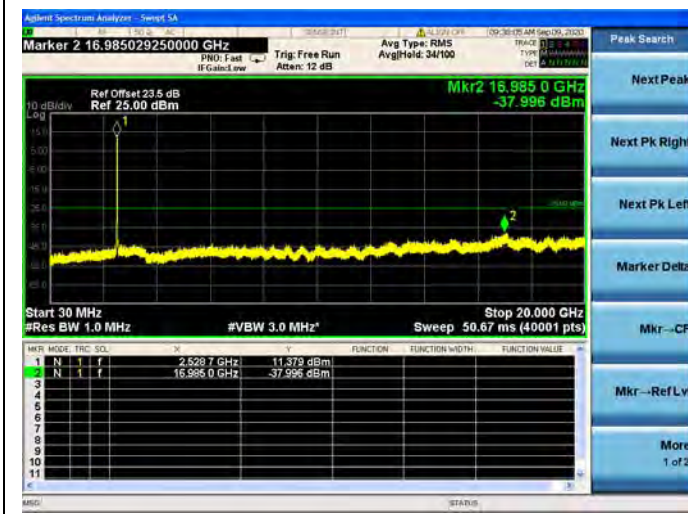
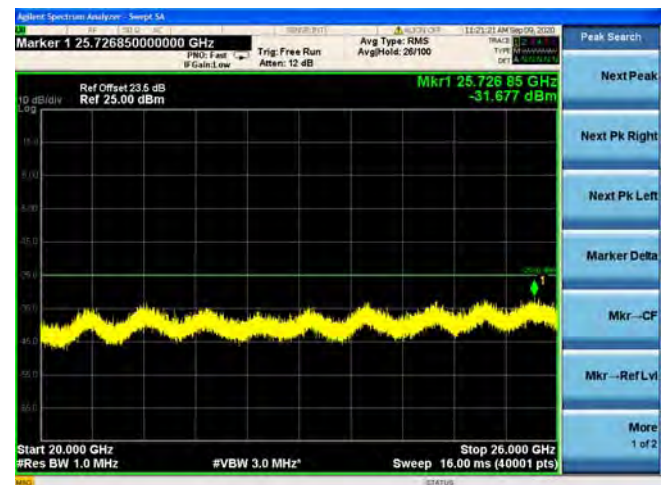
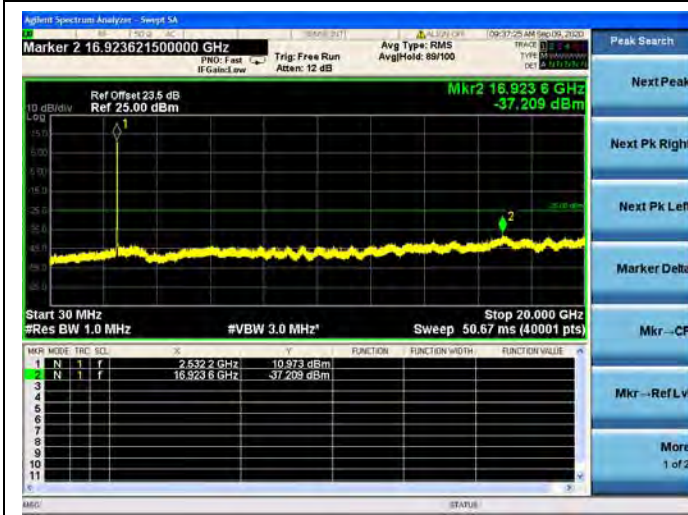




Band 7 / 15MHz / Mid CH / QPSK

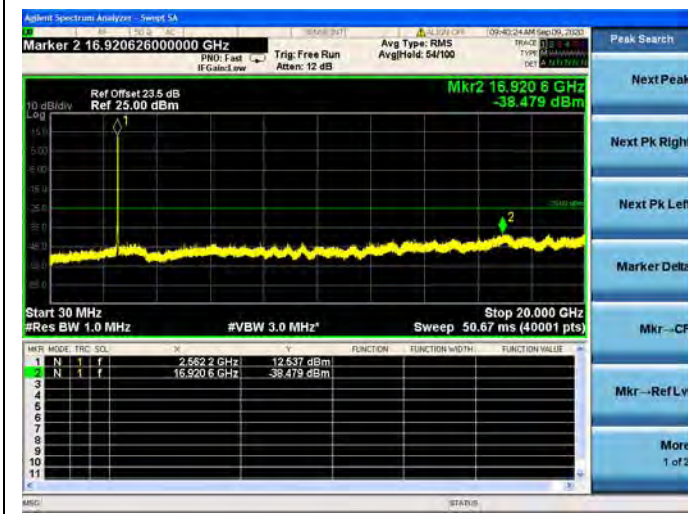


Band 7 / 15MHz / Mid CH / 16QAM

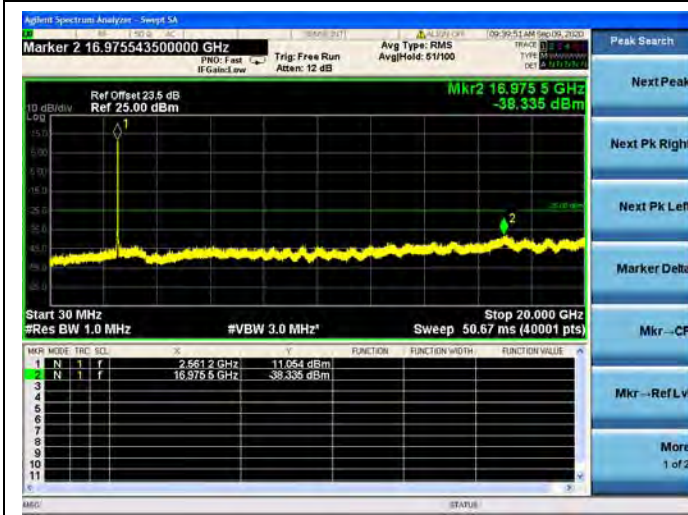




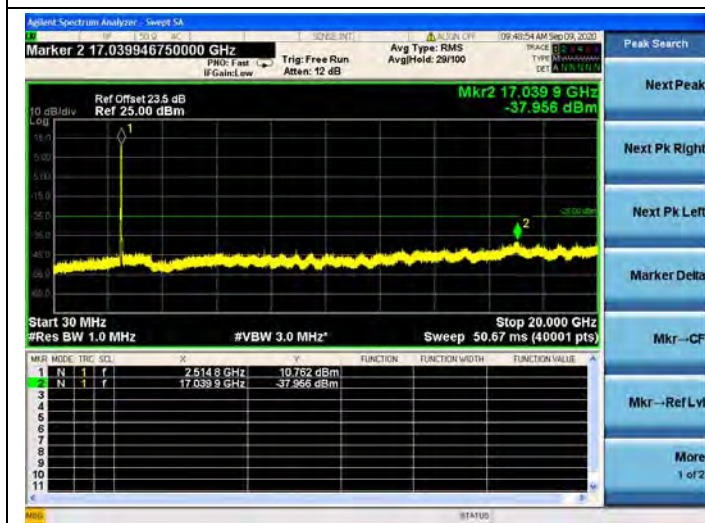
Band 7 / 15MHz / High CH / QPSK



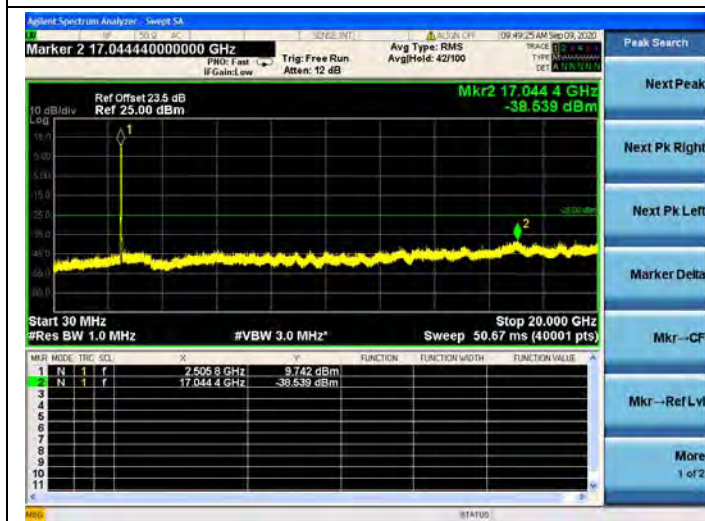
Band 7 / 15MHz / High CH / 16QAM



Band 7 / 20MHz / Low CH / QPSK



Band 7 / 20MHz / Low CH / 16QAM

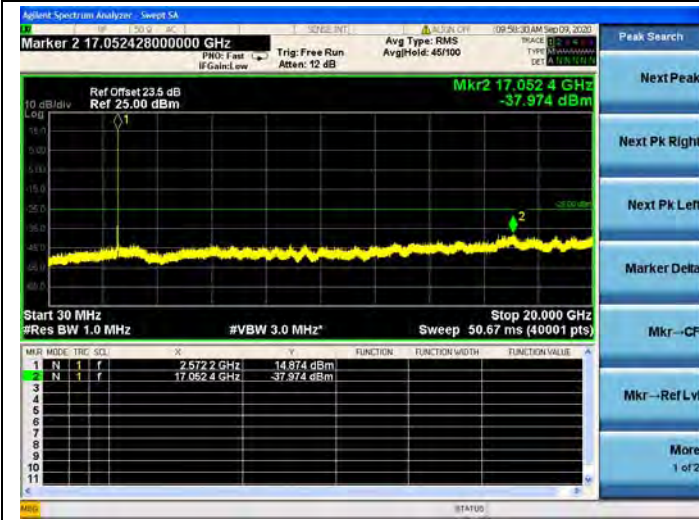


Band 7 / 20MHz / Mid CH / QPSK

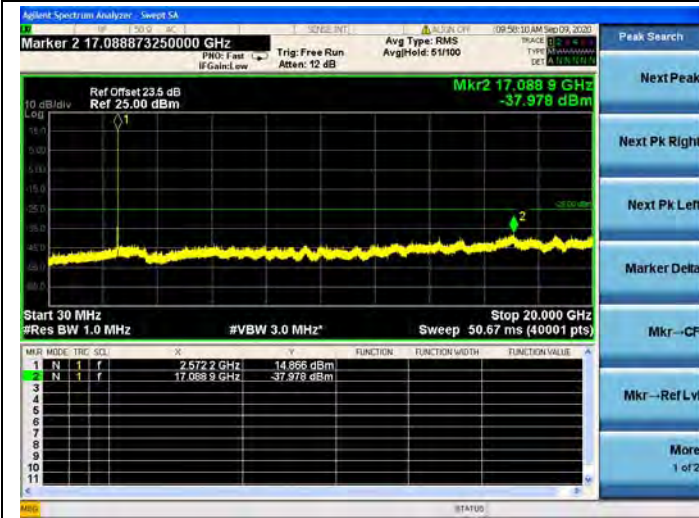
Band 7 / 20MHz / Mid CH / 16QAM



Band 38 / 5MHz / Low CH / QPSK

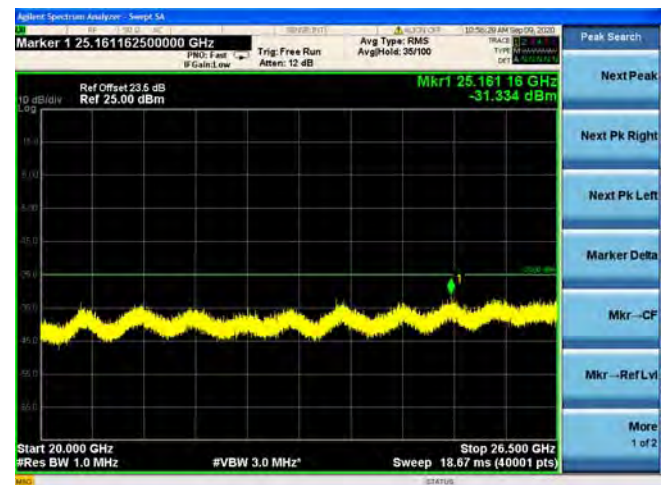
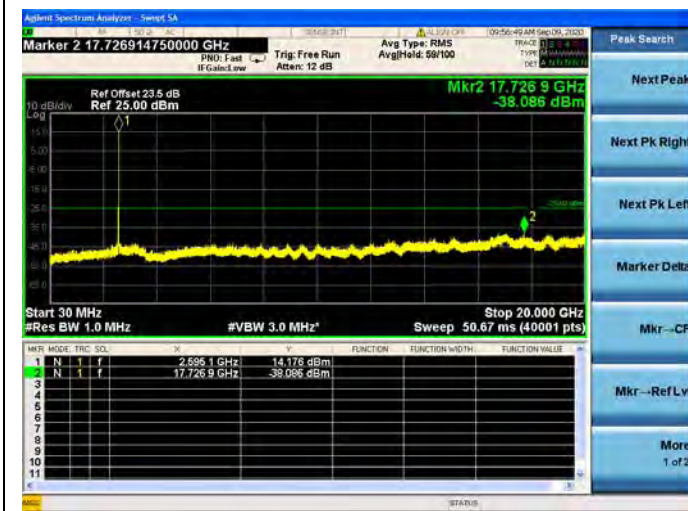


