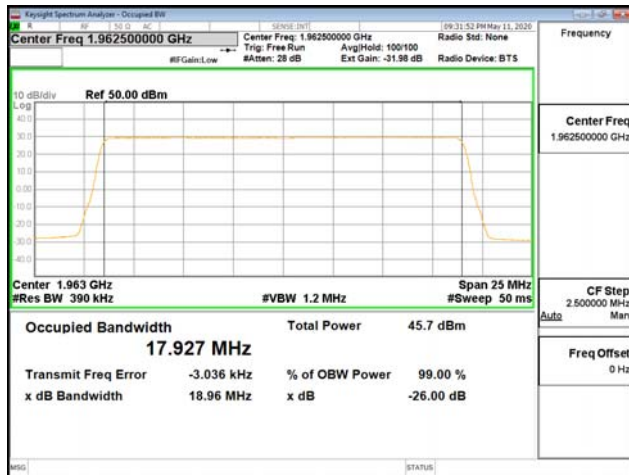
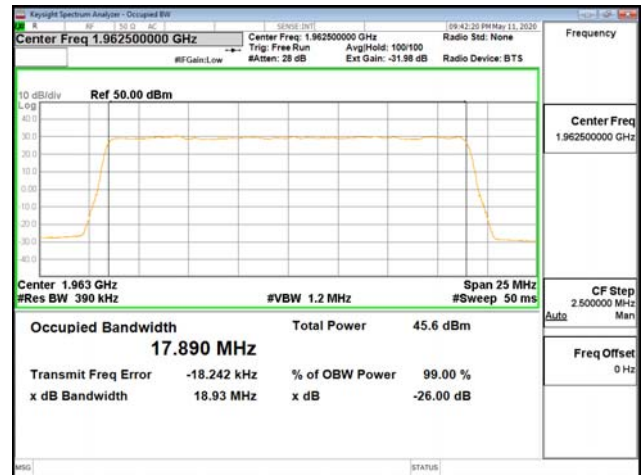


