



Band12-3MHz Bandwidth-16QAM



Band12-3MHz Bandwidth-QPSK

Chongqing Academy of Information and Communication Technology

Address: No. 8, Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China, 401336
Tel: 0086-23-88069965

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Band12-5MHz Bandwidth-16QAM



Band12-5MHz Bandwidth-QPSK

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Band12-10MHz Bandwidth-16QAM



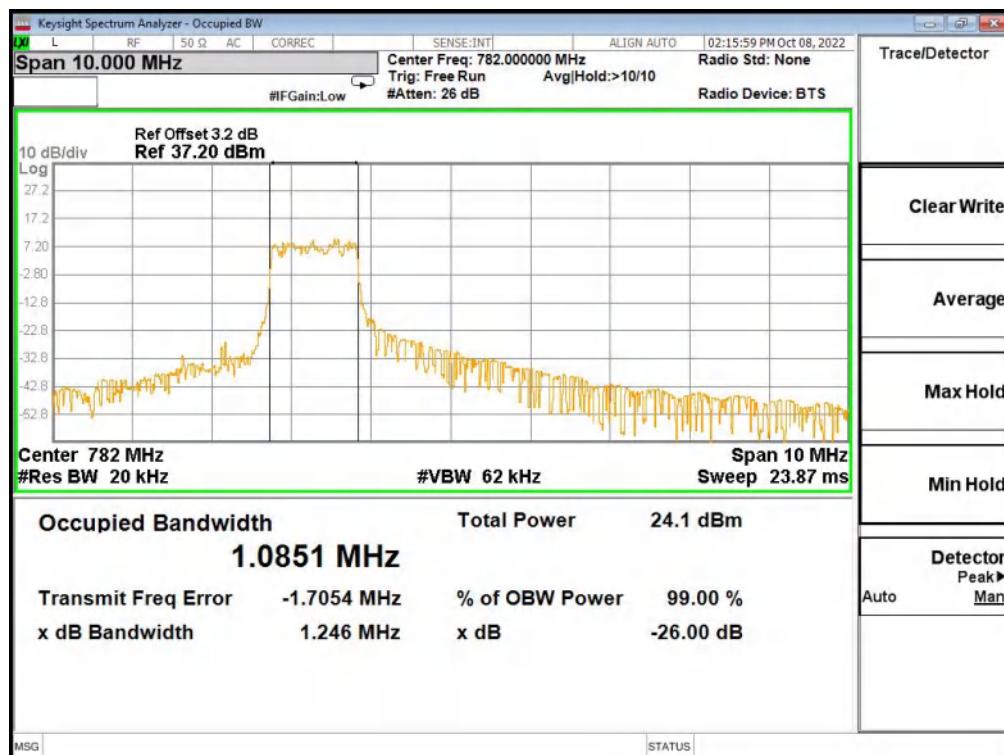
Band12-10MHz Bandwidth-QPSK

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Band13-5MHz Bandwidth-16QAM



Band13-MHz Bandwidth-QPSK

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Band13-10MHz Bandwidth-QPSK

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Band14-5MHz Bandwidth-16QAM



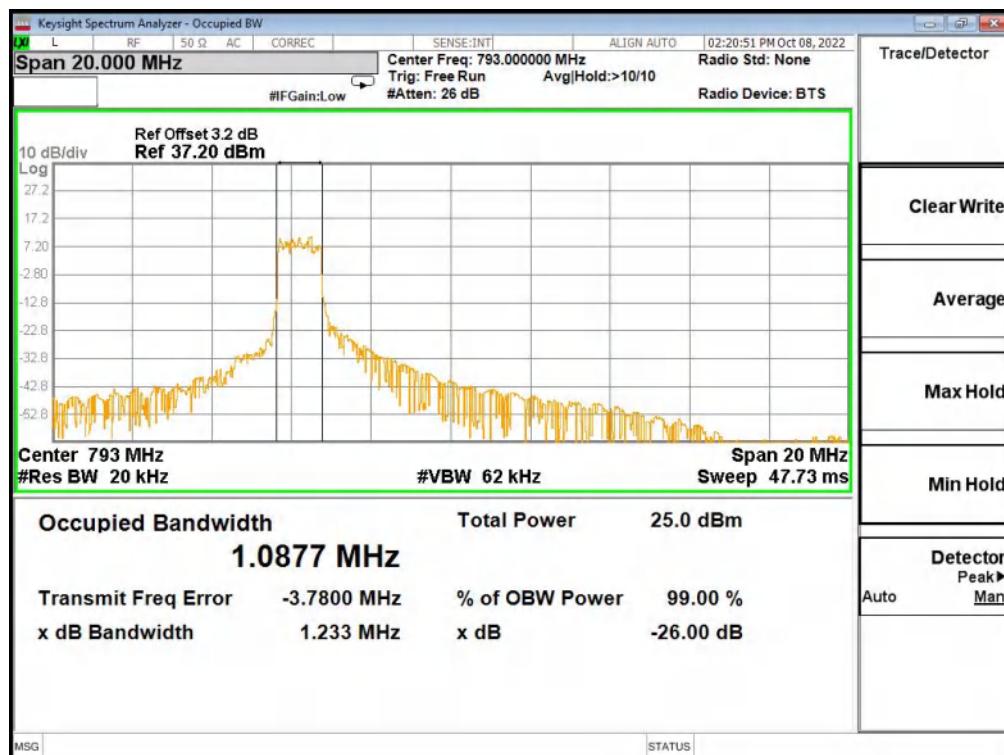
Band14-5MHz Bandwidth-QPSK

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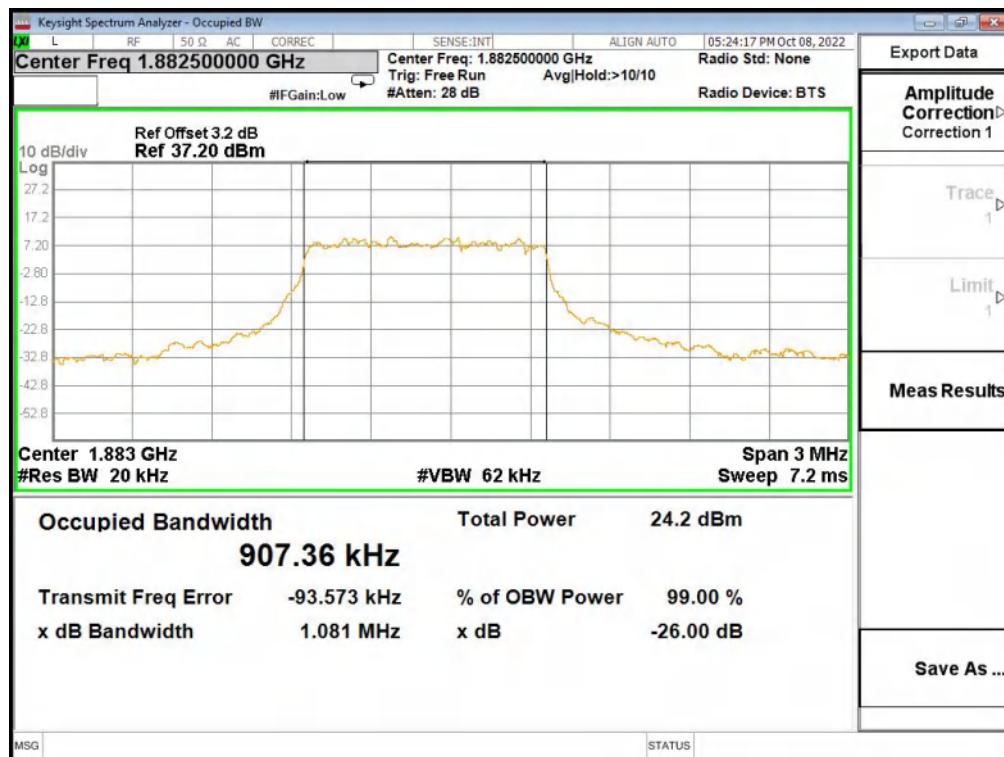
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Band14-10MHz Bandwidth-QPSK