Band 38 / 5MHz / Low CH / 16QAM

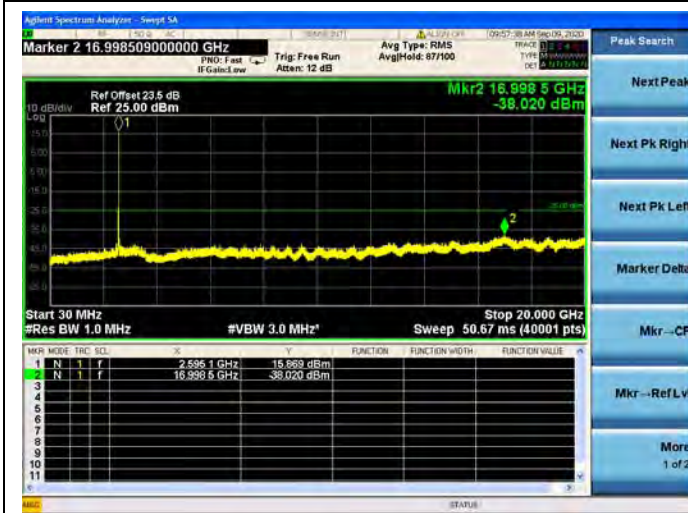




Band 38 / 5MHz / Mid CH / QPSK

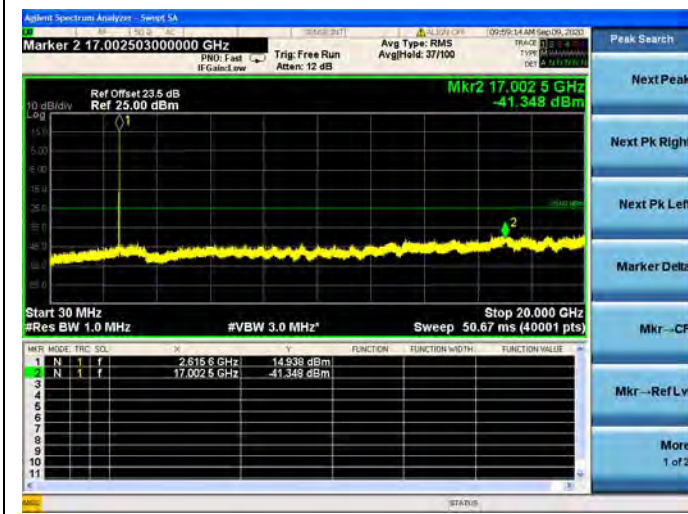


Band 38 / 5MHz / Mid CH / 16QAM

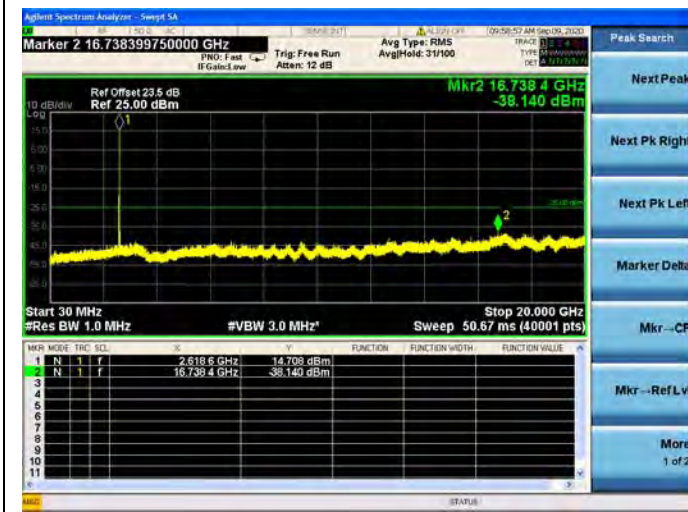




Band 38 / 5MHz / High CH / QPSK



Band 38 / 5MHz / High CH / 16QAM





The figure displays two side-by-side screenshots of a Spectrum Analyzer interface, showing frequency spectra and measurement data.

Left Screenshot:

- Marker 2:** 17.004500000000 GHz, -38.507 dBm.
- Ref Offset:** 23.5 dB, Ref: 25.00 dBm.
- Start:** 30 MHz, #Res BW 1.0 MHz.
- Stop:** 20.000 GHz.
- Sweep:** 50.67 ms (40001 pts).
- Table:**

MR	MODE	FREQ	DBM	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.5767 GHz	12.283 dBm	
2	N	1	f	17.0045 GHz	-38.507 dBm	

Right Screenshot:

- Marker 1:** 25.93076 GHz, -32.146 dBm.
- Ref Offset:** 23.5 dB, Ref: 25.00 dBm.
- Start:** 20.000 GHz, #Res BW 1.0 MHz.
- Stop:** 26.500 GHz.
- Sweep:** 18.67 ms (40001 pts).

The figure displays two side-by-side screenshots of Agilent Spectrum Analyzers, illustrating the use of the Marker Delta function to compare two signals.

Left Screenshot (Agilent Spectrum Analyzer - Swept SA):

- Marker 1:** 17.062413000000 GHz, -37.284 dBm.
- Marker 2:** 17.0624 GHz, -37.284 dBm.
- Table:**

Mkr	MODE	TRG	SOL	F	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f				2.576 2 GHz
2	N	1	f				17.0624 GHz

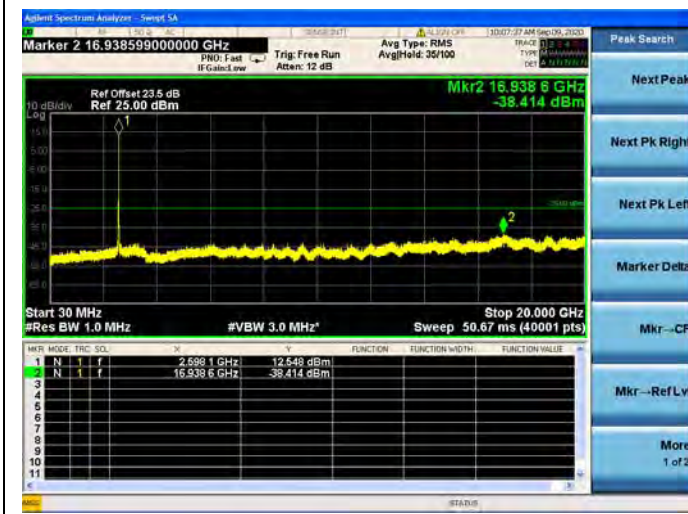
Right Screenshot (Agilent Spectrum Analyzer - Swept SA):

- Marker 1:** 25.683762500000 GHz, -32.110 dBm.
- Marker 2:** 25.68376 GHz, -32.110 dBm.
- Table:**

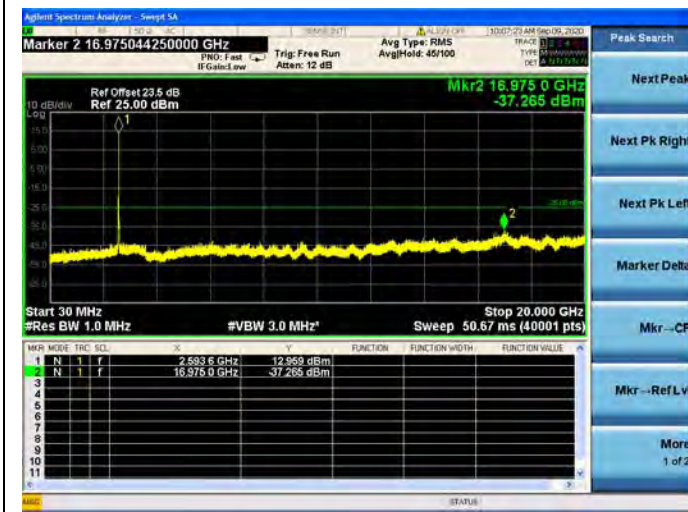
Mkr	MODE	TRG	SOL	F	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f				2.576 2 GHz
2	N	1	f				17.0624 GHz



Band 38 / 10MHz / Mid CH / QPSK

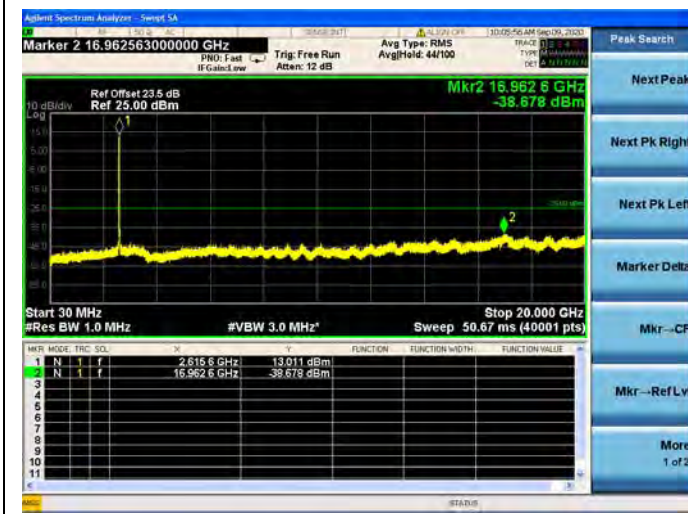


Band 38 / 10MHz / Mid CH / 16QAM

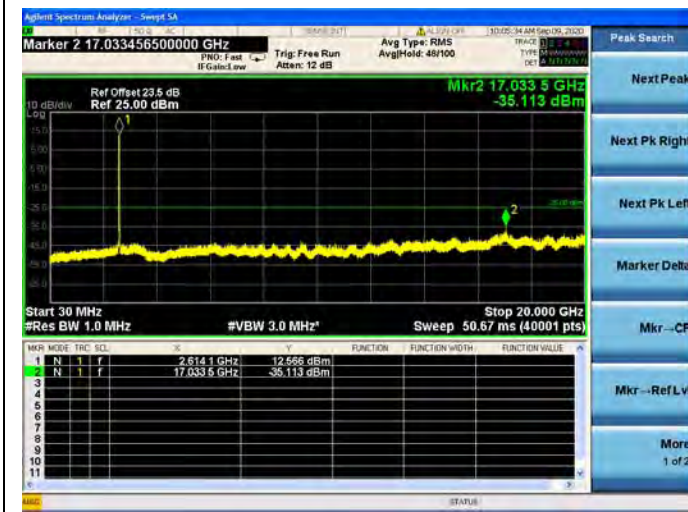




Band 38 / 10MHz / High CH / QPSK



Band 38 / 10MHz / High CH / 16QAM





Band 38 / 15MHz / Low CH / QPSK

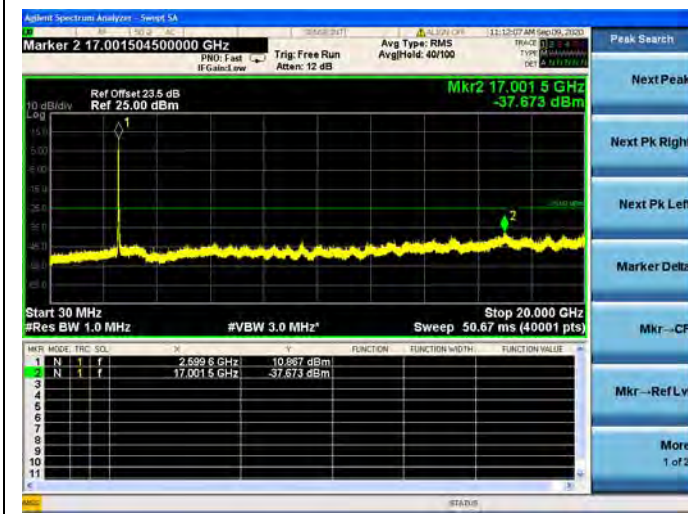


Band 38 / 15MHz / Low CH / 16QAM

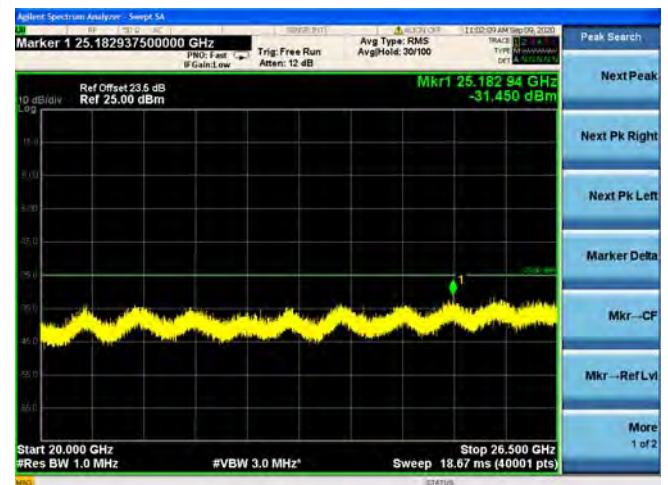
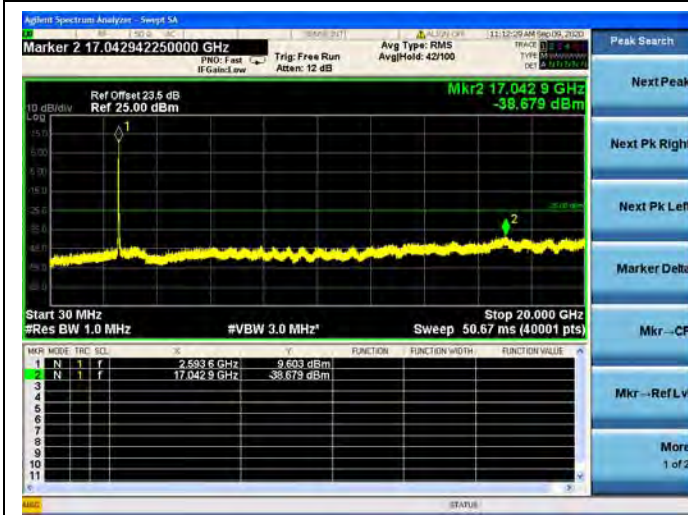