ANT2

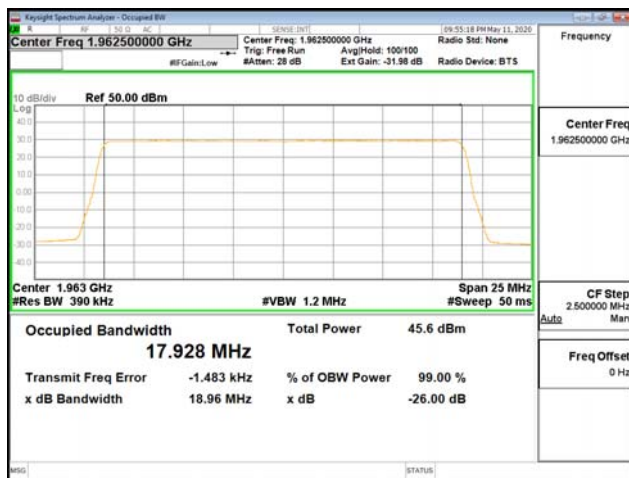
QPSK



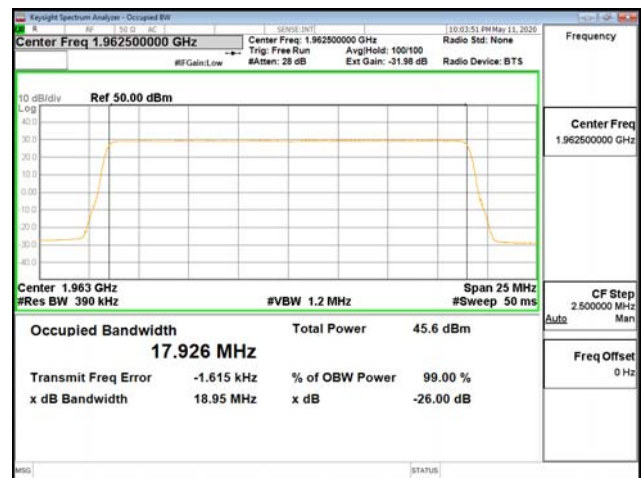
16QAM



64QAM

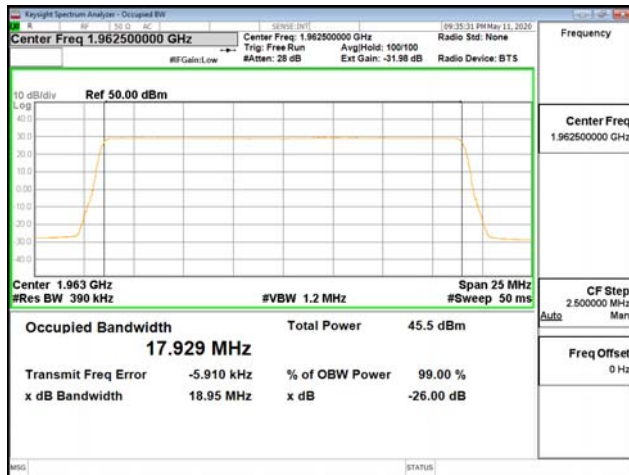


256QAM

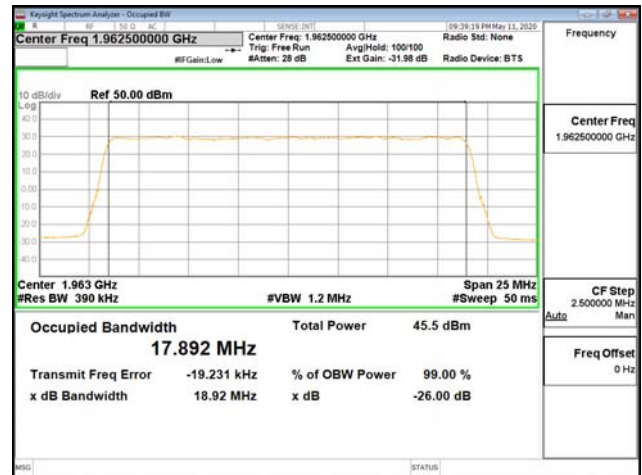


ANT3

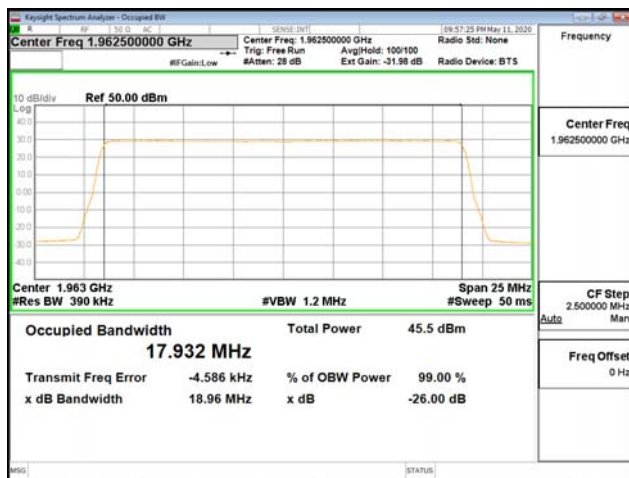
QPSK



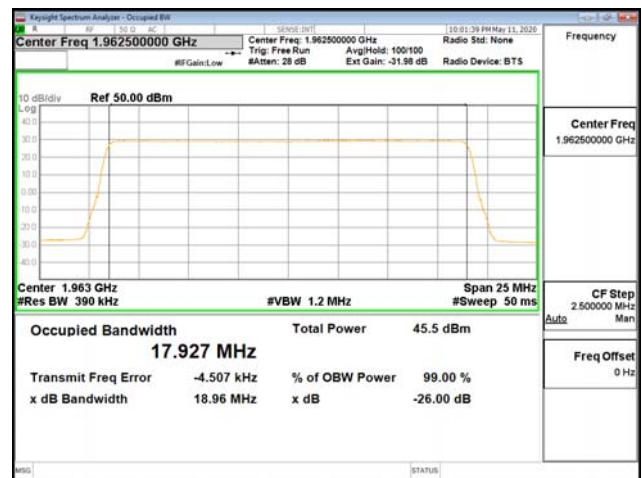
16QAM



64QAM

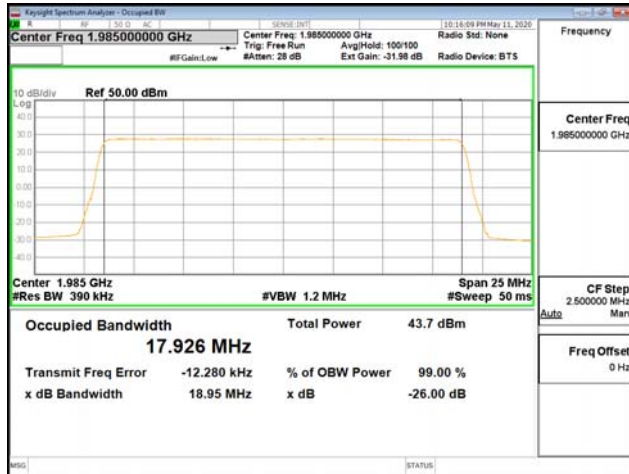


256QAM

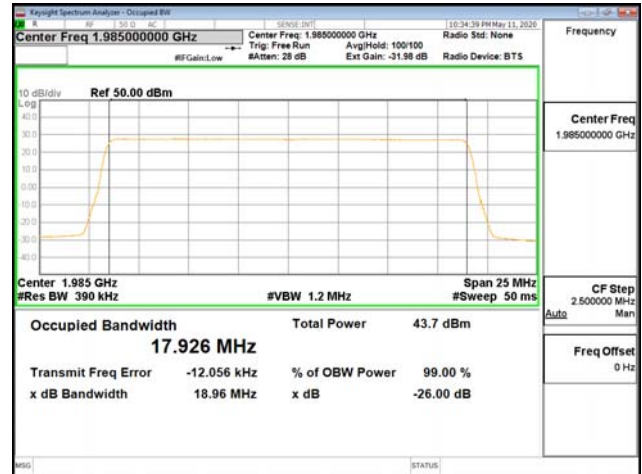


**Band 25, BW 20MHz, Single carrier, Top
ANT0**

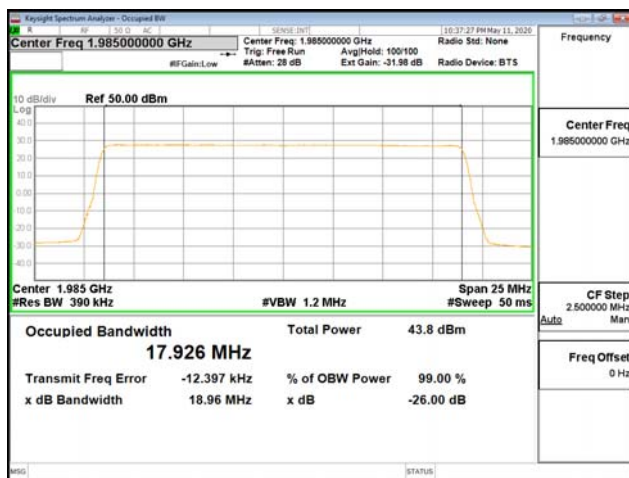
QPSK



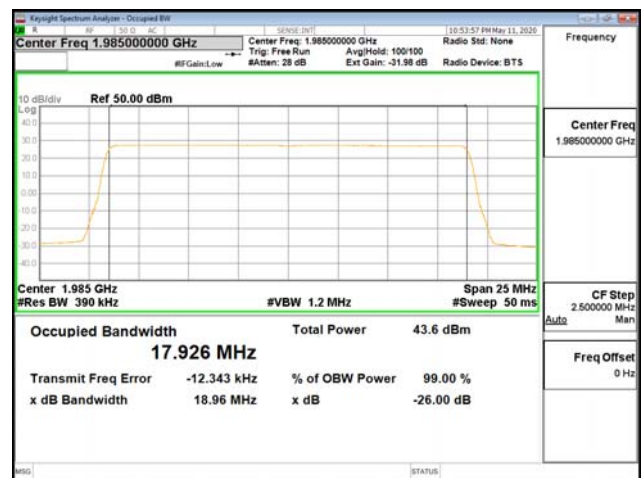
16QAM



64QAM

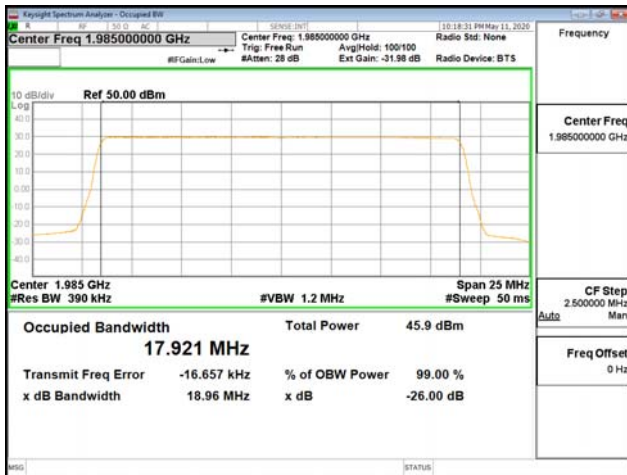


256QAM

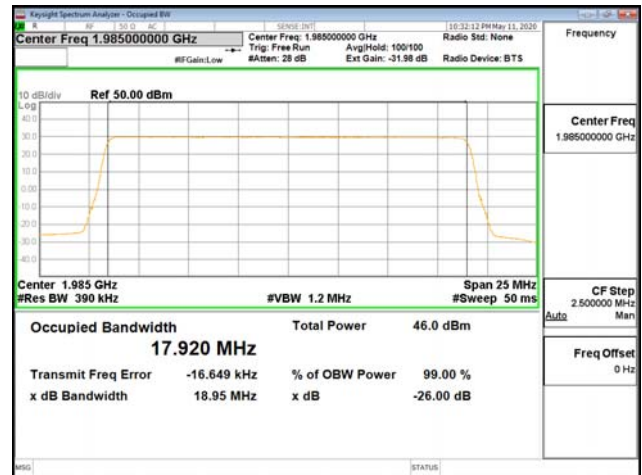


ANT1

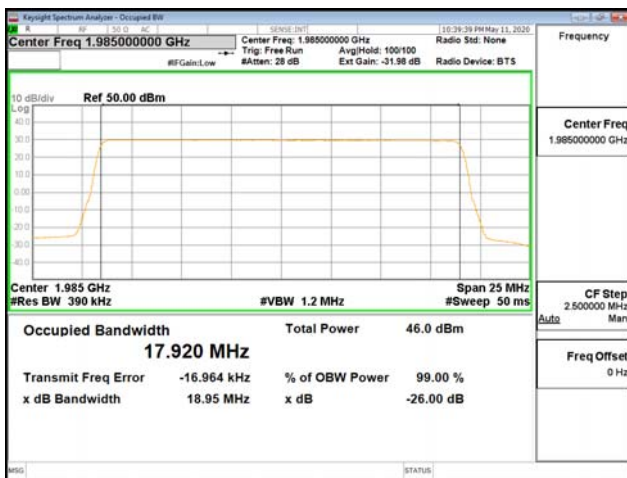
QPSK



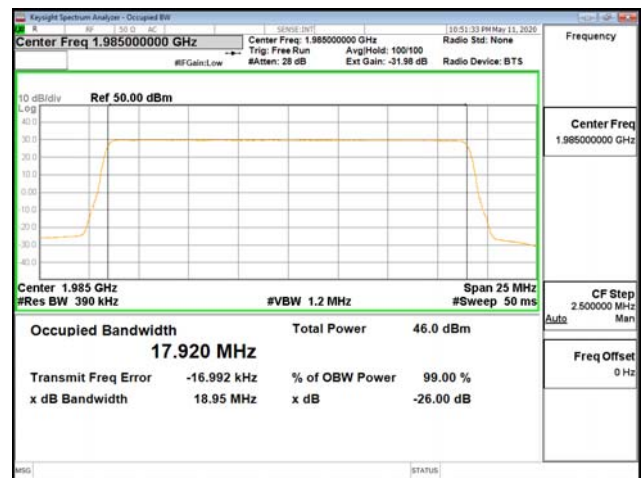
16QAM



64QAM

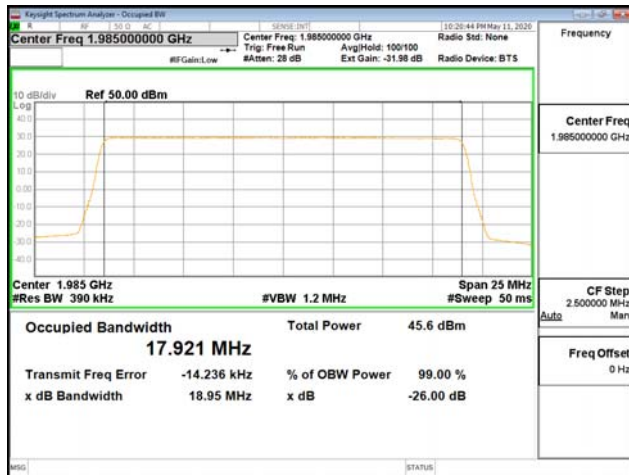


256QAM

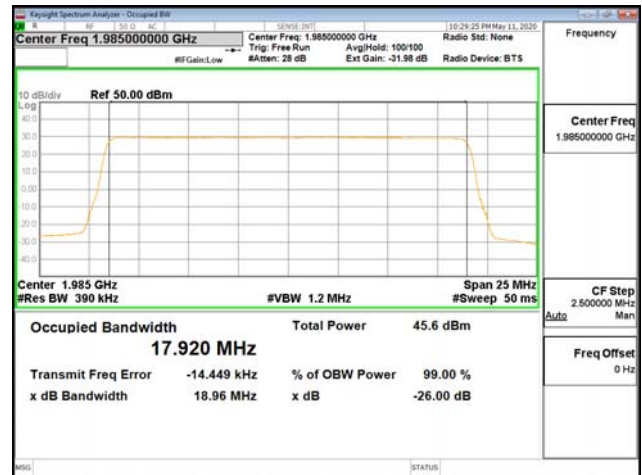


ANT2

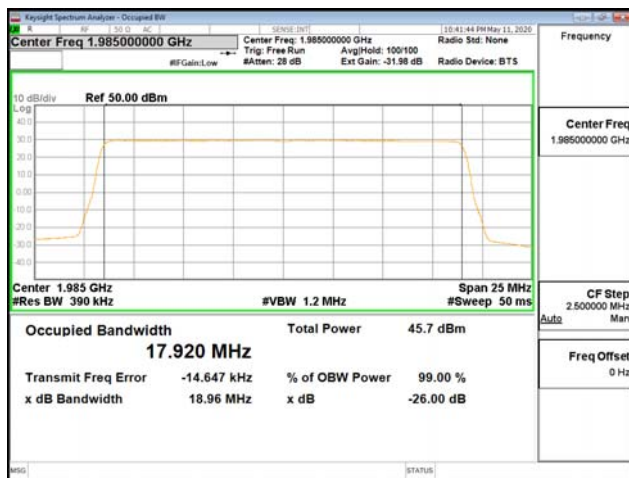
QPSK



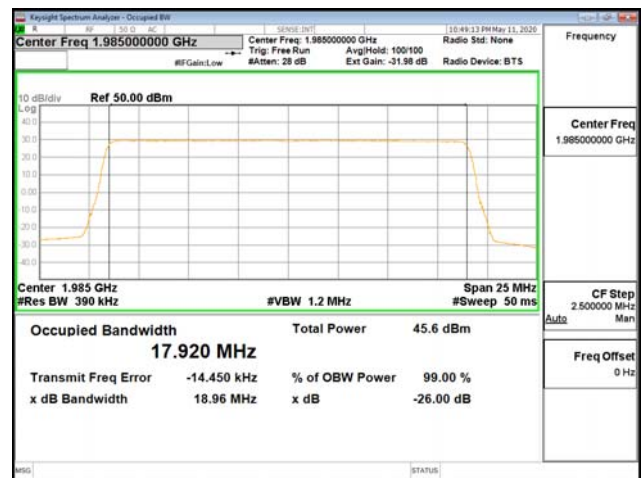
16QAM



64QAM

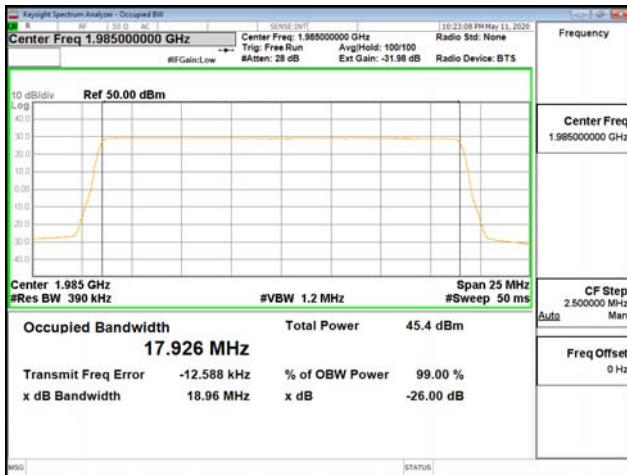


256QAM

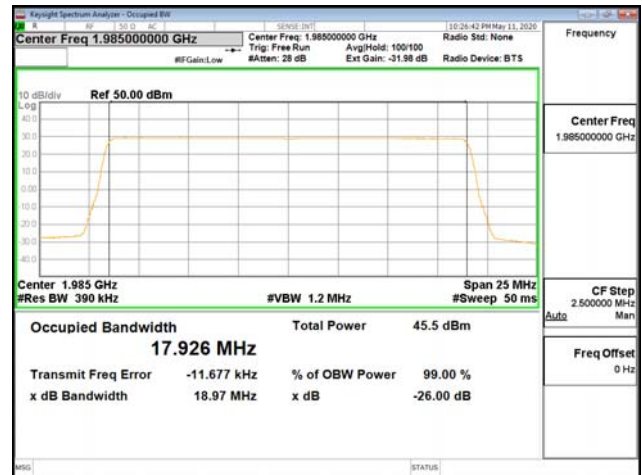


ANT3

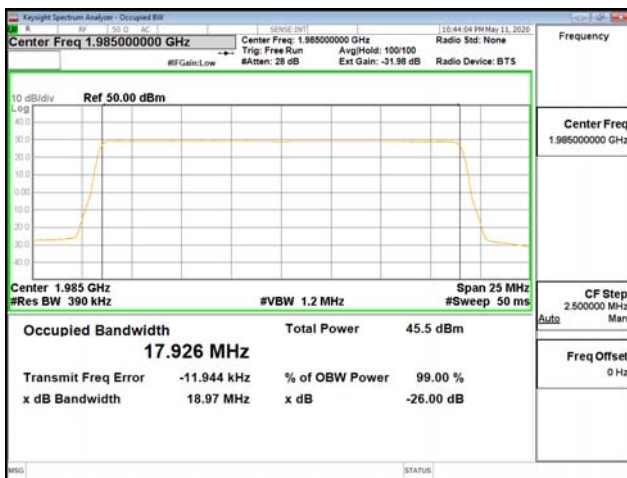
QPSK



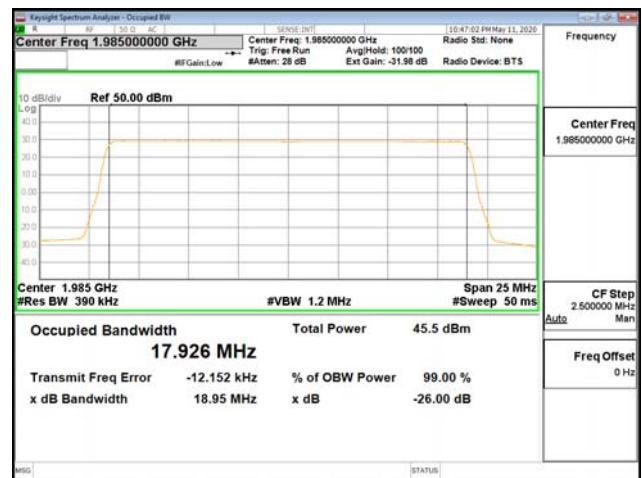
16QAM



64QAM

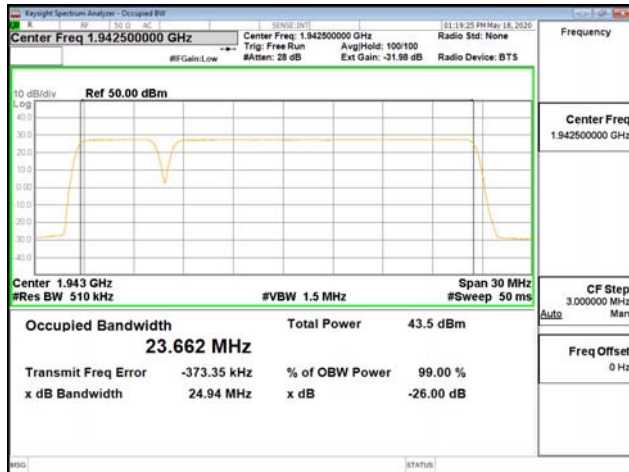


256QAM

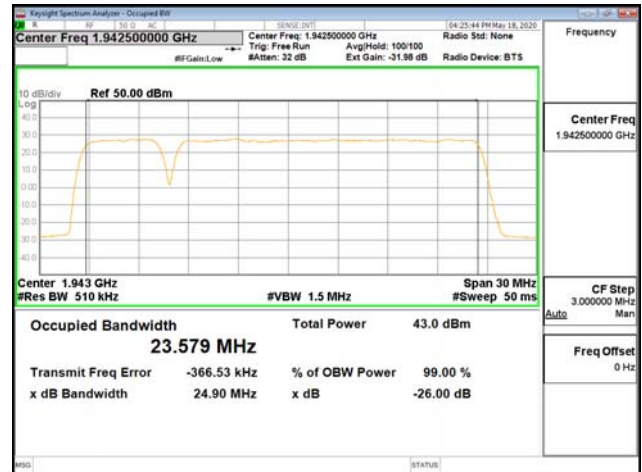


**Band 25, BW 5MHz + 20MHz, Multi 2 carrier, Bottom
ANT0**

