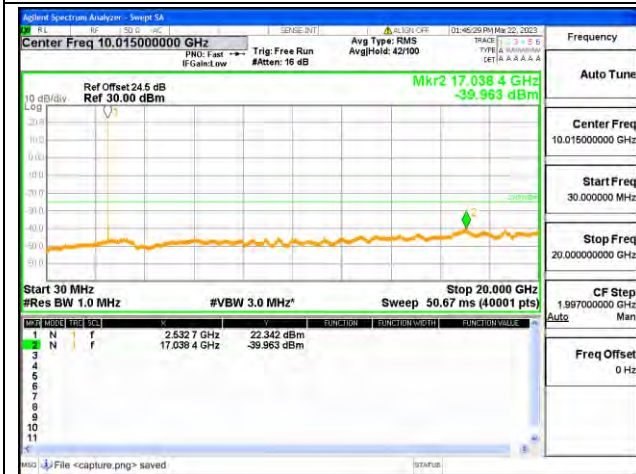
Band5 / 10MHz / High CH / QPSK



Band7-30M-20G / 5MHz / Low CH / QPSK



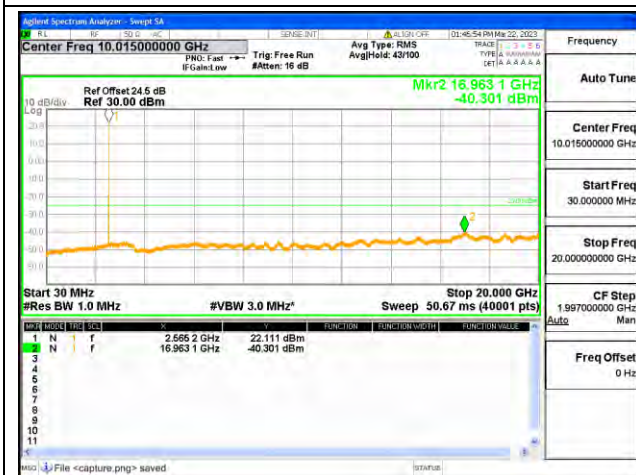
Band7-20G-26G / 5MHz / Low CH / QPSK



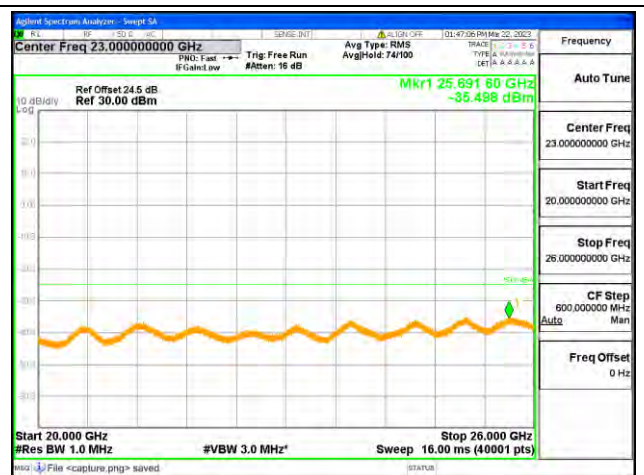
Band7-30M-20G / 5MHz / Mid CH / QPSK



Band7-20G-26G / 5MHz / Mid CH / QPSK



Band7-30M-20G / 5MHz / High CH / QPSK



Band7-20G-26G / 5MHz / High CH / QPSK

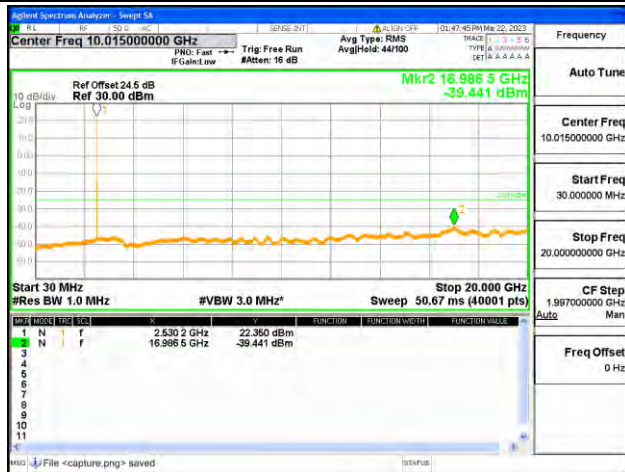




Band7-30M-20G / 10MHz / Low CH / QPSK



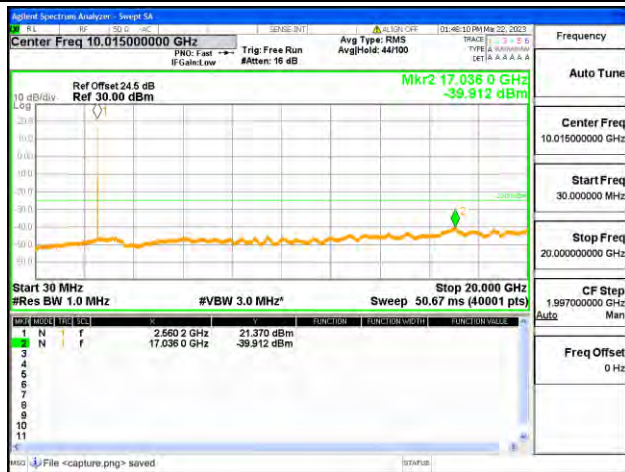
Band7-20G-26G / 10MHz / Low CH / QPSK



Band7-30M-20G / 10MHz / Mid CH / QPSK



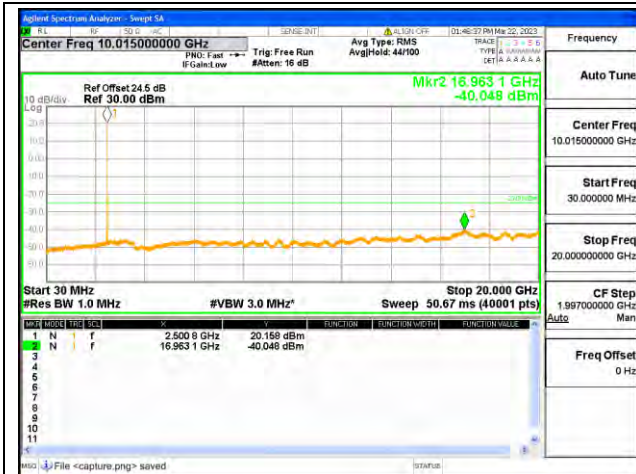
Band7-20G-26G / 10MHz / Mid CH / QPSK



Band7-30M-20G / 10MHz / High CH / QPSK



Band7-20G-26G / 10MHz / High CH / QPSK



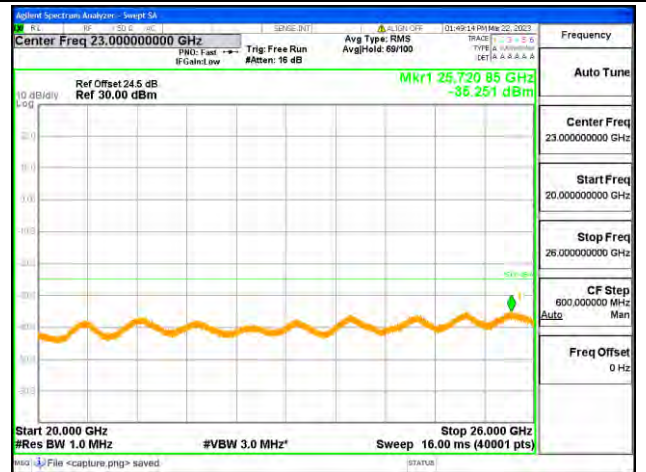
Band7-30M-20G / 15MHz / Low CH / QPSK



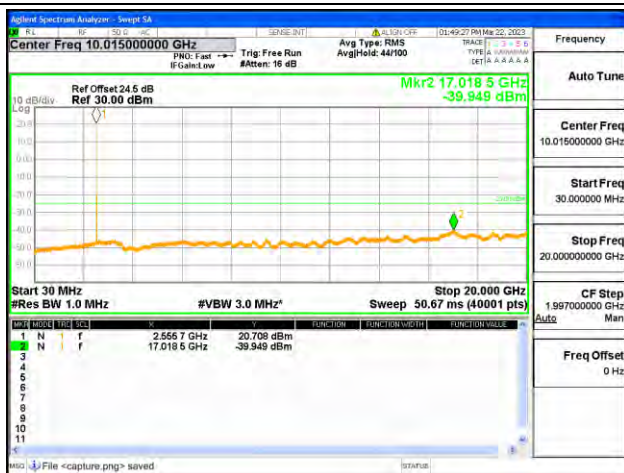
Band7-20G-26G / 15MHz / Low CH / QPSK



Band7-30M-20G / 15MHz / Mid CH / QPSK



