



Band5 / 10MHz / Low CH / QPSK



Band5 / 10MHz / Low CH / 16QAM



Band5 / 10MHz / Mid CH / QPSK



Band5 / 10MHz / Mid CH / 16QAM



Band5 / 10MHz / High CH / QPSK



Band5 / 10MHz / High CH / 16QAM





Band7 / 5MHz / Low CH / QPSK



Band7 / 5MHz / Low CH / 16QAM



Band7 / 5MHz / Mid CH / QPSK



Band7 / 5MHz / Mid CH / 16QAM



Band7 / 5MHz / High CH / QPSK

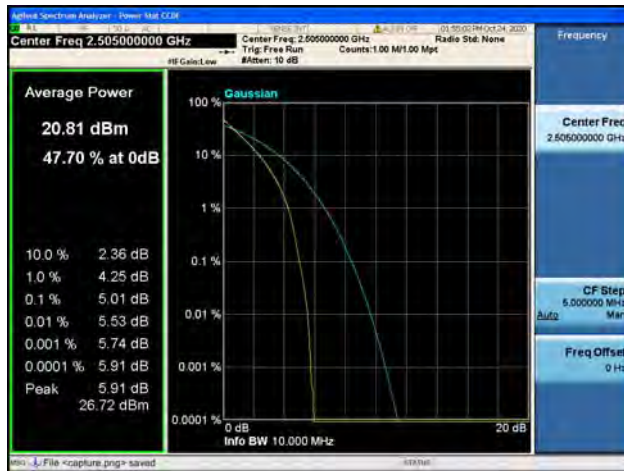


Band7 / 5MHz / High CH / 16QAM





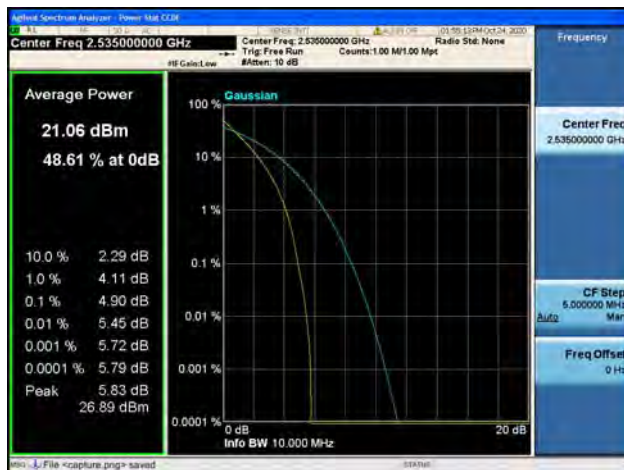
Band7 / 10MHz / Low CH / QPSK



Band7 / 10MHz / Low CH / 16QAM



Band7 / 10MHz / Mid CH / QPSK



Band7 / 10MHz / Mid CH / 16QAM



Band7 / 10MHz / High CH / QPSK



Band7 / 10MHz / High CH / 16QAM





Band7 / 15MHz / Low CH / QPSK



Band7 / 15MHz / Low CH / 16QAM



Band7 / 15MHz / Mid CH / QPSK



Band7 / 15MHz / Mid CH / 16QAM



Band7 / 15MHz / High CH / QPSK



Band7 / 15MHz / High CH / 16QAM



Band7 / 20MHz / Low CH / QPSK



Band7 / 20MHz / Low CH / 16QAM



Band7 / 20MHz / Mid CH / QPSK



Band7 / 20MHz / Mid CH / 16QAM



Band7 / 20MHz / High CH / QPSK



Band7 / 20MHz / High CH / 16QAM



Band12 / 1.4MHz / Low CH / QPSK



Band12 / 1.4MHz / Low CH / 16QAM



Band12 / 1.4MHz / Mid CH / QPSK



Band12 / 1.4MHz / Mid CH / 16QAM



Band12 / 1.4MHz / High CH / QPSK



Band12 / 1.4MHz / High CH / 16QAM





Band12 / 3MHz / Low CH / QPSK



Band12 / 3MHz / Low CH / 16QAM



Band12 / 3MHz / Mid CH / QPSK



Band12 / 3MHz / Mid CH / 16QAM



Band12 / 3MHz / High CH / QPSK



Band12 / 3MHz / High CH / 16QAM





Band12 / 5MHz / Low CH / QPSK



Band12 / 5MHz / Low CH / 16QAM



Band12 / 5MHz / Mid CH / QPSK



Band12 / 5MHz / Mid CH / 16QAM



Band12 / 5MHz / High CH / QPSK



Band12 / 5MHz / High CH / 16QAM





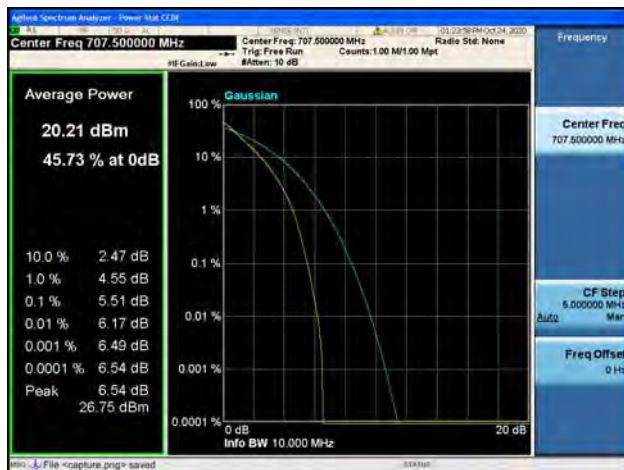
Band12 / 10MHz / Low CH / QPSK



Band12 / 10MHz / Low CH / 16QAM



Band12 / 10MHz / Mid CH / QPSK



Band12 / 10MHz / Mid CH / 16QAM



Band12 / 10MHz / High CH / QPSK



Band12 / 10MHz / High CH / 16QAM





Band13 / 5MHz / Low CH / QPSK



Band13 / 5MHz / Low CH / 16QAM



Band13 / 5MHz / Mid CH / QPSK



Band13 / 5MHz / Mid CH / 16QAM



Band13 / 5MHz / High CH / QPSK

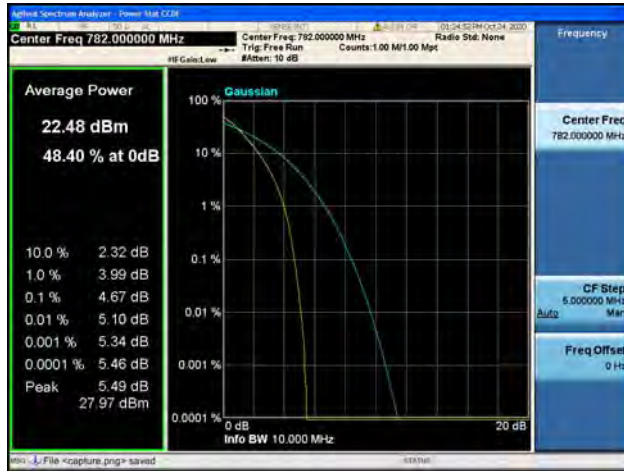


Band13 / 5MHz / High CH / 16QAM





Band13 / 10MHz / Low CH / QPSK



Band13 / 10MHz / Low CH / 16QAM



Band13 / 10MHz / Mid CH / QPSK



Band13 / 10MHz / Mid CH / 16QAM



Band13 / 10MHz / High CH / QPSK



Band13 / 10MHz / High CH / 16QAM





Band17 / 5MHz / Low CH / QPSK



Band17 / 5MHz / Low CH / 16QAM



Band17 / 5MHz / Mid CH / QPSK



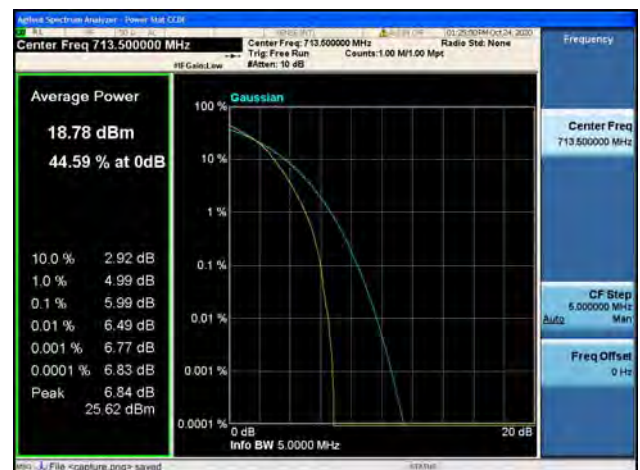
Band17 / 5MHz / Mid CH / 16QAM



Band17 / 5MHz / High CH / QPSK



Band17 / 5MHz / High CH / 16QAM





Band17 / 10MHz / Low CH / QPSK



Band17 / 10MHz / Low CH / 16QAM



Band17 / 10MHz / Mid CH / QPSK



Band17 / 10MHz / Mid CH / 16QAM



Band17 / 10MHz / High CH / QPSK



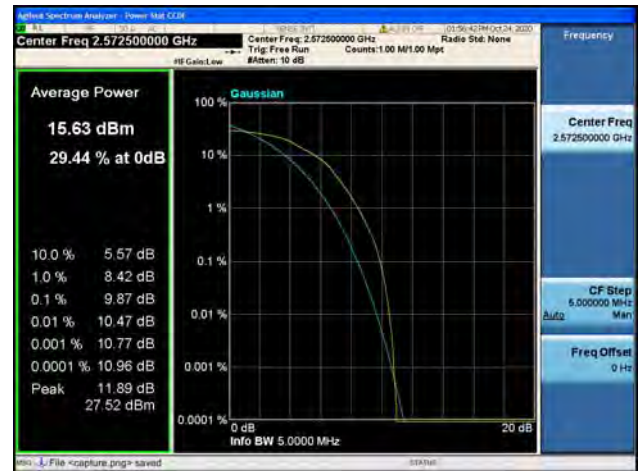
Band17 / 10MHz / High CH / 16QAM



Band38 / 5MHz / Low CH / QPSK



Band38 / 5MHz / Low CH / 16QAM



Band38 / 5MHz / Mid CH / QPSK



Band38 / 5MHz / Mid CH / 16QAM



Band38 / 5MHz / High CH / QPSK



Band38 / 5MHz / High CH / 16QAM





Band38 / 10MHz / Low CH / QPSK



Band38 / 10MHz / Low CH / 16QAM



Band38 / 10MHz / Mid CH / QPSK



Band38 / 10MHz / Mid CH / 16QAM



Band38 / 10MHz / High CH / QPSK



Band38 / 10MHz / High CH / 16QAM





Band38 / 15MHz / Low CH / QPSK



Band38 / 15MHz / Low CH / 16QAM



Band38 / 15MHz / Mid CH / QPSK



Band38 / 15MHz / Mid CH / 16QAM



Band38 / 15MHz / High CH / QPSK



Band38 / 15MHz / High CH / 16QAM



Band38 / 20MHz / Low CH / QPSK



Band38 / 20MHz / Low CH / 16QAM



Band38 / 20MHz / Mid CH / QPSK



Band38 / 20MHz / Mid CH / 16QAM



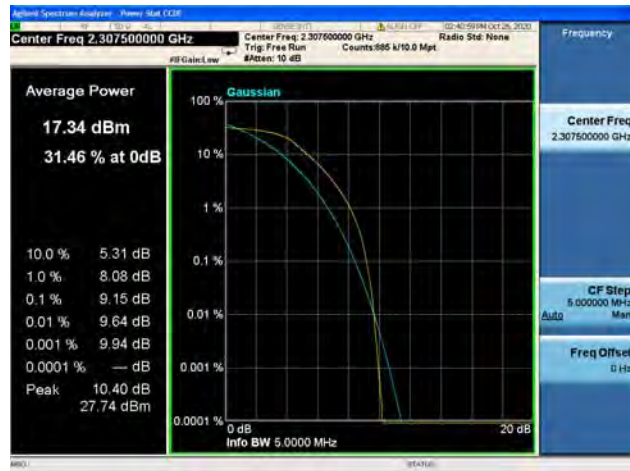
Band38 / 20MHz / High CH / QPSK



Band38 / 20MHz / High CH / 16QAM



Band40/ Block A / 5MHz / Low CH / QPSK



Band40/ Block A / 5MHz / Low CH / 16QAM



Band40/ Block A / 5MHz / Mid CH / QPSK



Band40/ Block A / 5MHz / Mid CH / 16QAM



Band40/ Block A / 5MHz / High CH / QPSK



Band40/ Block A / 5MHz / High CH / 16QAM





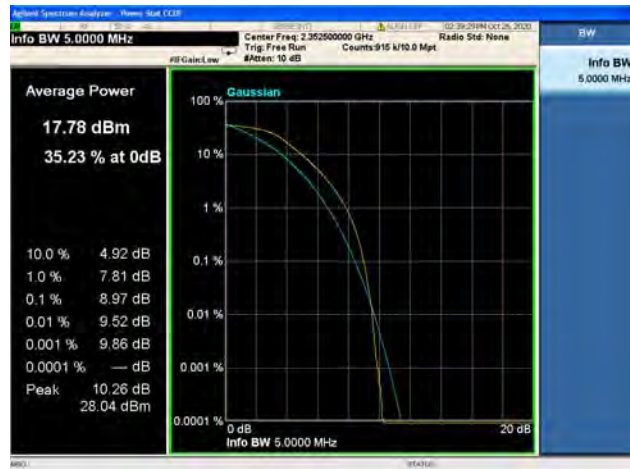
Band40/ Block A / 10MHz / Mid CH / QPSK



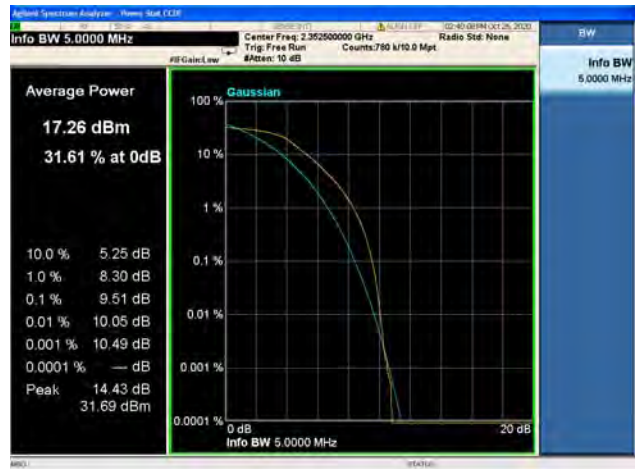
Band40/ Block A / 10MHz / Mid CH / 16QAM



Band40/ Block B / 5MHz / Low CH / QPSK



Band40/ Block B / 5MHz / Low CH / 16QAM



Band40/ Block B / 5MHz / Mid CH / QPSK



Band40/ Block B / 5MHz / Mid CH / 16QAM



Band40/ Block B / 5MHz / High CH / QPSK



Band40/ Block B / 5MHz / High CH / 16QAM





Band40/ Block B / 10MHz / Mid CH / QPSK



Band40/ Block B / 10MHz / Mid CH / 16QAM





Band41 / 5MHz / Low CH / QPSK



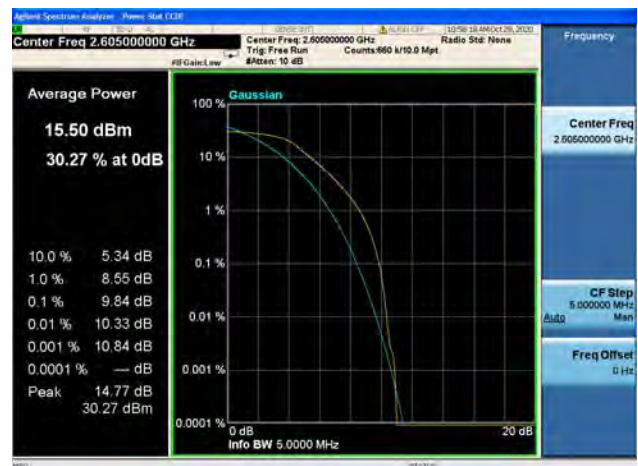
Band41 / 5MHz / Low CH / 16QAM



Band41 / 5MHz / Mid CH / QPSK



Band41 / 5MHz / Mid CH / 16QAM



Band41 / 5MHz / High CH / QPSK



Band41 / 5MHz / High CH / 16QAM



Band41 / 10MHz / Low CH / QPSK



Band41 / 10MHz / Low CH / 16QAM



Band41 / 10MHz / Mid CH / QPSK



Band41 / 10MHz / Mid CH / 16QAM



Band41 / 10MHz / High CH / QPSK



Band41 / 10MHz / High CH / 16QAM





Band41 / 15MHz / Low CH / QPSK



Band41 / 15MHz / Low CH / 16QAM



Band41 / 15MHz / Mid CH / QPSK



Band41 / 15MHz / Mid CH / 16QAM



Band41 / 15MHz / High CH / QPSK

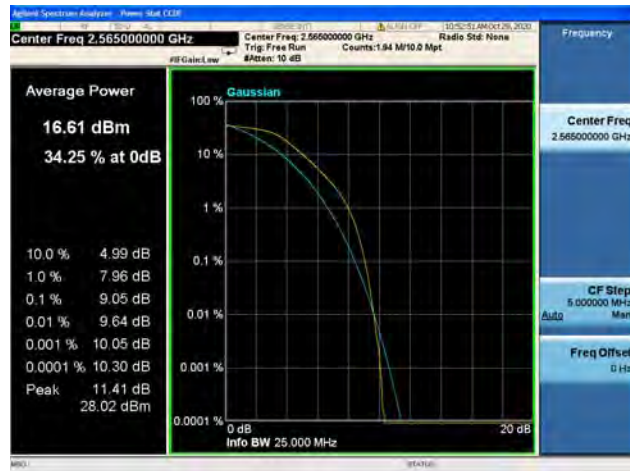


Band41 / 15MHz / High CH / 16QAM

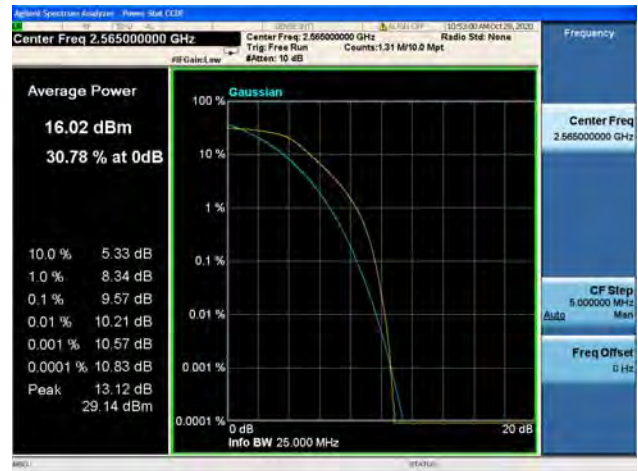




Band41 / 20MHz / Low CH / QPSK



Band41 / 20MHz / Low CH / 16QAM



Band41 / 20MHz / Mid CH / QPSK



Band41 / 20MHz / Mid CH / 16QAM



Band41 / 20MHz / High CH / QPSK



Band41 / 20MHz / High CH / 16QAM



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.