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Band25-1.4MHz Bandwidth-16QAM

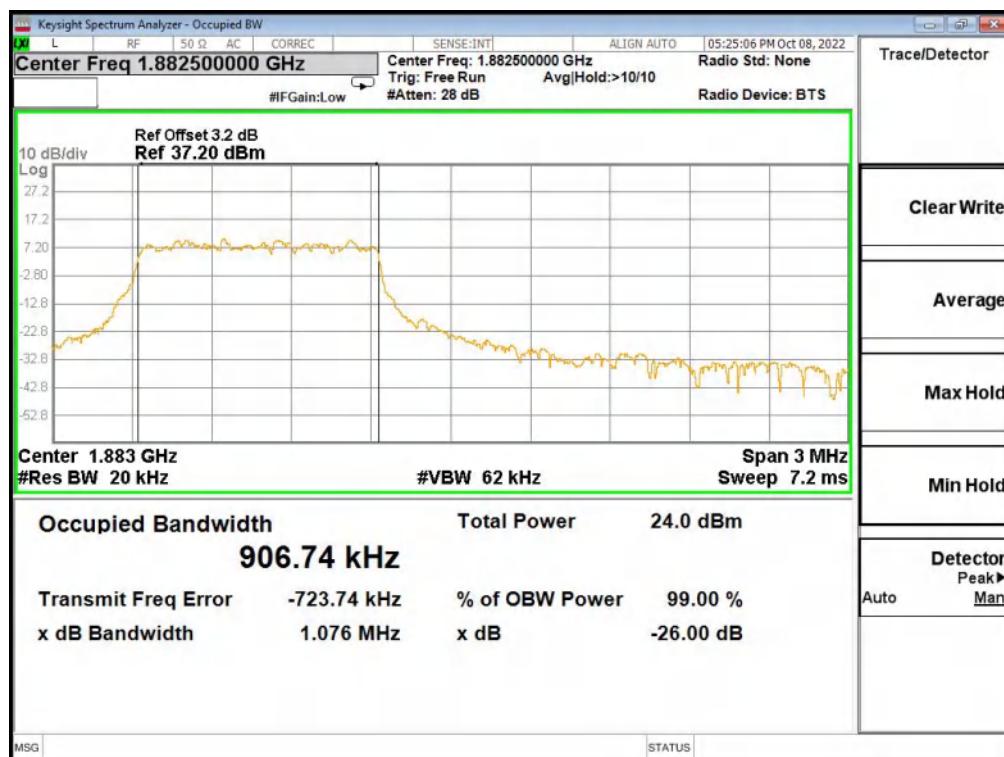


Band25-1.4MHz Bandwidth-QPSK

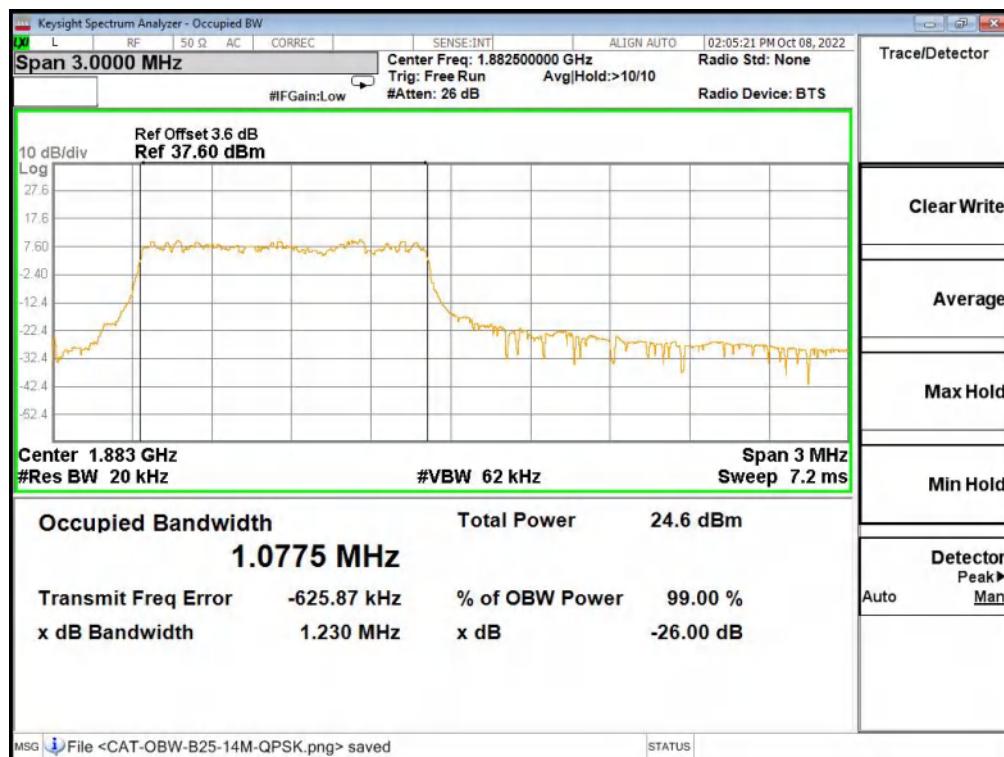
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Band25-3MHz Bandwidth-16QAM