Band7-20G-26G / 15MHz / Mid CH / QPSK

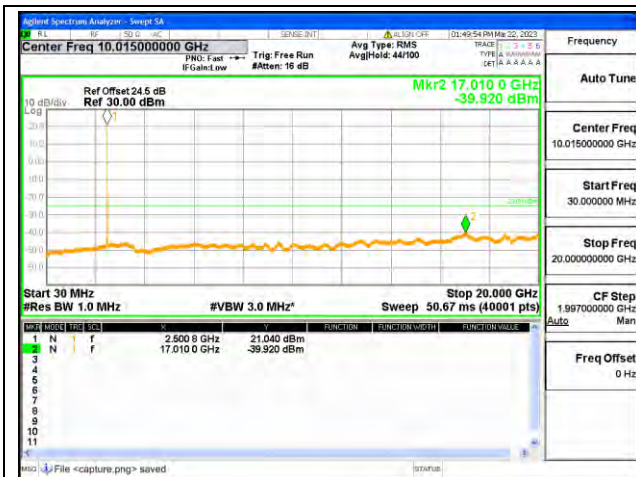


Band7-30M-20G / 15MHz / High CH / QPSK



Band7-20G-26G / 15MHz / High CH / QPSK

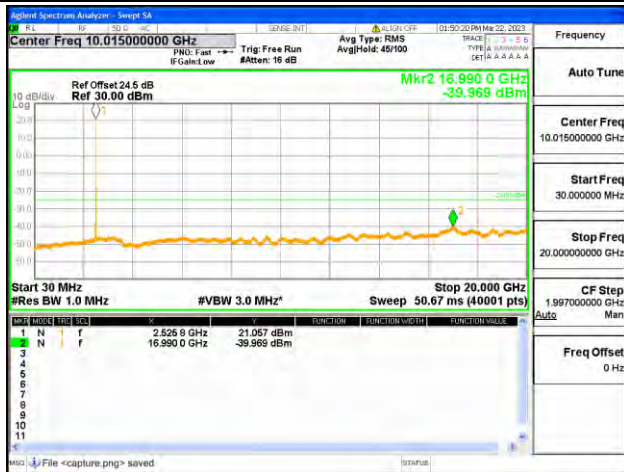




Band7-30M-20G / 20MHz / Low CH / QPSK



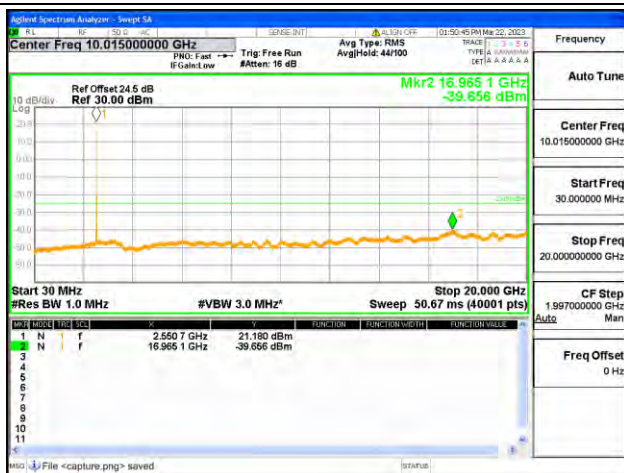
Band7-20G-26G / 20MHz / Low CH / QPSK



Band7-30M-20G / 20MHz / Mid CH / QPSK



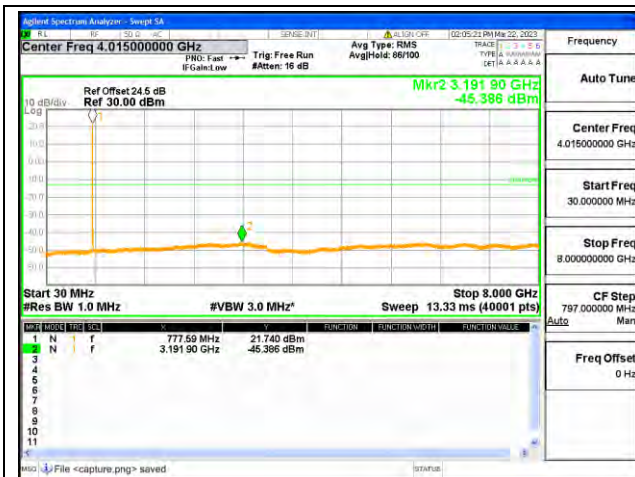
Band7-20G-26G / 20MHz / Mid CH / QPSK



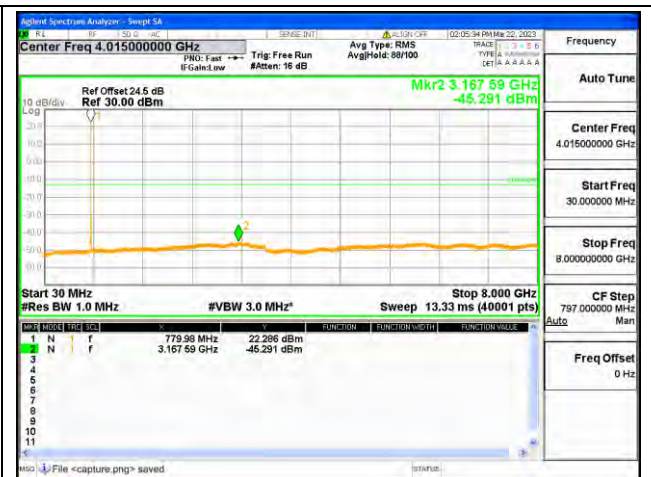
Band7-30M-20G / 20MHz / High CH / QPSK



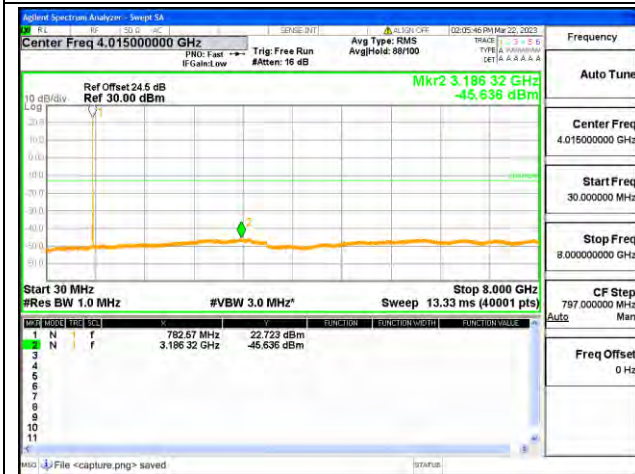
Band7-20G-26G / 20MHz / High CH / QPSK



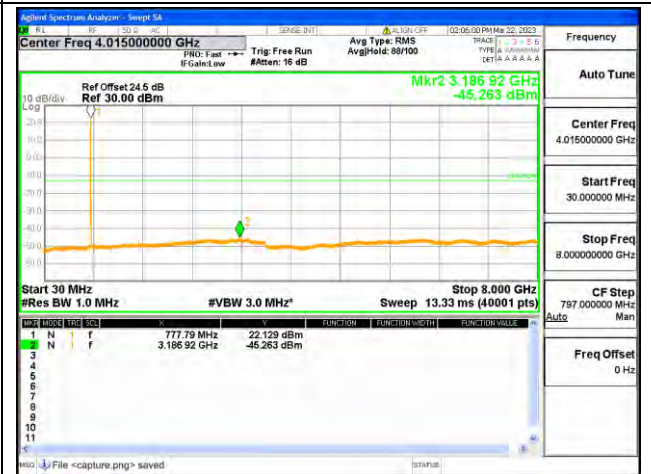
Band13 / 5MHz / Low CH / QPSK



Band13 / 5MHz / Mid CH / QPSK

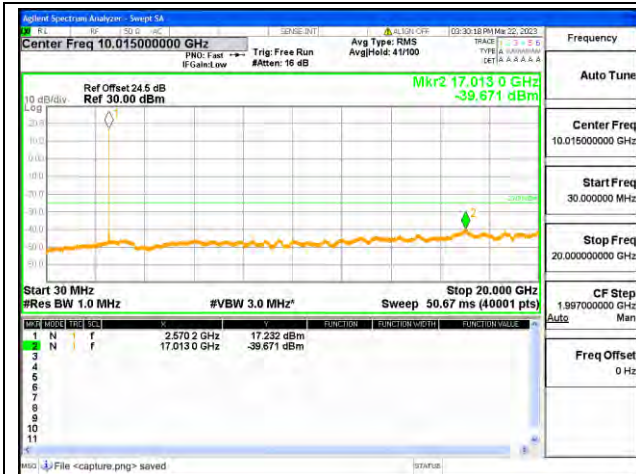


Band13 / 5MHz / High CH / QPSK

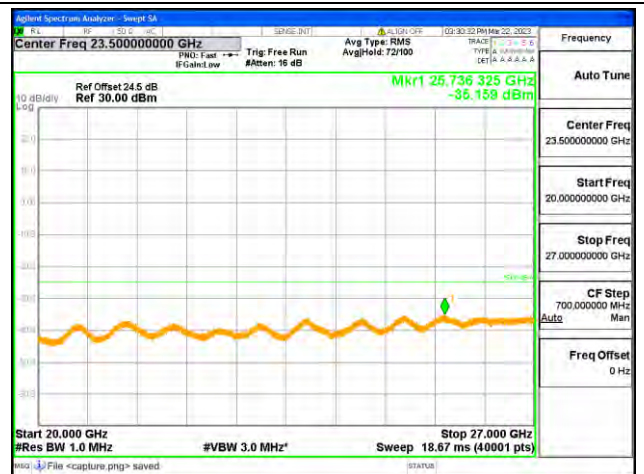


Band13 / 10MHz / Mid CH / QPSK

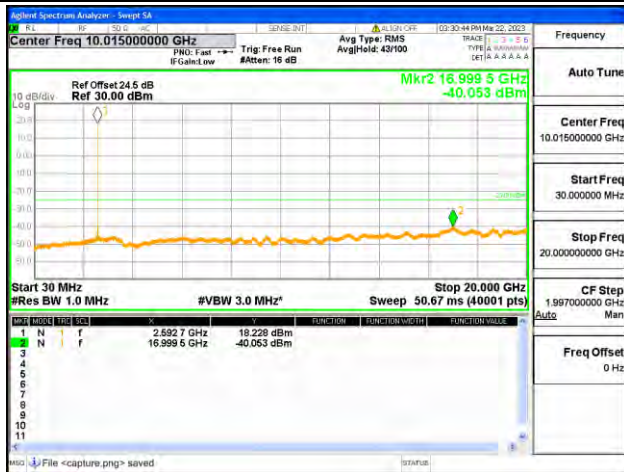




Band38-30M-20G / 5MHz / Low CH / QPSK