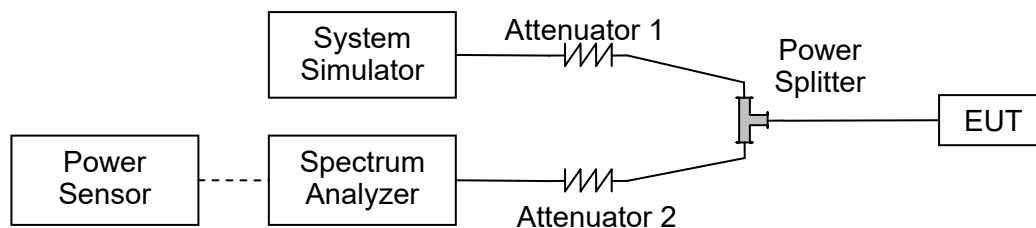
Additional requirement for LTE Band 7, 38, 41:

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



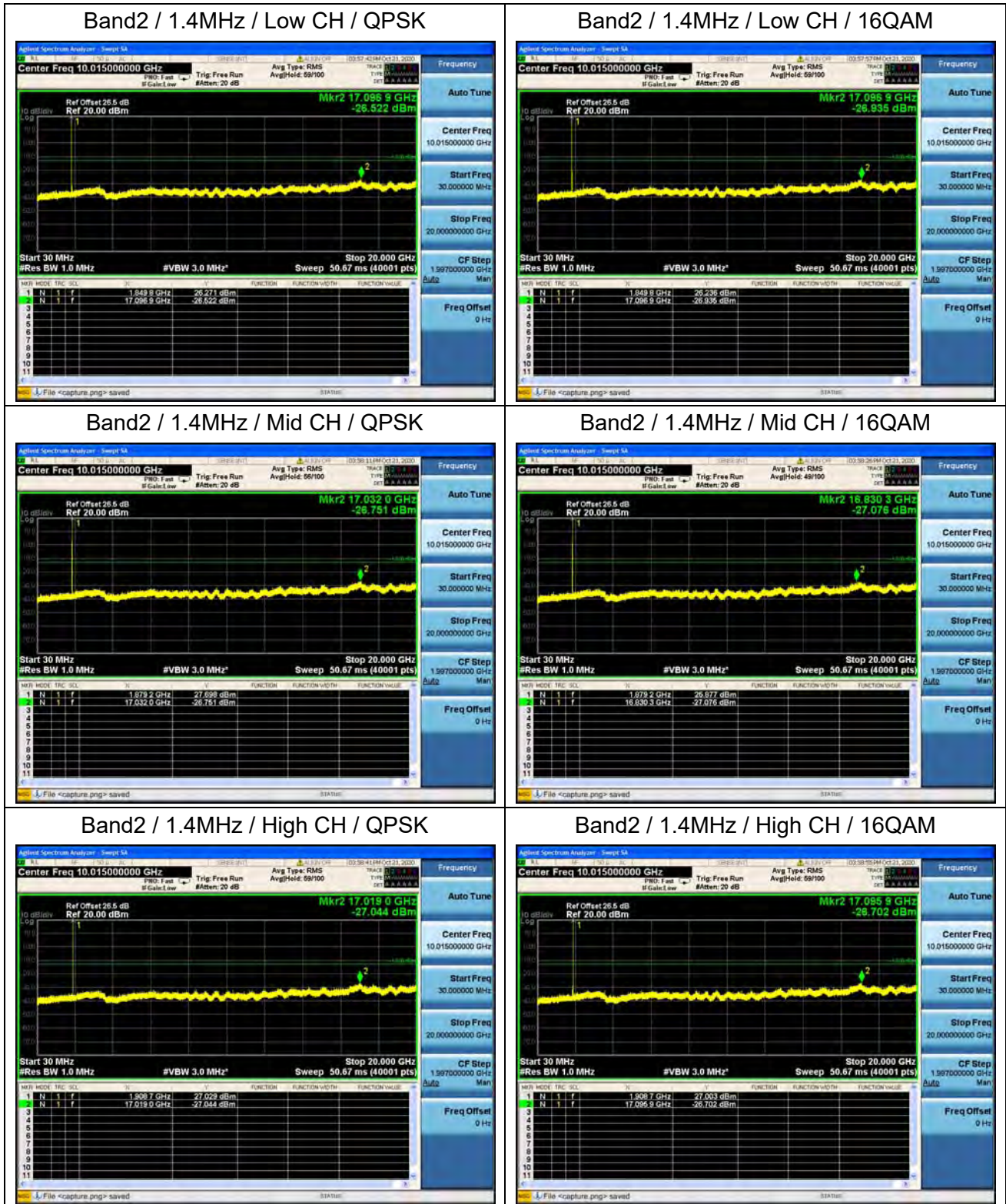
The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum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