Band25-3MHz Bandwidth-QPSK

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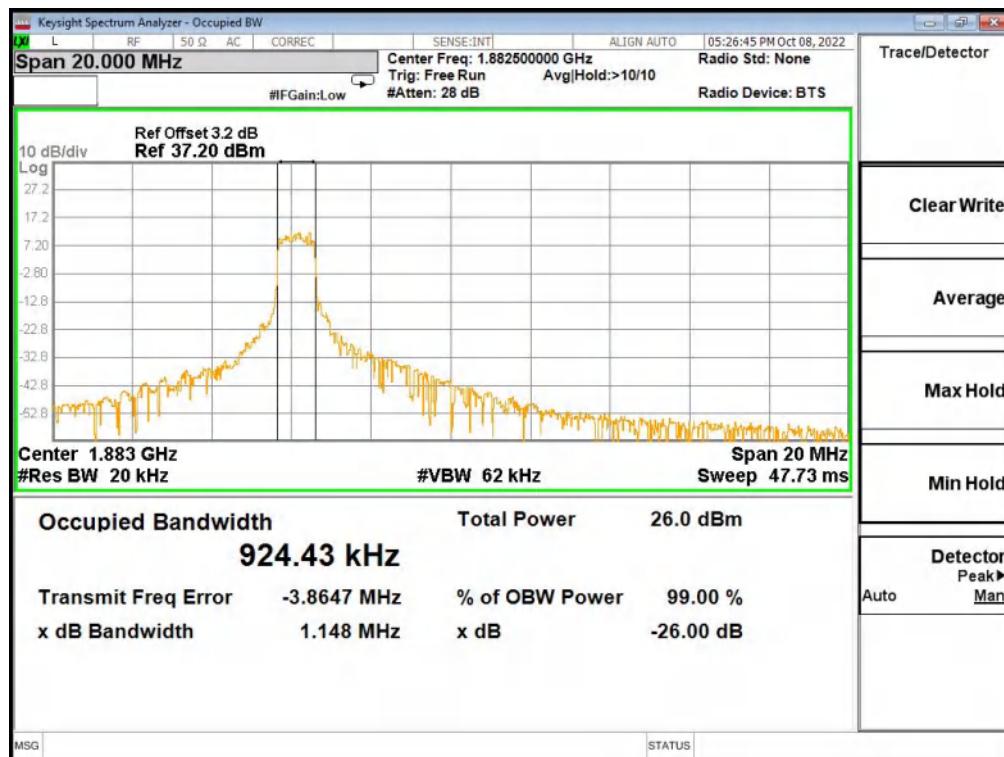
Band25-5MHz Bandwidth-16QAM



Band25-5MHz Bandwidth-QPSK

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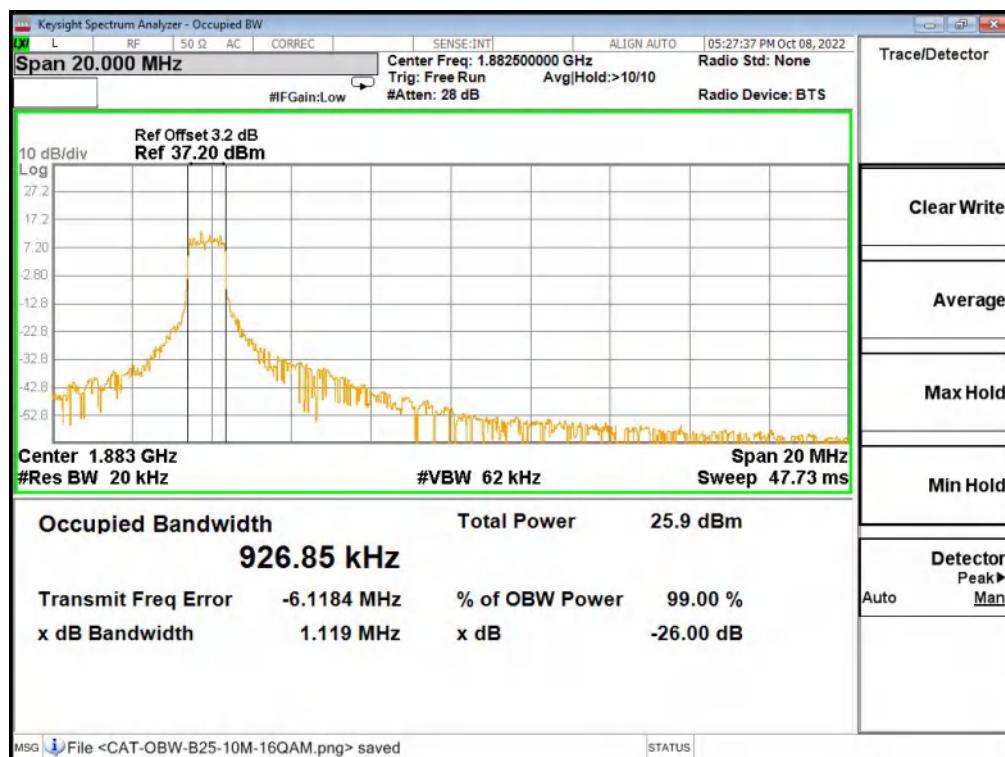
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Band25-10MHz Bandwidth-QPSK

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Band25-15MHz Bandwidth-16QAM



Band25-15MHz Bandwidth-QPSK

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Band25-20MHz Bandwidth-16QAM



