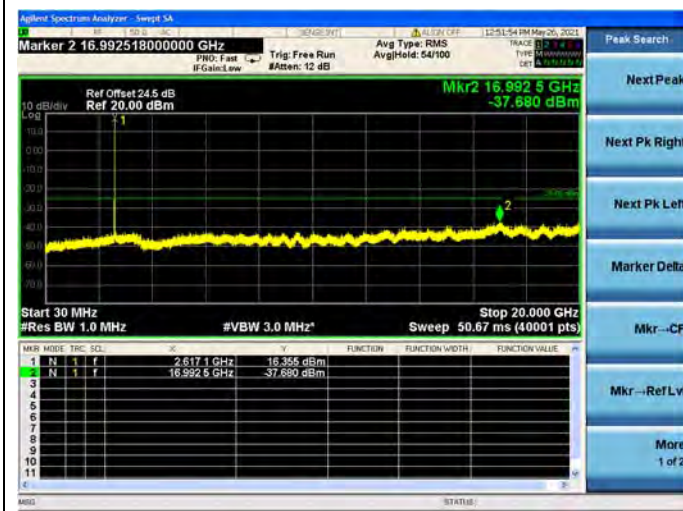
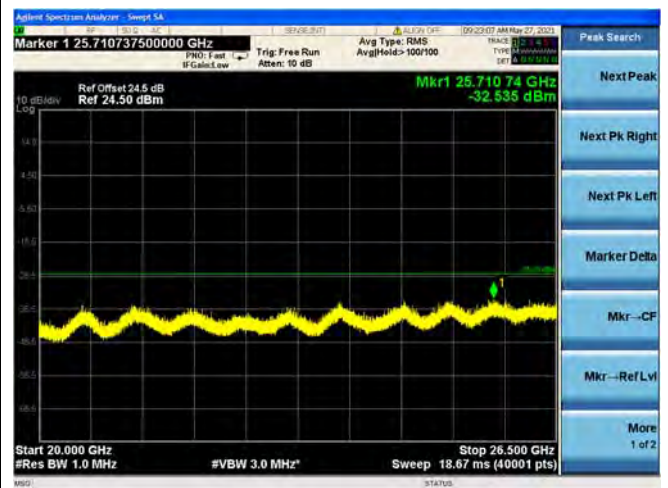
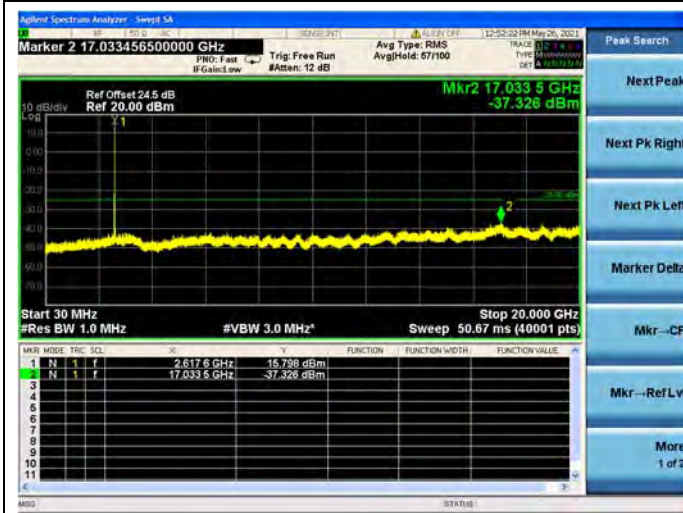




Band 38 / 5MHz / High CH / QPSK

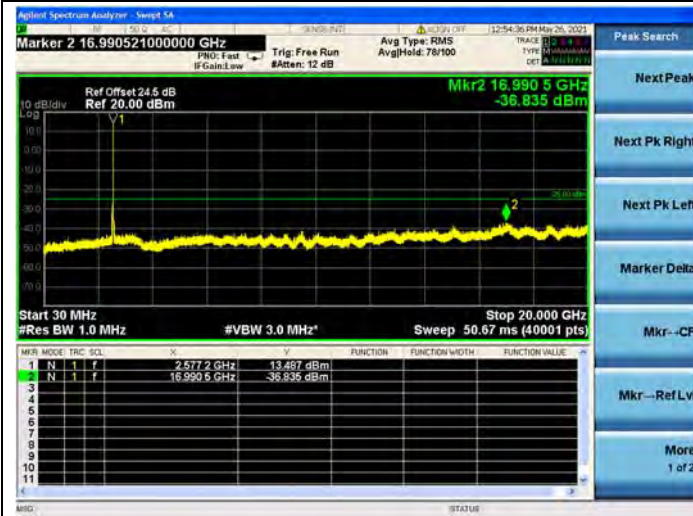


Band 38 / 5MHz / High CH / 16QAM

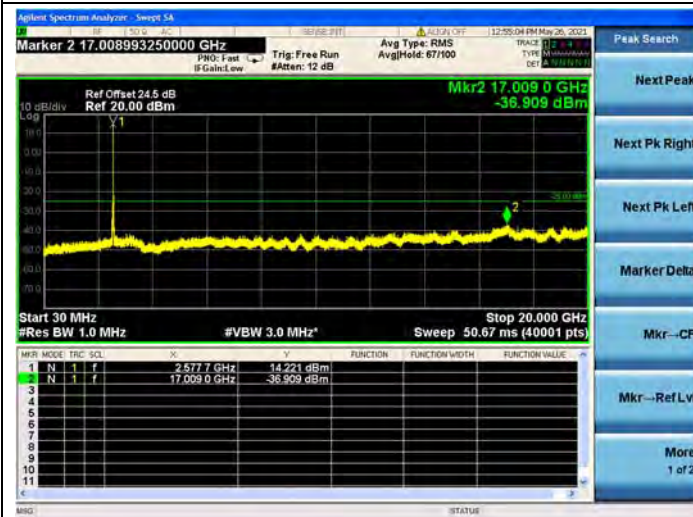




Band 38 / 10MHz / Low CH / QPSK

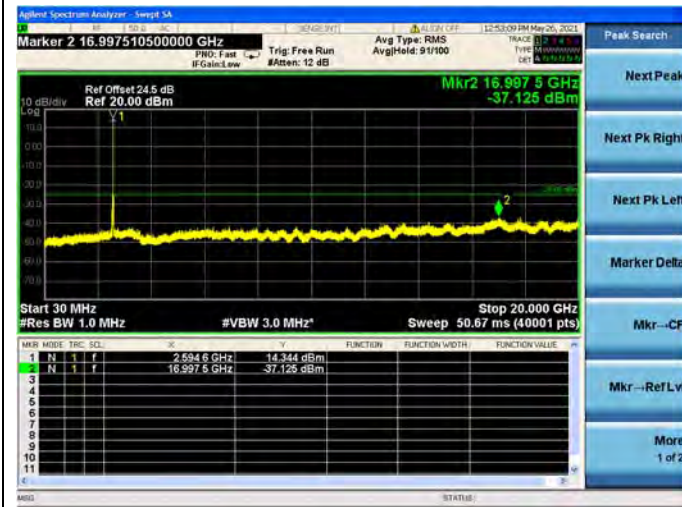


Band 38 / 10MHz / Low CH / 16QAM

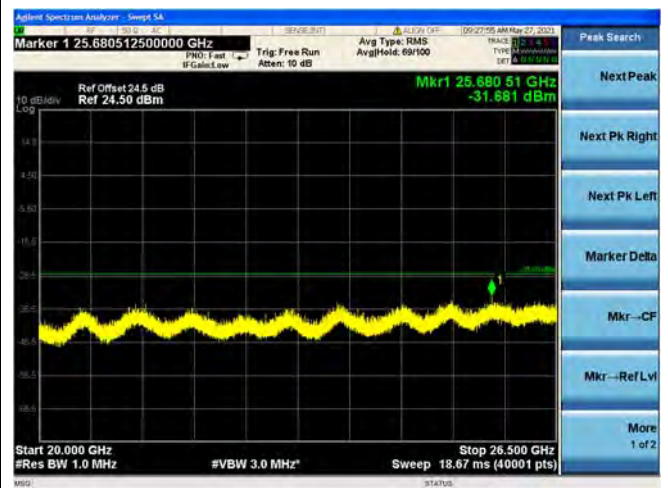
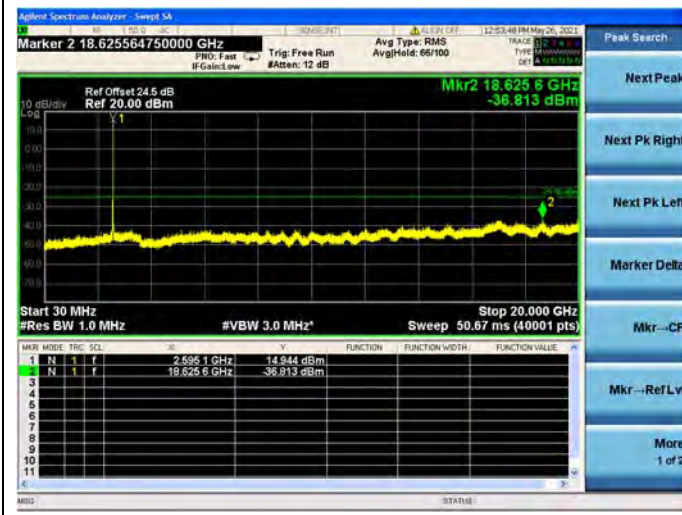




Band 38 / 10MHz / Mid CH / QPSK

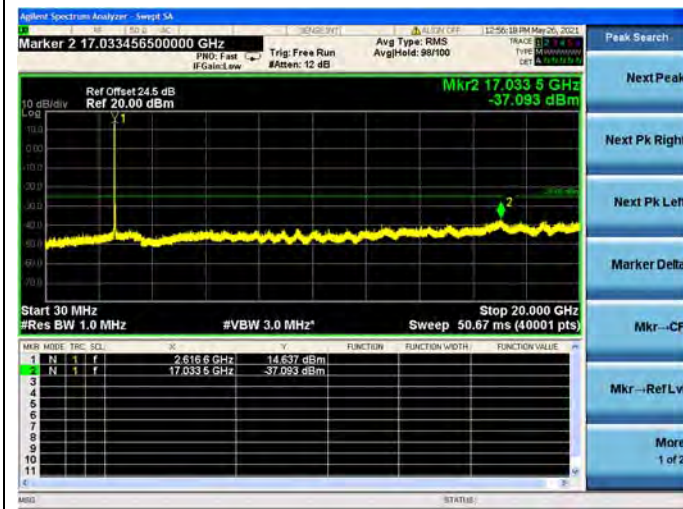


Band 38 / 10MHz / Mid CH / 16QAM

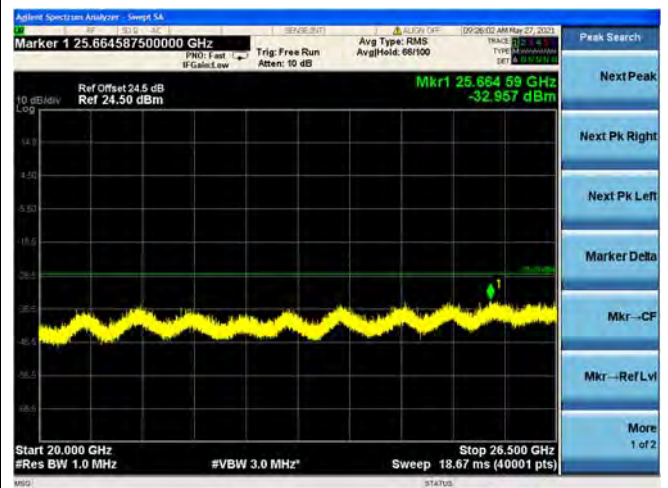
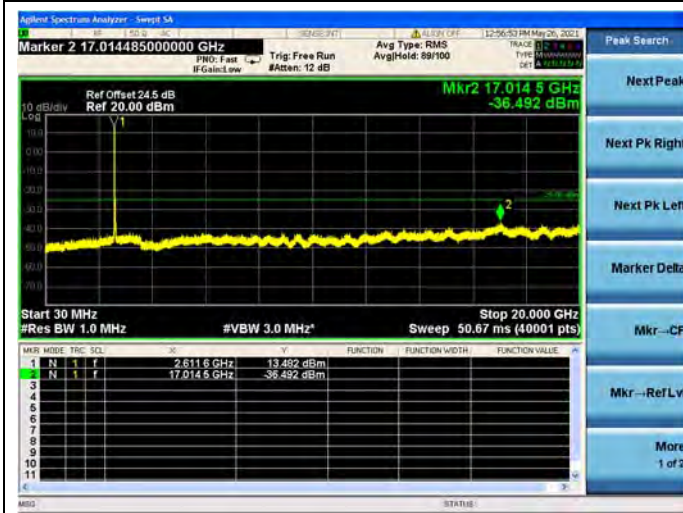




Band 38 / 10MHz / High CH / QPSK

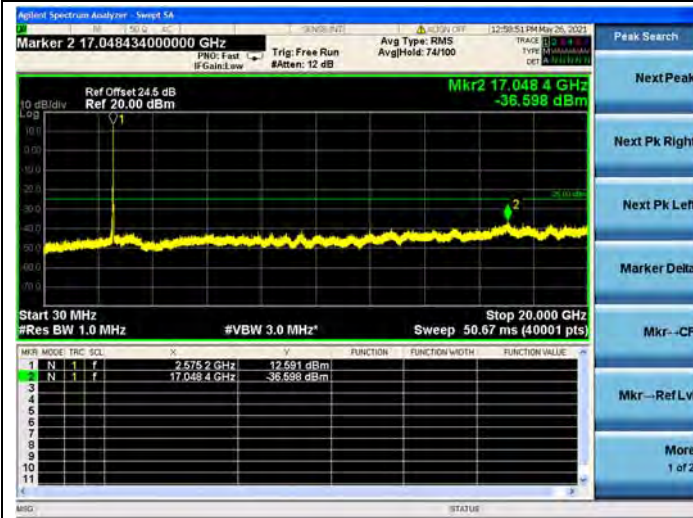


Band 38 / 10MHz / High CH / 16QAM

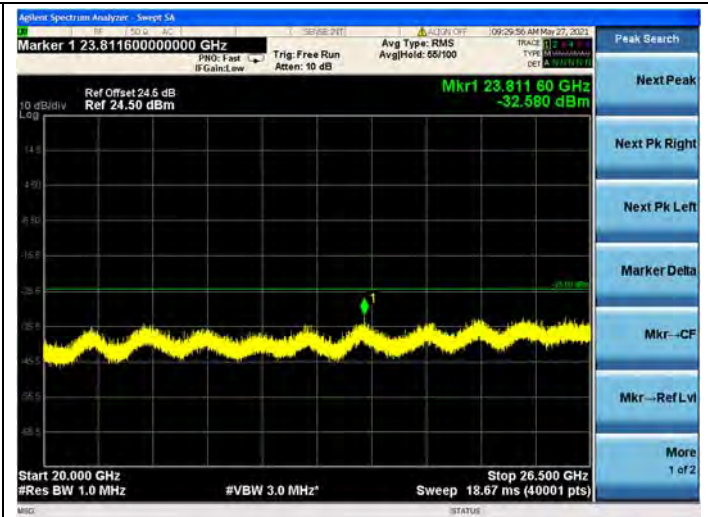
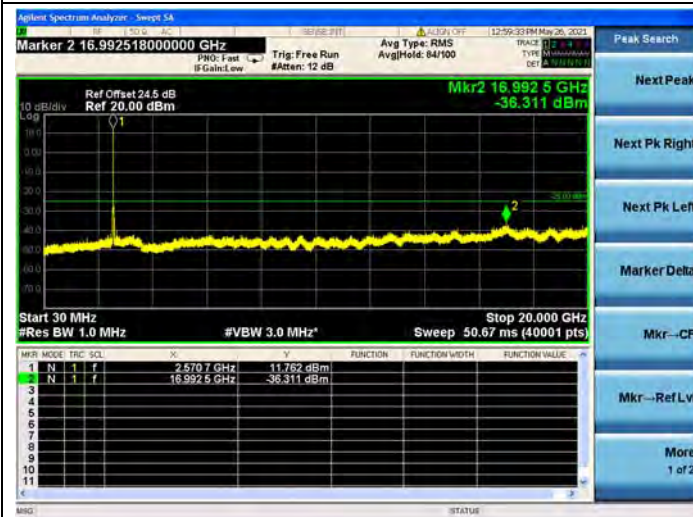




