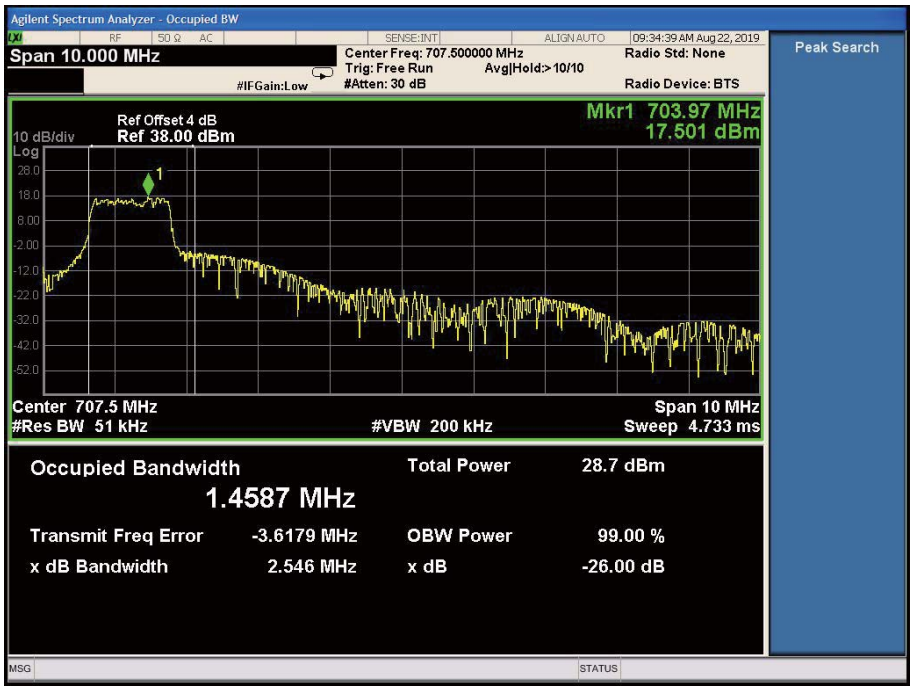
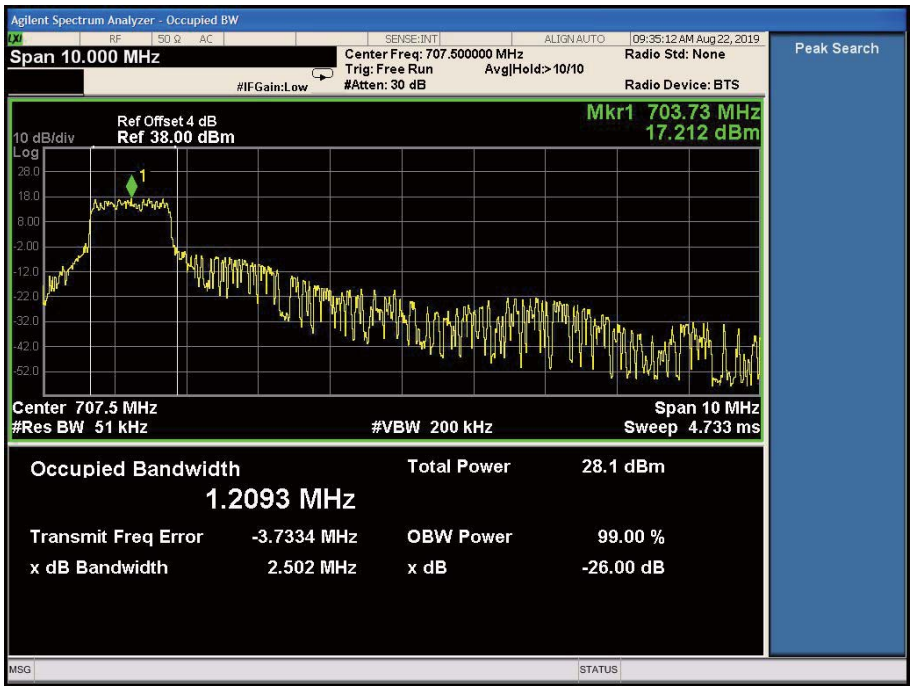
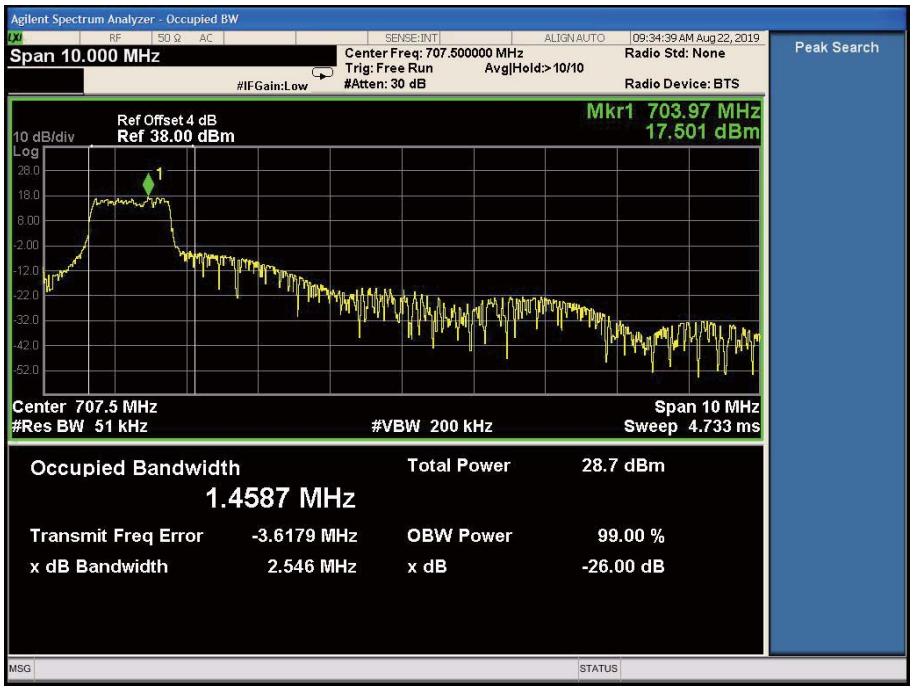