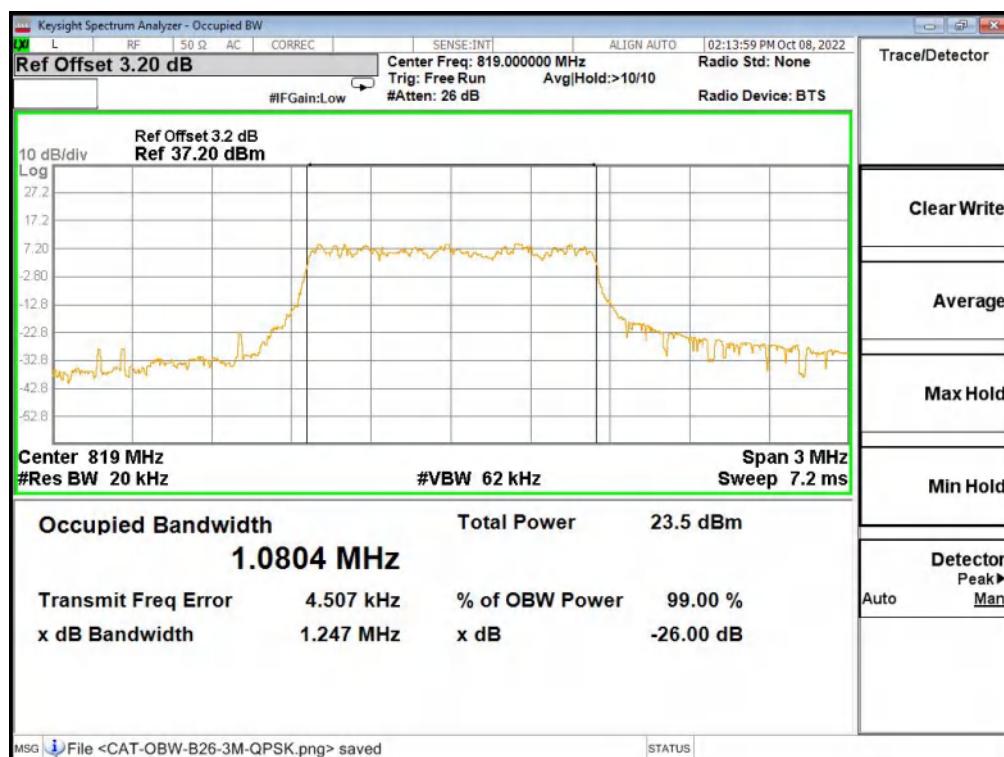
Band25-20MHz Bandwidth-QPSK

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



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

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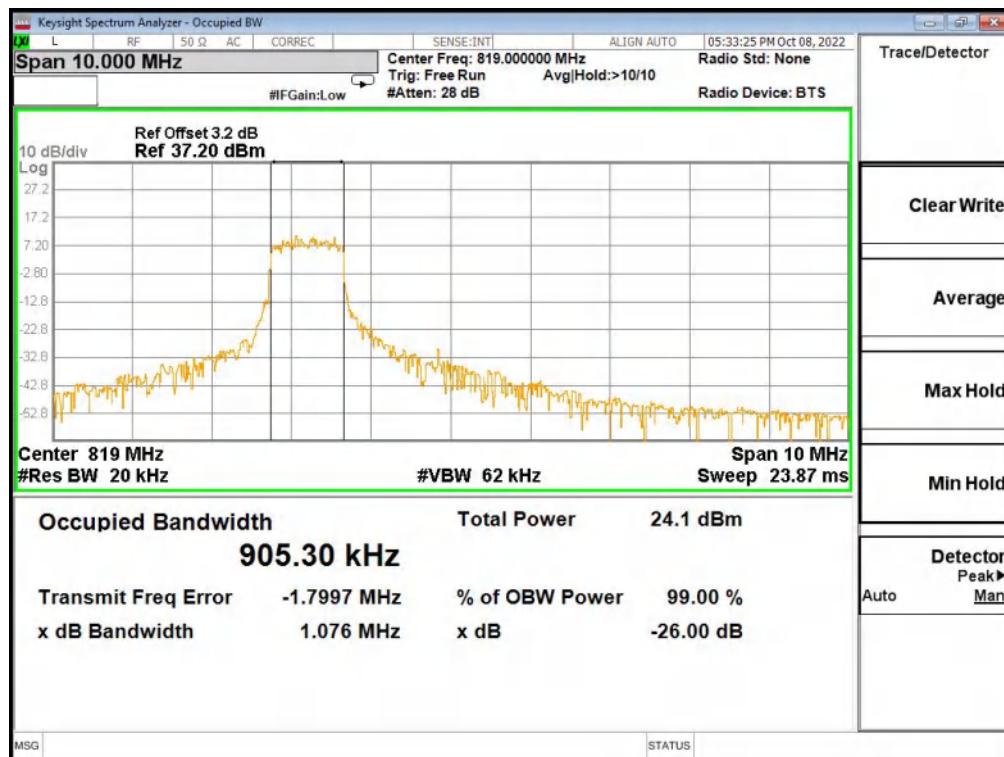
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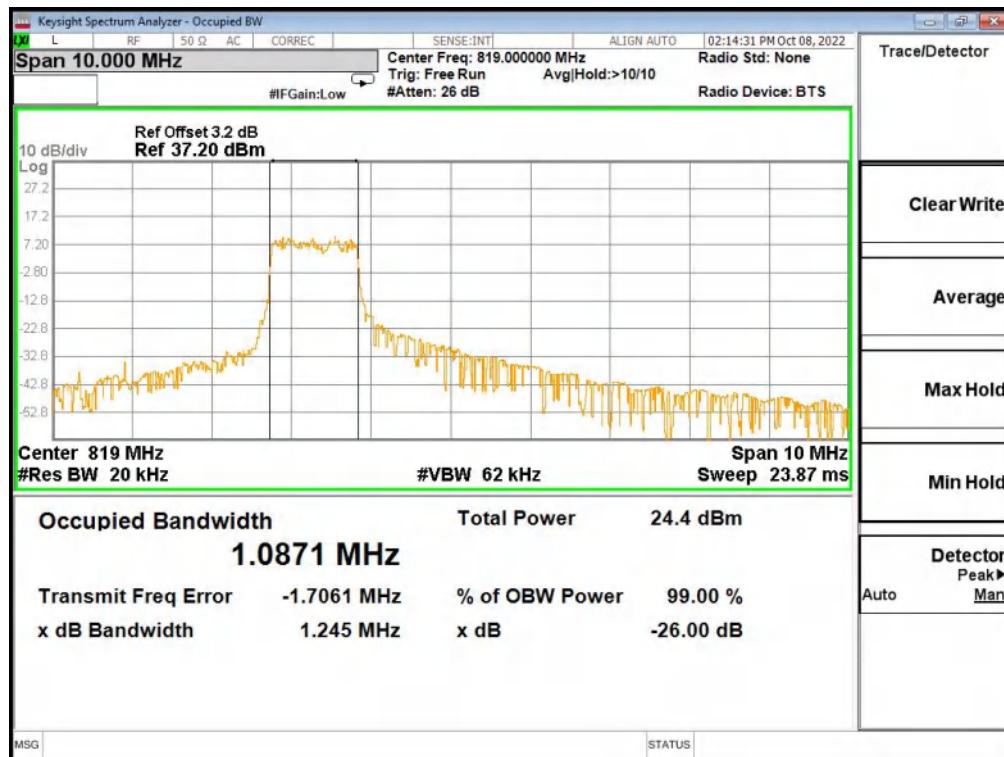
Band26-99% OBW-26740 Channel-3MHz Bandwidth-QPSK