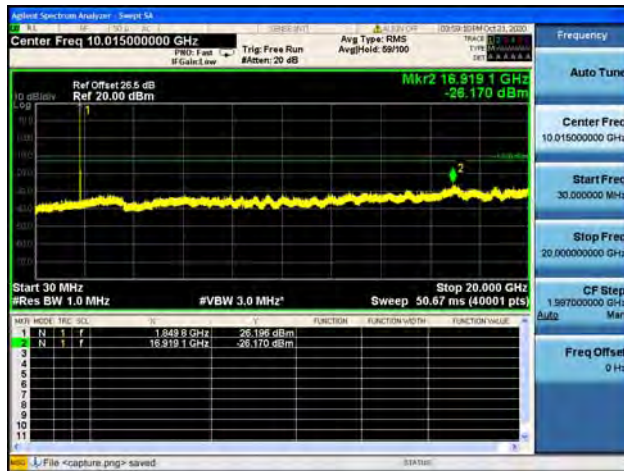


2.5.4. Test Result

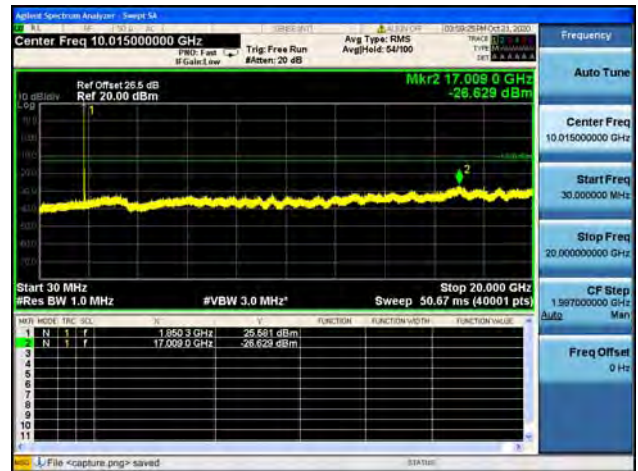




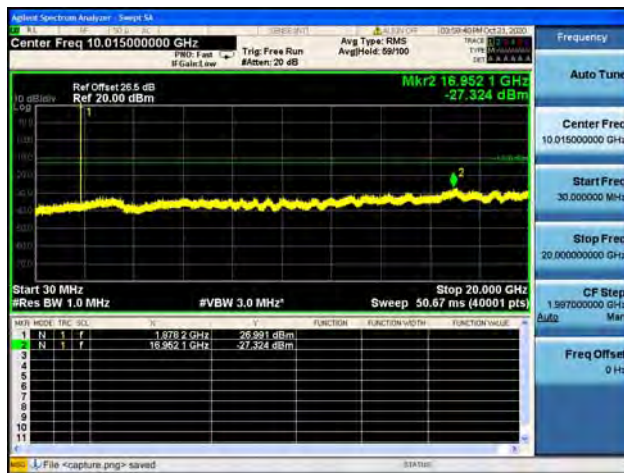
Band2 / 3MHz / Low CH / QPSK



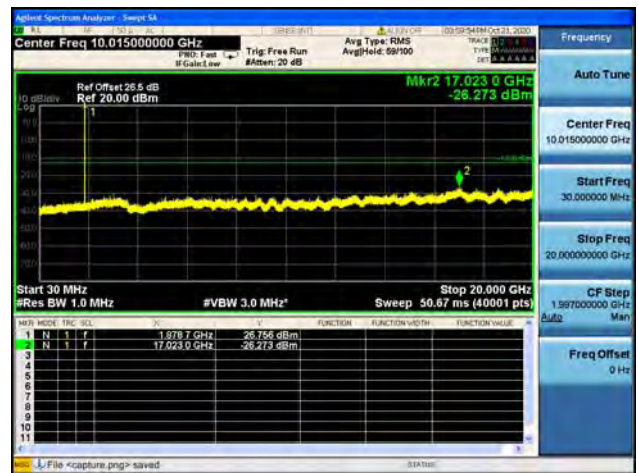
Band2 / 3MHz / Low CH / 16QAM



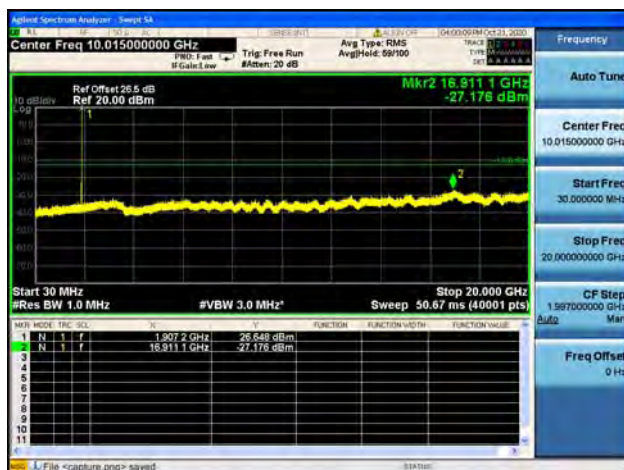
Band2 / 3MHz / Mid CH / QPSK



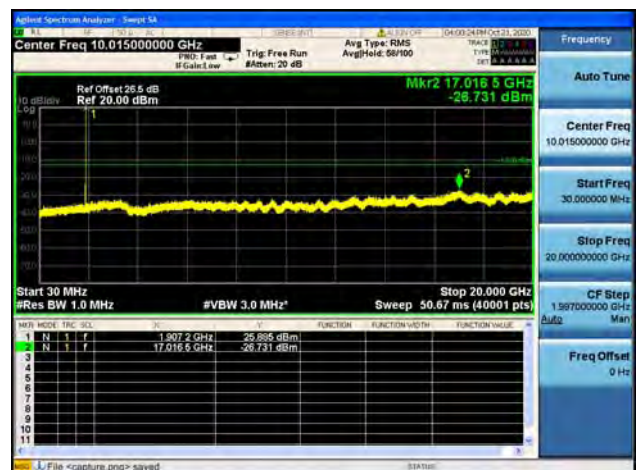
Band2 / 3MHz / Mid CH / 16QAM



Band2 / 3MHz / High CH / QPSK

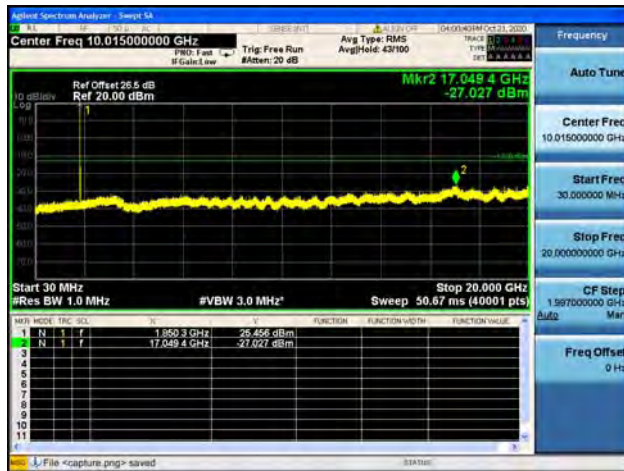


Band2 / 3MHz / High CH / 16QAM





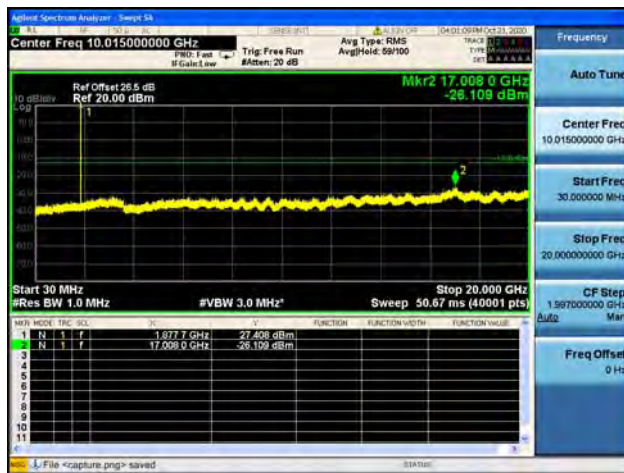
Band2 / 5MHz / Low CH / QPSK



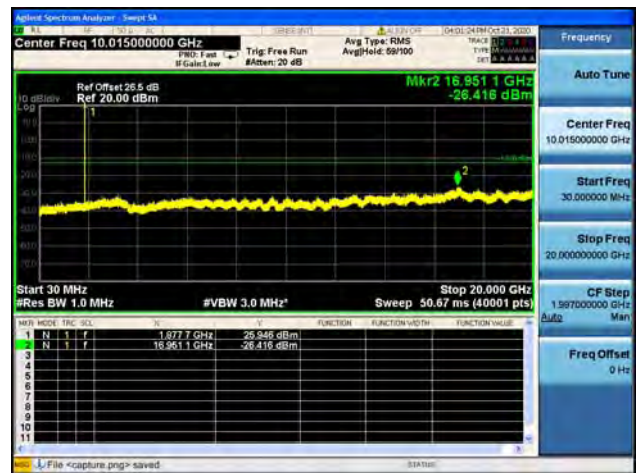
Band2 / 5MHz / Low CH / 16QAM



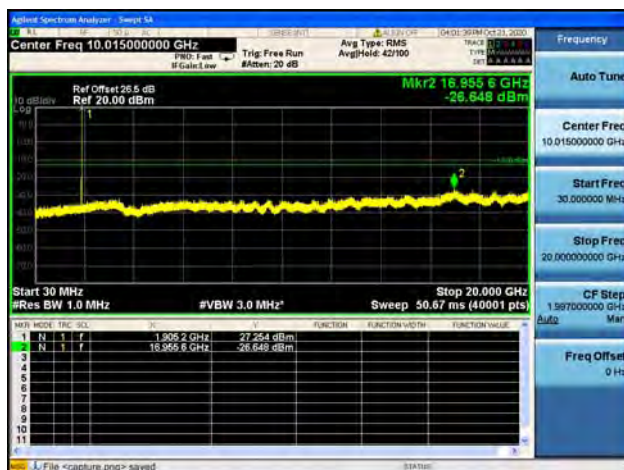
Band2 / 5MHz / Mid CH / QPSK



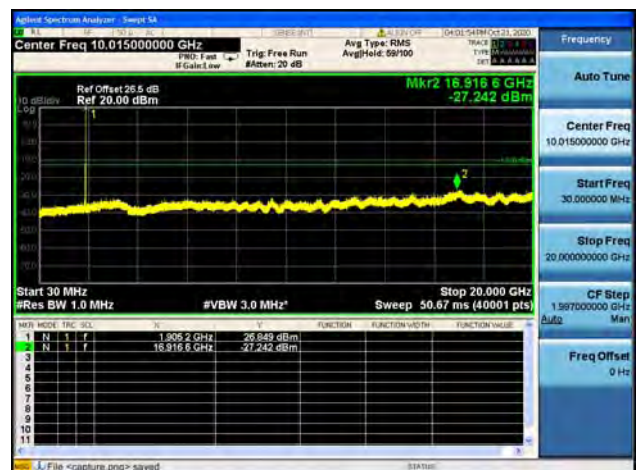
Band2 / 5MHz / Mid CH / 16QAM



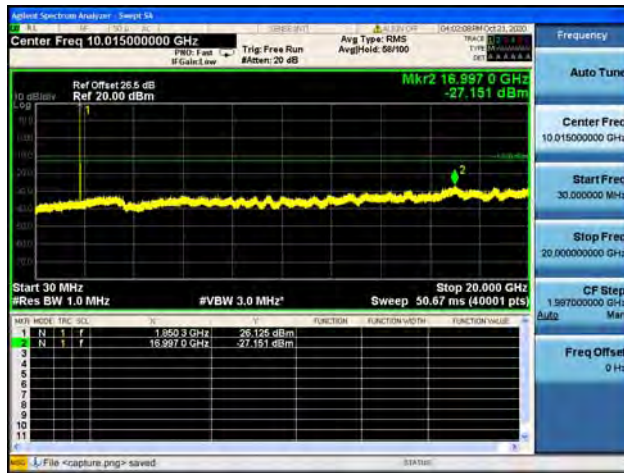
Band2 / 5MHz / High CH / QPSK



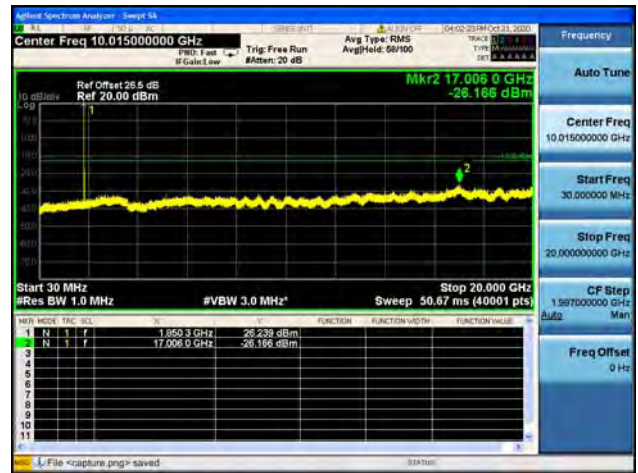
Band2 / 5MHz / High CH / 16QAM



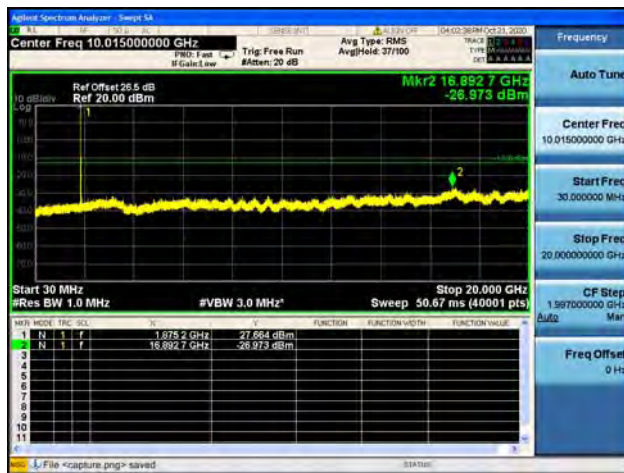
Band2 / 10MHz / Low CH / QPSK



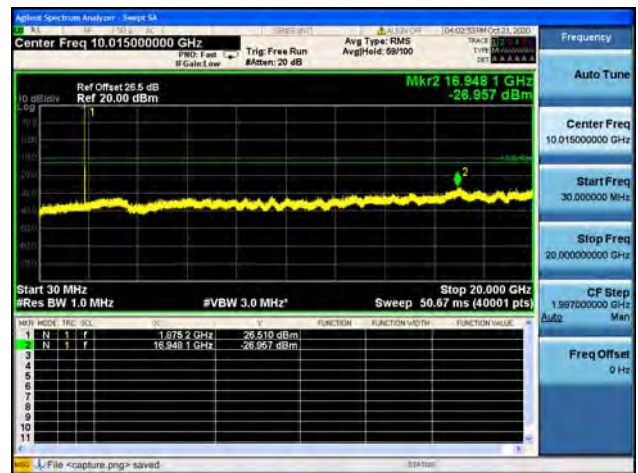
Band2 / 10MHz / Low CH / 16QAM



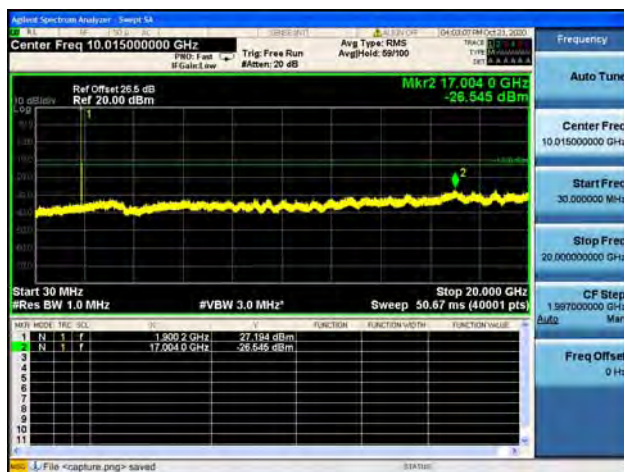
Band2 / 10MHz / Mid CH / QPSK



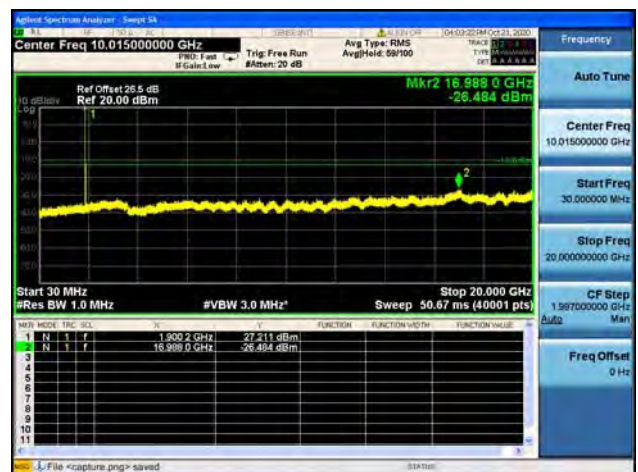
Band2 / 10MHz / Mid CH / 16QAM



Band2 / 10MHz / High CH / QPSK

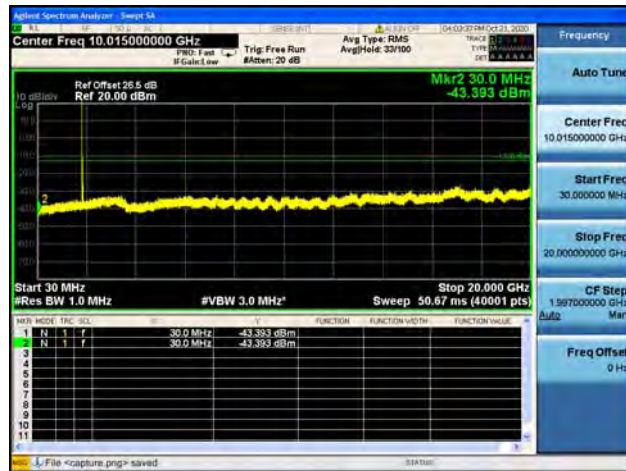


Band2 / 10MHz / High CH / 16QAM





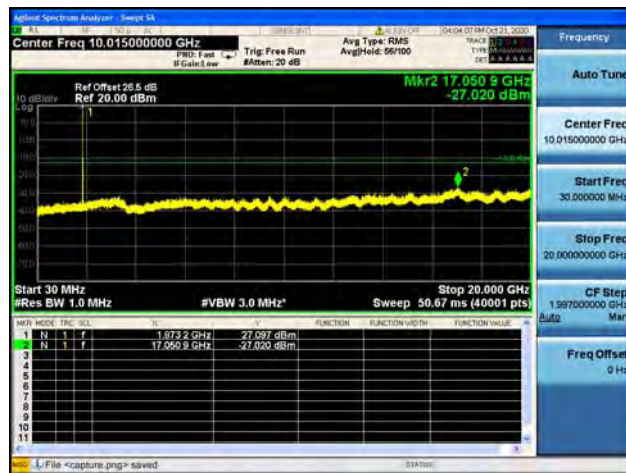
Band2 / 15MHz / Low CH / QPSK



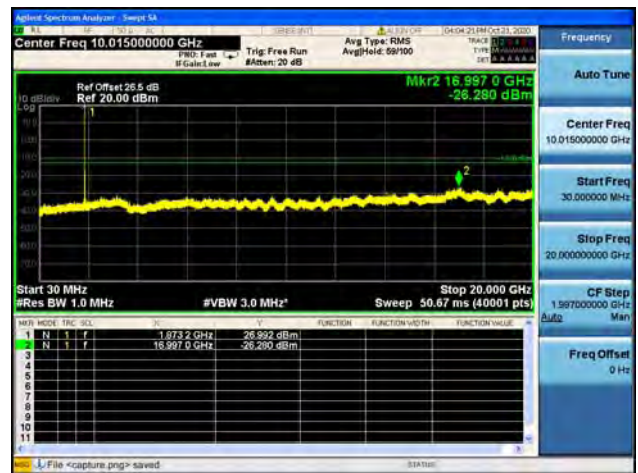
Band2 / 15MHz / Low CH / 16QAM



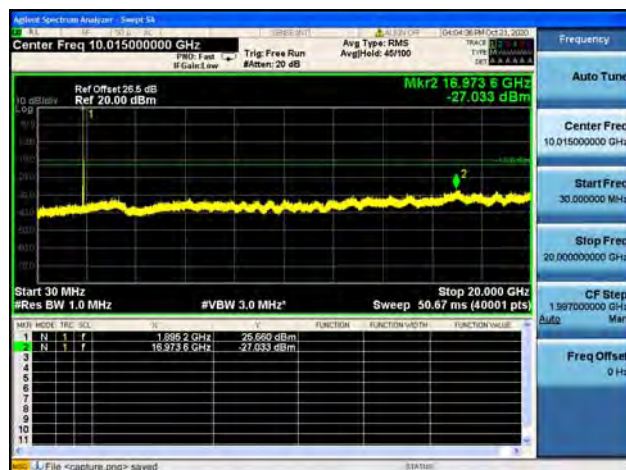
Band2 / 15MHz / Mid CH / QPSK



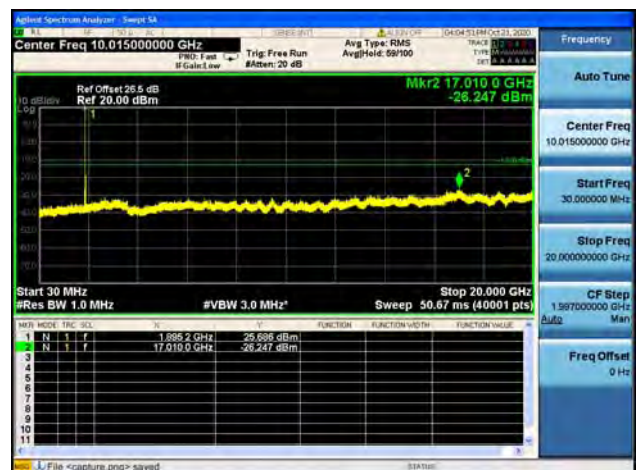
Band2 / 15MHz / Mid CH / 16QAM



Band2 / 15MHz / High CH / QPSK

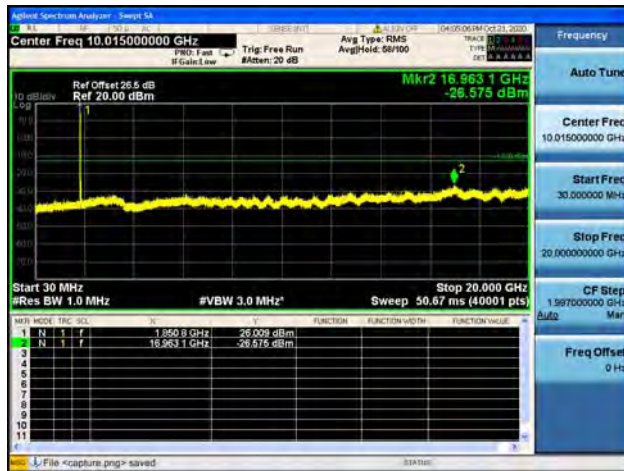


Band2 / 15MHz / High CH / 16QAM





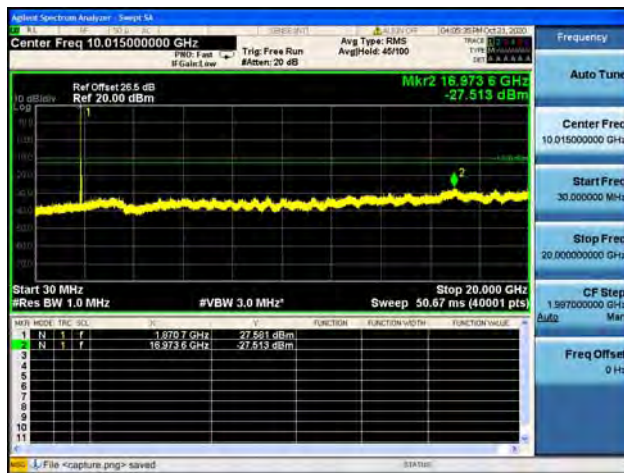
Band2 / 20MHz / Low CH / QPSK



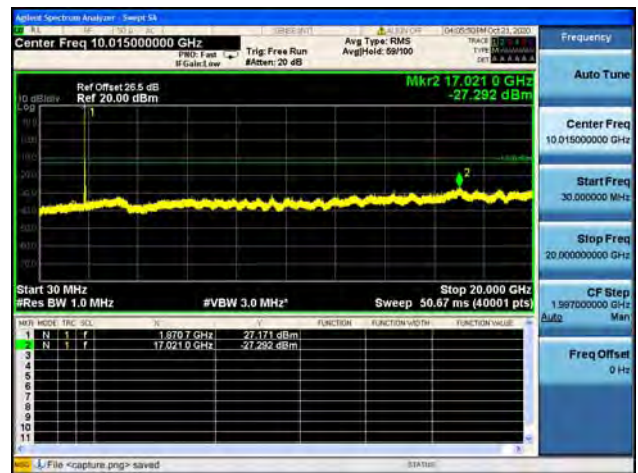
Band2 / 20MHz / Low CH / 16QAM