Band 38 / 15MHz / Low CH / QPSK

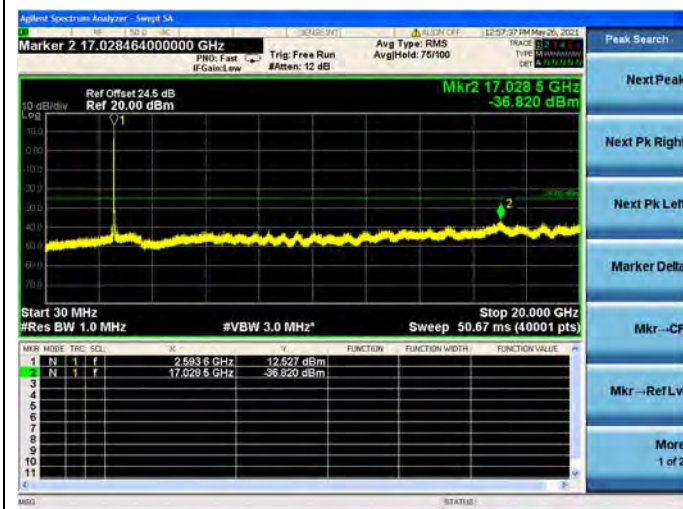


Band 38 / 15MHz / Low CH / 16QAM

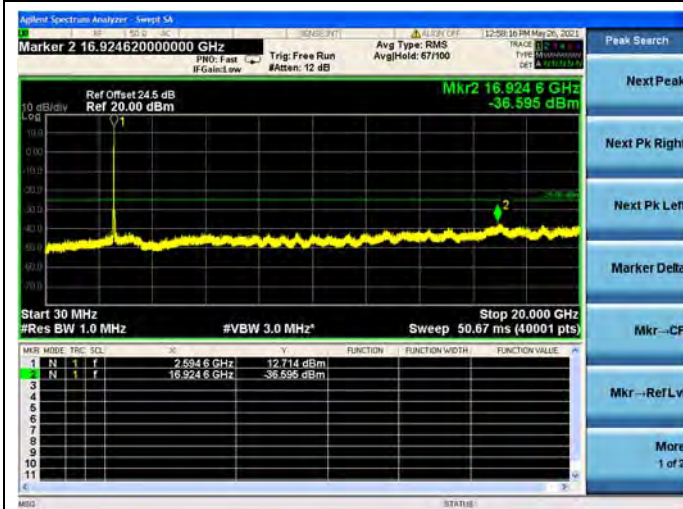




Band 38 / 15MHz / Mid CH / QPSK

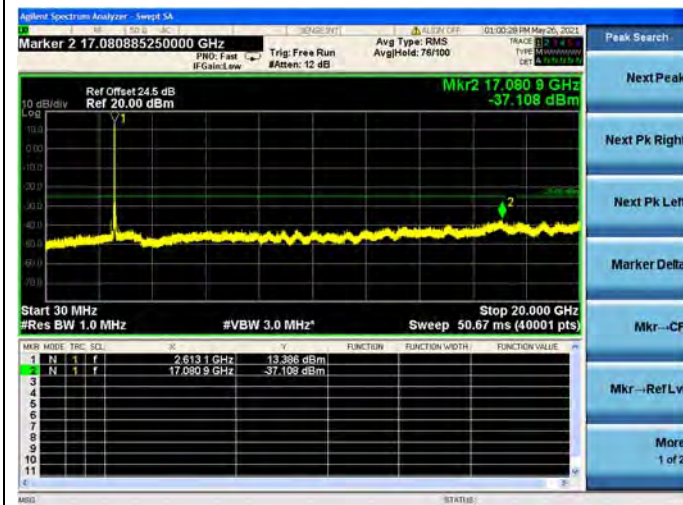


Band 38 / 15MHz / Mid CH / 16QAM

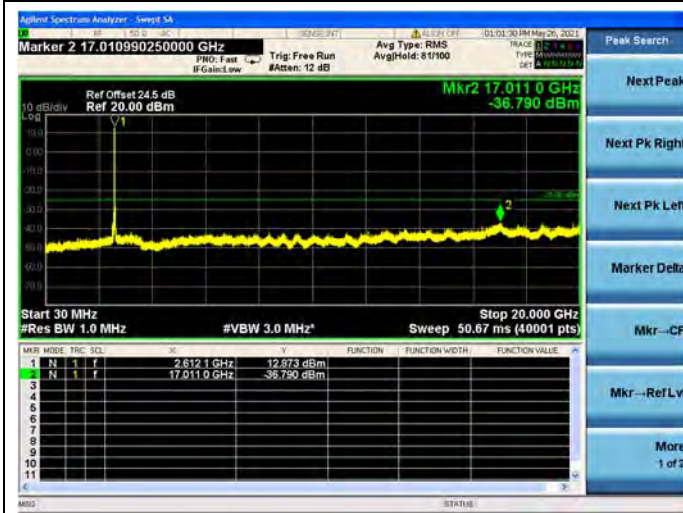




Band 38 / 15MHz / High CH / QPSK

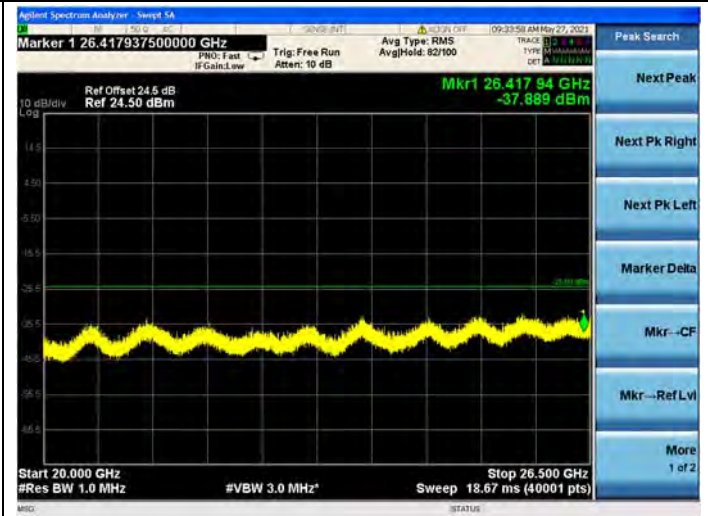
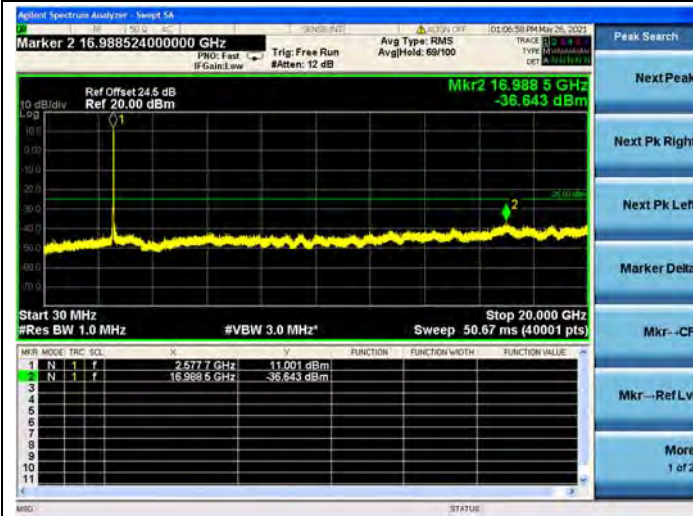


Band 38 / 15MHz / High CH / 16QAM

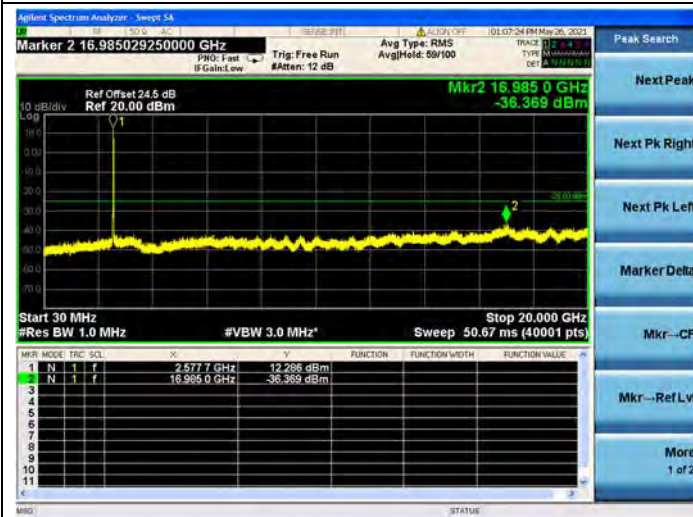




Band 38 / 20MHz / Low CH / QPSK



Band 38 / 20MHz / Low CH / 16QAM



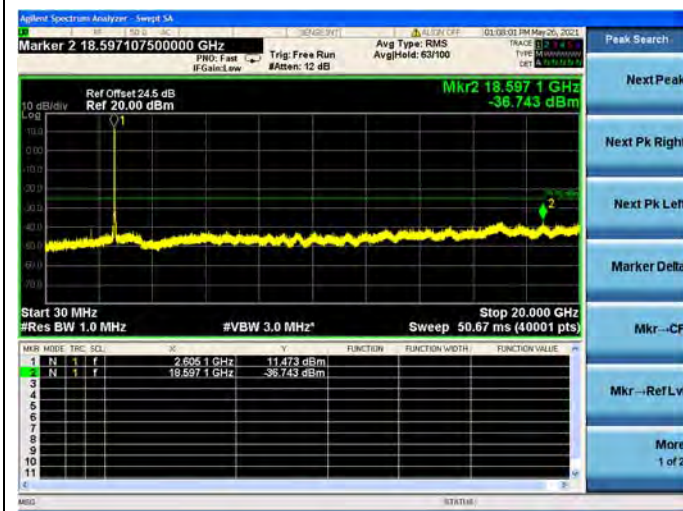


The screenshot displays a Spectrum Analyzer interface. At the top, the title bar reads "Active Spectrum Analyzer - Sweep 5A". Below this, the main display area shows a frequency spectrum with a yellow trace representing the signal. A green horizontal line indicates the reference level at 24.5 dBm. A peak marker is visible at 25.16380 GHz, labeled "Mkr1 25.163 80 GHz -32.085 dBm". The y-axis is labeled "10 dB/div" and ranges from -20 to 10 dBm. The x-axis is labeled "Start 20.000 GHz" and "Stop 26.500 GHz". The bottom status bar shows "#VBW 3.0 MHz*", "Sweep 18.67 ms (40001 pts)", and "Mkr--C". On the right side, there is a vertical menu with options: "Peak Search", "Next Peak", "Next Pk Right", "Next Pk Left", "Marker Delete", "Mkr--C", "Mkr--Ref L", and "More".

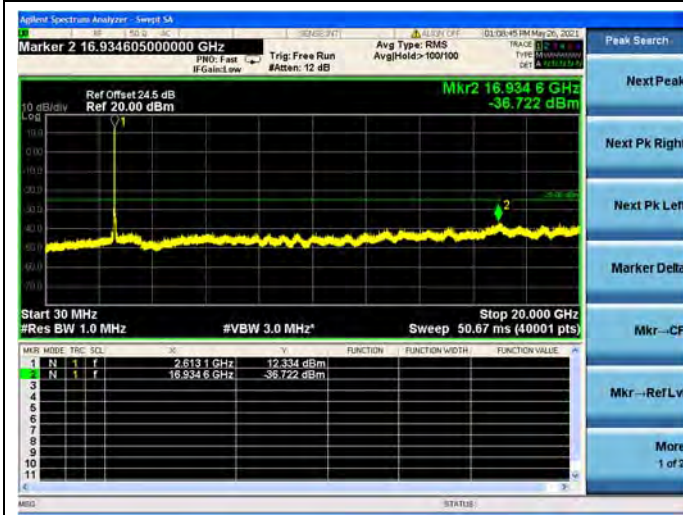
The screenshot displays a Spectrum Analyzer interface. At the top, the title bar reads "Fullnet Spectrum Analyzer - Sweep4 SA". Below this, a status bar shows "Marker 1 25.195125000000 GHz", "Avg Type: RMS", "Avg/Hold: 87/100", and "Peak Search". The main display area shows a yellow trace of a noisy signal. A green horizontal line indicates the reference level at "Ref Offset 24.5 dB" and "Ref 24.50 dBm". A green marker labeled "Mkr1" is positioned at "25.195 13 GHz" and "-32.400 dBm". The y-axis is labeled "10 dB/div" and "0 dB". The x-axis is labeled "Start 20.000 GHz", "#Res BW 1.0 MHz", "#VBW 3.0 MHz", "Stop 26.500 GHz", and "Sweep 18.67 ms (40001 pts)". On the right side, there is a vertical menu with options: "Peak Search", "Next Peak", "Next Pk Right", "Next Pk Left", "Marker Delete", "Mkr--C", "Mkr--Ref L", and "More".