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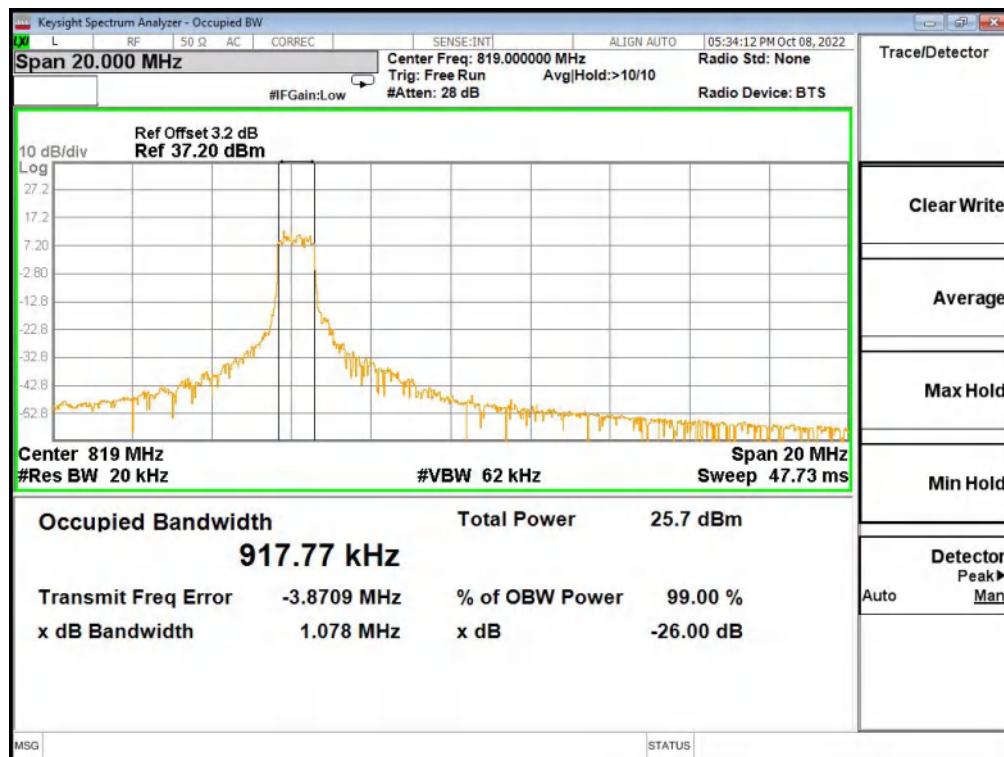
Band26-26dB OBW-26740 Channel-5MHz Bandwidth-16QAM



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

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

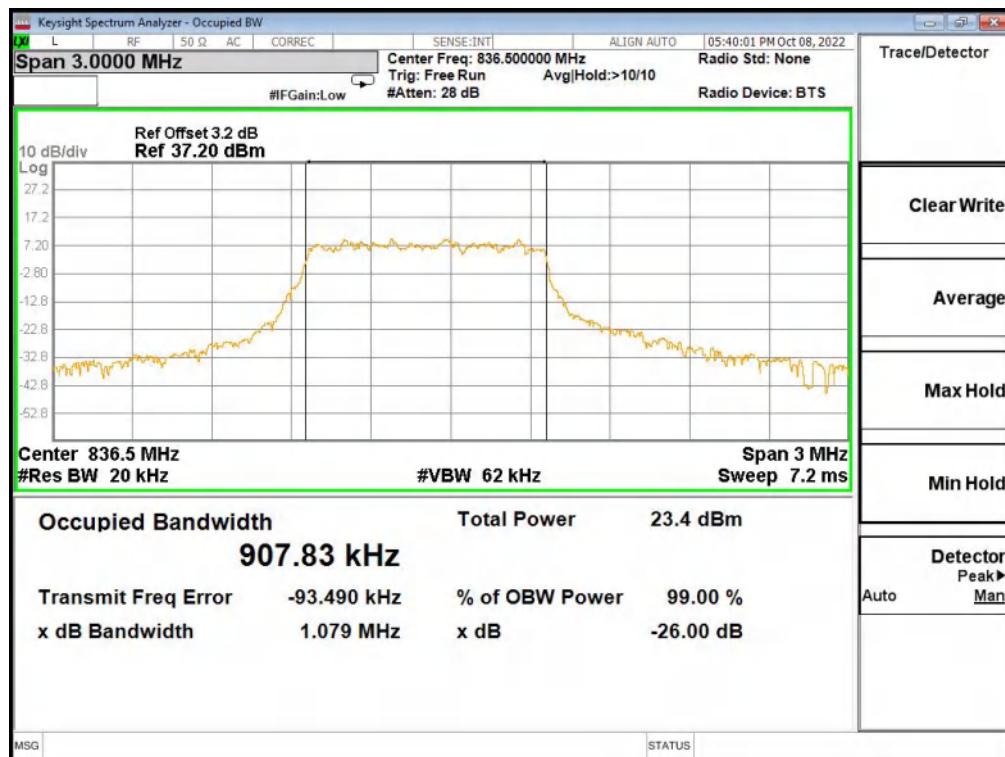


Band26-26dB OBW-26740 Channel-10MHz Bandwidth-QPSK

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



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

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



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

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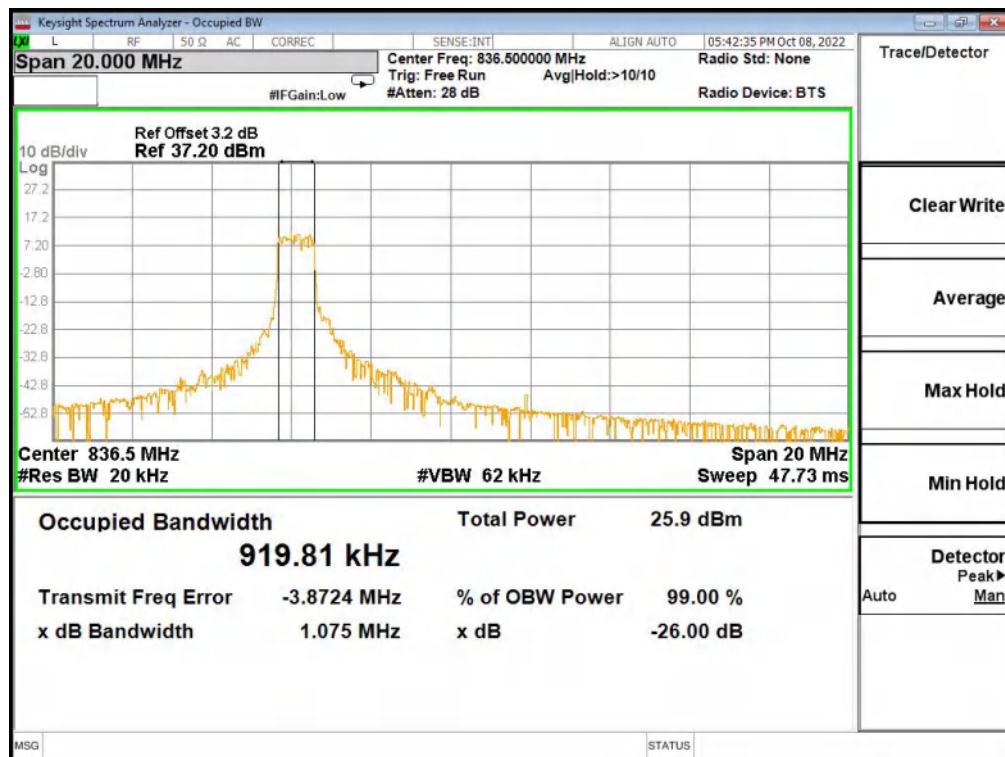
Band26-26dB OBW-26915 Channel-5MHz Bandwidth-16QAM