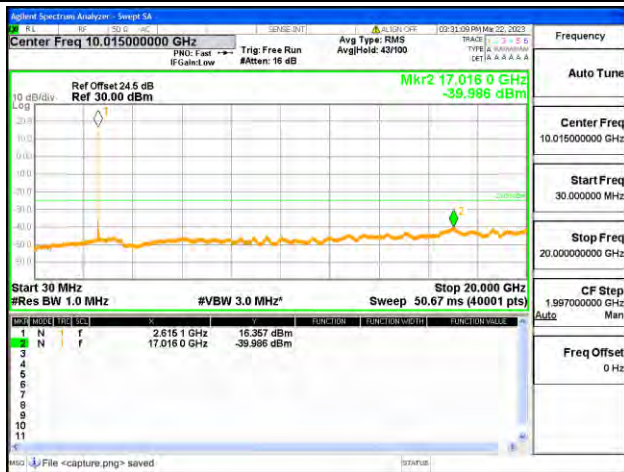
Band38-20G-27G / 5MHz / Low CH / QPSK



Band38-30M-20G / 5MHz / Mid CH / QPSK



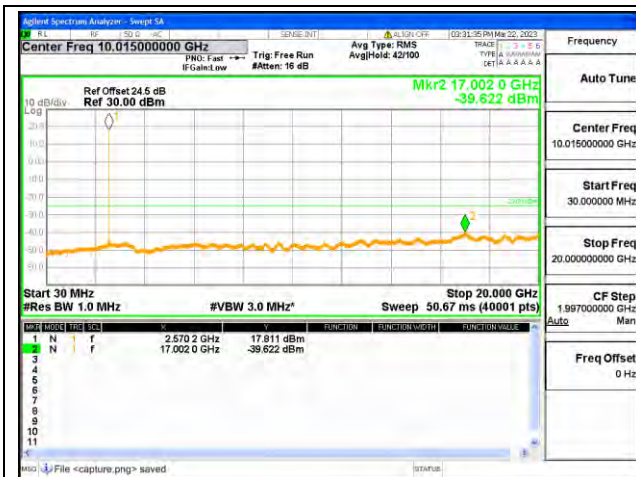
Band38-20G-27G / 5MHz / Mid CH / QPSK



Band38-30M-20G / 5MHz / High CH / QPSK



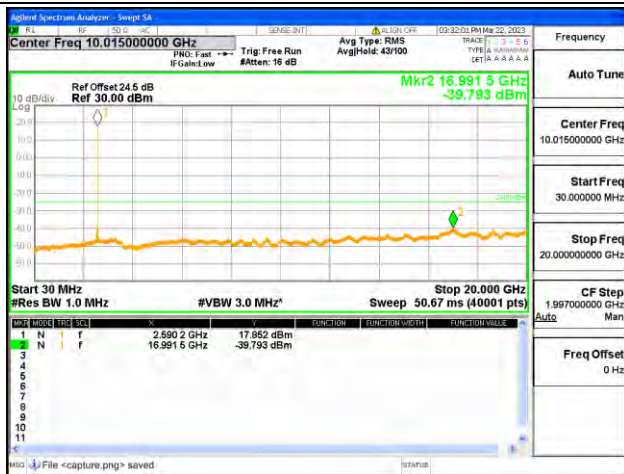
Band38-20G-27G / 5MHz / High CH / QPSK



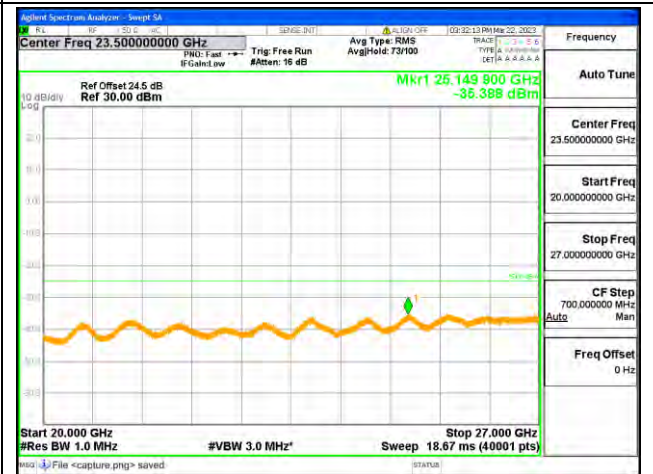
Band38-30M-20G / 10MHz / Low CH / QPSK



Band38-20G-27G / 10MHz / Low CH / QPSK



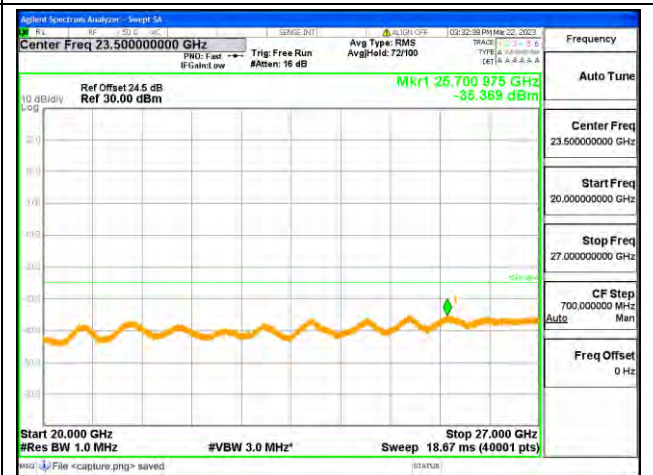
Band38-30M-20G / 10MHz / Mid CH / QPSK



Band38-20G-27G / 10MHz / Mid CH / QPSK

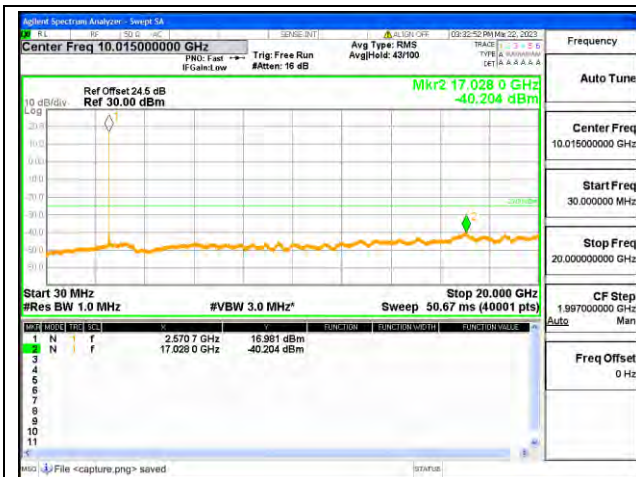


Band38-30M-20G / 10MHz / High CH / QPSK



Band38-20G-27G / 10MHz / High CH / QPSK

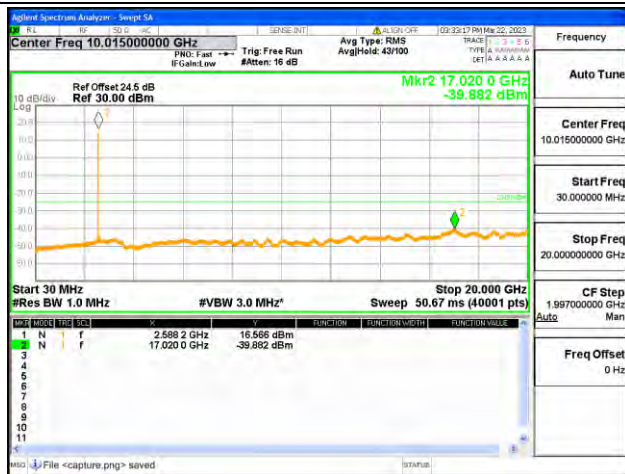




Band38-30M-20G / 15MHz / Low CH / QPSK



Band38-20G-27G / 15MHz / Low CH / QPSK



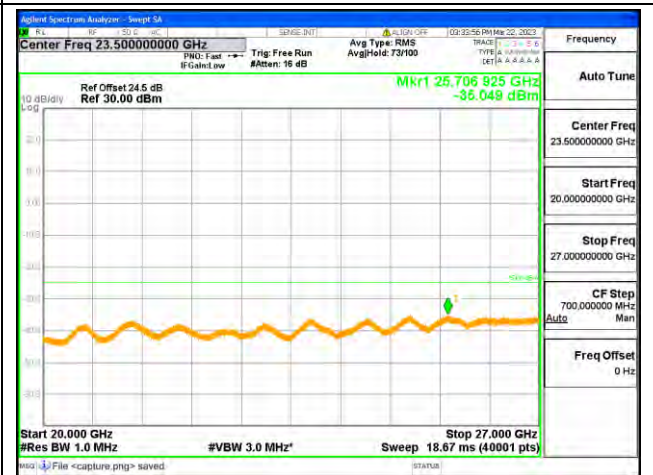
Band38-30M-20G / 15MHz / Mid CH / QPSK



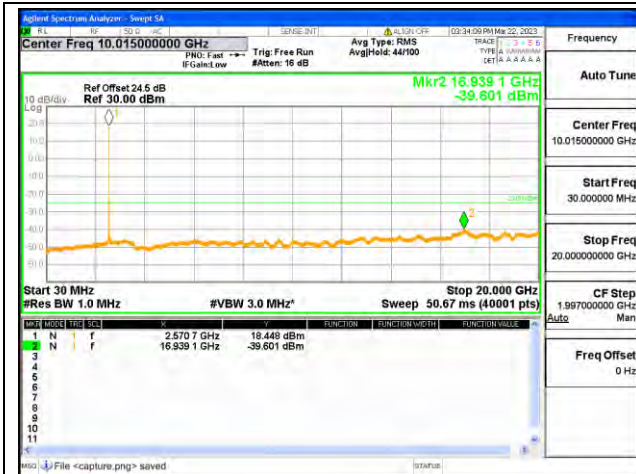
Band38-20G-27G / 15MHz / Mid CH / QPSK