Band 38 / 20MHz / High CH / QPSK

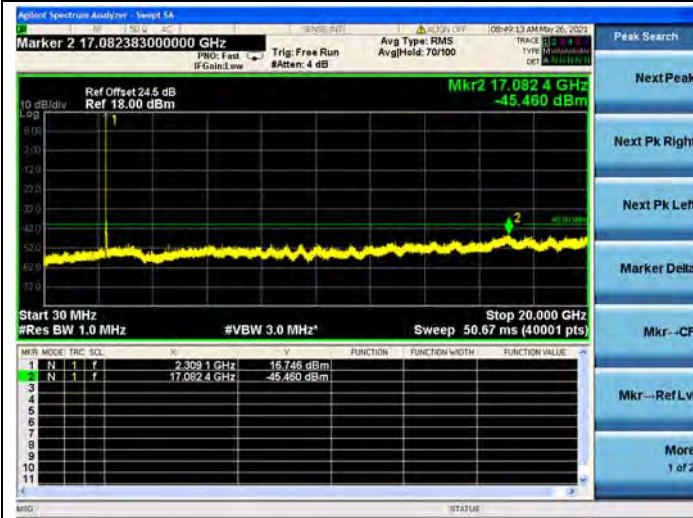


Band 38 / 20MHz / High CH / 16QAM

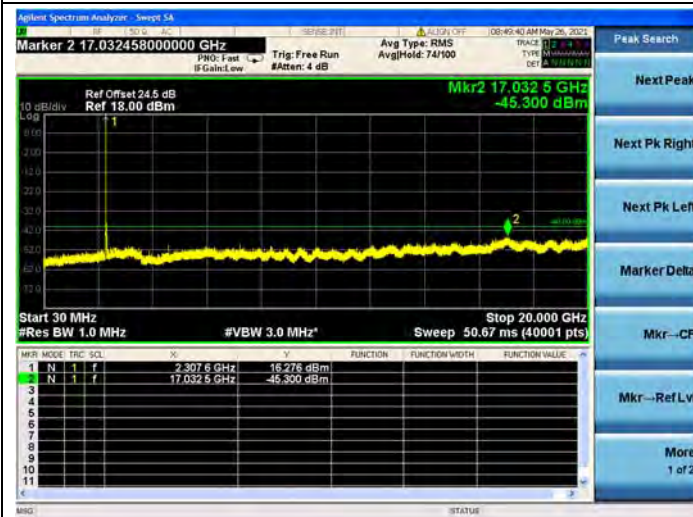




Band 40 / Block A / 5MHz / Low CH / QPSK

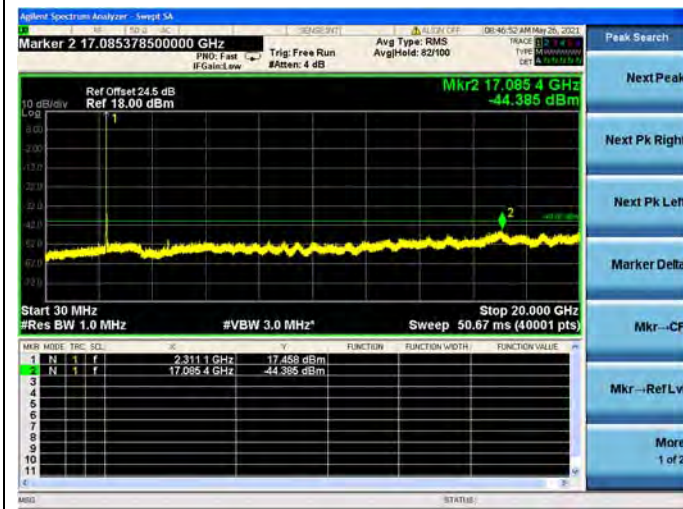


Band 40 / Block A / 5MHz / Low CH / 16QAM

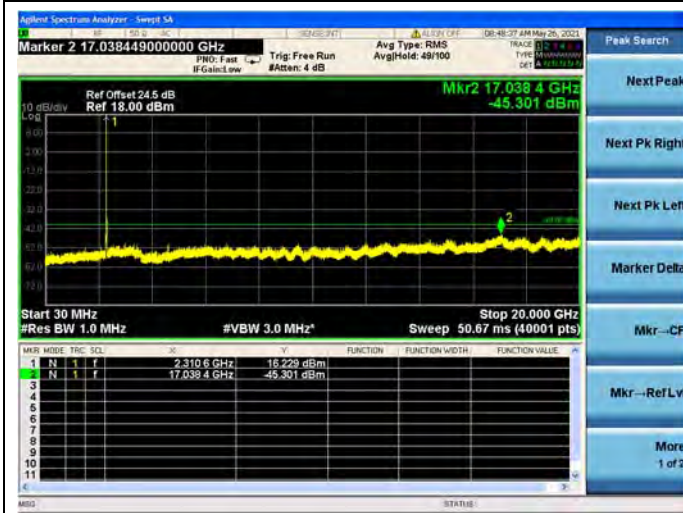




Band 40 / Block A / 5MHz / Mid CH / QPSK

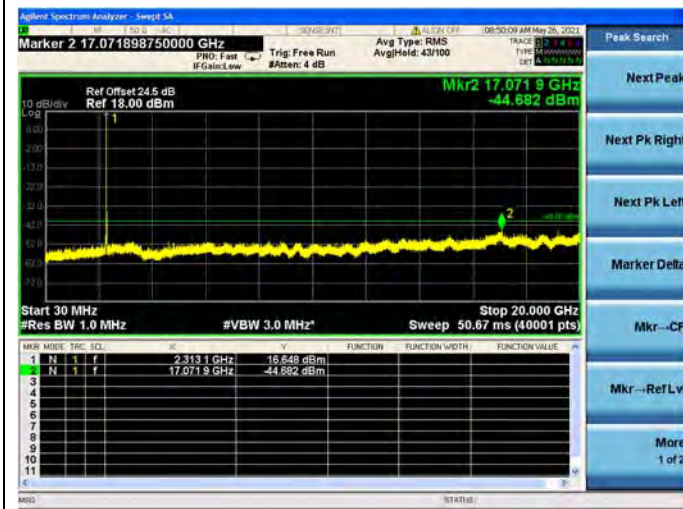


Band 40 / Block A / 5MHz / Mid CH / 16QAM

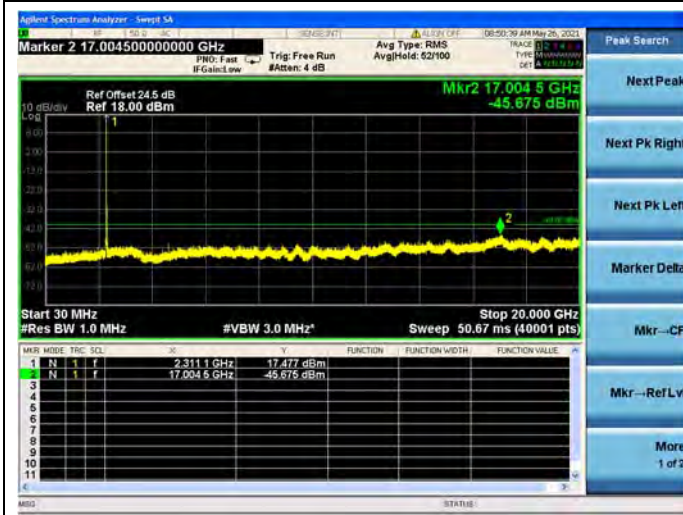




Band 40 / Block A / 5MHz / High CH / QPSK

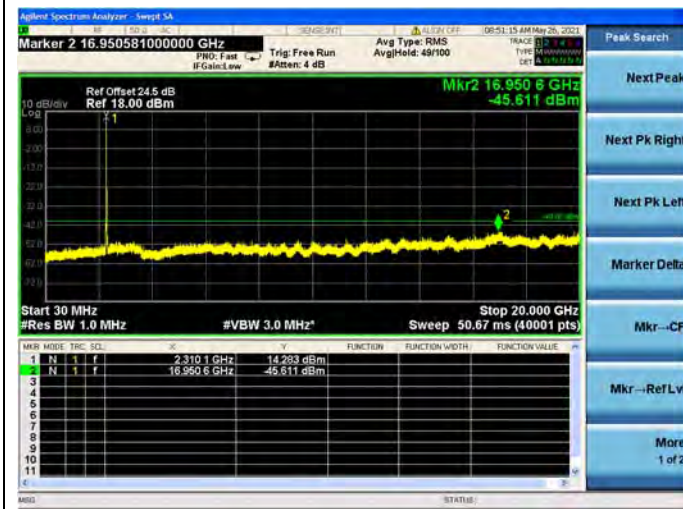


Band 40 / Block A / 5MHz / High CH / 16QAM

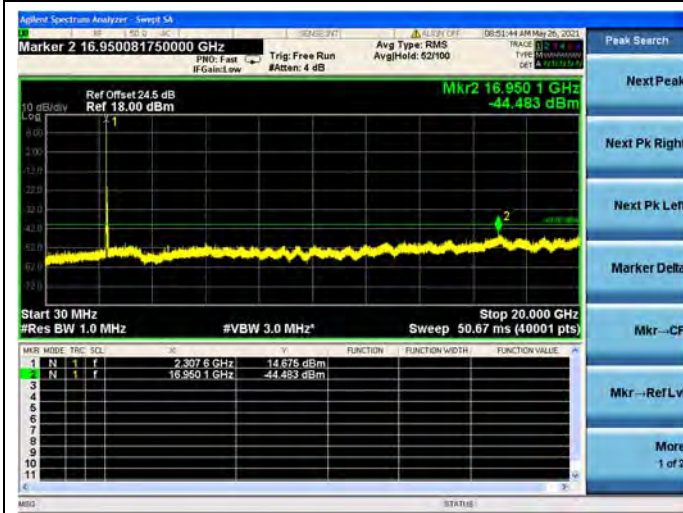




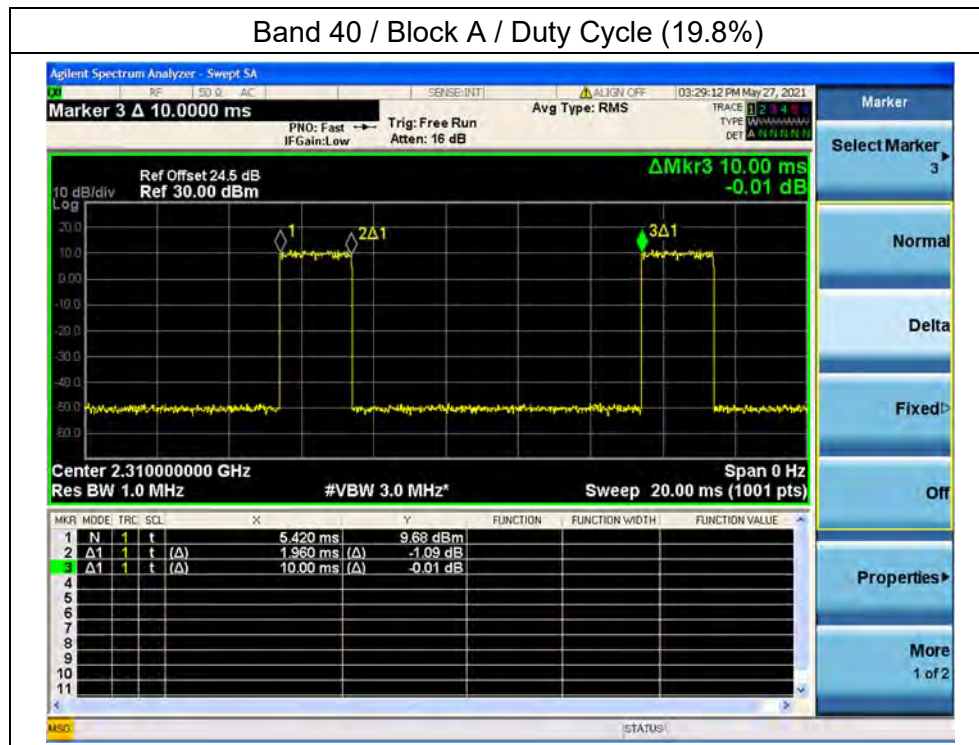
Band 40 / Block A / 10MHz / Mid CH / QPSK



Band 40 / Block A / 10MHz / Mid CH / 16QAM

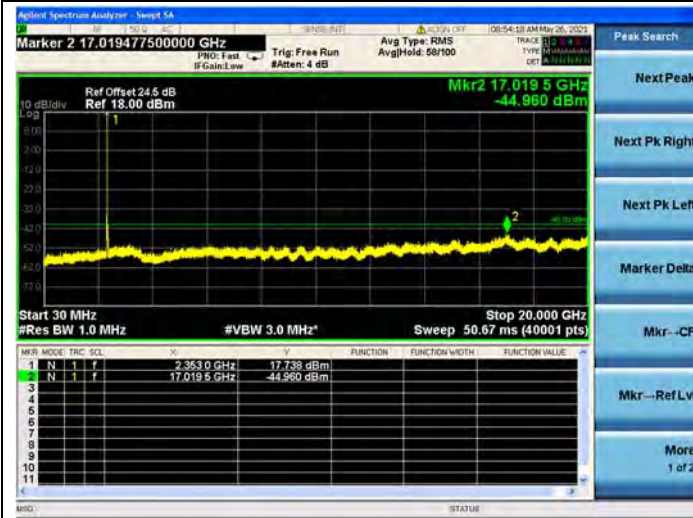


Band 40 / Block A / Duty Cycle (19.8%)

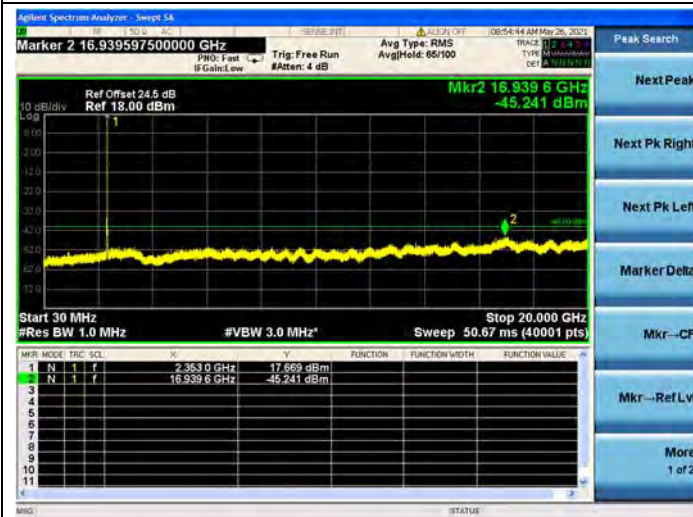




Band 40 / Block B / 5MHz / Low CH / QPSK

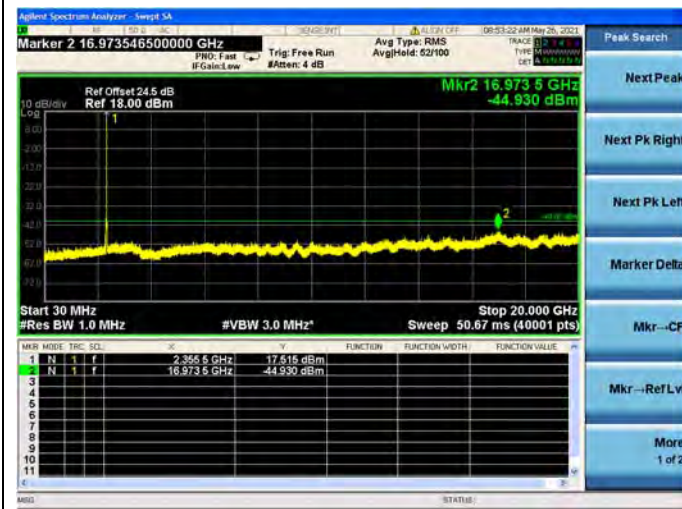


Band 40 / Block B / 5MHz / Low CH / 16QAM

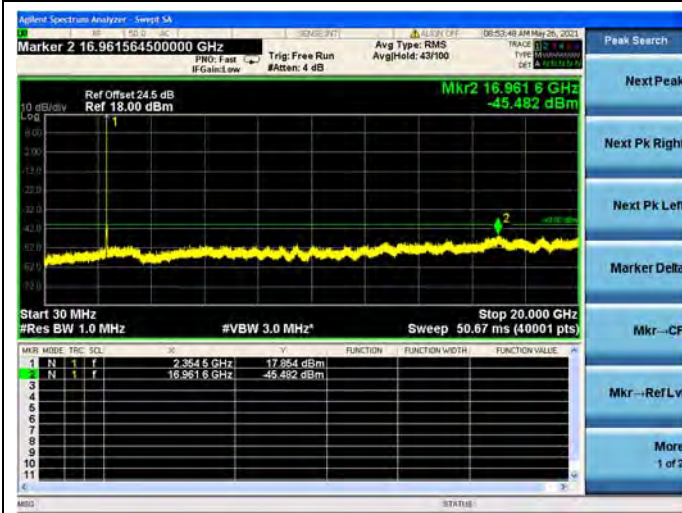




Band 40 / Block B / 5MHz / Mid CH / QPSK

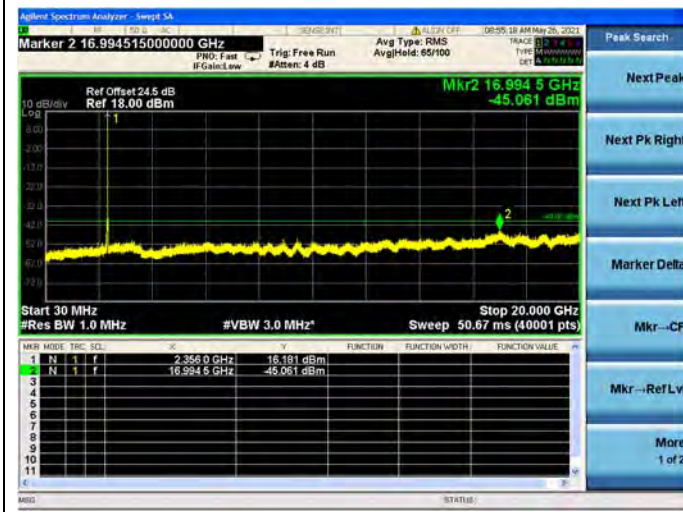


Band 40 / Block B / 5MHz / Mid CH / 16QAM

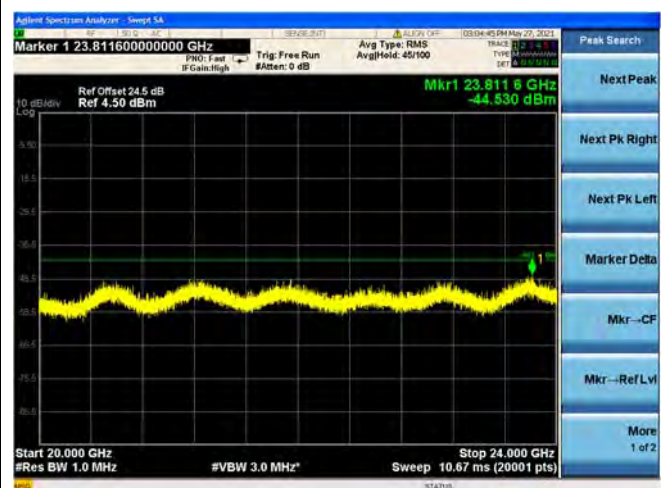
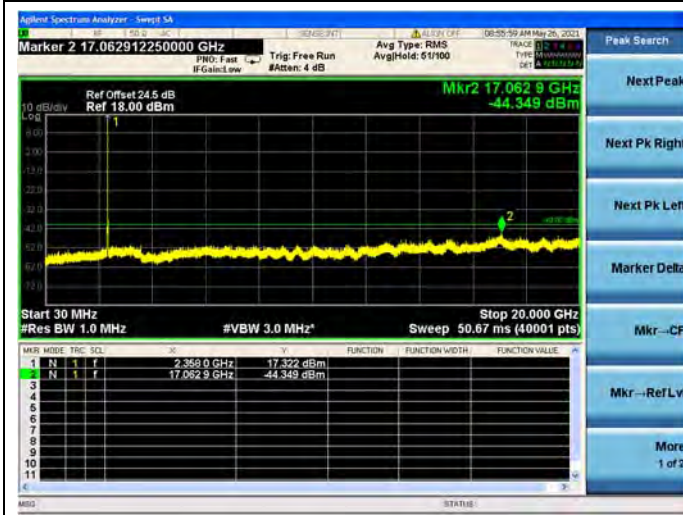