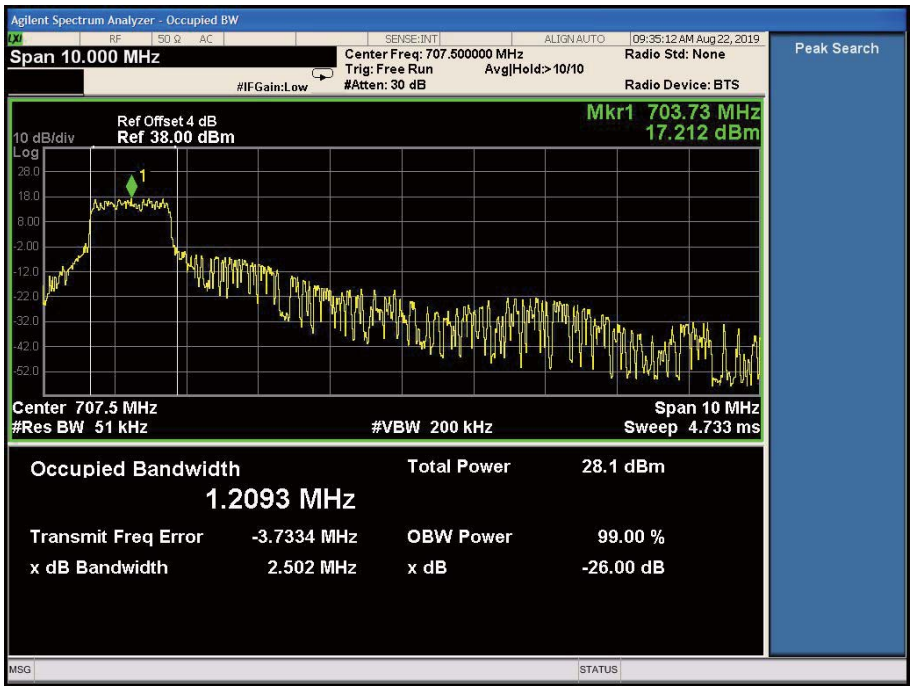
Band12-26dB OBW-10MHz Bandwidth-16QAM



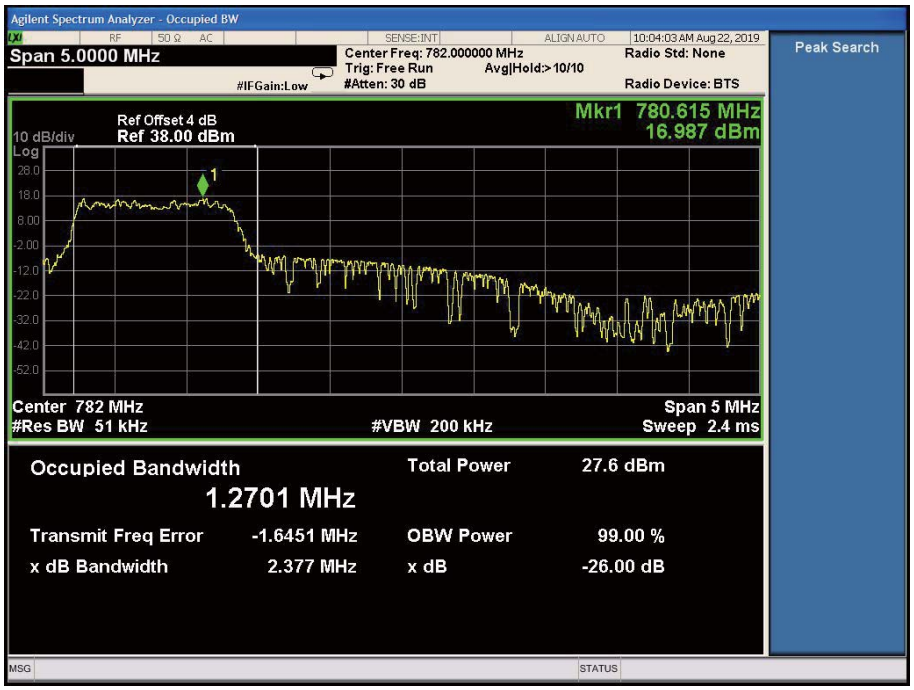
Band12-26dB OBW-10MHz Bandwidth-QPSK



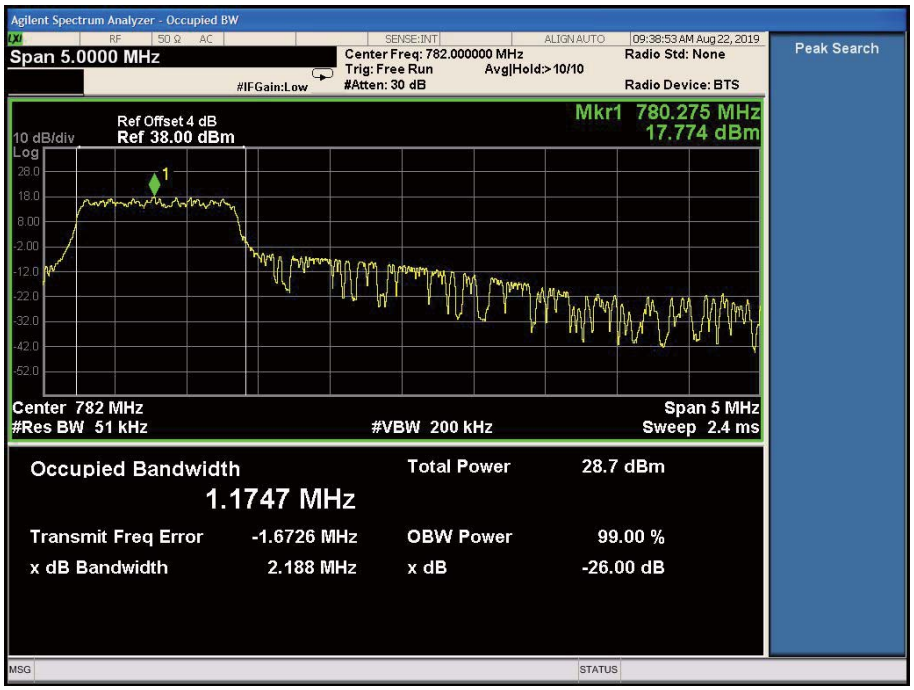
Band12-99% OBW-10MHz Bandwidth-16QAM



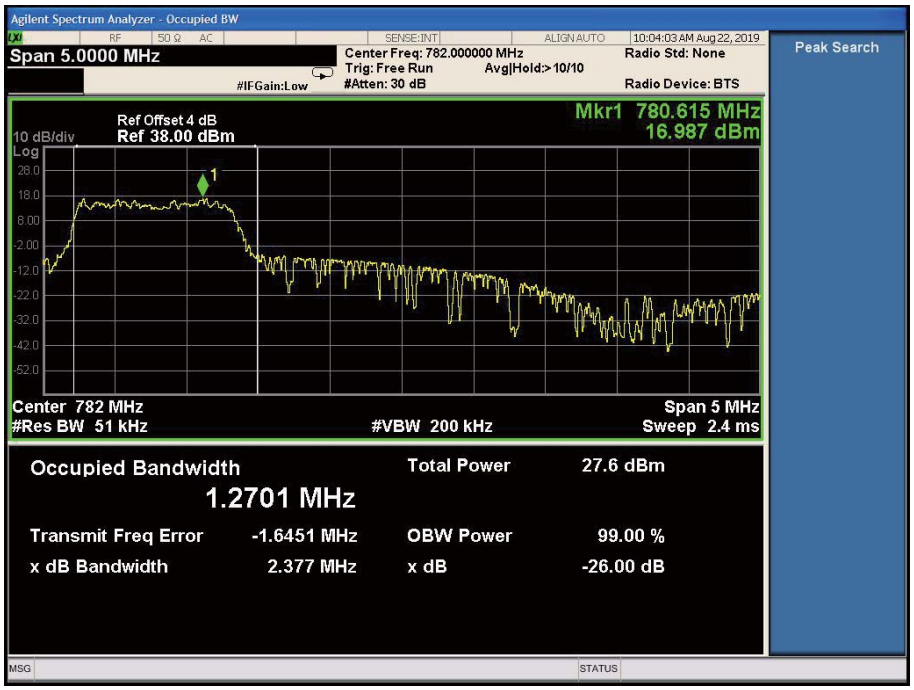
Band12-99% OBW-10MHz Bandwidth-QPSK



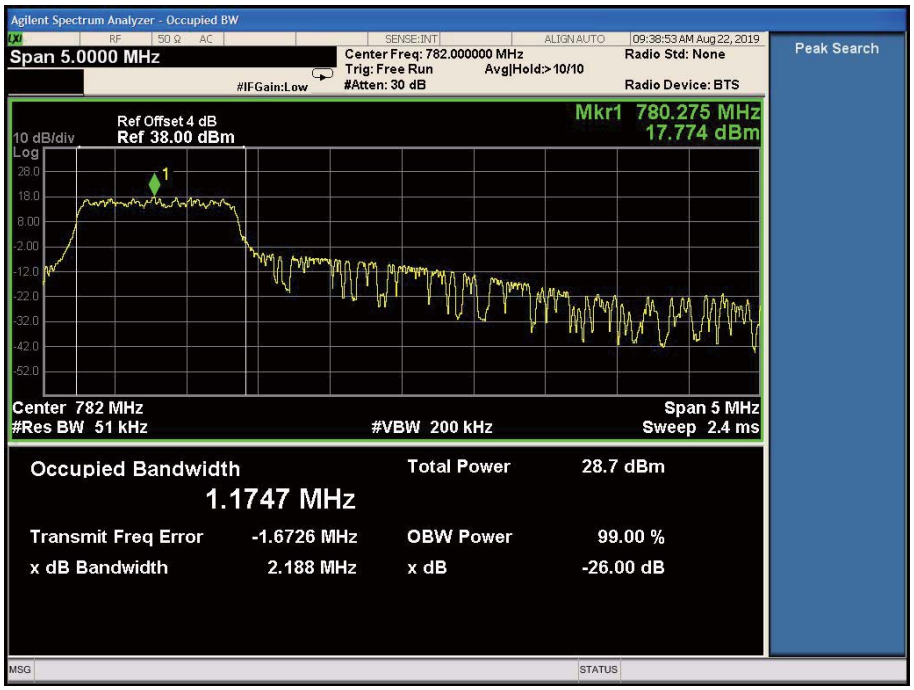
Band13-26dB OBW-5MHz Bandwidth-16QAM



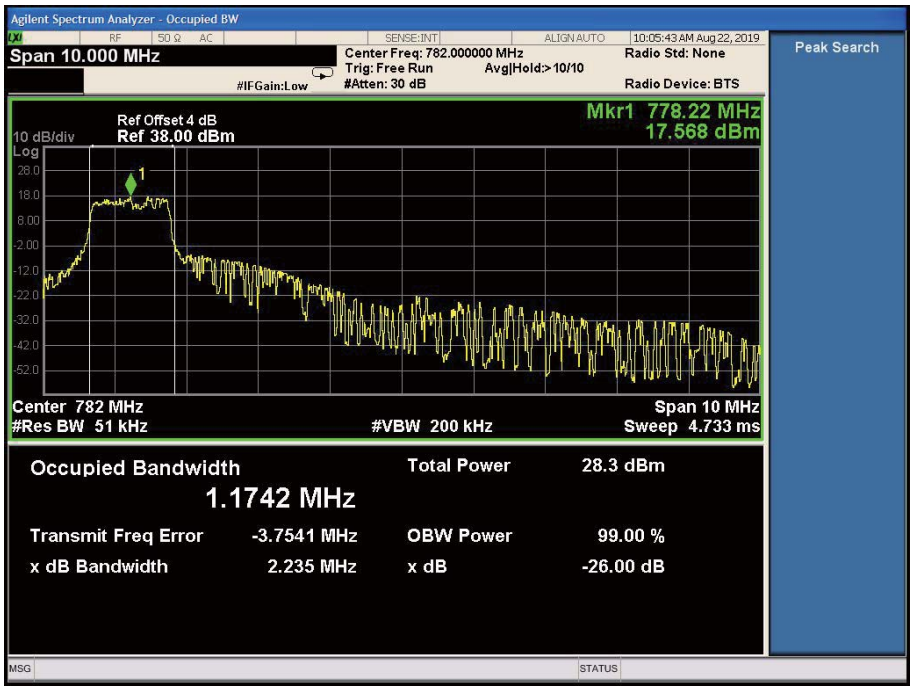
Band13-26dB OBW-5MHz Bandwidth-QPSK



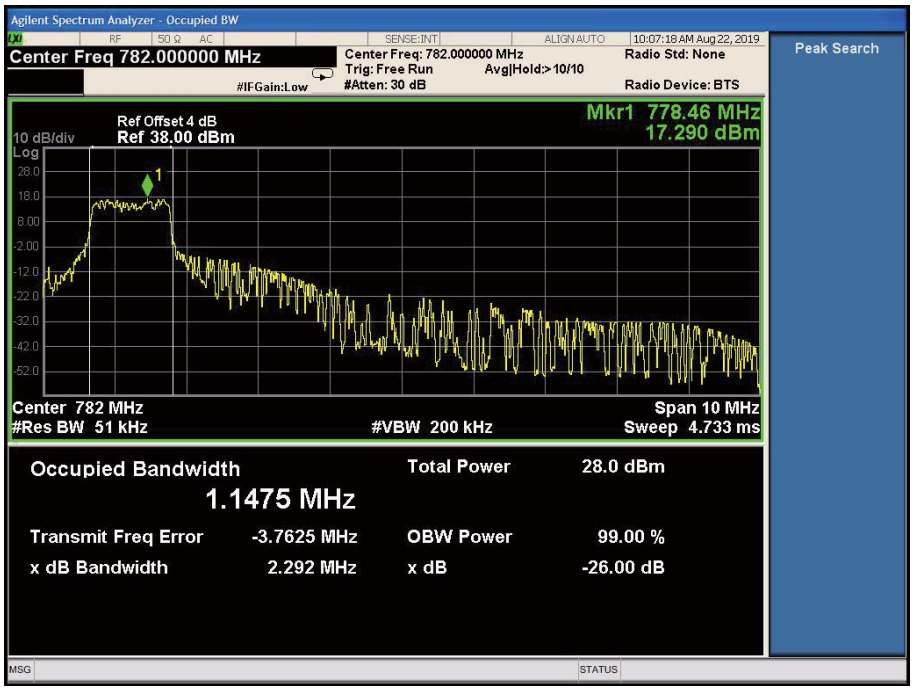
Band13-99% OBW-5MHz Bandwidth-16QAM



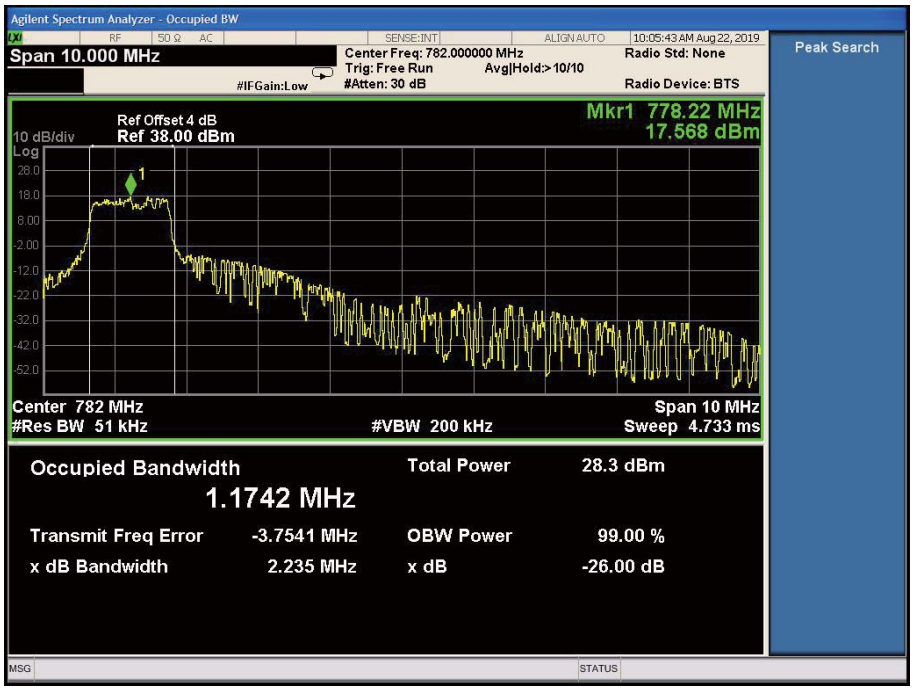
Band13-99% OBW-5MHz Bandwidth-QPSK



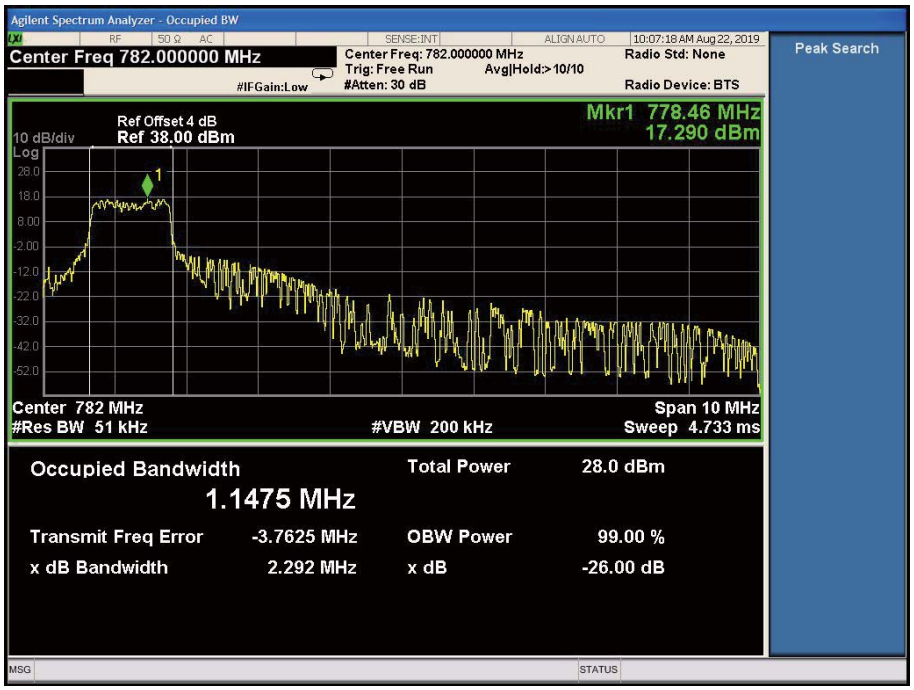
Band13-26dB OBW-10MHz Bandwidth-16QAM



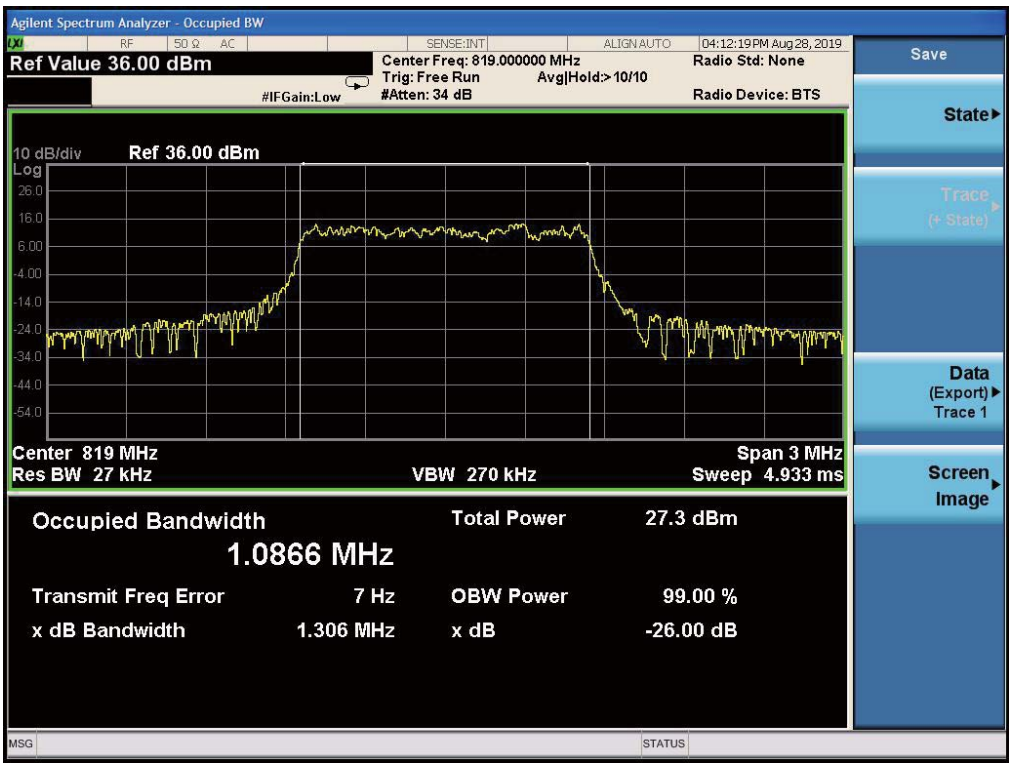
Band13-26dB OBW-10MHz Bandwidth-QPSK



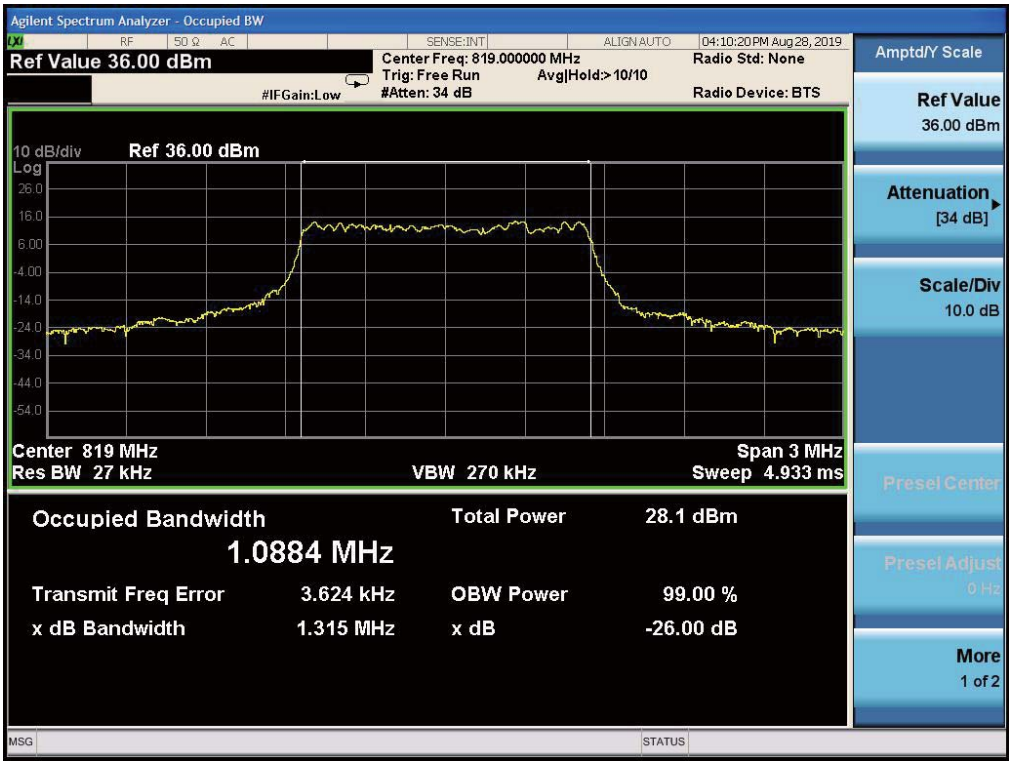
Band13-99% OBW-10MHz Bandwidth-16QAM



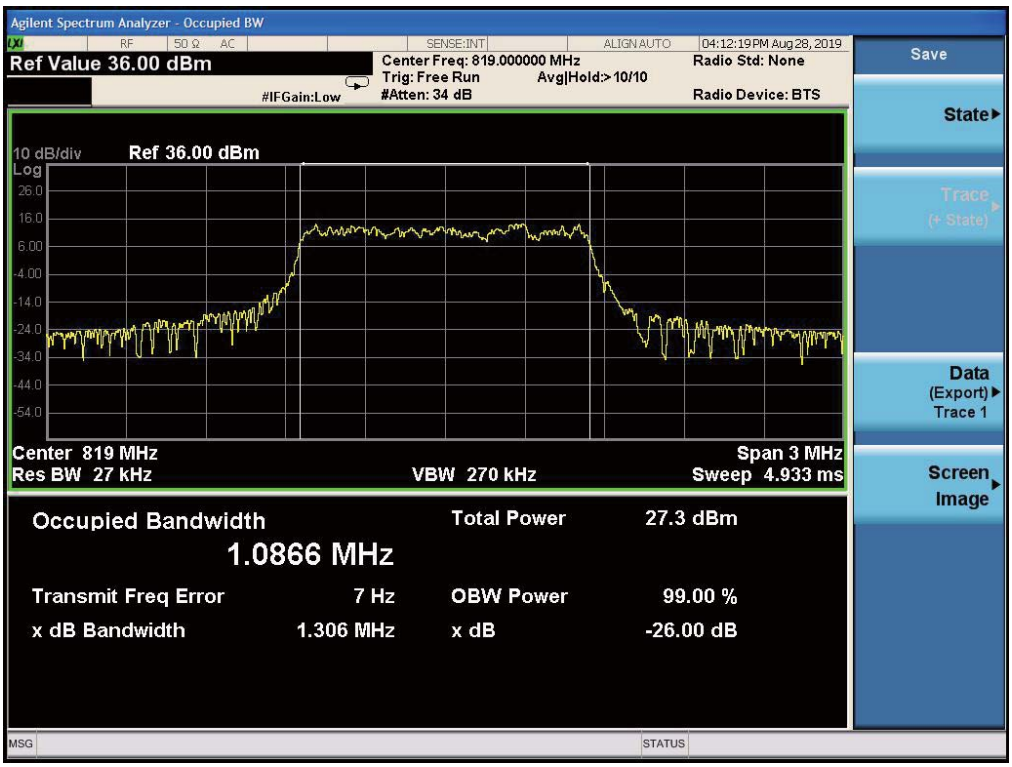
Band13-99% OBW-10MHz Bandwidth-QPSK



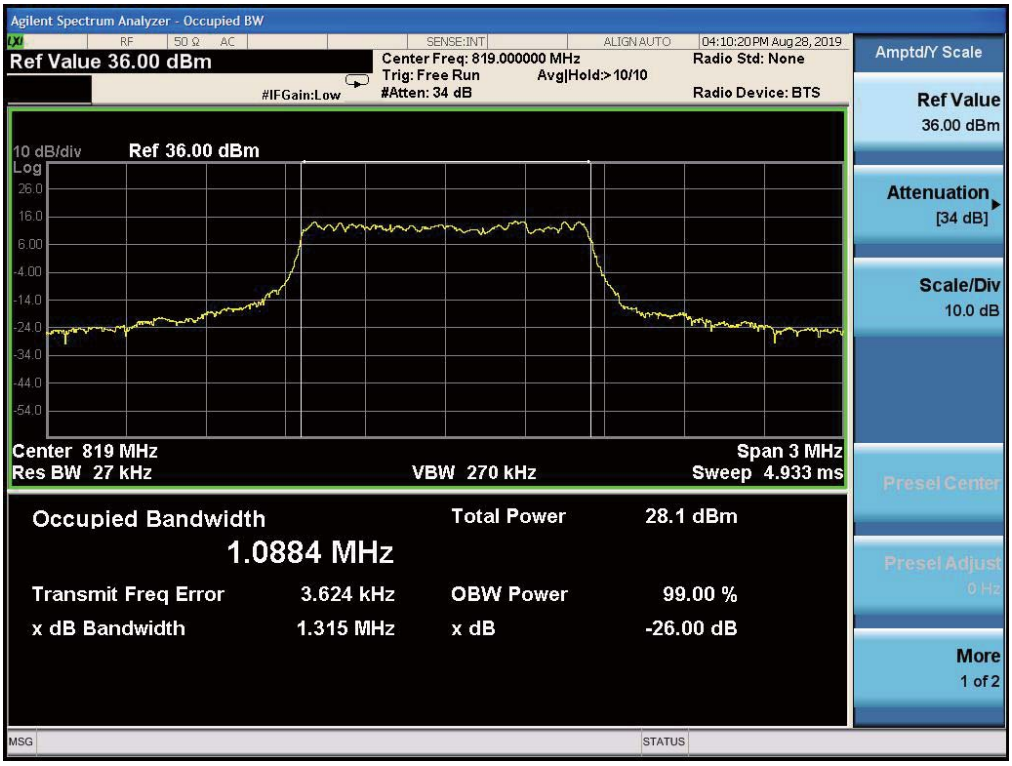
Band26-26dB OBW-26740 Channel-1.4MHz Bandwidth-16QAM



Band26-26dB OBW-26740 Channel-1.4MHz Bandwidth-QPSK



Band26-99% OBW-26740 Channel-1.4MHz Bandwidth-16QAM

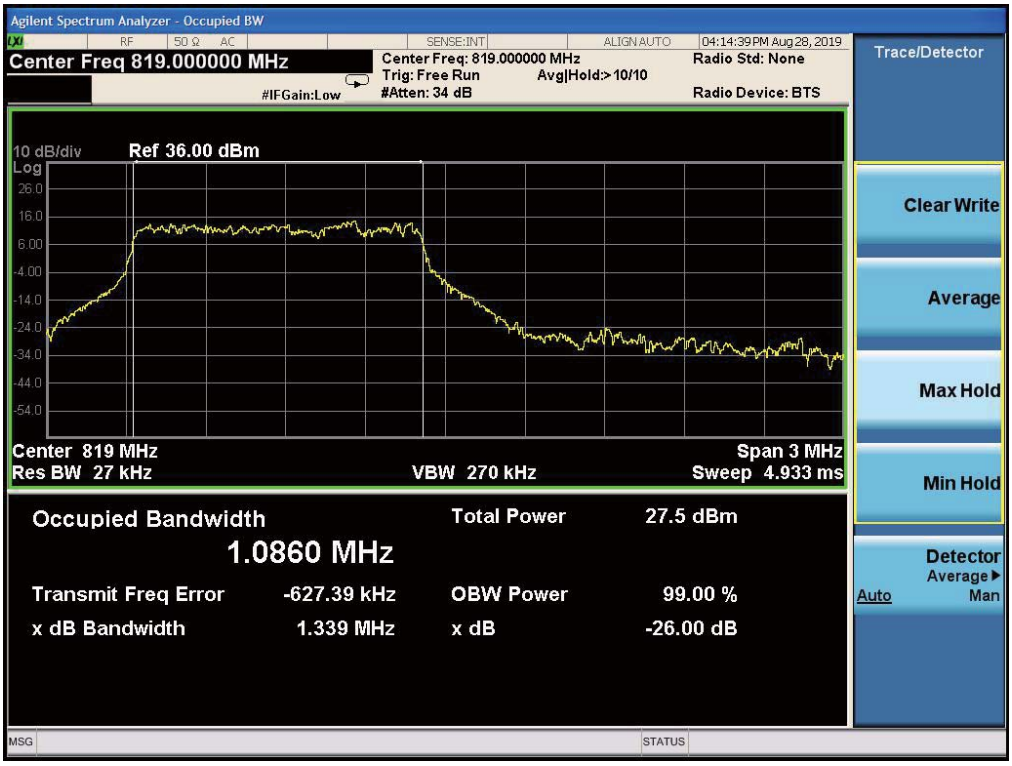


Band26-99% OBW-26740 Channel-1.4MHz Bandwidth-QPSK

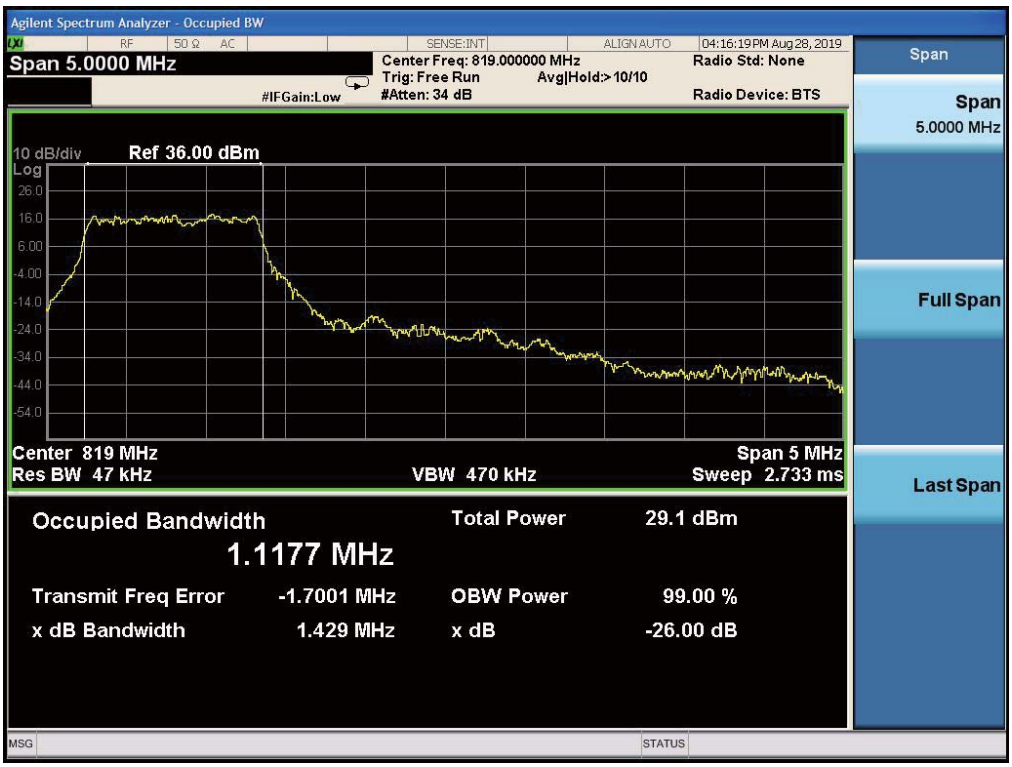
Band26-26dB OBW-26740 Channel-3MHz Bandwidth-16QAM

Band26-26dB OBW-26740 Channel-3MHz Bandwidth-QPSK

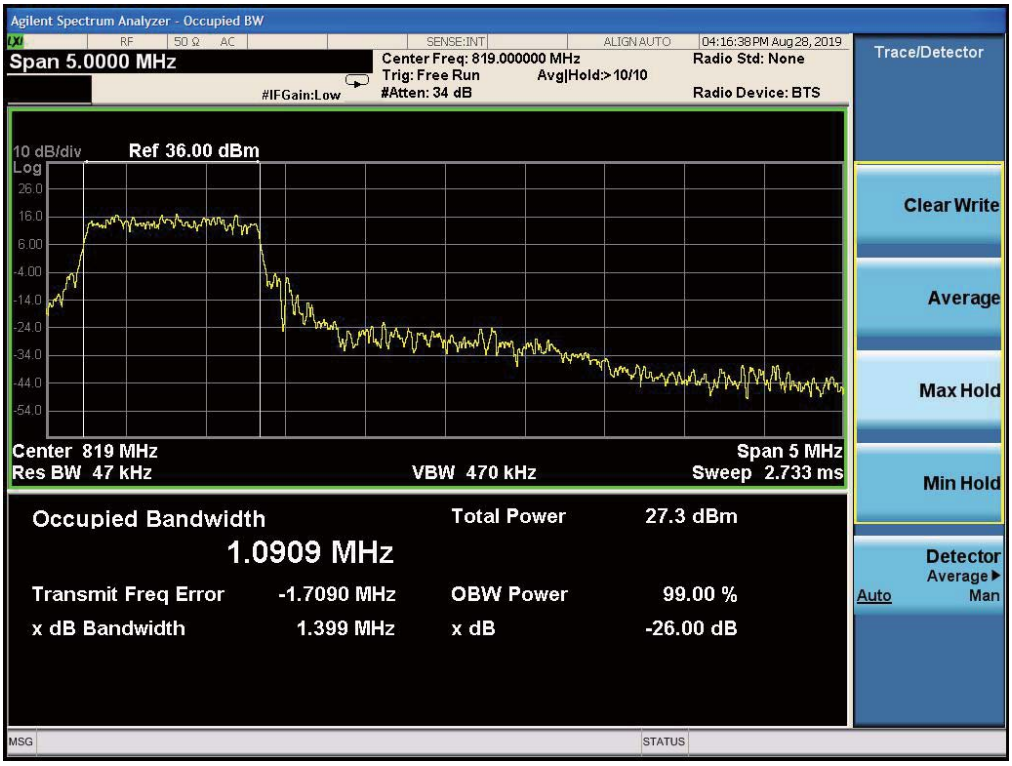
Band26-99% OBW-26740 Channel-3MHz Bandwidth-16QAM



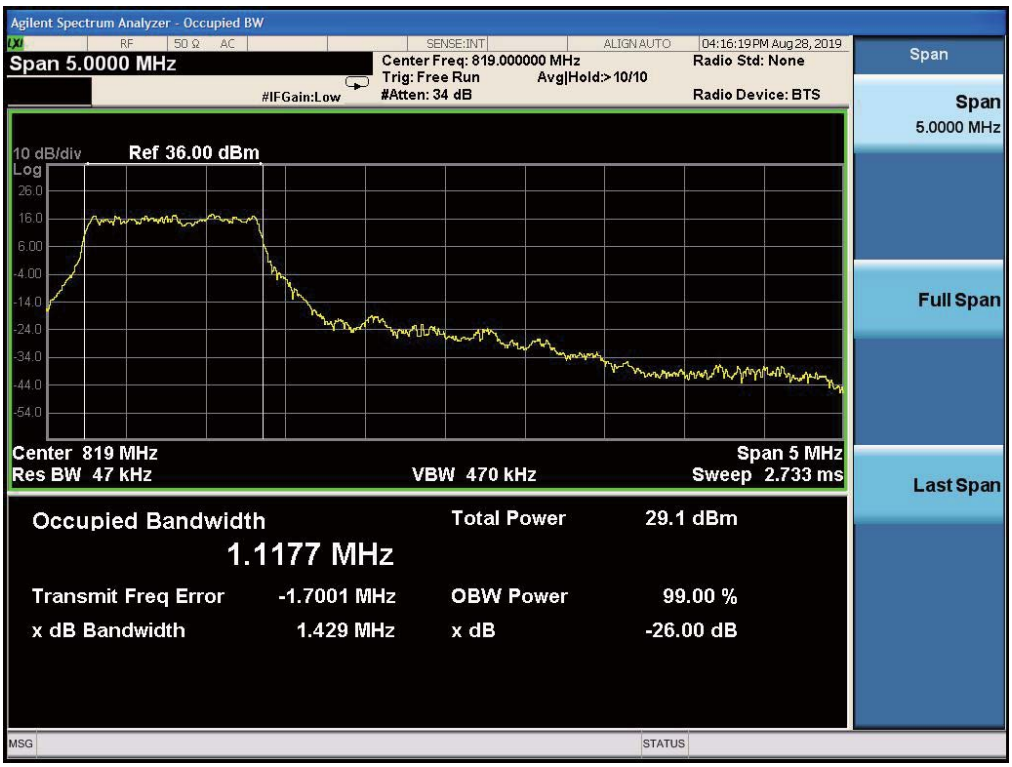
Band26-99% OBW-26740 Channel-3MHz Bandwidth-QPSK



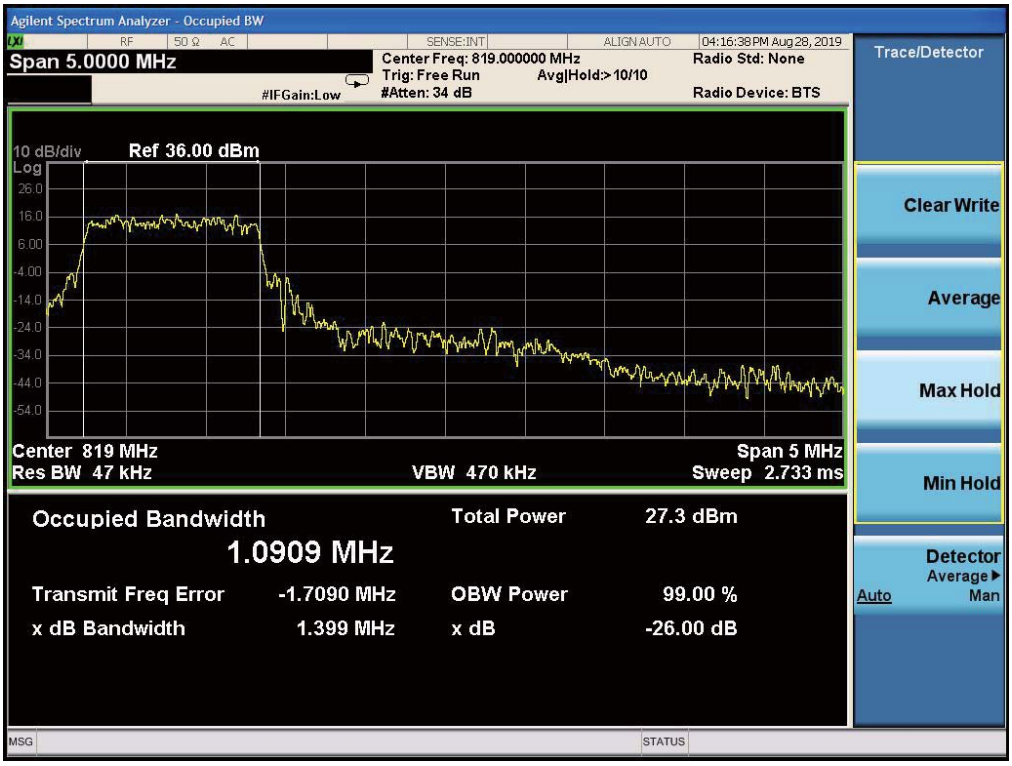
Band26-26dB OBW-26740 Channel-5MHz Bandwidth-16QAM