Band38-30M-20G / 15MHz / High CH / QPSK



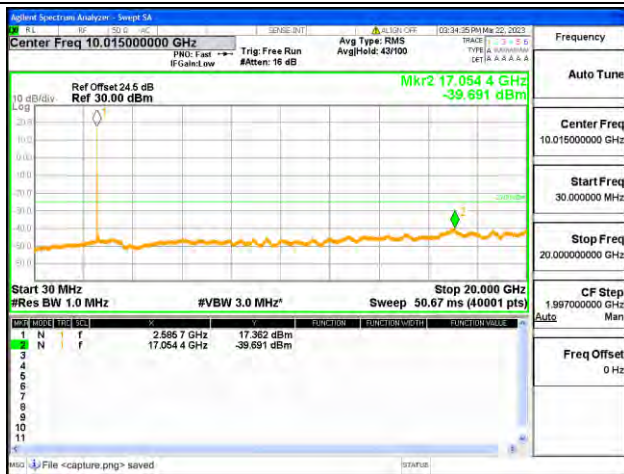
Band38-20G-27G / 15MHz / High CH / QPSK



Band38-30M-20G / 20MHz / Low CH / QPSK



Band38-20G-27G / 20MHz / Low CH / QPSK



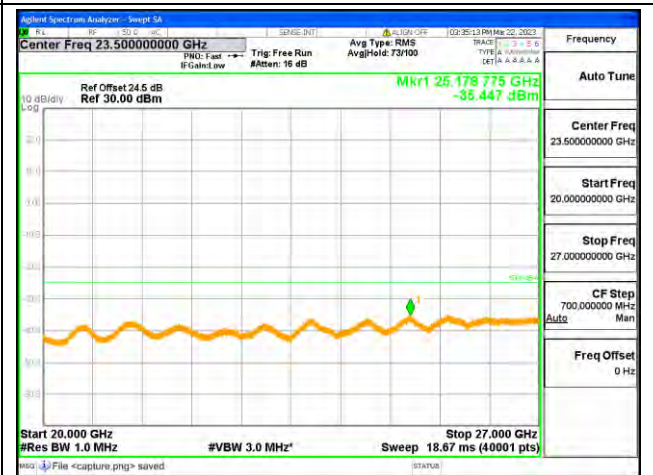
Band38-30M-20G / 20MHz / Mid CH / QPSK



Band38-20G-27G / 20MHz / Mid CH / QPSK

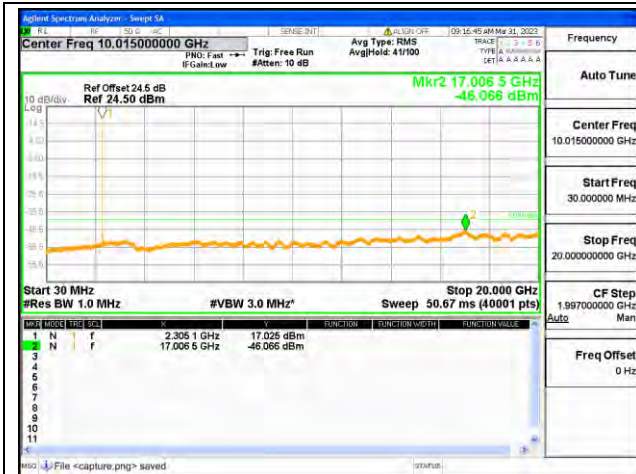


Band38-30M-20G / 20MHz / High CH / QPSK



Band38-20G-27G / 20MHz / High CH / QPSK





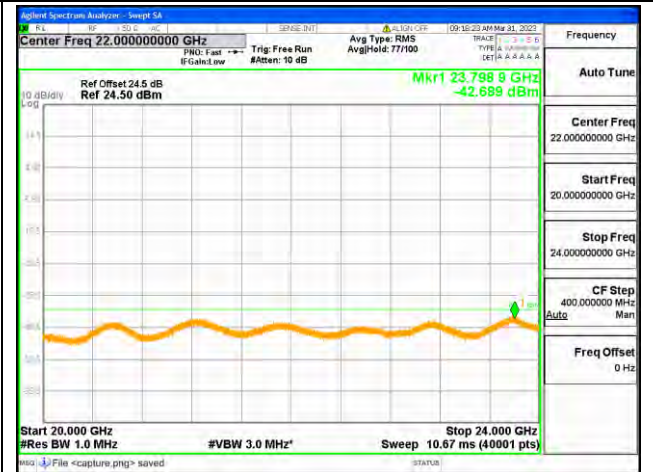
Band40-1-30M-20G / 5MHz / Low CH / QPSK



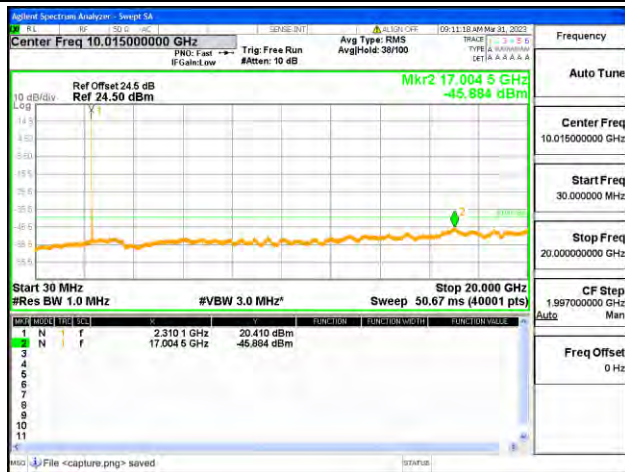
Band40-1-20G-24G / 5MHz / Low CH / QPSK



Band40-1-30M-20G / 5MHz / Mid CH / QPSK



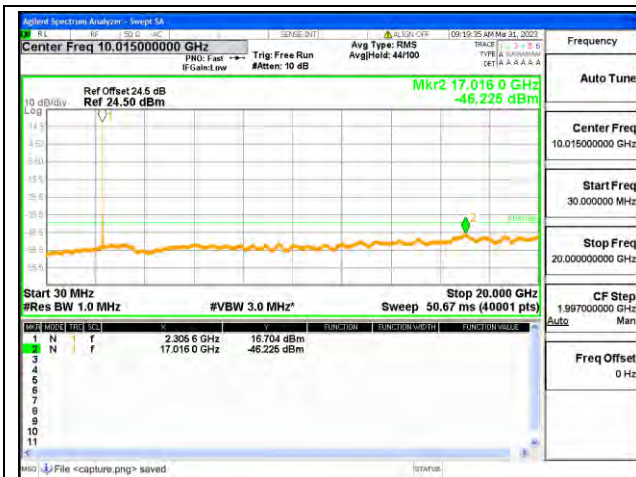
Band40-1-20G-24G / 5MHz / Mid CH / QPSK



Band40-1-30M-20G / 5MHz / High CH / QPSK



Band40-1-20G-24G / 5MHz / High CH / QPSK



Band40-1-30M-20G / 10MHz / Mid CH / QPSK



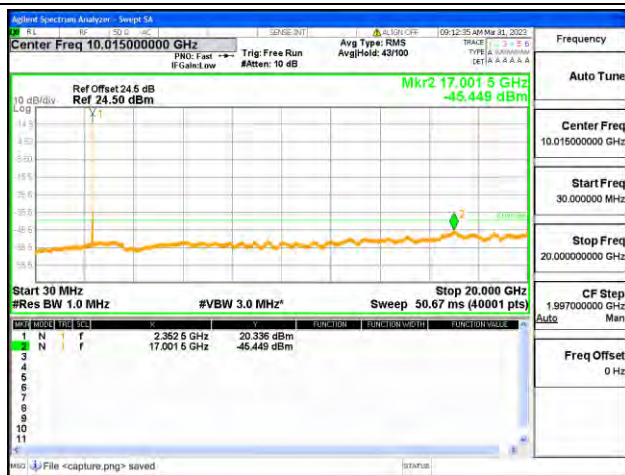
Band40-1-20G-24G / 10MHz / Mid CH / QPSK