Band2 / 20MHz / Mid CH / QPSK



Band2 / 20MHz / Mid CH / 16QAM



Band2 / 20MHz / High CH / QPSK

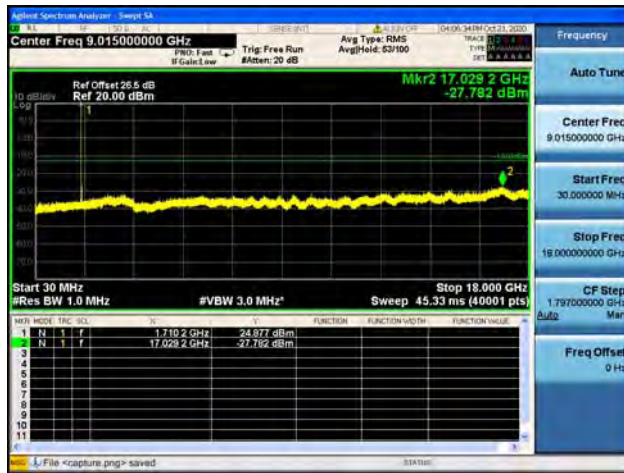


Band2 / 20MHz / High CH / 16QAM

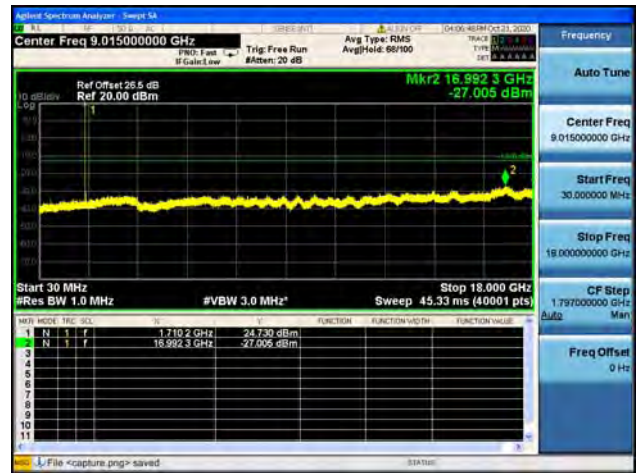




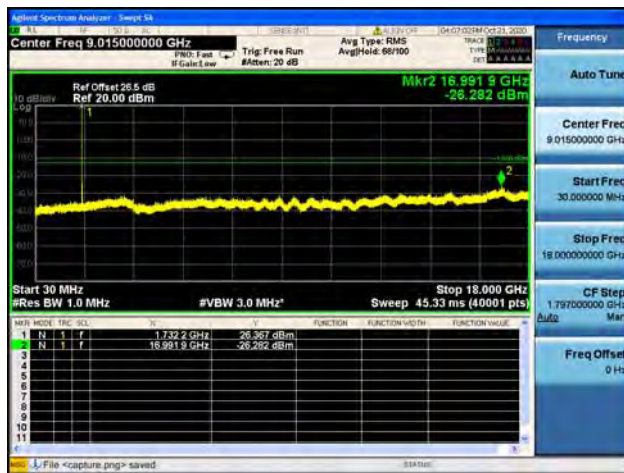
Band4 / 1.4MHz / Low CH / QPSK



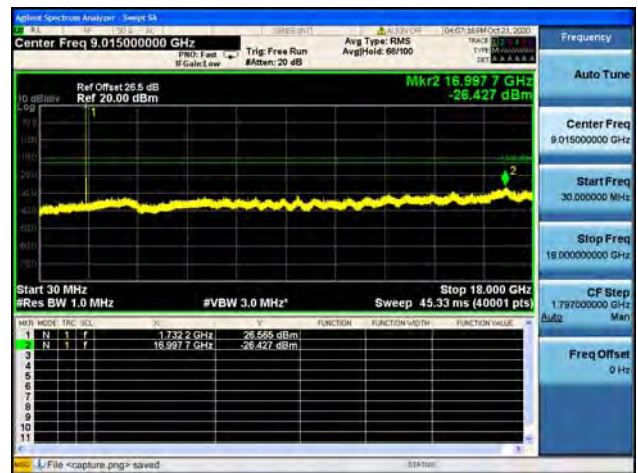
Band4 / 1.4MHz / Low CH / 16QAM



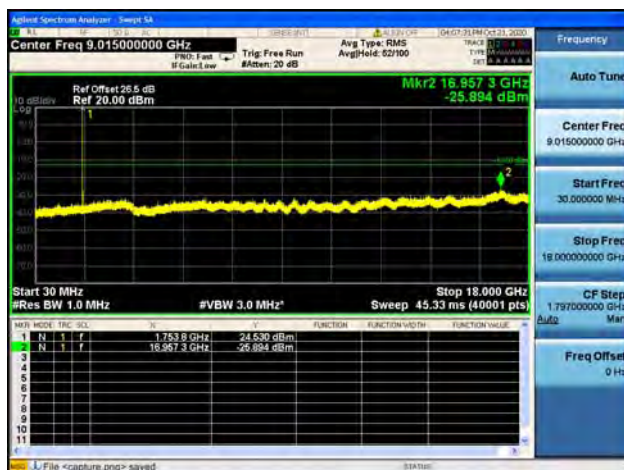
Band4 / 1.4MHz / Mid CH / QPSK



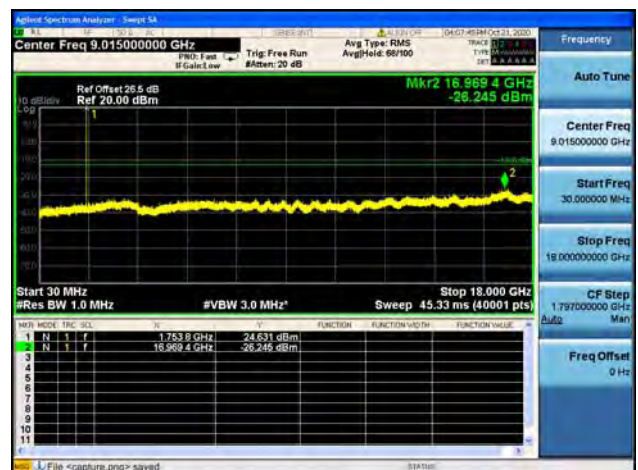
Band4 / 1.4MHz / Mid CH / 16QAM



Band4 / 1.4MHz / High CH / QPSK

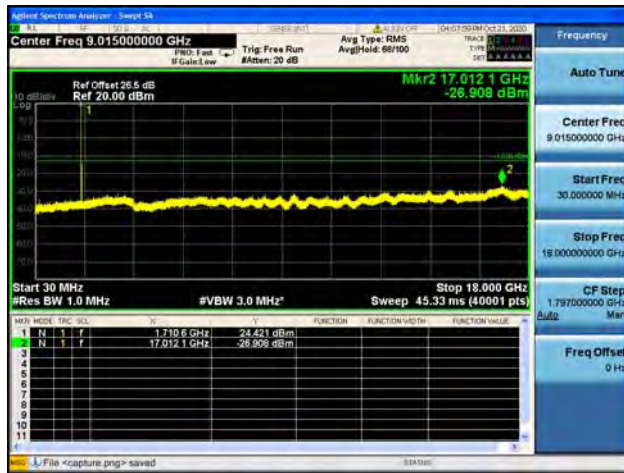


Band4 / 1.4MHz / High CH / 16QAM

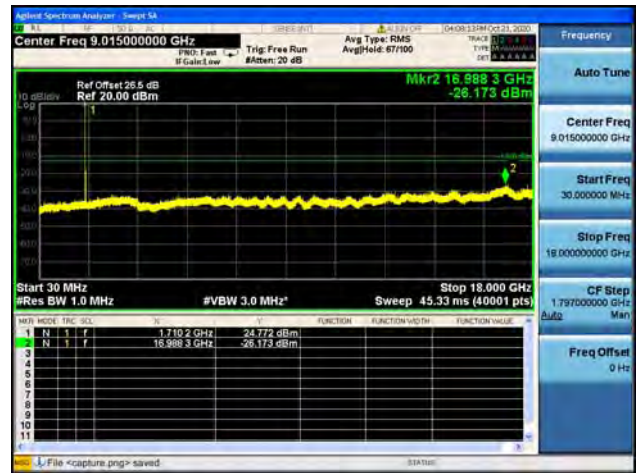




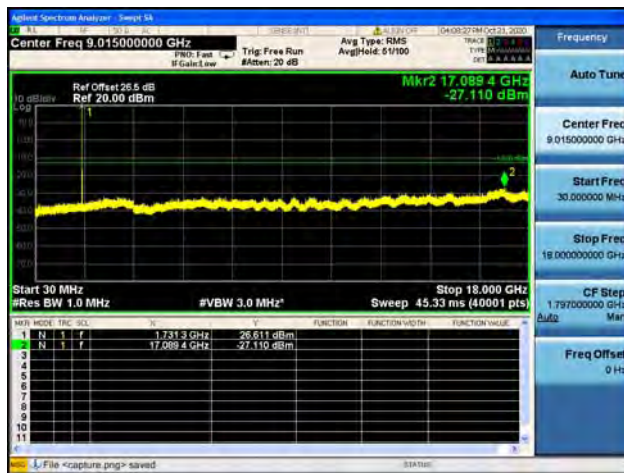
Band4 / 3MHz / Low CH / QPSK



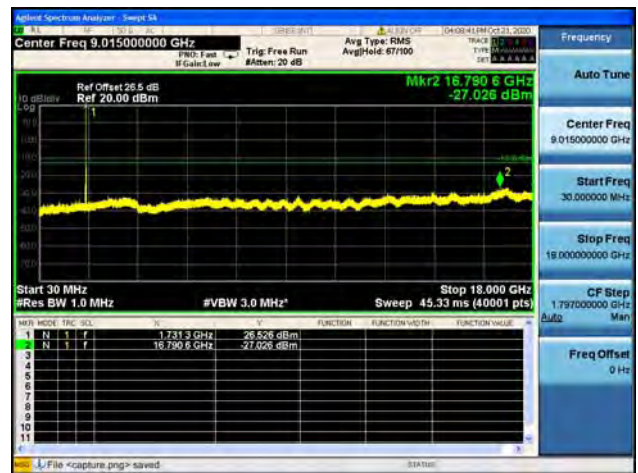
Band4 / 3MHz / Low CH / 16QAM



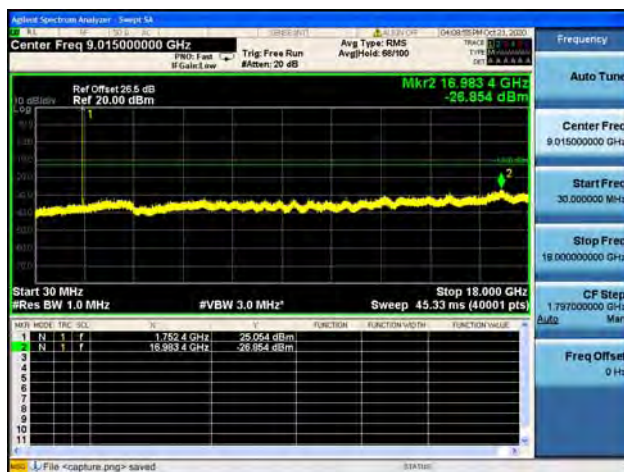
Band4 / 3MHz / Mid CH / QPSK



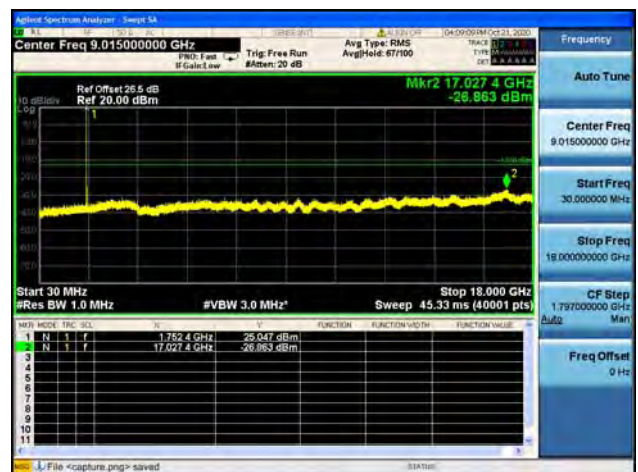
Band4 / 3MHz / Mid CH / 16QAM



Band4 / 3MHz / High CH / QPSK

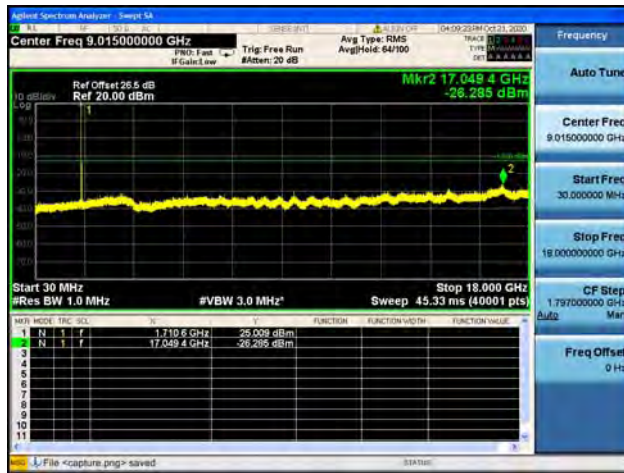


Band4 / 3MHz / High CH / 16QAM

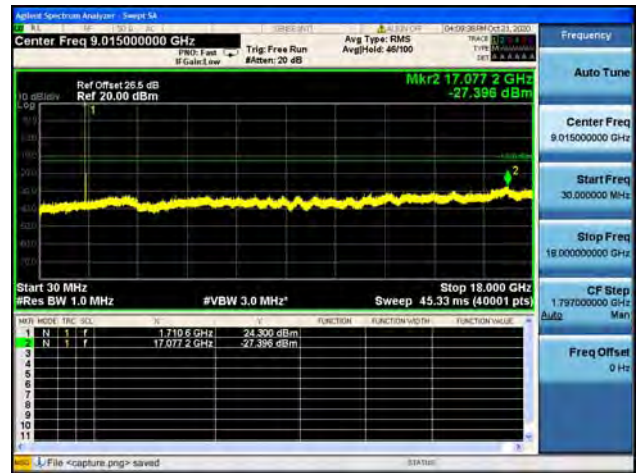




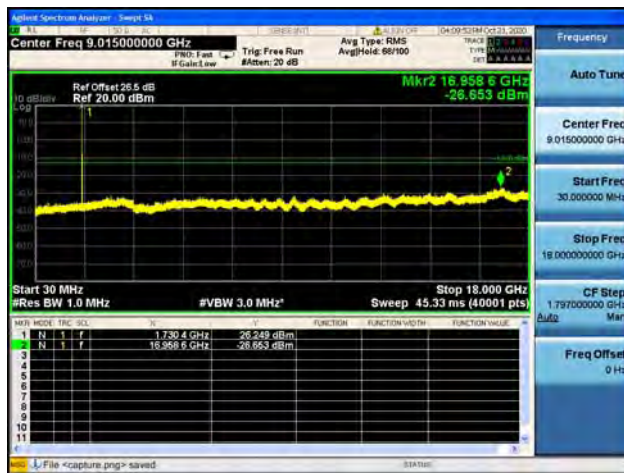
Band4 / 5MHz / Low CH / QPSK



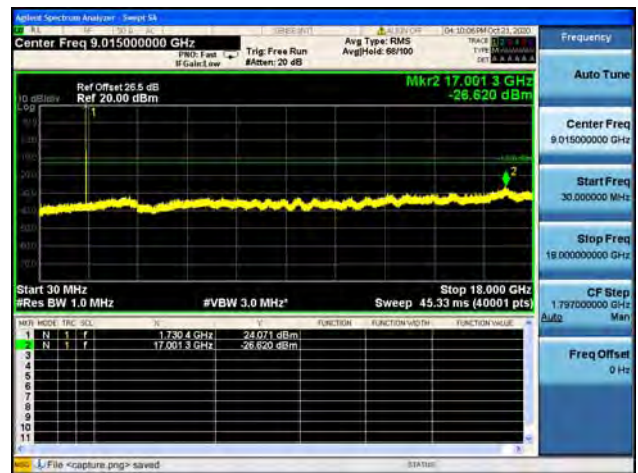
Band4 / 5MHz / Low CH / 16QAM



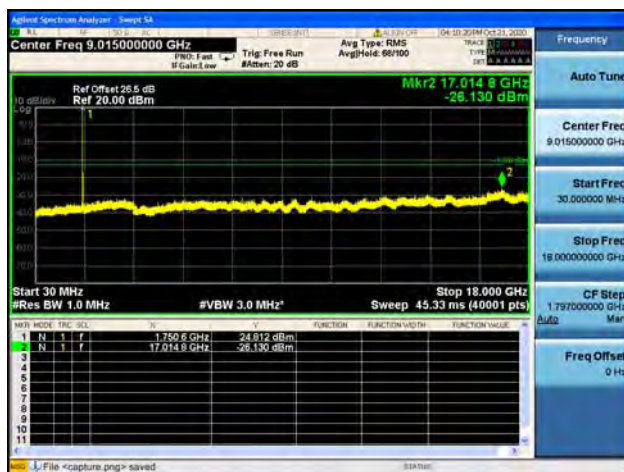
Band4 / 5MHz / Mid CH / QPSK



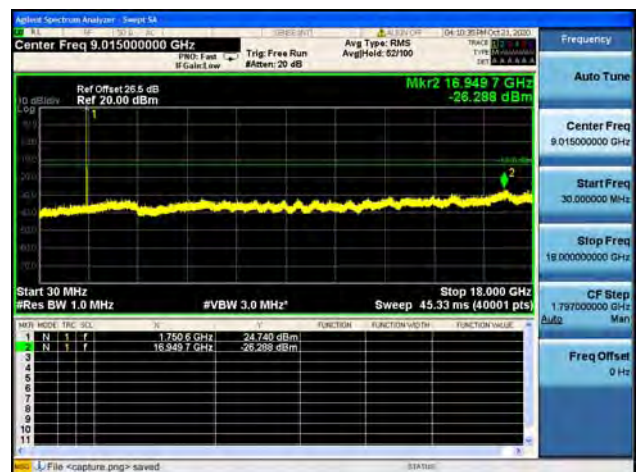
Band4 / 5MHz / Mid CH / 16QAM



Band4 / 5MHz / High CH / QPSK

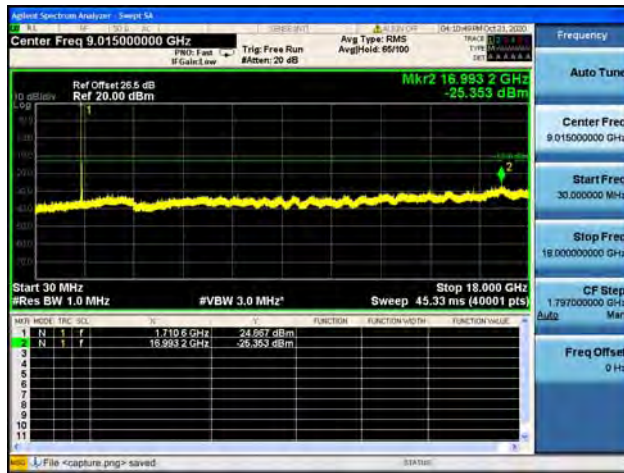


Band4 / 5MHz / High CH / 16QAM

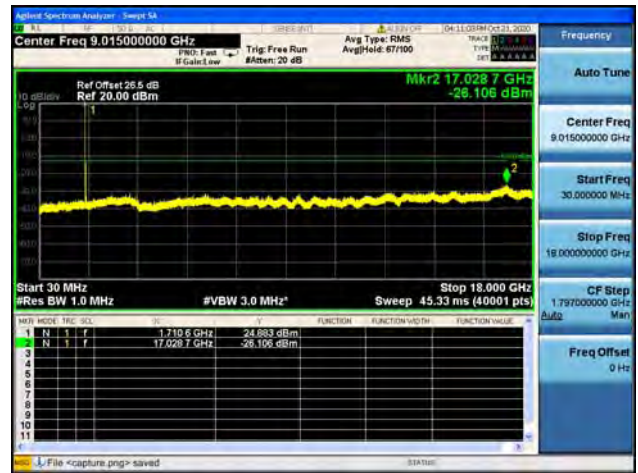




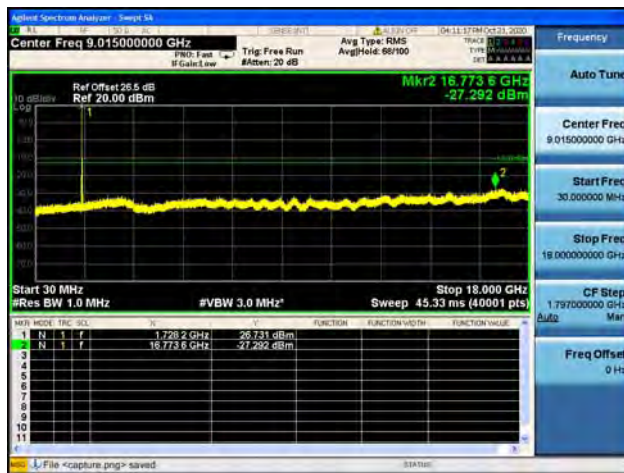
Band4 / 10MHz / Low CH / QPSK



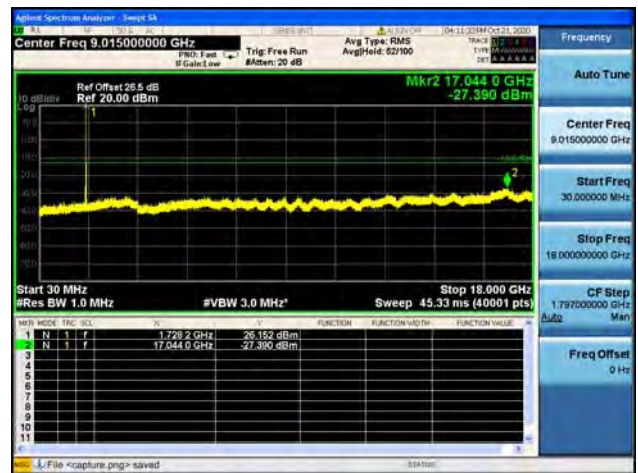
Band4 / 10MHz / Low CH / 16QAM



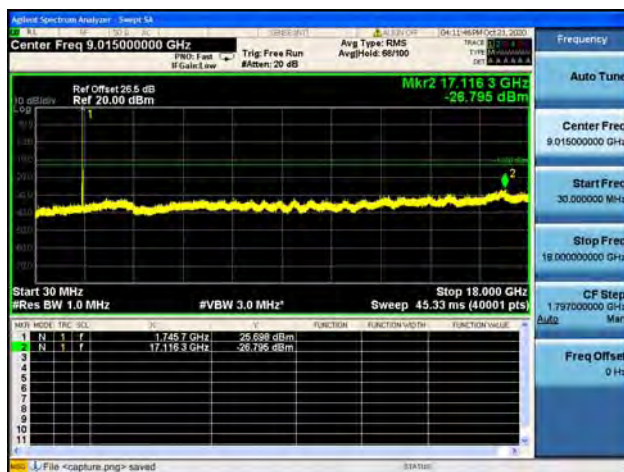
Band4 / 10MHz / Mid CH / QPSK



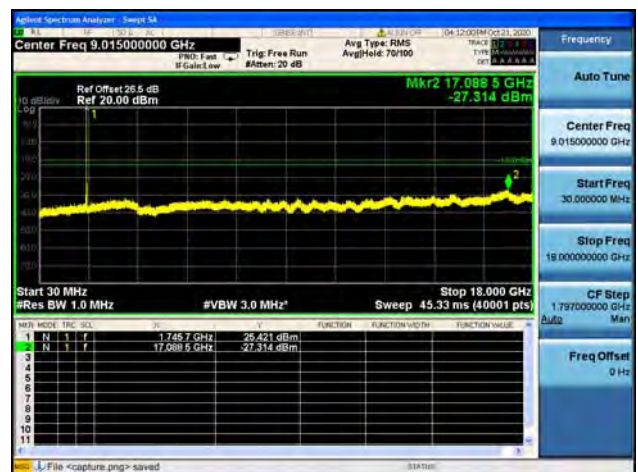
Band4 / 10MHz / Mid CH / 16QAM



Band4 / 10MHz / High CH / QPSK