Band 40 / Block B / 5MHz / High CH / QPSK

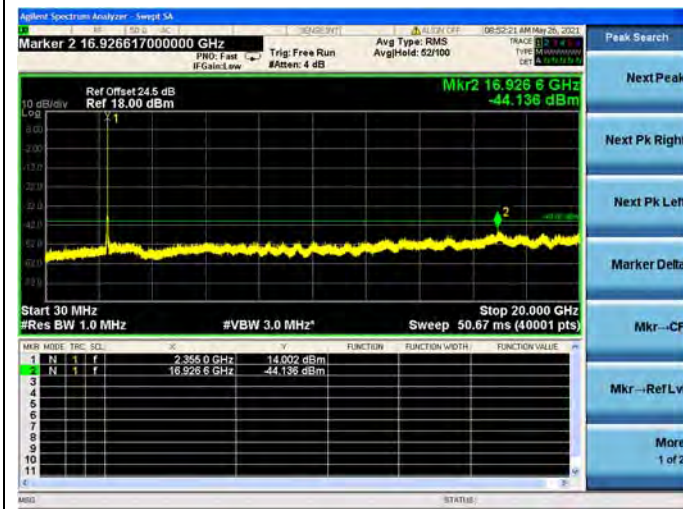


Band 40 / Block B / 5MHz / High CH / 16QAM

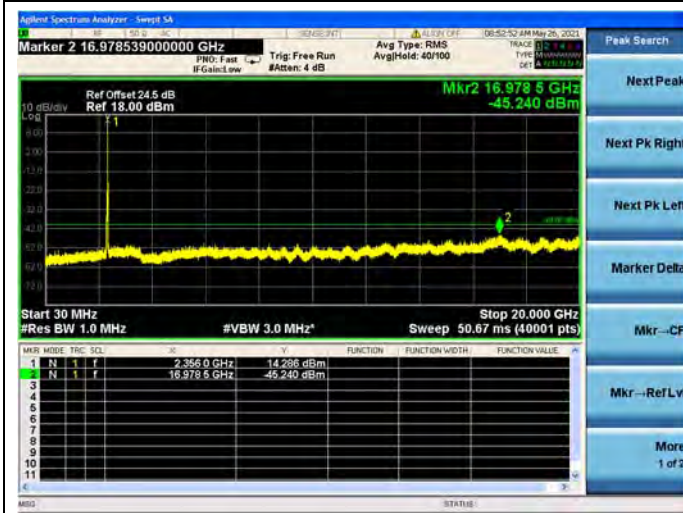




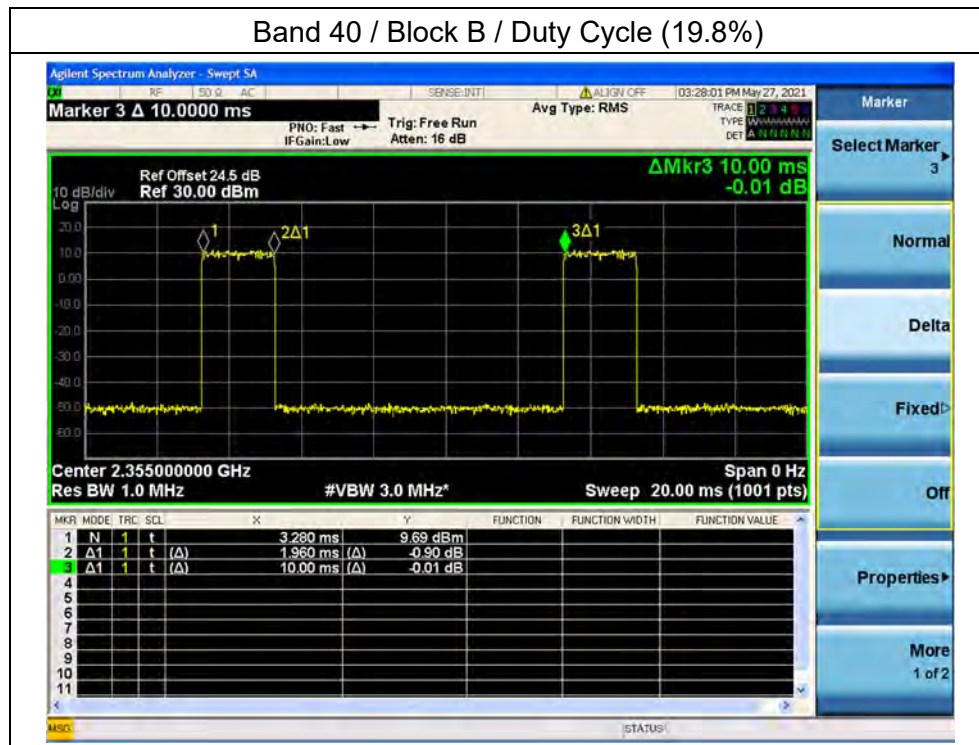
Band 40 / Block B / 10MHz / Mid CH / QPSK



Band 40 / Block B / 10MHz / Mid CH / 16QAM

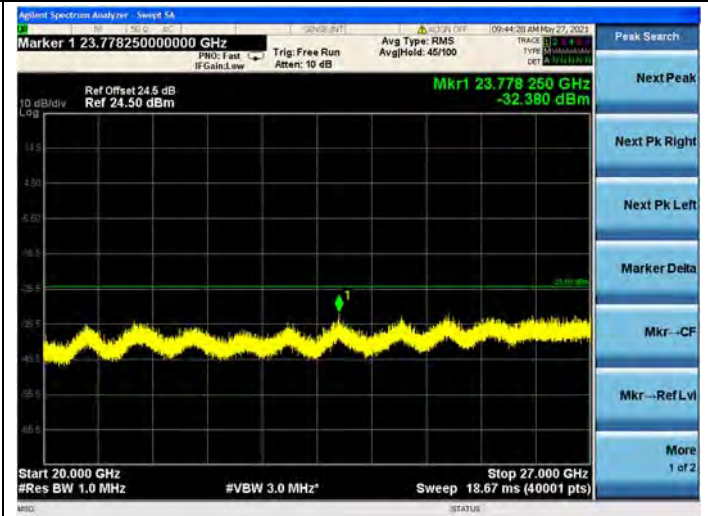
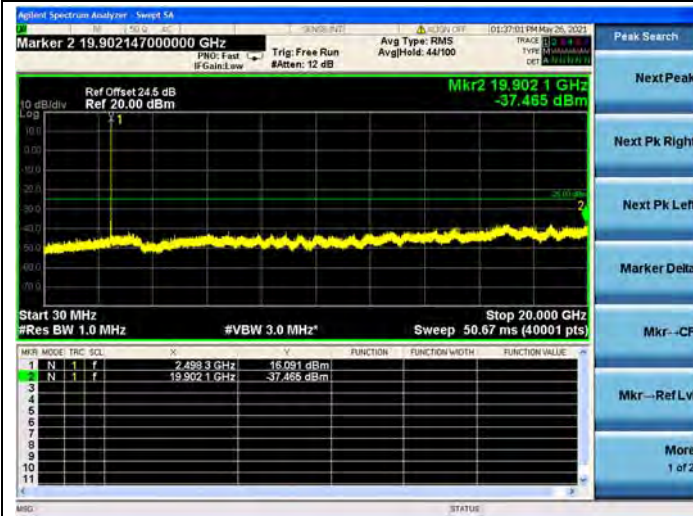


Band 40 / Block B / Duty Cycle (19.8%)

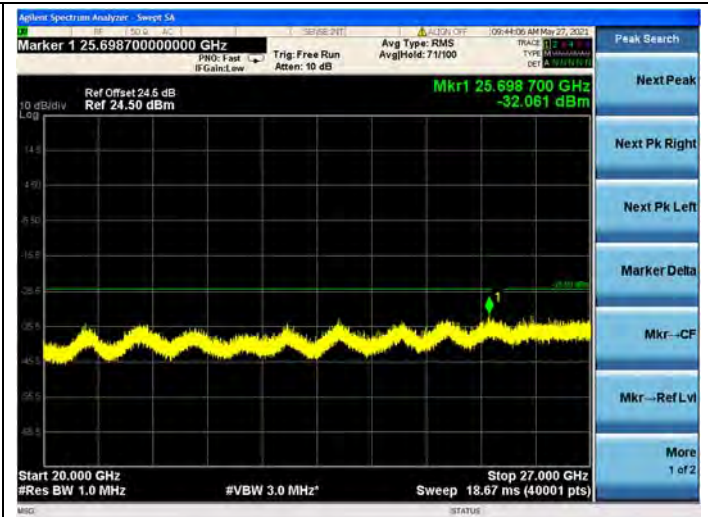
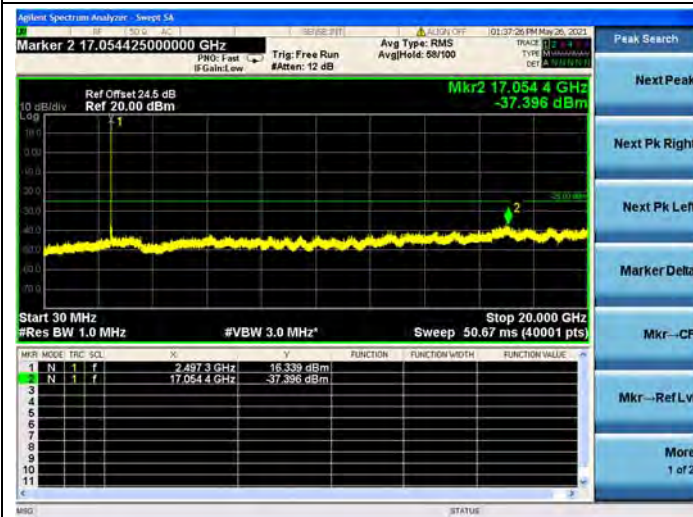




Band 41 / 5MHz / Low CH / QPSK

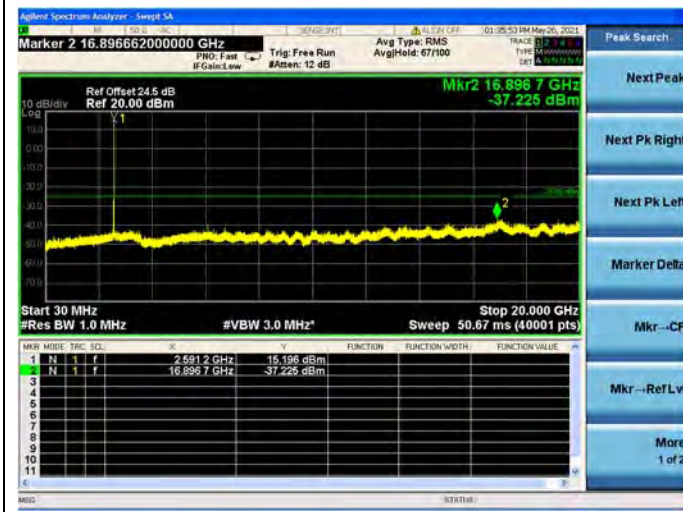


Band 41 / 5MHz / Low CH / 16QAM

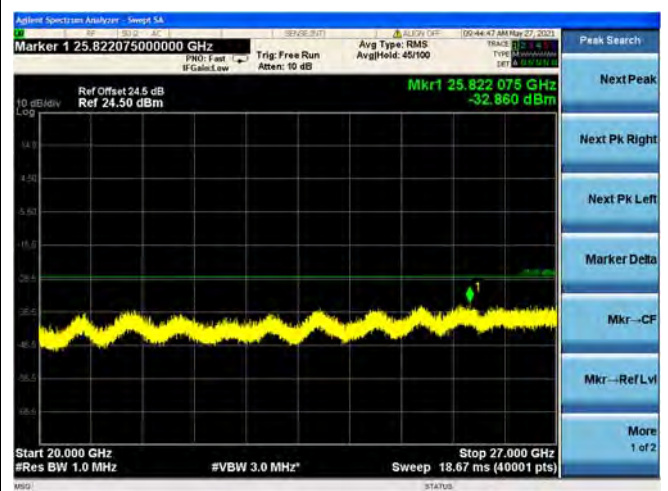
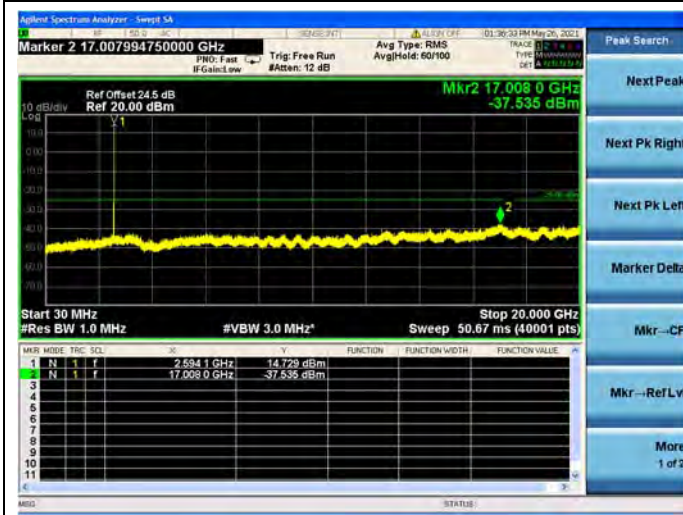




Band 41 / 5MHz / Mid CH / QPSK



Band 41 / 5MHz / Mid CH / 16QAM





Agilent Spectrum Analyzer - Sweep 5A

Marker 1 25.191900000000 GHz

Ref Offset 24.5 dB
Ref 24.50 dBm

10 dBmV
L-cg

Mkr1 25.191 900 GHz
-32.508 dBm

Start 20.006 GHz
#RBW 3.0 MHz

Stop 27.000 GHz
Sweep 18.67 ms (40001 pts)

Peak Search

Next Peak

Next Pk Right

Next Pk Left

Marker Del

Mkr--C

Mkr--Ref/L

More

1 of

Fullnet Spectrum Analyzer - Sweep 4.5A

Marker 1 26.979350000000 GHz

Ref Offset 24.5 dB
Ref 24.50 dBm

Mark1 26.979 350 GHz
-32.411 dBm

Start 26.000 GHz
#Res BW 1.0 MHz

#VBW 3.0 MHz*

Stop 27.000 GHz
Sweep 18.67 ms (40001 pts)

Peak Search

Next Peak

Next Pk Right

Next Pk Left

Marker Data

Mrk1--C

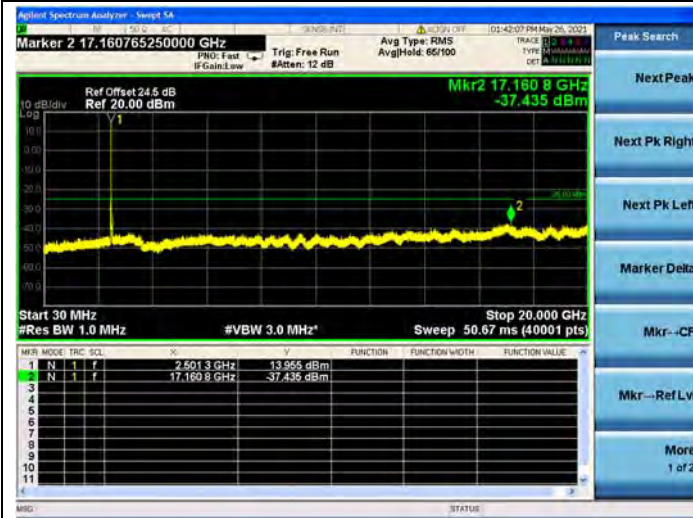
Mrk1--Ref L

More

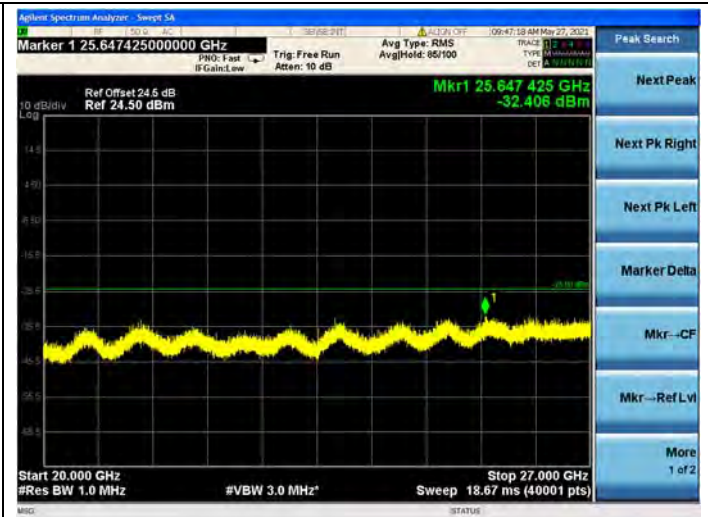
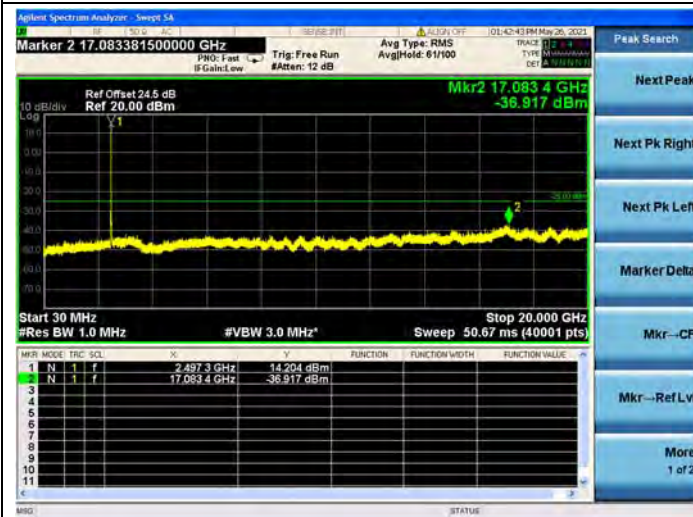
1 of 1