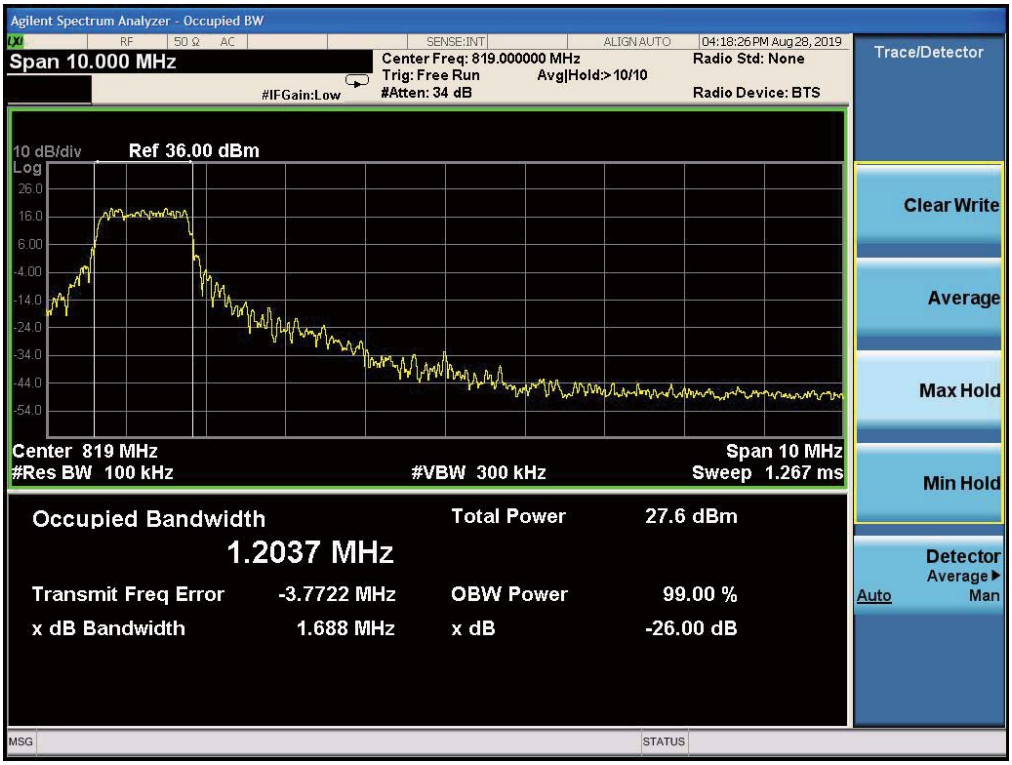
Band26-26dB OBW-26740 Channel-5MHz Bandwidth-QPSK



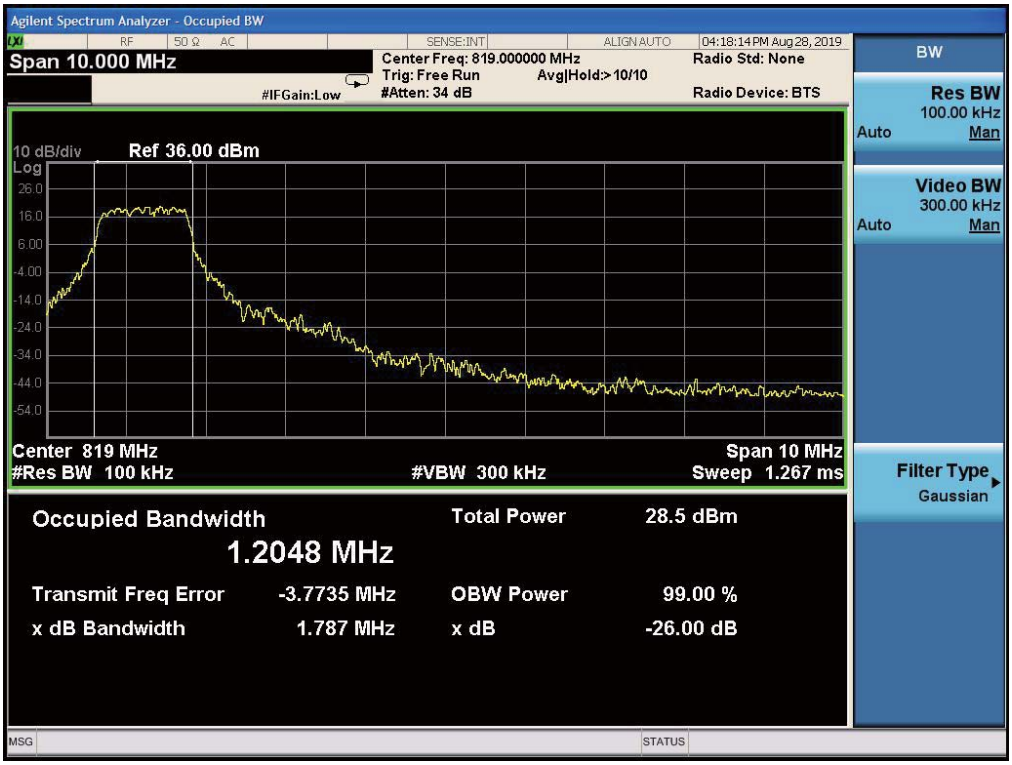
Band26-99% OBW-26740 Channel-5MHz Bandwidth-16QAM



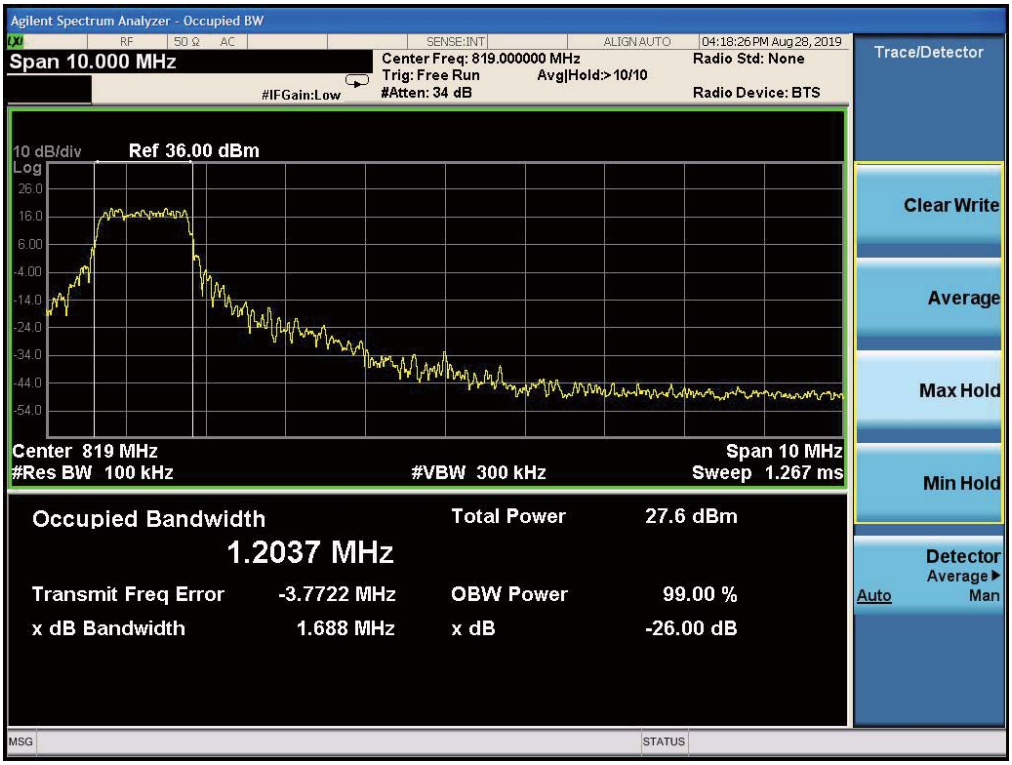
Band26-99% OBW-26740 Channel-5MHz Bandwidth-QPSK



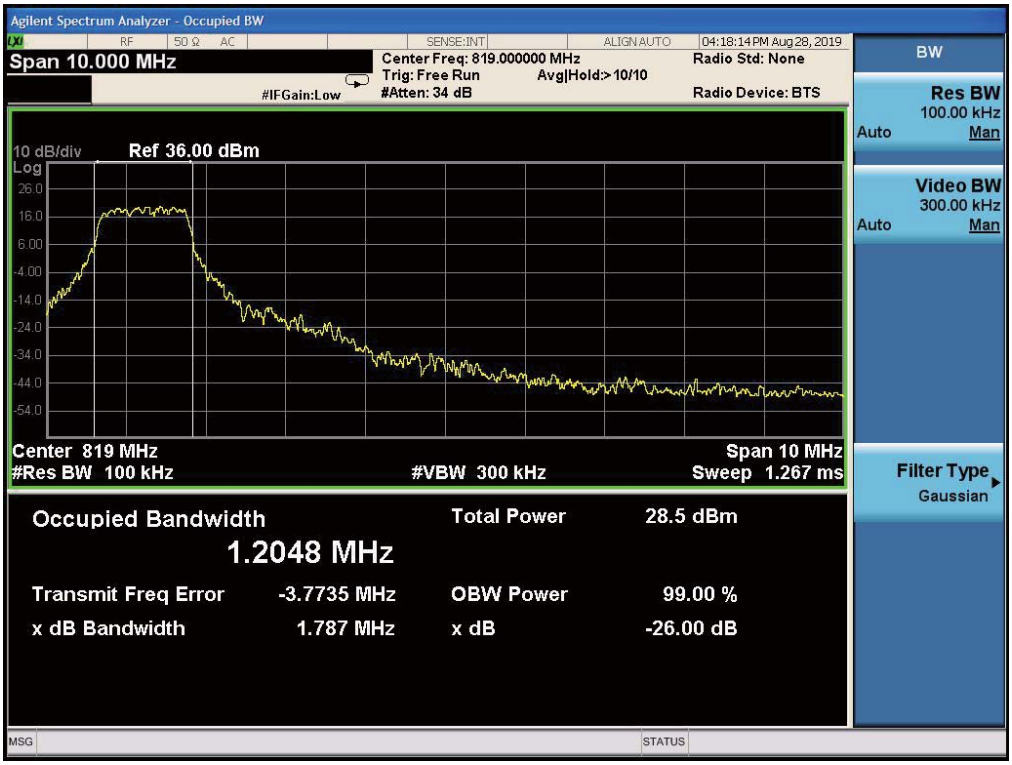
Band26-26dB OBW-26740 Channel-10MHz Bandwidth-16QAM



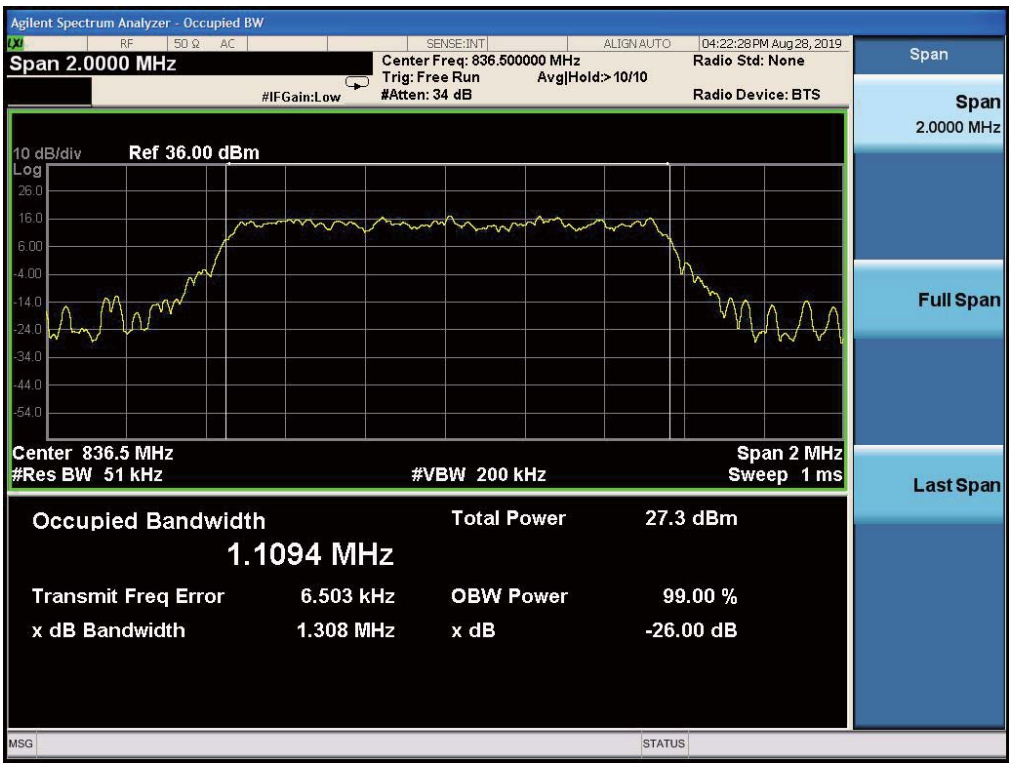
Band26-26dB OBW-26740 Channel-10MHz Bandwidth-QPSK



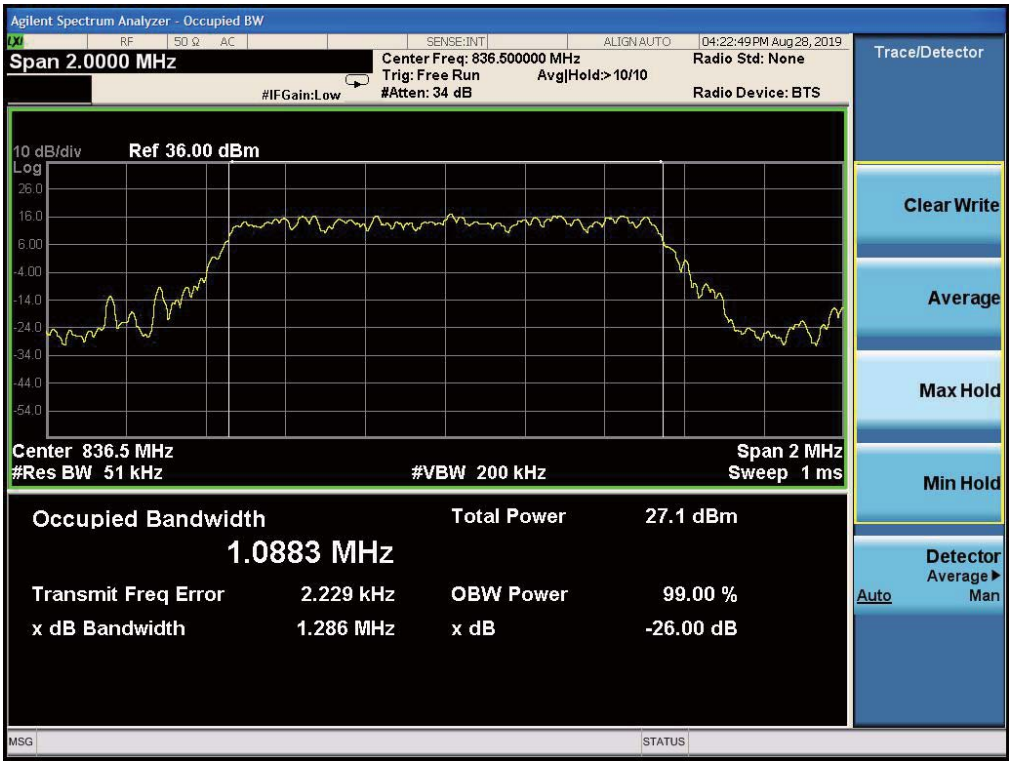
Band26-99% OBW-26740 Channel-10MHz Bandwidth-16QAM



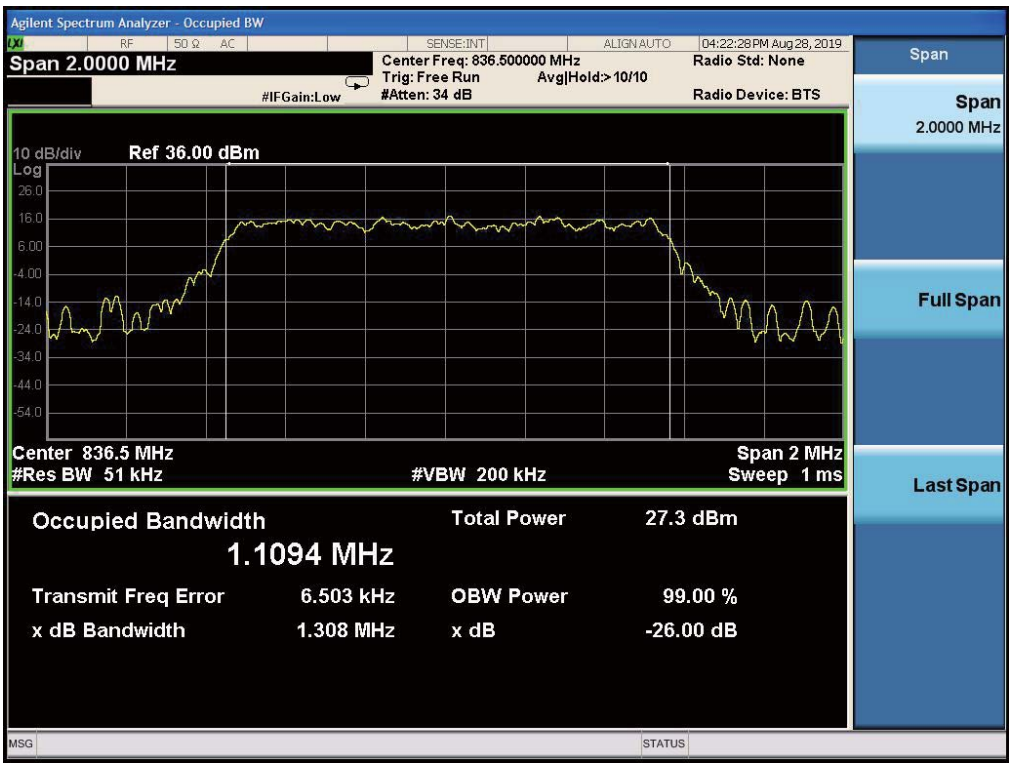
Band26-99% OBW-26740 Channel-10MHz Bandwidth-QPSK



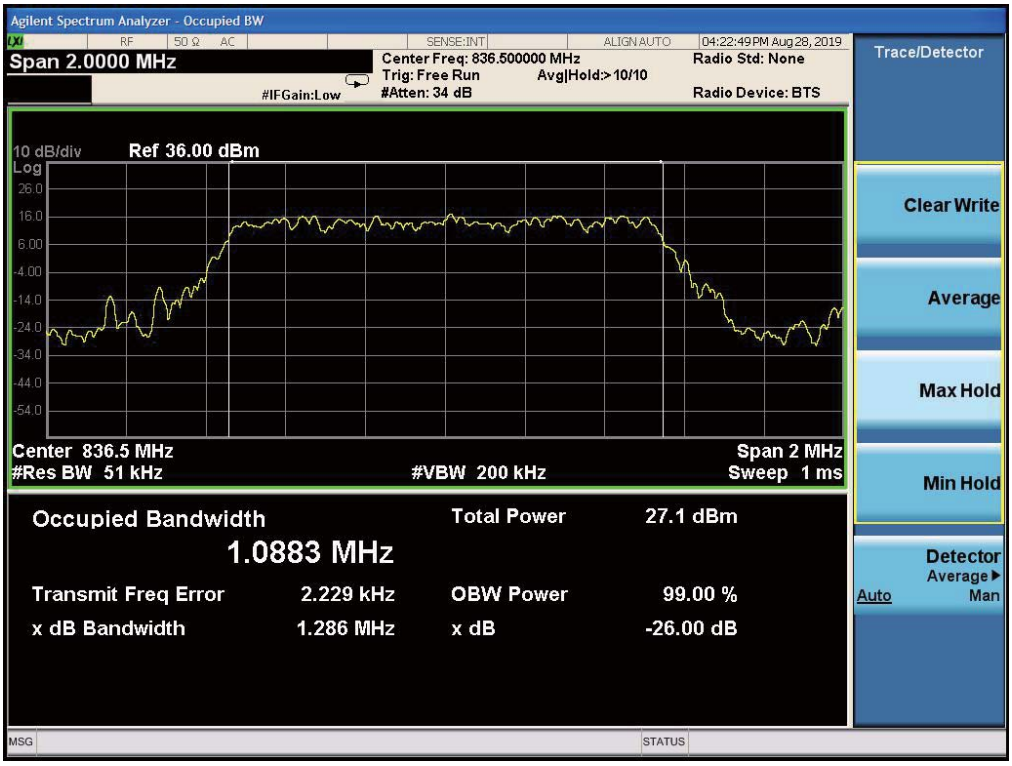
Band26-26dB OBW-26915 Channel-1.4MHz Bandwidth-16QAM



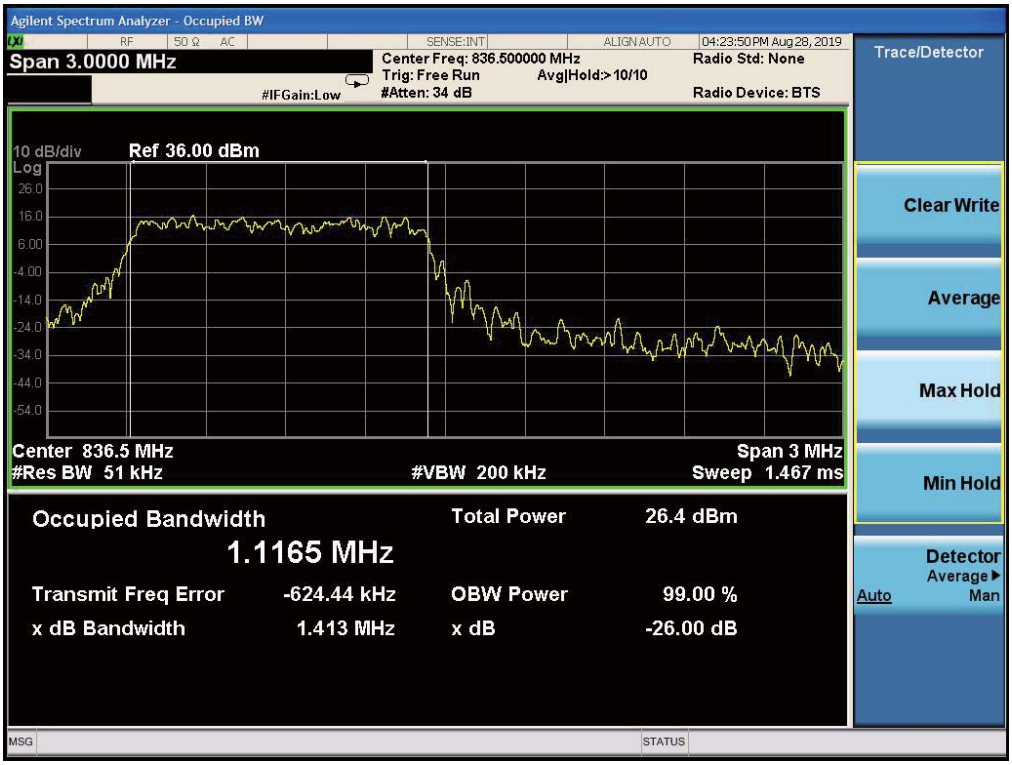
Band26-26dB OBW-26915 Channel-1.4MHz Bandwidth-QPSK