Band40-2-30M-20G / 5MHz / Low CH / QPSK



Band40-2-20G-24G / 5MHz / Low CH / QPSK

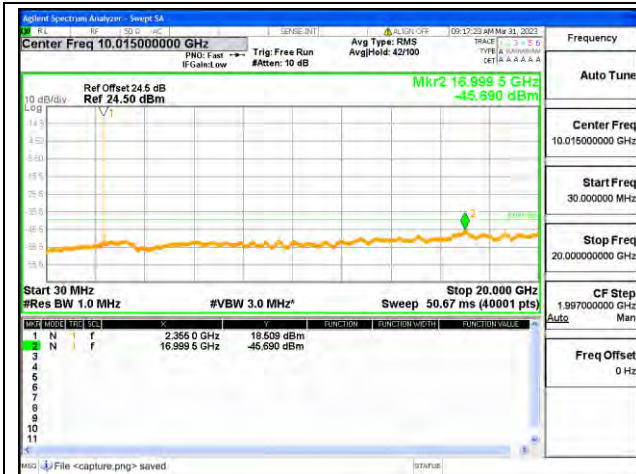


Band40-2-30M-20G / 5MHz / Mid CH / QPSK



Band40-2-20G-24G / 5MHz / Mid CH / QPSK

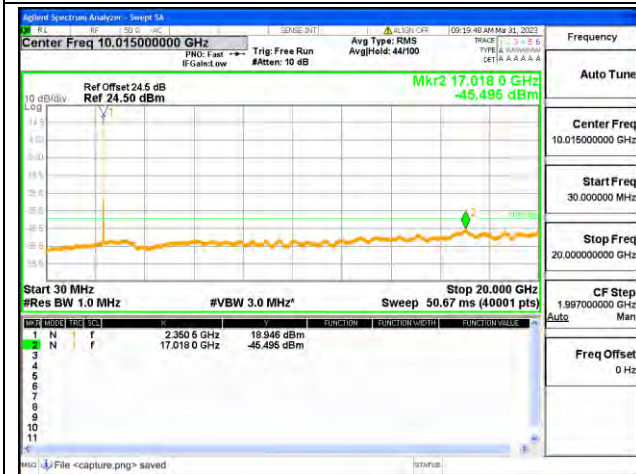




Band40-2-30M-20G / 5MHz / High CH / QPSK



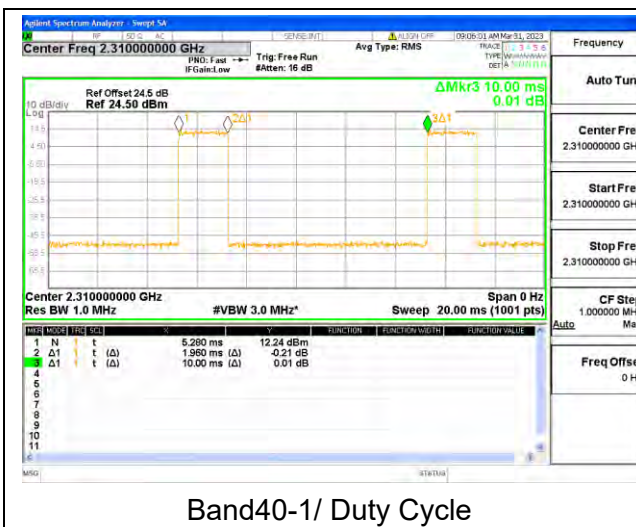
Band40-2-20G-24G / 5MHz / High CH / QPSK



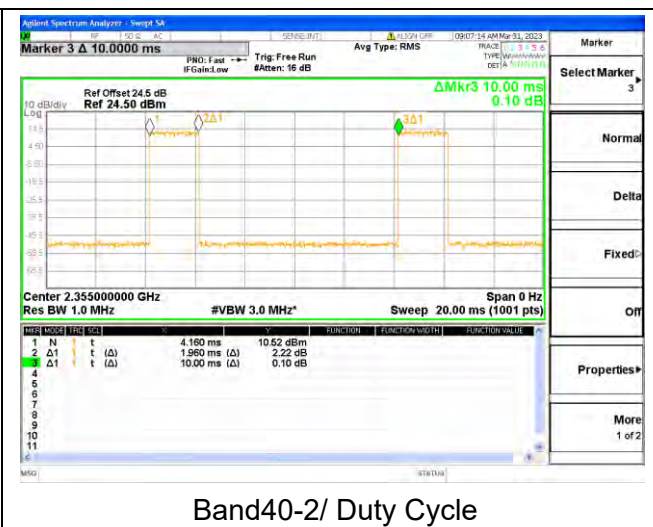
Band40-2-30M-20G / 10MHz / Mid CH / QPSK



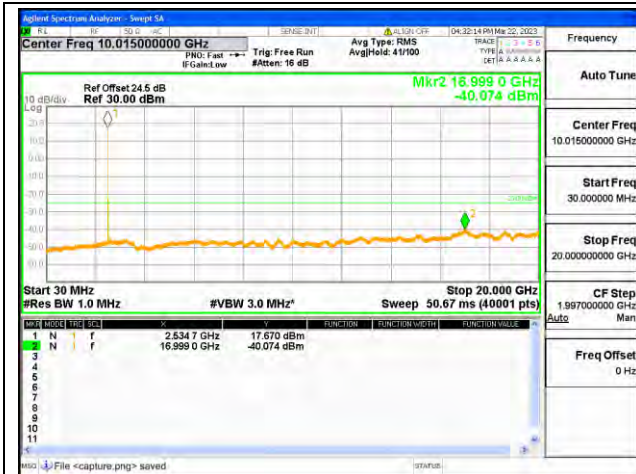
Band40-2-20G-24G / 10MHz / Mid CH / QPSK