Band4 / 10MHz / High CH / 16QAM

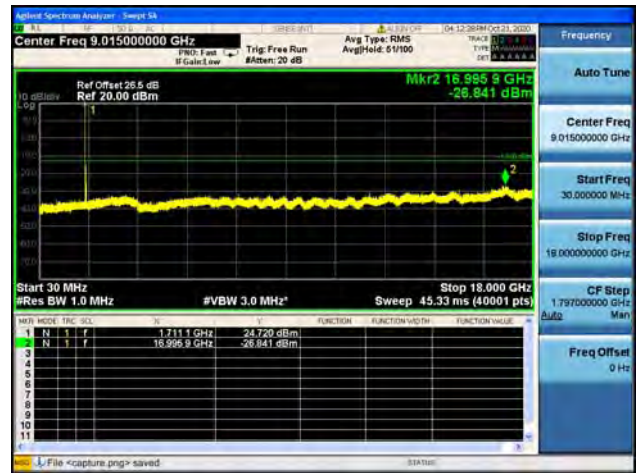




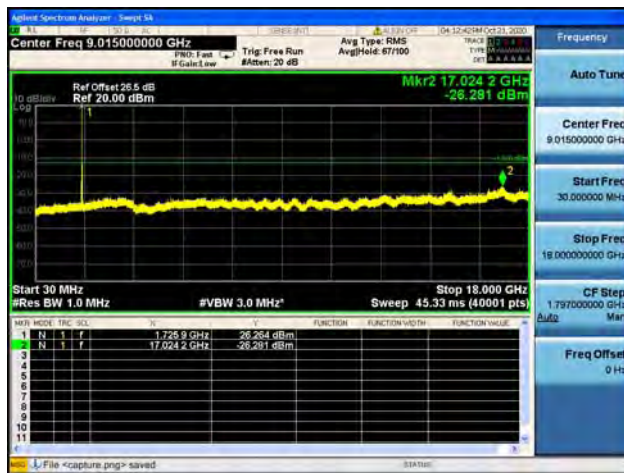
Band4 / 15MHz / Low CH / QPSK



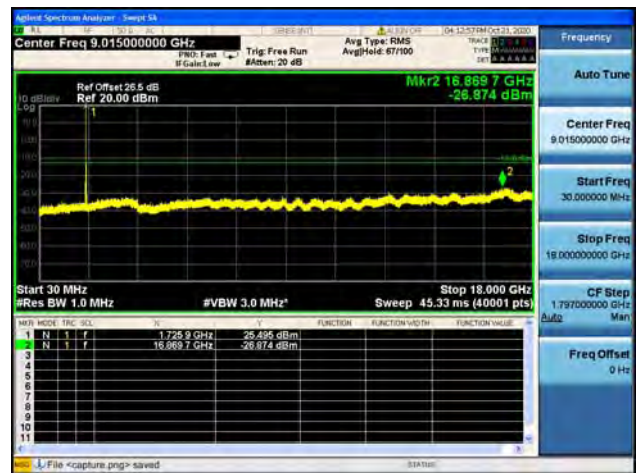
Band4 / 15MHz / Low CH / 16QAM



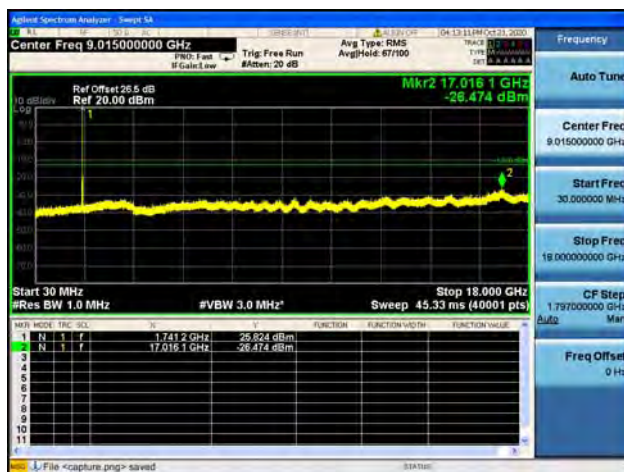
Band4 / 15MHz / Mid CH / QPSK



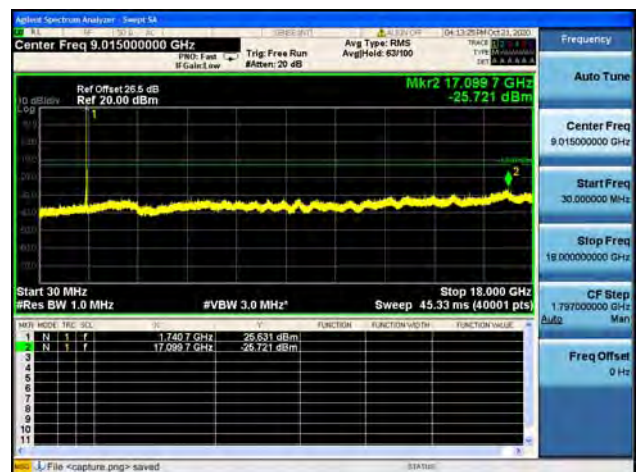
Band4 / 15MHz / Mid CH / 16QAM



Band4 / 15MHz / High CH / QPSK

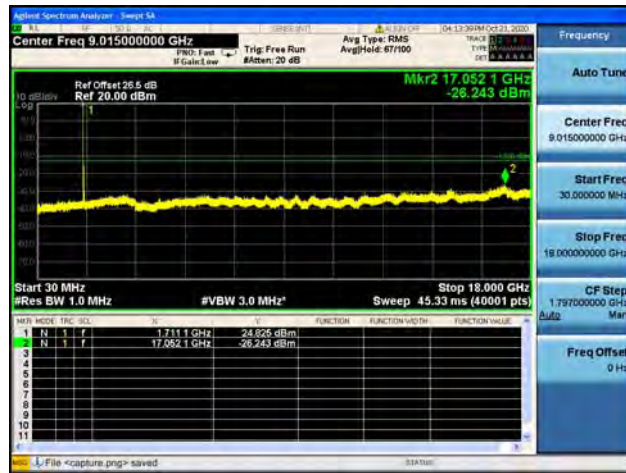


Band4 / 15MHz / High CH / 16QAM

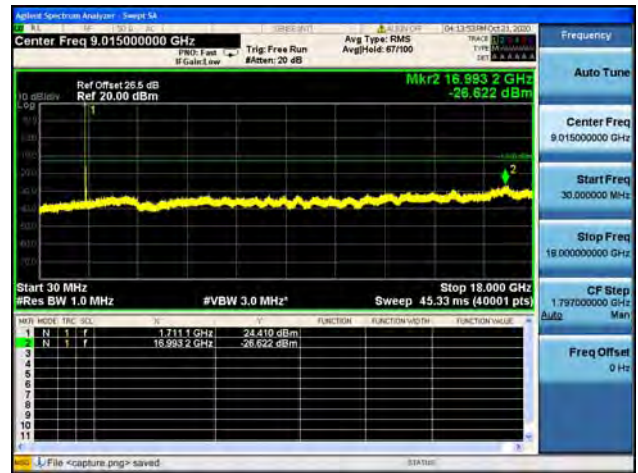




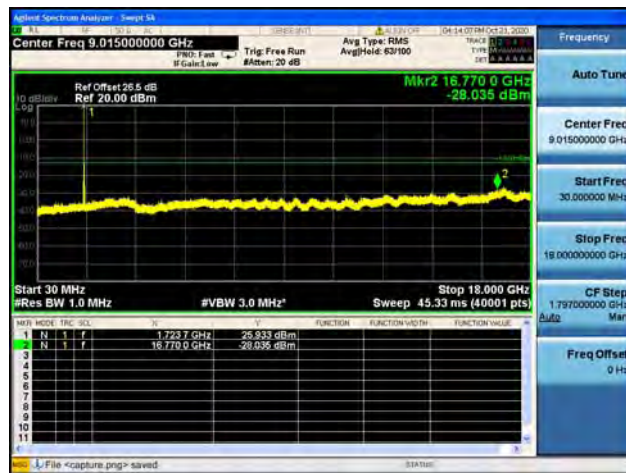
Band4 / 20MHz / Low CH / QPSK



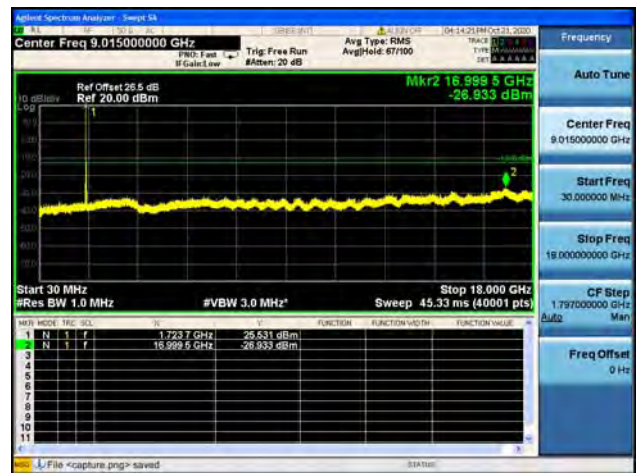
Band4 / 20MHz / Low CH / 16QAM



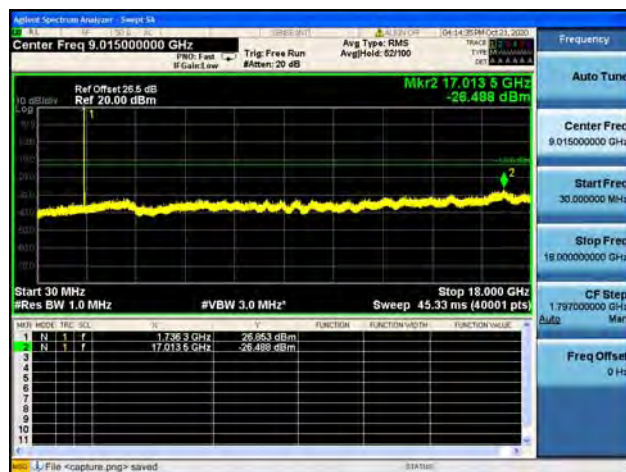
Band4 / 20MHz / Mid CH / QPSK



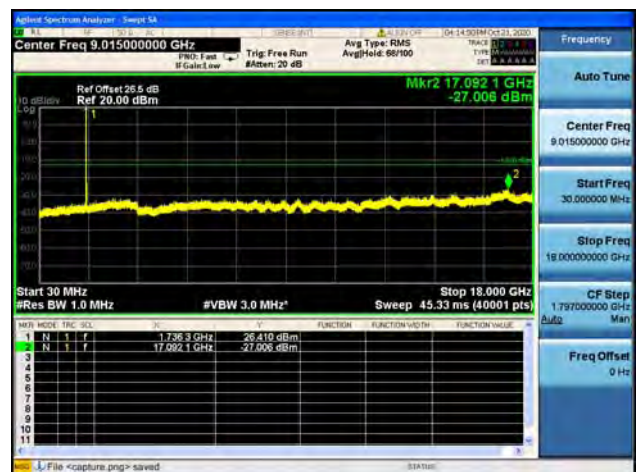
Band4 / 20MHz / Mid CH / 16QAM



Band4 / 20MHz / High CH / QPSK

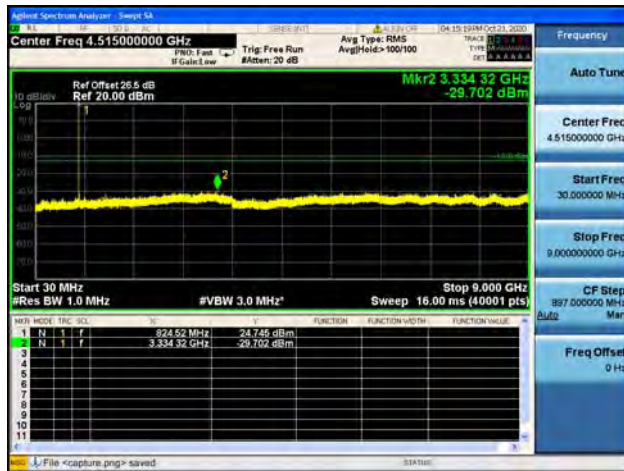


Band4 / 20MHz / High CH / 16QAM

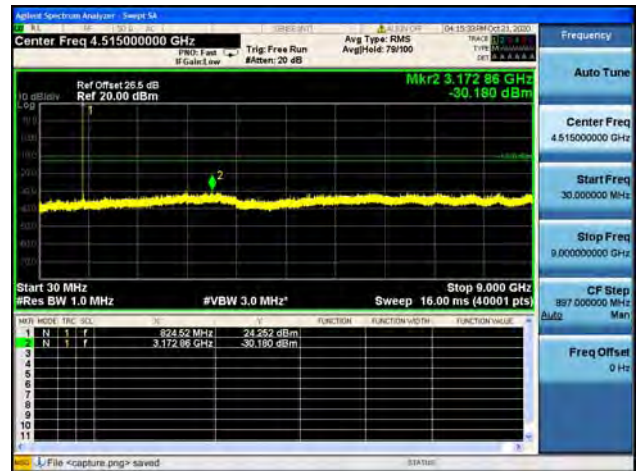




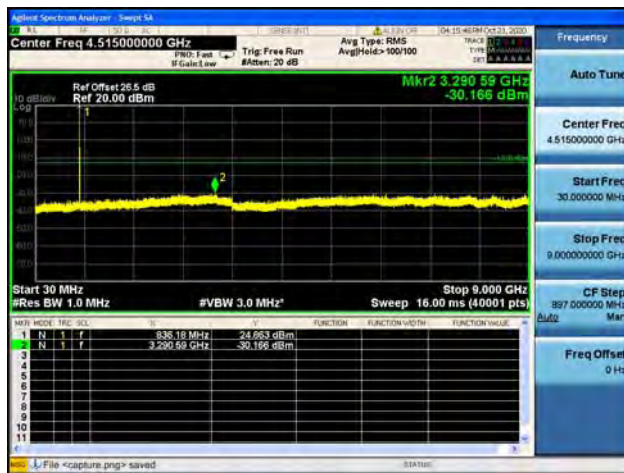
Band5 / 1.4MHz / Low CH / QPSK



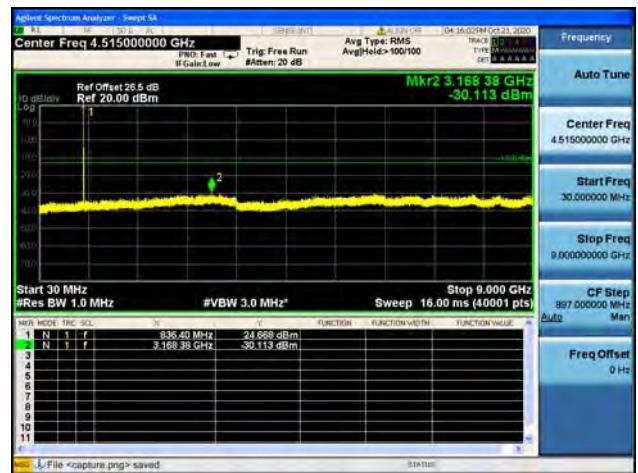
Band5 / 1.4MHz / Low CH / 16QAM



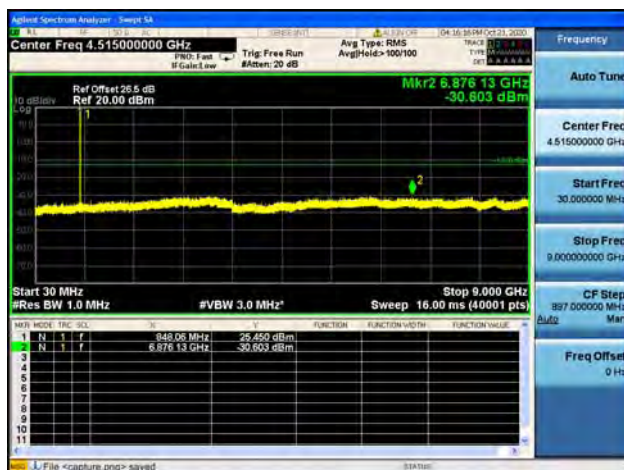
Band5 / 1.4MHz / Mid CH / QPSK



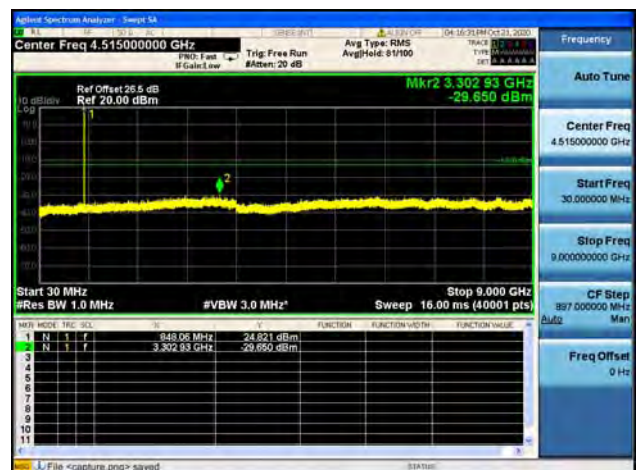
Band5 / 1.4MHz / Mid CH / 16QAM



Band5 / 1.4MHz / High CH / QPSK

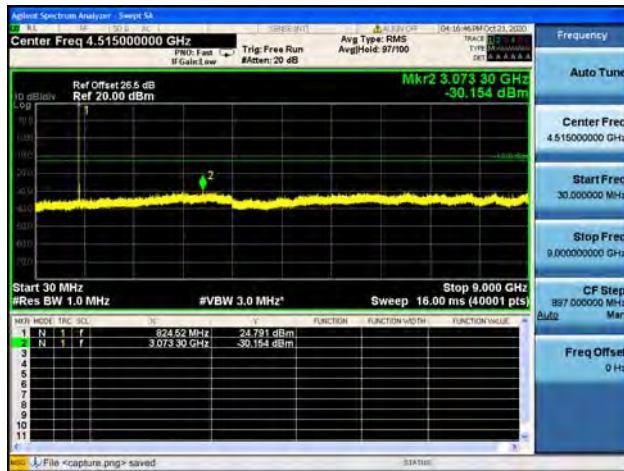


Band5 / 1.4MHz / High CH / 16QAM

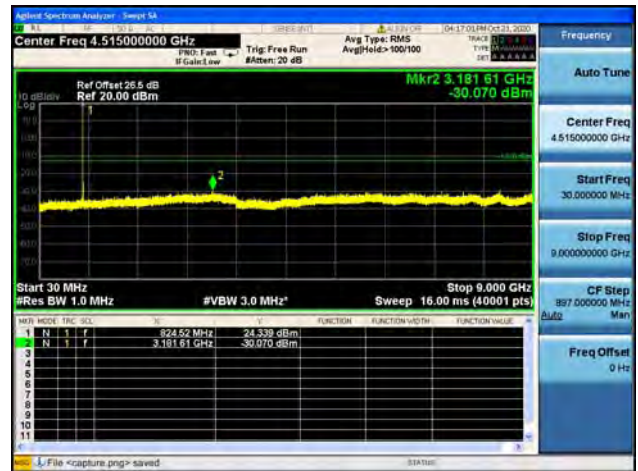




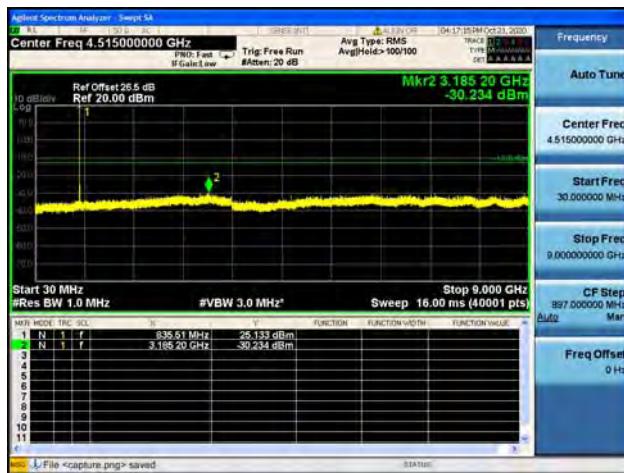
Band5 / 3MHz / Low CH / QPSK



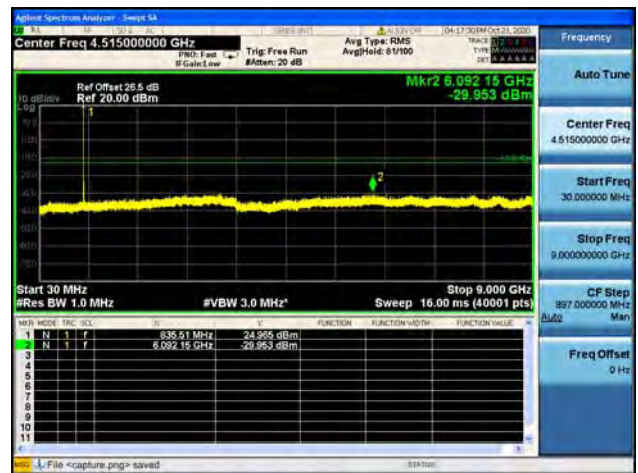
Band5 / 3MHz / Low CH / 16QAM



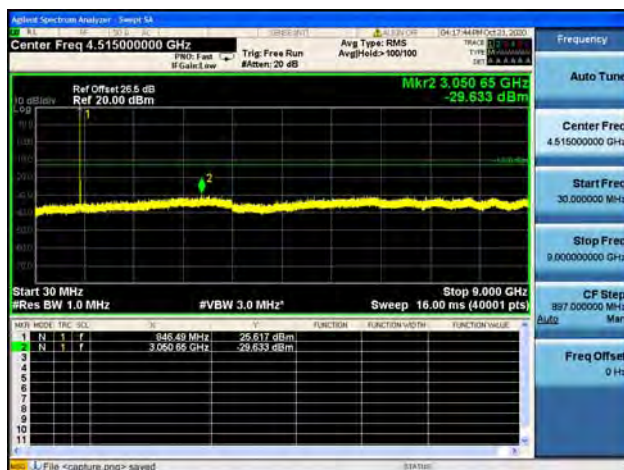
Band5 / 3MHz / Mid CH / QPSK



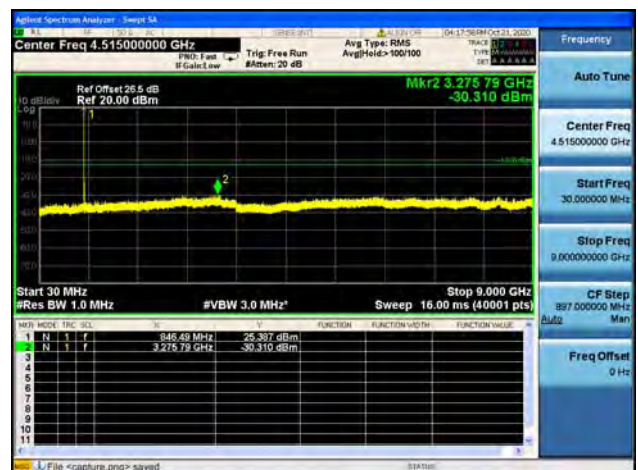
Band5 / 3MHz / Mid CH / 16QAM



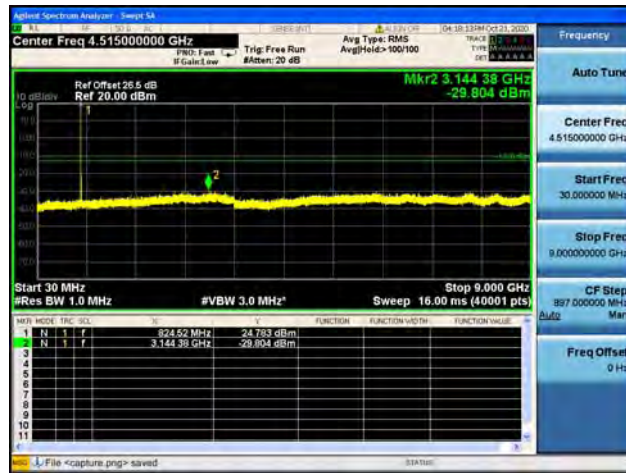
Band5 / 3MHz / High CH / QPSK



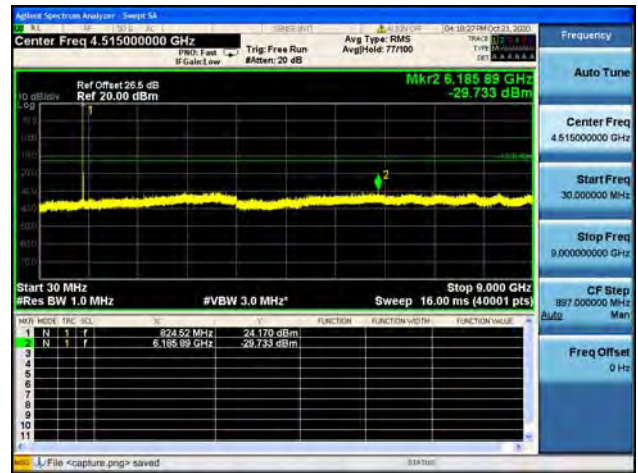
Band5 / 3MHz / High CH / 16QAM



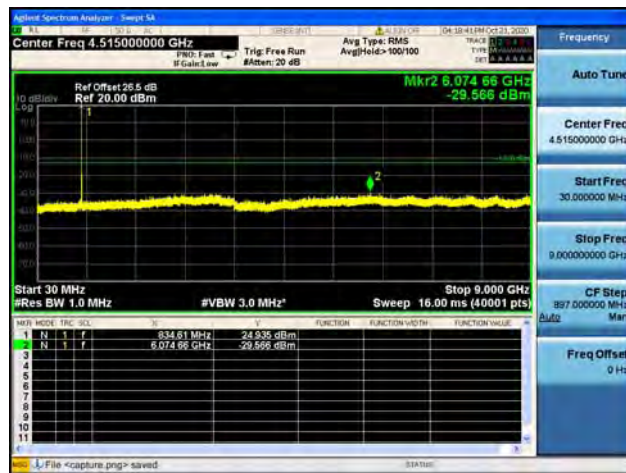