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

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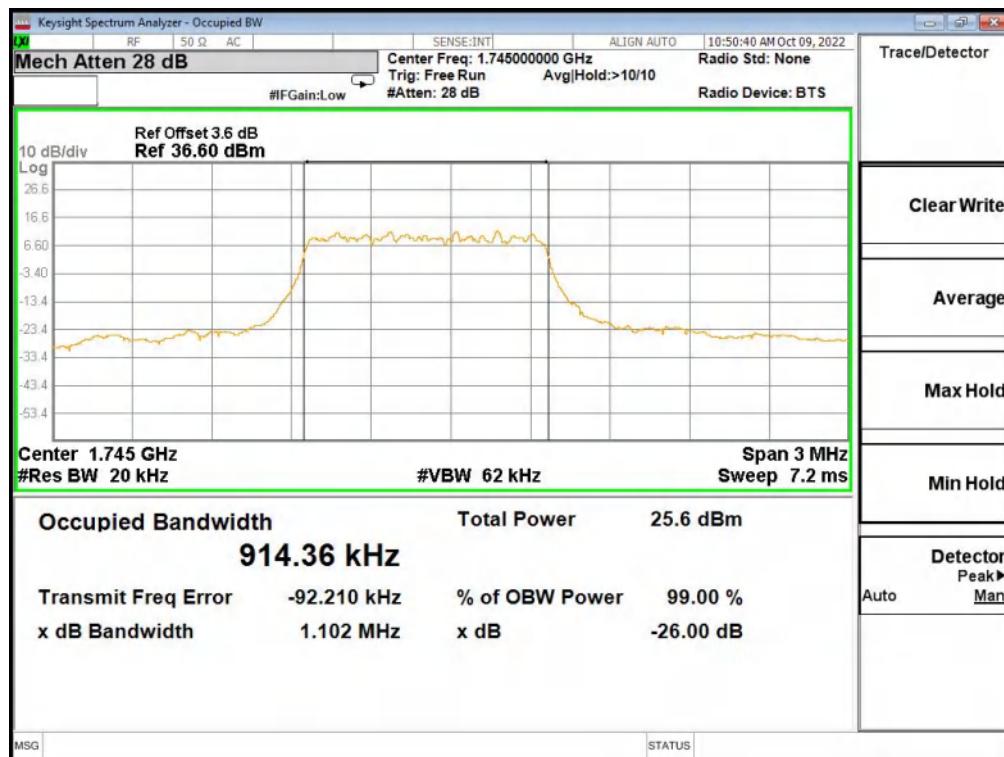
Band26-26dB OBW-26915 Channel-10MHz Bandwidth-16QAM



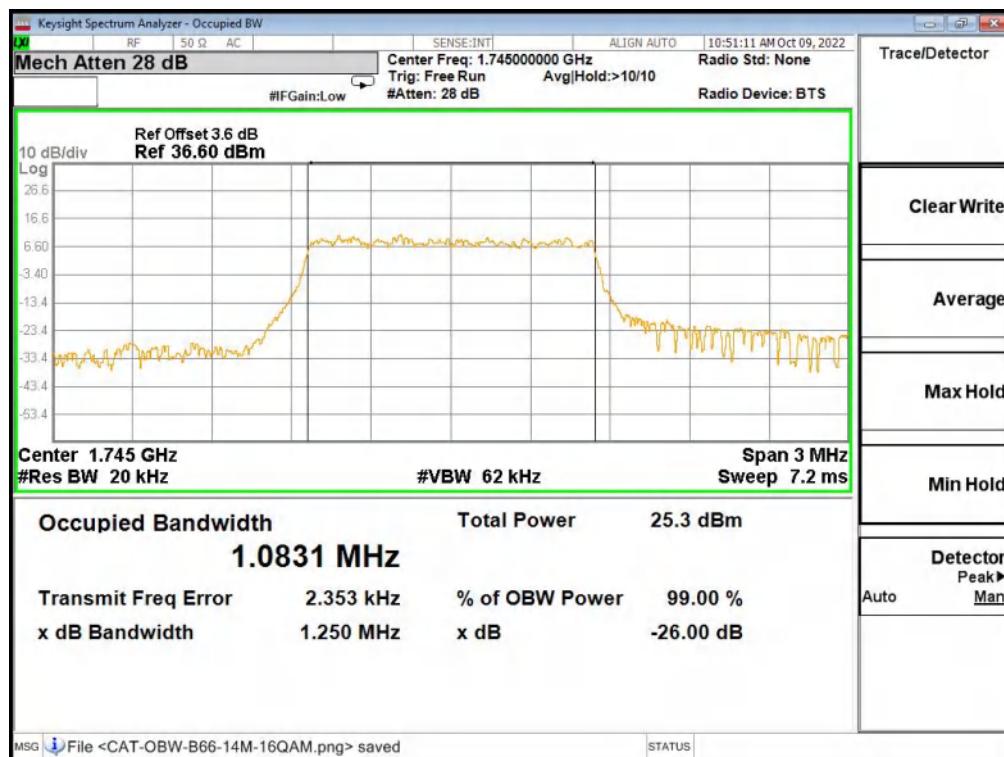
Band26-99% OBW-26915 Channel-10MHz Bandwidth-QPSK

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Band66-1.4MHz Bandwidth-16QAM



Band66-1.4MHz Bandwidth-QPSK

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Band66-3MHz Bandwidth-16QAM



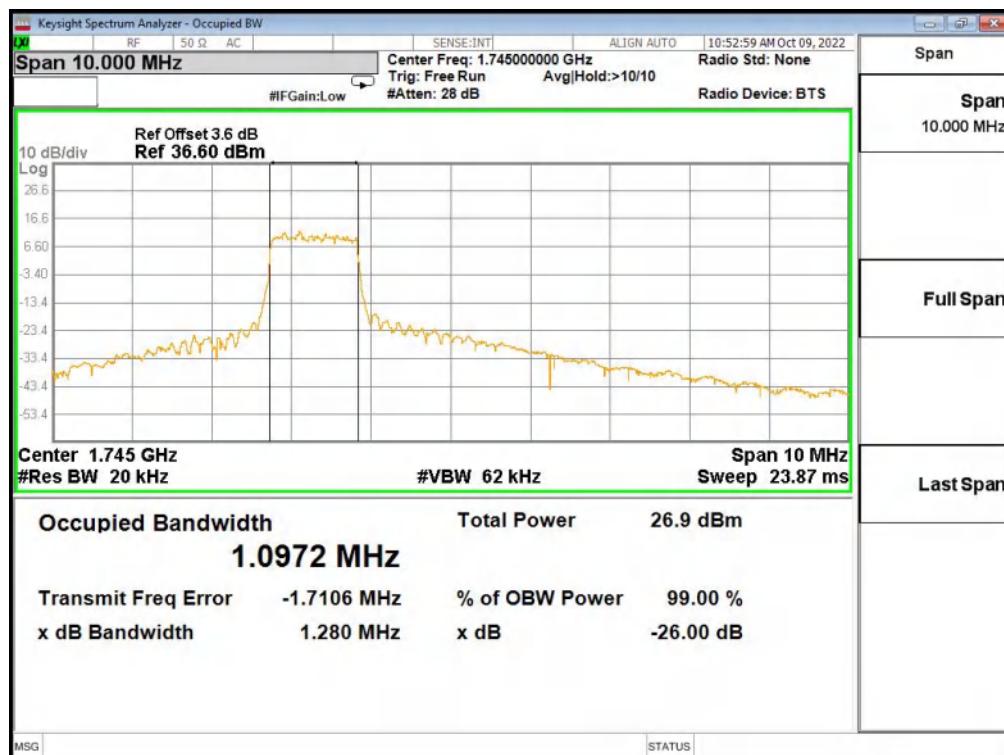
Band66-3MHz Bandwidth-QPSK

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Band66-5MHz Bandwidth-16QAM



Band66-5MHz Bandwidth-QPSK

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Band66-10MHz Bandwidth-16QAM