Band 38 / 15MHz / Mid CH / QPSK

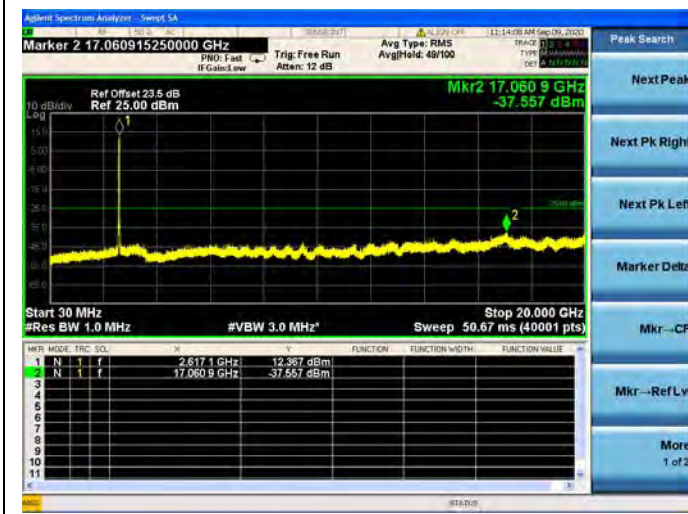


Band 38 / 15MHz / Mid CH / 16QAM

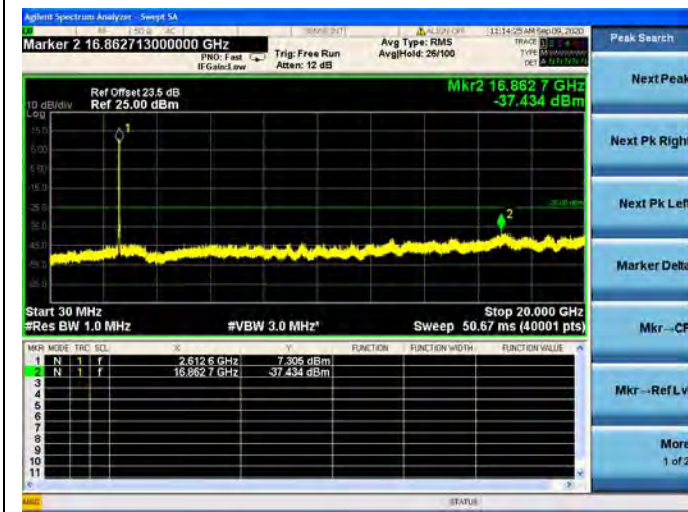




Band 38 / 15MHz / High CH / QPSK

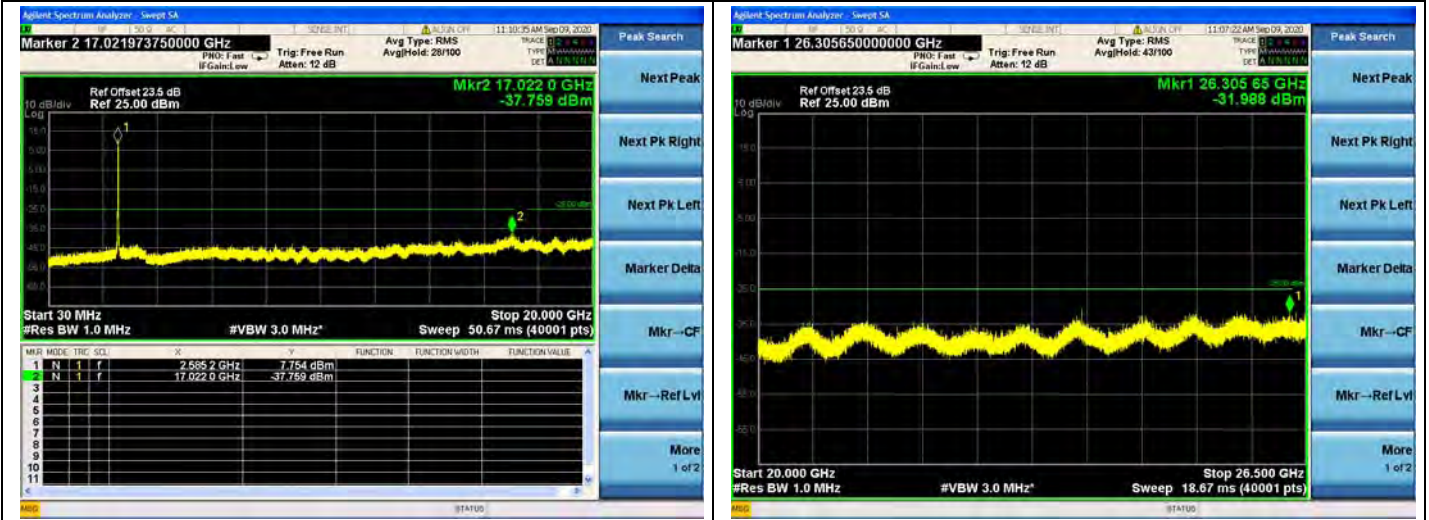


Band 38 / 15MHz / High CH / 16QAM





Band 38 / 20MHz / Low CH / QPSK

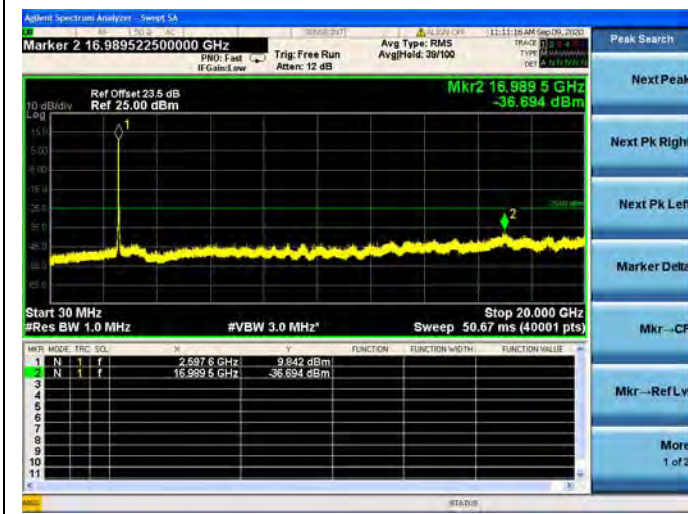


Band 38 / 20MHz / Low CH / 16QAM

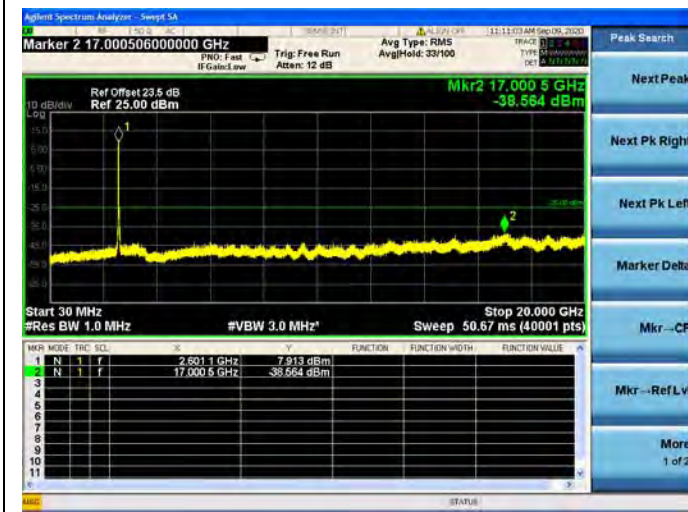




Band 38 / 20MHz / Mid CH / QPSK



Band 38 / 20MHz / Mid CH / 16QAM



Band 38 / 20MHz / High CH / QPSK

Band 38 / 20MHz / High CH / 16QAM



Agilent Spectrum Analyzer - Sweep SA

Marker 2 17.089372500000 GHz
 Ref Offset 23.5 dB
 Ref 15.00 dBm
 Trig: Free Run
 IF Gain: low
 Atten: 6 dB
 Avg Type: RMS
 Avg/Hold: 37/100
 Type: Noise Floor
 DET: A (ENVELOPE)

10 dB/div
 Ref Offset 23.5 dB
 Ref 15.00 dBm
 Mkr2 17.089 4 GHz
 -43.769 dBm

Start 30 MHz
 #Res BW 1.0 MHz
 #VBW 3.0 MHz*
 Sweep 50.67 ms (40001 pts)
 Stop 20.000 GHz

Mkr	Mode	Trig	SCN	F	F	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	1	f	2.307 5 GHz	15.992 dBm		
2	N	1	1	f	17.089 4 GHz	-43.769 dBm		
3								
4								
5								
6								
7								
8								
9								
10								
11								

Next Peak
 Next Pk Right
 Next Pk Left
 Marker Delta
 Mkr--CF
 Mkr--Ref Lvl
 More
 1 of 2

Agilent Spectrum Analyzer - Sweep SA

Marker 1 23.781500000000 GHz
 Ref Offset 16.5 dB
 Ref 0.00 dBm
 Trig: Free Run
 IF Gain: low
 Atten: 6 dB
 Avg Type: RMS
 Avg/Hold: 43/100
 Type: Noise Floor
 DET: A (ENVELOPE)

10 dB/div
 Ref Offset 16.5 dB
 Ref 0.00 dBm
 Mkr1 23.781 5 GHz
 -45.809 dBm

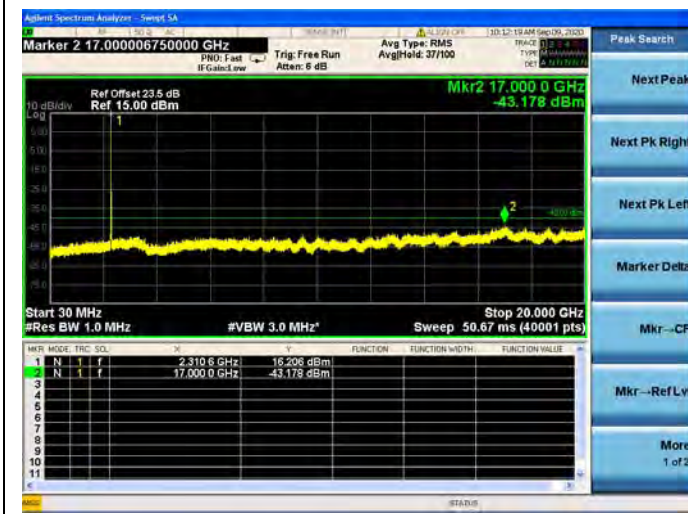
Start 20.000 GHz
 #Res BW 1.0 MHz
 #VBW 3.0 MHz*
 Sweep 10.67 ms (40001 pts)
 Stop 24.000 GHz

Next Peak
 Next Pk Right
 Next Pk Left
 Marker Delta
 Mkr--CF
 Mkr--Ref Lvl
 More
 1 of 2

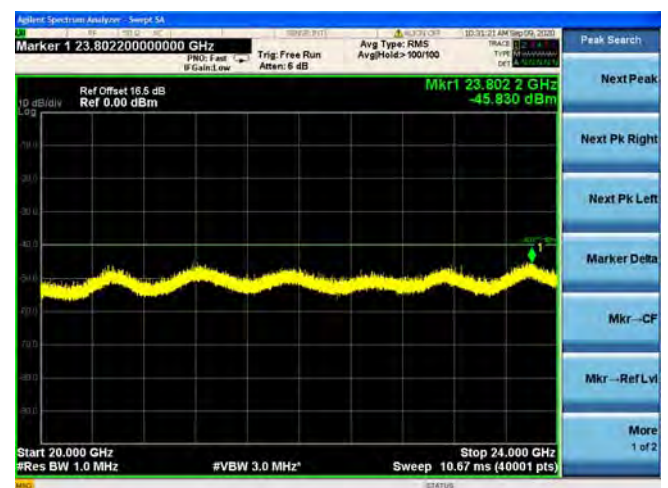
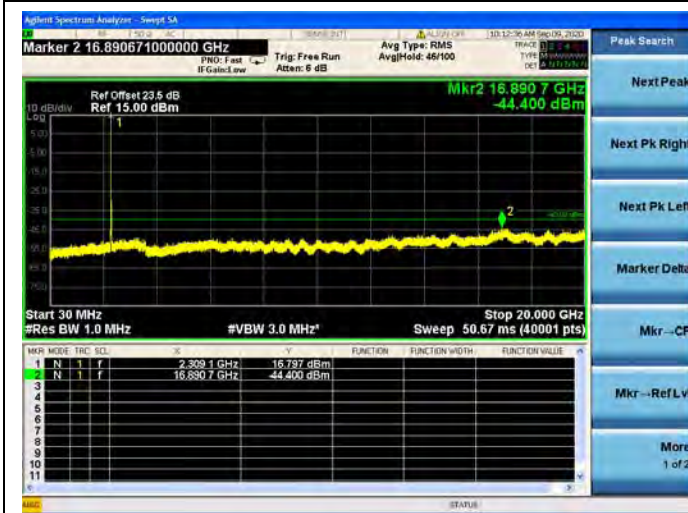
The figure consists of two side-by-side screenshots of an Agilent Spectrum Analyzer interface. Both screenshots show a spectrum plot with a yellow trace representing the signal. The left screenshot has a marker at 17.0094925 GHz with a power level of -44.001 dBm. The right screenshot has a marker at 23.7705 GHz with a power level of -45.378 dBm. Both screenshots show a noisy signal with a clear peak at the marked frequency. The interface includes various controls and readouts such as frequency, power, and sweep parameters.