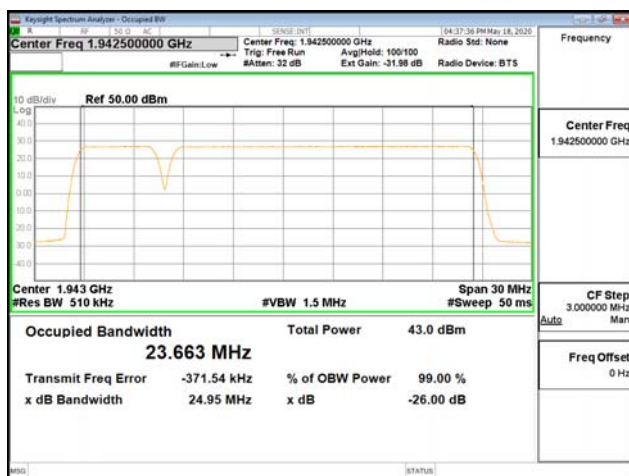
QPSK



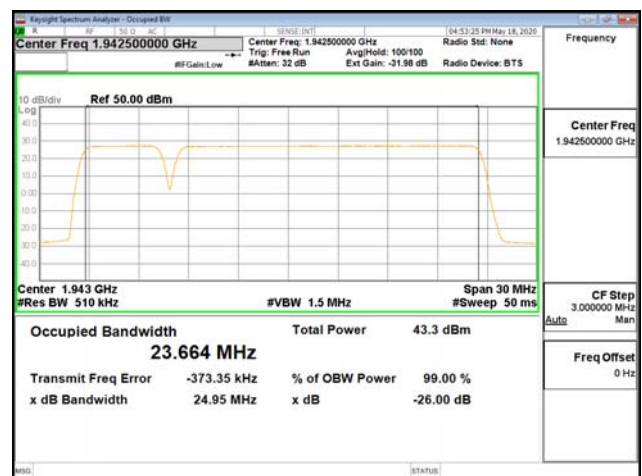
16QAM



64QAM

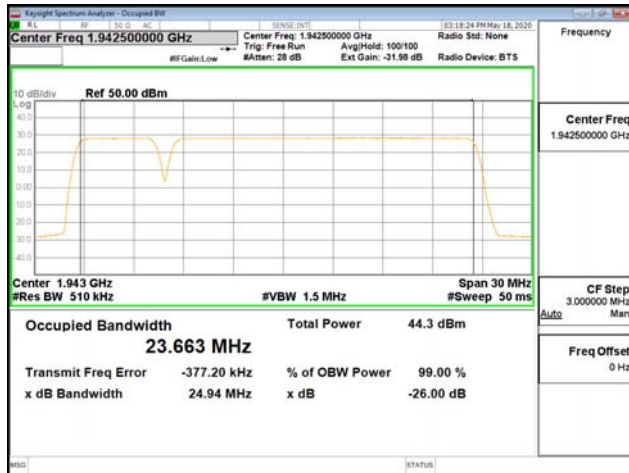


256QAM

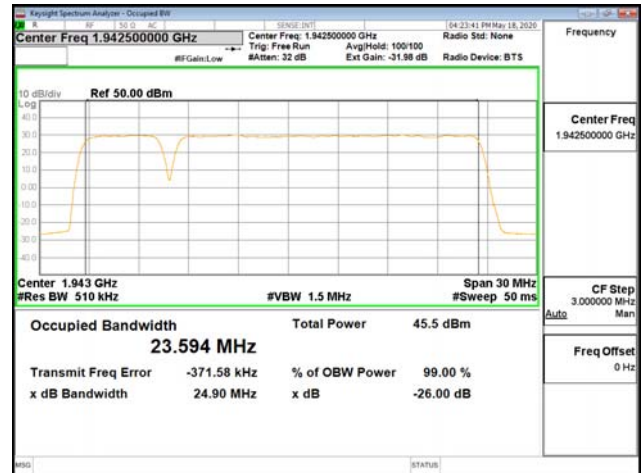


ANT1

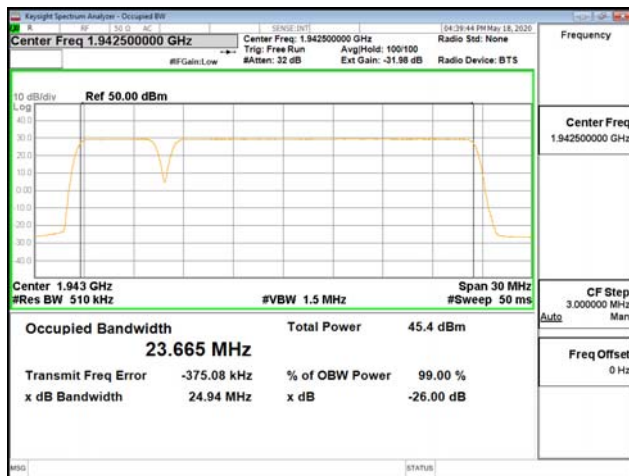
QPSK



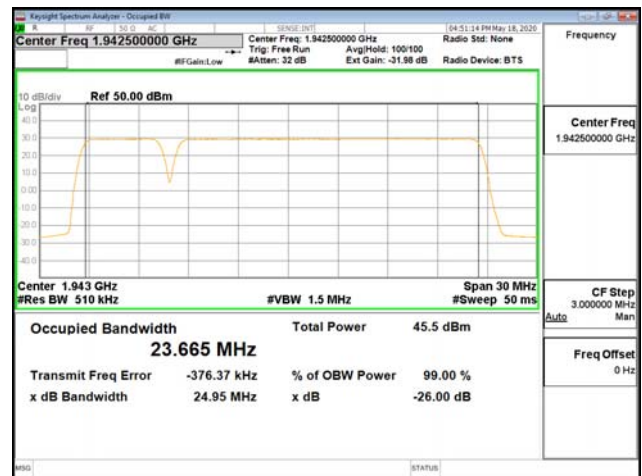
16QAM



64QAM

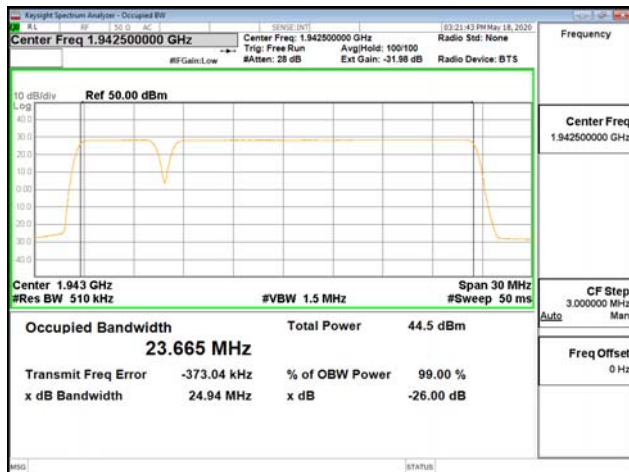


256QAM

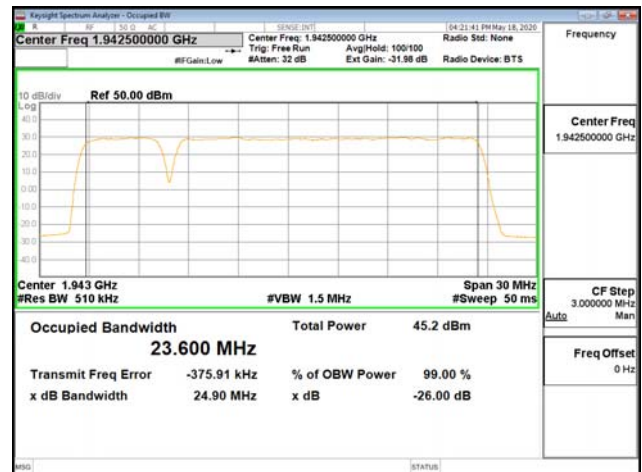


ANT2

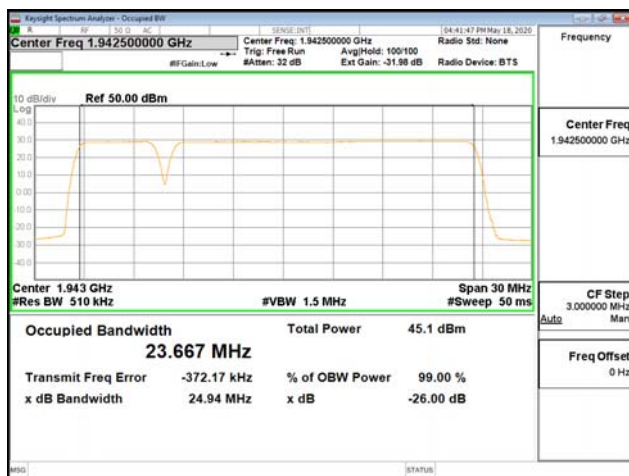
QPSK



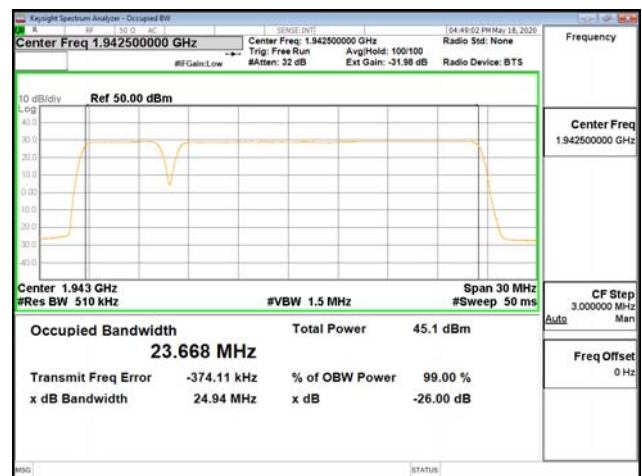
16QAM



64QAM

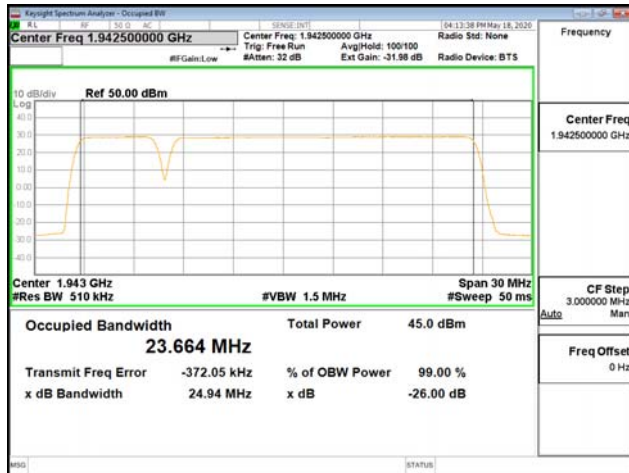


256QAM

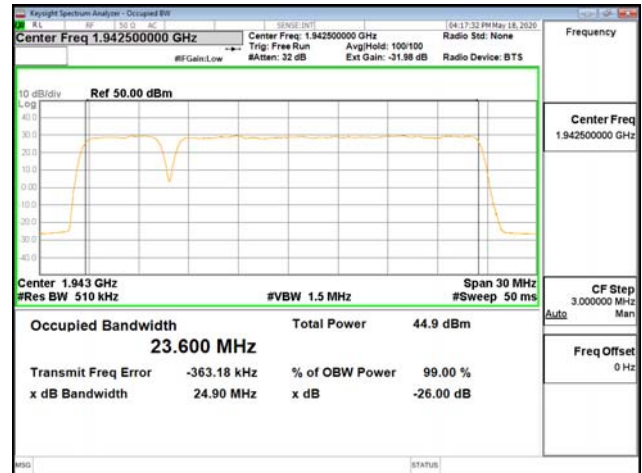


ANT3

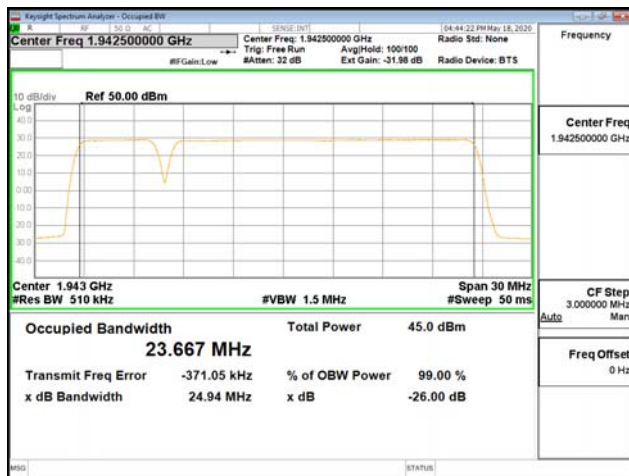
QPSK



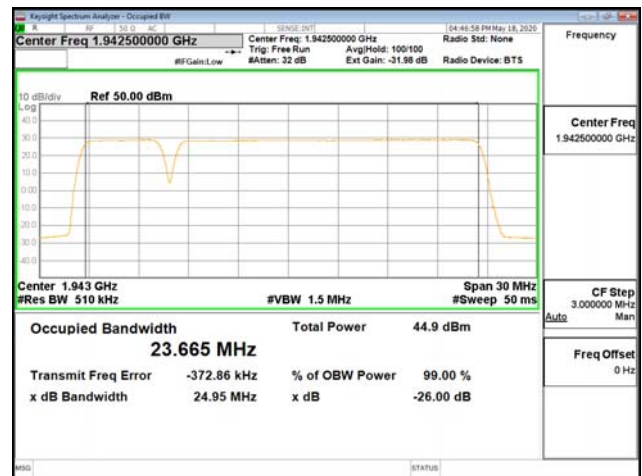
16QAM



64QAM

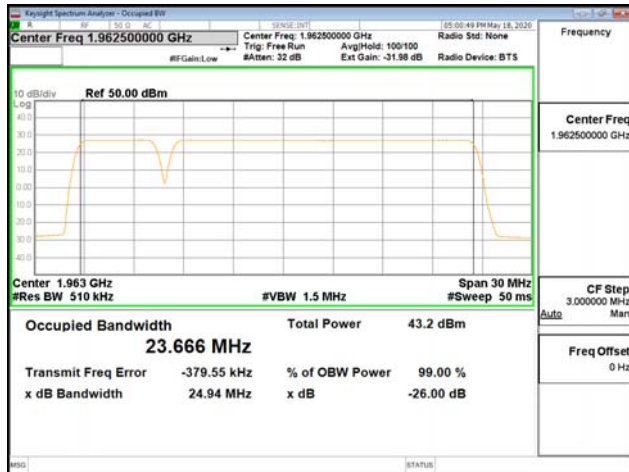


256QAM

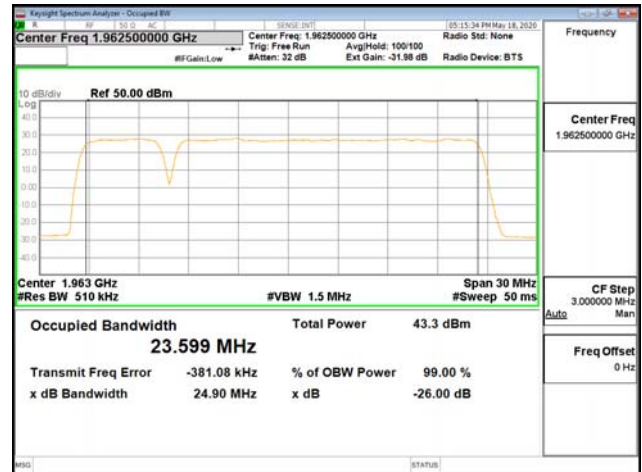


**Band 25, BW 5MHz +20MHz, Multi 2 carrier, Middle
ANT0**

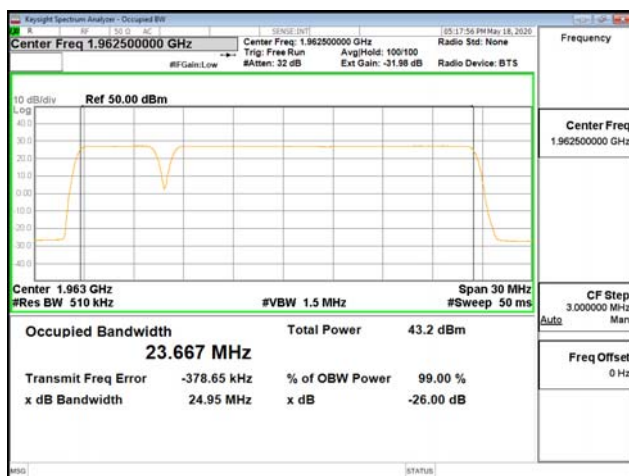
QPSK



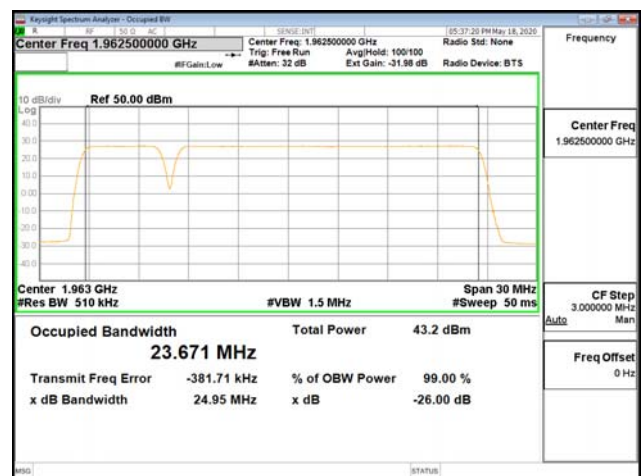
16QAM



64QAM

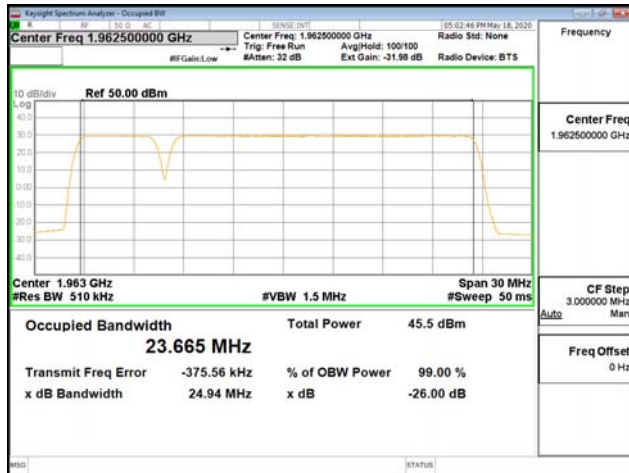


256QAM

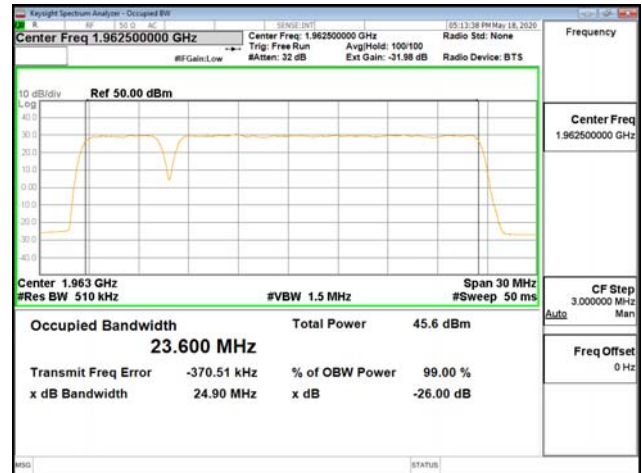


ANT1

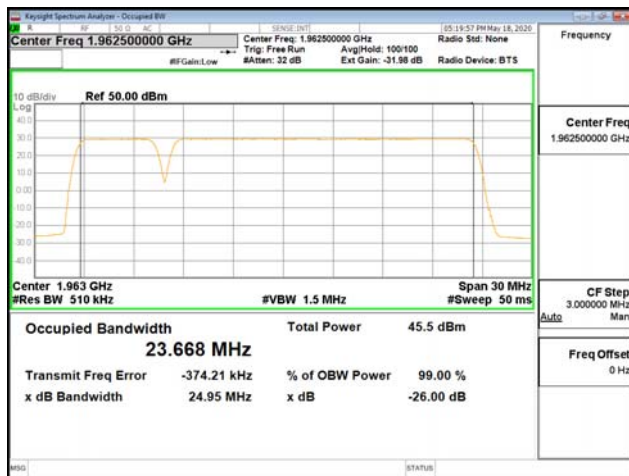
QPSK



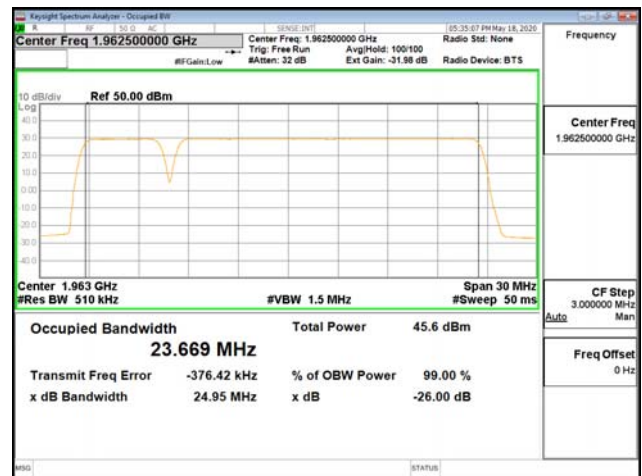
16QAM



64QAM

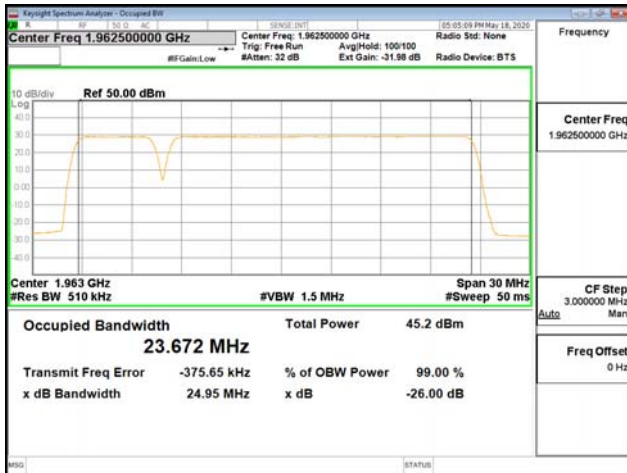


256QAM

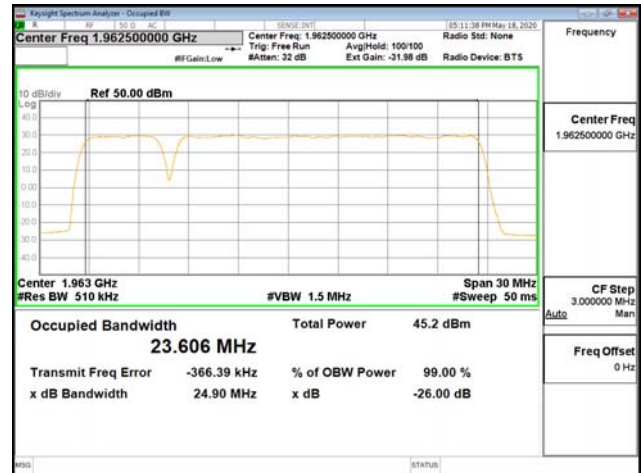


ANT2

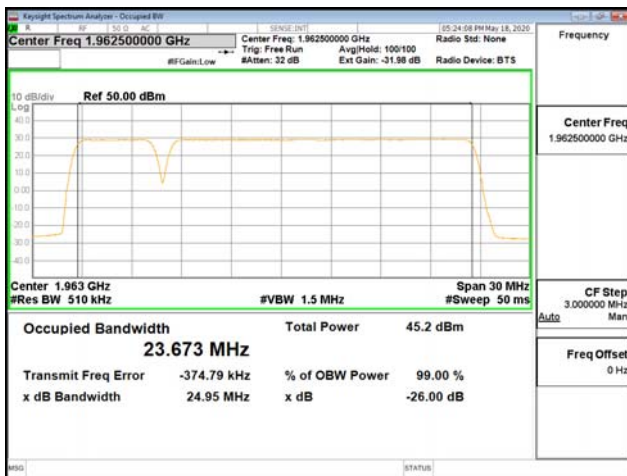