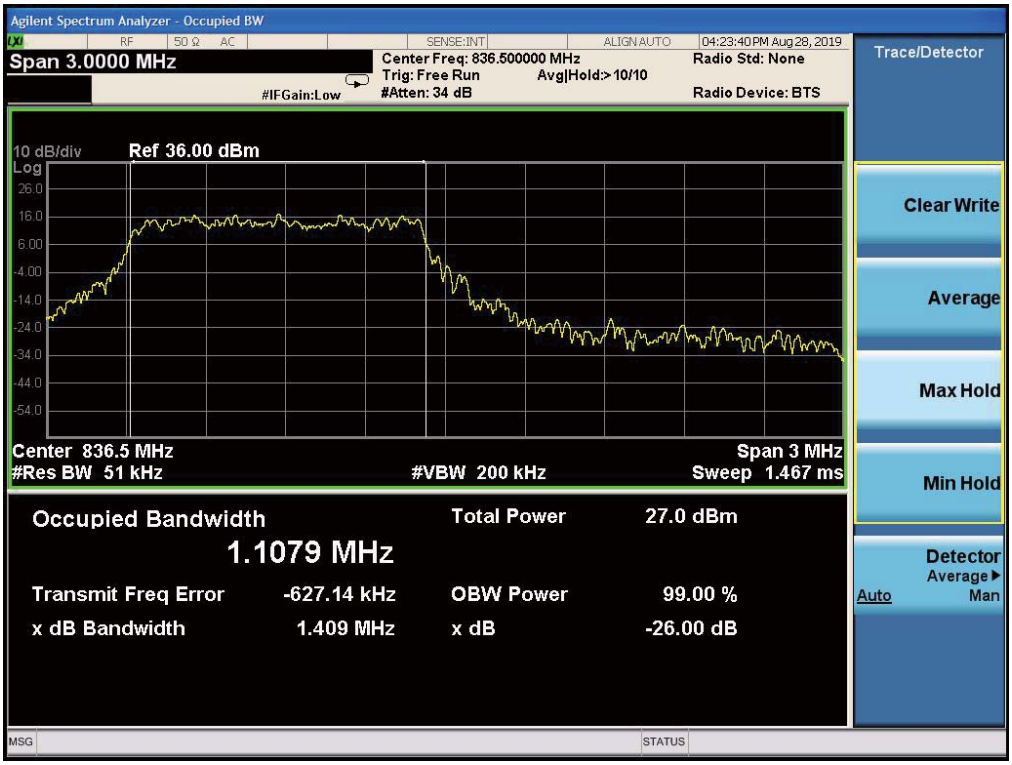
Band26-99% OBW-26915 Channel-1.4MHz Bandwidth-16QAM



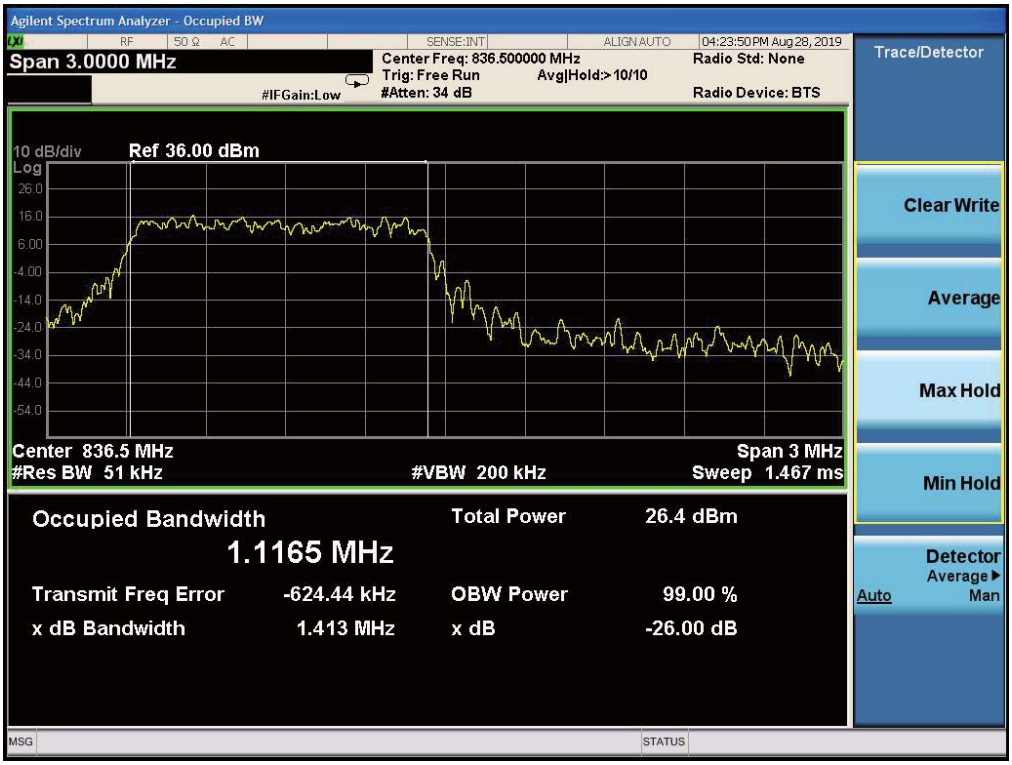
Band26-99% OBW-26915 Channel-1.4MHz Bandwidth-QPSK



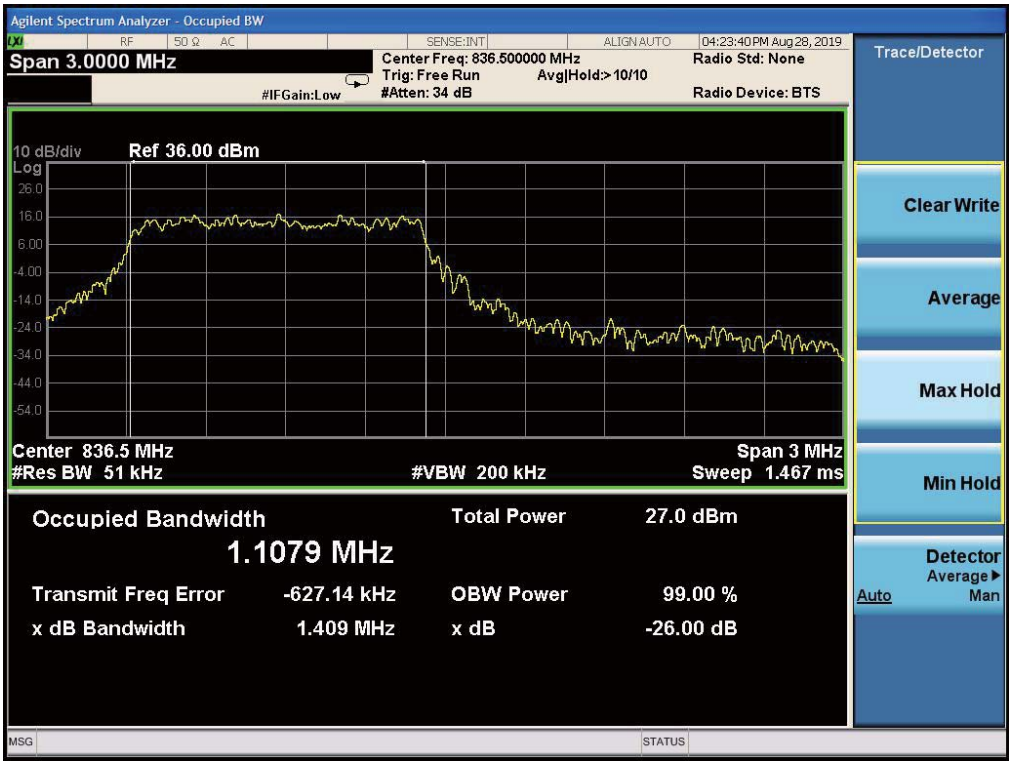
Band26-26dB OBW-26915 Channel-3MHz Bandwidth-16QAM



Band26-26dB OBW-26915 Channel-3MHz Bandwidth-QPSK

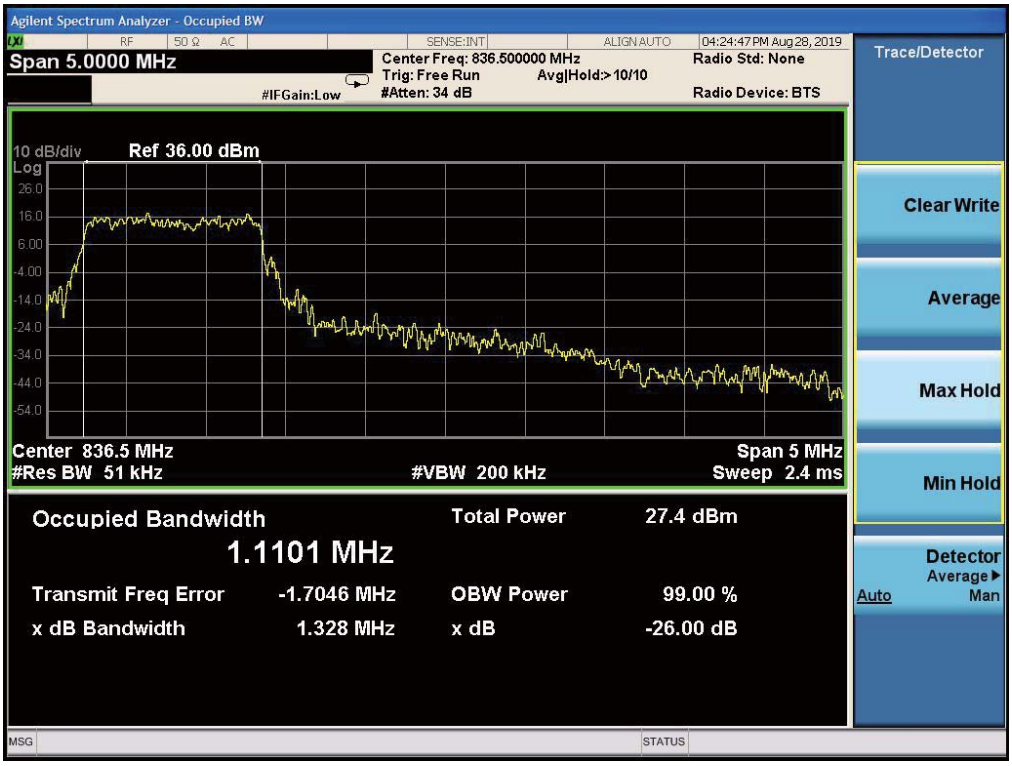


Band26-99% OBW-26915 Channel-3MHz Bandwidth-16QAM

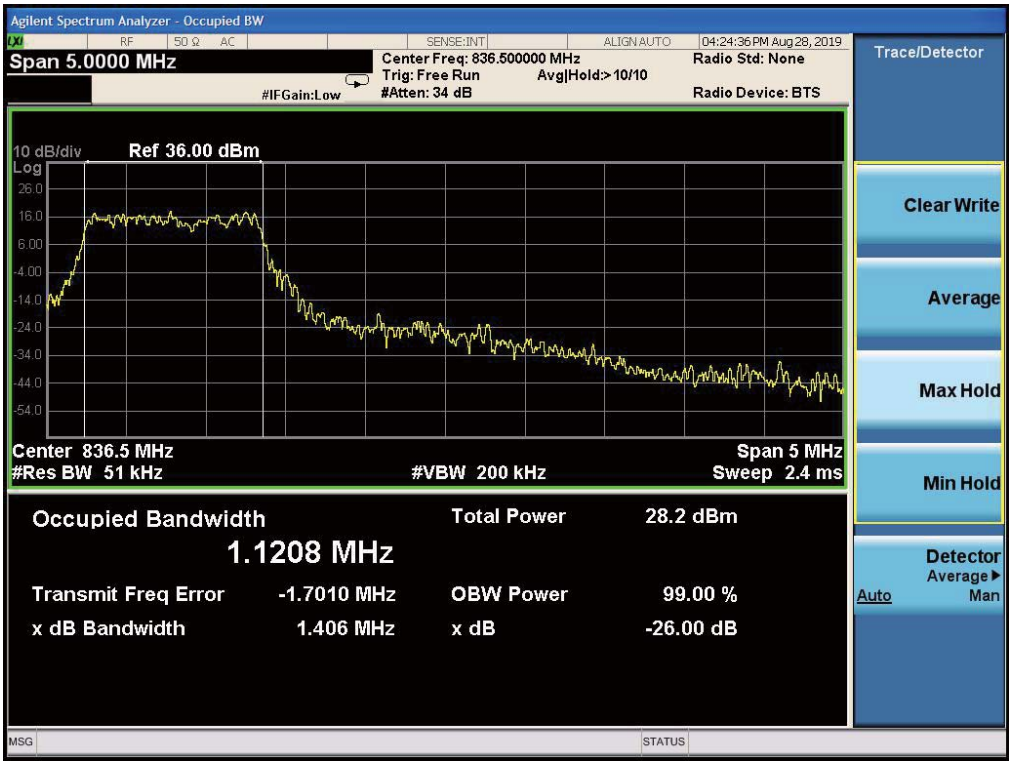


Band26-99% OBW-26915 Channel-3MHz Bandwidth-QPSK

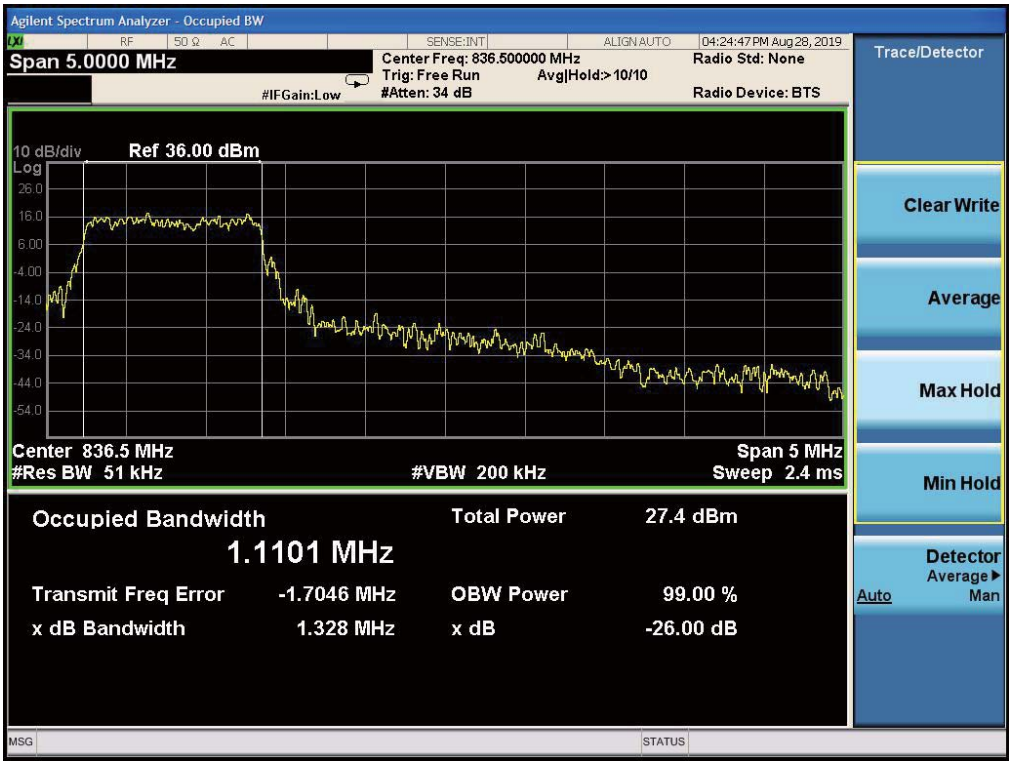
Band26-26dB OBW-26915 Channel-5MHz Bandwidth-16QAM



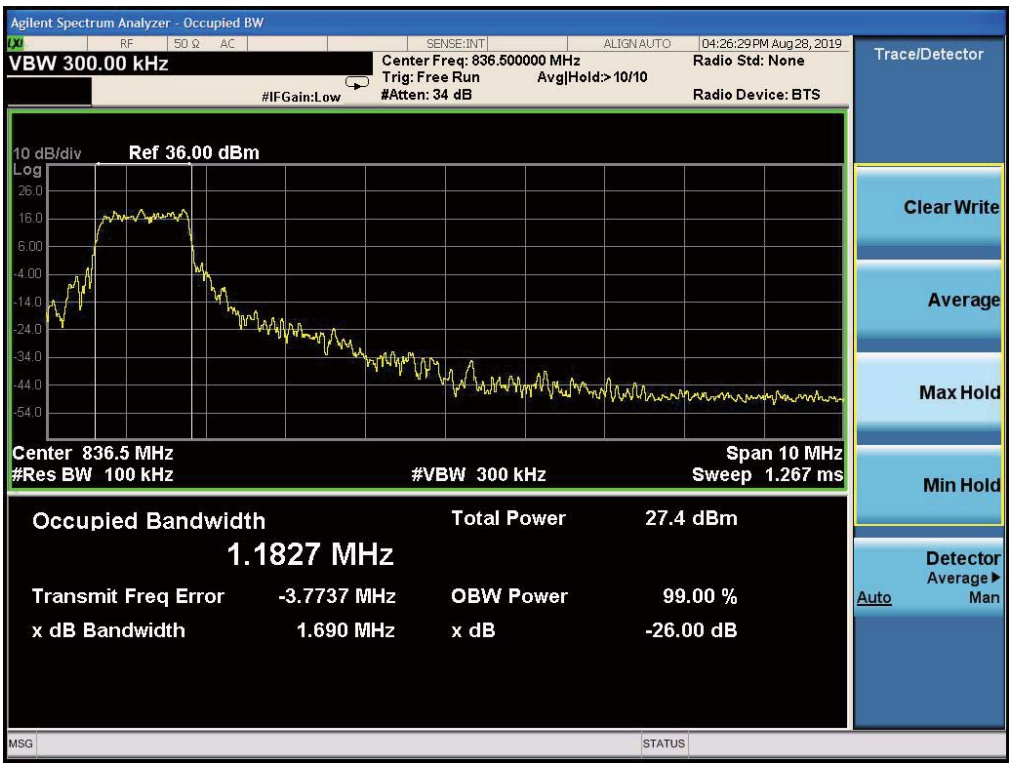
Band26-26dB OBW-26915 Channel-5MHz Bandwidth-QPSK



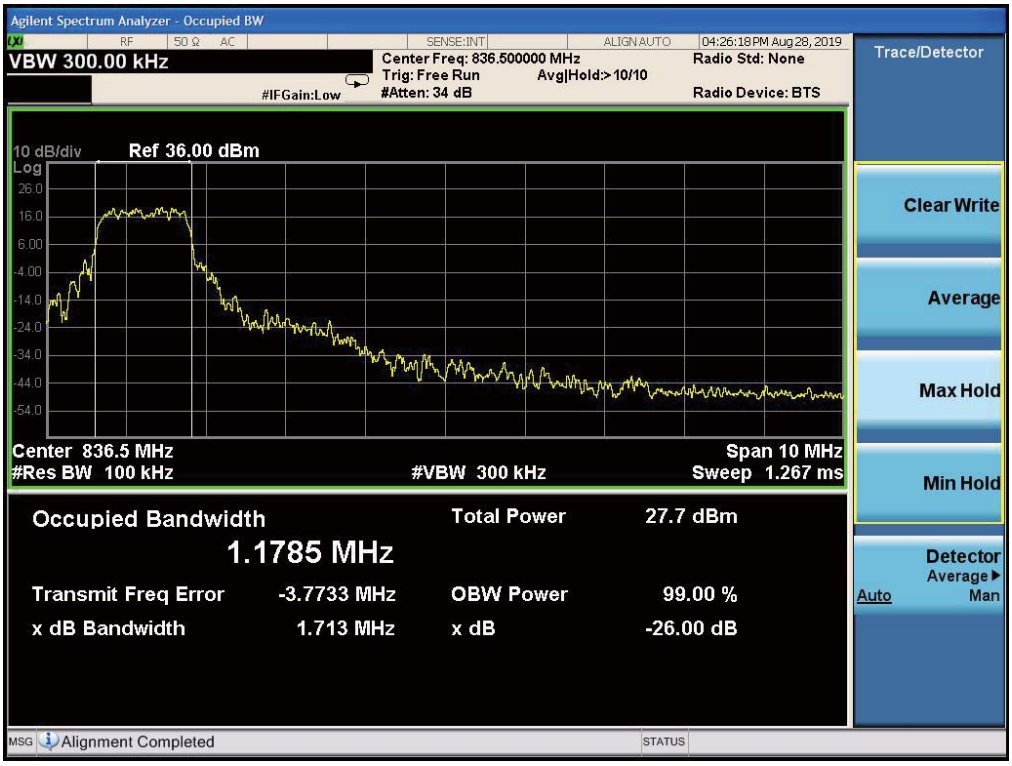
Band26-99% OBW-26915 Channel-5MHz Bandwidth-16QAM



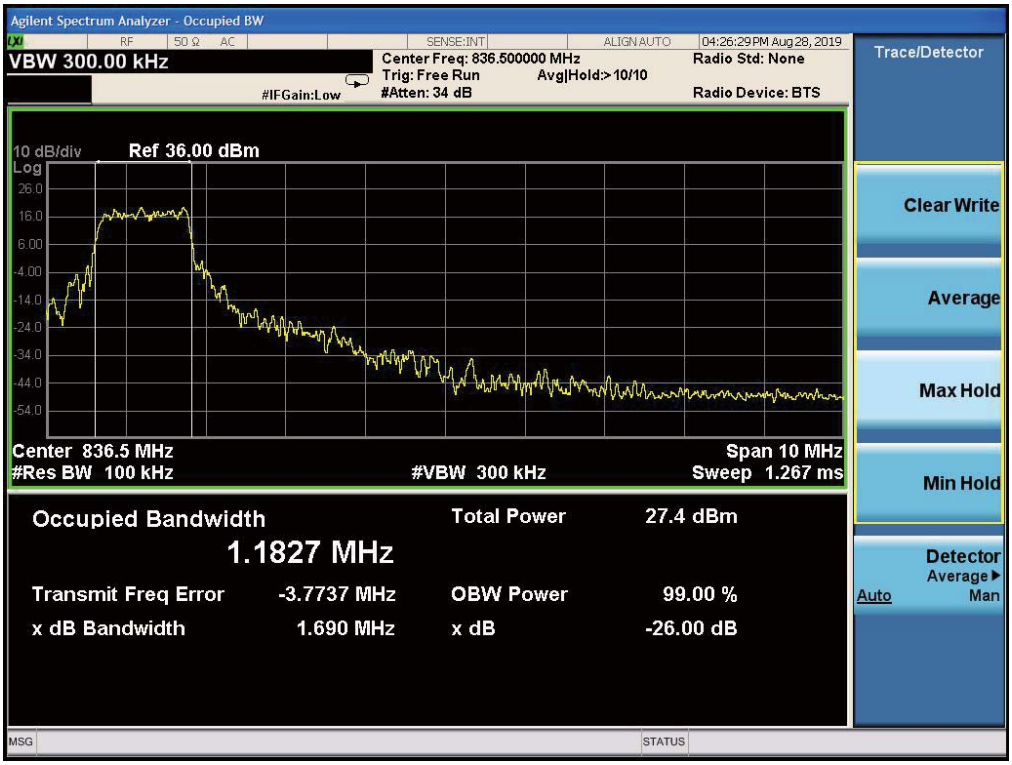
Band26-99% OBW-26915 Channel-5MHz Bandwidth-QPSK