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

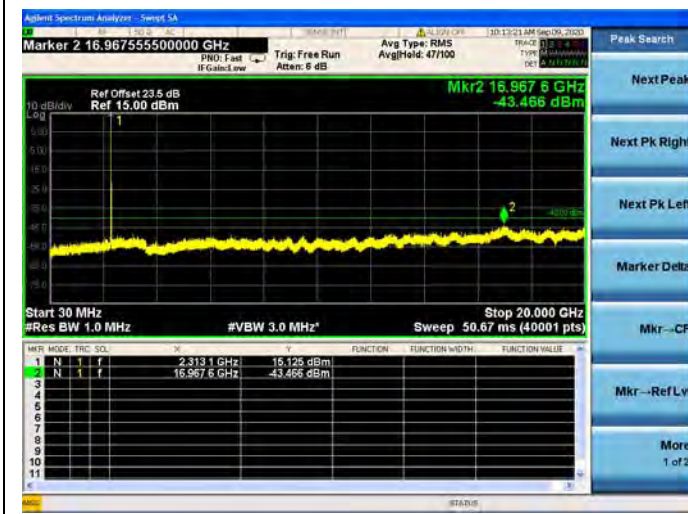


Band 40 / Block A / 5MHz / Mid CH / 16QAM

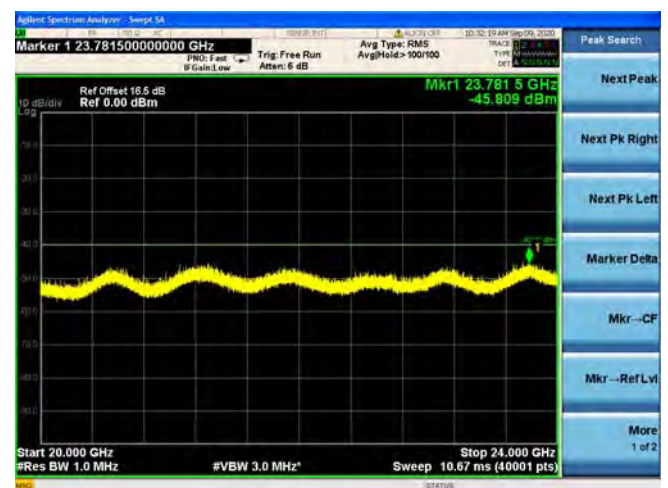
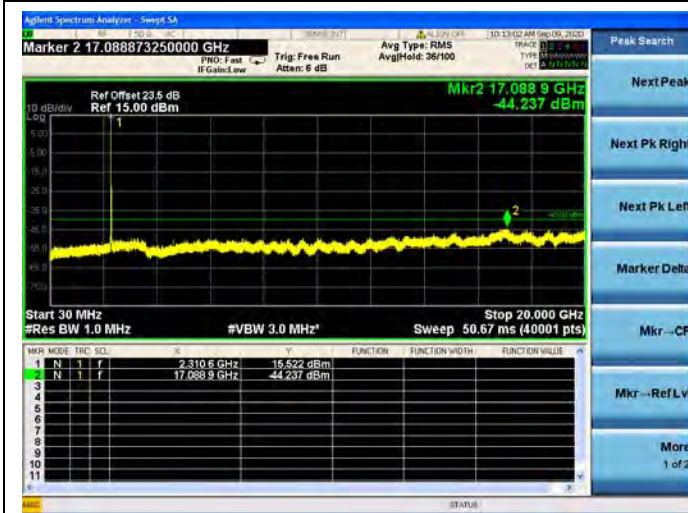




Band 40 / Block A / 5MHz / High CH / QPSK

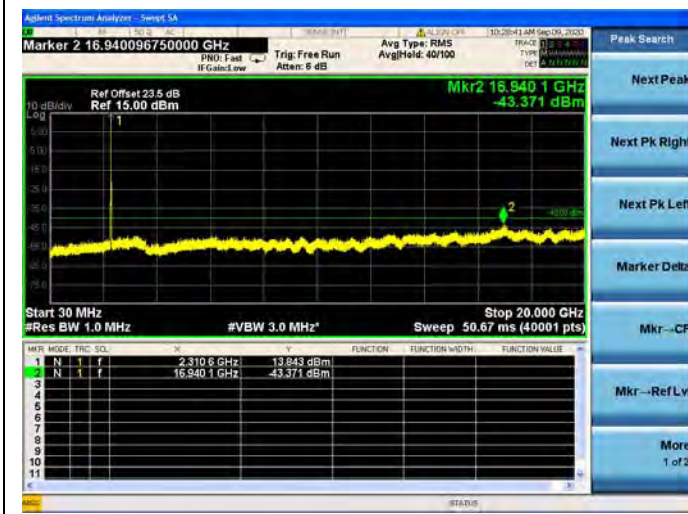


Band 40 / Block A / 5MHz / High CH / 16QAM

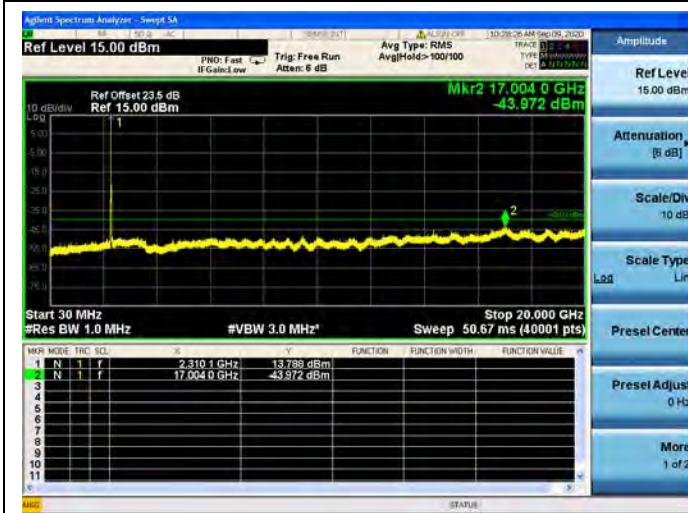




Band 40 / Block A / 10MHz / Mid CH / QPSK

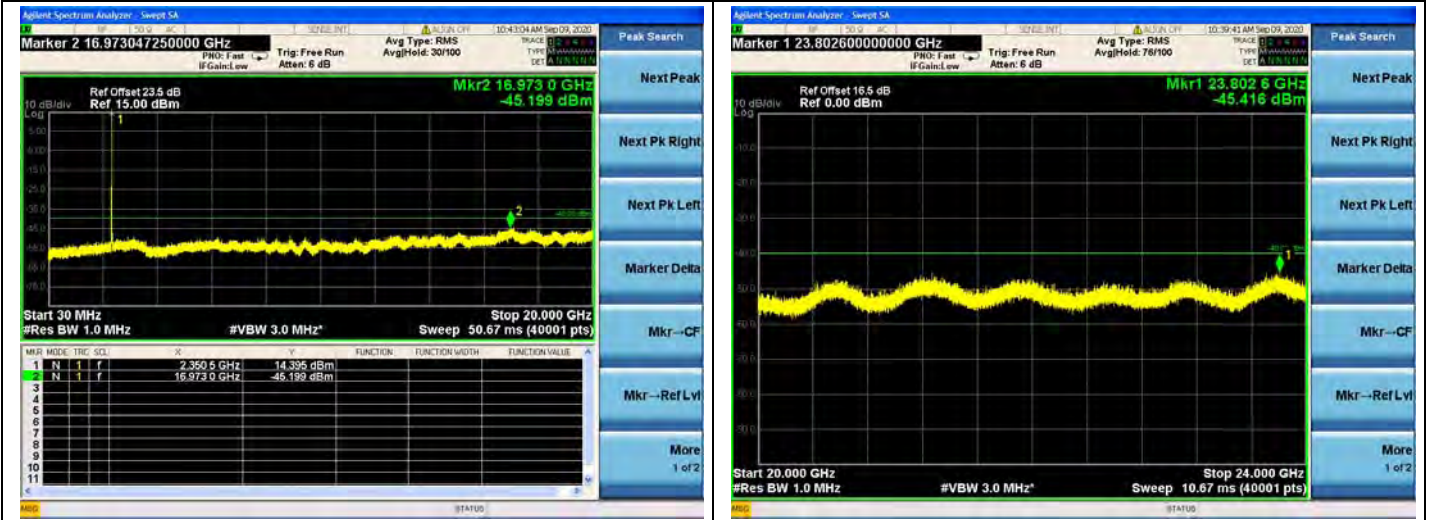


Band 40 / Block A / 10MHz / Mid CH / 16QAM

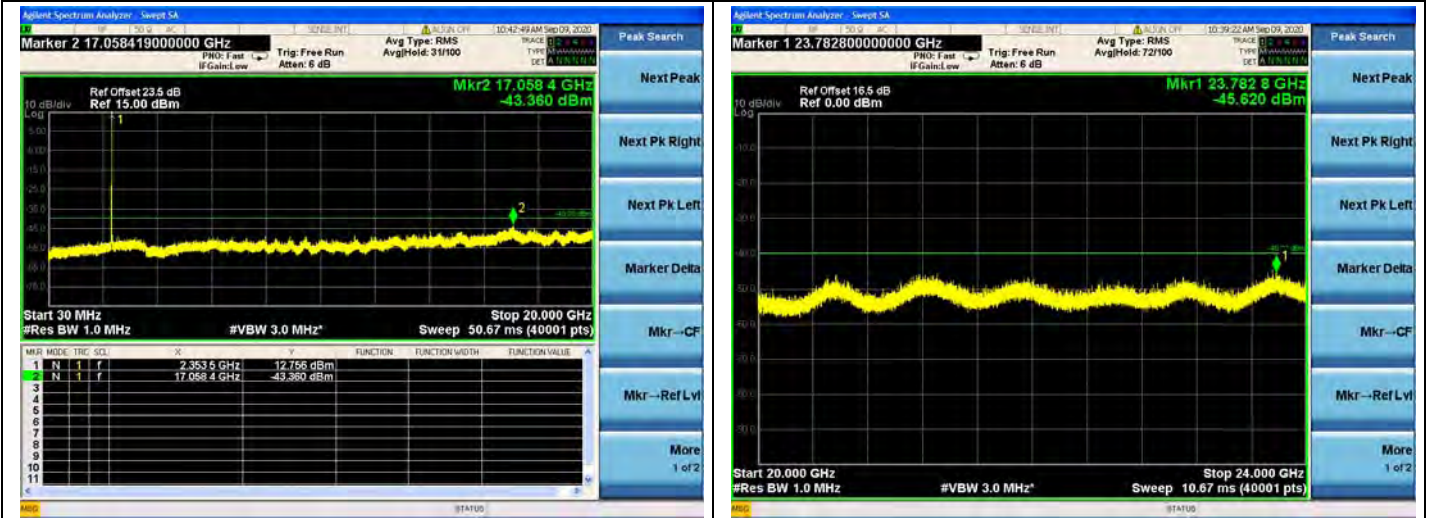




Band 40 / Block B / 5MHz / Low CH / QPSK

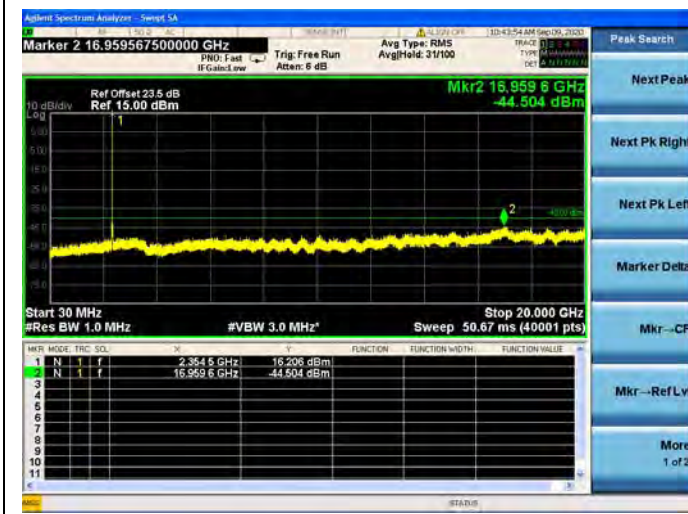


Band 40 / Block B / 5MHz / Low CH / 16QAM

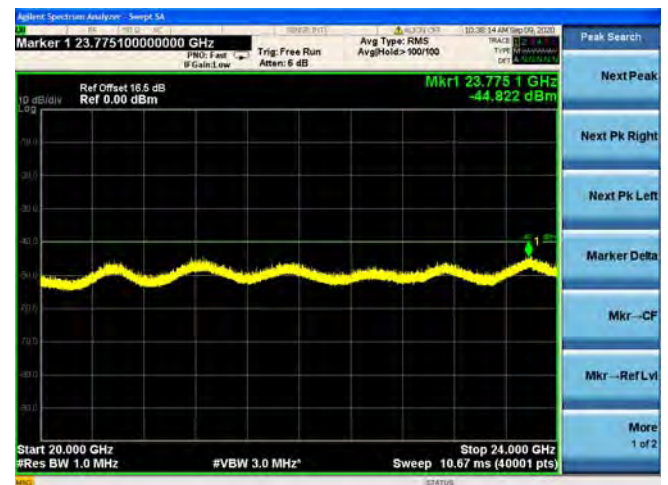
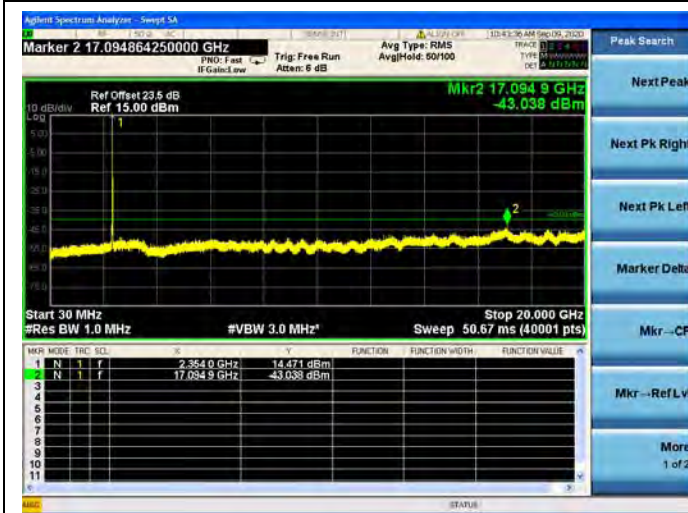