Band40-1/ Duty Cycle



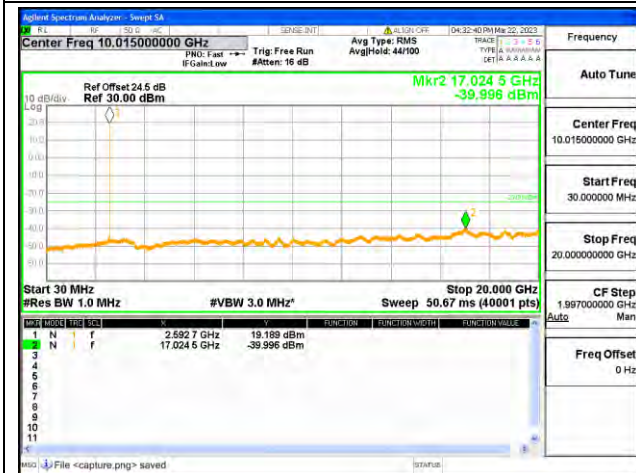
Band40-2/ Duty Cycle



Band41(2535-2655)-30M-20G / 5MHz / Low CH / QPSK



Band41(2535-2655)-20G-27G / 5MHz / Low CH / QPSK



Band41(2535-2655)-30M-20G / 5MHz / Mid CH / QPSK



Band41(2535-2655)-20G-27G / 5MHz / Mid CH / QPSK

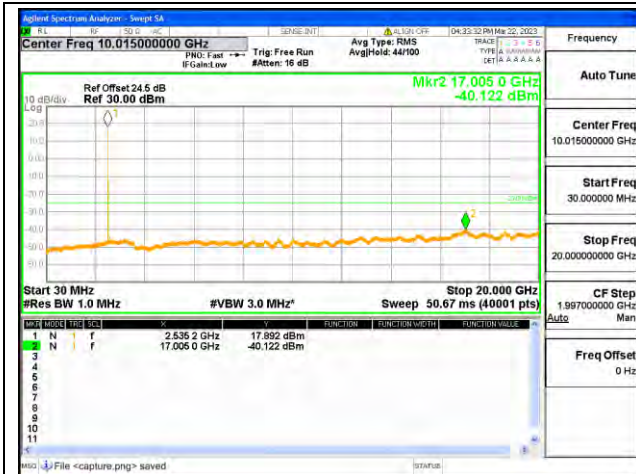


Band41(2535-2655)-30M-20G / 5MHz / High CH / QPSK



Band41(2535-2655)-20G-27G / 5MHz / High CH / QPSK

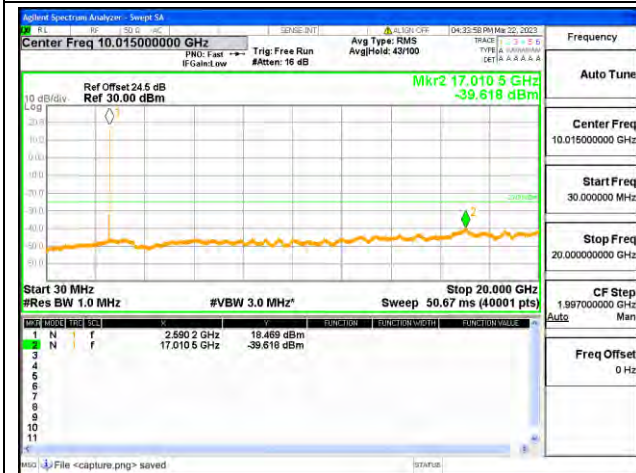




Band41(2535-2655)-30M-20G / 10MHz / Low CH / QPSK



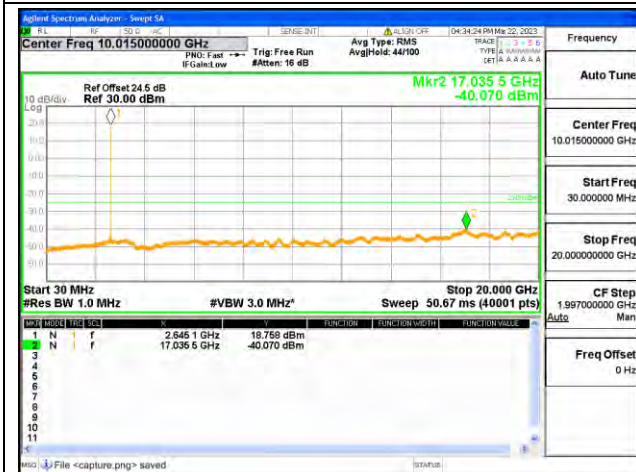
Band41(2535-2655)-20G-27G / 10MHz / Low CH / QPSK



Band41(2535-2655)-30M-20G / 10MHz / Mid CH / QPSK



Band41(2535-2655)-20G-27G / 10MHz / Mid CH / QPSK

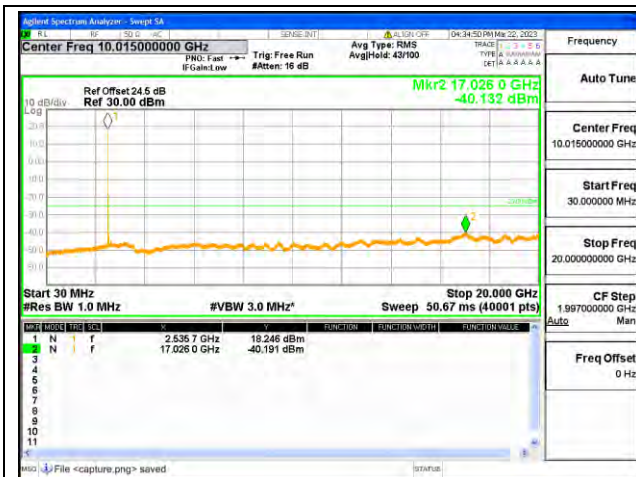


Band41(2535-2655)-30M-20G / 10MHz / High CH / QPSK



Band41(2535-2655)-20G-27G / 10MHz / High CH / QPSK

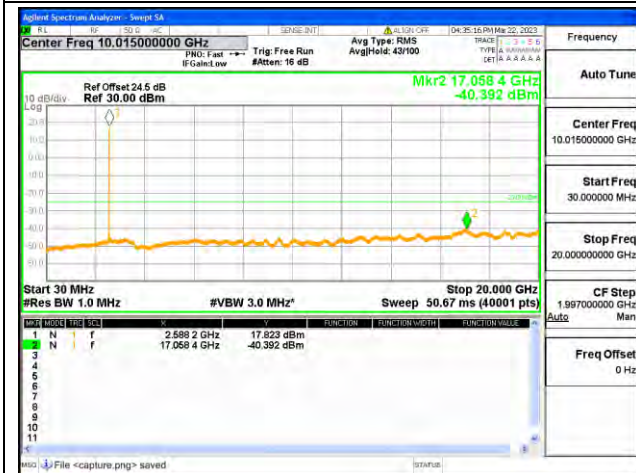




Band41(2535-2655)-30M-20G / 15MHz / Low CH / QPSK



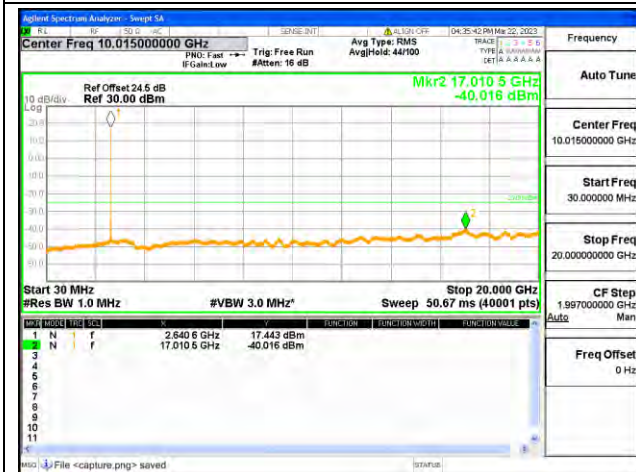
Band41(2535-2655)-20G-27G / 15MHz / Low CH / QPSK



Band41(2535-2655)-30M-20G / 15MHz / Mid CH / QPSK



Band41(2535-2655)-20G-27G / 15MHz / Mid CH / QPSK

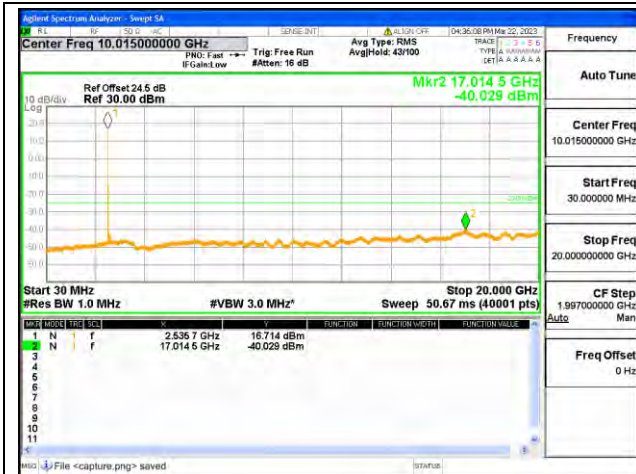


Band41(2535-2655)-30M-20G / 15MHz / High CH / QPSK



Band41(2535-2655)-20G-27G / 15MHz / High CH / QPSK

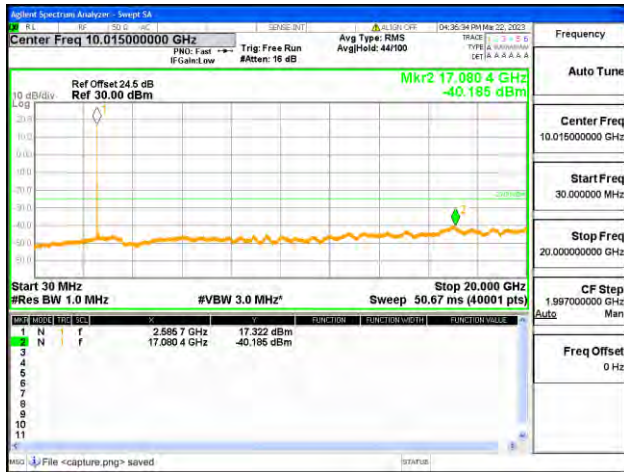




Band41(2535-2655)-30M-20G / 20MHz / Low CH / QPSK



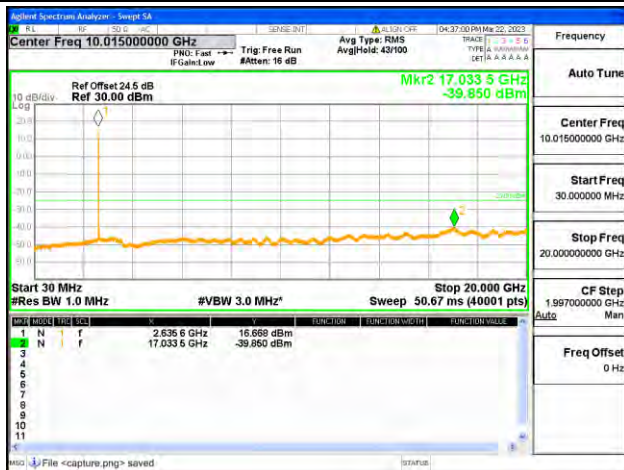
Band41(2535-2655)-20G-27G / 20MHz / Low CH / QPSK