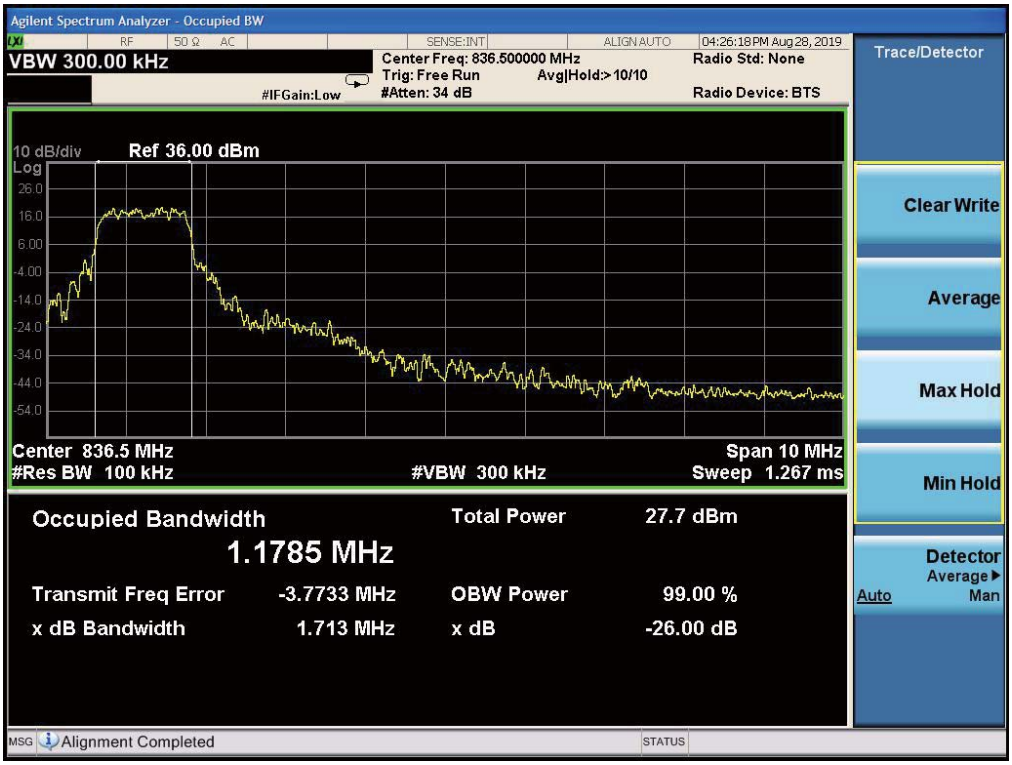
Band26-26dB OBW-26915 Channel-10MHz Bandwidth-16QAM



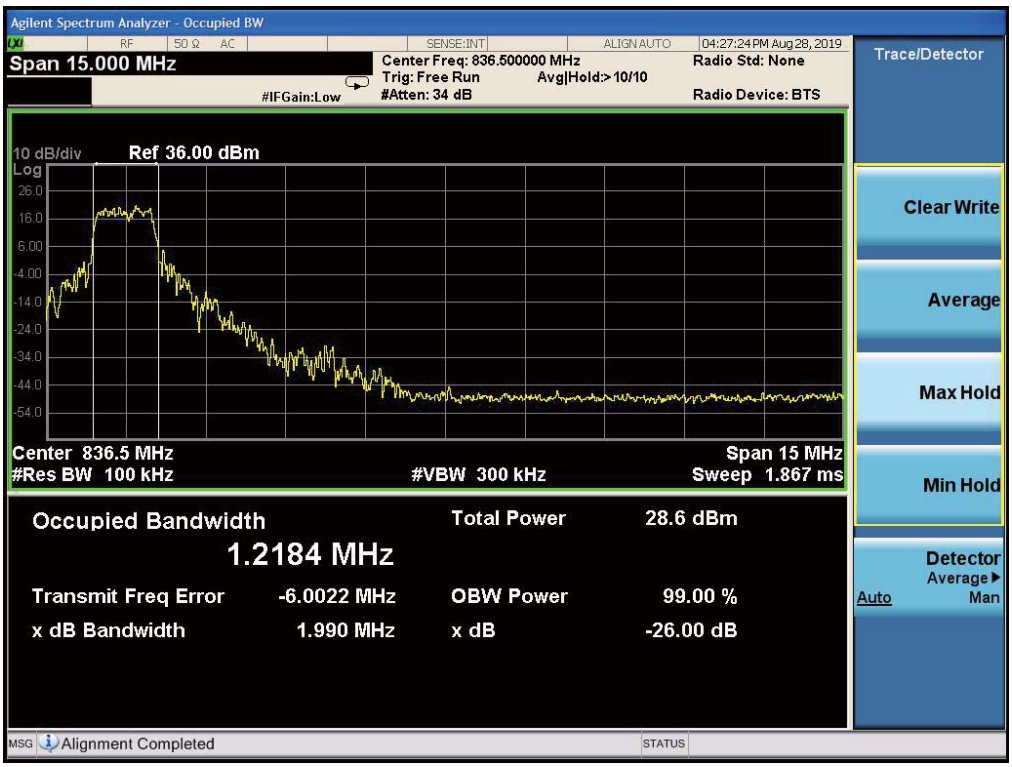
Band26-26dB OBW-26915 Channel-10MHz Bandwidth-QPSK



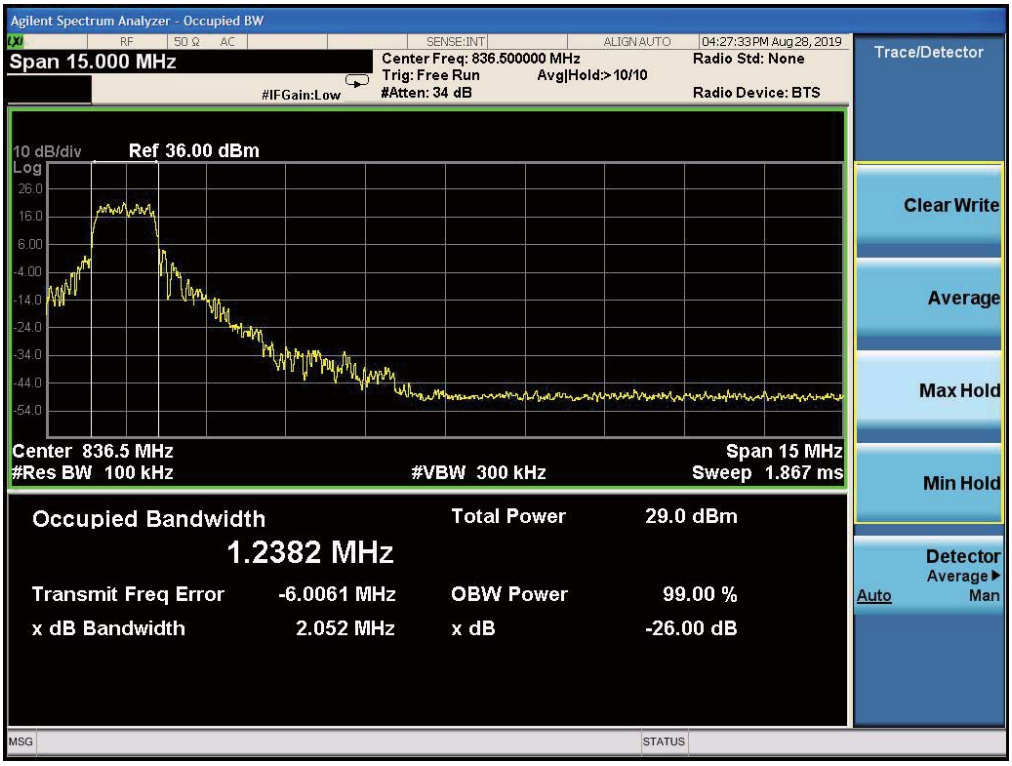
Band26-99% OBW-26915 Channel-10MHz Bandwidth-16QAM



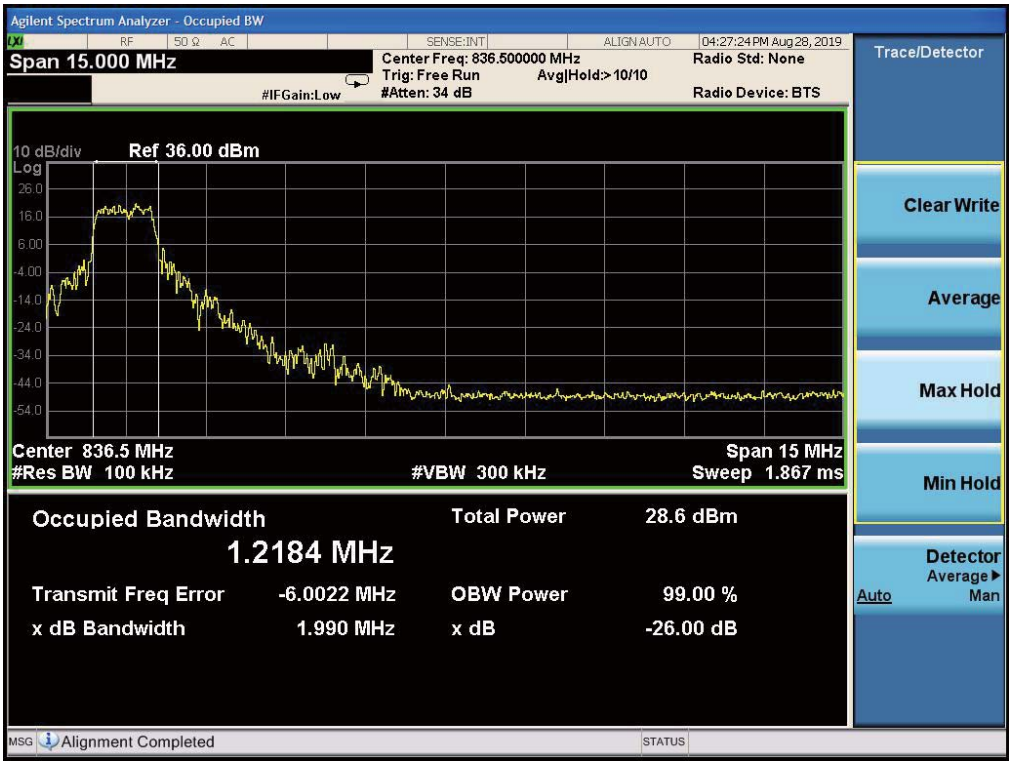
Band26-99% OBW-26915 Channel-10MHz Bandwidth-QPSK



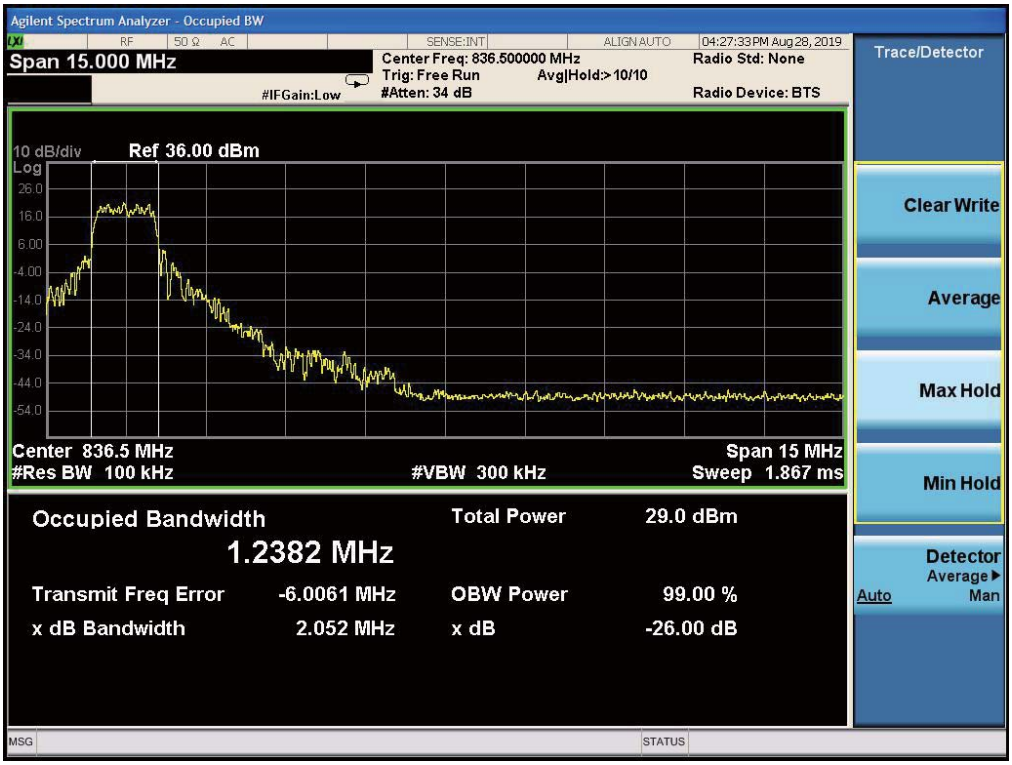
Band26-26dB OBW-26915 Channel-15MHz Bandwidth-16QAM



Band26-26dB OBW-26915 Channel-15MHz Bandwidth-QPSK



Band26-99% OBW-26915 Channel-15MHz Bandwidth-16QAM



Band26-99% OBW-26915 Channel-15MHz Bandwidth-QPSK

5.3 Conducted Spurious Emission

Specifications:	FCC Part 2.1051, 2.1053, 24.238, 22.917, 27.53, 90.691
DUT Serial Number:	353081090297923
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

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, so the limit level is:

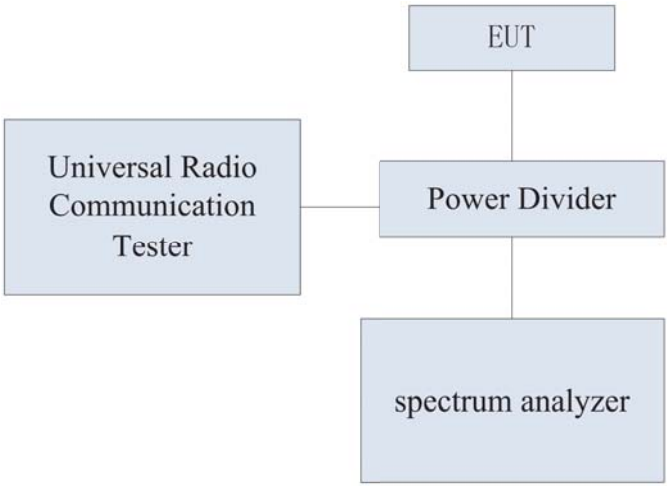
P(dBm) － (43 + 10 log(P)) dB= -13dBm

Measurement Uncertainty:

Item	Uncertainty	
Expanded Uncertainty	9kHz < f≤4GHz	0.71 dB (k=2)
	4GHz≤f < 12.75GHz	0.74 dB (k=2)
	12.75GHz≤f < 26GHz	2.70 dB (k=2)

Test Setup:

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.

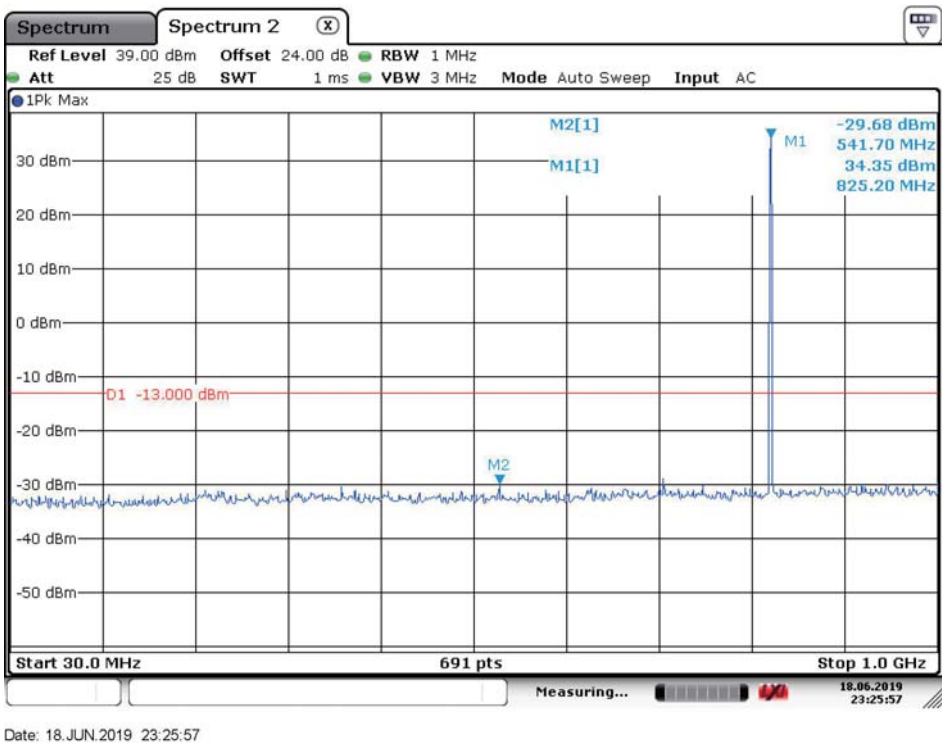


Test Method:

The measurement was performed accordance with section 2.2.13 of ANSI/TIA-603-D: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.
The measurement was performed accordance with section 2.2.13 of ANSI/TIA-603-D-2010: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.
The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-Band emissions, if any, up to 10th harmonic. The EUT was scanned for spurious emissions from 30MHz to 20GHz with sufficient Bandwidth and video resolution. The spectrum analyzer was set to Maximum hold mode to ensure that the worst-case emissions were captured.

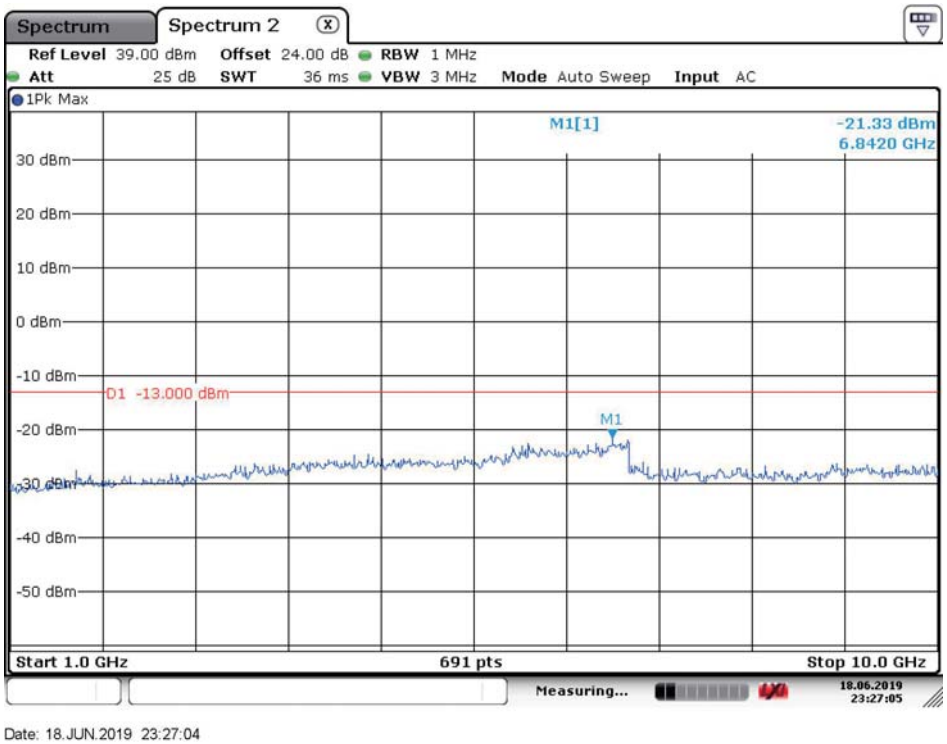
Note: Only worst case result is given below.

5.3.1 GSM850 Conducted Spurious Emission Results

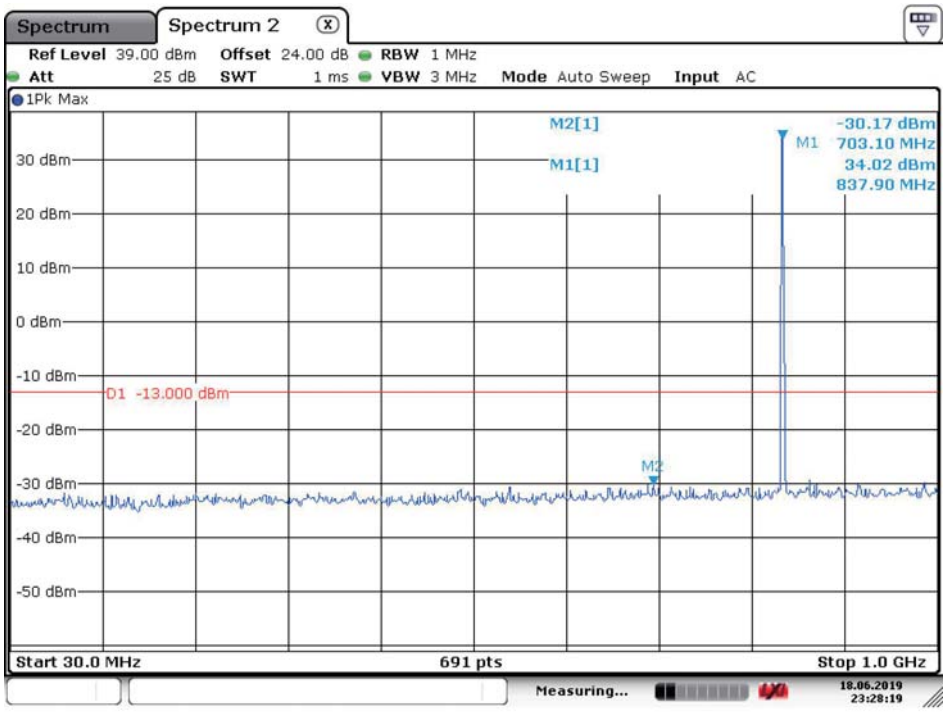


GMSK-Low channel-824.200 MHz-30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.

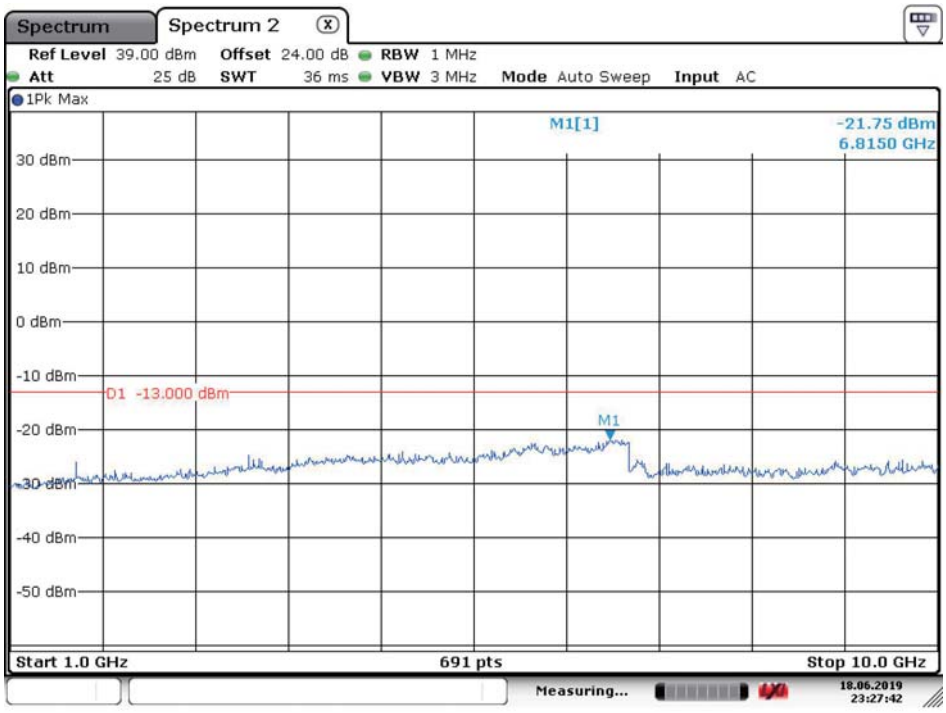


GMSK-Low channel-824.200 MHz, 1GHz to 10GHz

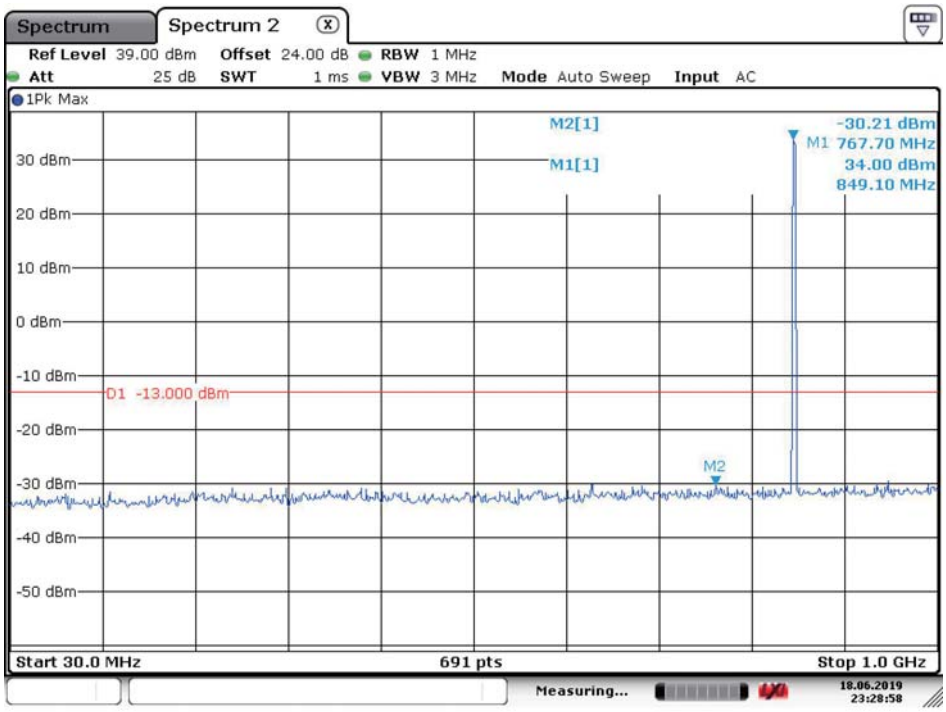


GMSK- Mid Channel-836.6 MHz- 30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.

