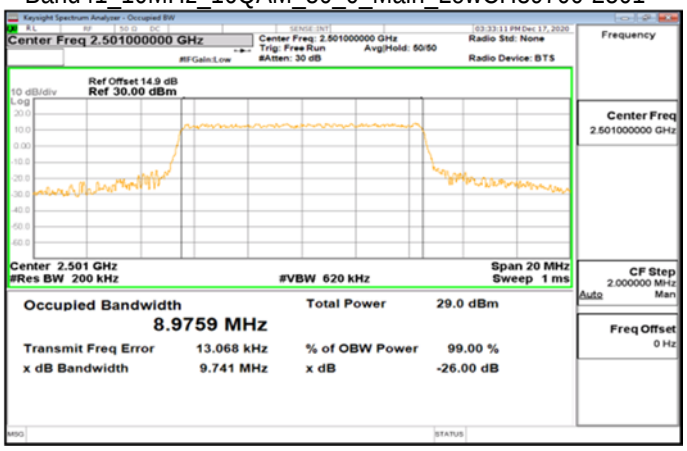
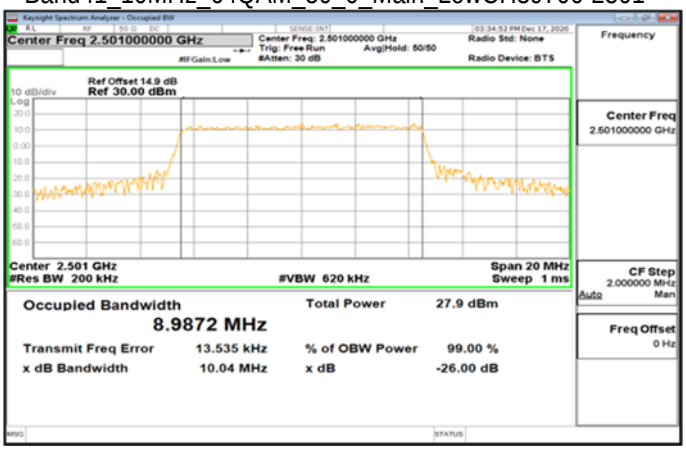
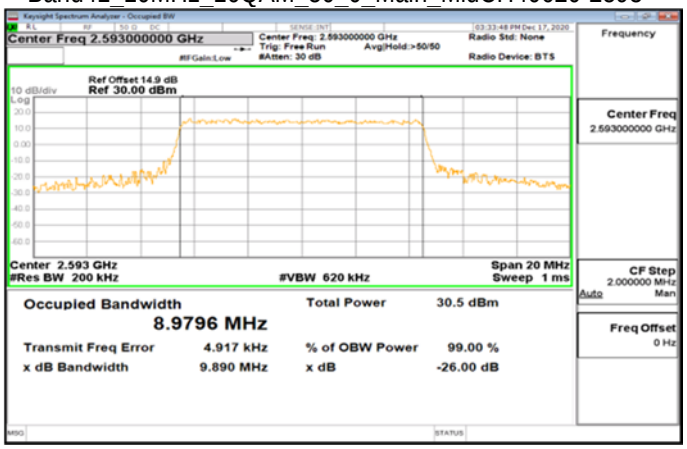
Band41_10MHz_16QAM_50_0_Main_LowCH39700-2501



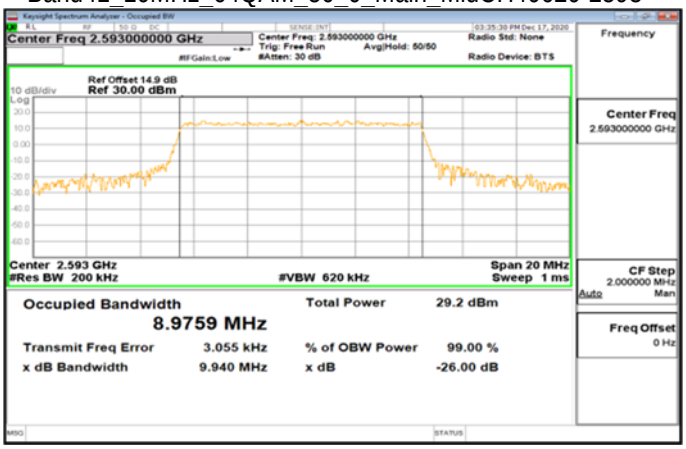
Band41_10MHz_64QAM_50_0_Main_LowCH39700-2501