Band 41 / 10MHz / Low CH / QPSK

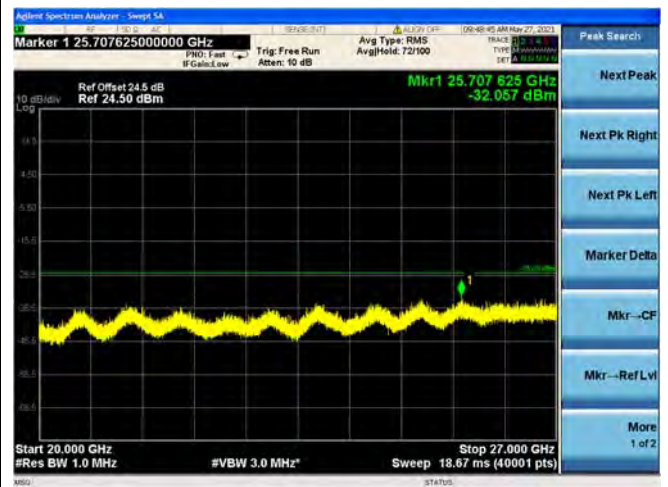
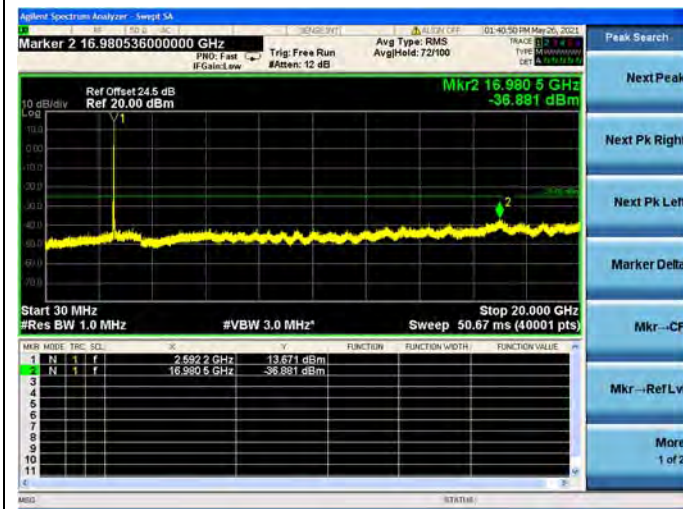


Band 41 / 10MHz / Low CH / 16QAM

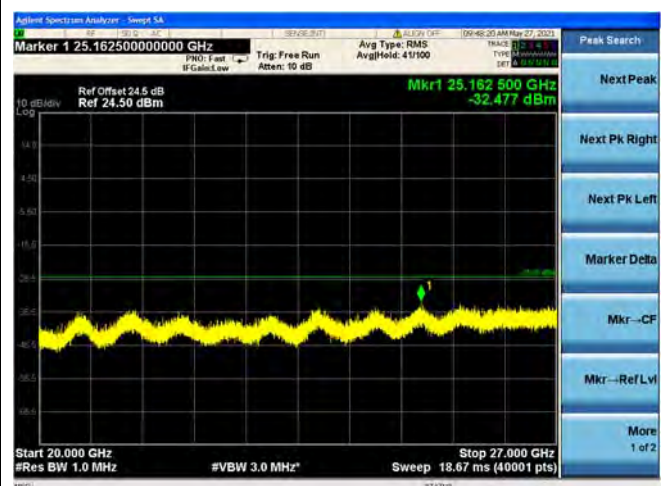
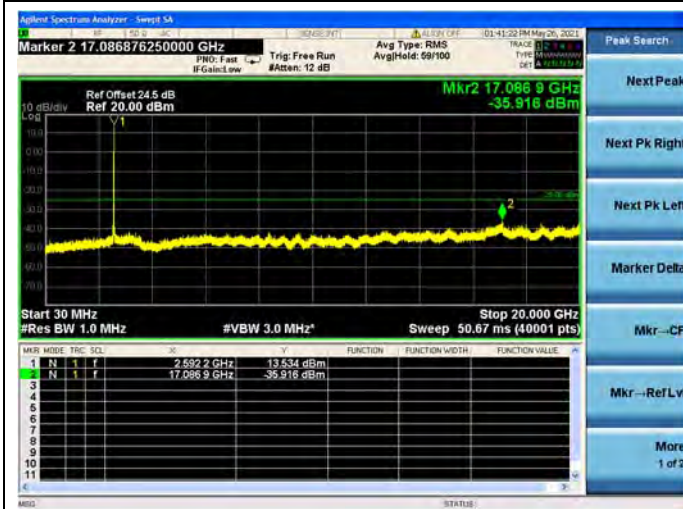




Band 41 / 10MHz / Mid CH / QPSK



Band 41 / 10MHz / Mid CH / 16QAM





Agilent Spectrum Analyzer - Sweep 54

Marker 1 26.968500000000 GHz

Ref Offset 24.5 dB
Ref 24.50 dBm

Avg Type: RMS
Avg/Hold: 66/100

Trace 1 26.9685 GHz
Type: Resolving
Ref: A 26.9685 GHz

Start 20.000 GHz
#Res BW 1.0 MHz

#VBW 3.0 MHz

Stop 27.000 GHz
Sweep 18.67 ms (40001 pts)

Peak Search

Next Peak

Next Pk Right

Next Pk Left

Marker Delta

Mkr--CF

Mkr--Ref Lvl

More

1 of 2

Agilent Spectrum Analyzer - Sweep 54

Marker 1 25.180700000000 GHz

Ref Offset 24.5 dB
Ref 24.50 dBm

Start 20.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*

Stop 27.000 GHz
Sweep 18.67 ms (40001 pts)

Peak Search

Next Peak

Next Pk Right

Next Pk Left

Marker Delta

Mkr--CF

Mkr--Ref Lvl

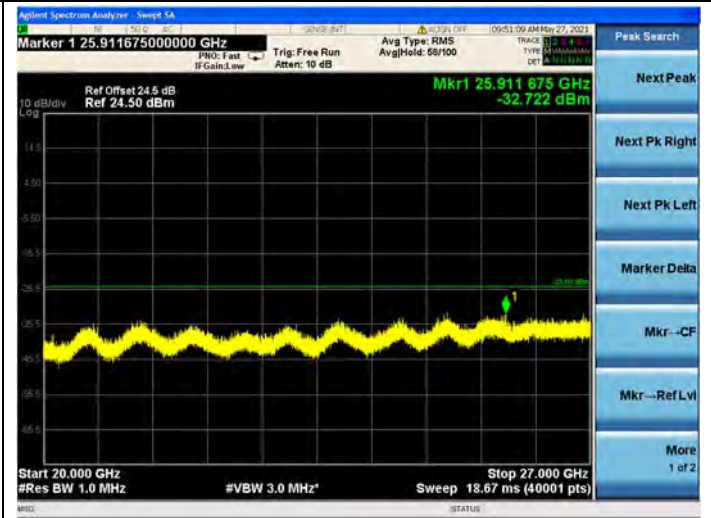
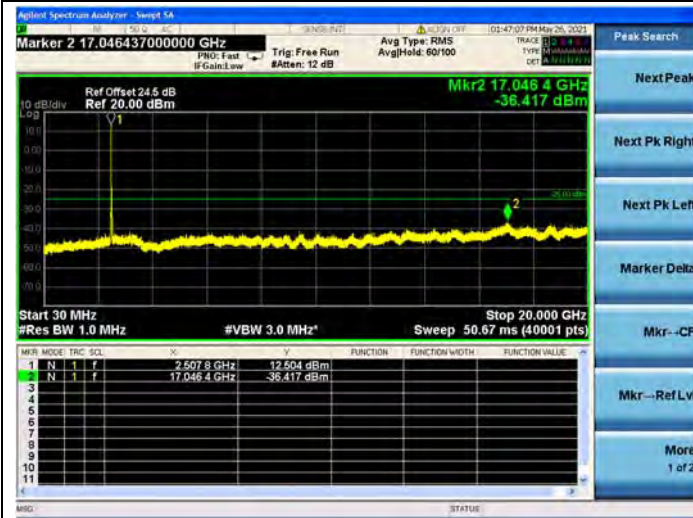
More

1 of 2

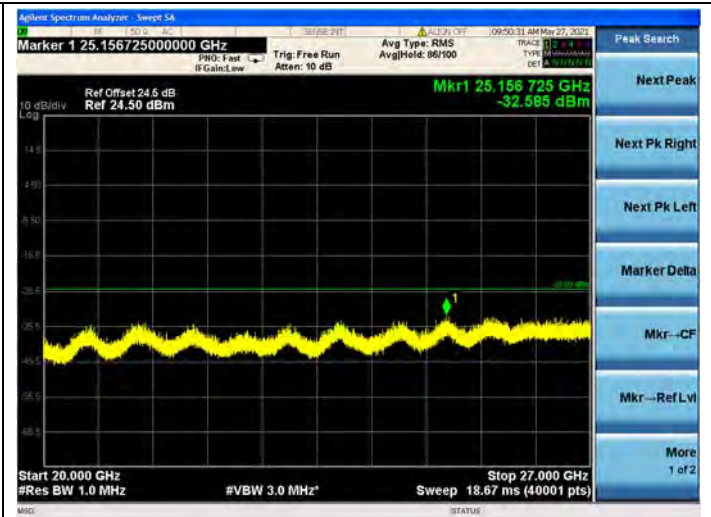
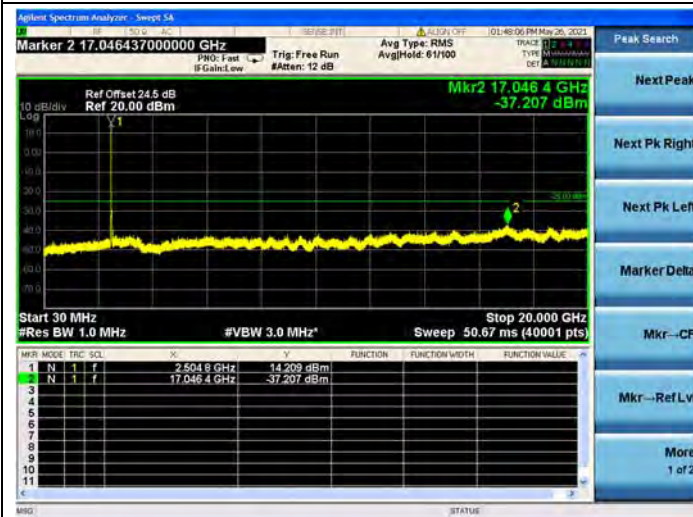




Band 41 / 15MHz / Low CH / QPSK

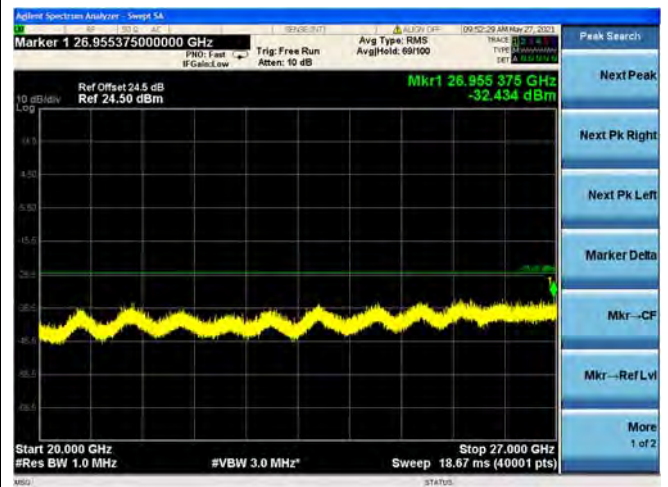
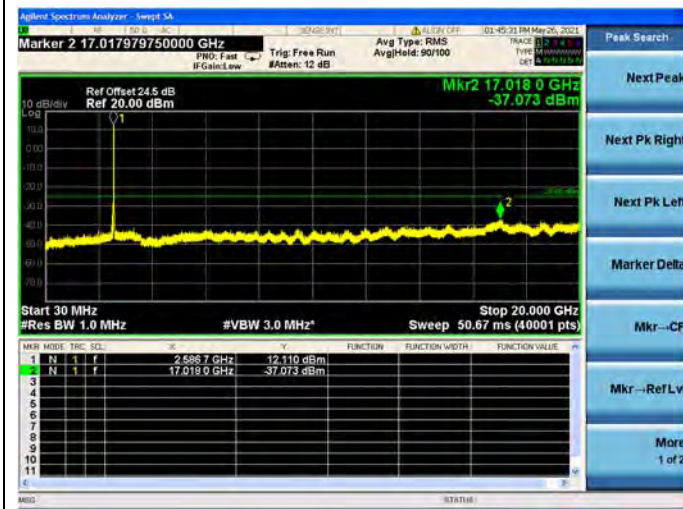


Band 41 / 15MHz / Low CH / 16QAM

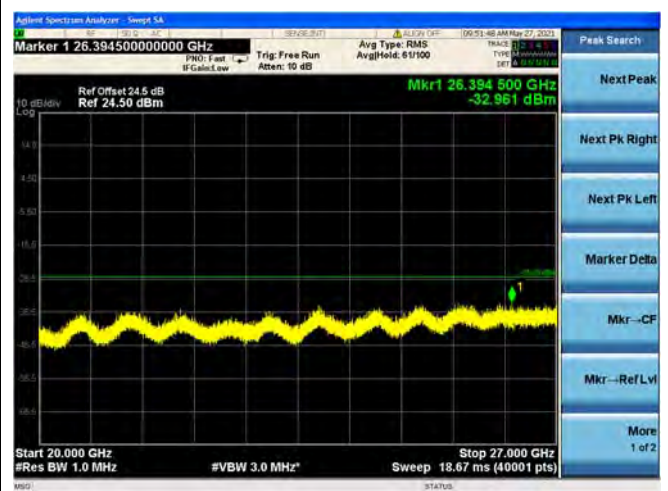
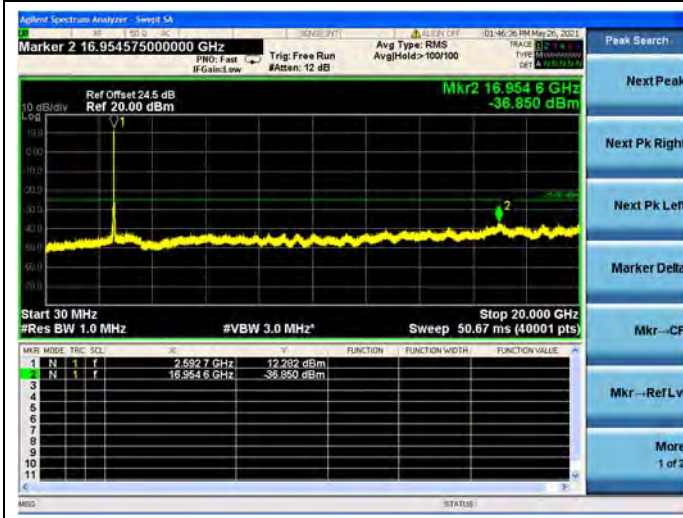




Band 41 / 15MHz / Mid CH / QPSK



Band 41 / 15MHz / Mid CH / 16QAM





Agilent Spectrum Analyzer - Sweep 54

Marker 1 25.699400000000 GHz

Ref Offset 24.5 dB
Ref 24.50 dBm

PRO: Fast
S/Gain: Low

Trig: Free Run
Attenu: 10 dB

Avg Type: RMS
Avg/Hold: 65/100

TRACE 1 25.699400 GHz
TYPE: S-Measurement
REF: A 24.50 dBm

Peak Search

Next Peak

Next Pk Right

Next Pk Left

Marker Delta

Mkr--CF

Mkr--Ref Lvl

More

1 of 2

Start 20.000 GHz
#Res BW 1.0 MHz

#VBW 3.0 MHz*

Sweep 18.67 ms (40001 pts)

Stop 27.000 GHz

MSU

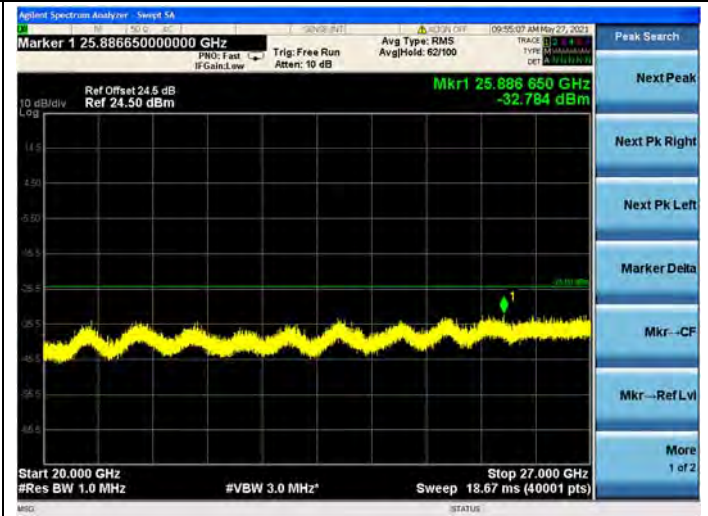
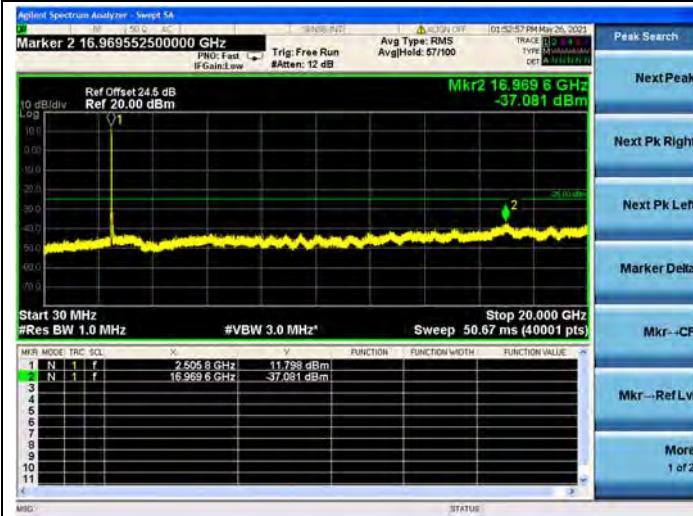
StarPos:

The screenshot displays a Spectrum Analyzer interface with the following details:

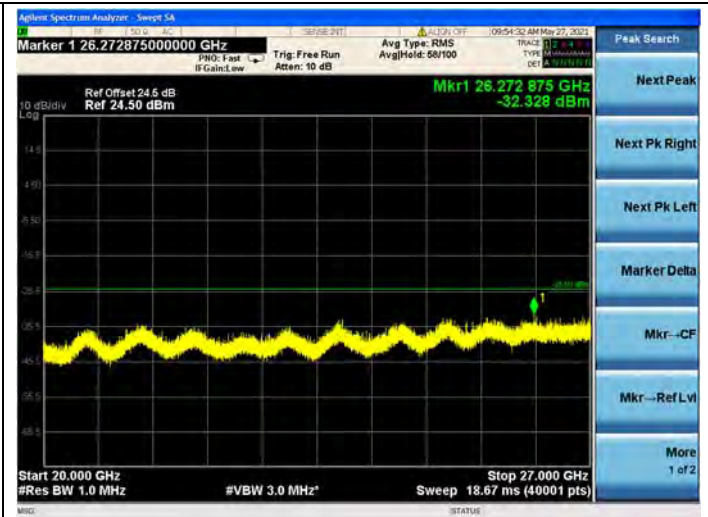
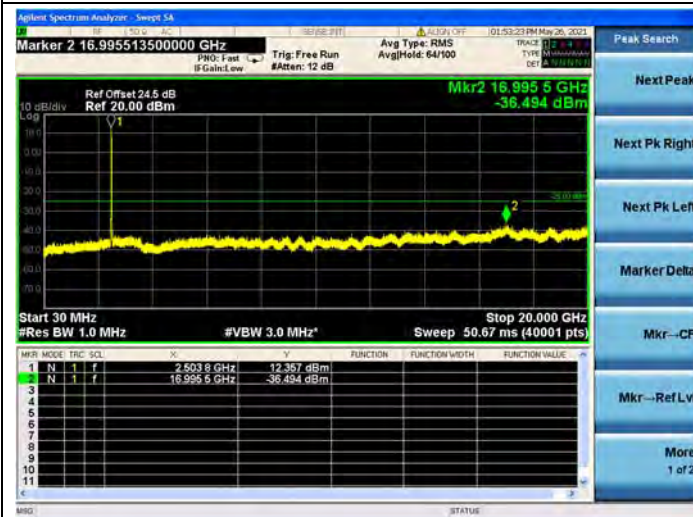
- Header:** Agilent Spectrum Analyzer - Sweep 54, 100.000000 MHz, 100.000000 MHz, 100.000000 MHz.
- Marker 1:** 23.783500000000 GHz, Ref Offset 24.5 dB, Ref 24.50 dBm.
- Trig:** Free Run, Attenu: 10 dB.
- Agg Type:** RMS, Avg/Hold: 57100.
- Trace:** 23.783500 GHz, -32.452 dBm.
- Y-axis:** 10 dB/div, -9 dB.
- Signal:** A yellow trace showing a signal with a peak at 23.783500 GHz, marked with a green arrow.
- Buttons:** Peak Search, Next Peak, Next Pk Right, Next Pk Left, Marker Delta, Mkr--CF, Mkr--Ref Lvl, More.
- Footer:** Start 20.000 GHz, #Res BW 1.0 MHz, #VBW 3.0 MHz*, Sweep 27.000 GHz, 18.67 ms (40001 pts), 1 of 2.



Band 41 / 20MHz / Low CH / QPSK

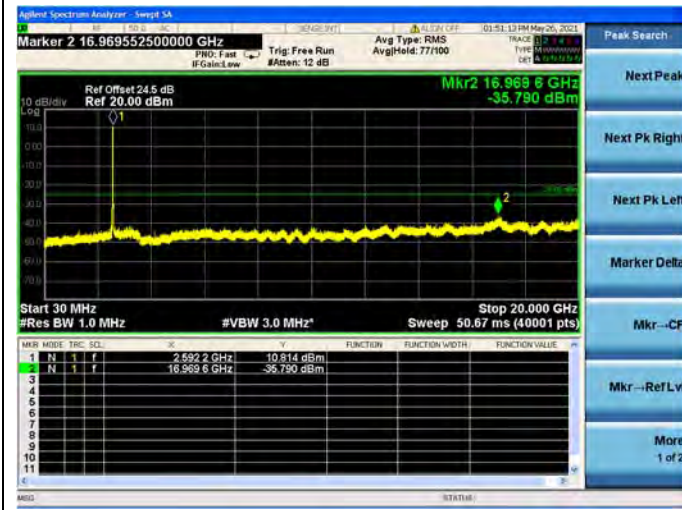


Band 41 / 20MHz / Low CH / 16QAM

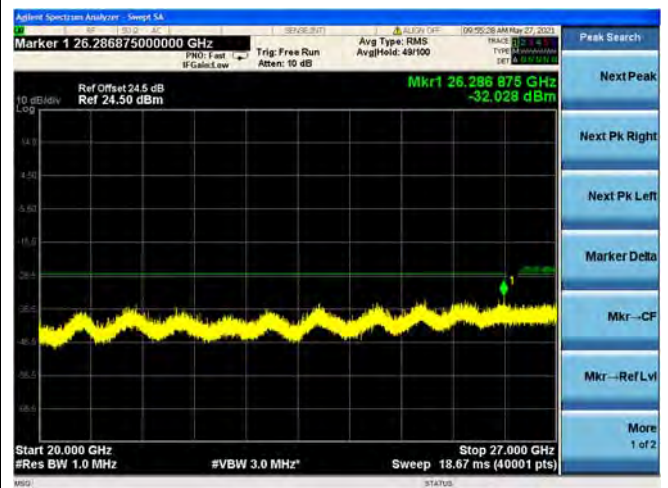
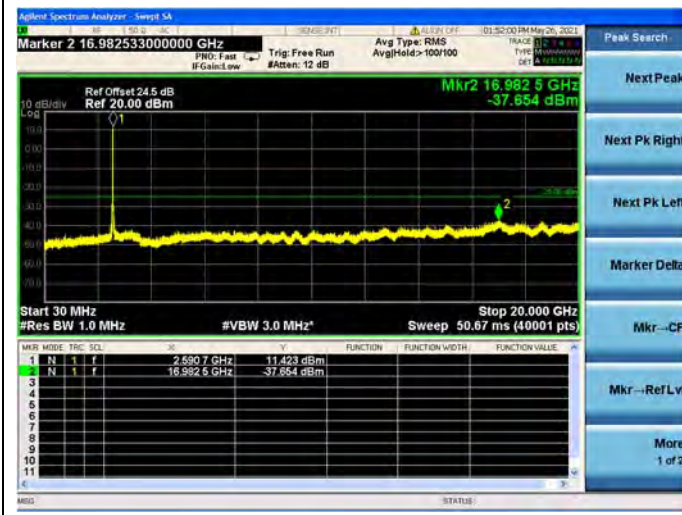




Band 41 / 20MHz / Mid CH / QPSK

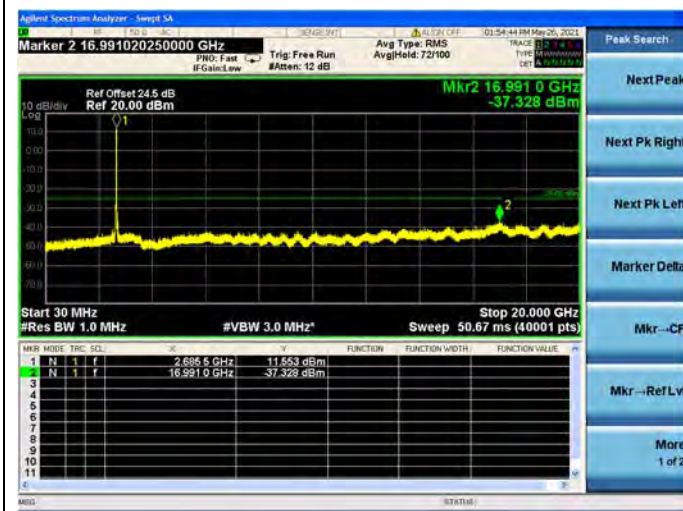


Band 41 / 20MHz / Mid CH / 16QAM

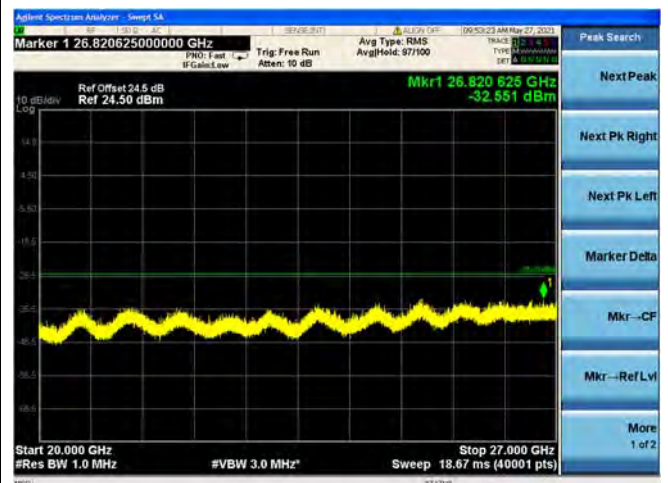
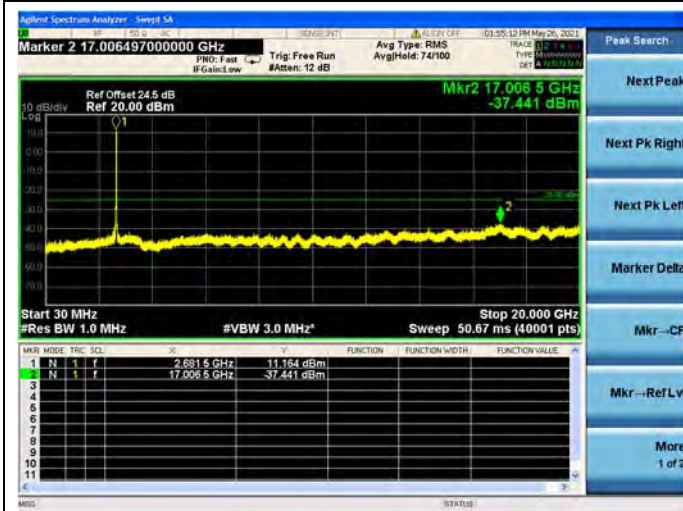




Band 41 / 20MHz / High CH / QPSK



Band 41 / 20MHz / High CH / 16QAM





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

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 12, 17

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.

**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 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.

Band 13

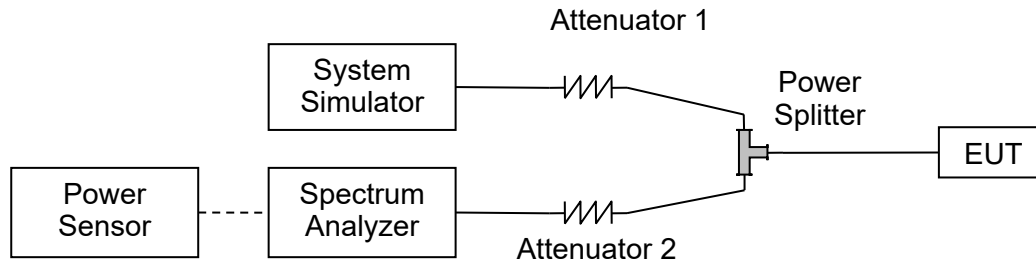
According to FCC section 27.53(c)(2), any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB in a 100kHz bandwidth. However, in the 100 kHz bands immediately outside and adjacent to the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



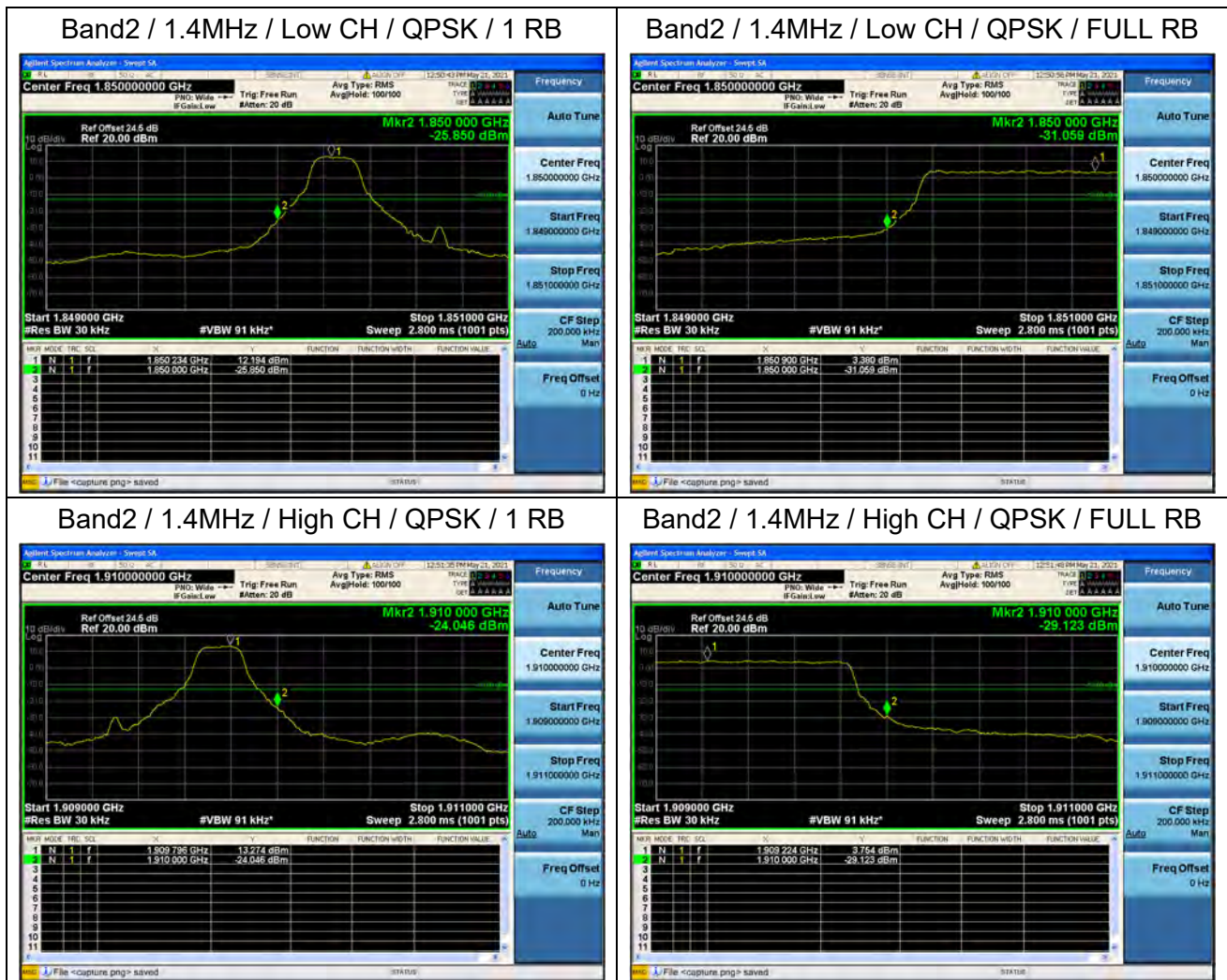
The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum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