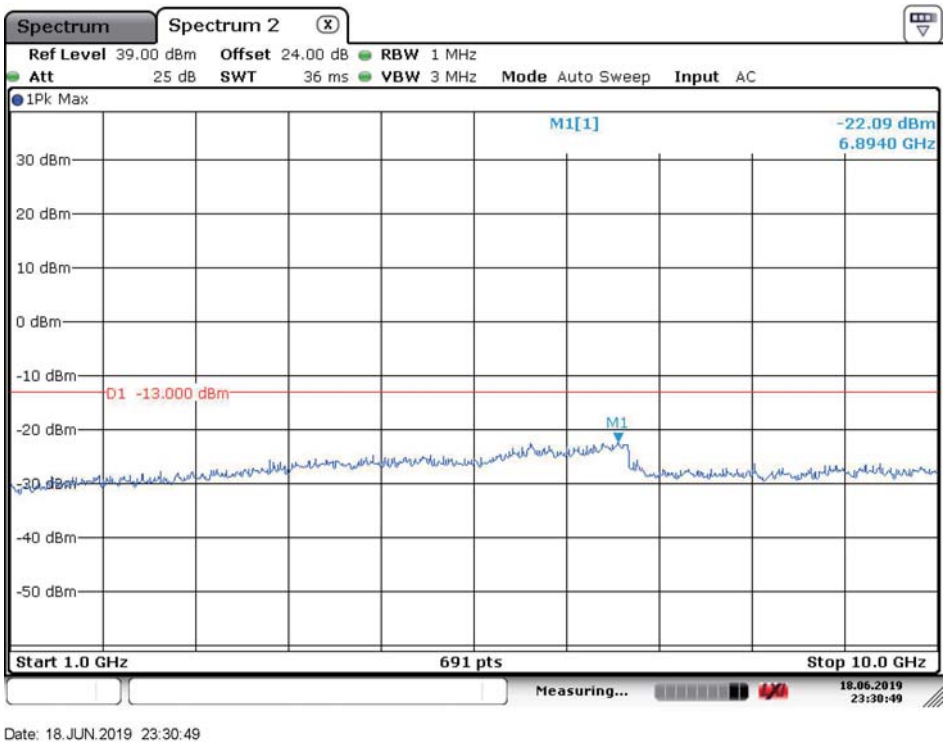


GMSK-Mid Channel-836.6 MHz-1GHz to 10GHz

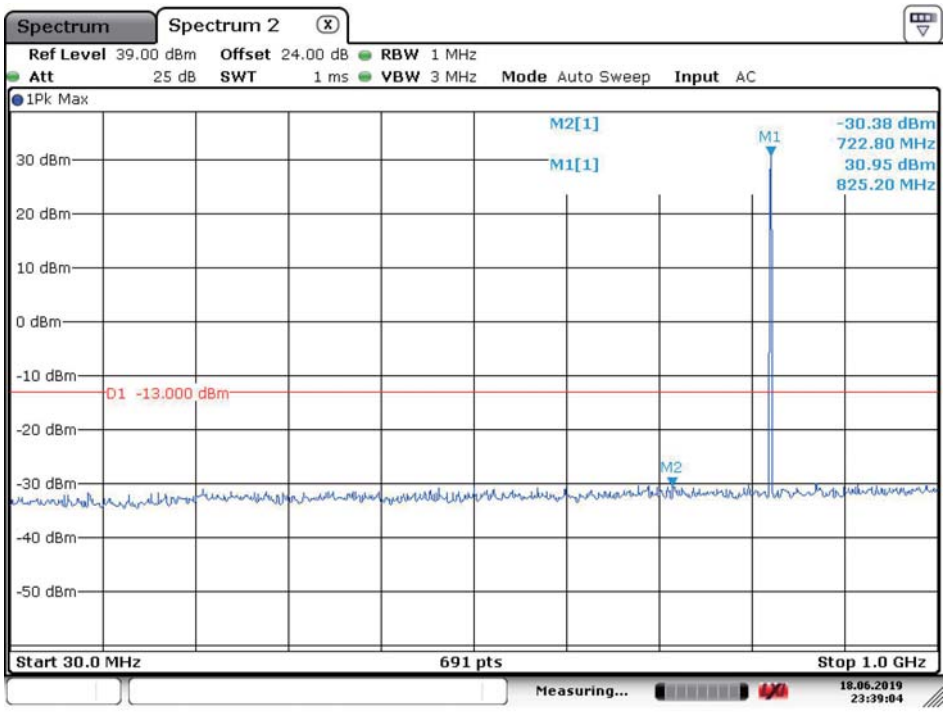


GMSK- High Channel-848.8 MHz-30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.

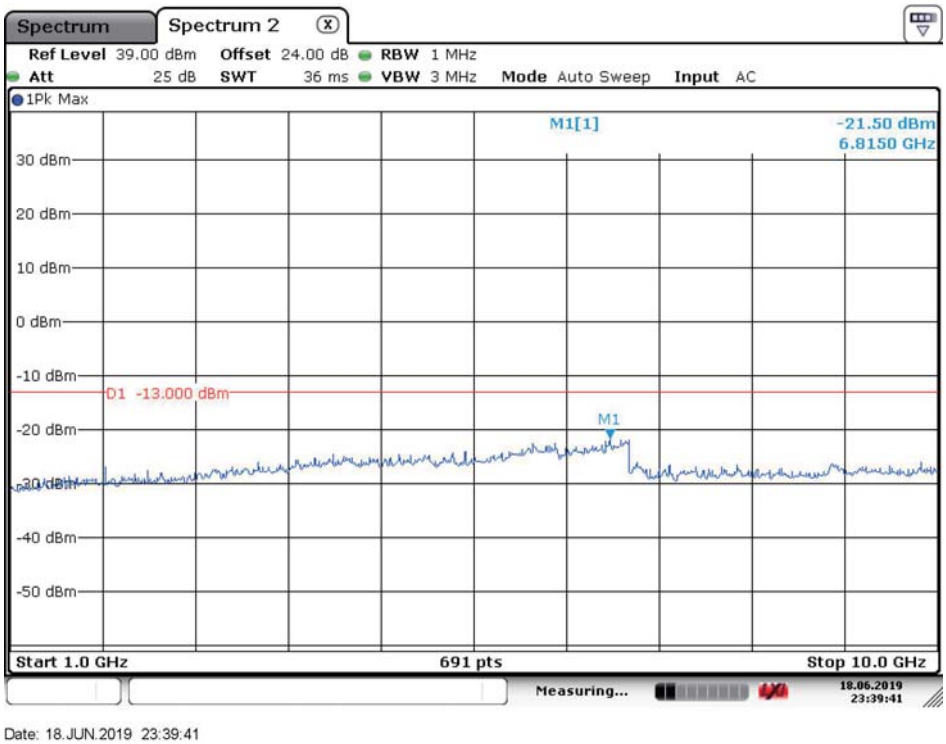


GMSK- High Channel-848.8 MHz-1GHz to 10GHz

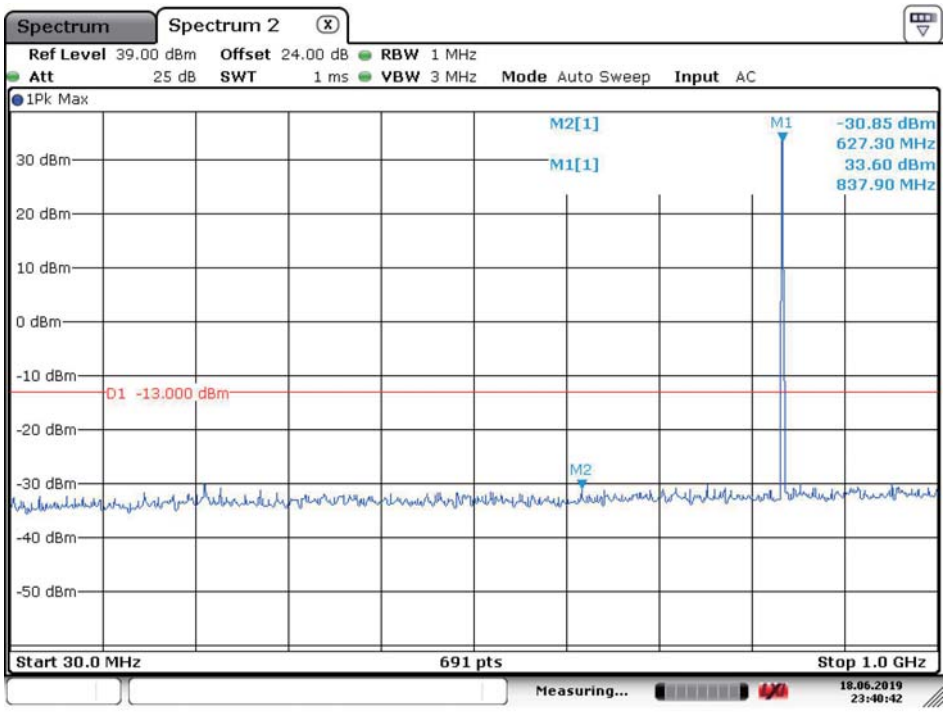


8PSK- Low channel-824.200 MHz-30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.

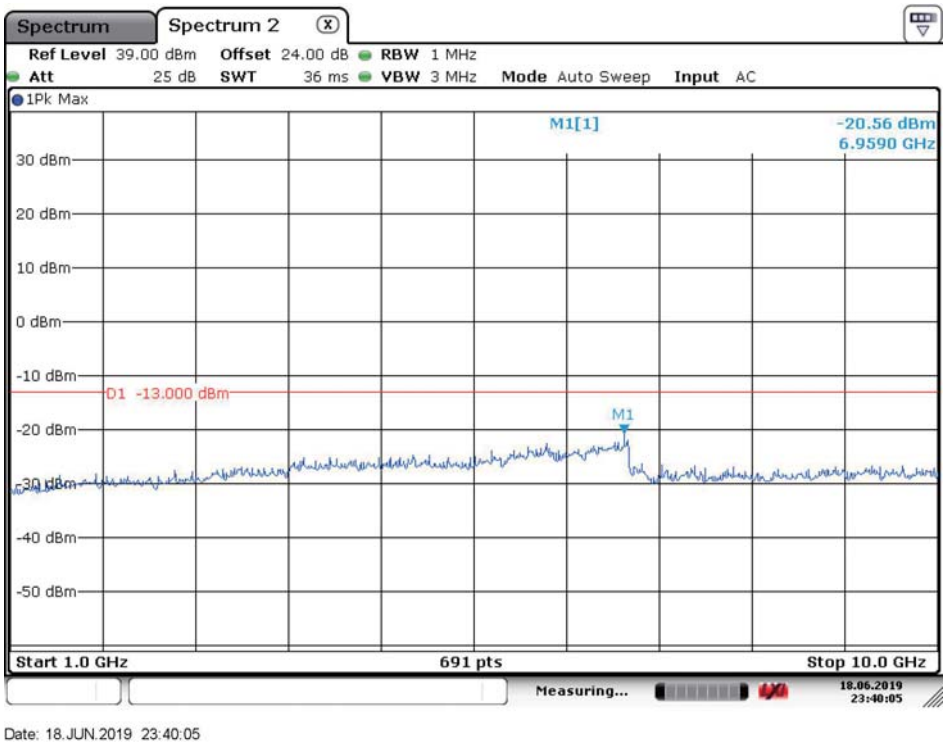


8PSK-Low channel-824.200 MHz-1GHz to 10GHz

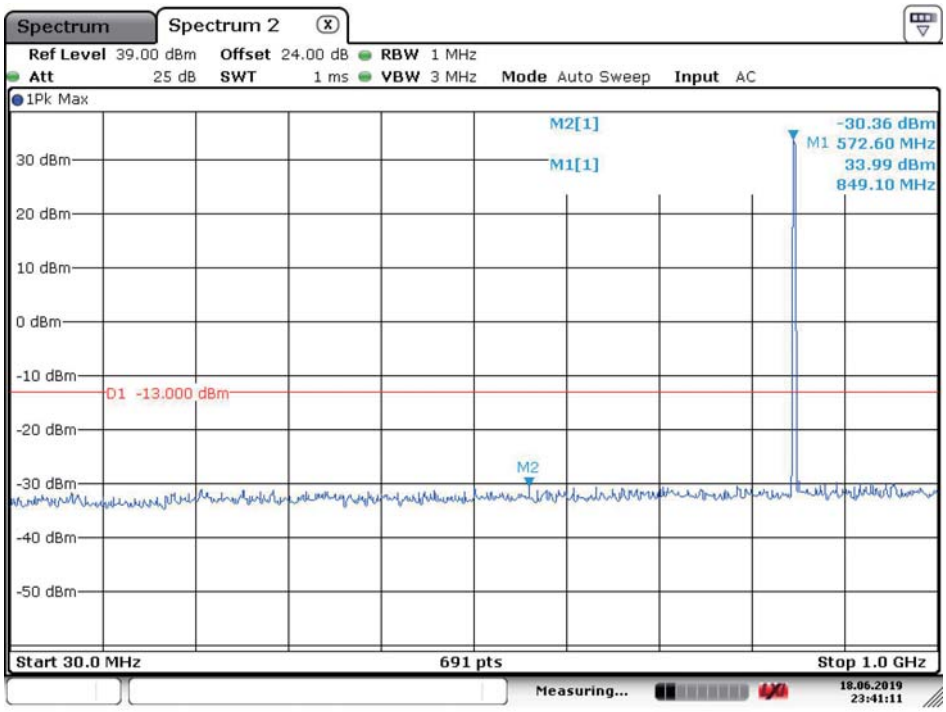


8PSK-Mid Channel-836.6 MHz-30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.

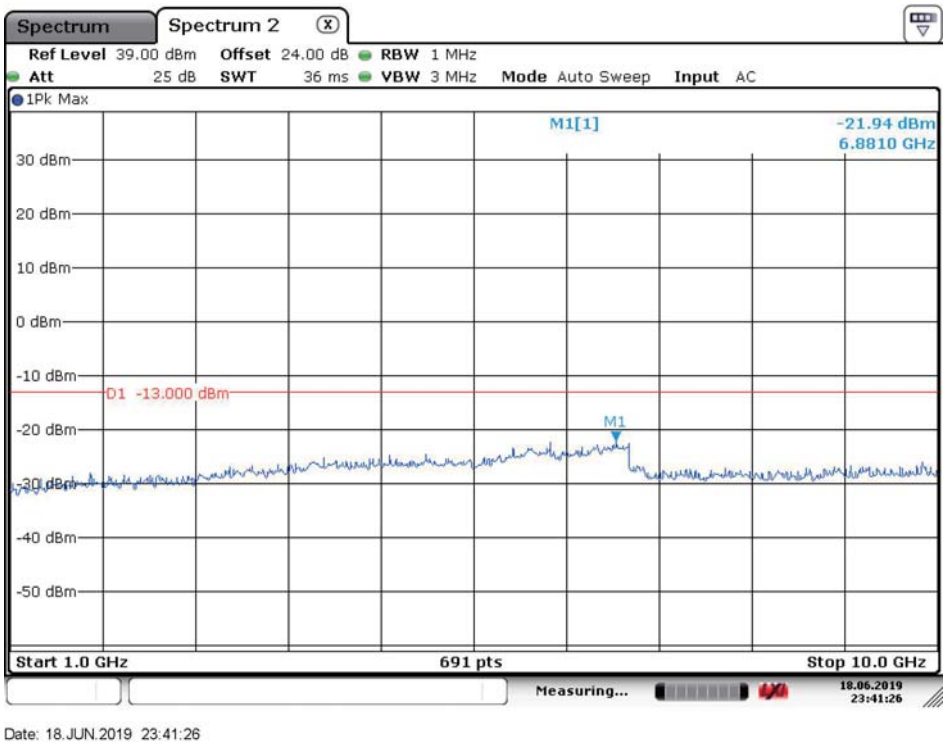


8PSK-Mid Channel-836.6 MHz-1GHz to 10GHz



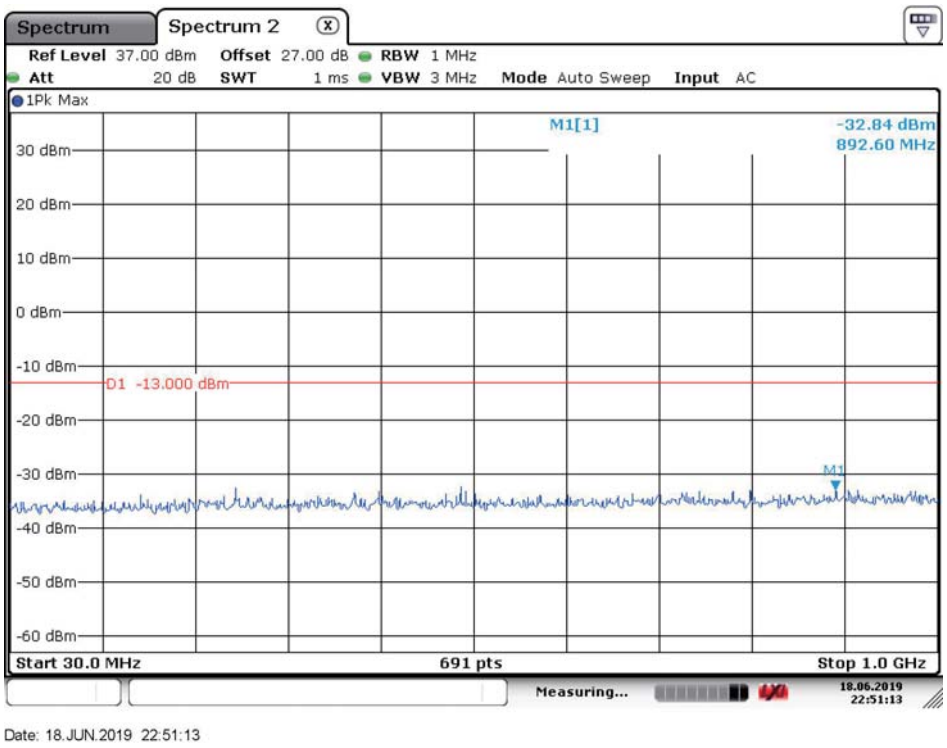
8PSK-High Channel-848.8 MHz-30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.