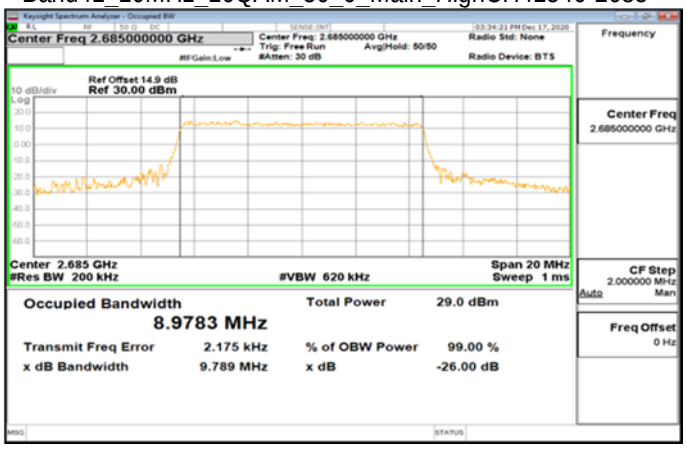
Band41_10MHz_16QAM_50_0_Main_MidCH40620-2593



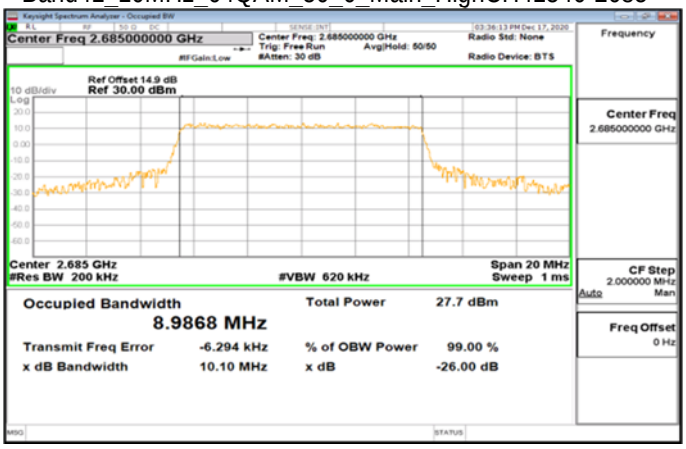
Band41_10MHz_64QAM_50_0_Main_MidCH40620-2593



Band41_10MHz_16QAM_50_0_Main_HighCH41540-2685



Band41_10MHz_64QAM_50_0_Main_HighCH41540-2685



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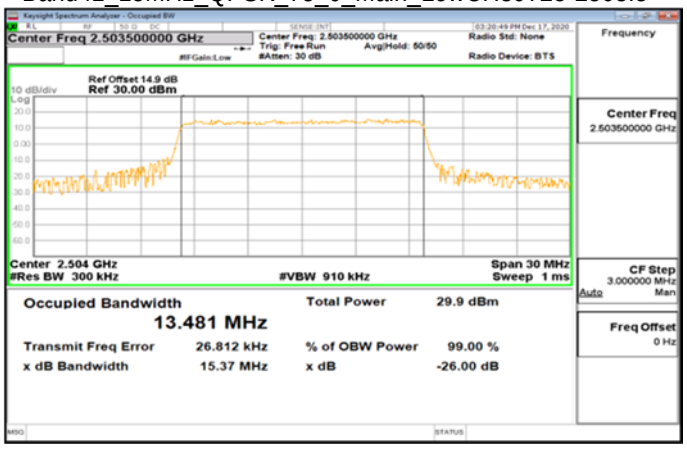
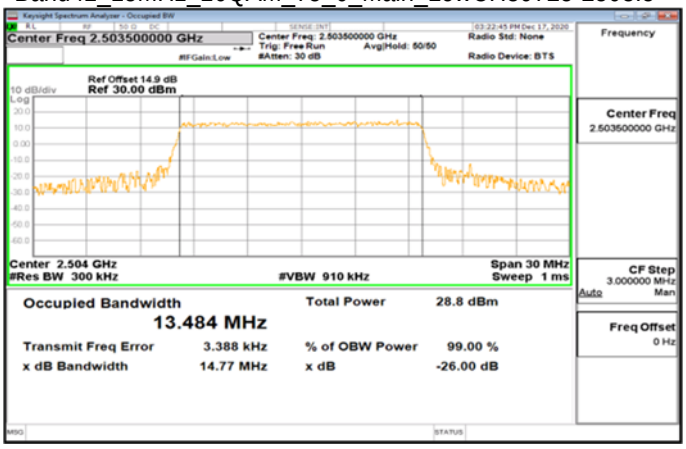
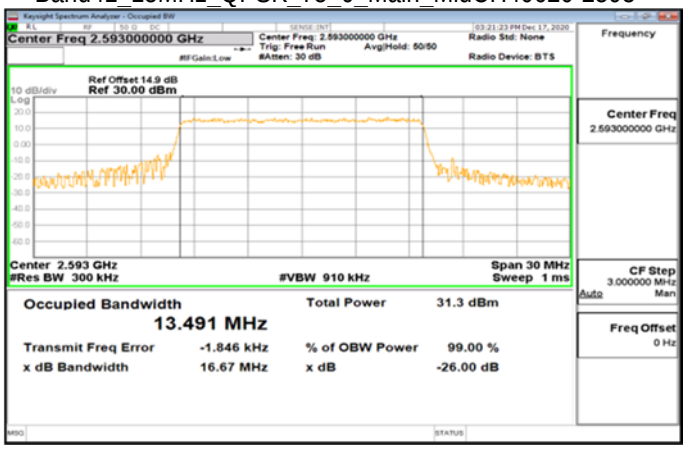
Band41_15MHz_QPSK_75_0_Main_LowCH39725-2503.5