QPSK



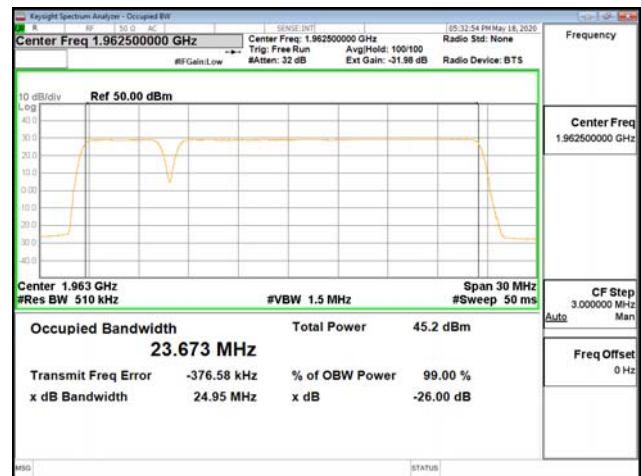
16QAM



64QAM

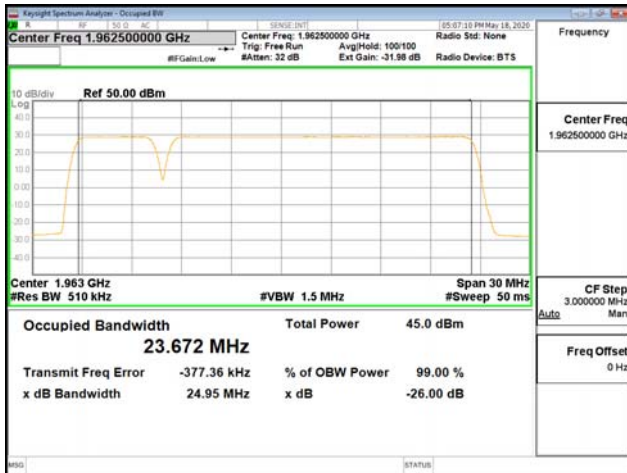


256QAM

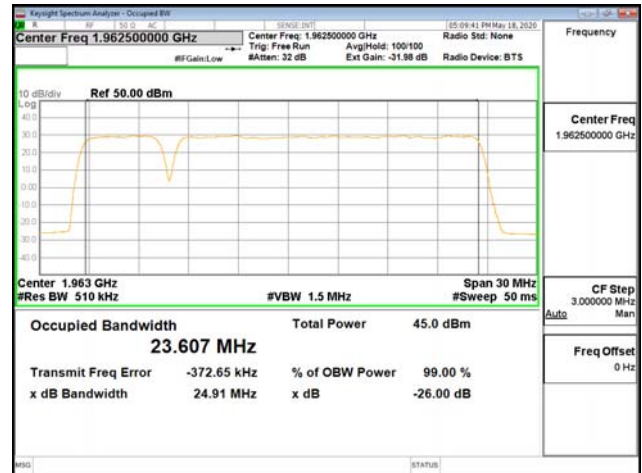


ANT3

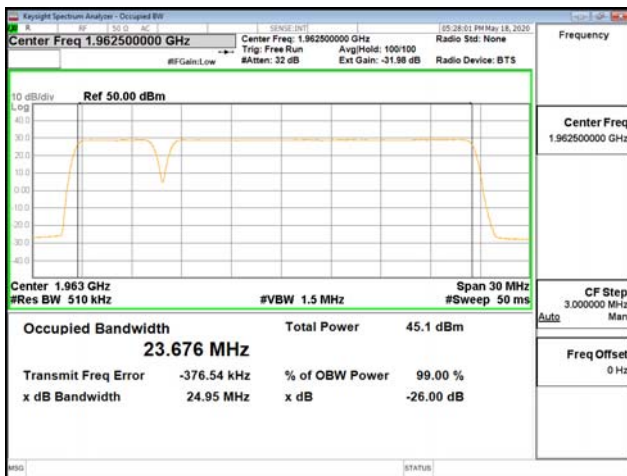
QPSK



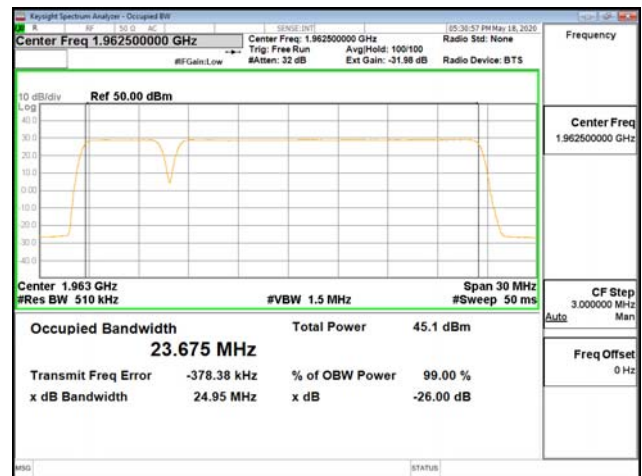
16QAM



64QAM

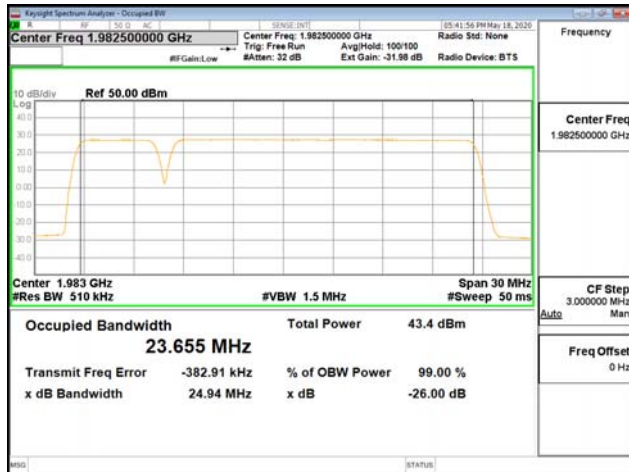


256QAM

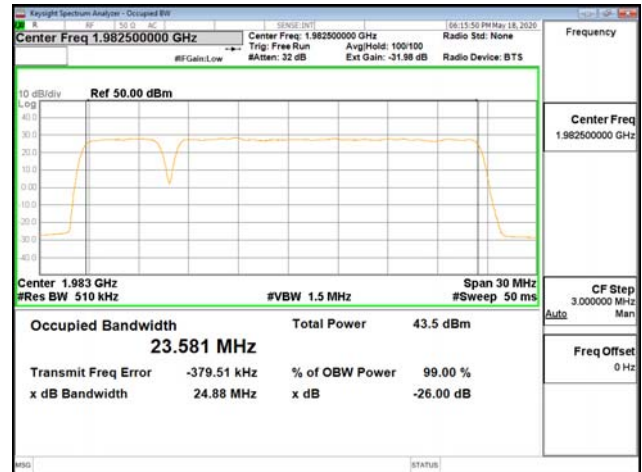


**Band 25, BW 5MHz +20MHz, Multi 2 carrier, Top
ANT0**

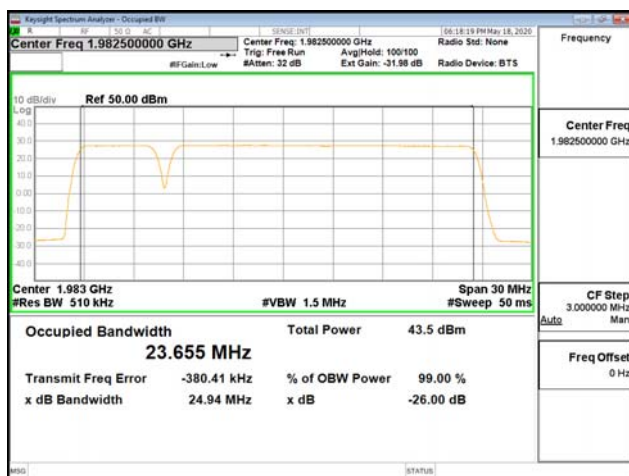
QPSK



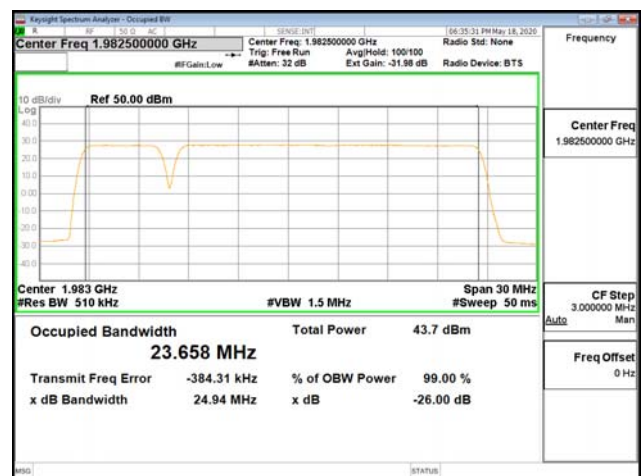
16QAM



64QAM

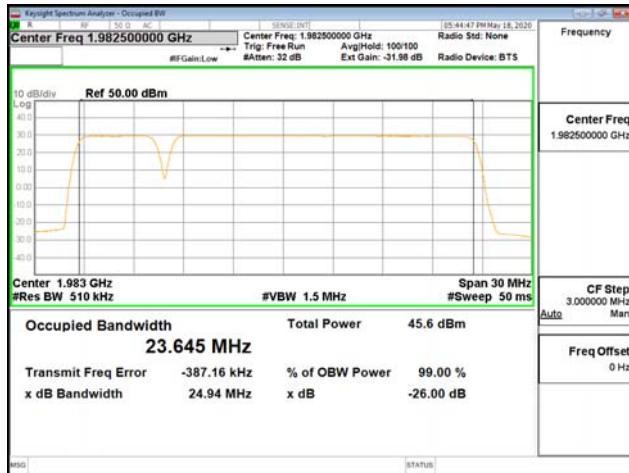


256QAM

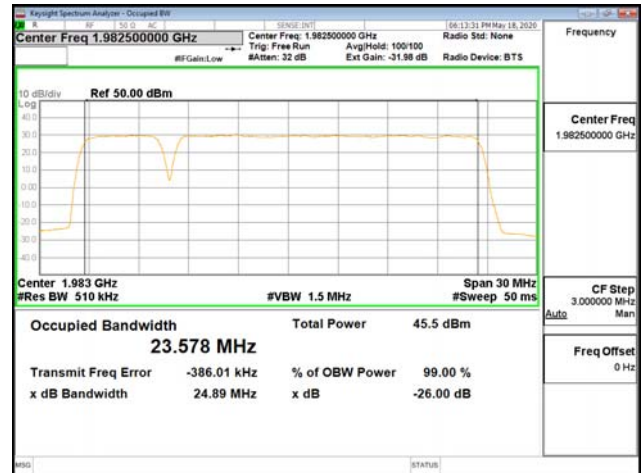


ANT1

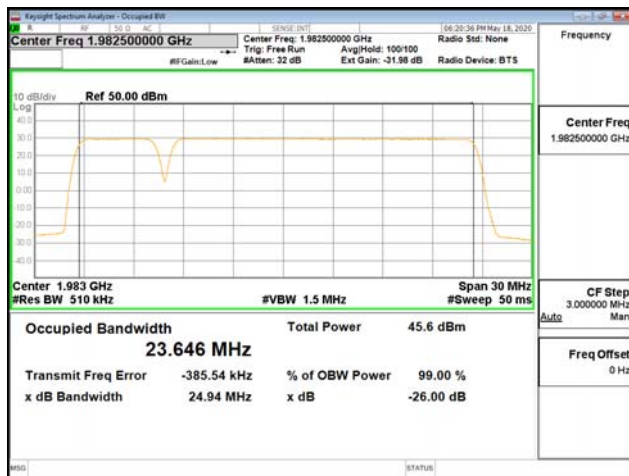
QPSK



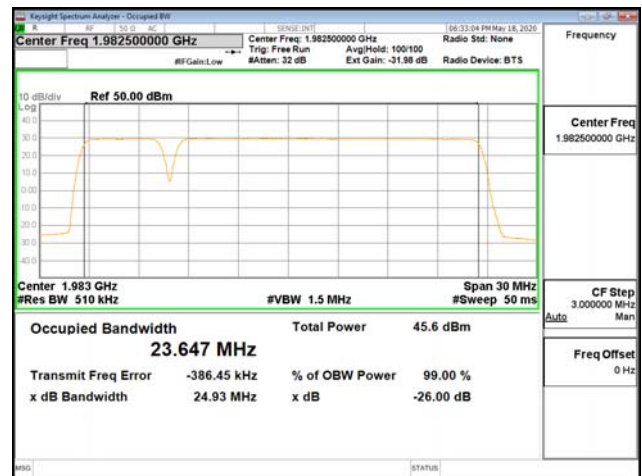
16QAM



64QAM

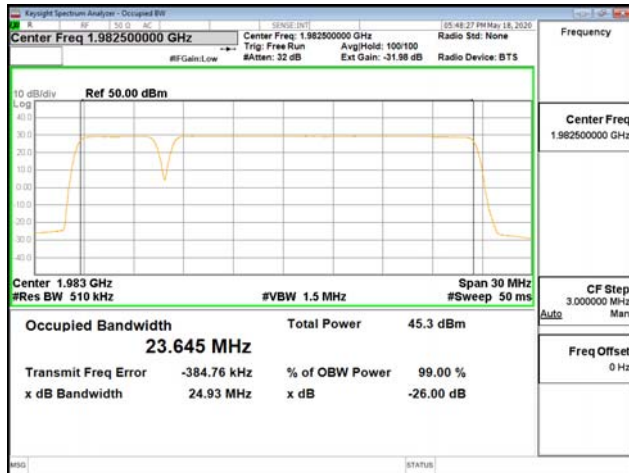


256QAM

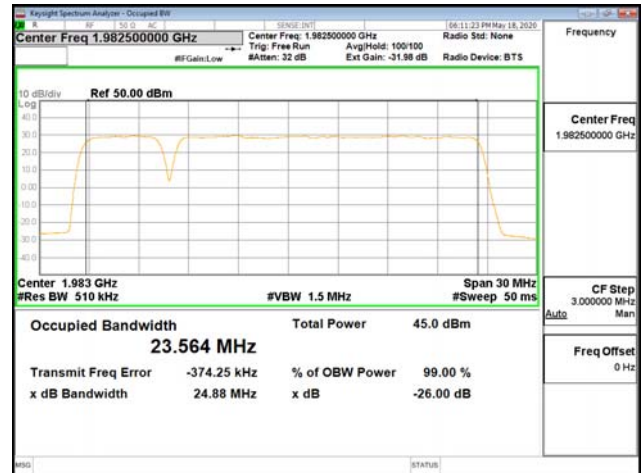


ANT2

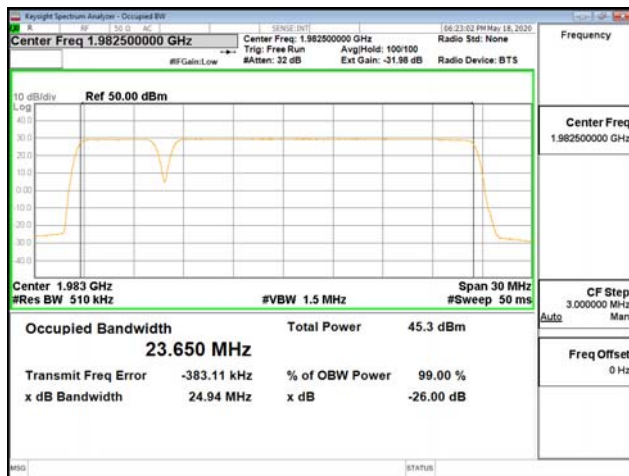
QPSK



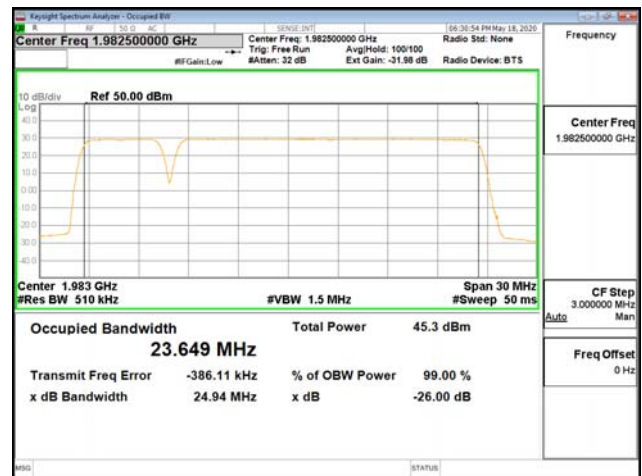
16QAM



64QAM

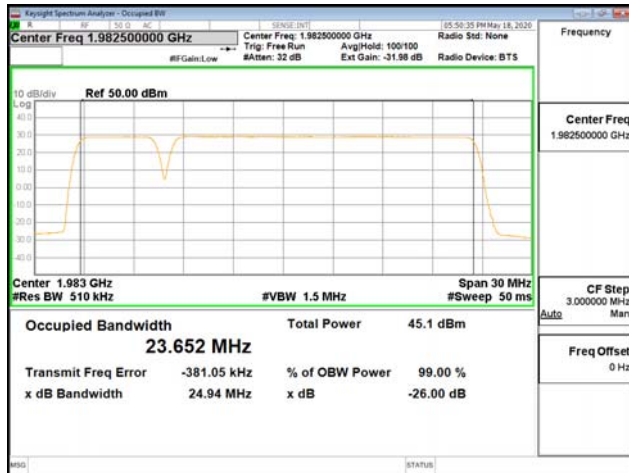


256QAM

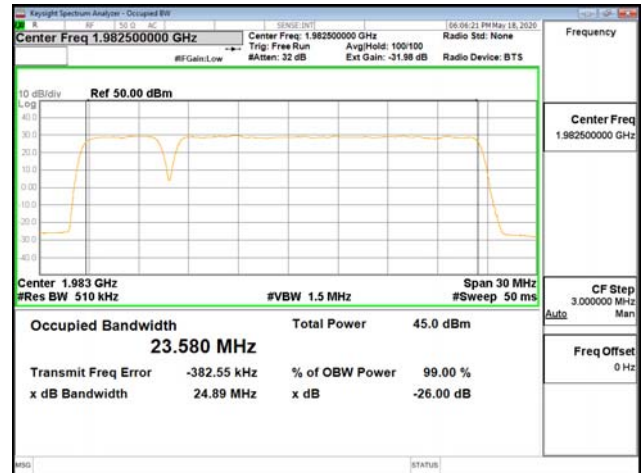


ANT3

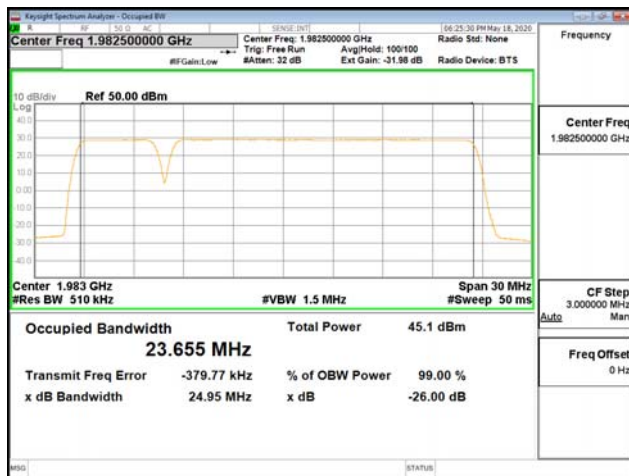
QPSK



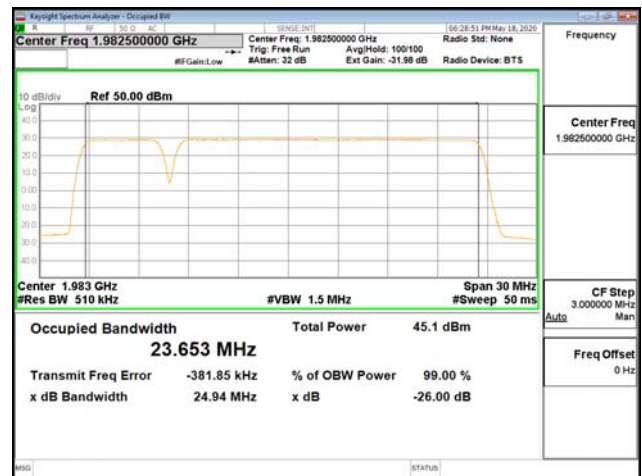
16QAM



64QAM

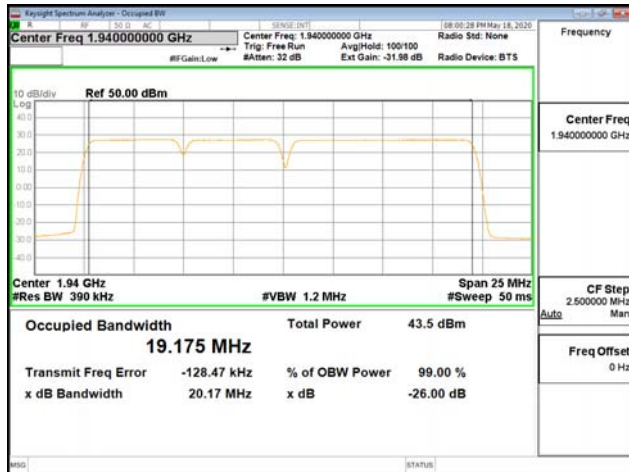


256QAM

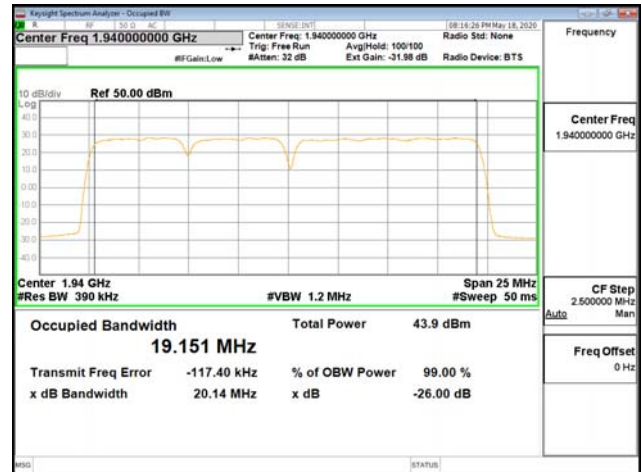


**Band 25, BW 5MHz+5MHz+10MHz, Multi 3 carrier, Bottom
ANT0**

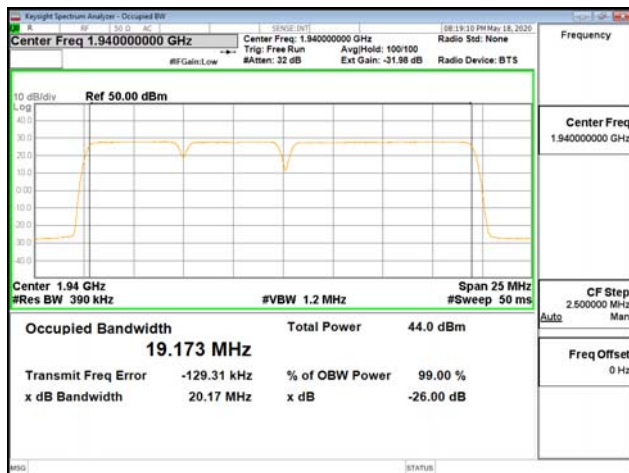