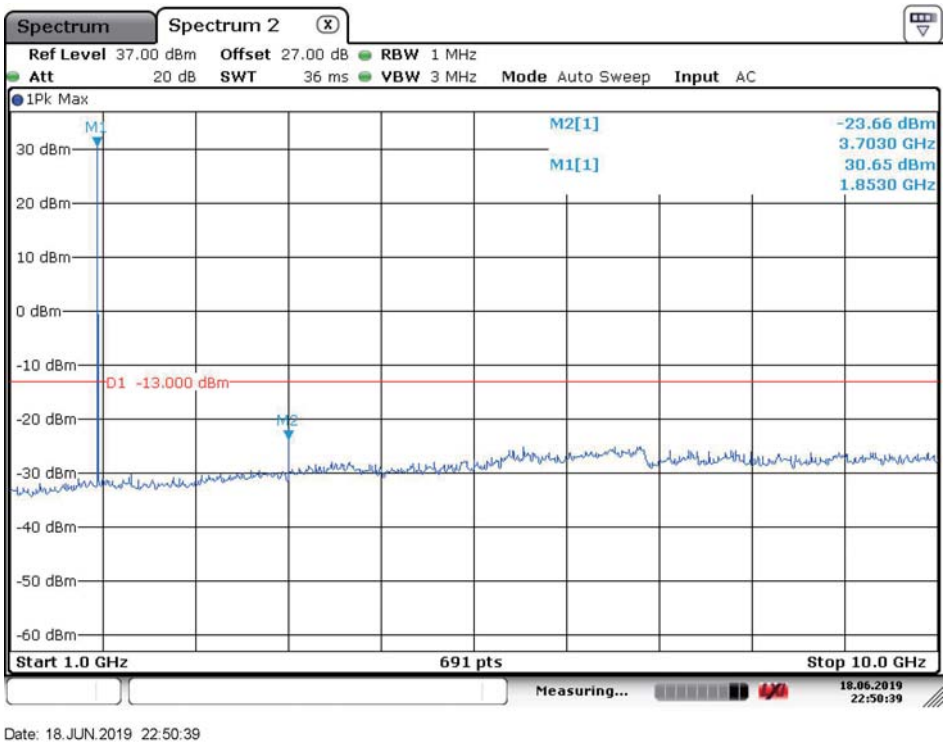


8PSK-High Channel-848.8 MHz-1GHz to 10GHz

5.3.2 PCS1900 Conducted Spurious Emission Results

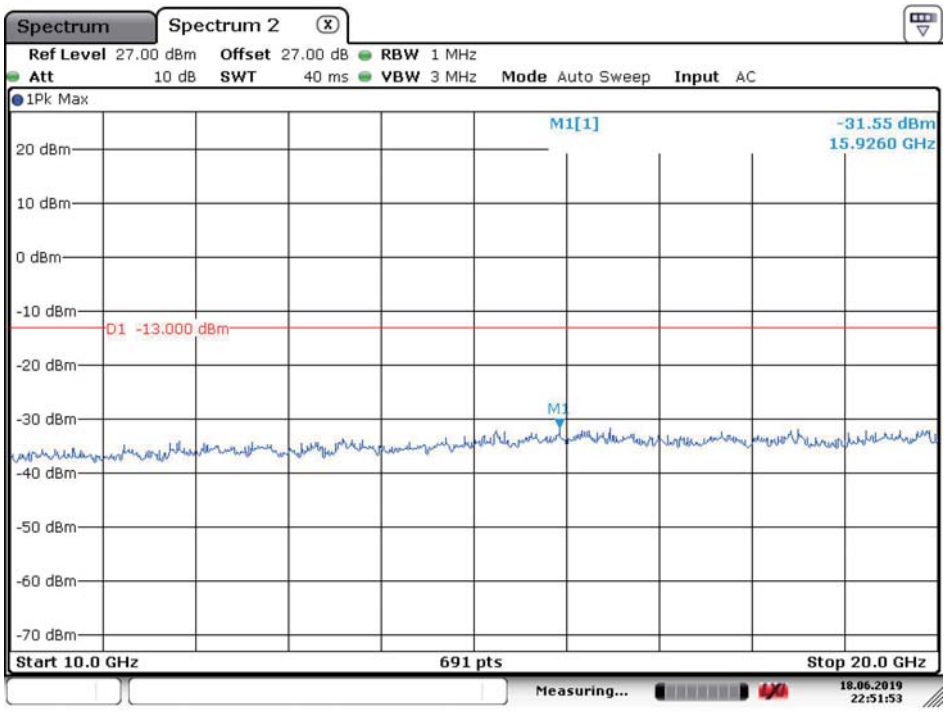


GMSK-Low channel-1850.2 MHz-30MHz to 1GHz

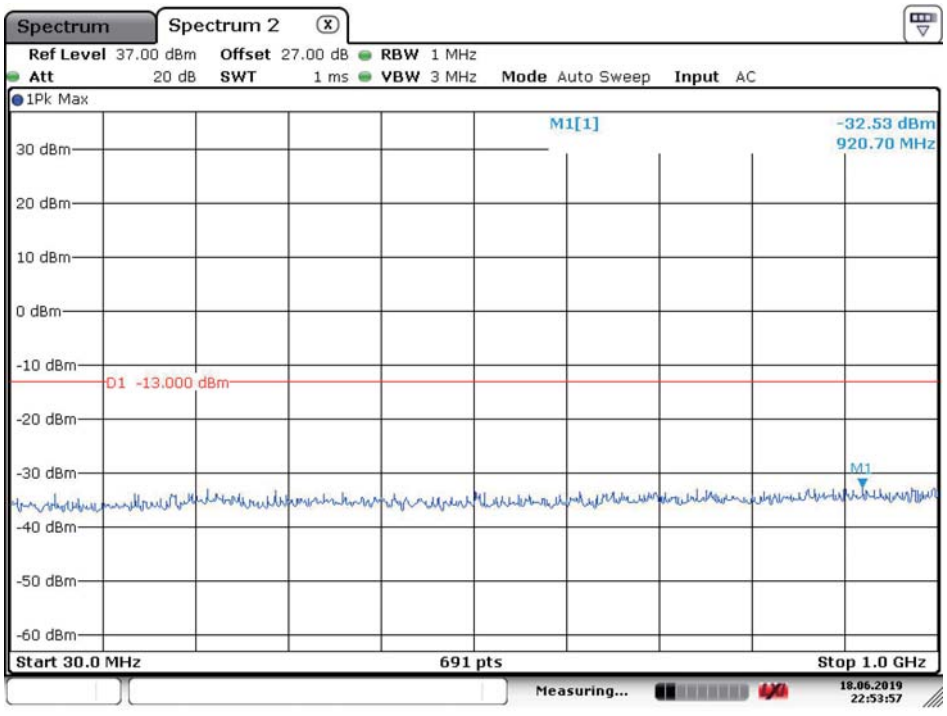


GMSK-Low channel-1850.2 MHz-1GHz to 10GHz

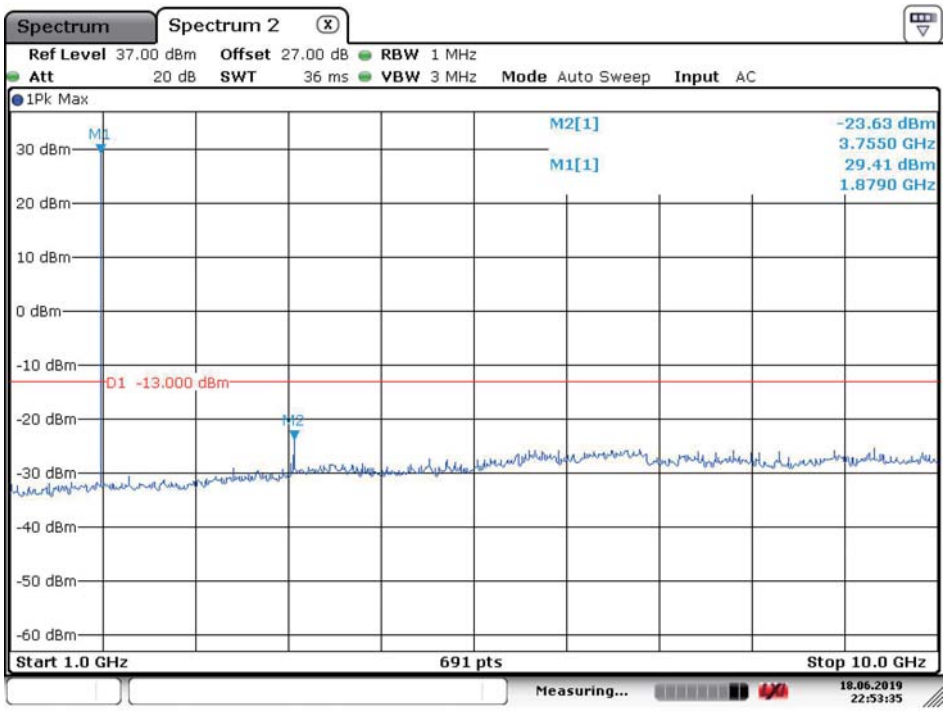
Note: The strong emission shown is the carrier signal.



GMSK-Low channel-1850.2 MHz-10GHz to 20GHz



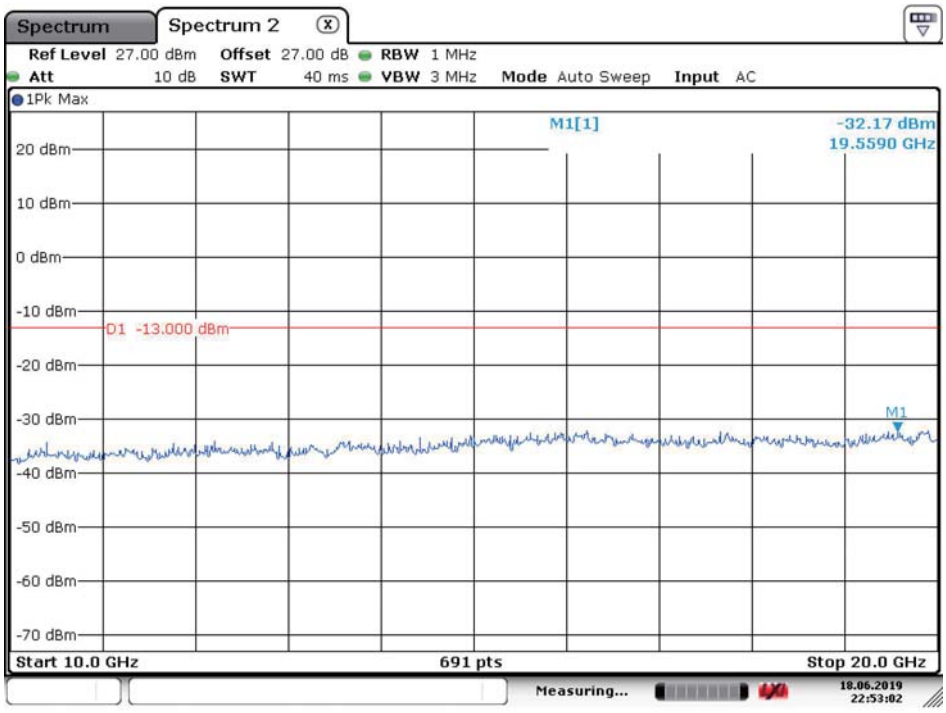
GMSK-Middle channel-1880.0 MHz-30MHz to 1GHz



Date: 18.JUN.2019 22:53:35

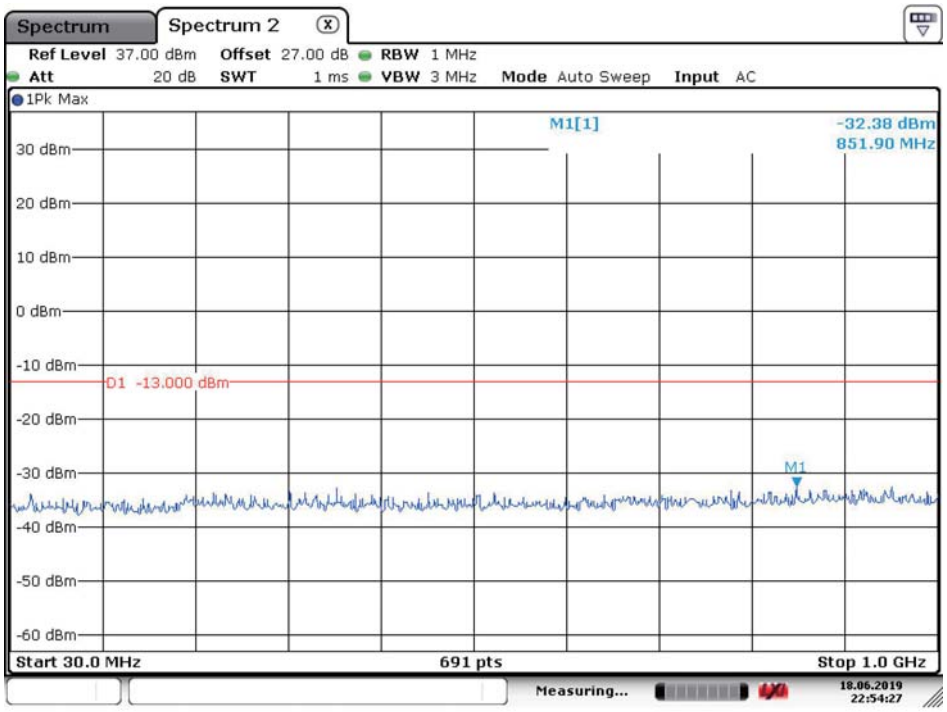
GMSK-Middle channel-1880.0 MHz-1GHz to 10GHz

Note: The strong emission shown is the carrier signal.

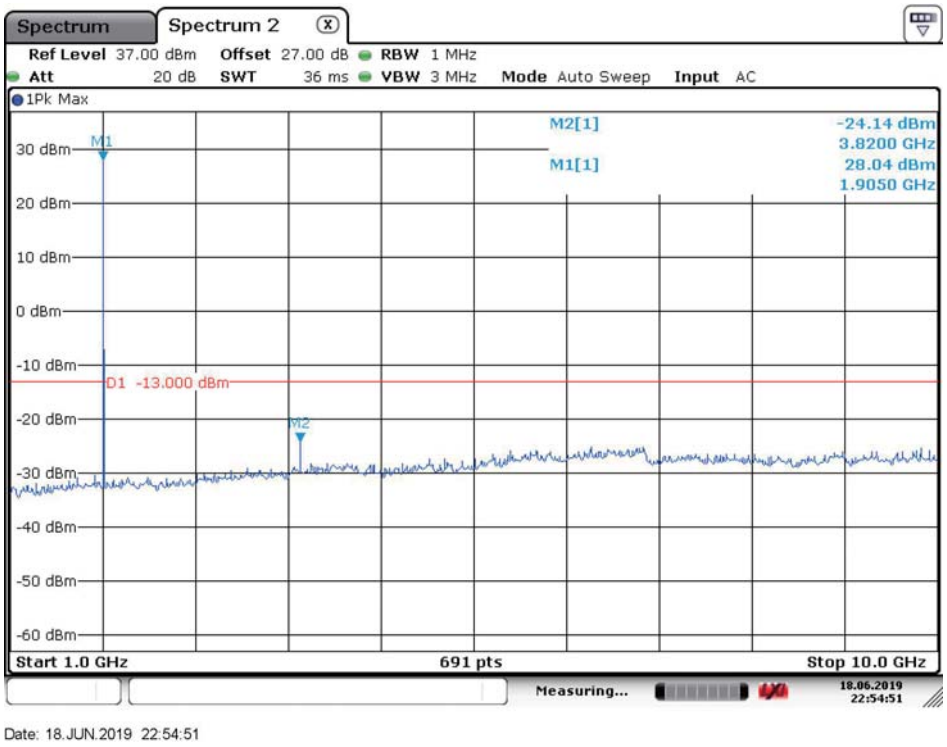


Date: 18.JUN.2019 22:53:02

GMSK-Middle channel-1880.0 MHz-10GHz to 20GHz

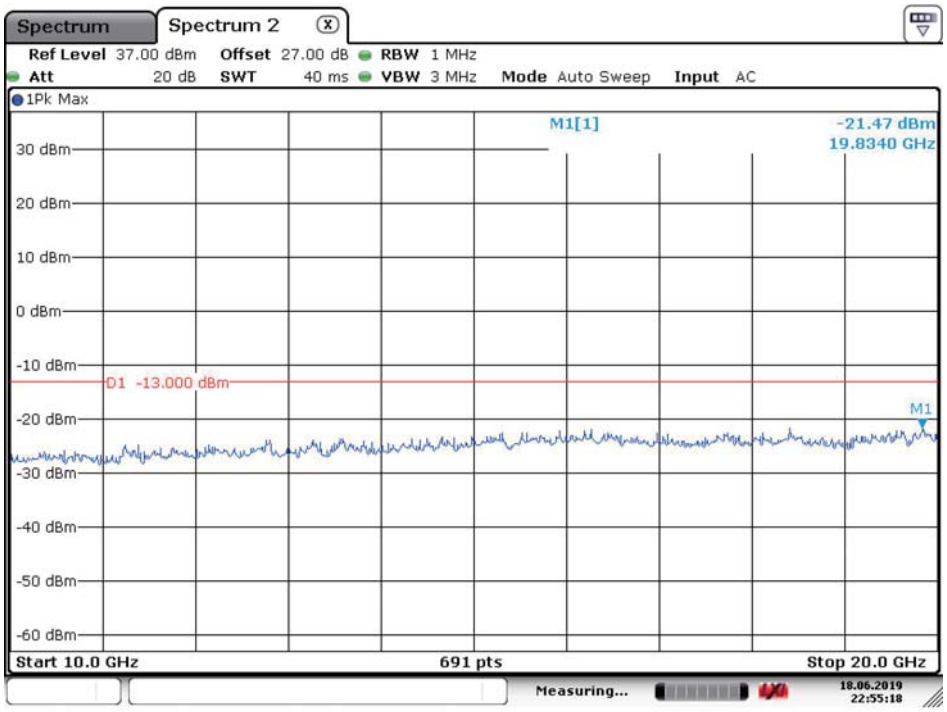


GMSK-High channel-1909.8 MHz-30MHz to 1GHz



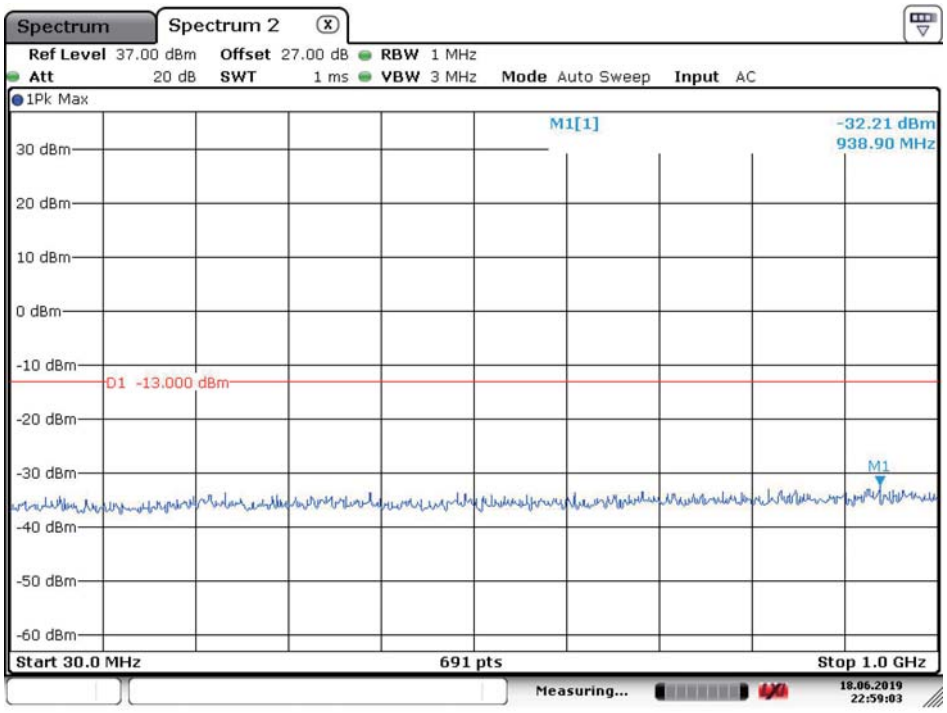
GMSK-High channel-1909.8 MHz-1GHz to 10GHz

Note: The strong emission shown is the carrier signal.



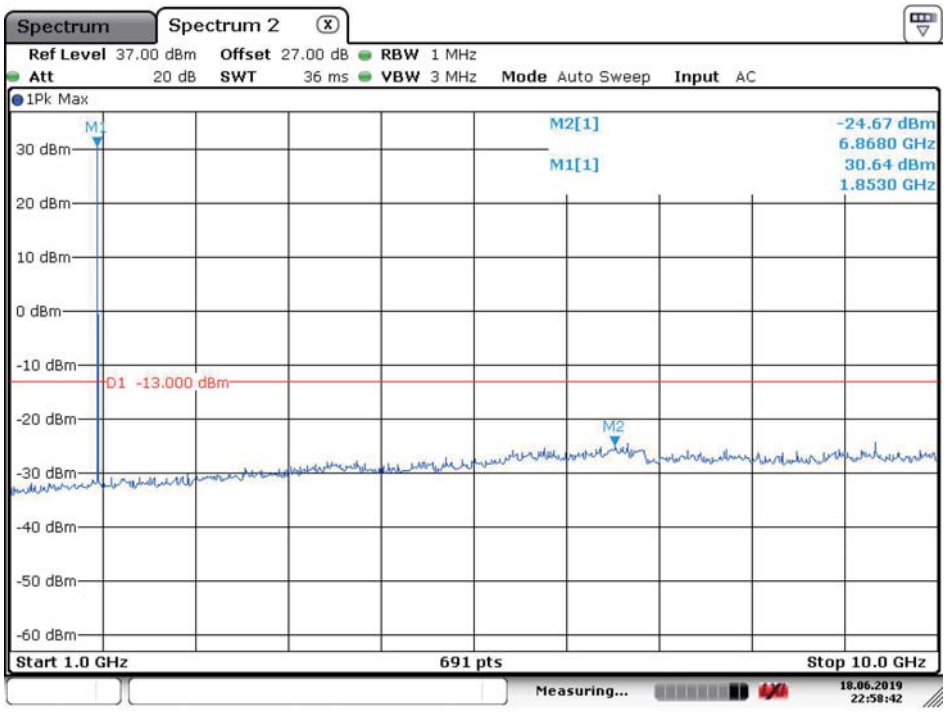
Date: 18.JUN.2019 22:55:18

GMSK-High channel-1909.8 MHz-10GHz to 20GHz



Date: 18.JUN.2019 22:59:04

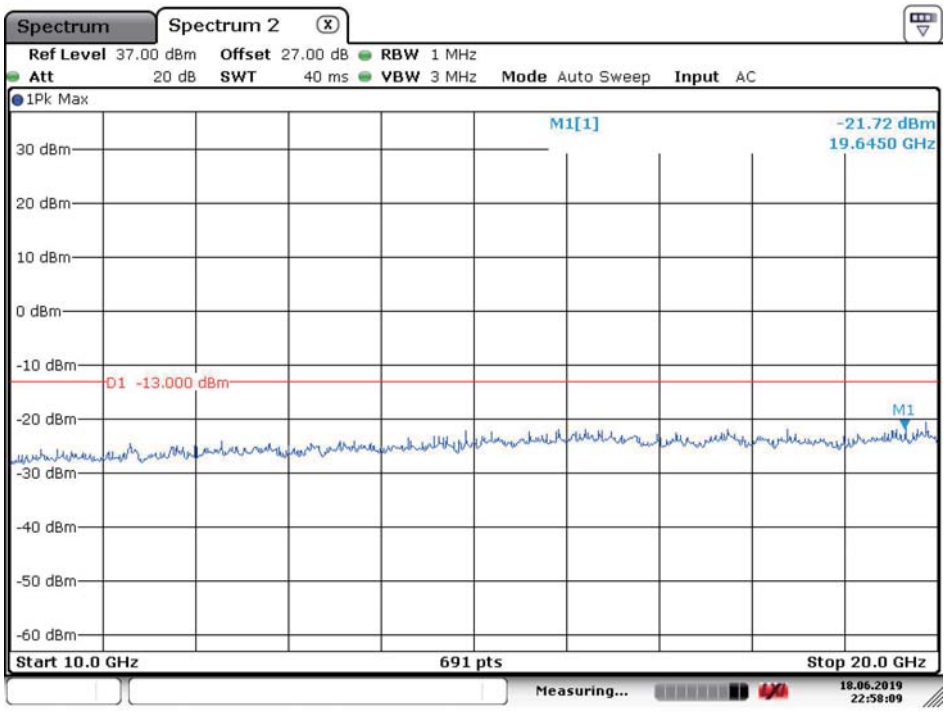
8PSK-Low channel-1850.2 MHz-30MHz to 1GHz



Date: 18.JUN.2019 22:58:42

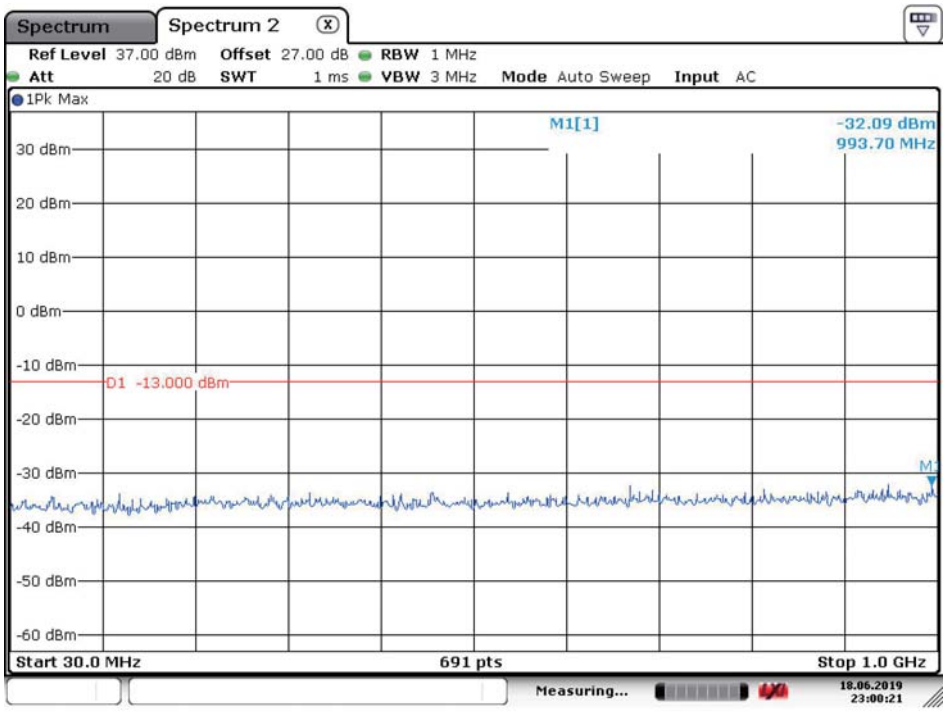
8PSK-Low channel-1850.2 MHz-1GHz to 10GHz

Note: The strong emission shown is the carrier signal.