Band41(2535-2655)-30M-20G / 20MHz / Mid CH / QPSK



Band41(2535-2655)-20G-27G / 20MHz / Mid CH / QPSK

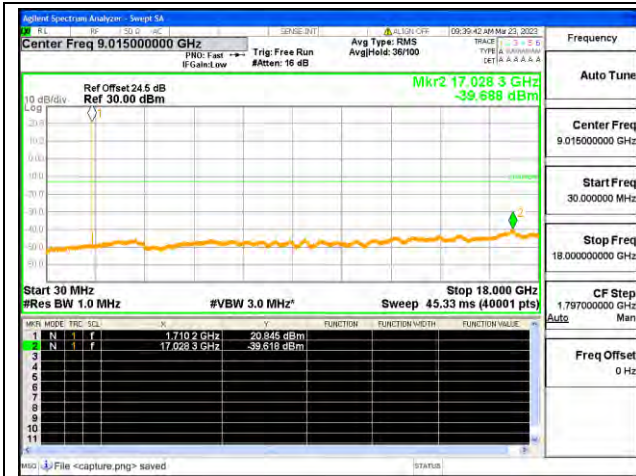


Band41(2535-2655)-30M-20G / 20MHz / High CH / QPSK

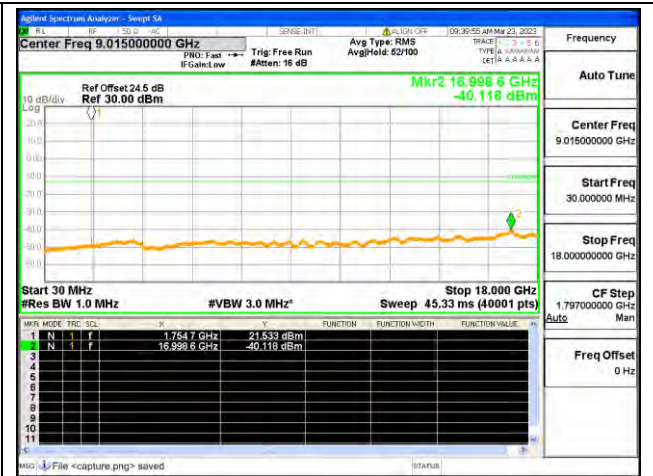


Band41(2535-2655)-20G-27G / 20MHz / High CH / QPSK

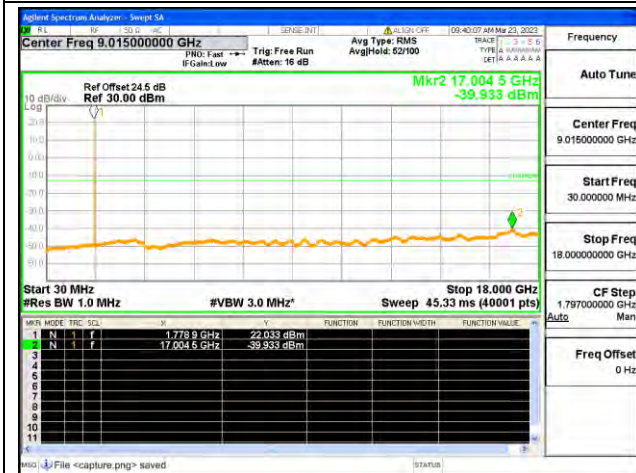




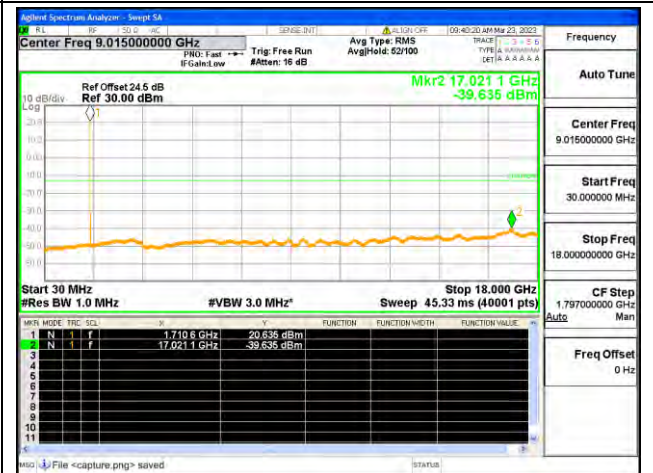
Band66 / 1.4MHz / Low CH / QPSK



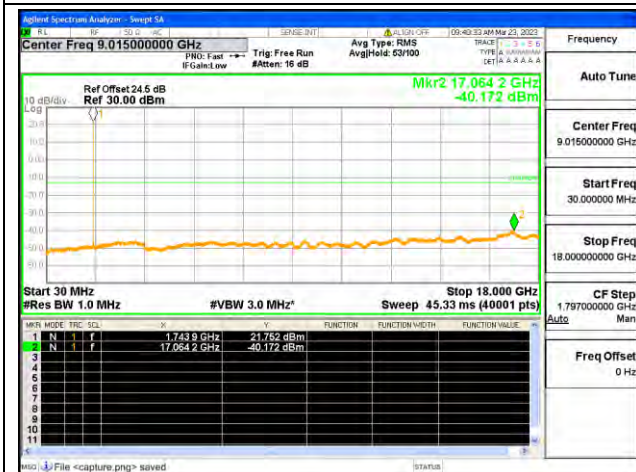
Band66 / 1.4MHz / Mid CH / QPSK



Band66 / 1.4MHz / High CH / QPSK



Band66 / 3MHz / Low CH / QPSK

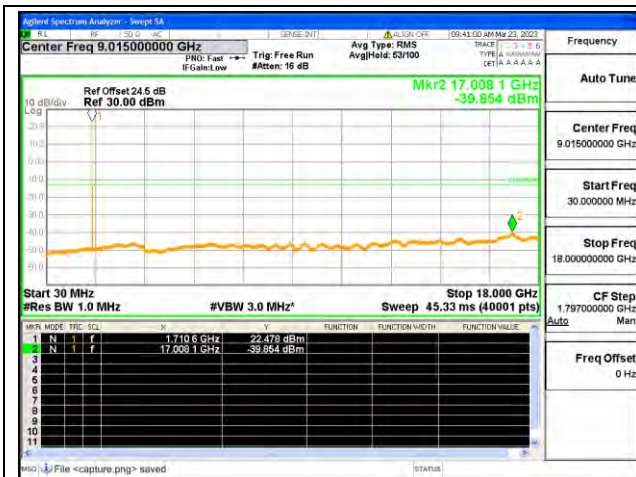


Band66 / 3MHz / Mid CH / QPSK

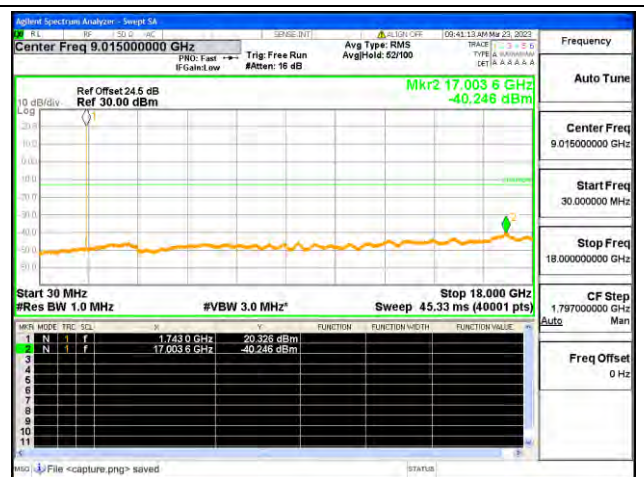


Band66 / 3MHz / High CH / QPSK

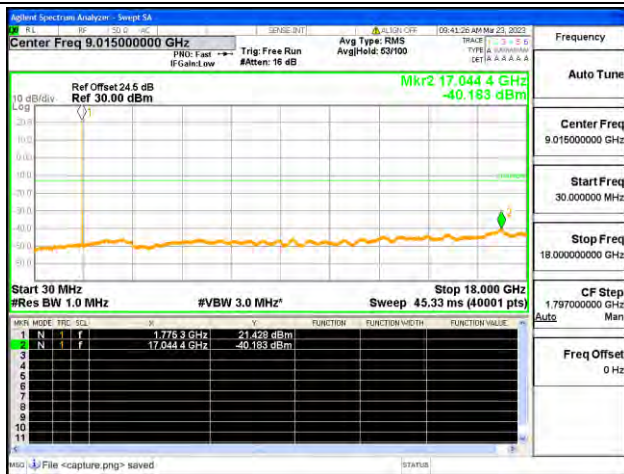




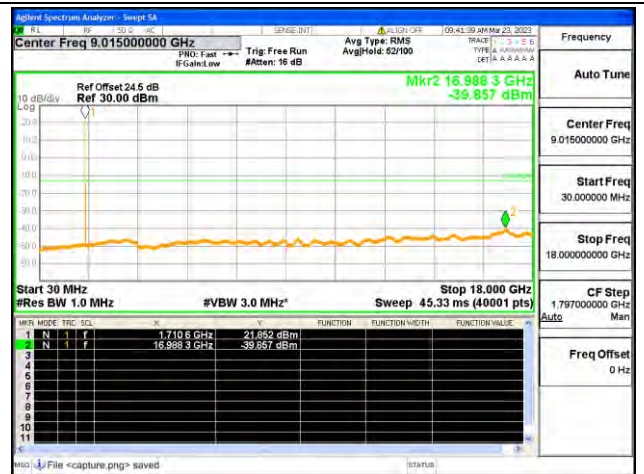
Band66 / 5MHz / Low CH / QPSK



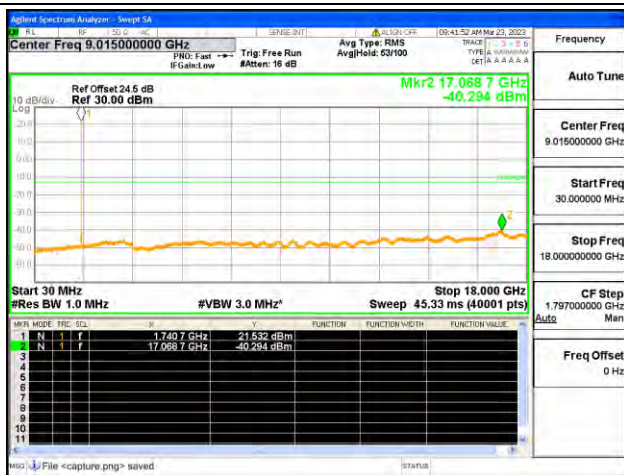
Band66 / 5MHz / Mid CH / QPSK



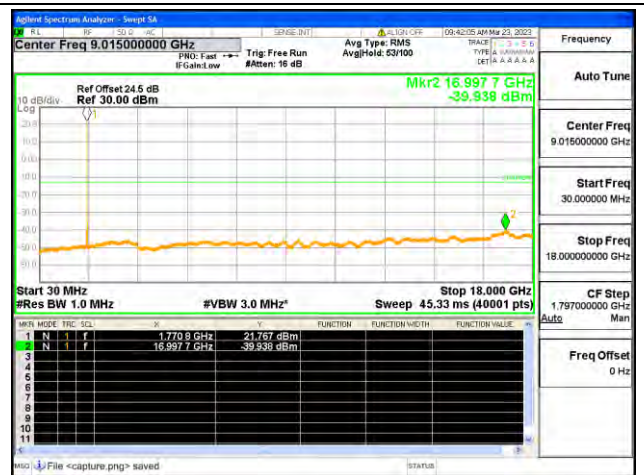
Band66 / 5MHz / High CH / QPSK



Band66 / 10MHz / Low CH / QPSK

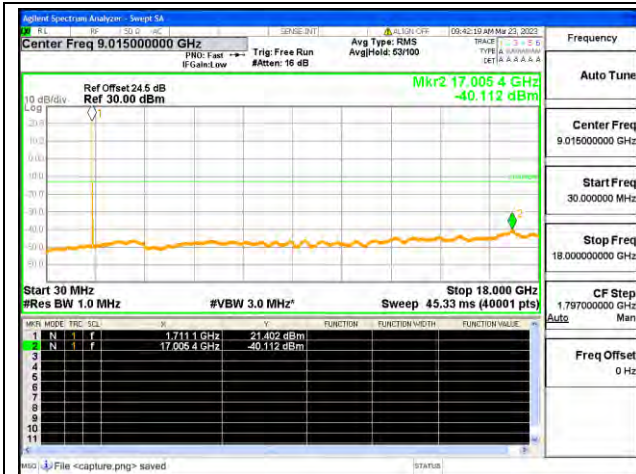


Band66 / 10MHz / Mid CH / QPSK



Band66 / 10MHz / High CH / QPSK

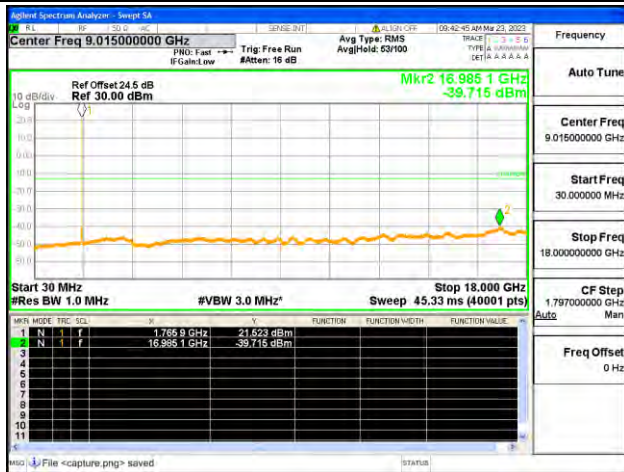




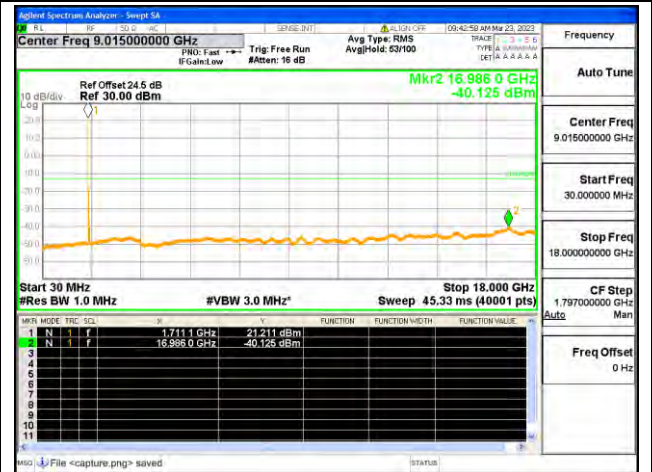
Band66 / 15MHz / Low CH / QPSK



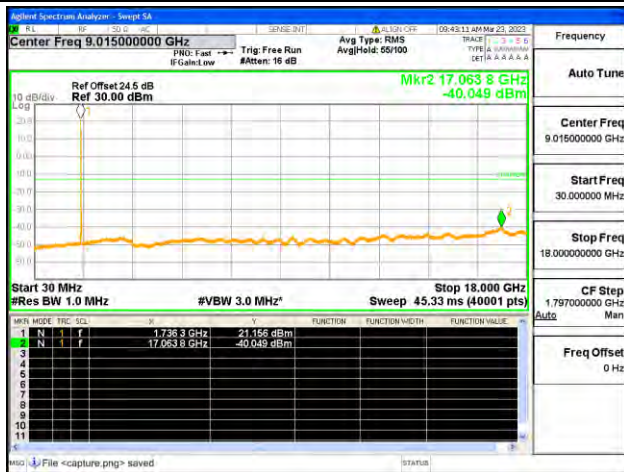
Band66 / 15MHz / Mid CH / QPSK



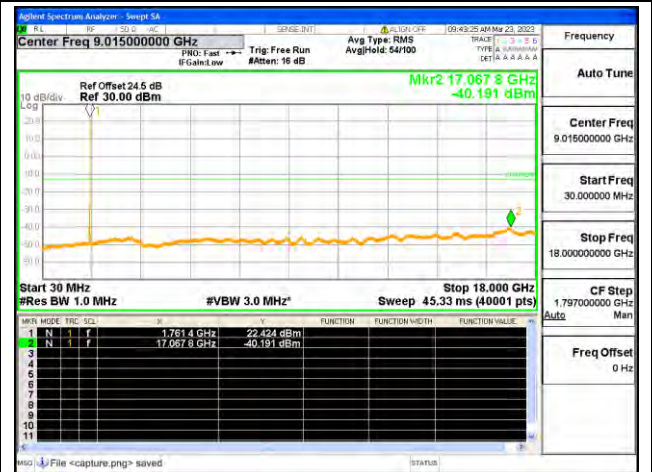
Band66 / 15MHz / High CH / QPSK