QPSK



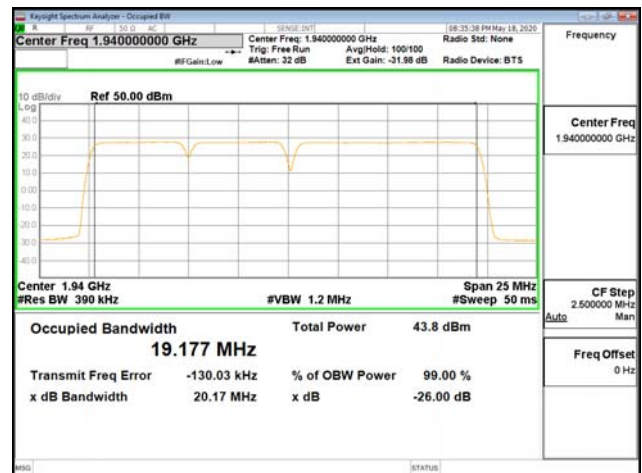
16QAM



64QAM

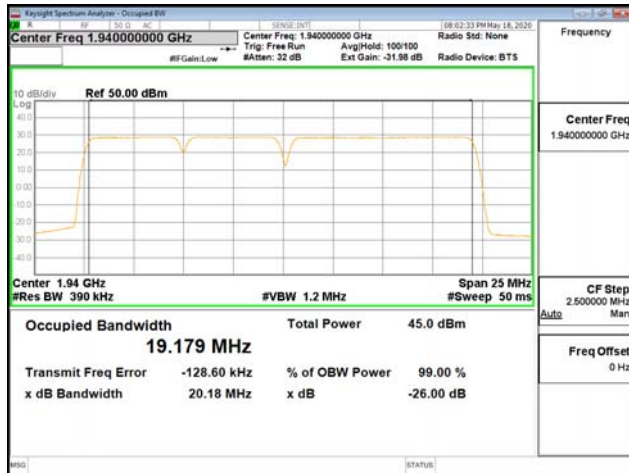


256QAM

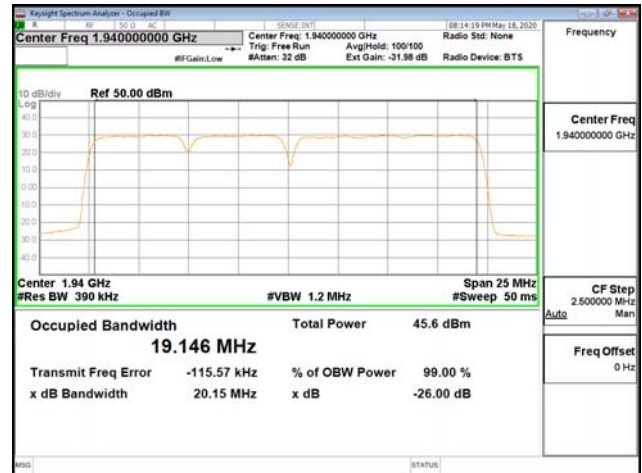


ANT1

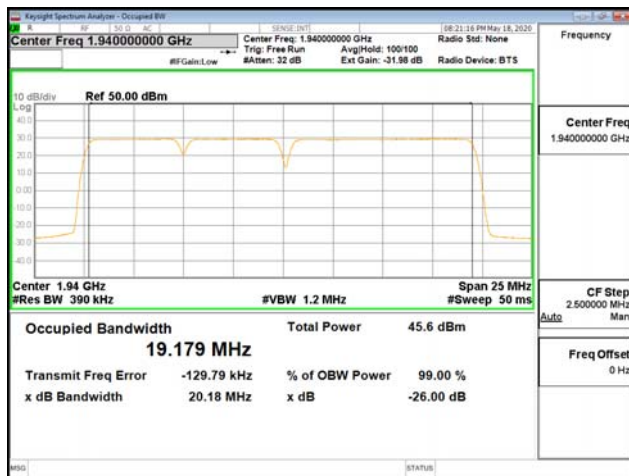
QPSK



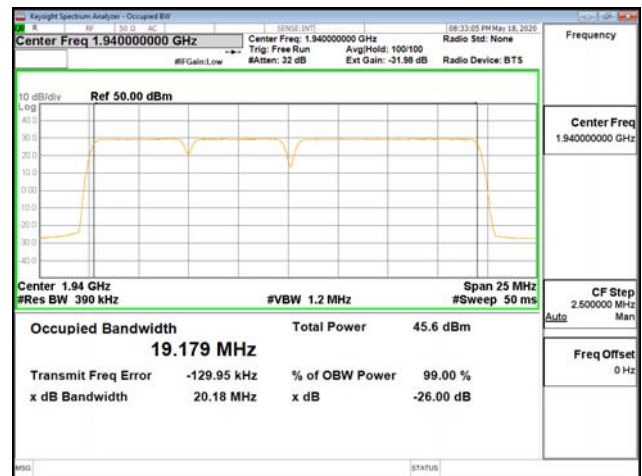
16QAM



64QAM

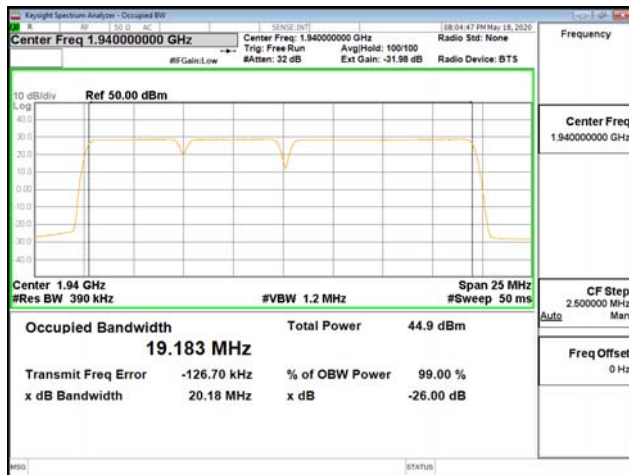


256QAM

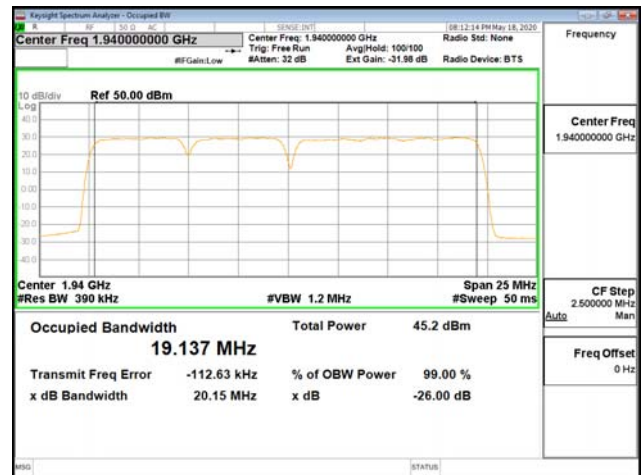


ANT2

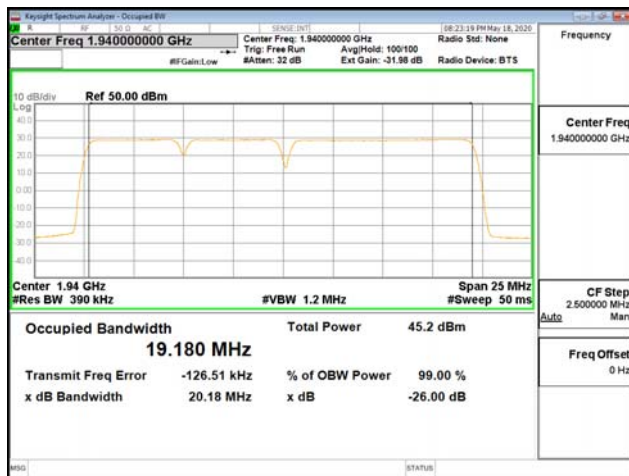
QPSK



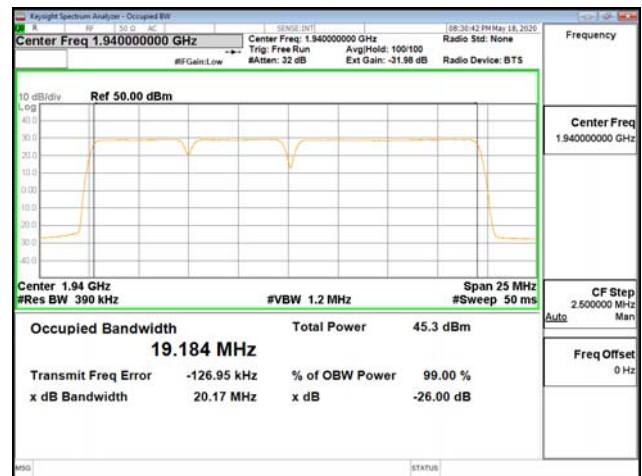
16QAM



64QAM

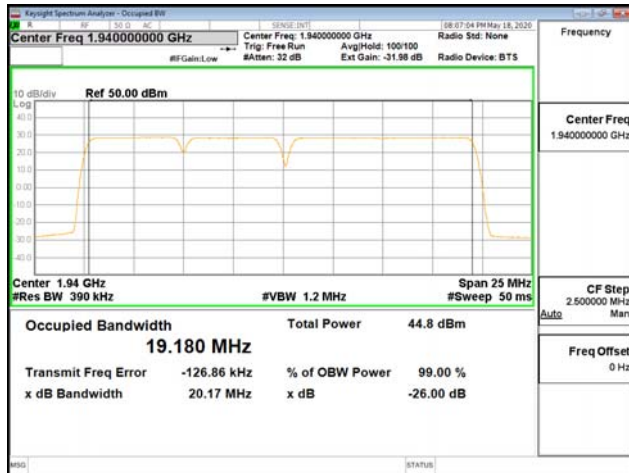


256QAM

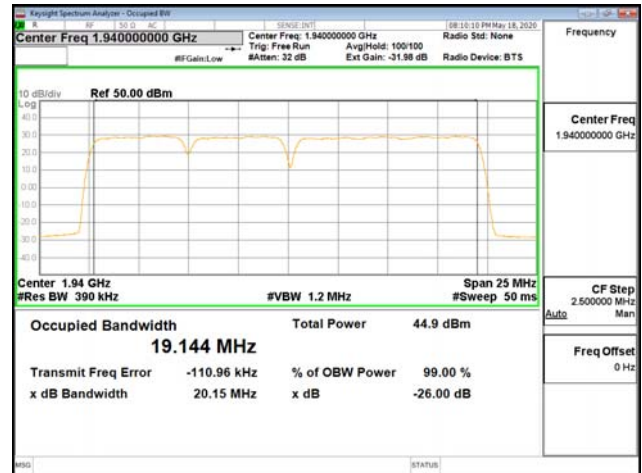


ANT3

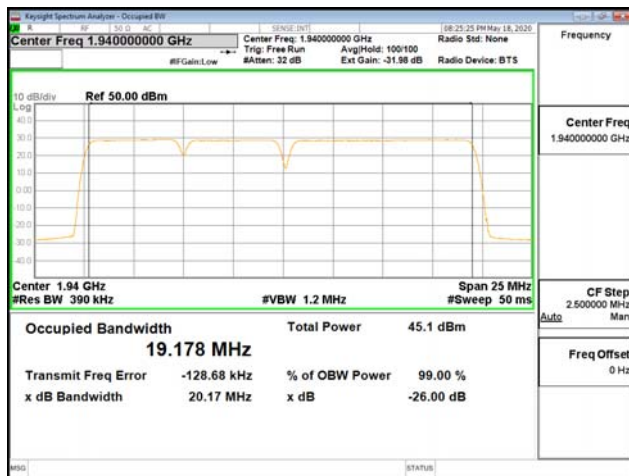
QPSK



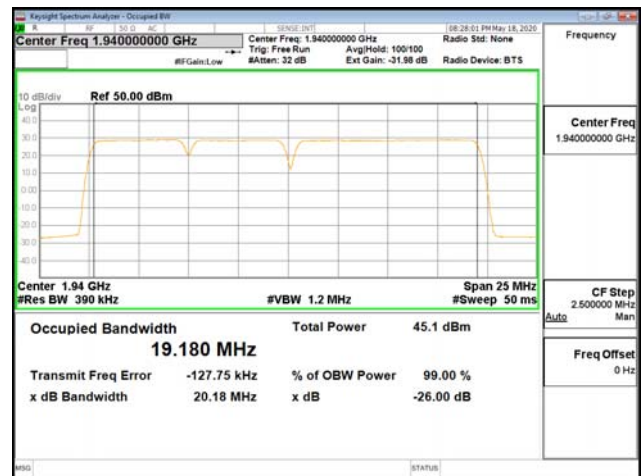
16QAM



64QAM

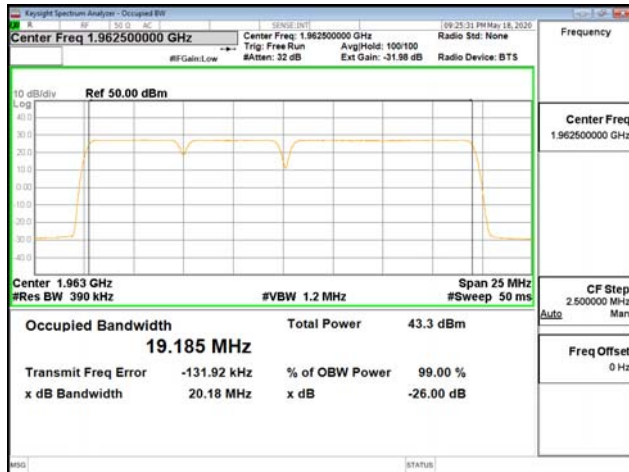


256QAM

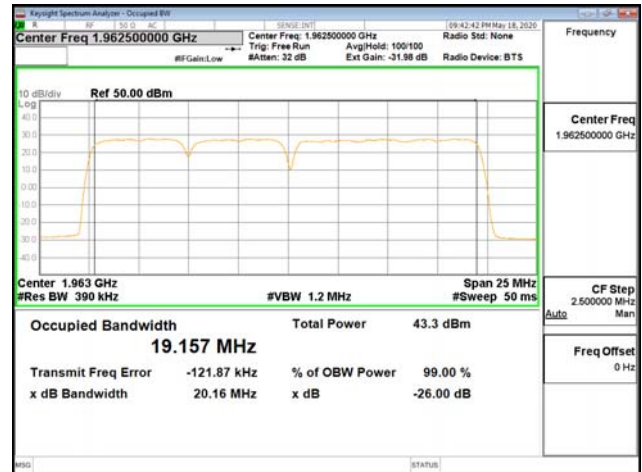


**Band 25, BW 5MHz+5MHz+10MHz, Multi 3 carrier, Middle
ANT0**

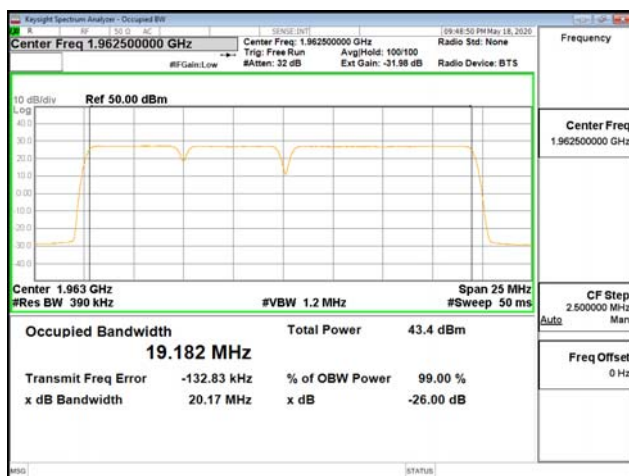
QPSK



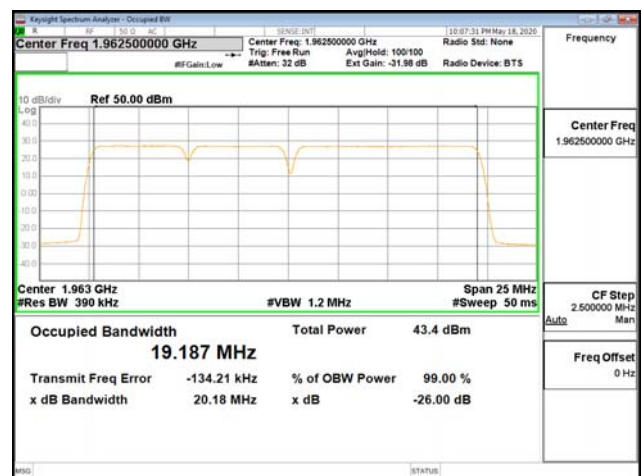
16QAM



64QAM

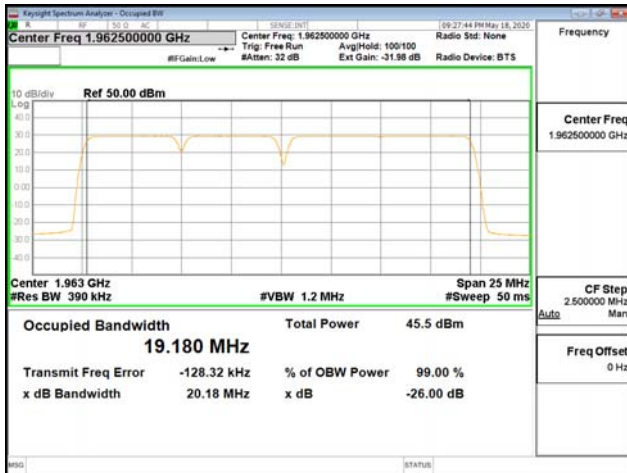


256QAM

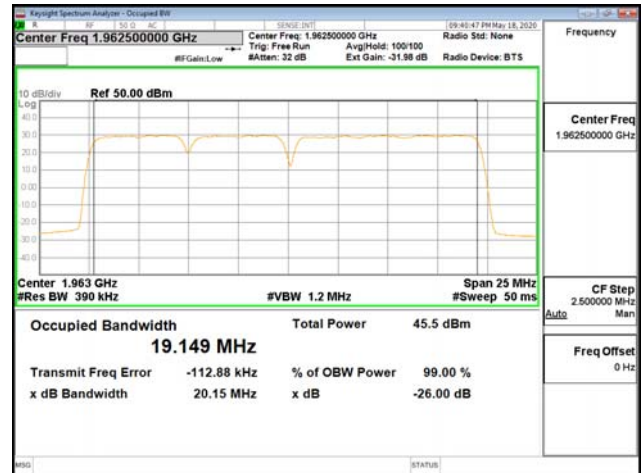


ANT1

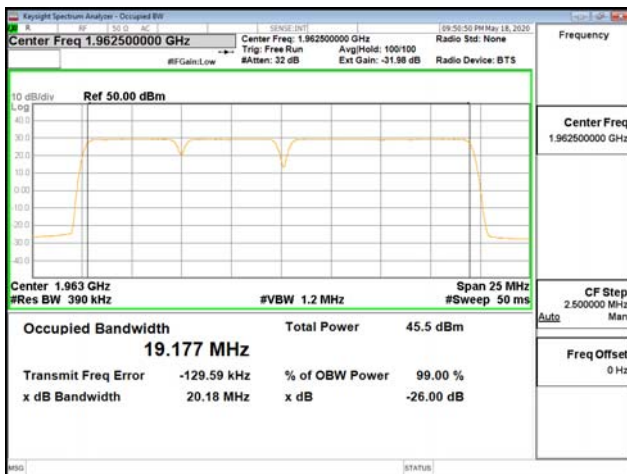
QPSK



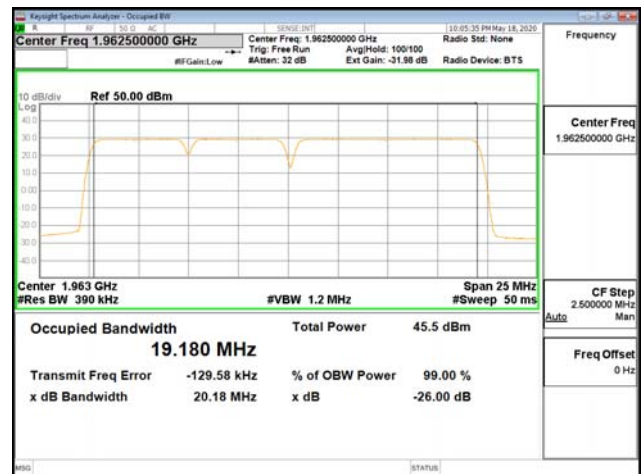
16QAM



64QAM

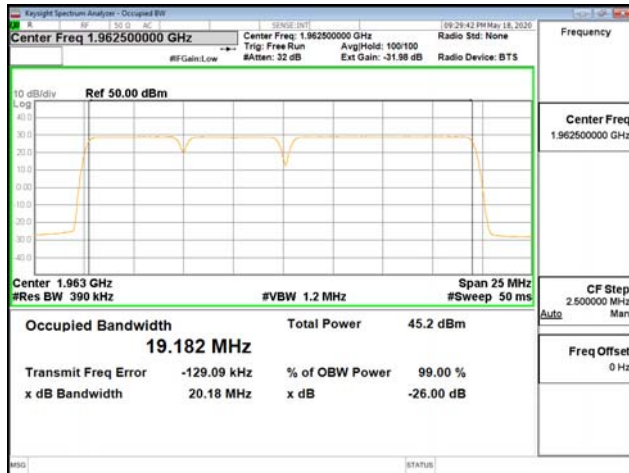


256QAM

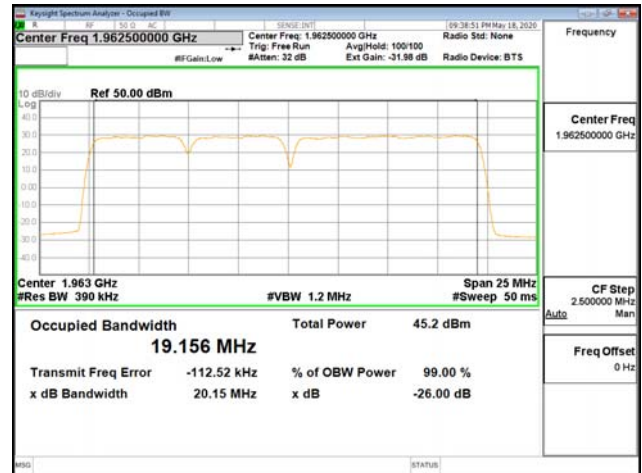


ANT2

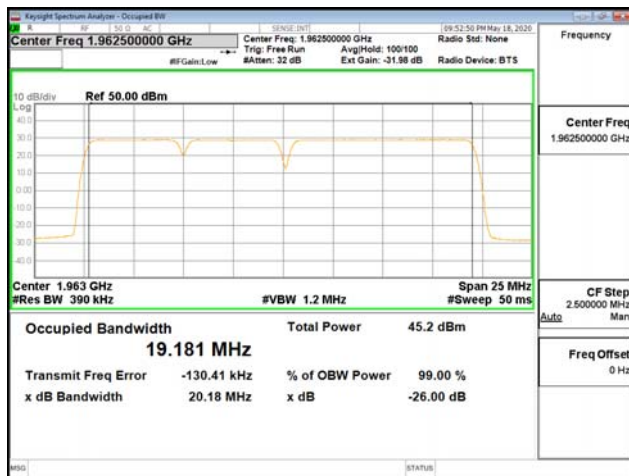
QPSK



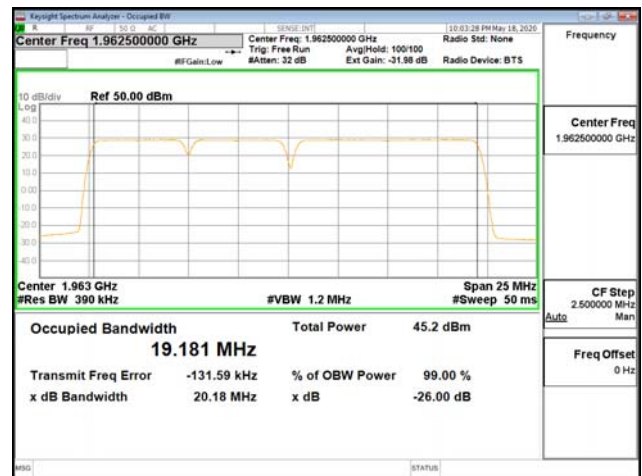