Band5 / 5MHz / Low CH / QPSK



Band5 / 5MHz / Low CH / 16QAM



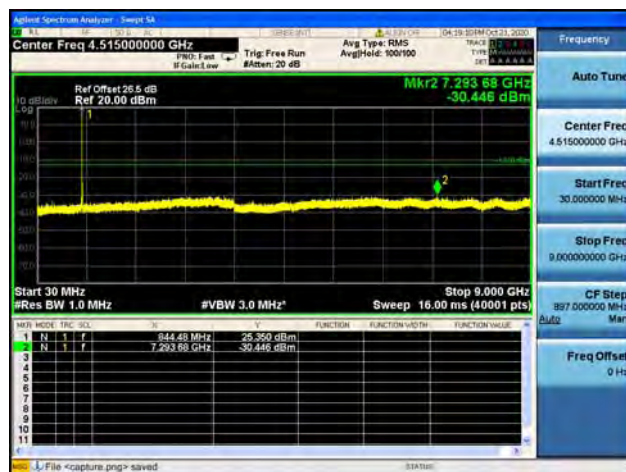
Band5 / 5MHz / Mid CH / QPSK



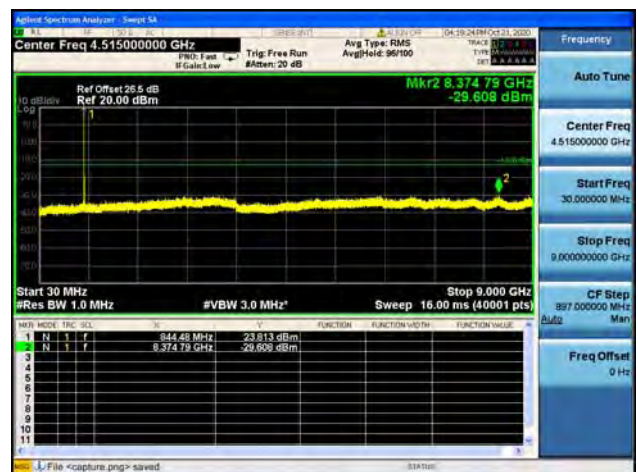
Band5 / 5MHz / Mid CH / 16QAM



Band5 / 5MHz / High CH / QPSK

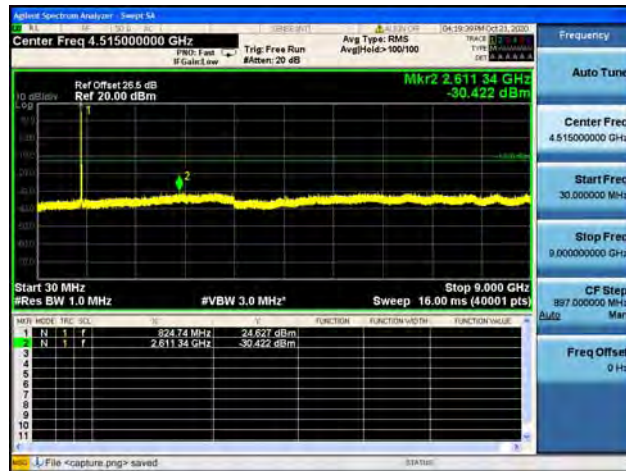


Band5 / 5MHz / High CH / 16QAM

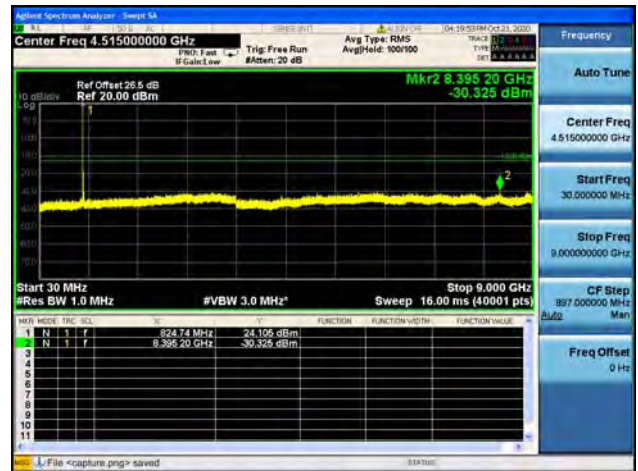




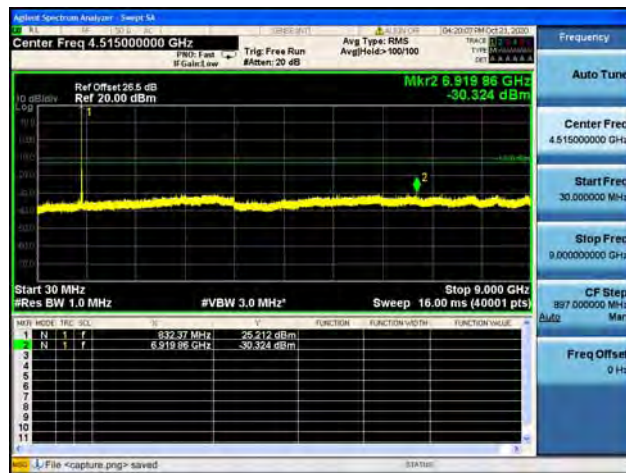
Band5 / 10MHz / Low CH / QPSK



Band5 / 10MHz / Low CH / 16QAM



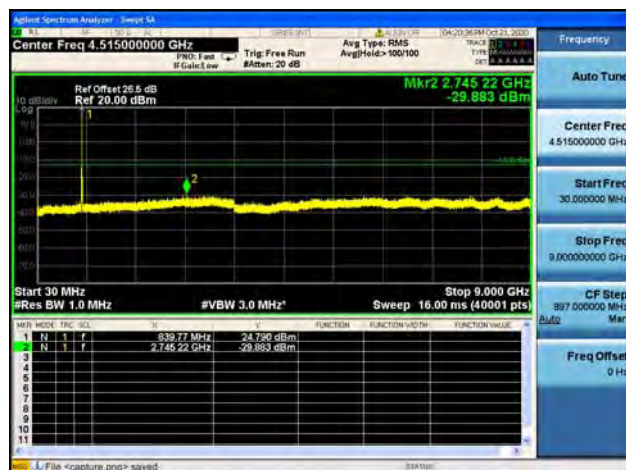
Band5 / 10MHz / Mid CH / QPSK



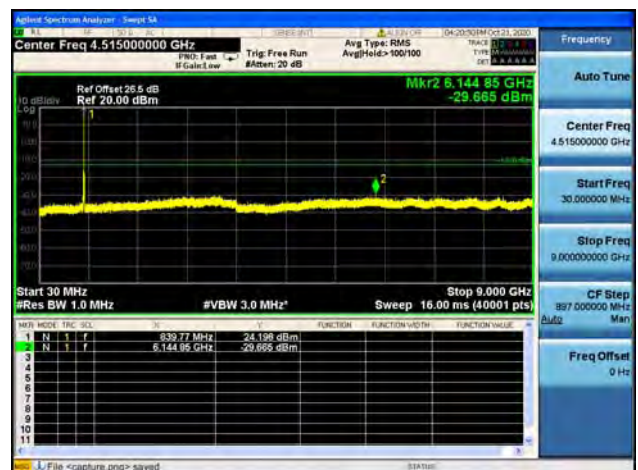
Band5 / 10MHz / Mid CH / 16QAM



Band5 / 10MHz / High CH / QPSK

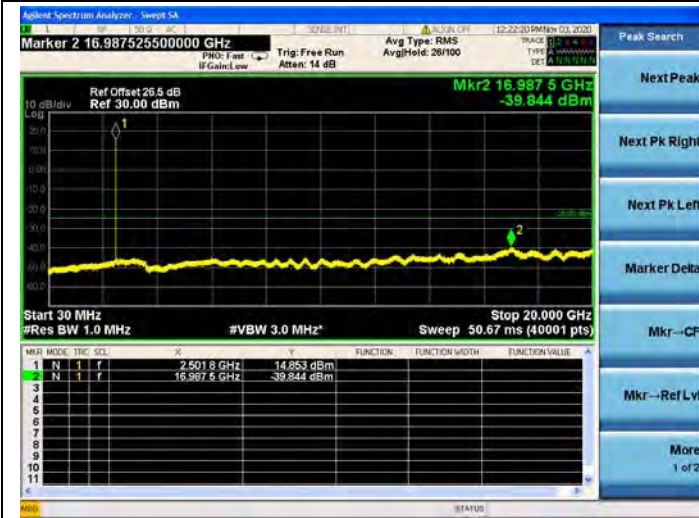


Band5 / 10MHz / High CH / 16QAM

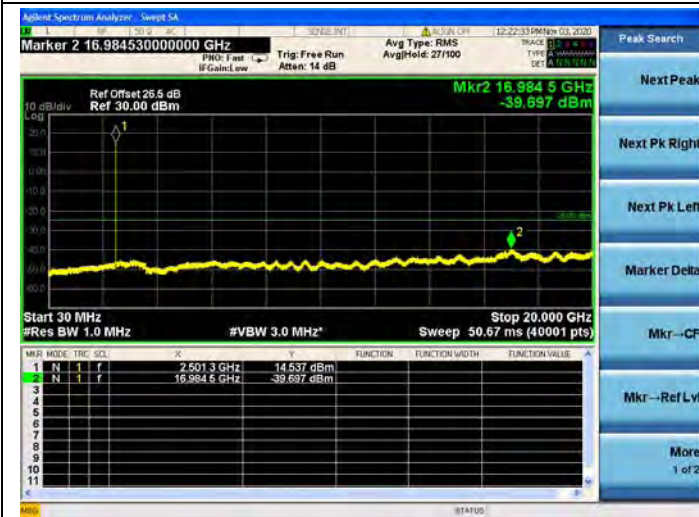




Band 7 / 5MHz / Low CH / QPSK



Band 7 / 5MHz / Low CH / 16QAM



Band 7 / 5MHz / Mid CH / QPSK

Agilent Spectrum Analyzer - Sweep 54

Marker 1 25.182000000000 GHz

PRO: Fast Trig: Free Run Avg Type: RMS AvgHold: 500/100

U Gain: Low Amn: 6 dB

Ref Offset: 26.5 dB Ref 10.00 dBm

Mkr1 25.182 2 GHz -34.390 dBm

Start 20.000 GHz Stop 26.000 GHz

#Res BW 1.0 MHz #VBW 3.0 MHz* Sweep 16.00 ms (20001 pts)

Peak Search

Next Peak

Next Pk Right

Next Pk Left

Marker Delta

Mkr--CF

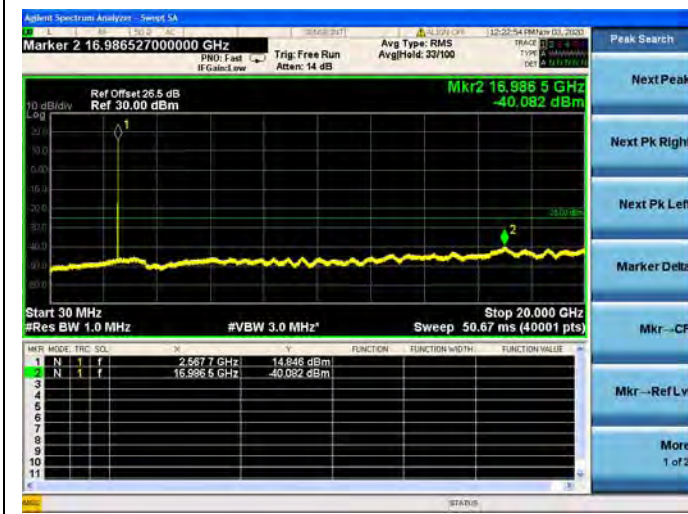
Mkr--RefLv

More 1 of 2

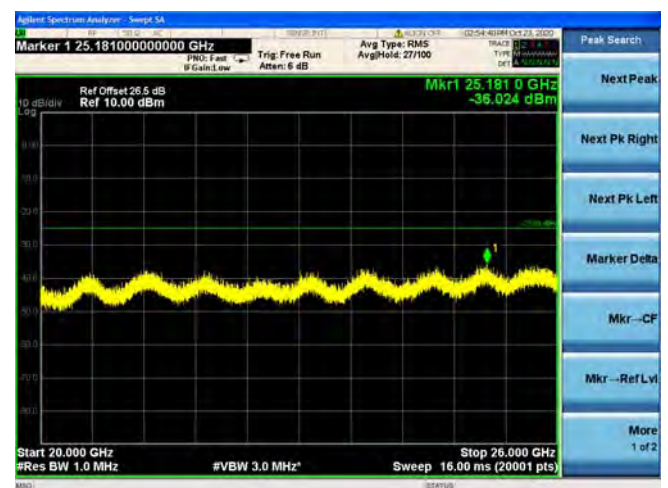
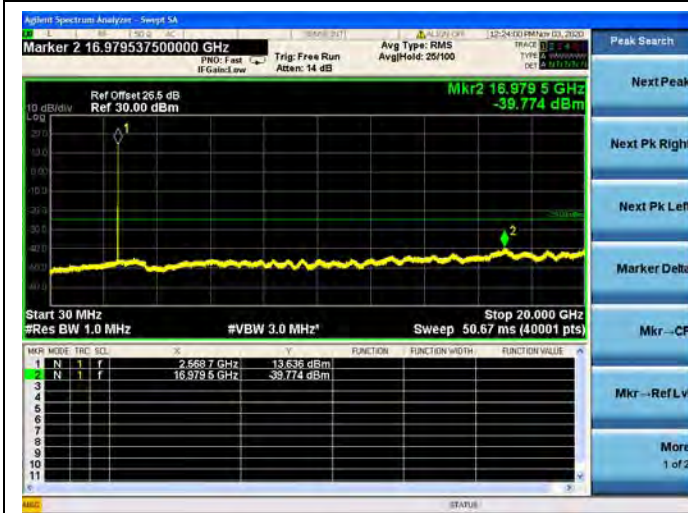
STATUS



Band 7 / 5MHz / High CH / QPSK

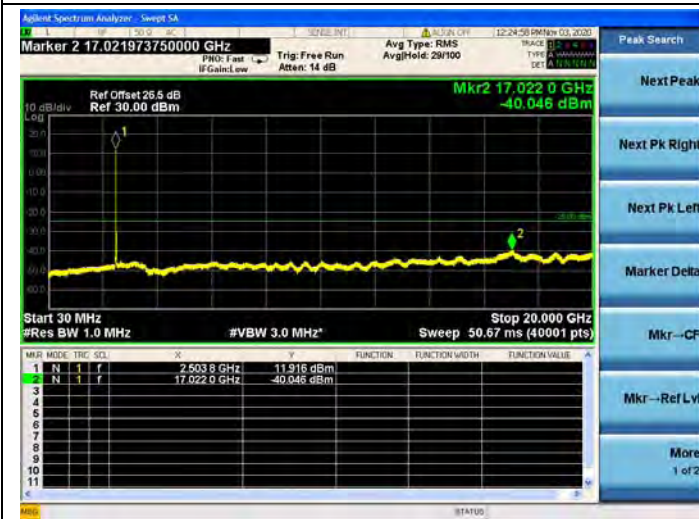


Band 7 / 5MHz / High CH / 16QAM

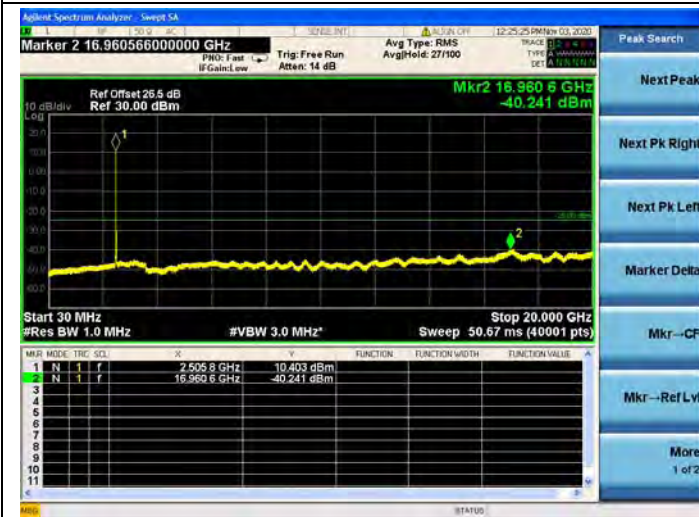




Band 7 / 10MHz / Low CH / QPSK

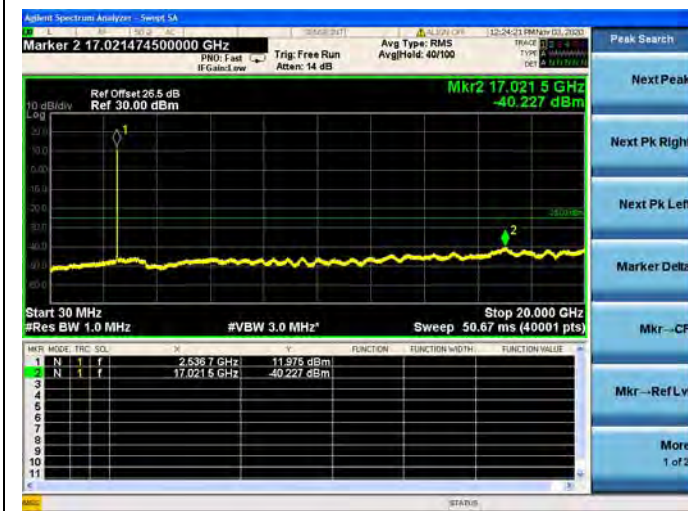


Band 7 / 10MHz / Low CH / 16QAM

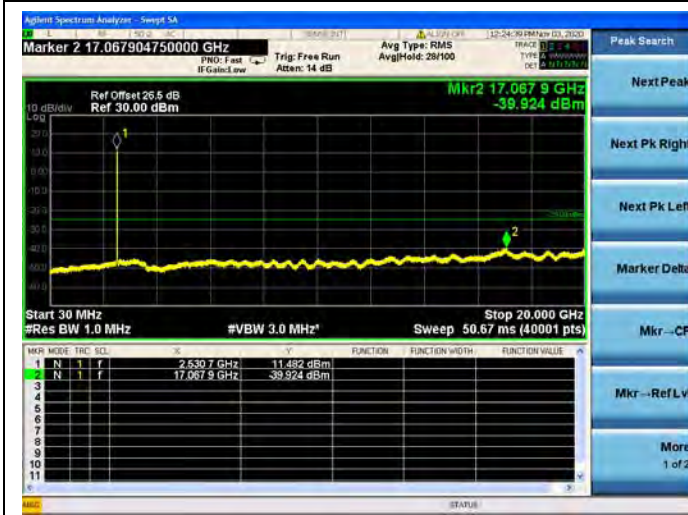




Band 7 / 10MHz / Mid CH / QPSK

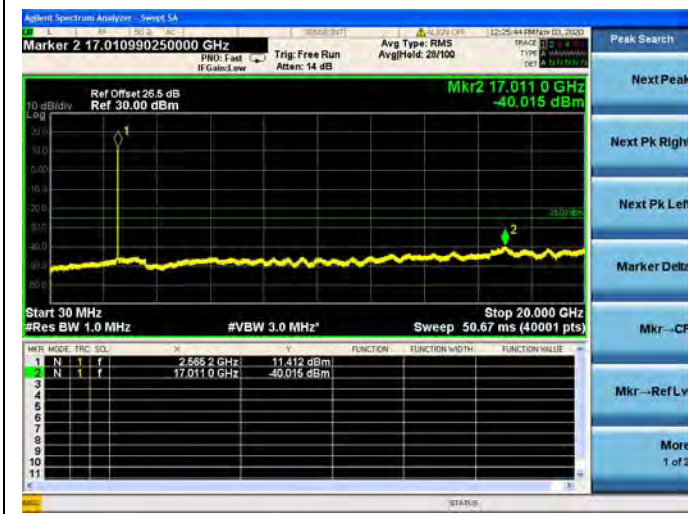


Band 7 / 10MHz / Mid CH / 16QAM

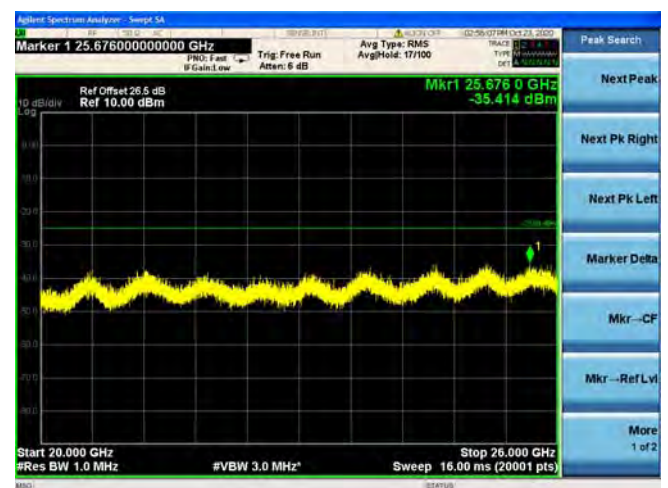
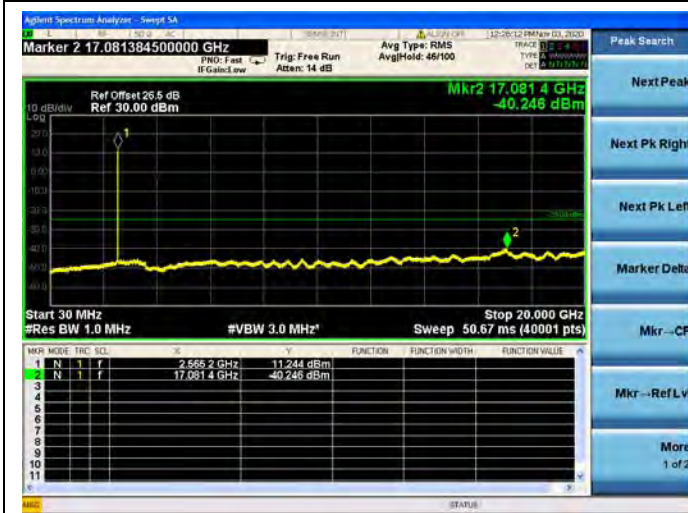