Band66 / 20MHz / Low CH / QPSK



Band66 / 20MHz / Mid CH / QPSK



Band66 / 20MHz / High CH / QPSK





## 2.6. Band Edge

### 2.6.1. Requirement

#### Band 2

According to FCC section 24.238(a), for operations in the 1850–1910MHz bands, 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 in a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

#### Band 4, 66

According to FCC section 27.53(h), for operations in the 1710–1755MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log_{10}(P)$  dB a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

#### Band 5

According to FCC section 22.917(a), for operations in the 824–849MHz bands, 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 in a 100kHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

#### Band 7, 38, 41

According to FCC section 27.53(m) (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 that  $43 + 10 \log(P)$  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.

### Band 13

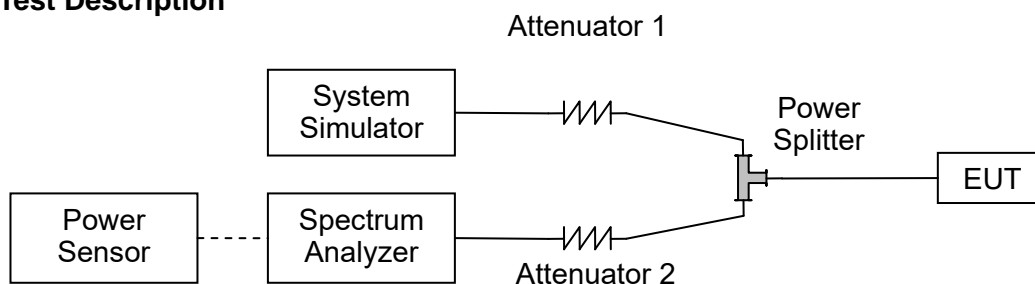
According to FCC section 27.53(c)(2), any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB in a 100kHz bandwidth. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed.

### Band 40

According to FCC section 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.

### 2.6.2. Test Description



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.