16QAM



64QAM

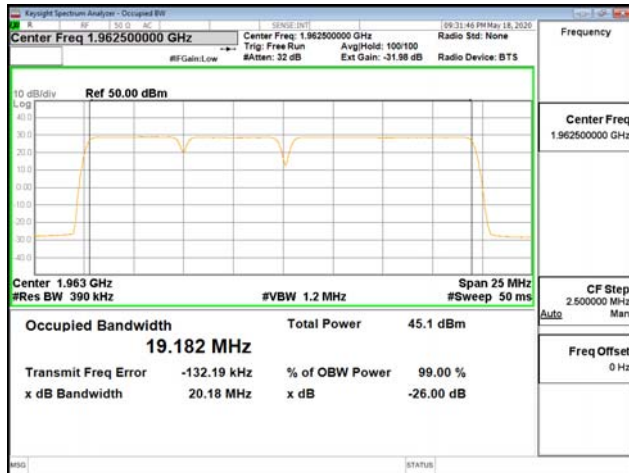


256QAM

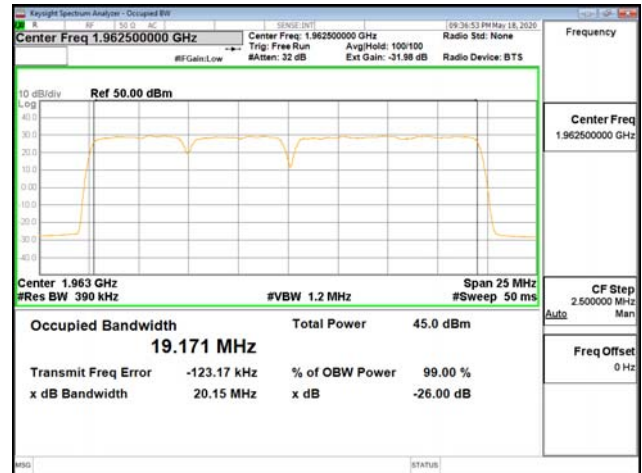


ANT3

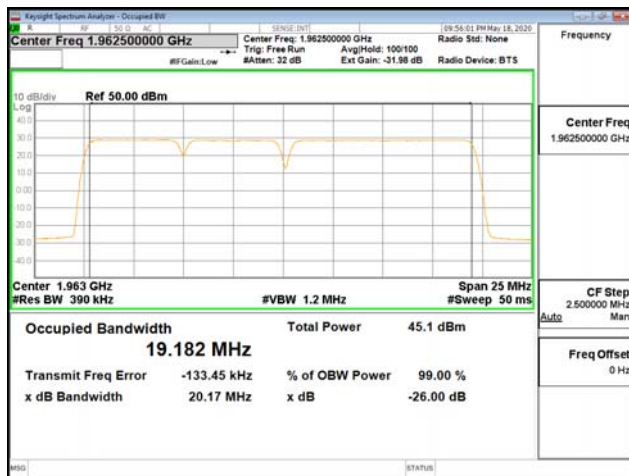
QPSK



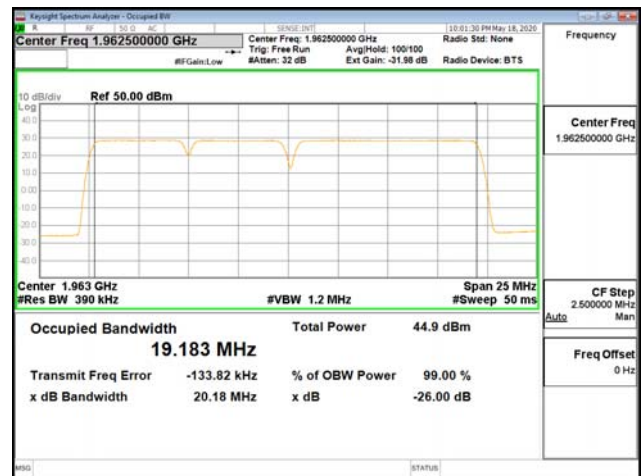
16QAM



64QAM

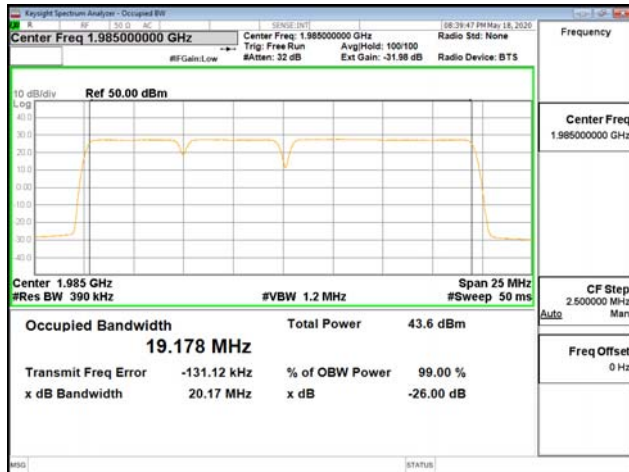


256QAM

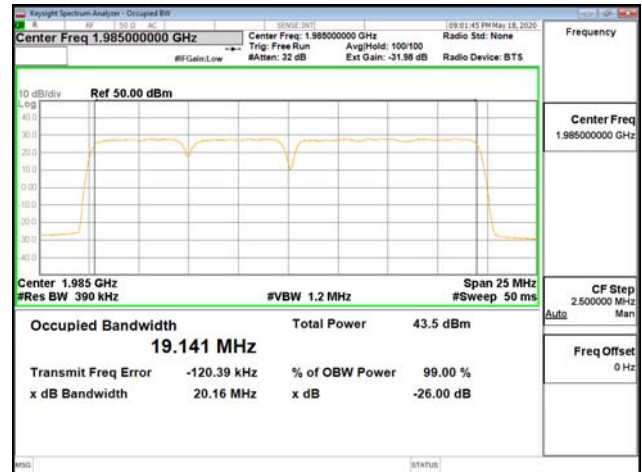


**Band 25, BW 5MHz+5MHz+10MHz, Multi 3 carrier, Top
ANT0**

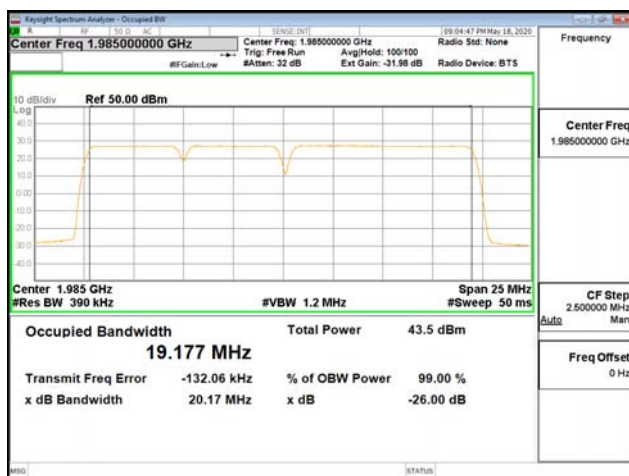
QPSK



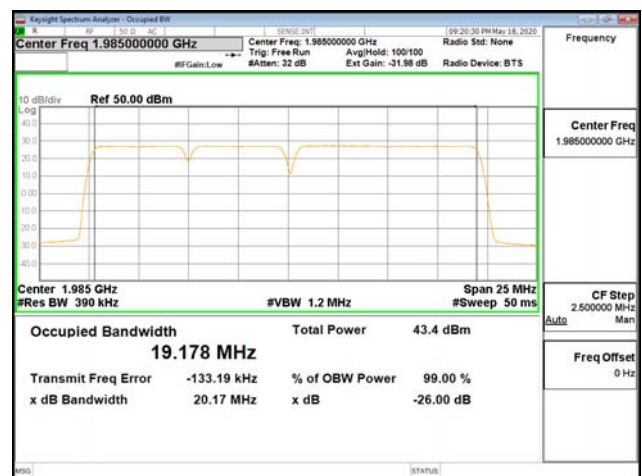
16QAM



64QAM

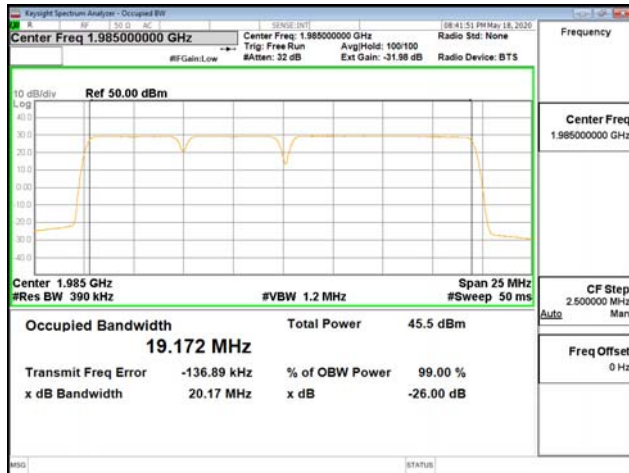


256QAM

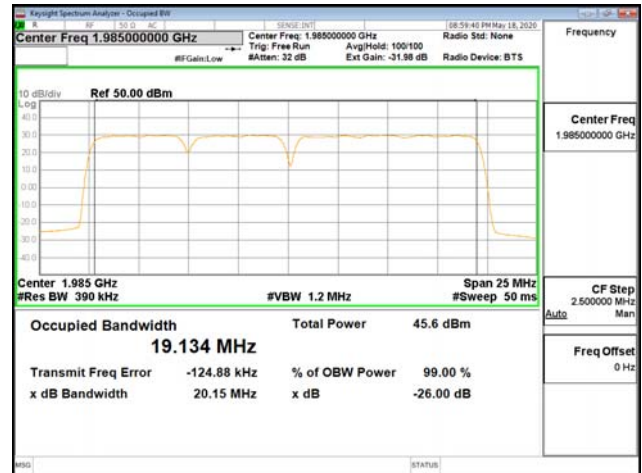


ANT1

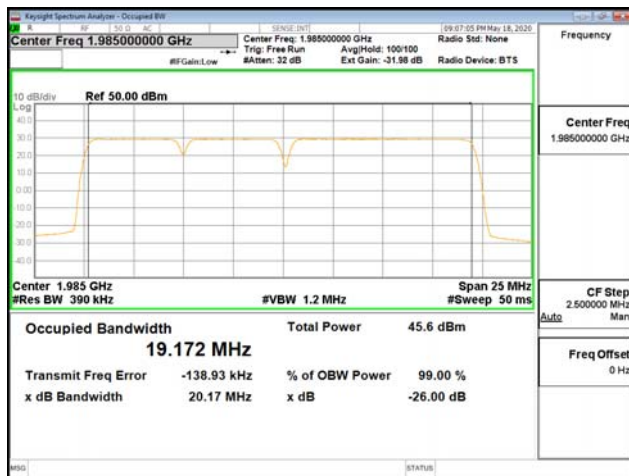
QPSK



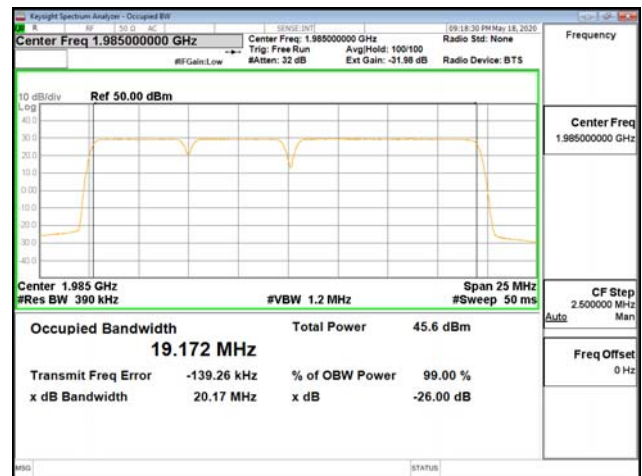
16QAM



64QAM

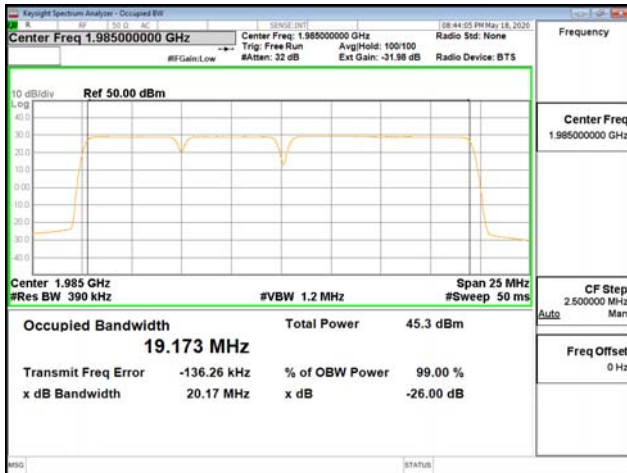


256QAM

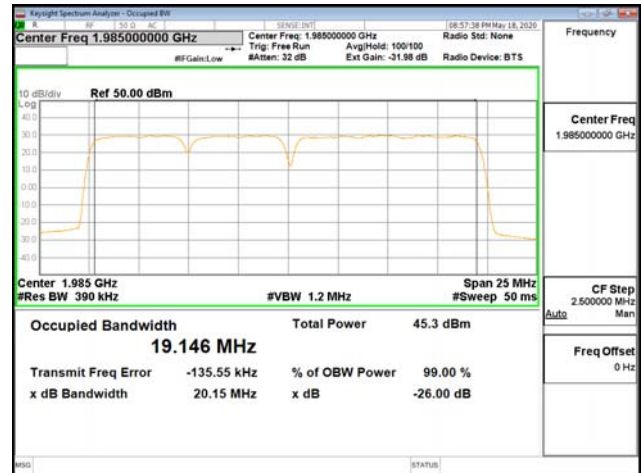


ANT2

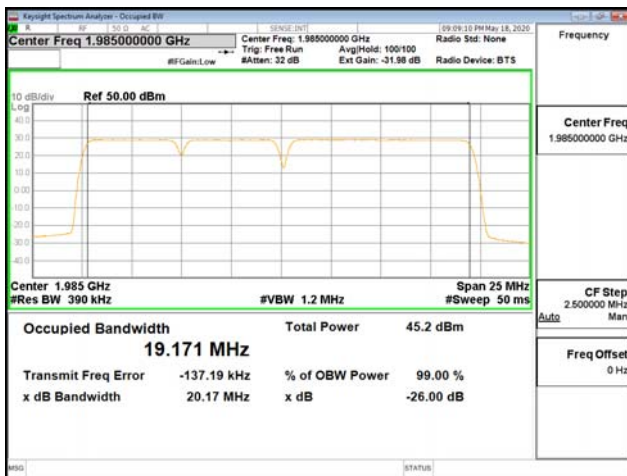
QPSK



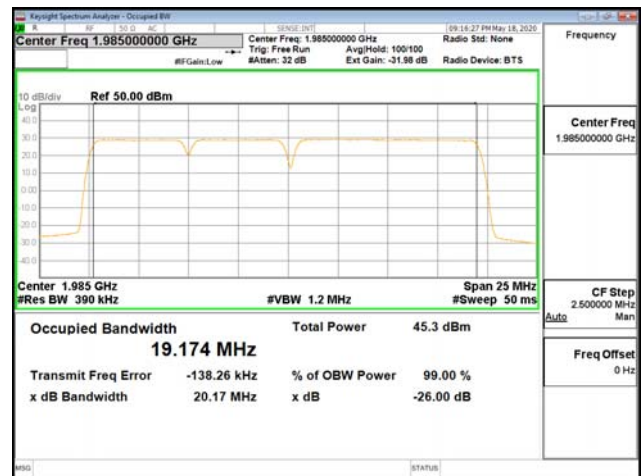
16QAM



64QAM

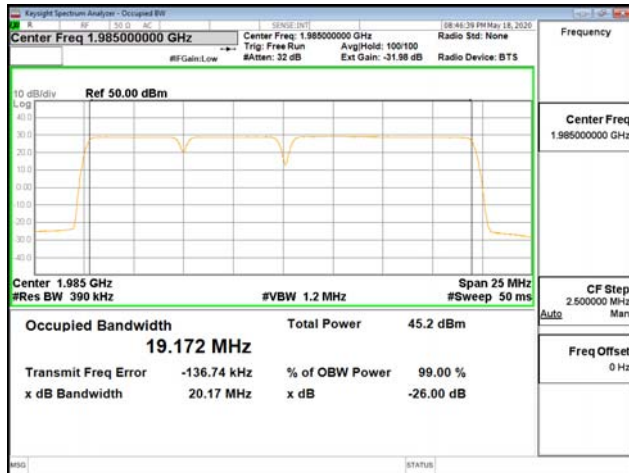


256QAM

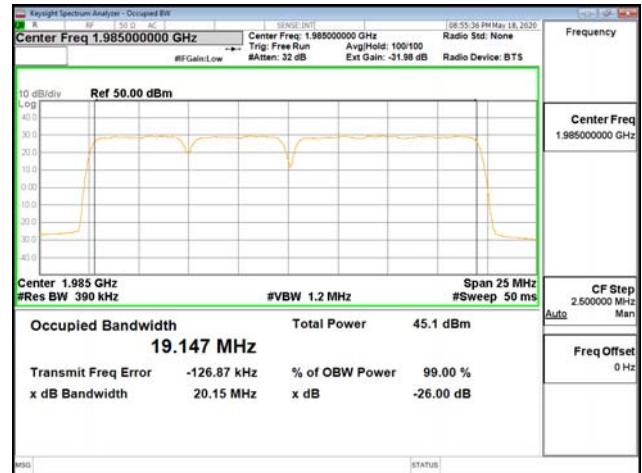


ANT3

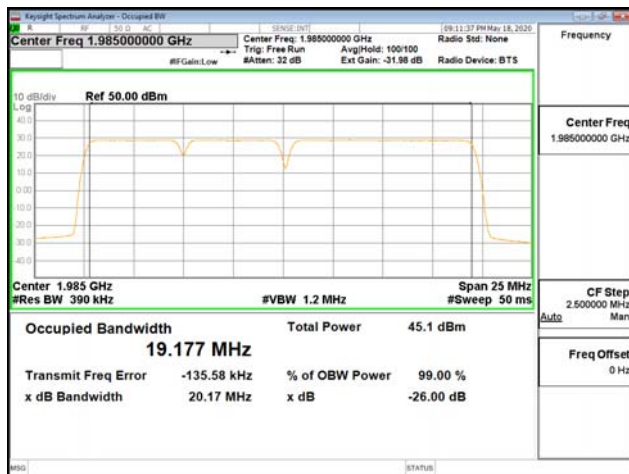
QPSK



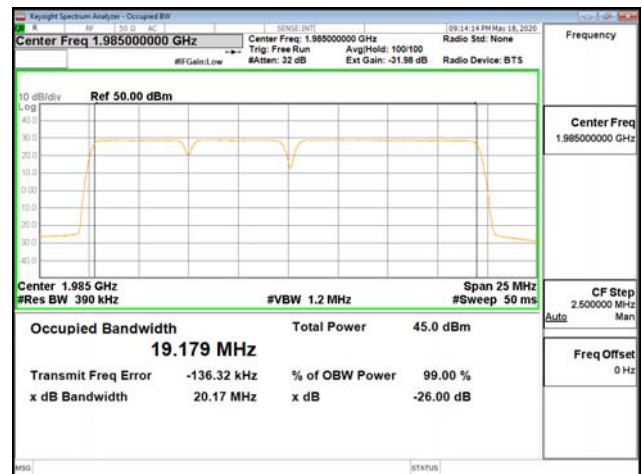
16QAM



64QAM



256QAM



	CTK Co., Ltd. (Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea Tel: +82-31-339-9970 Fax: +82-31-624-9501	Report No.: CTK-2020-01892 Page (177) / (497) Pages	