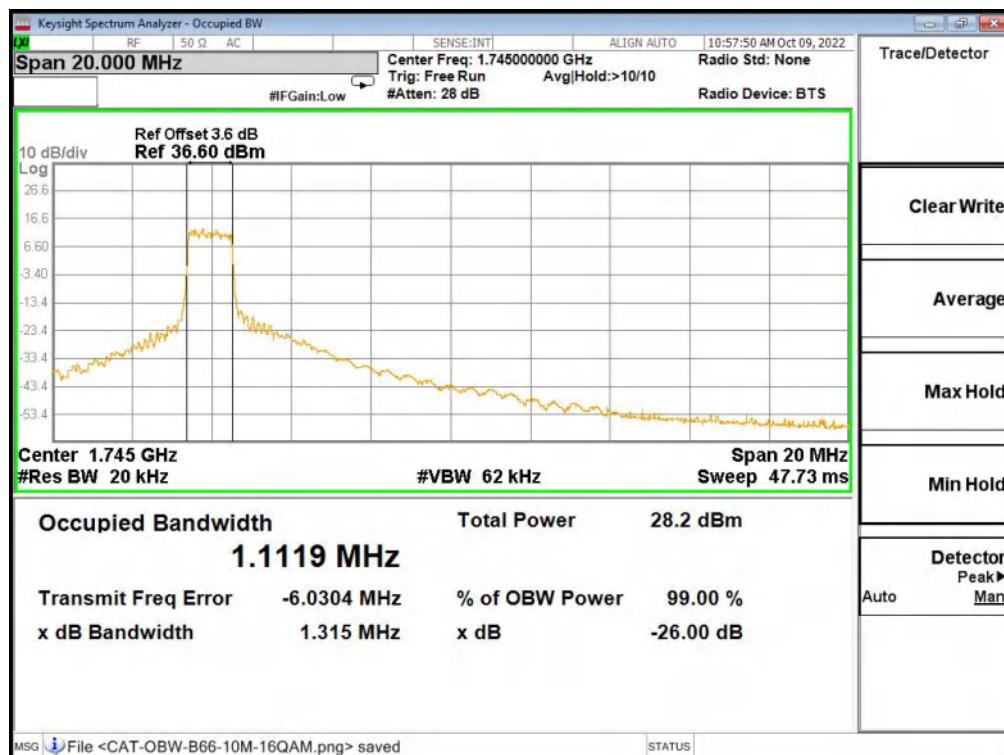
Band66-10MHz Bandwidth-QPSK

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Band66-15MHz Bandwidth-16QAM



Band66-15MHz Bandwidth-QPSK

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Band66-20MHz Bandwidth-16QAM



Band66-20MHz Bandwidth-QPSK

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6.5. Conducted spurious emissions

Specifications:	FCC Part 2.1051,24.238,2.1053,22.917, 27.53,90.691
DUT Serial Number:	865456056939661
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

According to Part 22.917 (a), i.e., Out of Band emissions. 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 Part 24.238 (a), i.e., Out of Band emissions. 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: $P(\text{dBm}) - (43 + 10 \log(P)) \text{ dB} = -13 \text{ dBm}$.

According to Part 27.53(h):

Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 Bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log(P)$ dB.

According to Part 27.53(g):

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.

According to Part 90.691:

(a) Out-of-band emission requirement shall apply only to the "outer" channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $116 \log_{10}(f/6.1)$ decibels or $50 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the

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center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

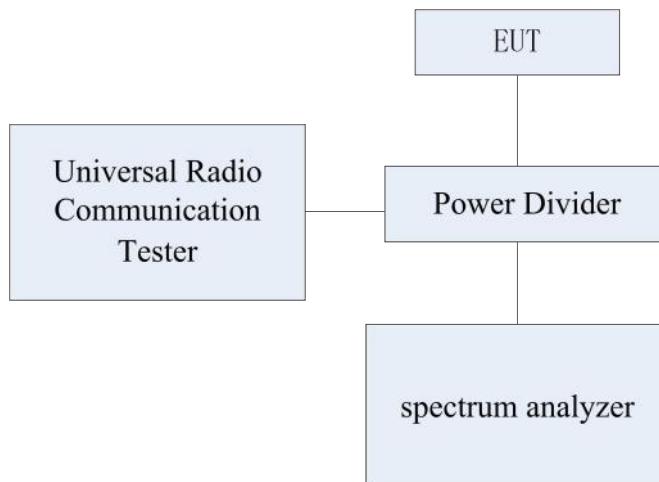
(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

Measurement Uncertainty:

Item	Uncertainty	
Expanded Uncertainty	$9\text{kHz} < f \leq 4\text{GHz}$	0.71 dB (k=2)
	$4\text{GHz} \leq f < 12.75\text{GHz}$	0.74 dB (k=2)
	$12.75\text{GHz} \leq f < 26\text{GHz}$	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 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: --

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6.5.1 NB-IoT B2 Conducted Spurious Emission Results