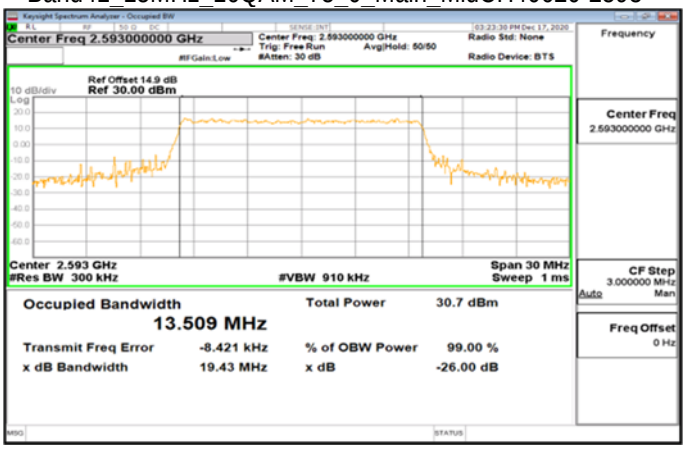
Band41_15MHz_16QAM_75_0_Main_LowCH39725-2503.5



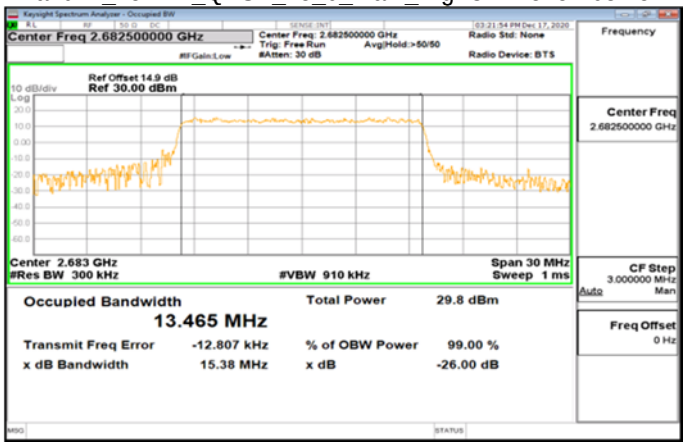
Band41_15MHz_QPSK_75_0_Main_MidCH40620-2593



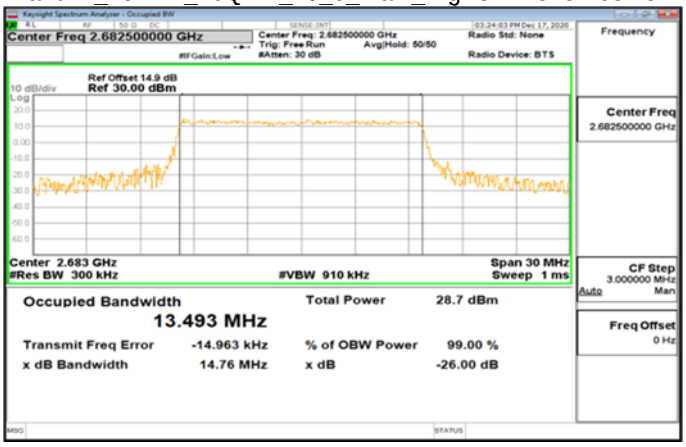
Band41_15MHz_16QAM_75_0_Main_MidCH40620-2593