2.6.3. Test Procedure

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

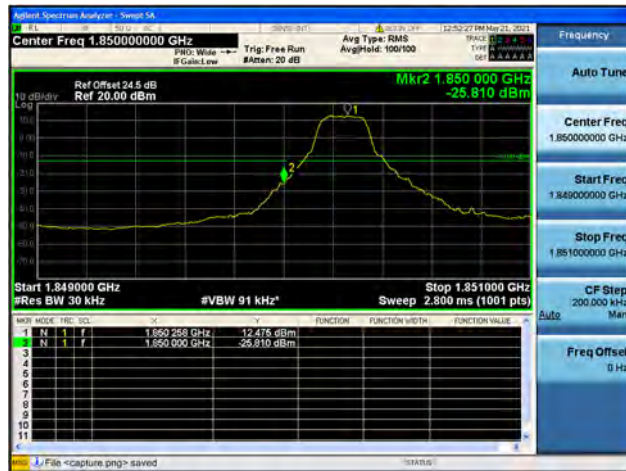


2.6.4. Test Result





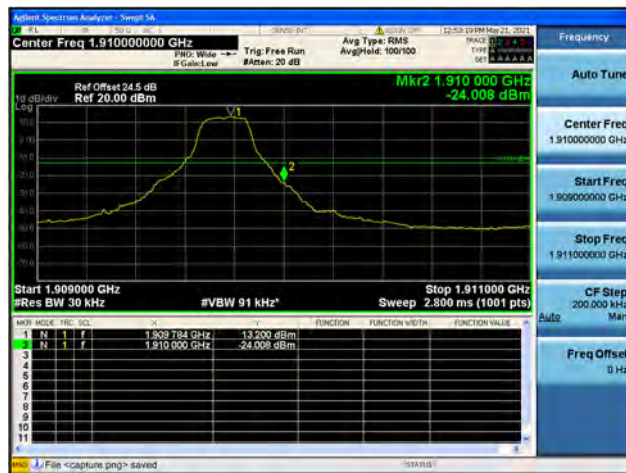
Band2 / 3MHz / Low CH / QPSK / 1 RB



Band2 / 3MHz / Low CH / QPSK / FULL RB



Band2 / 3MHz / High CH / QPSK / 1 RB



Band2 / 3MHz / High CH / QPSK / FULL RB



Band2 / 5MHz / Low CH / QPSK / 1 RB



Band2 / 5MHz / Low CH / QPSK / FULL RB



Band2 / 5MHz / High CH / QPSK / 1 RB



Band2 / 5MHz / High CH / QPSK / FULL RB





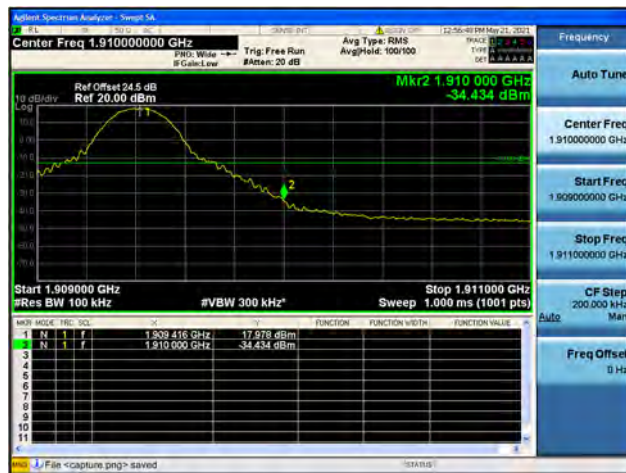
Band2 / 10MHz / Low CH / QPSK / 1 RB



Band2 / 10MHz / Low CH / QPSK / FULL RB



Band2 / 10MHz / High CH / QPSK / 1 RB



Band2 / 10MHz / High CH / QPSK / FULL RB





Band2 / 15MHz / Low CH / QPSK / 1 RB



Band2 / 15MHz / Low CH / QPSK / FULL RB



Band2 / 15MHz / High CH / QPSK / 1 RB

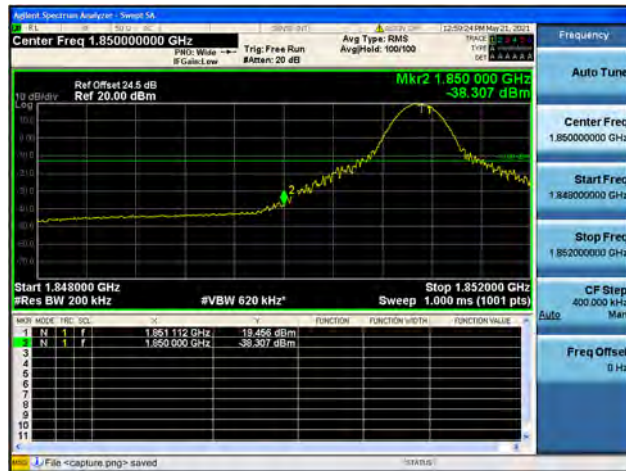


Band2 / 15MHz / High CH / QPSK / FULL RB





Band2 / 20MHz / Low CH / QPSK / 1 RB



Band2 / 20MHz / Low CH / QPSK / FULL RB



Band2 / 20MHz / High CH / QPSK / 1 RB



Band2 / 20MHz / High CH / QPSK / FULL RB





Band4 / 1.4MHz / Low CH / QPSK / 1 RB



Band4 / 1.4MHz / Low CH / QPSK / FULL RB



Band4 / 1.4MHz / High CH / QPSK / 1 RB

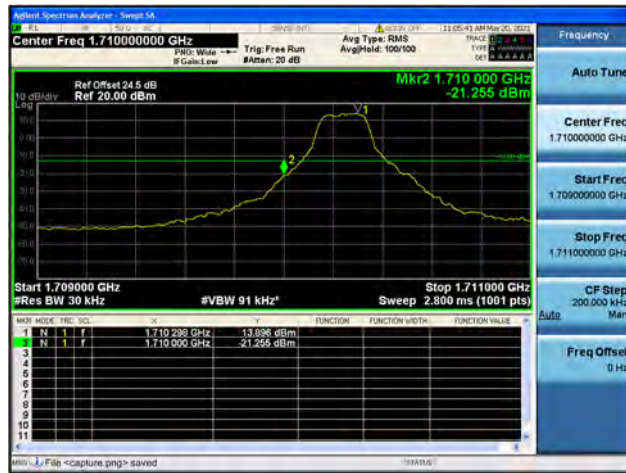


Band4 / 1.4MHz / High CH / QPSK / FULL RB





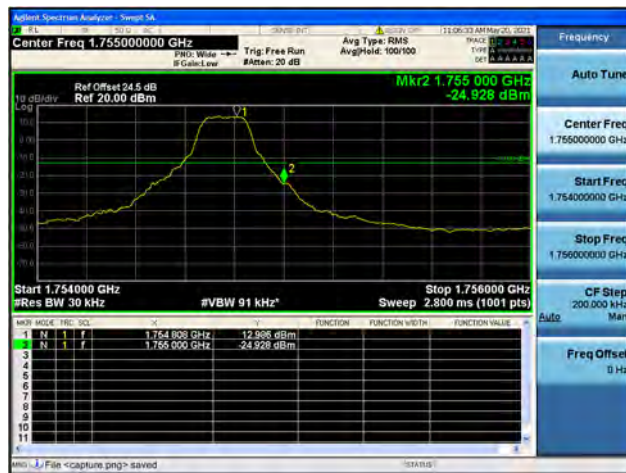
Band4 / 3MHz / Low CH / QPSK / 1 RB



Band4 / 3MHz / Low CH / QPSK / FULL RB



Band4 / 3MHz / High CH / QPSK / 1 RB



Band4 / 3MHz / High CH / QPSK / FULL RB

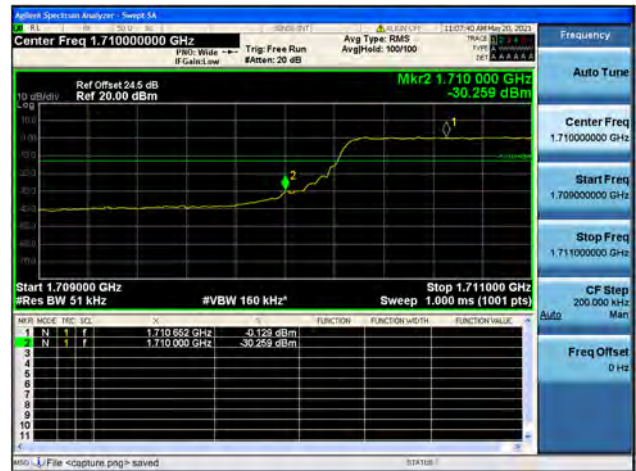




Band4 / 5MHz / Low CH / QPSK / 1 RB



Band4 / 5MHz / Low CH / QPSK / FULL RB



Band4 / 5MHz / High CH / QPSK / 1 RB



Band4 / 5MHz / High CH / QPSK / FULL RB





Band4 / 10MHz / Low CH / QPSK / 1 RB



Band4 / 10MHz / Low CH / QPSK / FULL RB



Band4 / 10MHz / High CH / QPSK / 1 RB



Band4 / 10MHz / High CH / QPSK / FULL RB





Band4 / 15MHz / Low CH / QPSK / 1 RB



Band4 / 15MHz / Low CH / QPSK / FULL RB



Band4 / 15MHz / High CH / QPSK / 1 RB



Band4 / 15MHz / High CH / QPSK / FULL RB





Band4 / 20MHz / Low CH / QPSK / 1 RB



Band4 / 20MHz / Low CH / QPSK / FULL RB



Band4 / 20MHz / High CH / QPSK / 1 RB

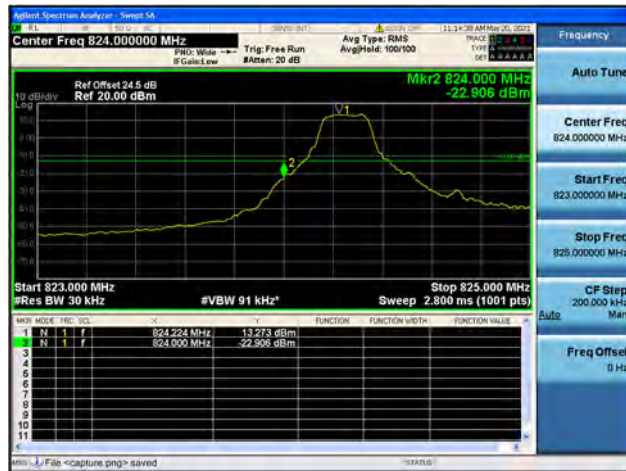


Band4 / 20MHz / High CH / QPSK / FULL RB





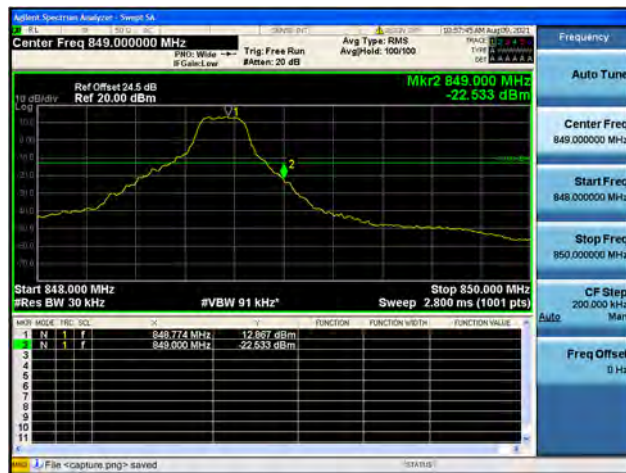
Band5 / 1.4MHz / Low CH / QPSK / 1 RB



Band5 / 1.4MHz / Low CH / QPSK / FULL RB



Band5 / 1.4MHz / High CH / QPSK / 1 RB



Band5 / 1.4MHz / High CH / QPSK / FULL RB





Band5 / 3MHz / Low CH / QPSK / 1 RB



Band5 / 3MHz / Low CH / QPSK / FULL RB



Band5 / 3MHz / High CH / QPSK / 1 RB