Band 40 / Block B / 5MHz / Mid CH / QPSK



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

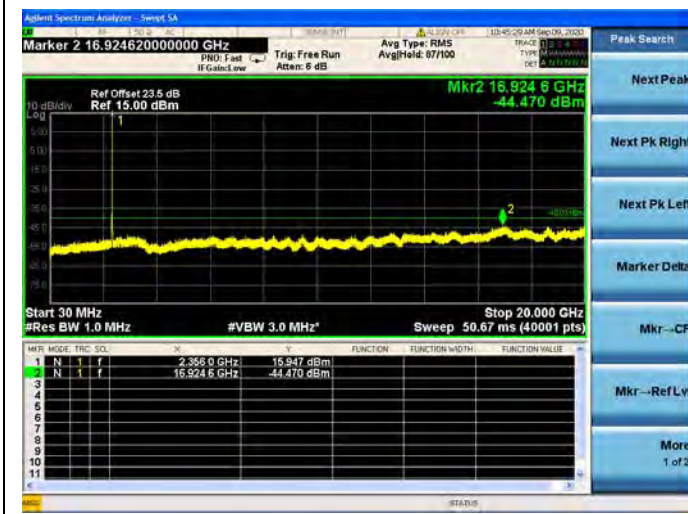


Band 40 / Block B / 5MHz / High CH / QPSK

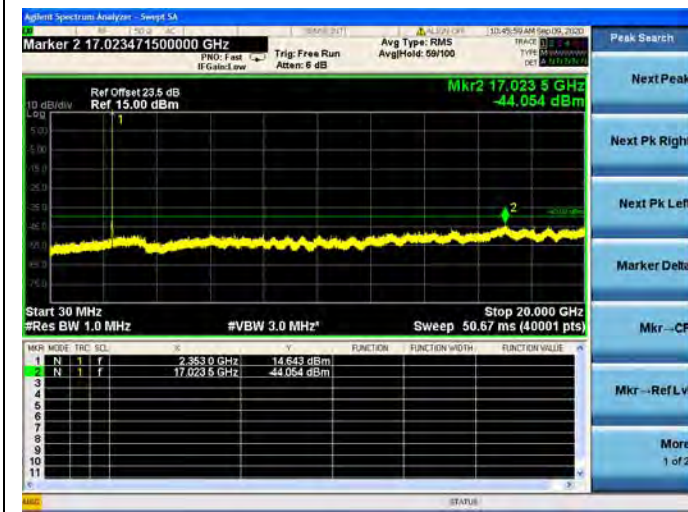




Band 40 / Block B / 10MHz / Mid CH / QPSK

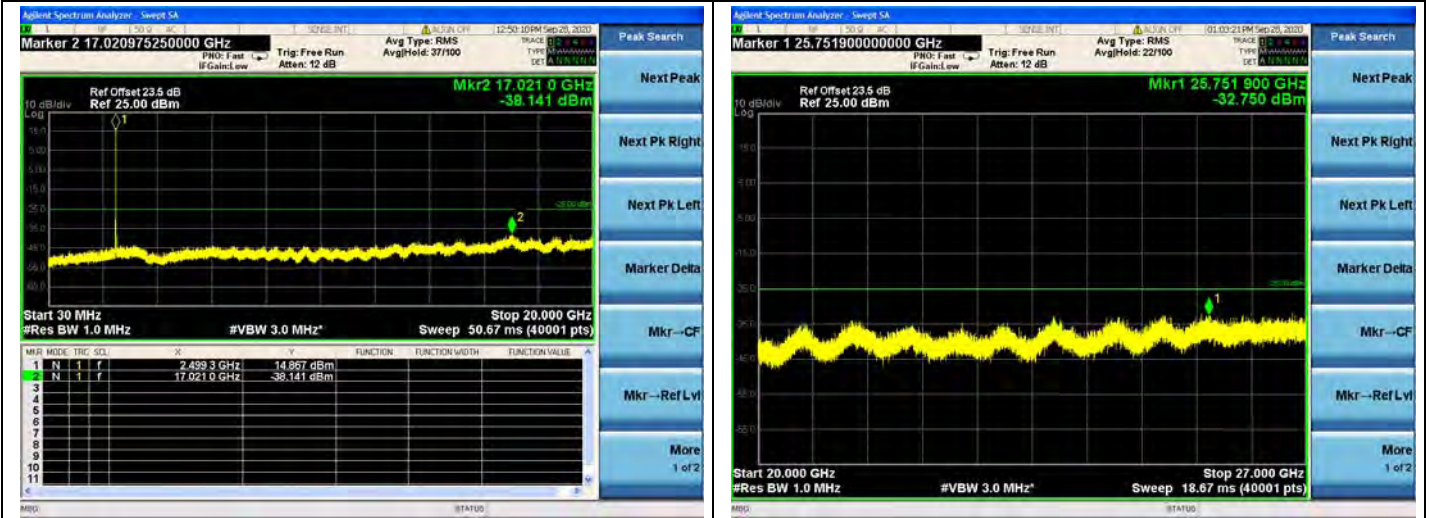


Band 40 / Block B / 10MHz / Mid CH / 16QAM

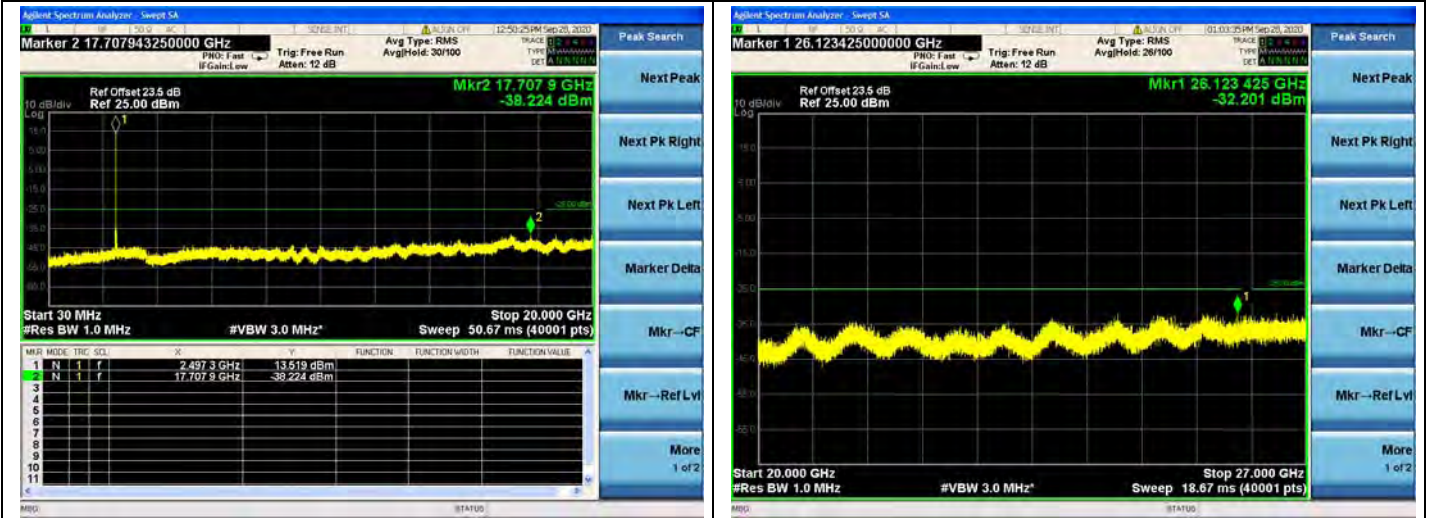




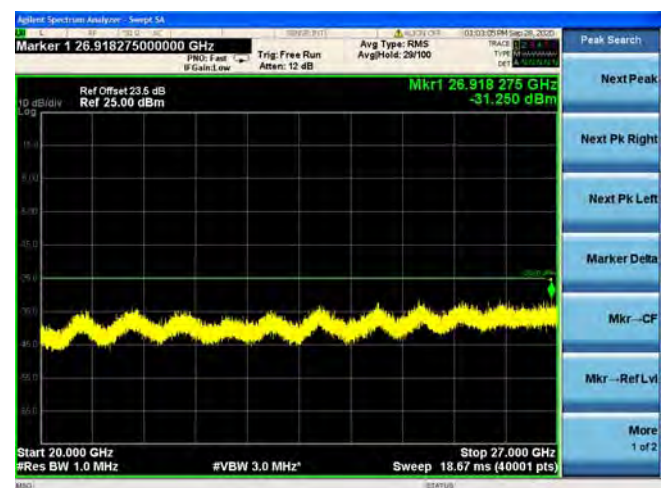
Band 41 / 5MHz / Low CH / QPSK



Band 41 / 5MHz / Low CH / 16QAM

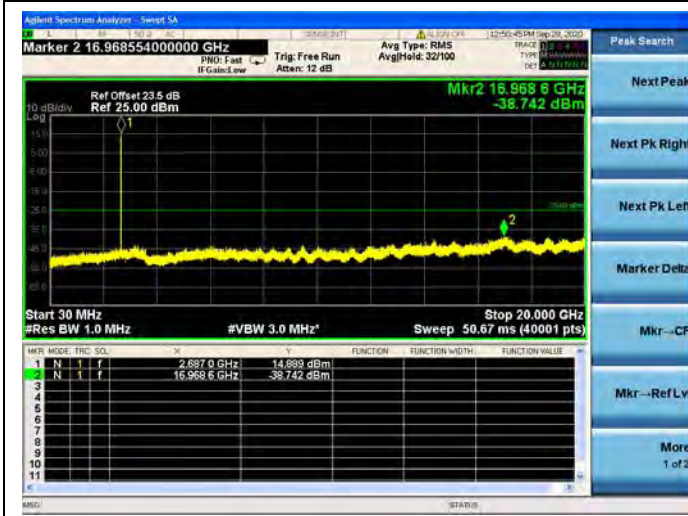


Band 41 / 5MHz / Mid CH / QPSK

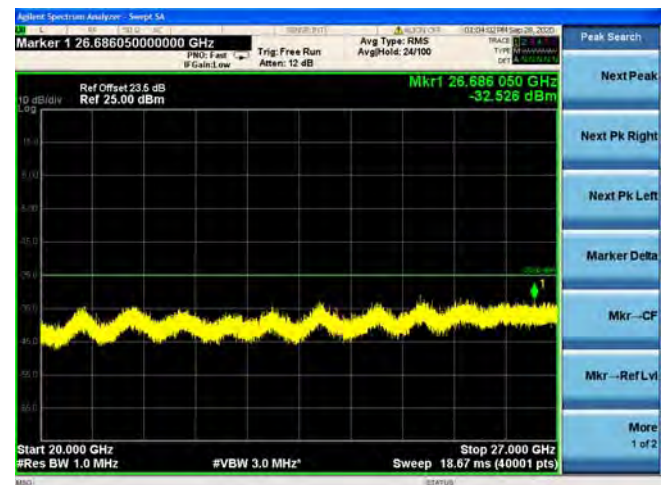
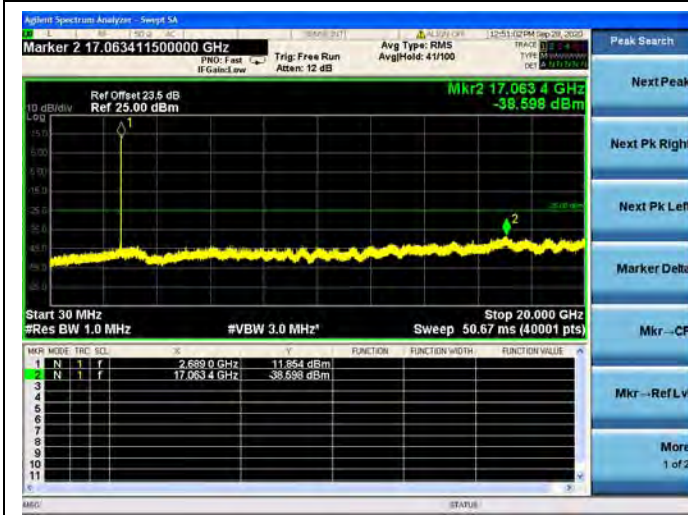