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6. Spurious Emission at Antenna Terminal

§ 24.238 Emission limitations for Broadband PCS equipment

The rules in this section govern the spectral characteristics of emissions in the Broadband Personal Communications Service.

(a) 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.

(b) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

Test Procedures :

The RF Output of the transceiver was connected to a spectrum analyzer through appropriate attenuation.

The resolution bandwidth of the spectrum analyzer was set at 100 kHz(below 1 GHz), 1 MHz(Above 1 GHz). Sufficient scans were taken to show any out of band emissions up to 10th harmonic.

Notes :

1. In 9 kHz - 10 kHz and 150 kHz - 30 MHz bands, RBW was reduced to 1% and 10% of the reference bandwidth for measuring unwanted emission level(typically, 100 kHz if the authorized frequency band is below 1 GHz) and power was integrated.(1% = +20 dB, 10% = +10 dB)
2. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its at maximum power, and at the appropriate frequencies.

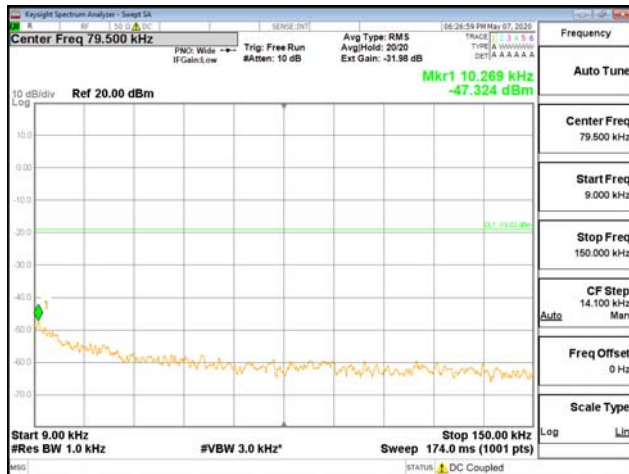
All modulation types were investigated to determine the worst case configuration.

All modulation types of operation were investigated and the worst case configuration results are reported in this section. (Worst case : QPSK, 64QAM)