Band 7 / 10MHz / High CH / QPSK

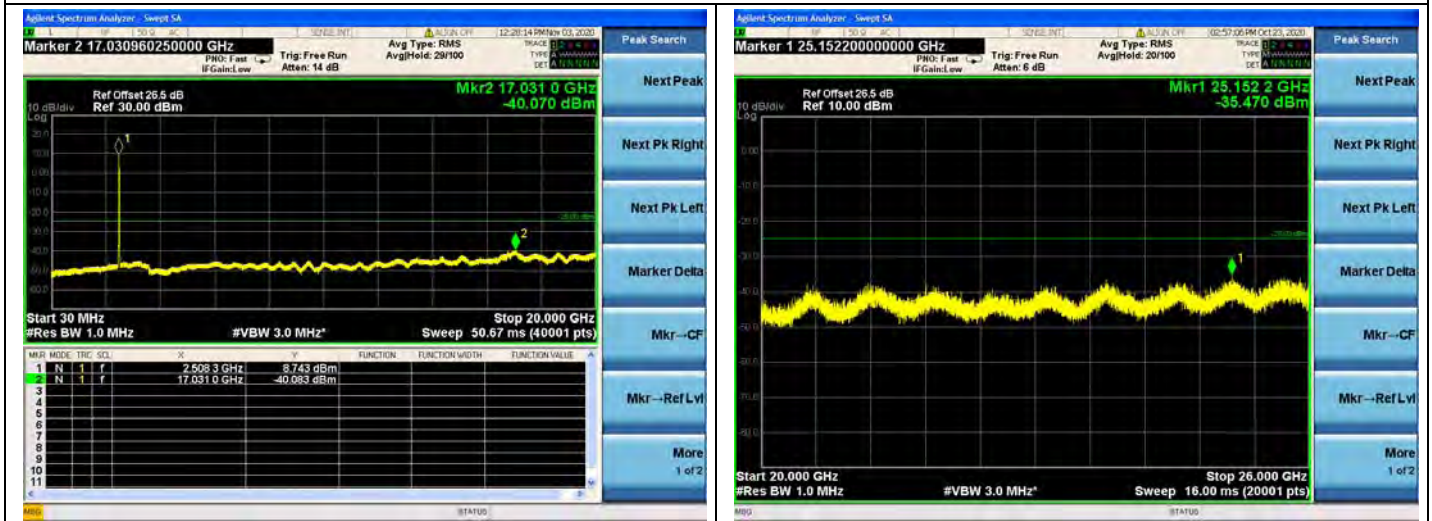


Band 7 / 10MHz / High CH / 16QAM

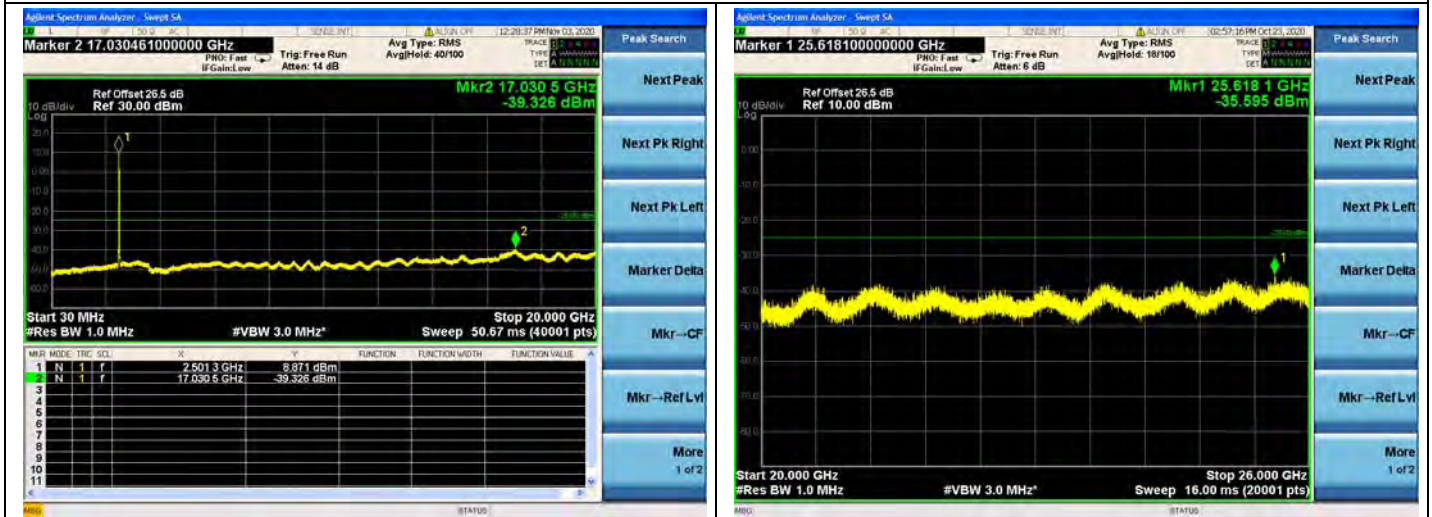




Band 7 / 15MHz / Low CH / QPSK

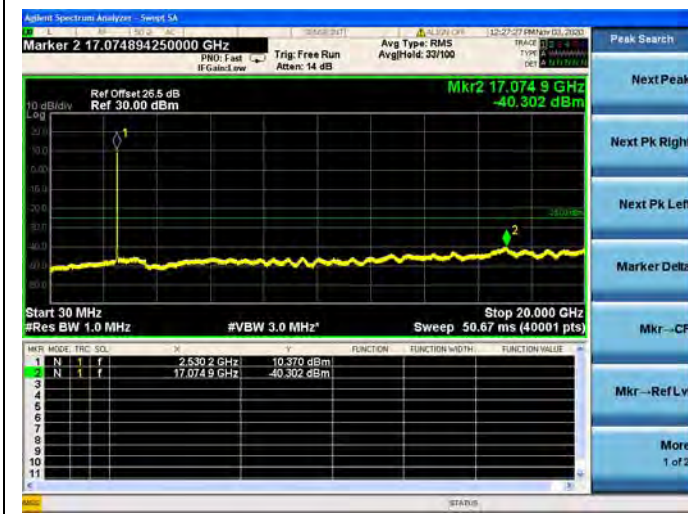


Band 7 / 15MHz / Low CH / 16QAM

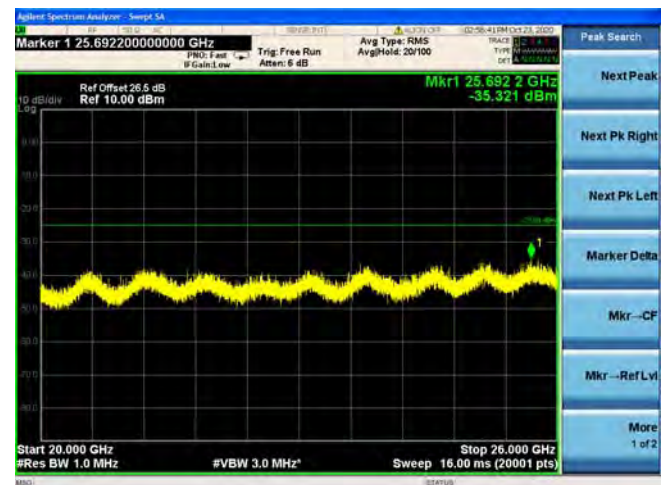
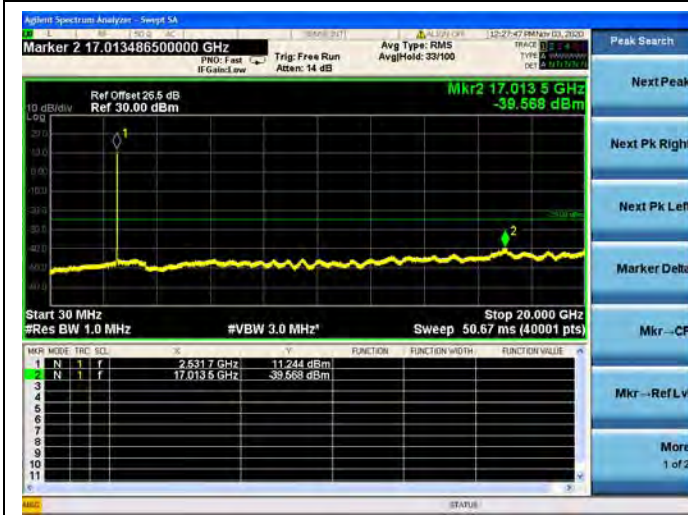




Band 7 / 15MHz / Mid CH / QPSK

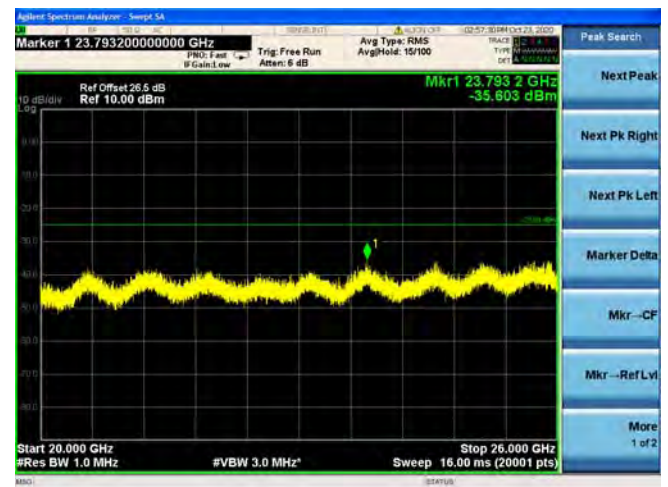
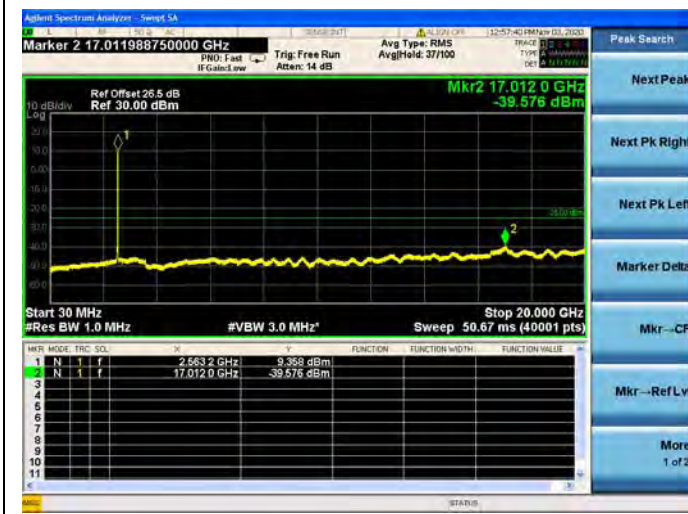


Band 7 / 15MHz / Mid CH / 16QAM

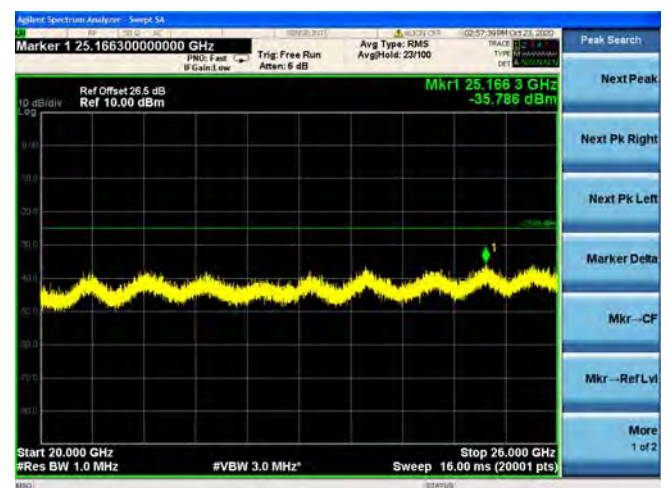
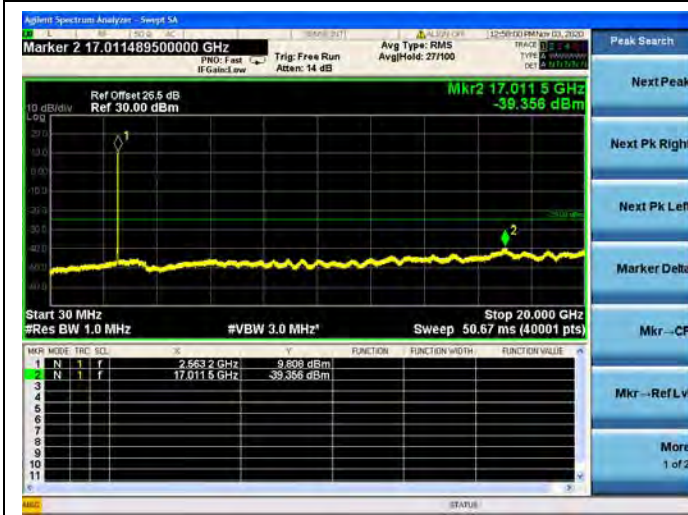




Band 7 / 15MHz / High CH / QPSK



Band 7 / 15MHz / High CH / 16QAM





Agilent Spectrum Analyzer - Sweep SA

Marker 2 17.089871750000 GHz
 Ref Offset 26.5 dB
 Ref 30.00 dBm
 Trig: Free Run
 Atten: 14 dB
 Avg Type: RMS
 Avg Hold: 28/100
 Mkr2 17.089 9 GHz
 -40.271 dBm

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

Mkr	Mode	Trig	SQL	X	Y	Function	Function Width	Function Value
1	N	1	f	2.516 8 GHz	7.382 dBm			
2	N	1	f	17.089 9 GHz	-40.271 dBm			

Agilent Spectrum Analyzer - Sweep SA

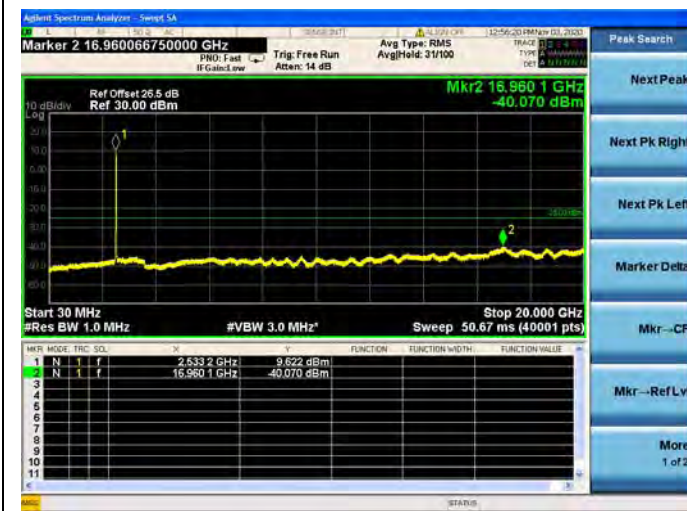
Marker 1 25.171250000000 GHz
 Ref Offset 26.5 dB
 Ref 10.00 dBm
 Trig: Free Run
 Atten: 6 dB
 Avg Type: RMS
 Avg Hold: 14/100
 Mkr1 25.171 25 GHz
 -41.922 dBm

Start 20.000 GHz
 #Res BW 1.0 MHz
 #VBW 3.0 MHz*
 Stop 26.000 GHz
 Sweep 16.00 ms (40001 pts)

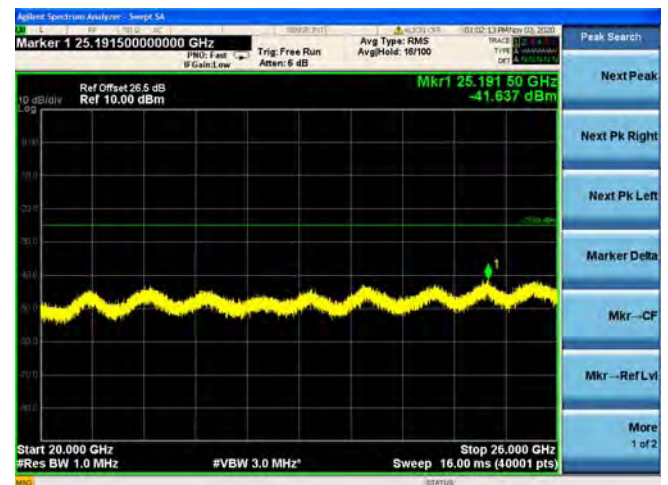
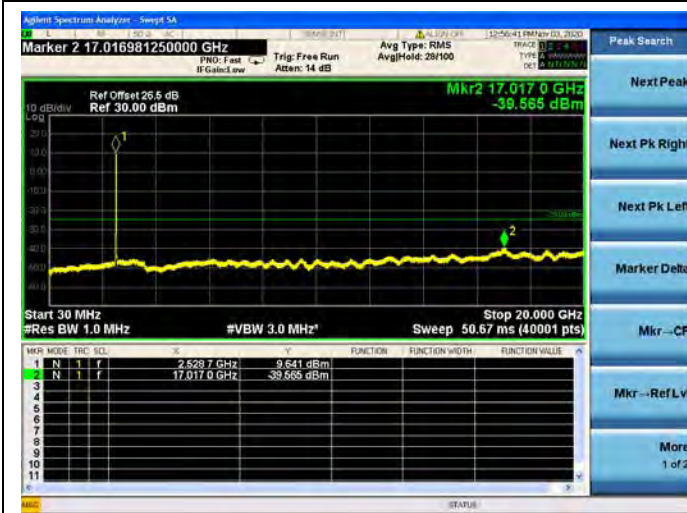
Mkr	Mode	Trig	SQL	X	Y	Function	Function Width	Function Value
1	N	1	f	25.171 25 GHz	-41.922 dBm			

The figure consists of two side-by-side screenshots of an Agilent Spectrum Analyzer interface. Both screens show a log-log plot of power (dBm) versus frequency (GHz). The left screen displays a spectrum with a peak at 16.9785 GHz, labeled 'Mkr2 16.978 5 GHz -39.713 dBm'. The right screen displays a spectrum with a peak at 25.70585 GHz, labeled 'Mkr1 25.705 85 GHz -42.115 dBm'. Both screens show a log-log plot of power (dBm) versus frequency (GHz). The left screen has a frequency range from 16.978 GHz to 16.980 GHz, and the right screen has a frequency range from 25.705 GHz to 25.706 GHz. Both screens show a log-log plot of power (dBm) versus frequency (GHz). The left screen has a frequency range from 16.978 GHz to 16.980 GHz, and the right screen has a frequency range from 25.705 GHz to 25.706 GHz. Both screens show a log-log plot of power (dBm) versus frequency (GHz).