Band41_15MHz_QPSK_75_0_Main_HighCH41515-2682.5



Band41_15MHz_16QAM_75_0_Main_HighCH41515-2682.5



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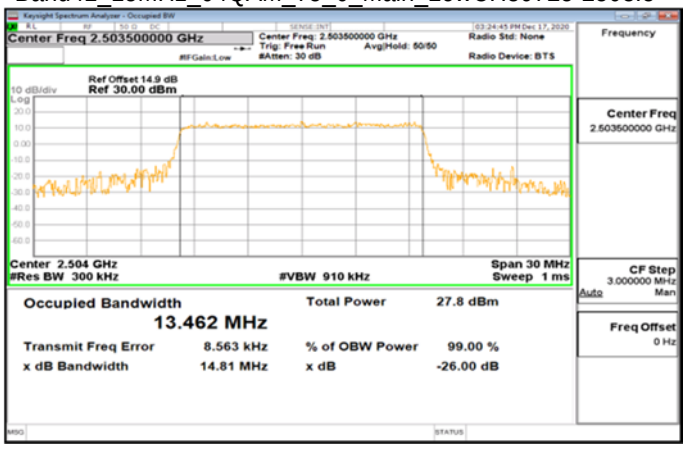
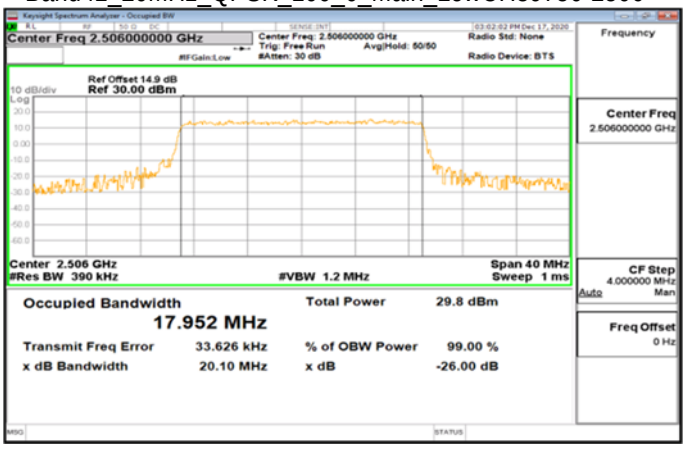
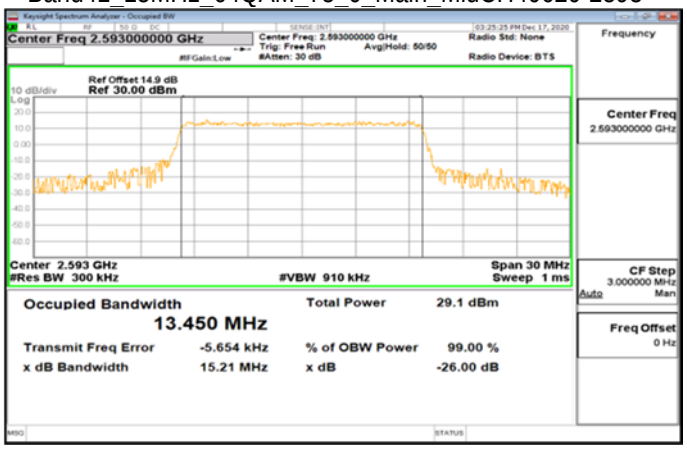
Band41_15MHz_64QAM_75_0_Main_LowCH39725-2503.5