Band 41 / 5MHz / High CH / QPSK

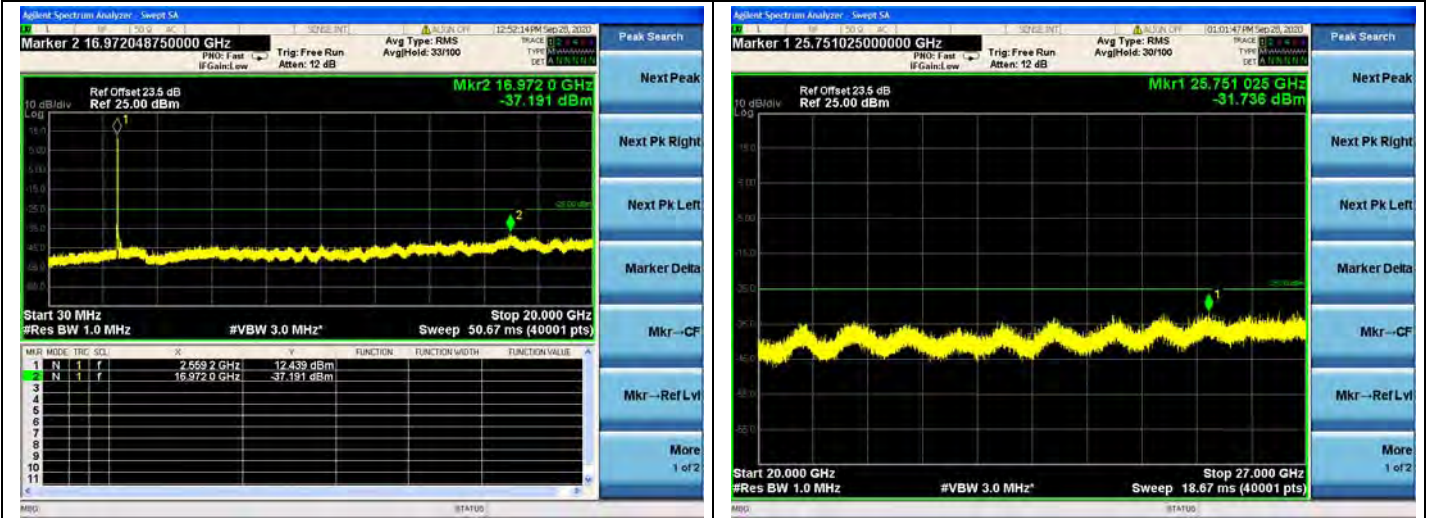


Band 41 / 5MHz / High CH / 16QAM

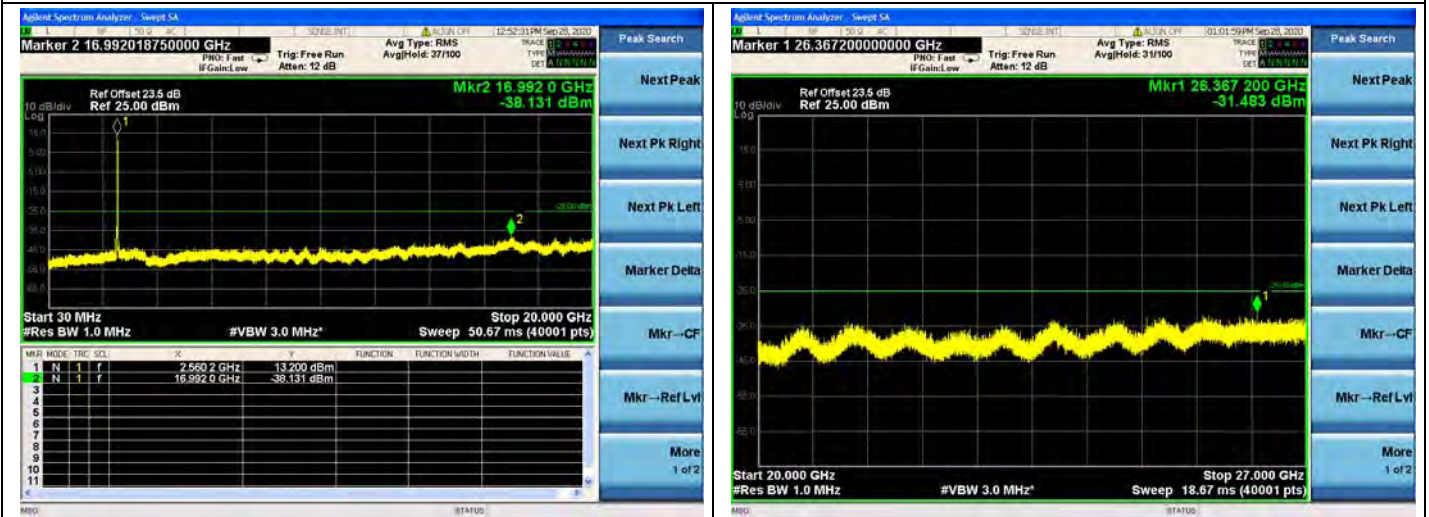




Band 41 / 10MHz / Low CH / QPSK

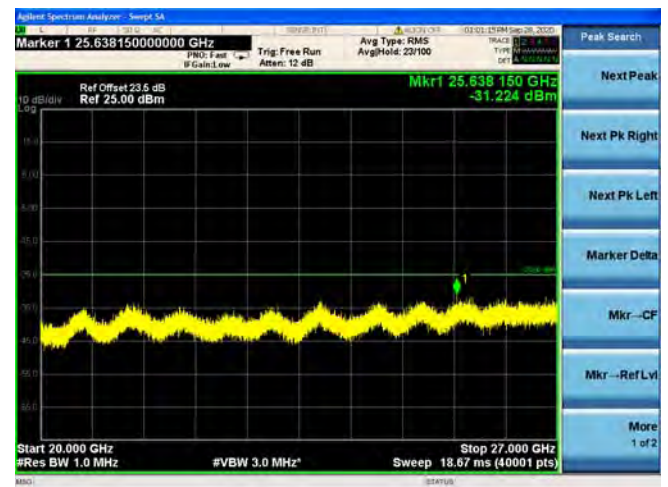
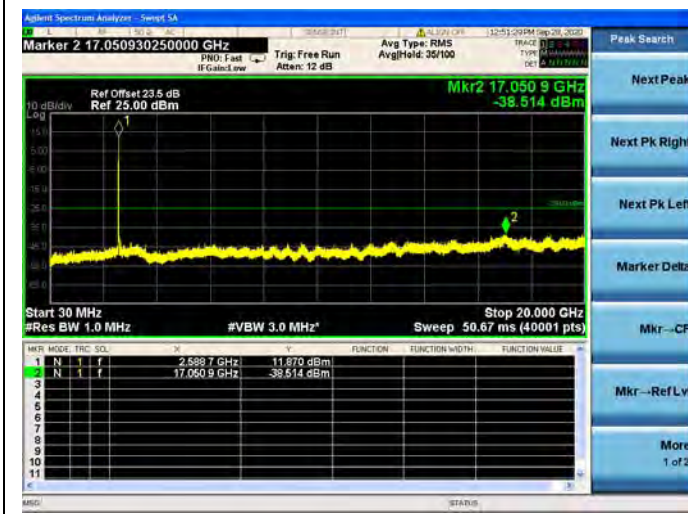


Band 41 / 10MHz / Low CH / 16QAM

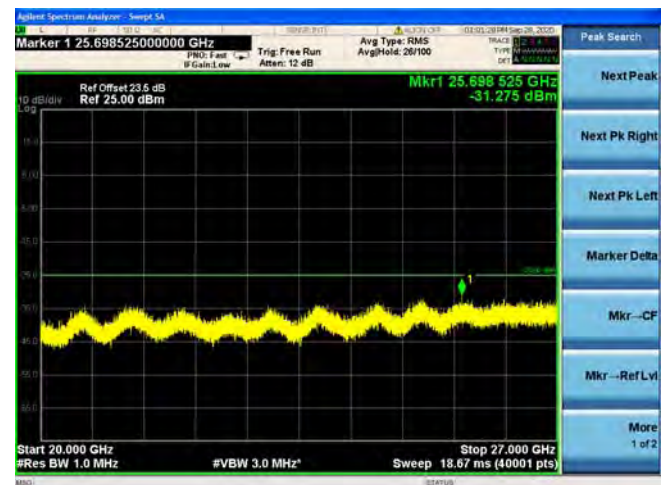
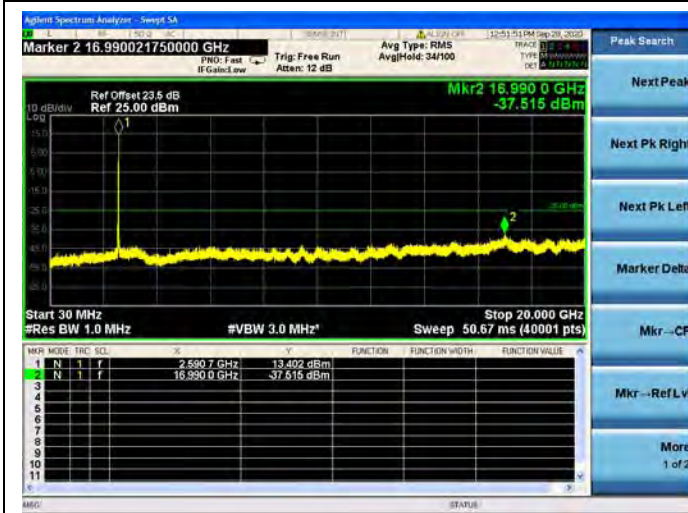




Band 41 / 10MHz / Mid CH / QPSK

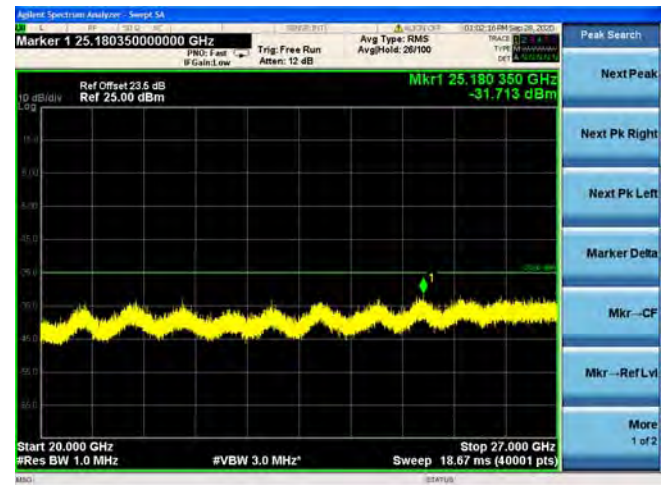
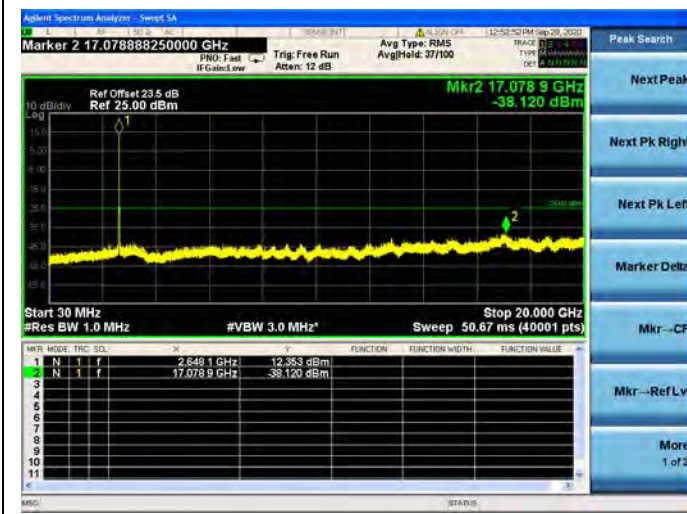


Band 41 / 10MHz / Mid CH / 16QAM

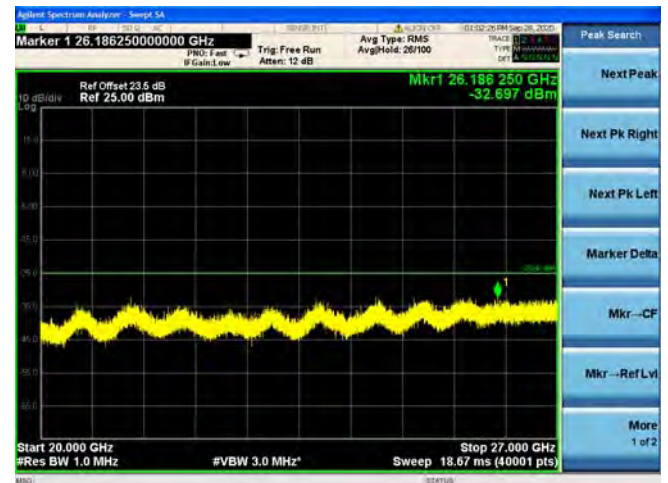
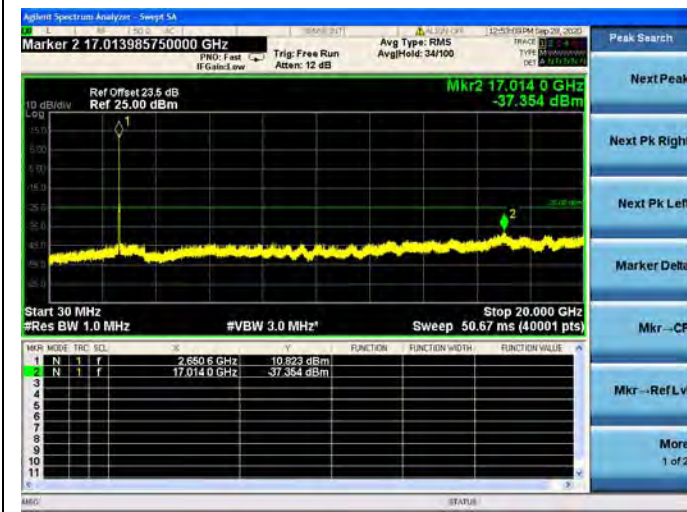