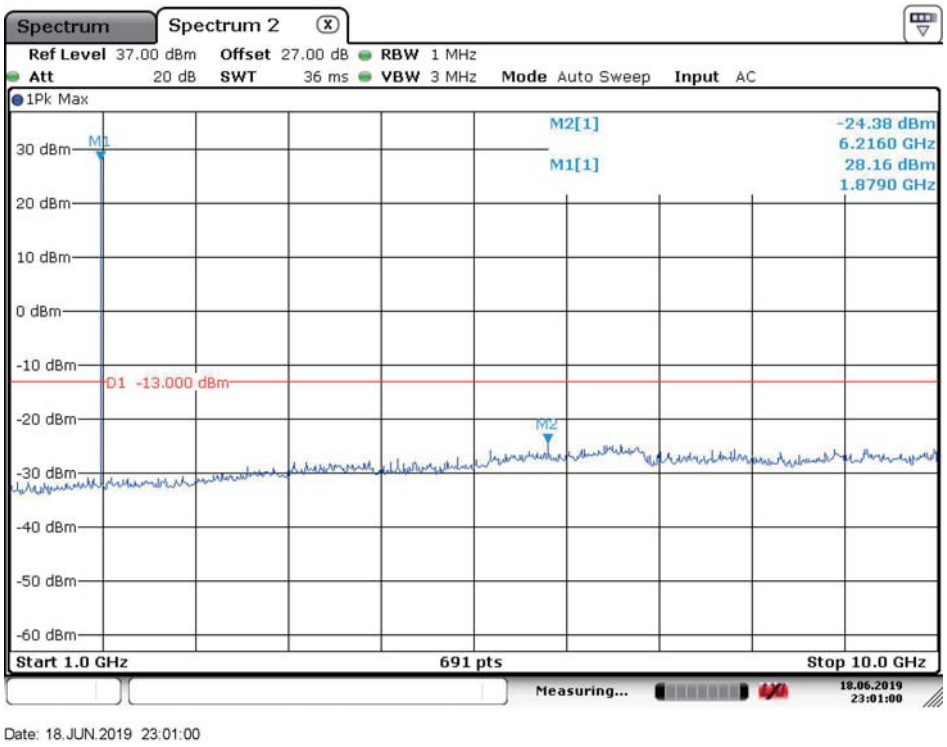


Date: 18.JUN.2019 22:58:09

8PSK- Low channel-1850.2 MHz-10GHz to 20GHz

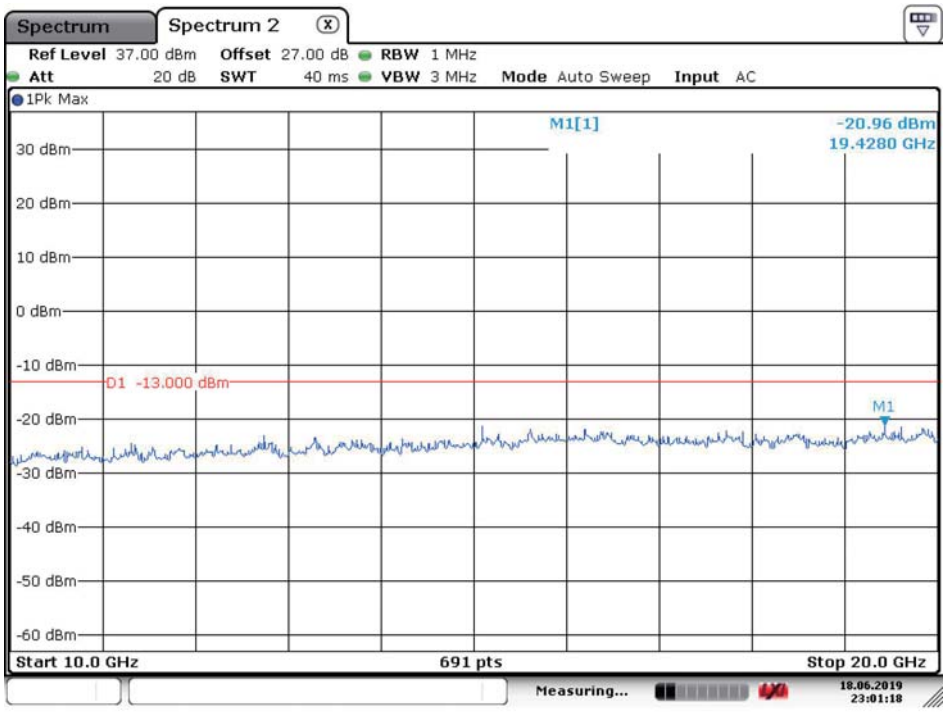


8PSK-Middle channel-1880.0 MHz-30MHz to 1GHz

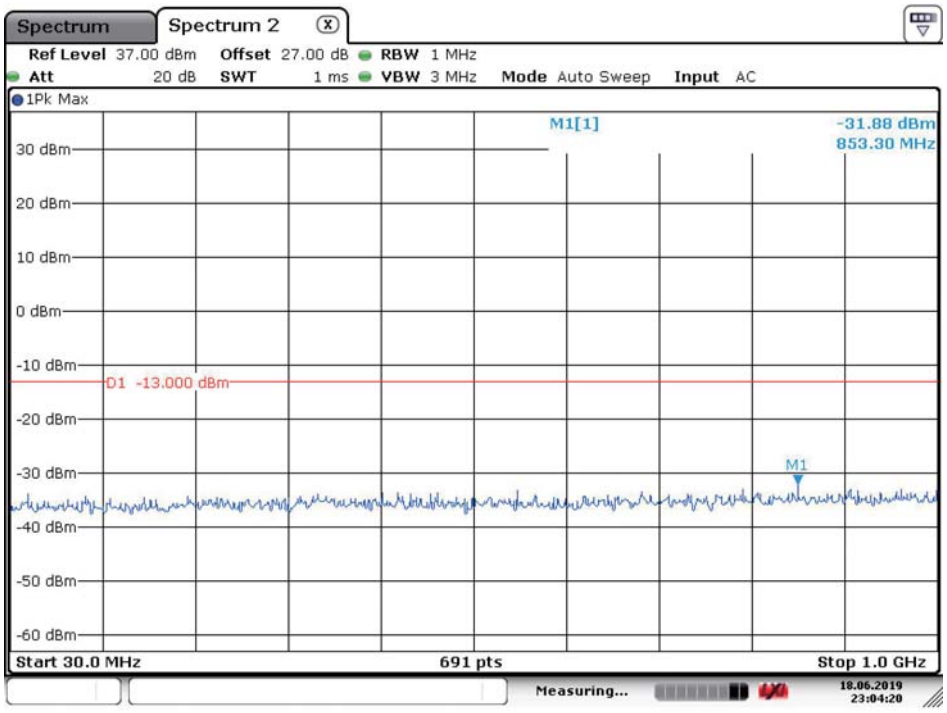


8PSK-Middle channel-1880.0 MHz-1GHz to 10GHz

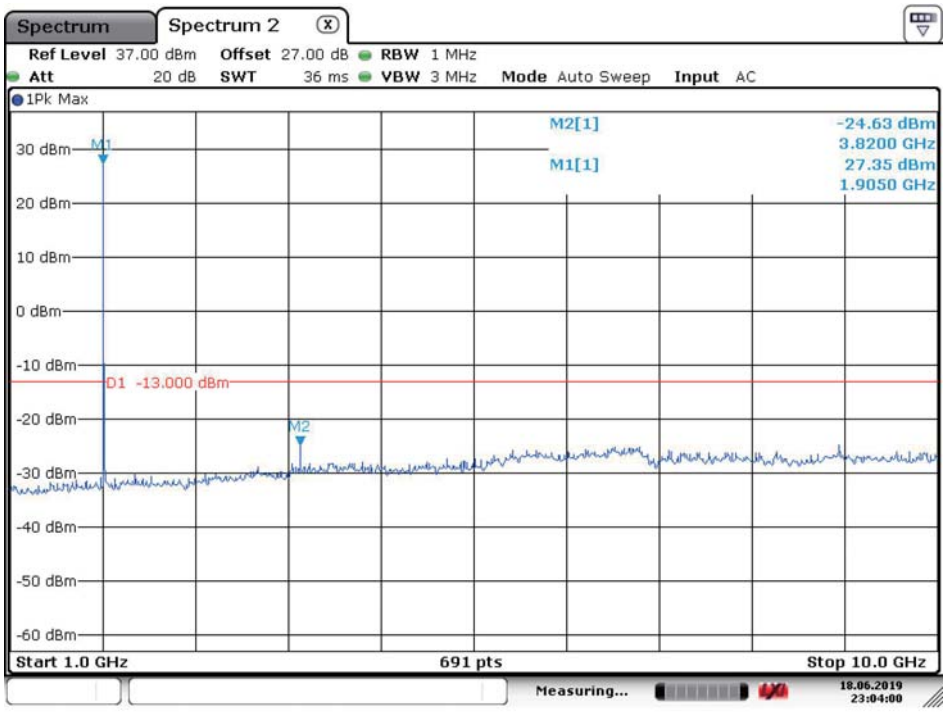
Note: The strong emission shown is the carrier signal.



8PSK-Middle channel-1880.0 MHz-10GHz to 20GHz



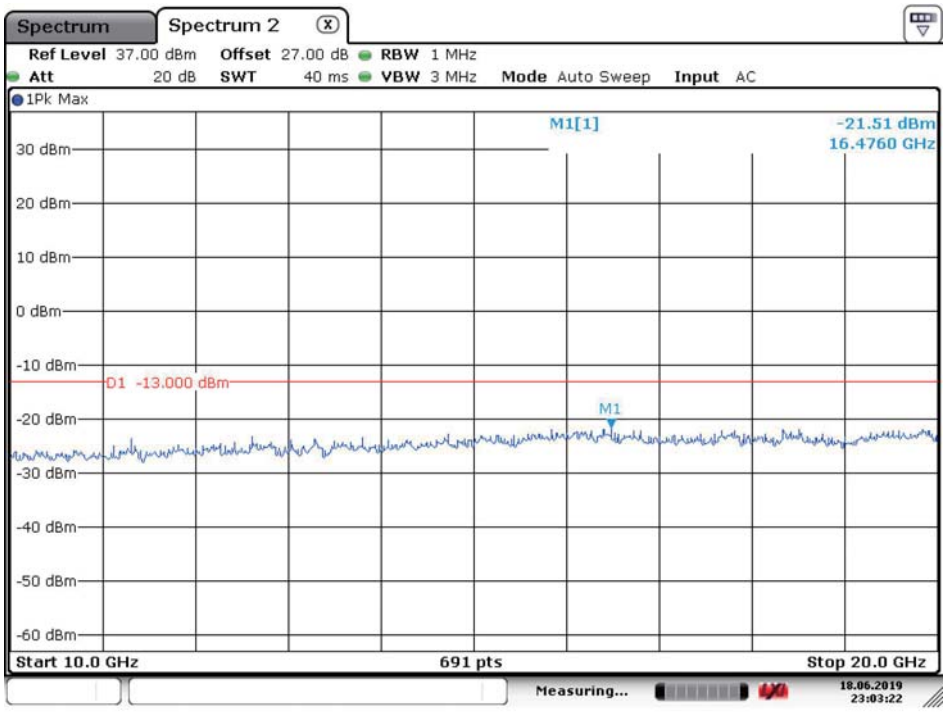
8PSK-High channel-1909.8 MHz-30MHz to 1GHz



Date: 18.JUN.2019 23:04:00

8PSK-High channel-1909.8 MHz-1GHz to 10GHz

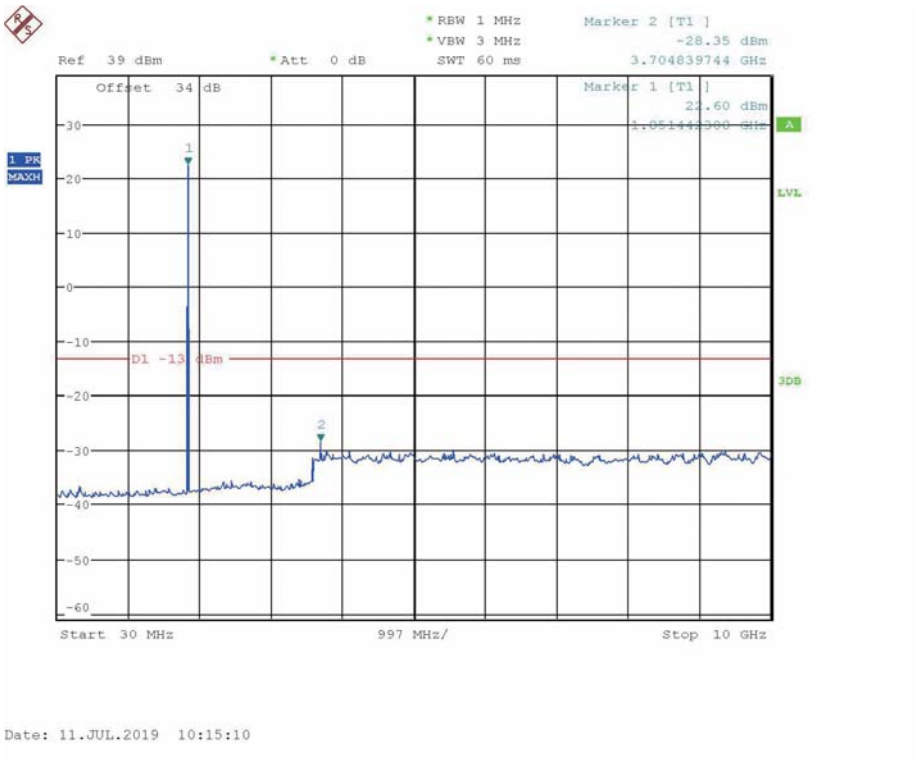
Note: The strong emission shown is the carrier signal



Date: 18.JUN.2019 23:03:22

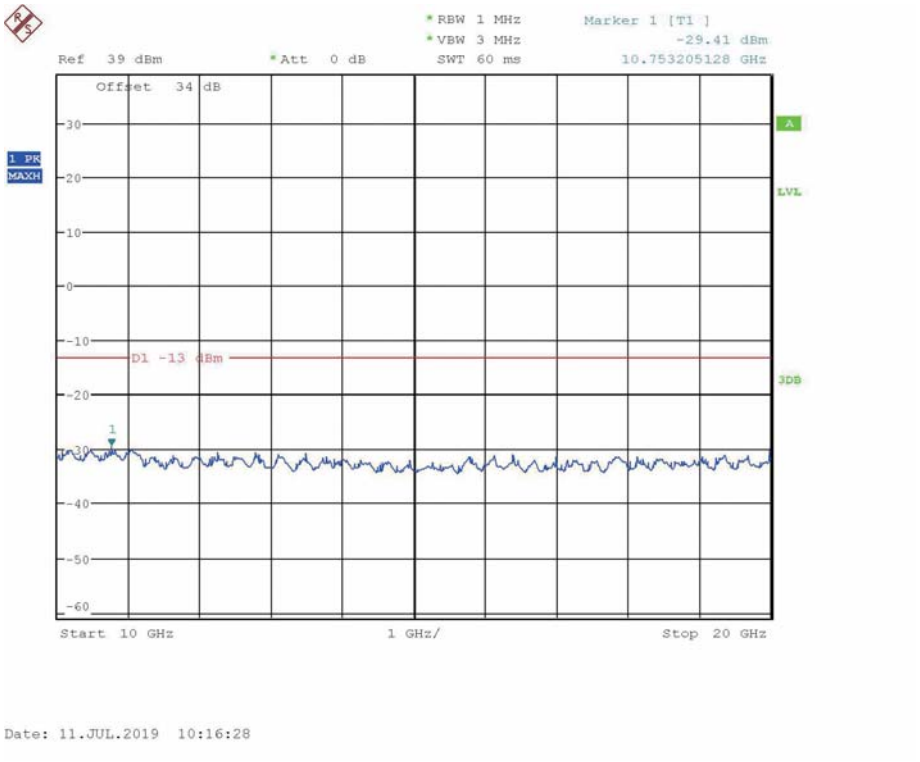
8PSK-High channel-1909.8 MHz-10GHz to 20GHz

5.3.3 NB-IoT B2 Conducted Spurious Emission Results

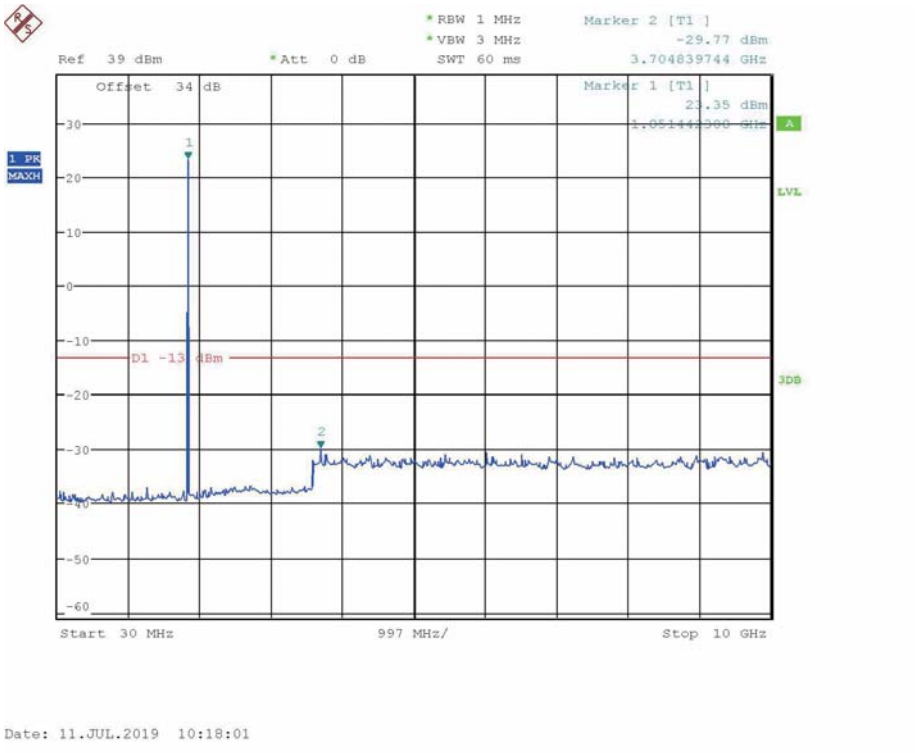


30MHz to 10GHz, Low Channel, Subcarrier (3.75kHz), QPSK, 1@0

Note: The strong emission shown in each case is the carrier signal.

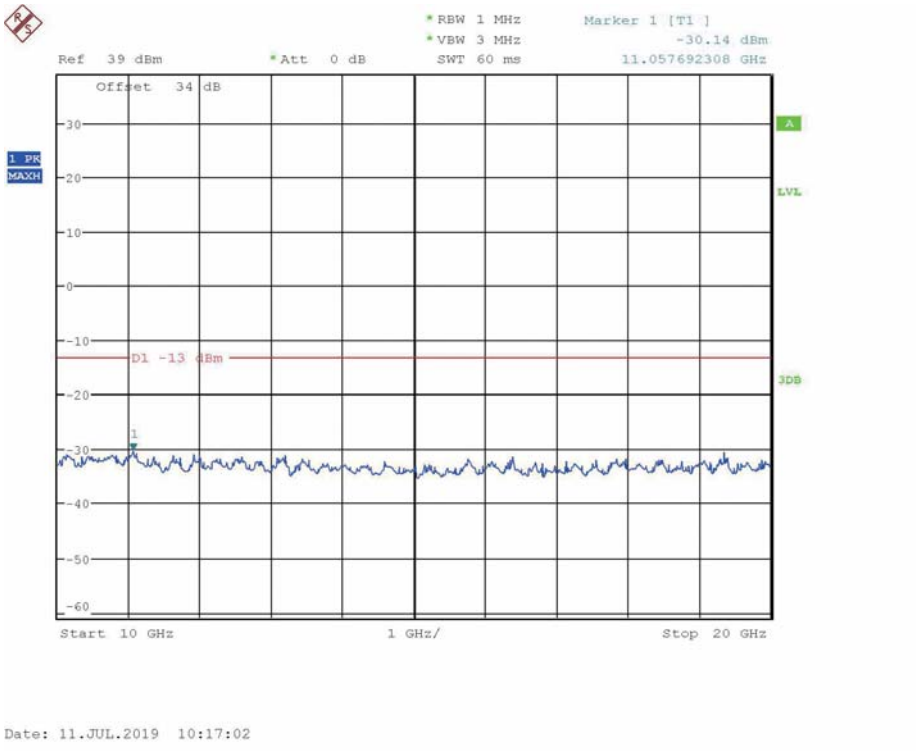


10GHz to 20GHz, Low Channel, Subcarrier (3.75kHz), QPSK, 1@0

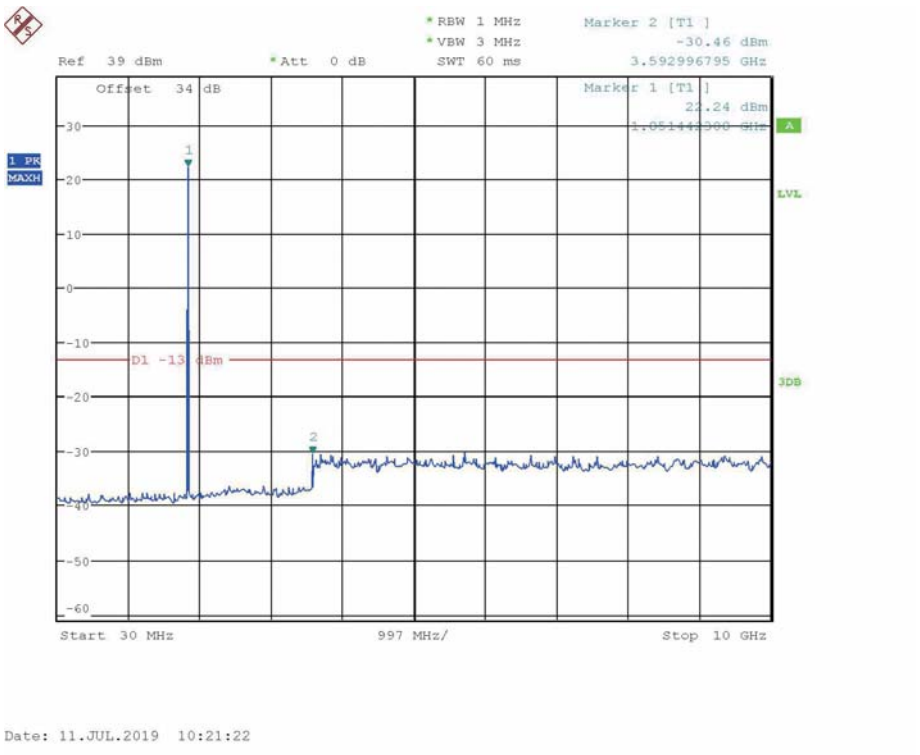


30MHz to 10GHz, Low Channel, Subcarrier (3.75kHz), BPSK, 1@0

Note: The strong emission shown in each case is the carrier signal.

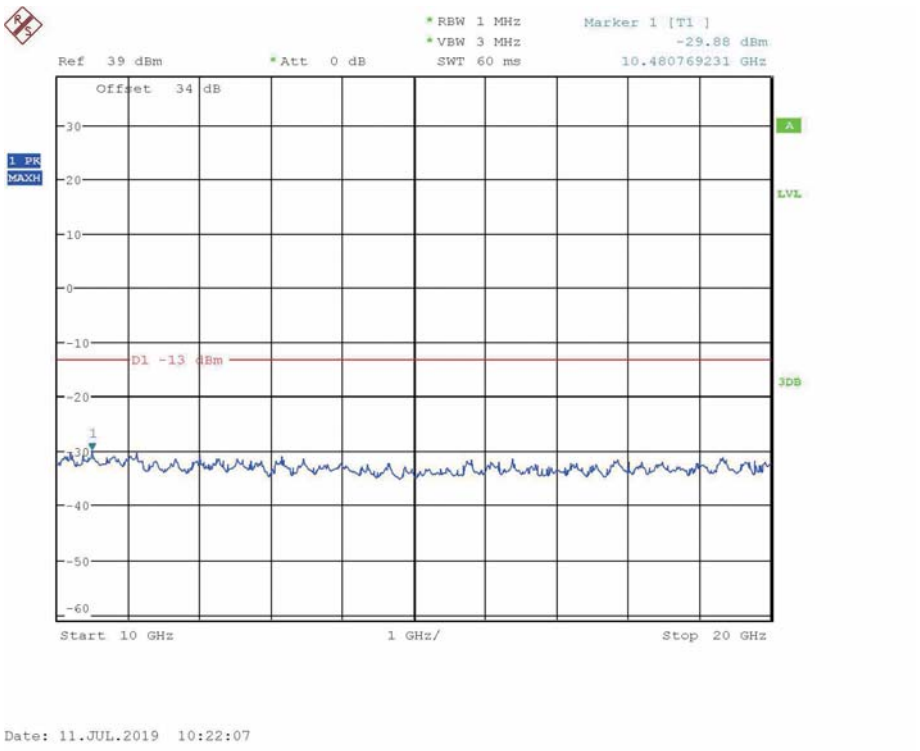


10GHz to 20GHz, Low Channel, Subcarrier (3.75kHz), BPSK, 1@0



30MHz to 10GHz, Low Channel, Subcarrier (15kHz), QPSK, 1@0

Note: The strong emission shown in each case is the carrier signal.



10GHz to 20GHz, Low Channel, Subcarrier (15kHz), QPSK, 1@0