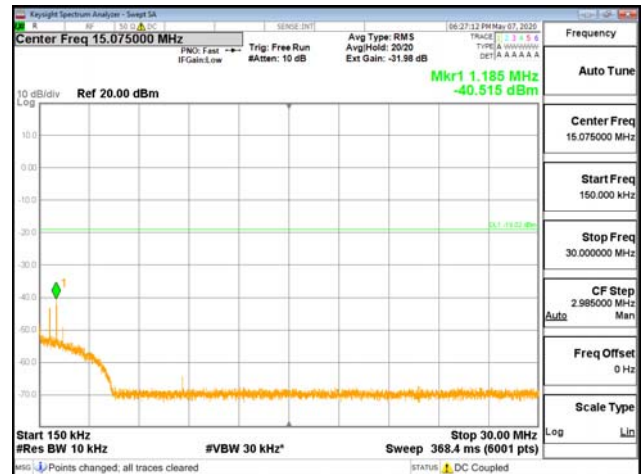
Test Plot at Spurious Emissions

**Band 25, BW 5MHz, Single carrier, Bottom, QPSK
ANT0**

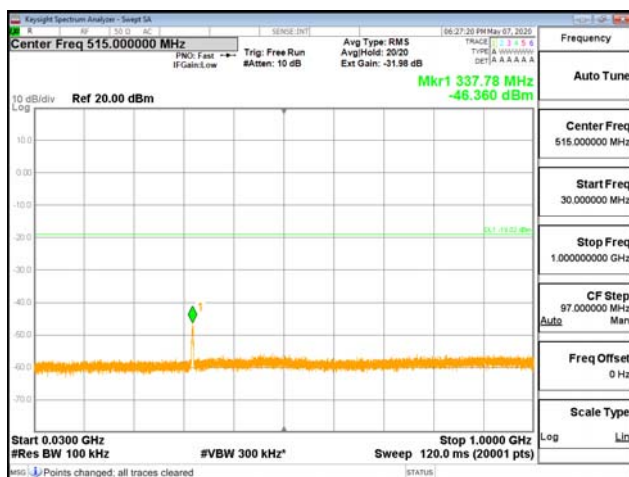
9 kHz - 150 kHz



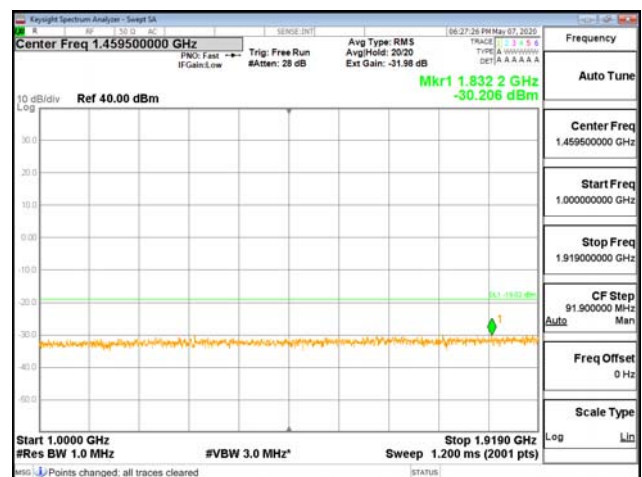
150 kHz - 30 MHz



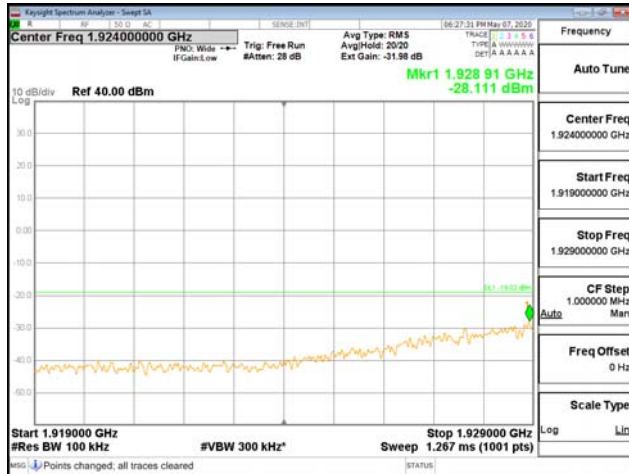
30 MHz - 1000 MHz



1000 MHz - 1919 MHz



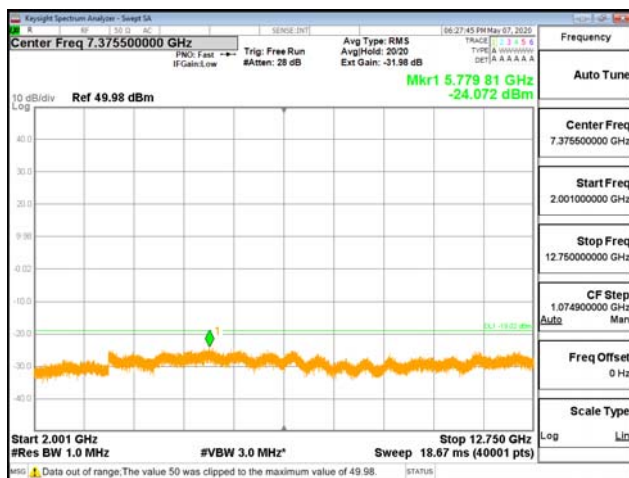
1919 MHz - 1929 MHz



1996MHz - 2001MHz



2001 MHz - 12.75GHz

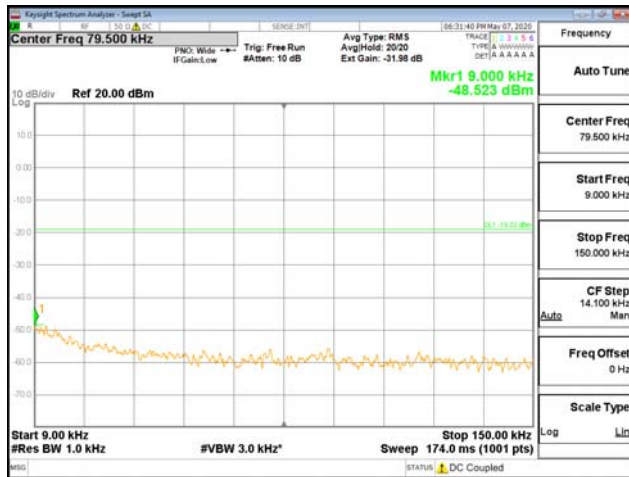


12.75GHz - 26.5GHz

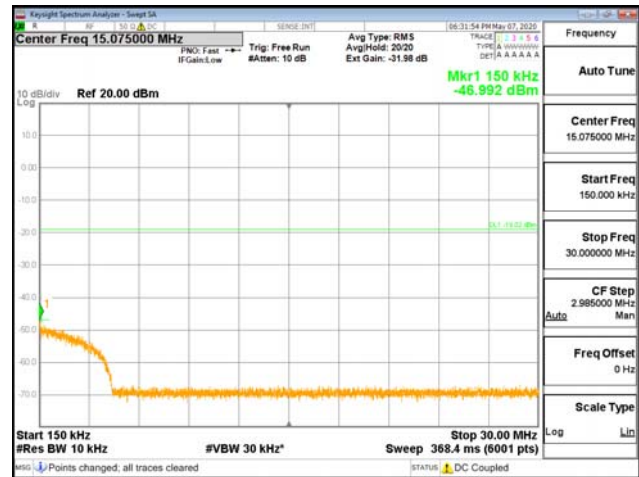


ANT1

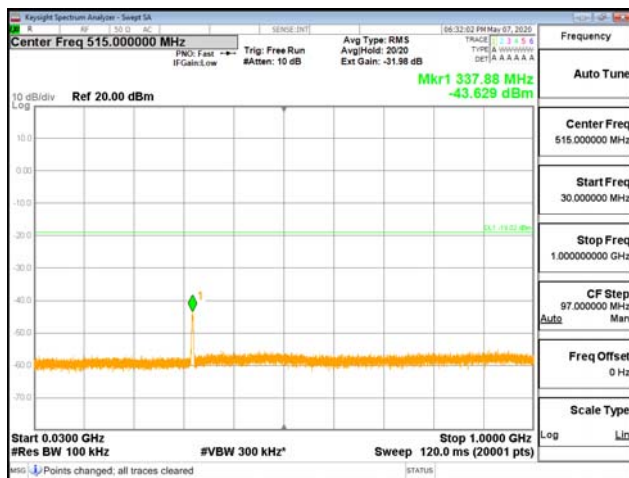
9 kHz - 150 kHz



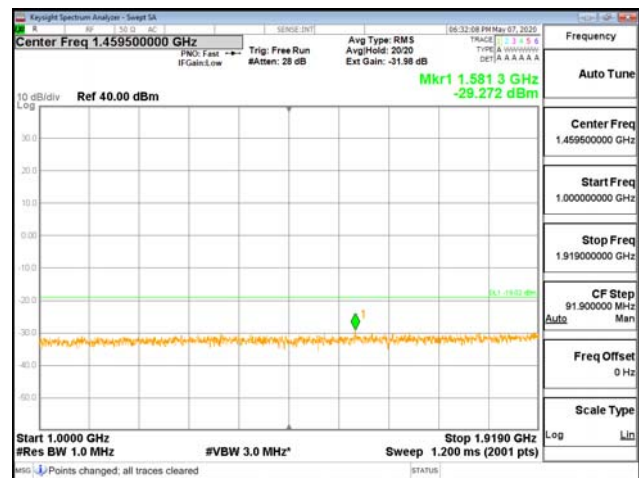
150 kHz - 30 MHz



30 MHz - 1000 MHz



1000 MHz - 1919 MHz



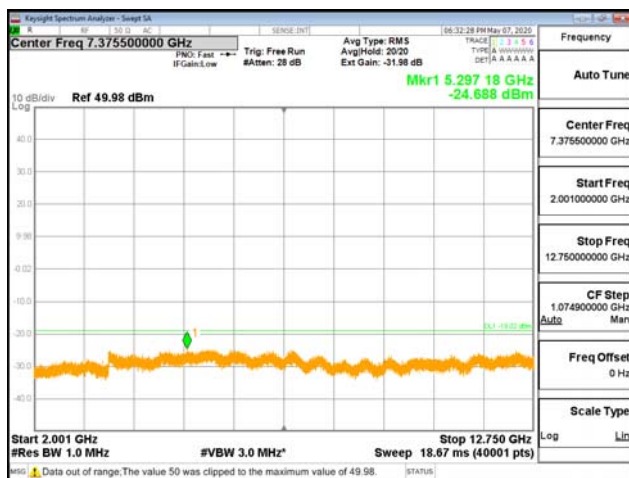
1919 MHz - 1929 MHz



1996MHz - 2001MHz



2001 MHz - 12.75GHz

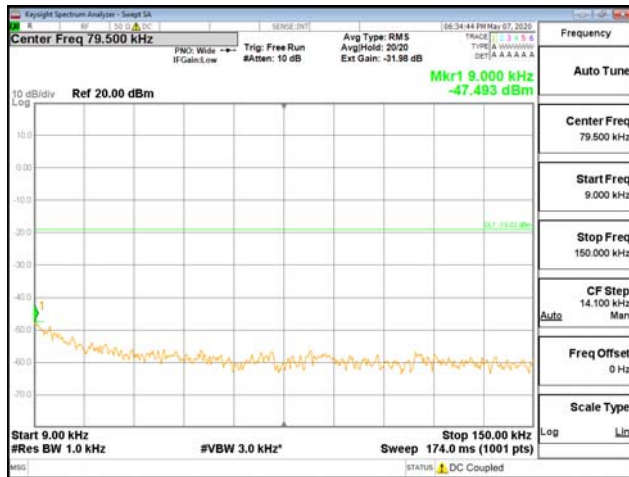


12.75GHz - 26.5GHz

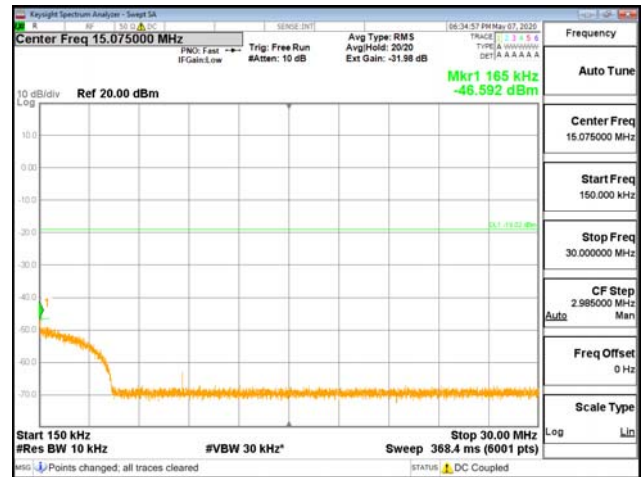


ANT2

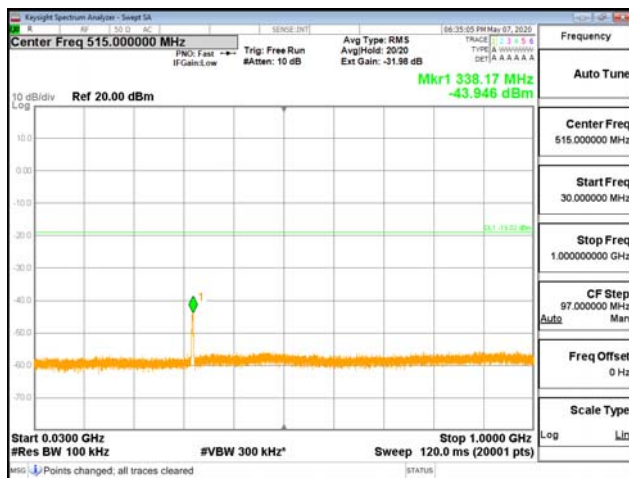
9 kHz - 150 kHz



150 kHz - 30 MHz



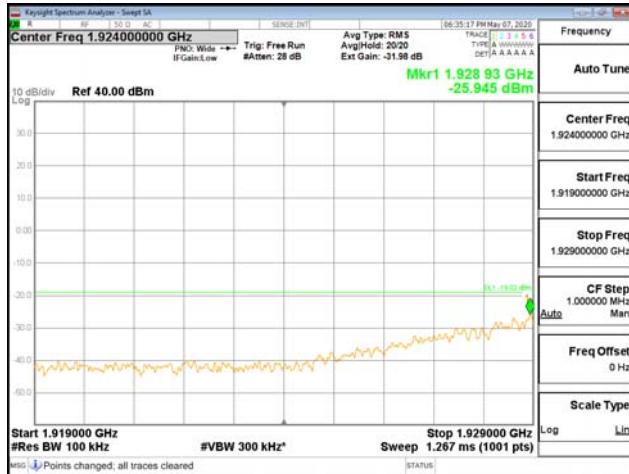
30 MHz - 1000 MHz



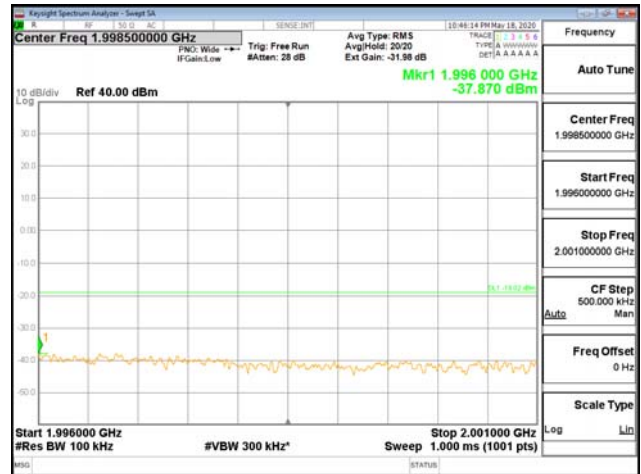
1000 MHz - 1919 MHz



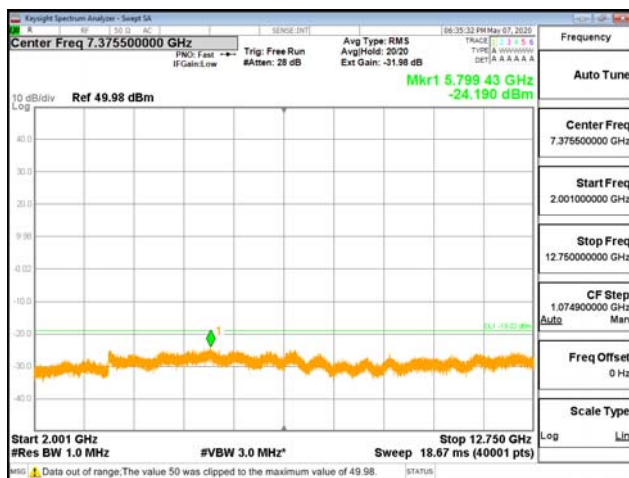
1919 MHz - 1929 MHz



1996MHz - 2001MHz



2001 MHz - 12.75GHz

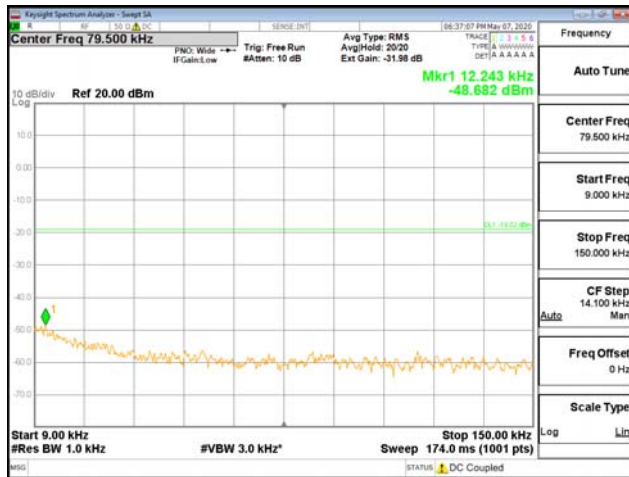


12.75GHz - 26.5GHz

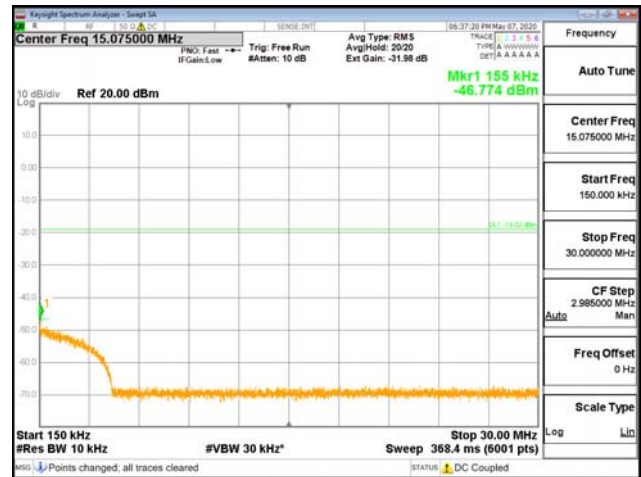


ANT3

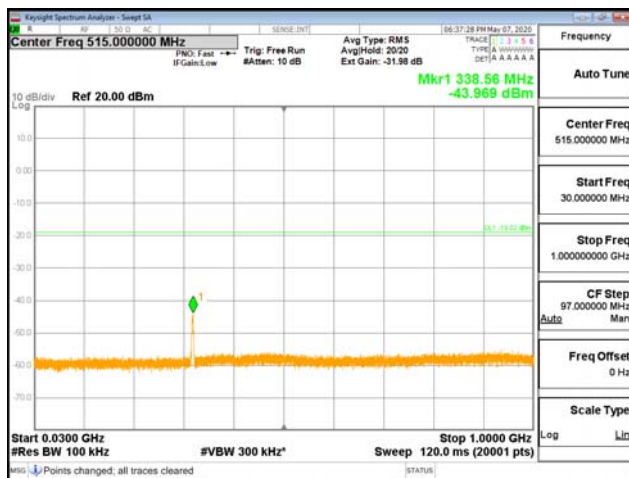
9 kHz - 150 kHz



150 kHz - 30 MHz



30 MHz - 1000 MHz



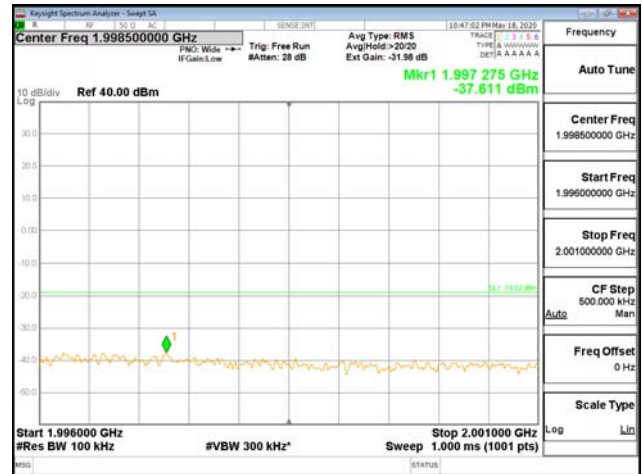
1000 MHz - 1919 MHz



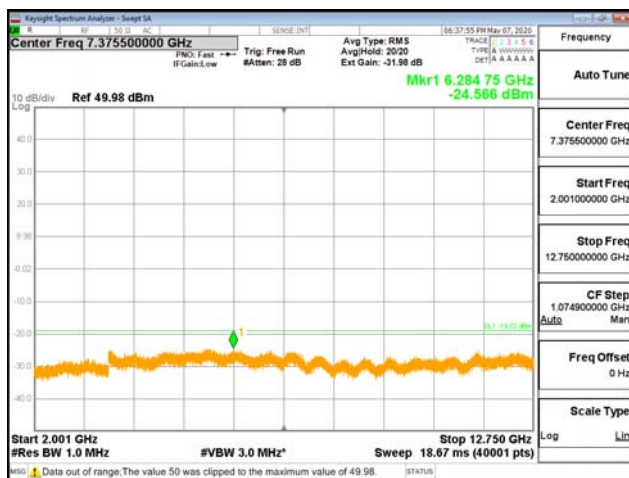
1919 MHz - 1929 MHz



1996MHz - 2001MHz



2001 MHz - 12.75GHz

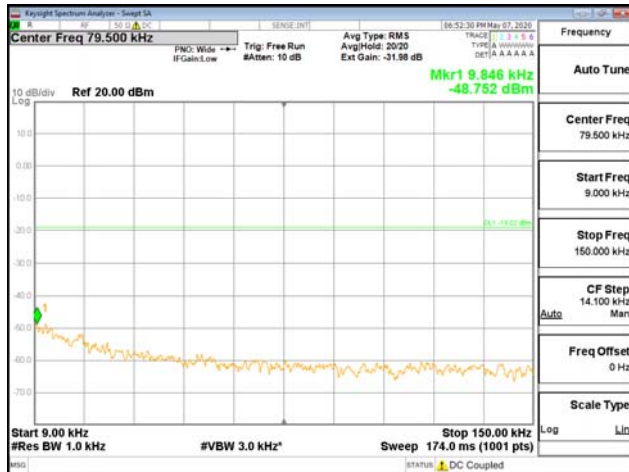


12.75GHz - 26.5GHz

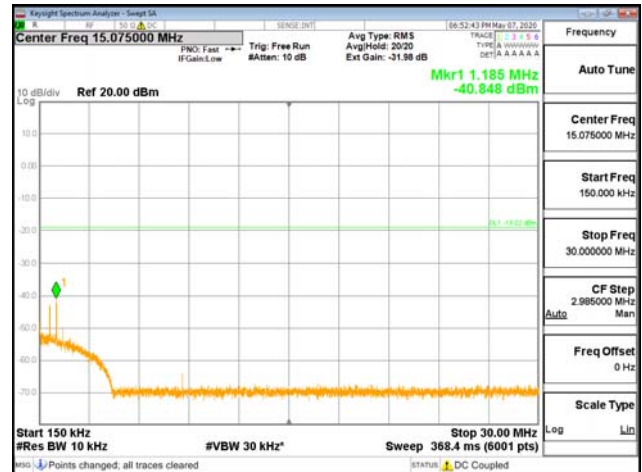


Band 25, BW 5MHz, Single carrier, Bottom, 64QAM
ANT0

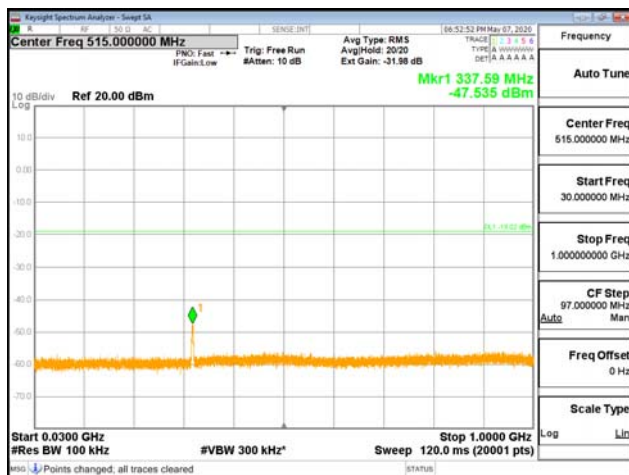
9 kHz - 150 kHz



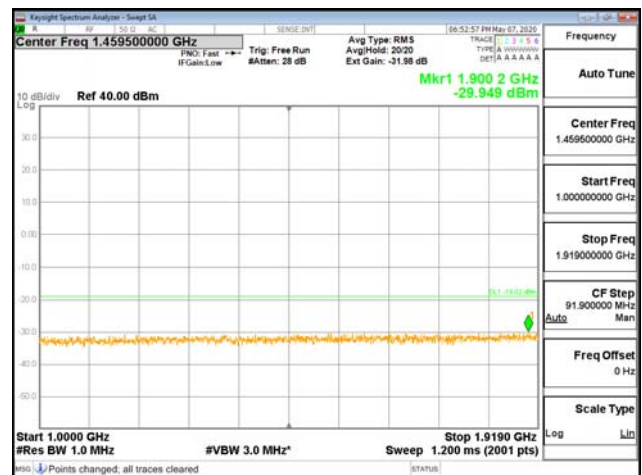
150 kHz - 30 MHz



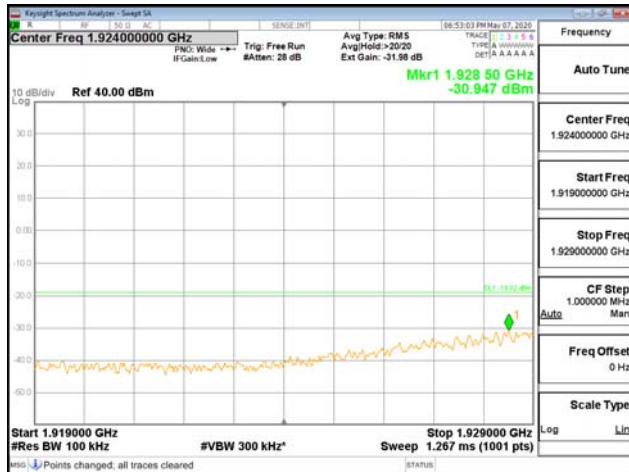
30 MHz - 1000 MHz



1000 MHz - 1919 MHz



1919 MHz - 1929 MHz



1996MHz - 2001MHz



2001 MHz - 12.75GHz

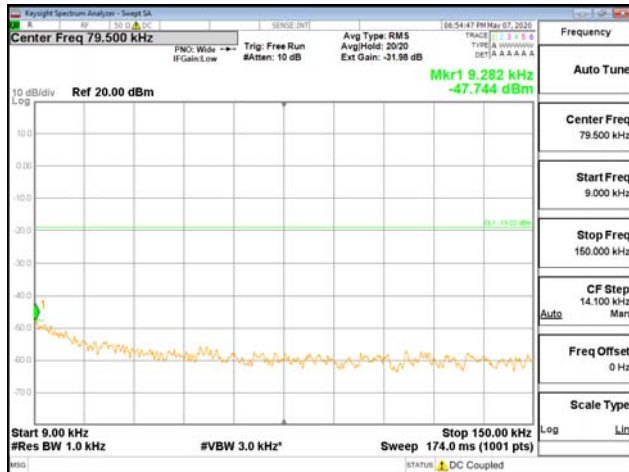


12.75GHz - 26.5GHz

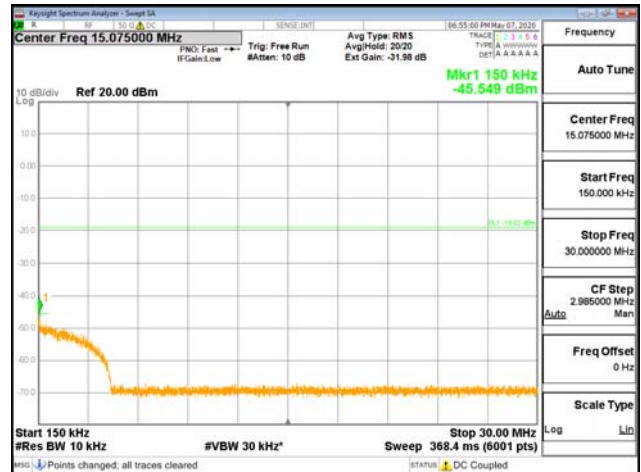


ANT1

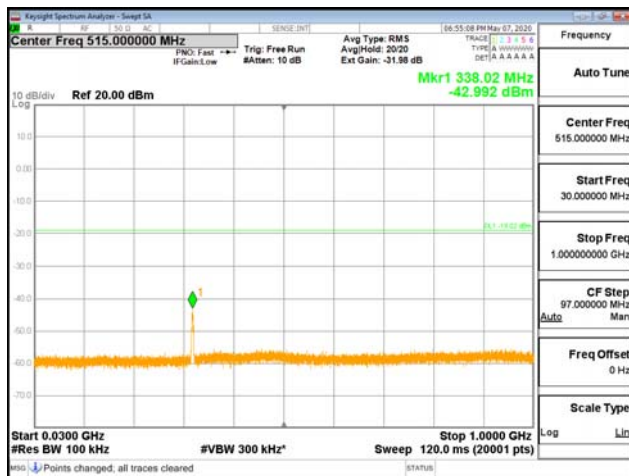
9 kHz - 150 kHz



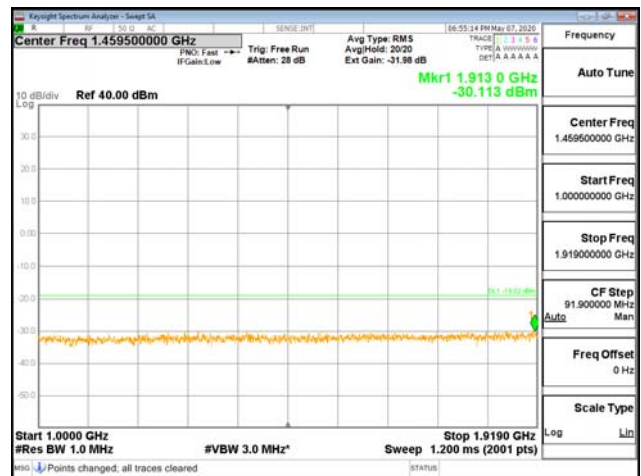
150 kHz - 30 MHz



30 MHz - 1000 MHz



1000 MHz - 1919 MHz



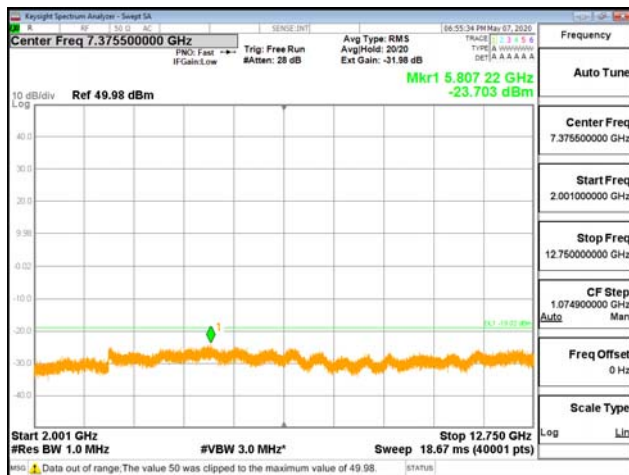
1919 MHz - 1929 MHz



1996MHz - 2001MHz



2001 MHz - 12.75GHz



12.75GHz - 26.5GHz