Band 41 / 10MHz / High CH / QPSK

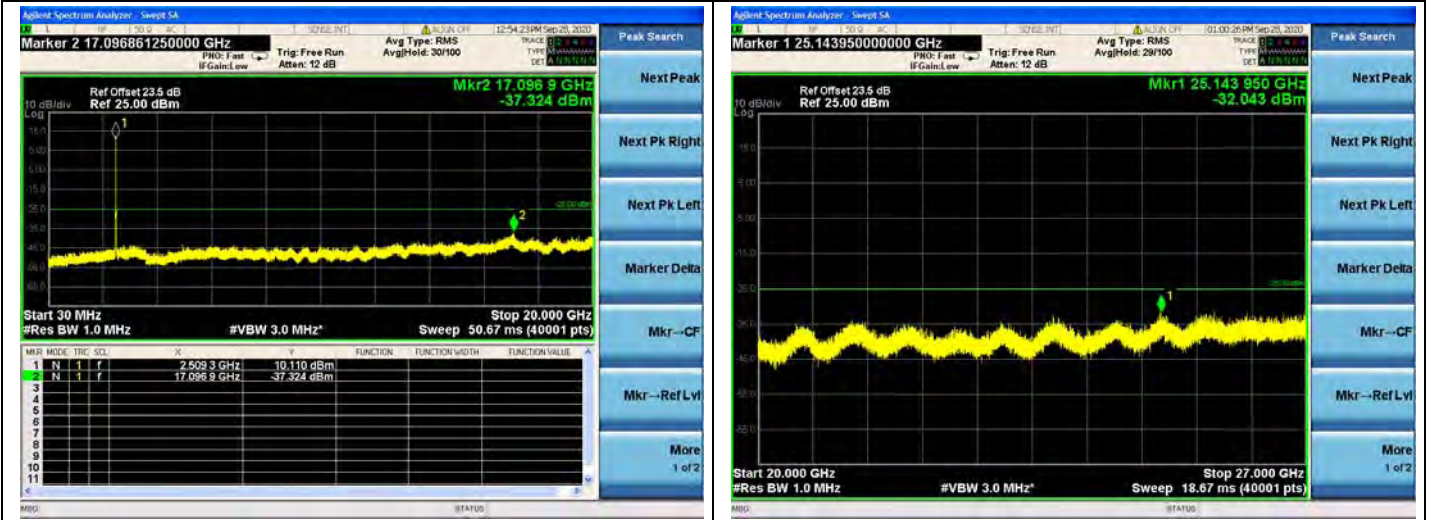


Band 41 / 10MHz / High CH / 16QAM

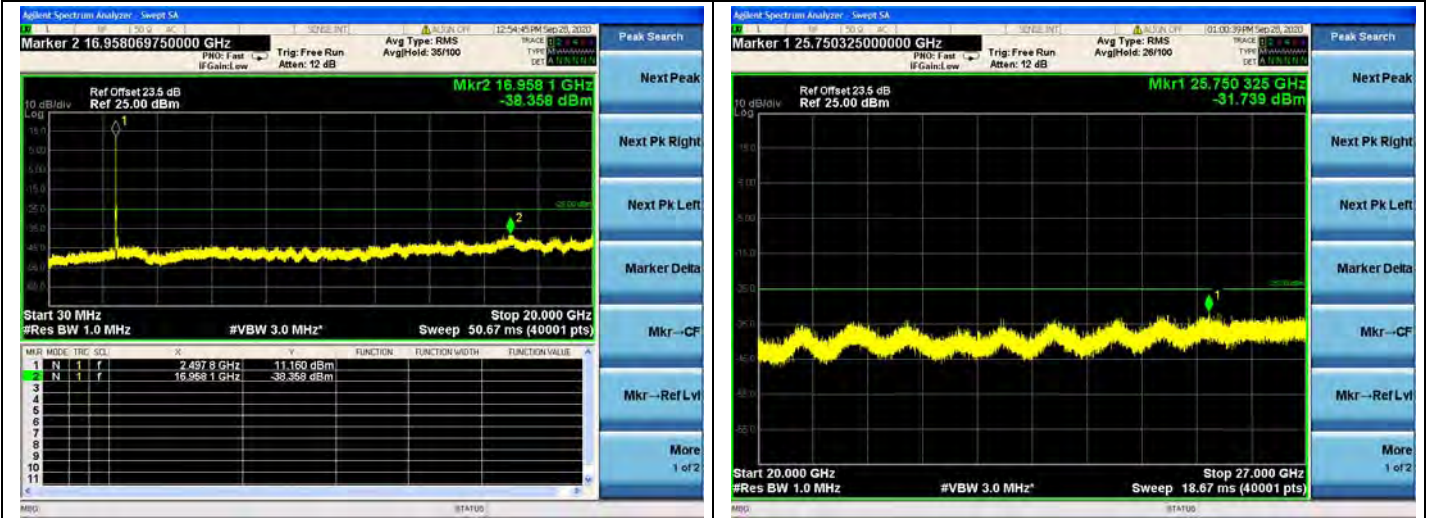




Band 41 / 15MHz / Low CH / QPSK

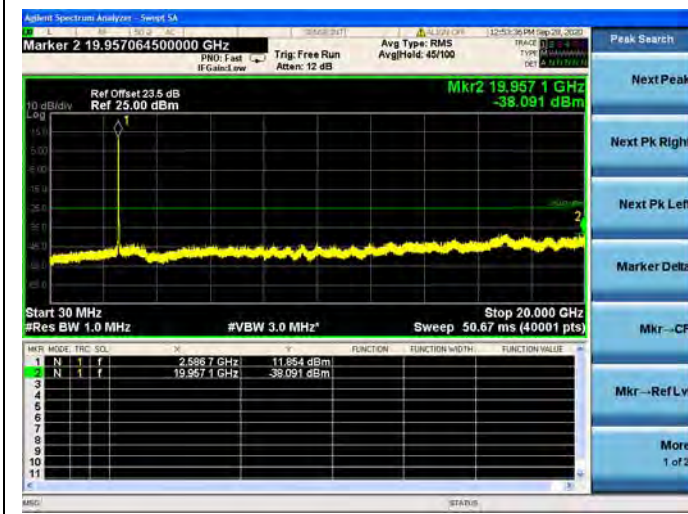


Band 41 / 15MHz / Low CH / 16QAM

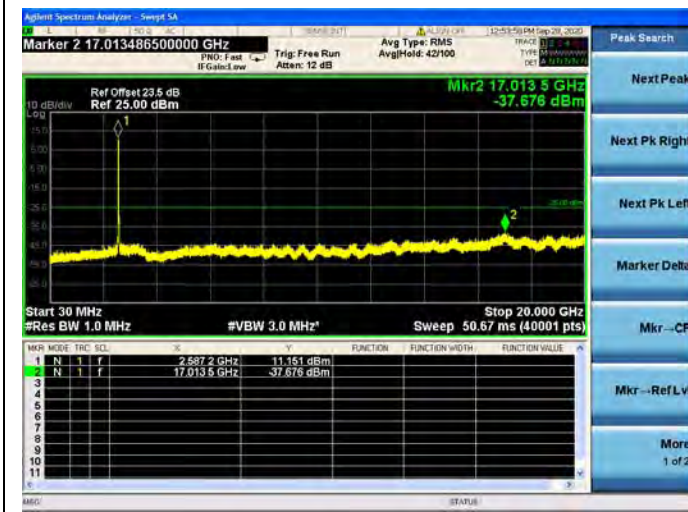




Band 41 / 15MHz / Mid CH / QPSK

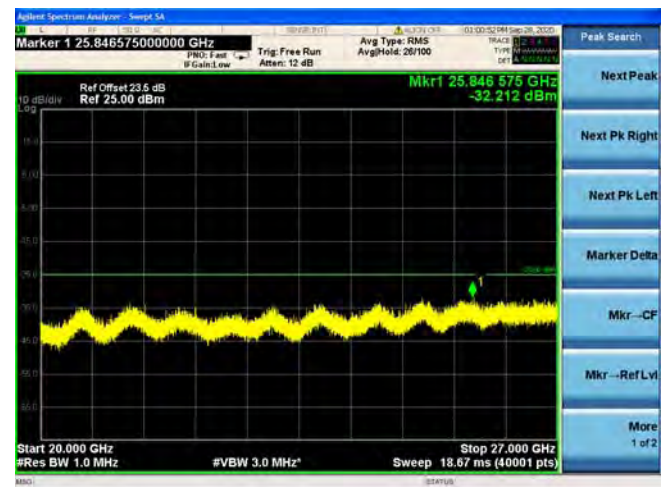
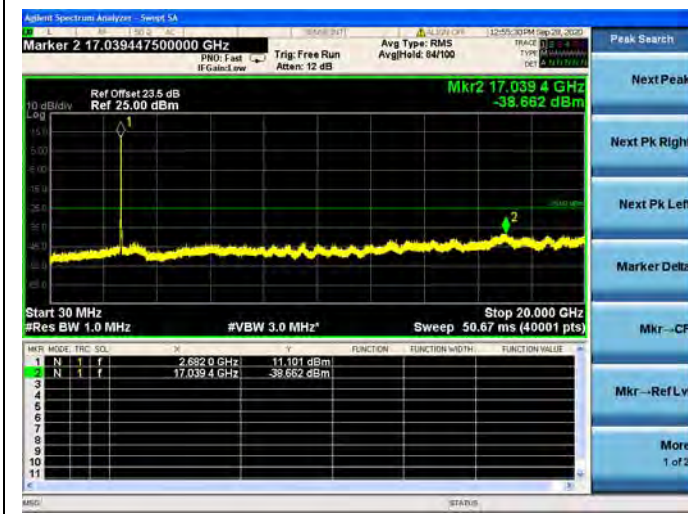


Band 41 / 15MHz / Mid CH / 16QAM

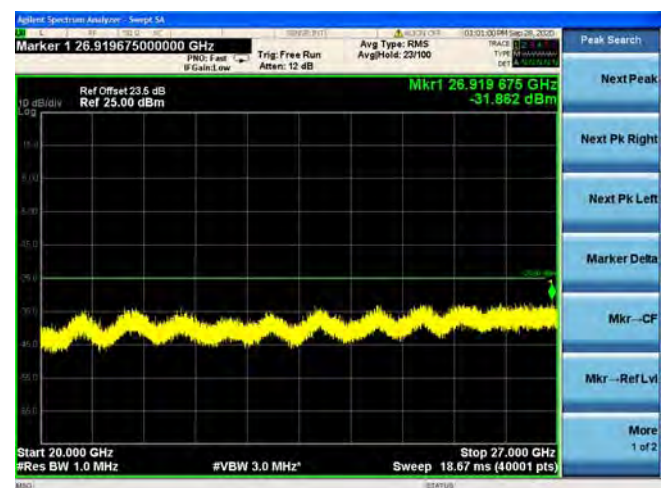
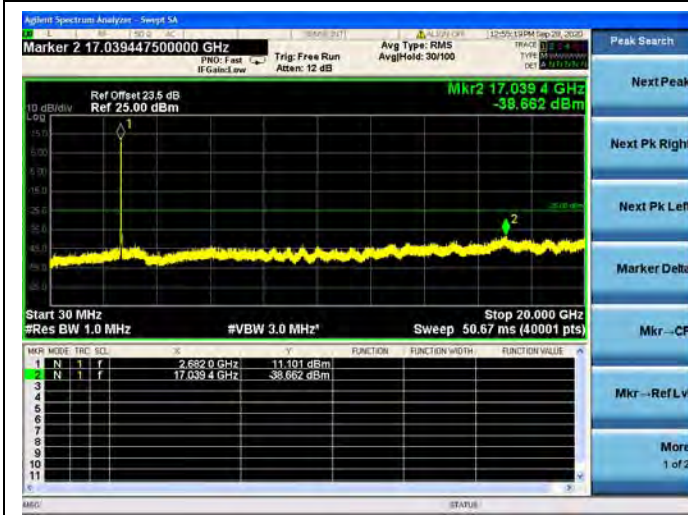