Band 7 / 20MHz / Mid CH / QPSK

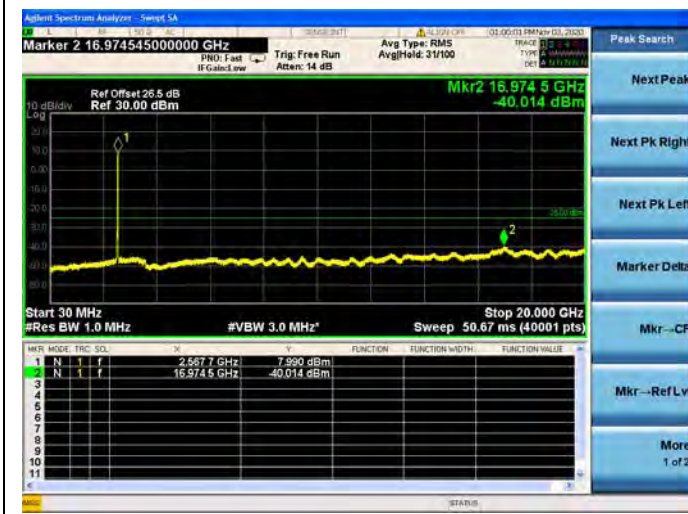


Band 7 / 20MHz / Mid CH / 16QAM

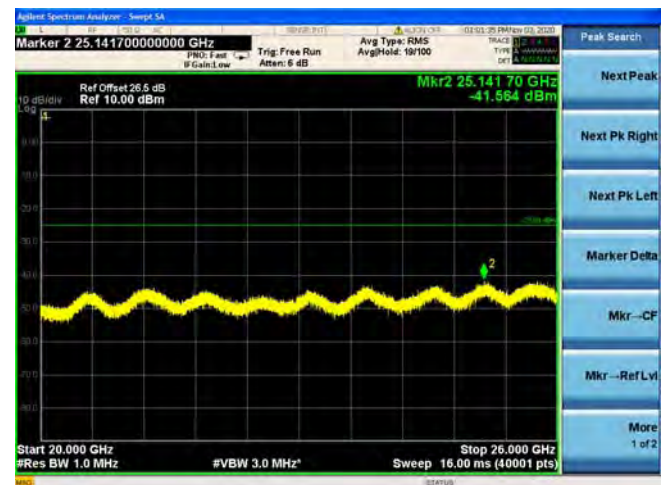
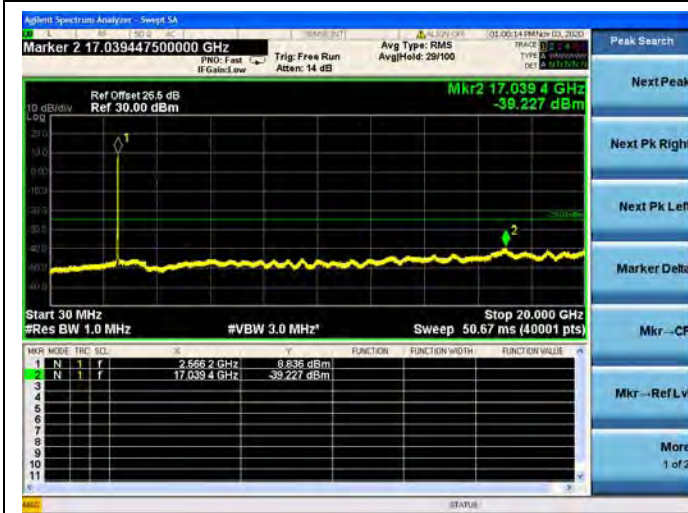




Band 7 / 20MHz / High CH / QPSK

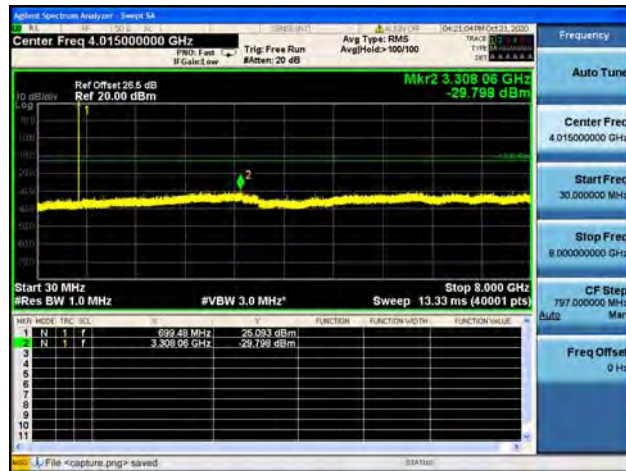


Band 7 / 20MHz / High CH / 16QAM

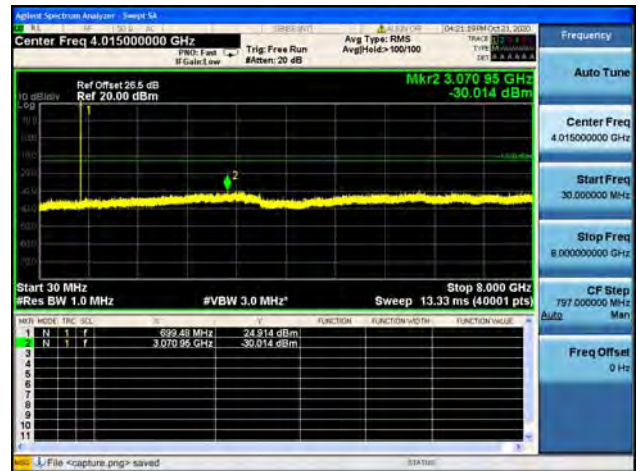




Band12 / 1.4MHz / Low CH / QPSK



Band12 / 1.4MHz / Low CH / 16QAM



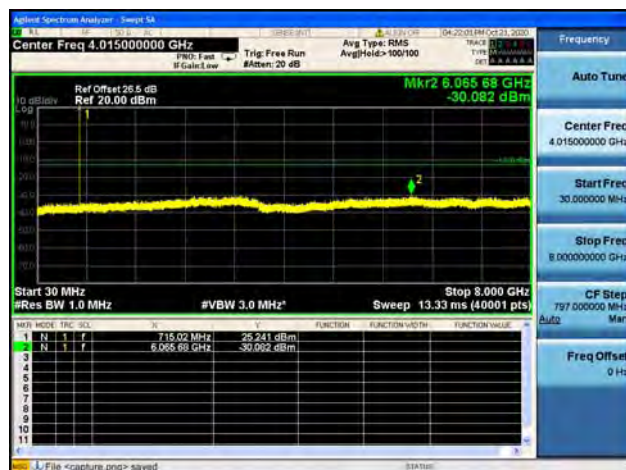
Band12 / 1.4MHz / Mid CH / QPSK



Band12 / 1.4MHz / Mid CH / 16QAM



Band12 / 1.4MHz / High CH / QPSK



Band12 / 1.4MHz / High CH / 16QAM

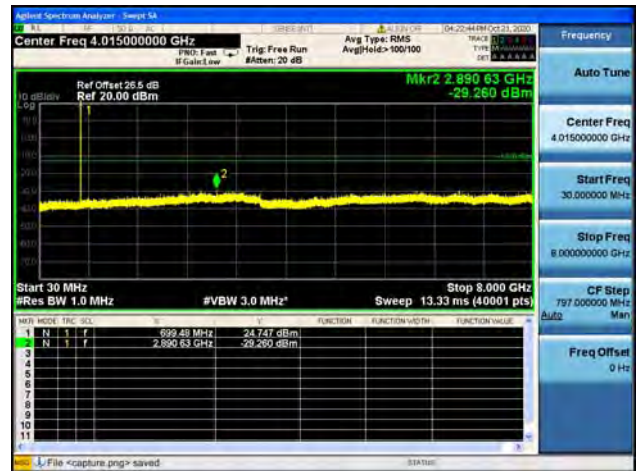




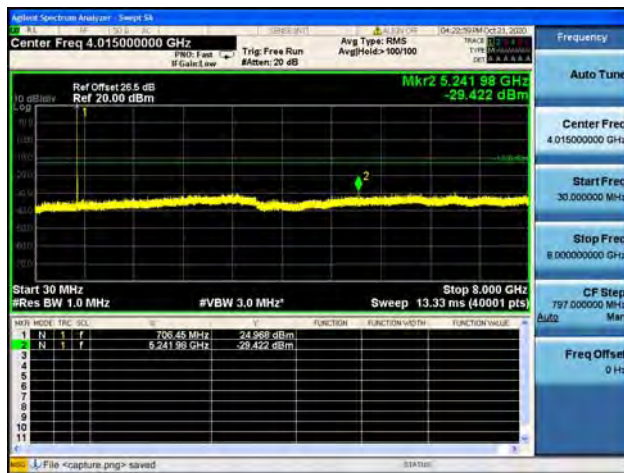
Band12 / 3MHz / Low CH / QPSK



Band12 / 3MHz / Low CH / 16QAM



Band12 / 3MHz / Mid CH / QPSK



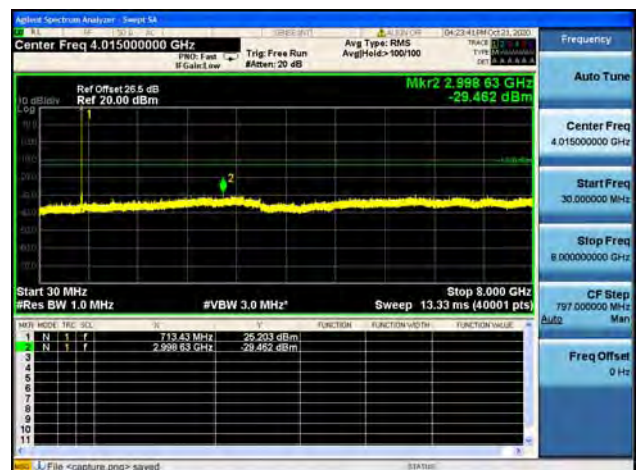
Band12 / 3MHz / Mid CH / 16QAM



Band12 / 3MHz / High CH / QPSK

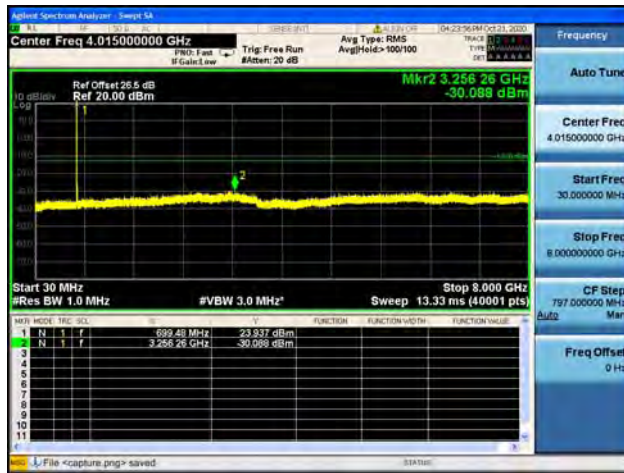


Band12 / 3MHz / High CH / 16QAM

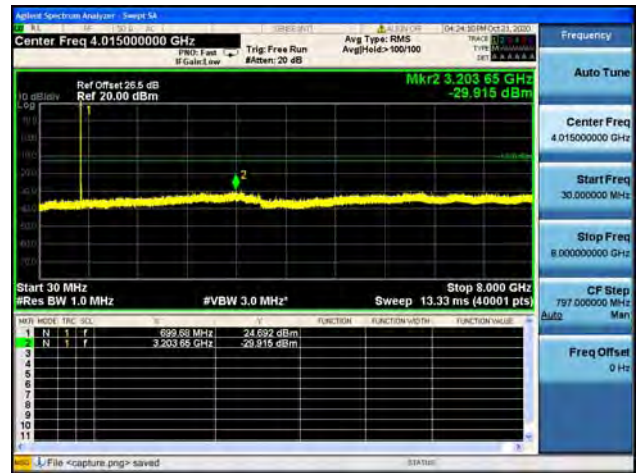




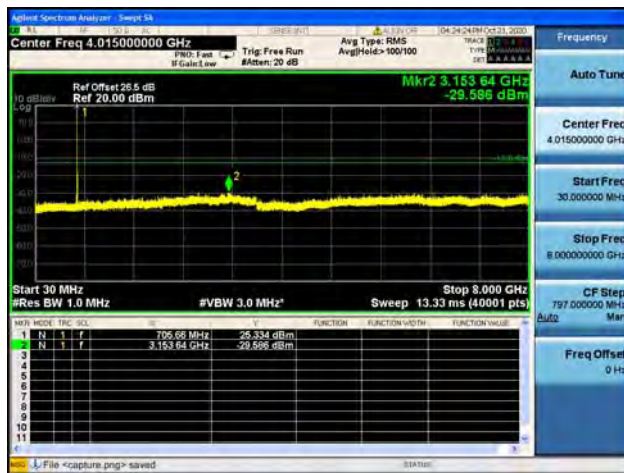
Band12 / 5MHz / Low CH / QPSK



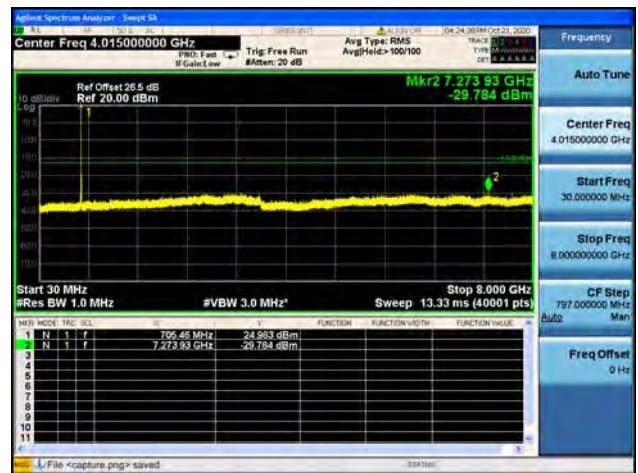
Band12 / 5MHz / Low CH / 16QAM



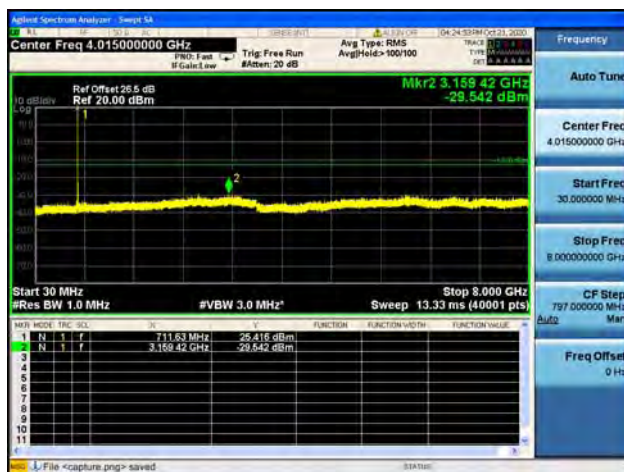
Band12 / 5MHz / Mid CH / QPSK



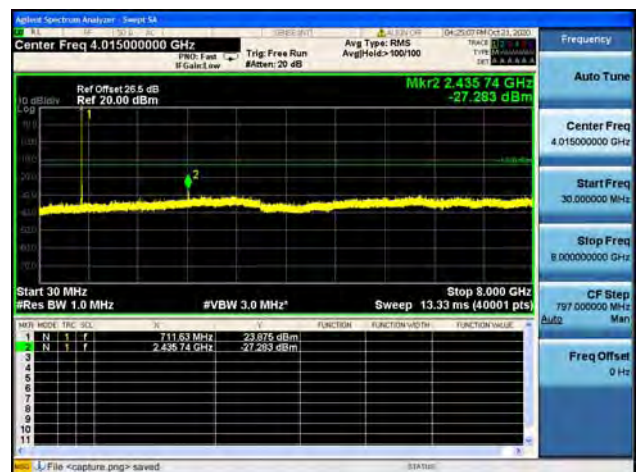
Band12 / 5MHz / Mid CH / 16QAM



Band12 / 5MHz / High CH / QPSK

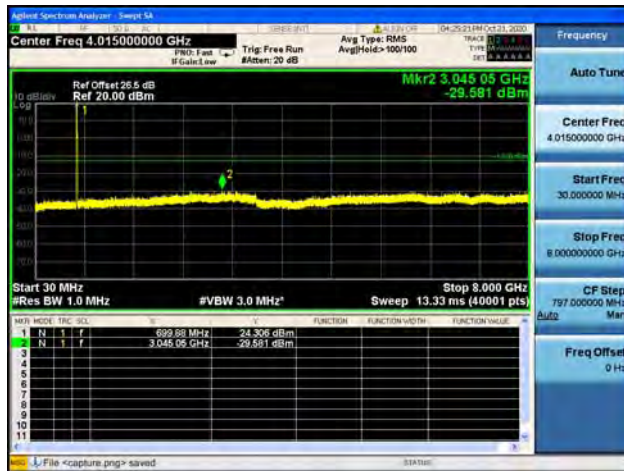


Band12 / 5MHz / High CH / 16QAM

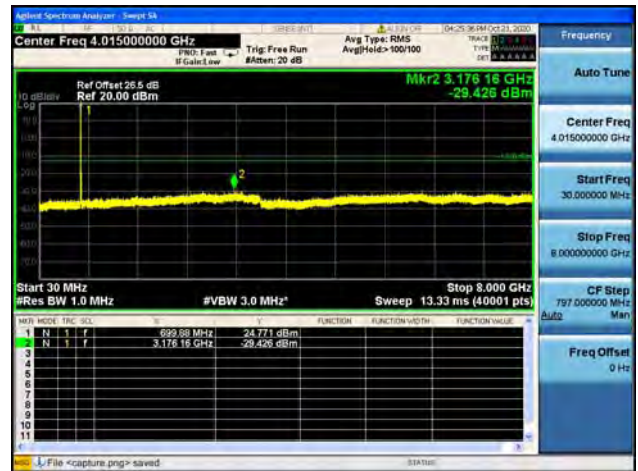




Band12 / 10MHz / Low CH / QPSK



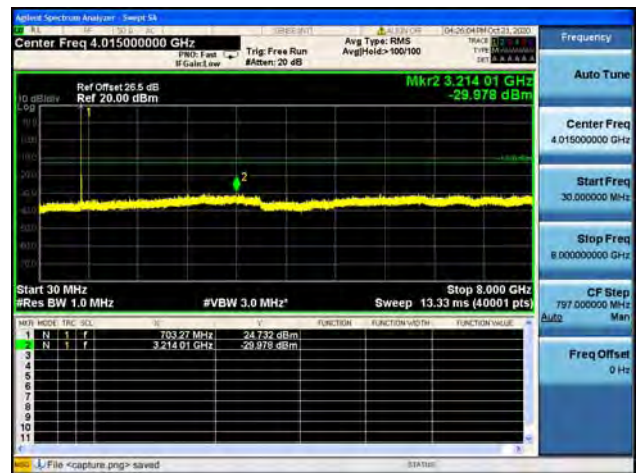
Band12 / 10MHz / Low CH / 16QAM



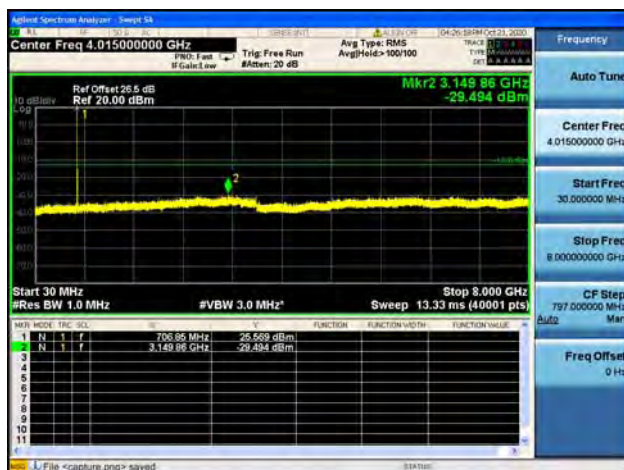
Band12 / 10MHz / Mid CH / QPSK



Band12 / 10MHz / Mid CH / 16QAM



Band12 / 10MHz / High CH / QPSK



Band12 / 10MHz / High CH / 16QAM