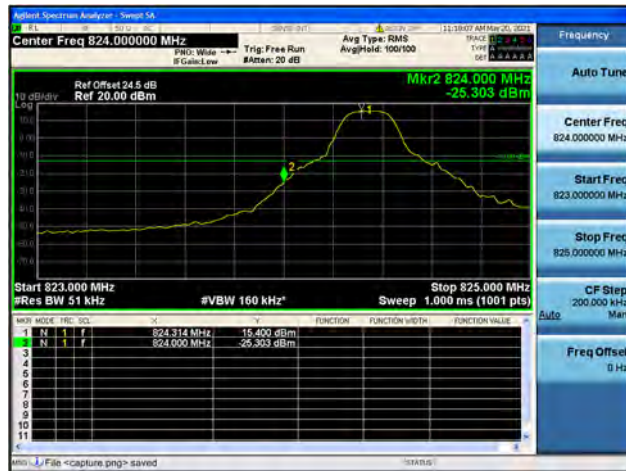


Band5 / 3MHz / High CH / QPSK / FULL RB





Band5 / 5MHz / Low CH / QPSK / 1 RB



Band5 / 5MHz / Low CH / QPSK / FULL RB



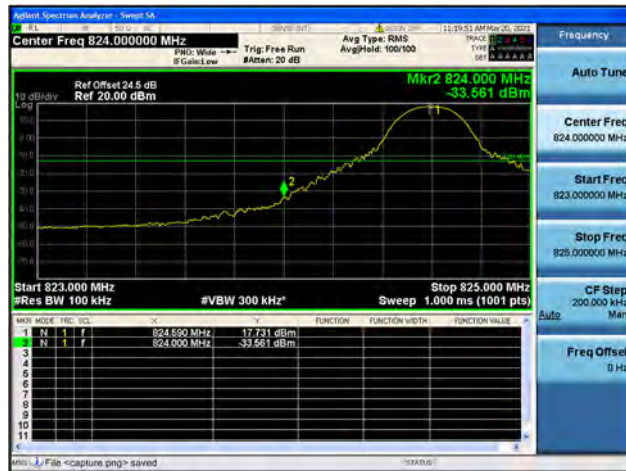
Band5 / 5MHz / High CH / QPSK / 1 RB



Band5 / 5MHz / High CH / QPSK / FULL RB



Band5 / 10MHz / Low CH / QPSK / 1 RB



Band5 / 10MHz / Low CH / QPSK / FULL RB



Band5 / 10MHz / High CH / QPSK / 1 RB

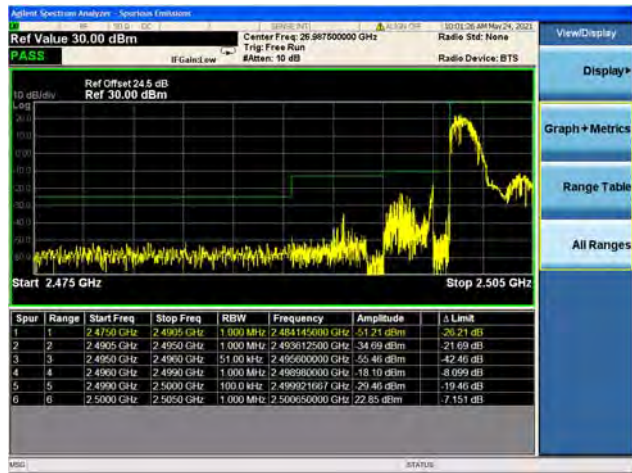


Band5 / 10MHz / High CH / QPSK / FULL RB

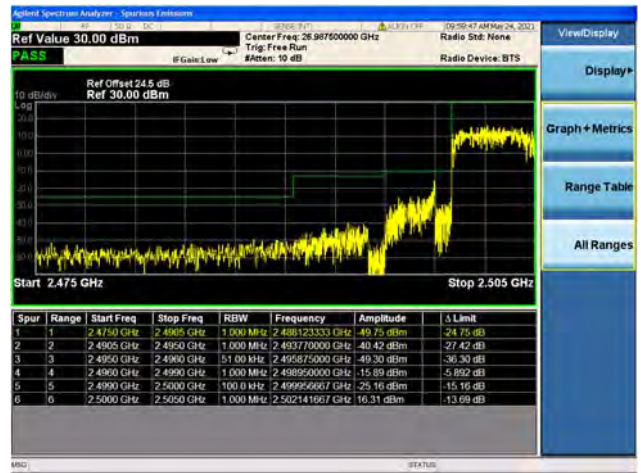




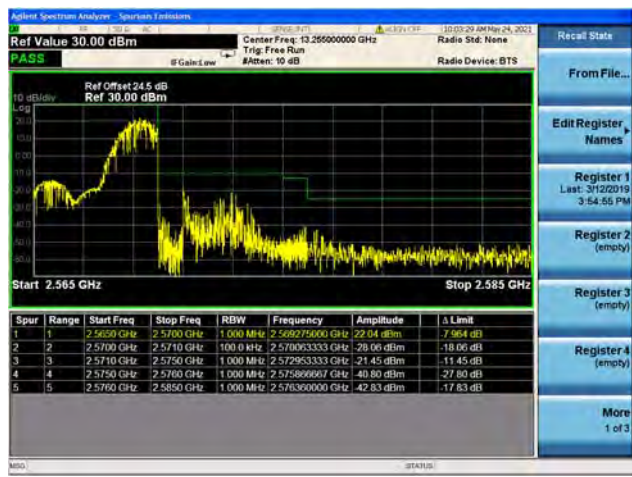
Band7 / 5MHz / Low CH / QPSK / 1 RB



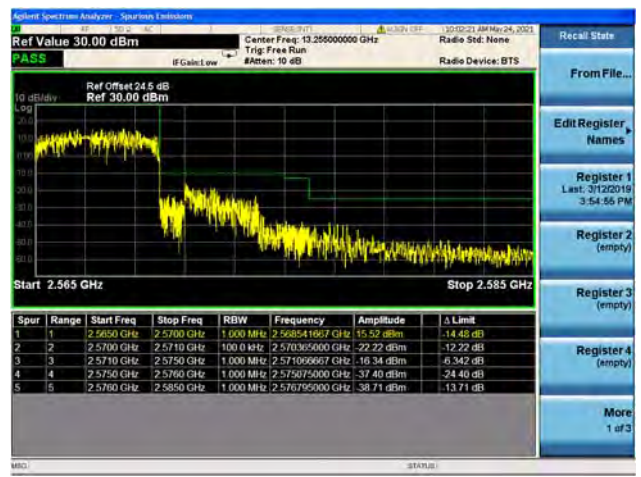
Band7 / 5MHz / Low CH / QPSK / FULL RB



Band7 / 5MHz / High CH / QPSK / 1 RB

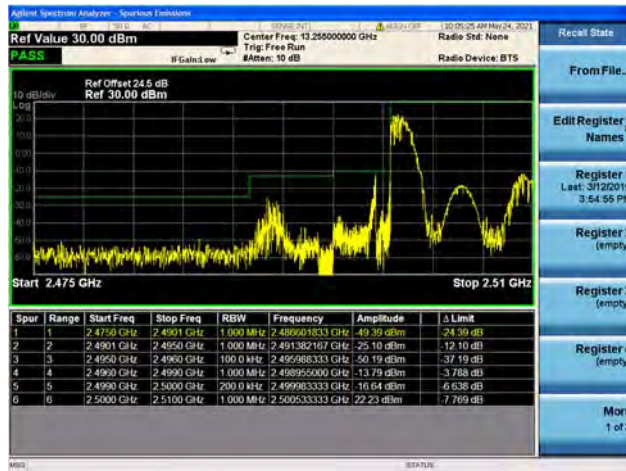


Band7 / 5MHz / High CH / QPSK / FULL RB

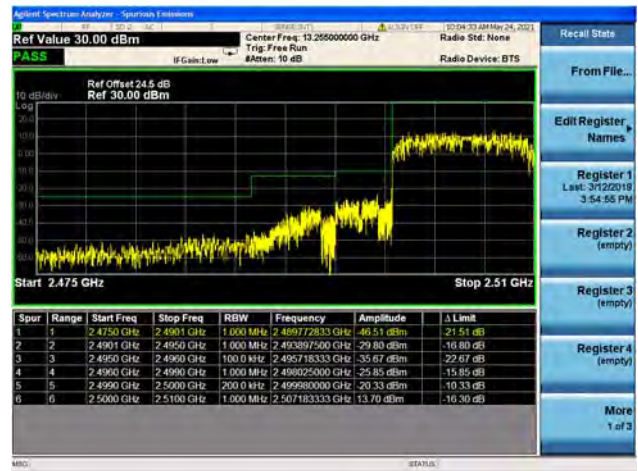




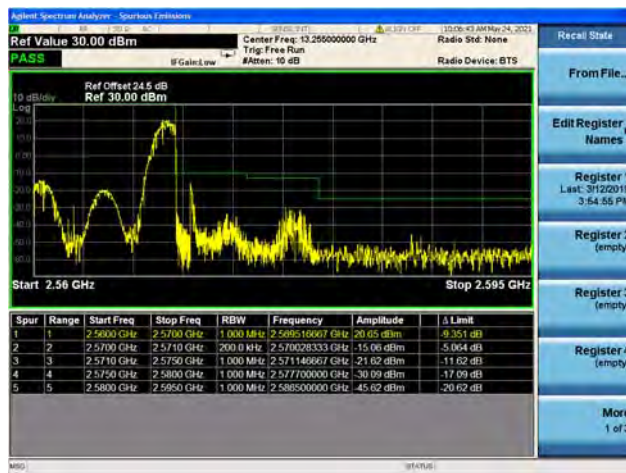
Band7 / 10MHz / Low CH / QPSK / 1 RB



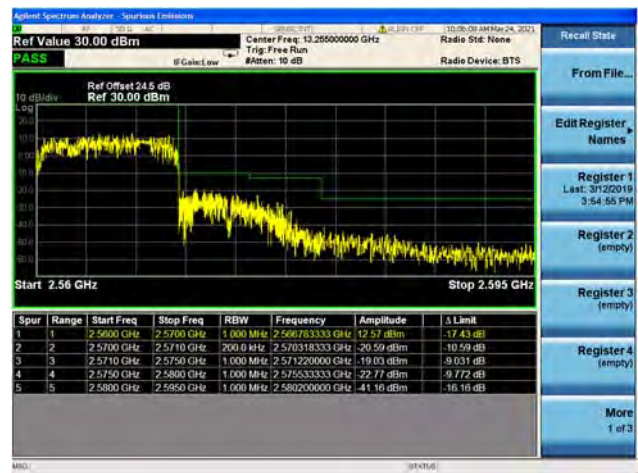
Band7 / 10MHz / Low CH / QPSK / FULL RB



Band7 / 10MHz / High CH / QPSK / 1 RB

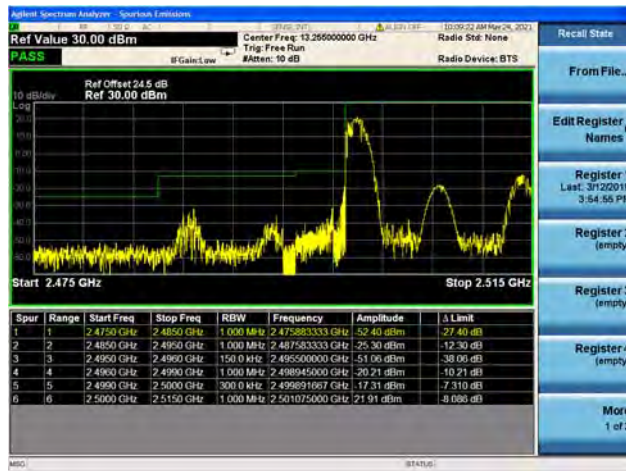


Band7 / 10MHz / High CH / QPSK / FULL RB

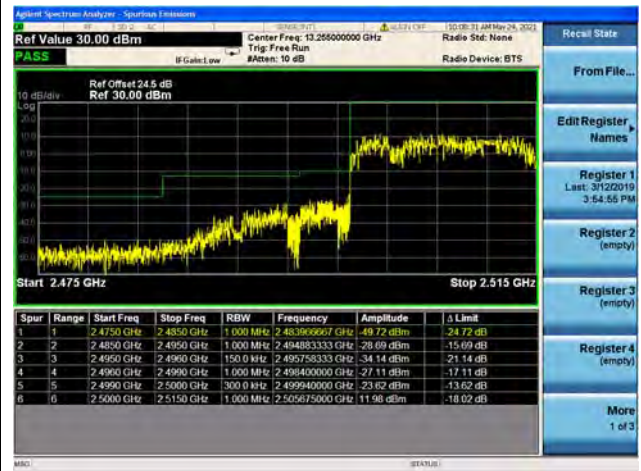




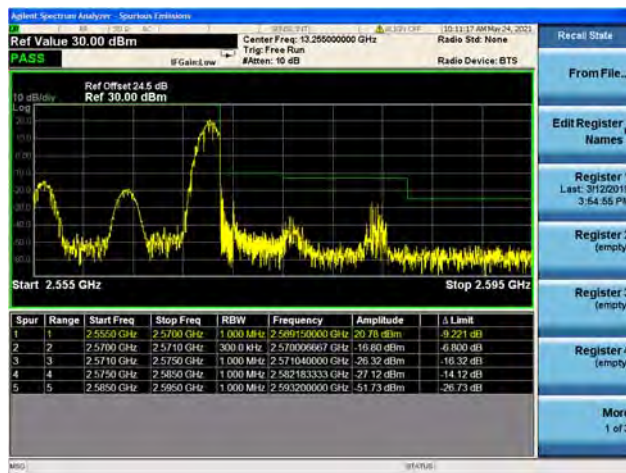
Band7 / 15MHz / Low CH / QPSK / 1 RB



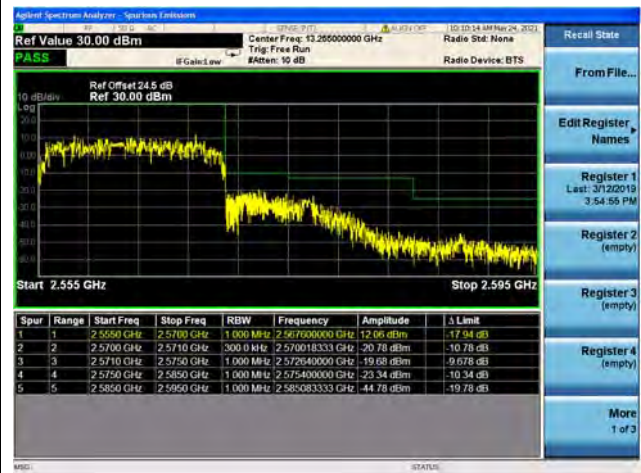
Band7 / 15MHz / Low CH / QPSK / FULL RB



Band7 / 15MHz / High CH / QPSK / 1 RB

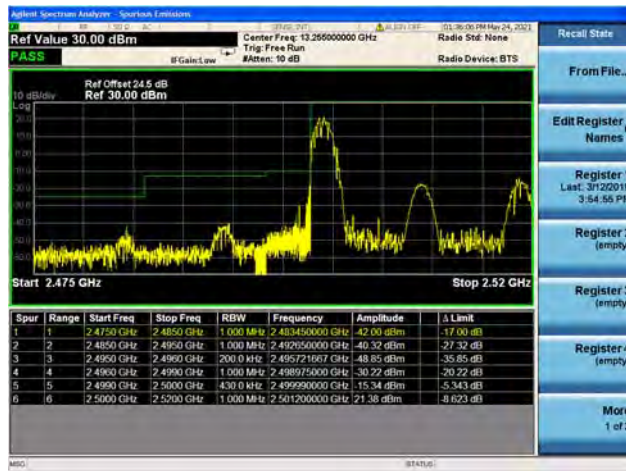


Band7 / 15MHz / High CH / QPSK / FULL RB

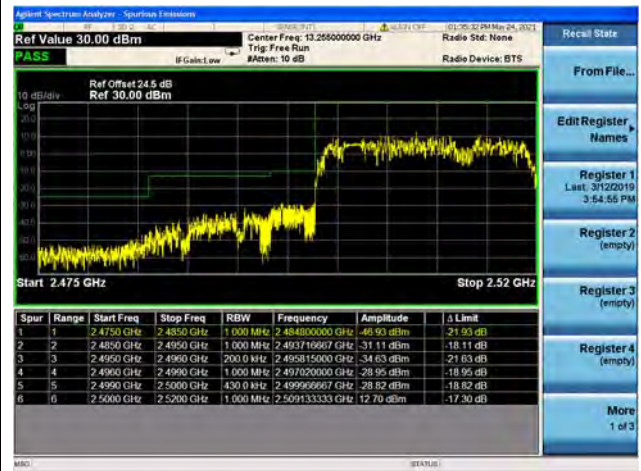




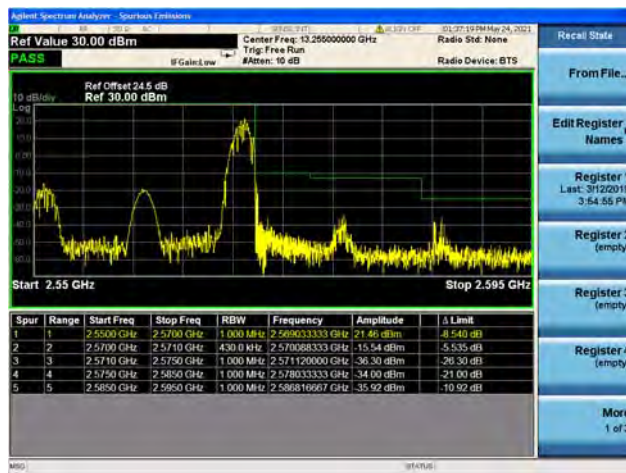
Band7 / 20MHz / Low CH / QPSK / 1 RB



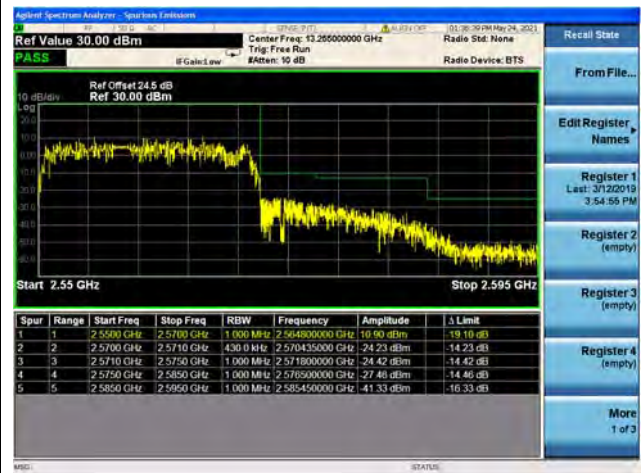
Band7 / 20MHz / Low CH / QPSK / FULL RB



Band7 / 20MHz / High CH / QPSK / 1 RB



Band7 / 20MHz / High CH / QPSK / FULL RB





Band12 / 1.4MHz / Low CH / QPSK / 1 RB



Band12 / 1.4MHz / Low CH / QPSK / FULL RB



Band12 / 1.4MHz / High CH / QPSK / 1 RB

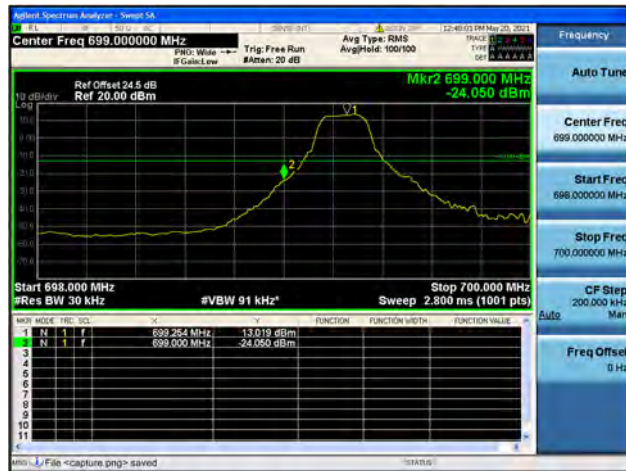


Band12 / 1.4MHz / High CH / QPSK / FULL RB





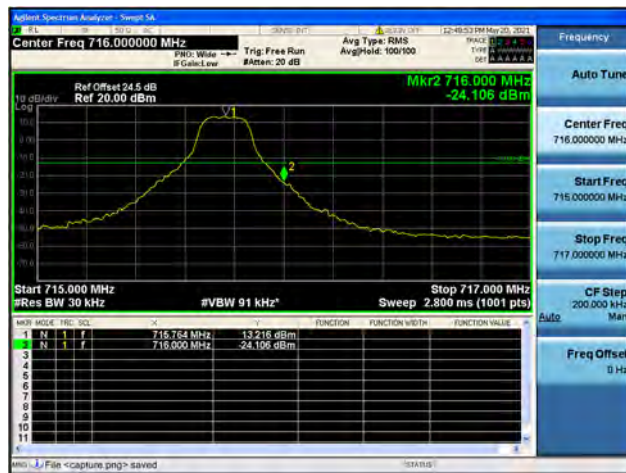
Band12 / 3MHz / Low CH / QPSK / 1 RB



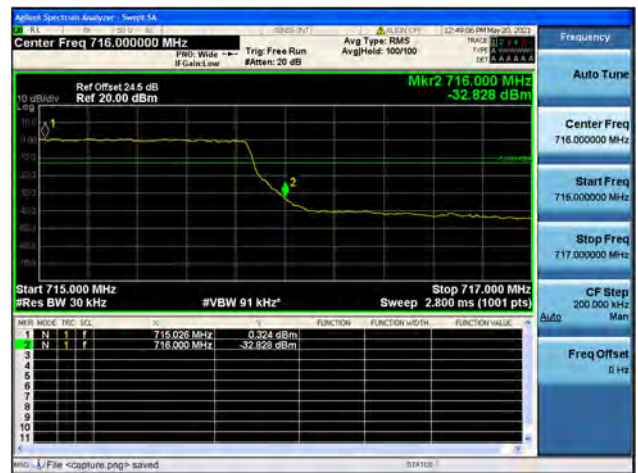
Band12 / 3MHz / Low CH / QPSK / FULL RB



Band12 / 3MHz / High CH / QPSK / 1 RB



Band12 / 3MHz / High CH / QPSK / FULL RB





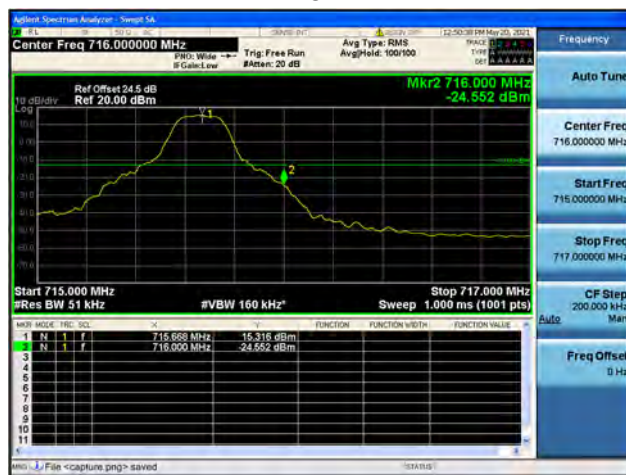
Band12 / 5MHz / Low CH / QPSK / 1 RB



Band12 / 5MHz / Low CH / QPSK / FULL RB



Band12 / 5MHz / High CH / QPSK / 1 RB



Band12 / 5MHz / High CH / QPSK / FULL RB





Band12 / 10MHz / Low CH / QPSK / 1 RB



Band12 / 10MHz / Low CH / QPSK / FULL RB



Band12 / 10MHz / High CH / QPSK / 1 RB



Band12 / 10MHz / High CH / QPSK / FULL RB