Band 41 / 15MHz / High CH / QPSK

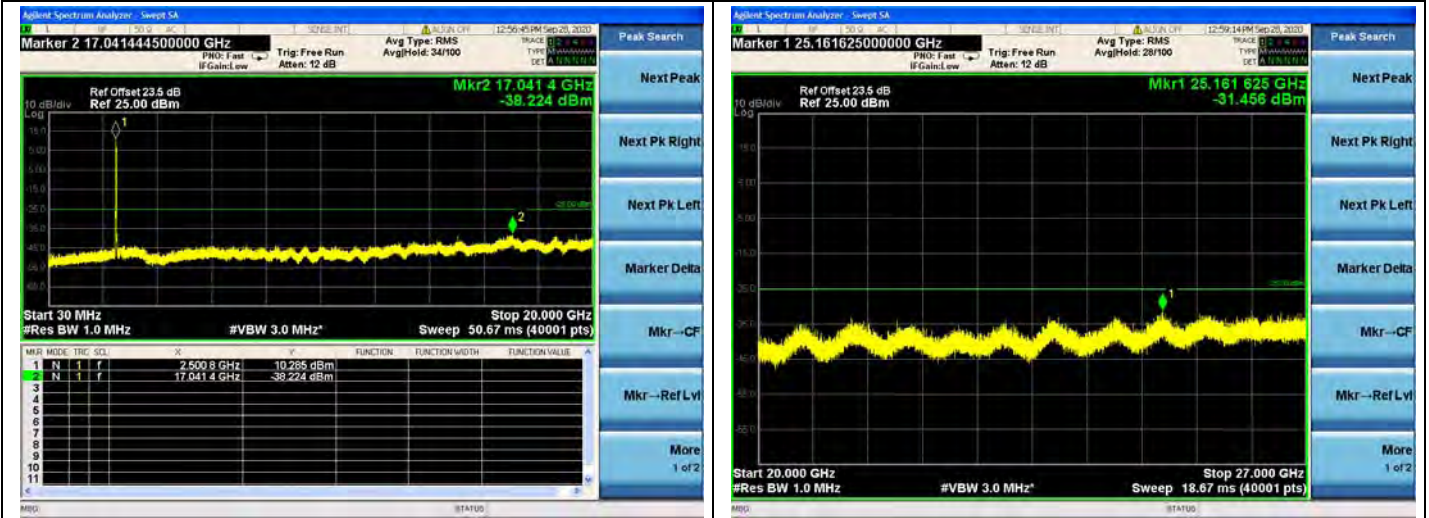


Band 41 / 15MHz / High CH / 16QAM

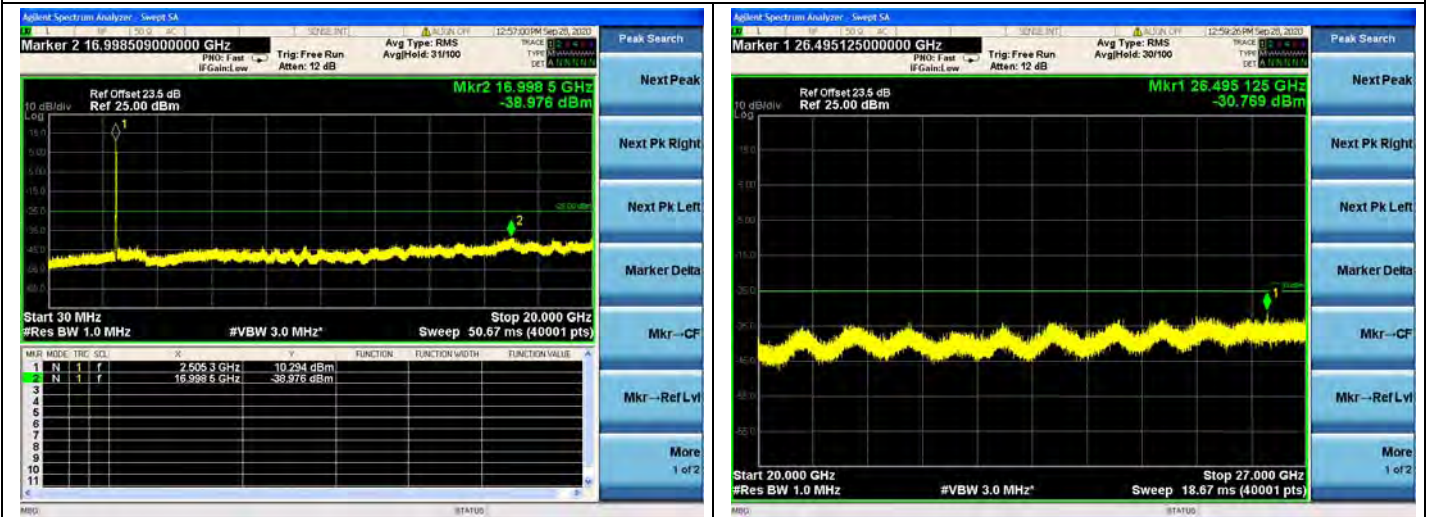




Band 41 / 20MHz / Low CH / QPSK

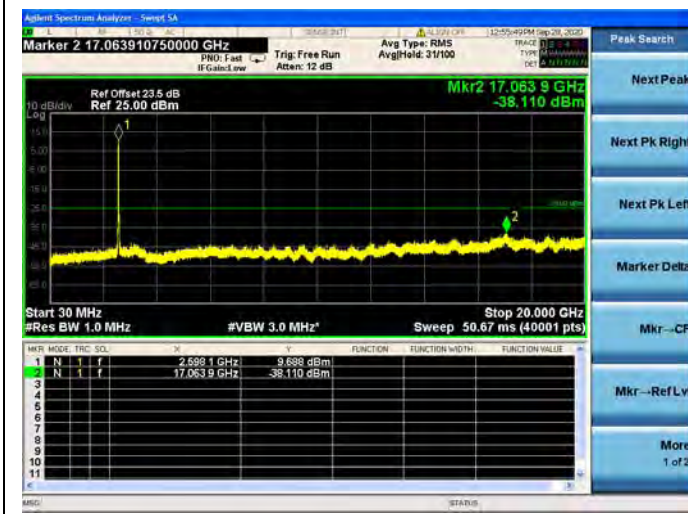


Band 41 / 20MHz / Low CH / 16QAM

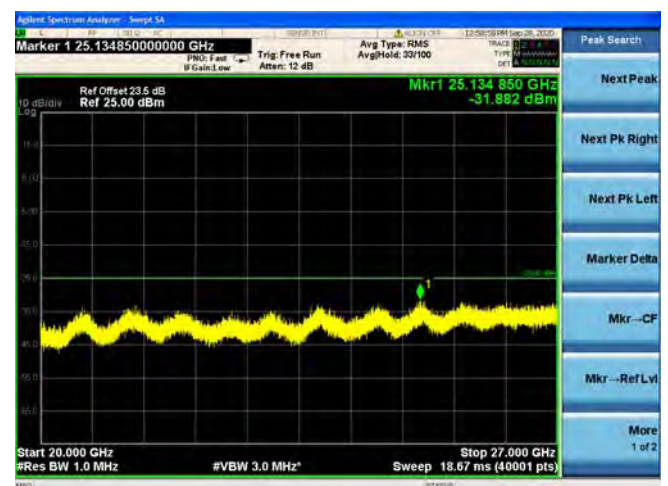
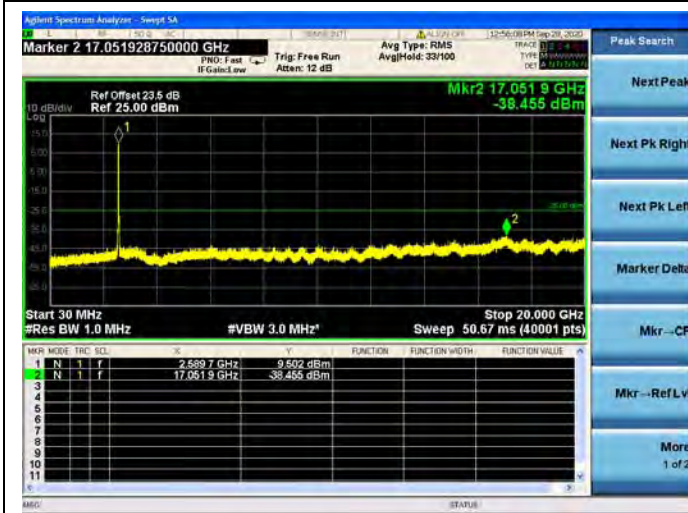




Band 41 / 20MHz / Mid CH / QPSK

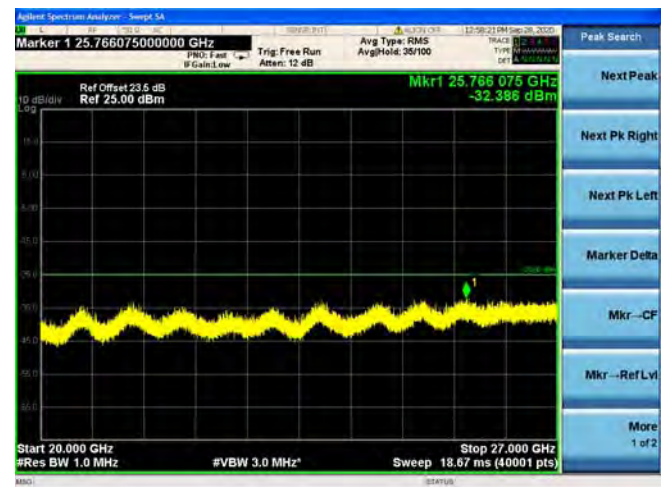
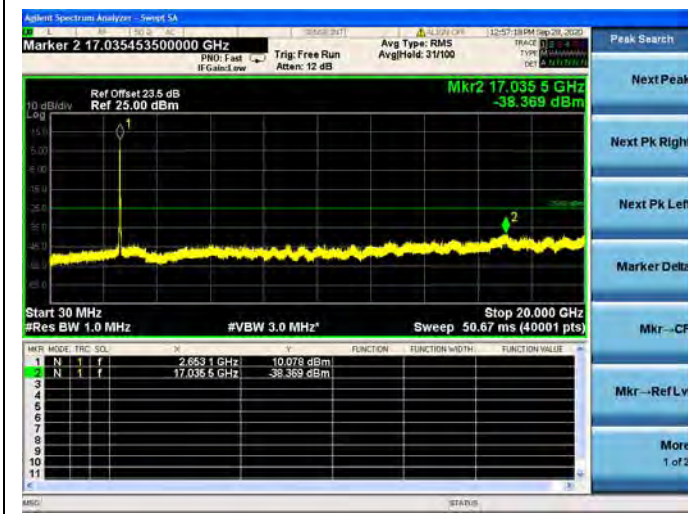


Band 41 / 20MHz / Mid CH / 16QAM

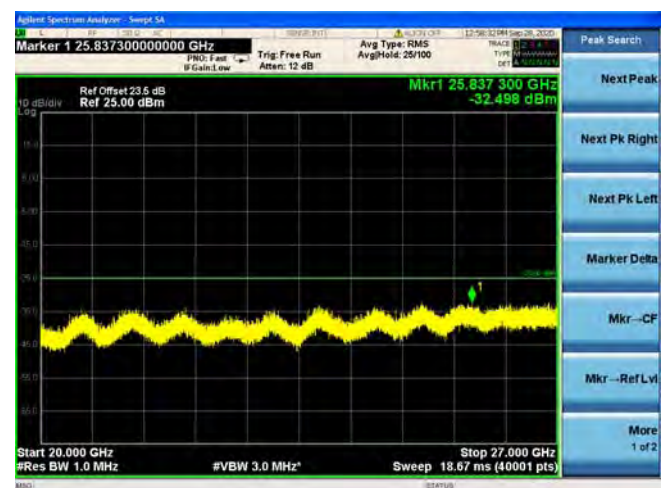
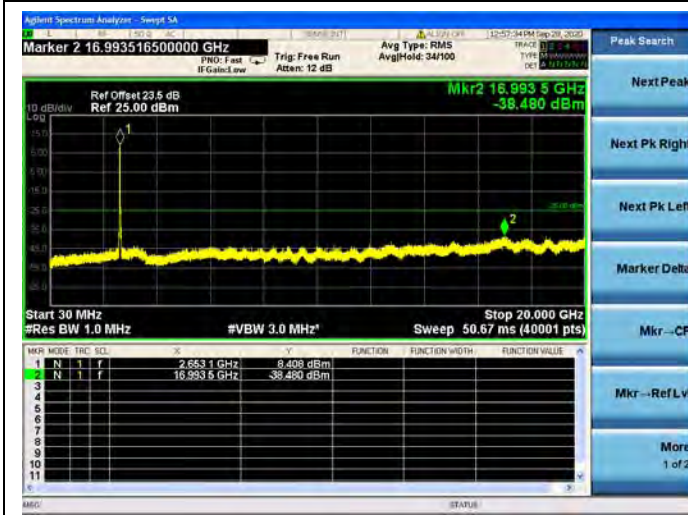




Band 41 / 20MHz / High CH / QPSK



Band 41 / 20MHz / High CH / 16QAM



2.6. Band Edge

2.6.1. Requirement

According to FCC section 22.917(a), 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.

According to FCC section 24.238(a), 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.

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.

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.

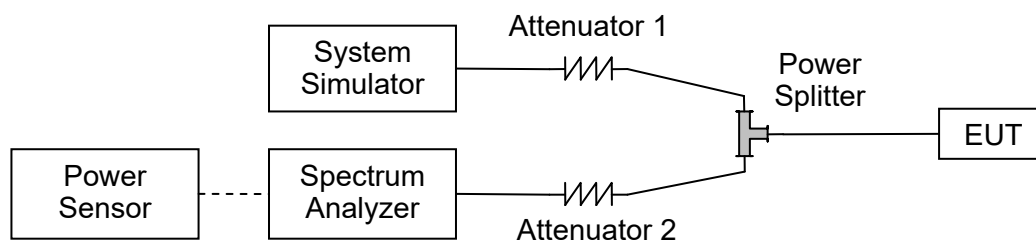
According to FCC section 27.53(a) (4), for mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:

(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 50 Ohm; 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 / 1.4MHz / Low CH / QPSK / 1 RB



Band2 / 1.4MHz / Low CH / QPSK / FULL RB



Band2 / 1.4MHz / Low CH / 16QAM / 1 RB



Band2 / 1.4MHz / Low CH / 16QAM / FULL RB





Band2 / 1.4MHz / High CH / QPSK / 1 RB



Band2 / 1.4MHz / High CH / QPSK / FULL RB



Band2 / 1.4MHz / High CH / 16QAM / 1 RB



Band2 / 1.4MHz / High CH / 16QAM / FULL RB





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



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



Band2 / 3MHz / Low CH / 16QAM / 1 RB



Band2 / 3MHz / Low CH / 16QAM / FULL RB





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



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



Band2 / 3MHz / High CH / 16QAM / 1 RB



Band2 / 3MHz / High CH / 16QAM / FULL RB





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



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



Band2 / 5MHz / Low CH / 16QAM / 1 RB



Band2 / 5MHz / Low CH / 16QAM / FULL RB





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



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



Band2 / 5MHz / High CH / 16QAM / 1 RB



Band2 / 5MHz / High CH / 16QAM / FULL RB







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



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



Band2 / 10MHz / High CH / 16QAM / 1 RB

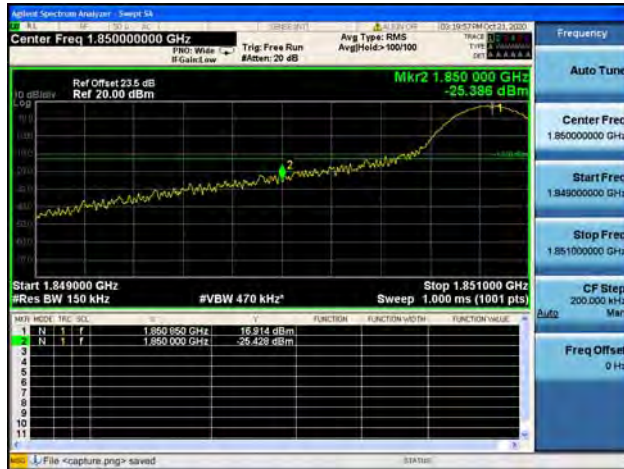


Band2 / 10MHz / High CH / 16QAM / FULL RB





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



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



Band2 / 15MHz / Low CH / 16QAM / 1 RB



Band2 / 15MHz / Low CH / 16QAM / FULL RB





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



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



Band2 / 15MHz / High CH / 16QAM / 1 RB



Band2 / 15MHz / High CH / 16QAM / FULL RB





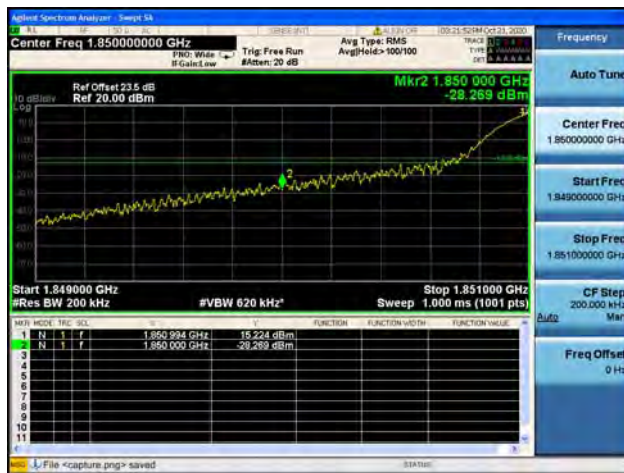
Band2 / 20MHz / Low CH / QPSK / 1 RB



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



Band2 / 20MHz / Low CH / 16QAM / 1 RB



Band2 / 20MHz / Low CH / 16QAM / FULL RB





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



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



Band2 / 20MHz / High CH / 16QAM / 1 RB



Band2 / 20MHz / High CH / 16QAM / FULL RB





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



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



Band4 / 1.4MHz / Low CH / 16QAM / 1 RB



Band4 / 1.4MHz / Low CH / 16QAM / FULL RB





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



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



Band4 / 1.4MHz / High CH / 16QAM / 1 RB



Band4 / 1.4MHz / High CH / 16QAM / FULL RB





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



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



Band4 / 3MHz / Low CH / 16QAM / 1 RB



Band4 / 3MHz / Low CH / 16QAM / FULL RB





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



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



Band4 / 3MHz / High CH / 16QAM / 1 RB



Band4 / 3MHz / High CH / 16QAM / FULL RB





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



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



Band4 / 5MHz / Low CH / 16QAM / 1 RB



Band4 / 5MHz / Low CH / 16QAM / FULL RB





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



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



Band4 / 5MHz / High CH / 16QAM / 1 RB



Band4 / 5MHz / High CH / 16QAM / FULL RB





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



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



Band4 / 10MHz / Low CH / 16QAM / 1 RB



Band4 / 10MHz / Low CH / 16QAM / FULL RB





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



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



Band4 / 10MHz / High CH / 16QAM / 1 RB



Band4 / 10MHz / High CH / 16QAM / FULL RB





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



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



Band4 / 15MHz / Low CH / 16QAM / 1 RB



Band4 / 15MHz / Low CH / 16QAM / FULL RB





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



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



Band4 / 15MHz / High CH / 16QAM / 1 RB



Band4 / 15MHz / High CH / 16QAM / FULL RB