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



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



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



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

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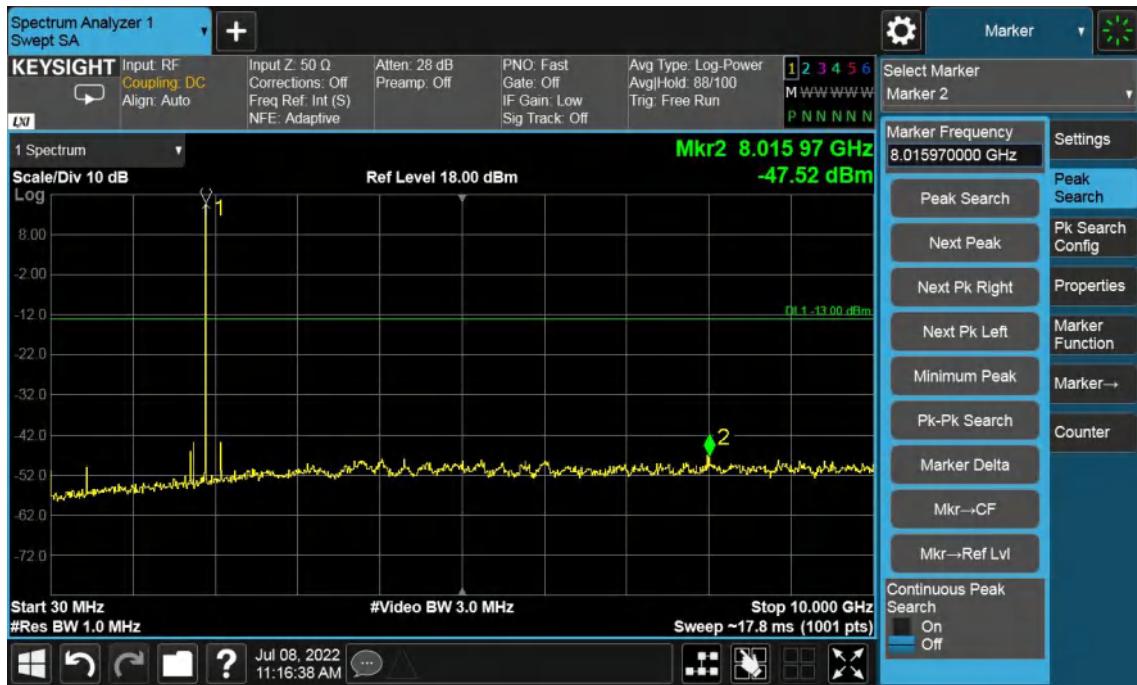
30MHz to 10GHz, Low Channel, Subcarrier (15kHz), QPSK, 1@0



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

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30MHz to 10GHz, Low Channel, Subcarrier (15kHz), QPSK, 12@0



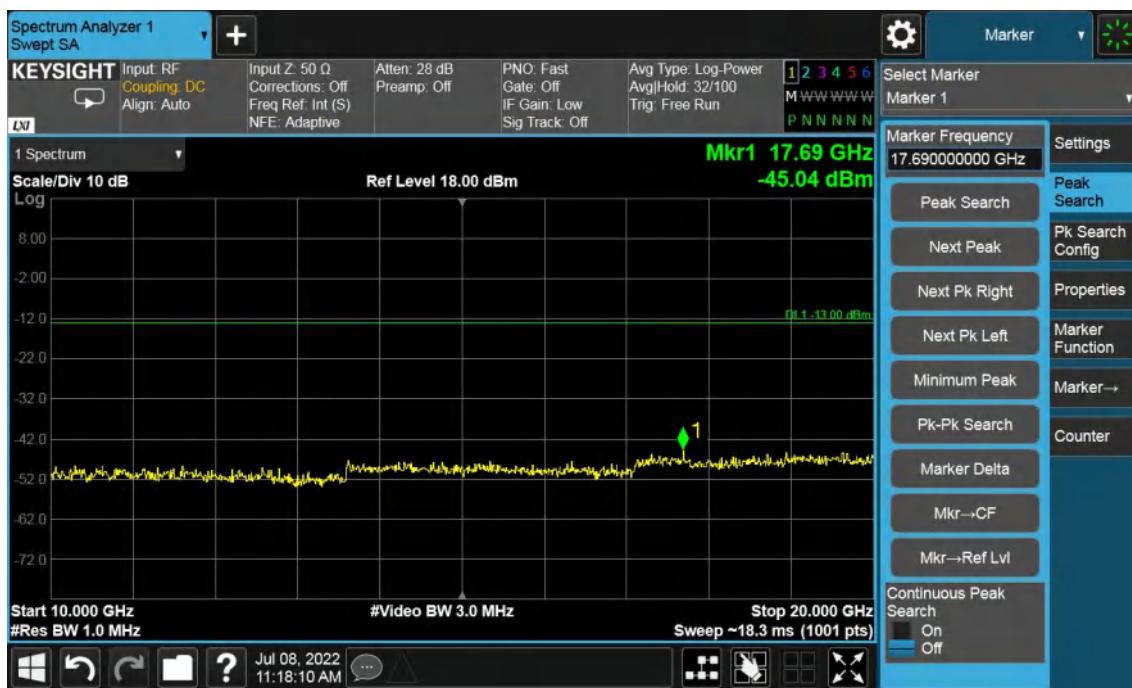
10GHz to 20GHz, Low Channel, Subcarrier (15kHz), QPSK, 12@0

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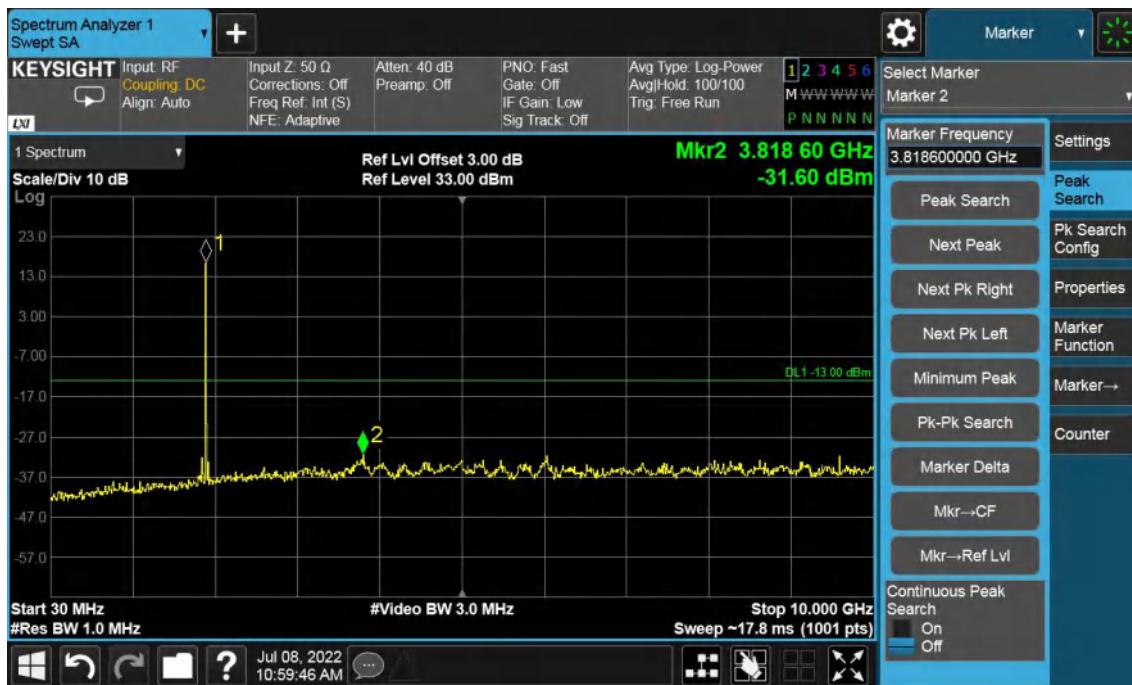
30MHz to 10GHz, Low Channel, Subcarrier (15kHz), BPSK, 1@0



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

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



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

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