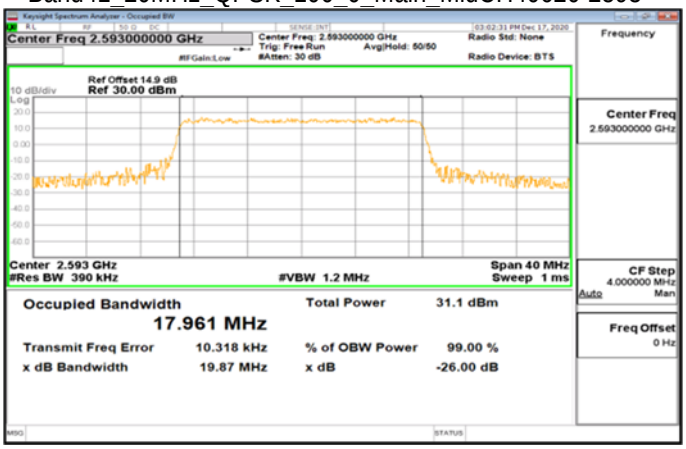
Band41_20MHz_QPSK_100_0_Main_LowCH39750-2506



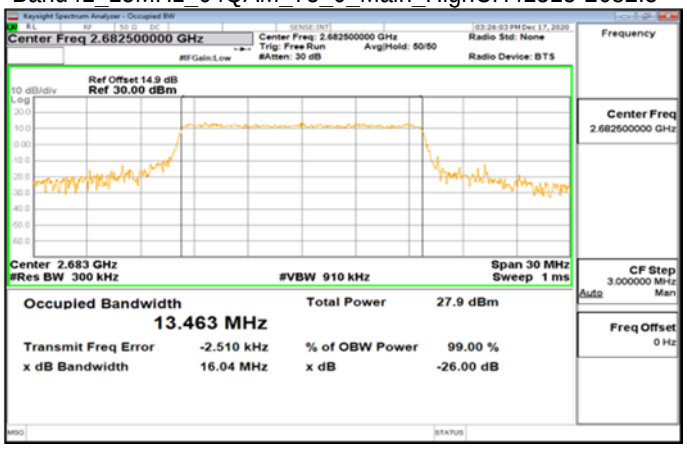
Band41_15MHz_64QAM_75_0_Main_MidCH40620-2593



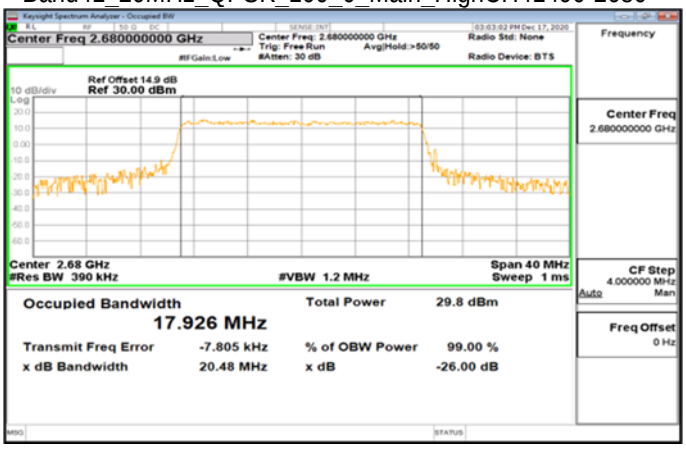
Band41_20MHz_QPSK_100_0_Main_MidCH40620-2593



Band41_15MHz_64QAM_75_0_Main_HighCH41515-2682.5



Band41_20MHz_QPSK_100_0_Main_HighCH41490-2680



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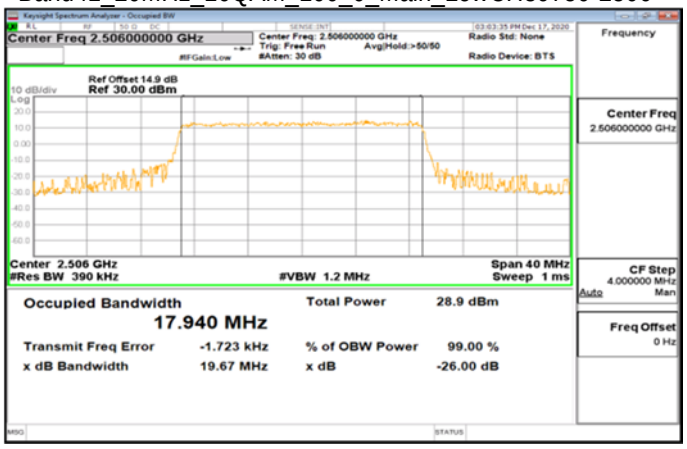
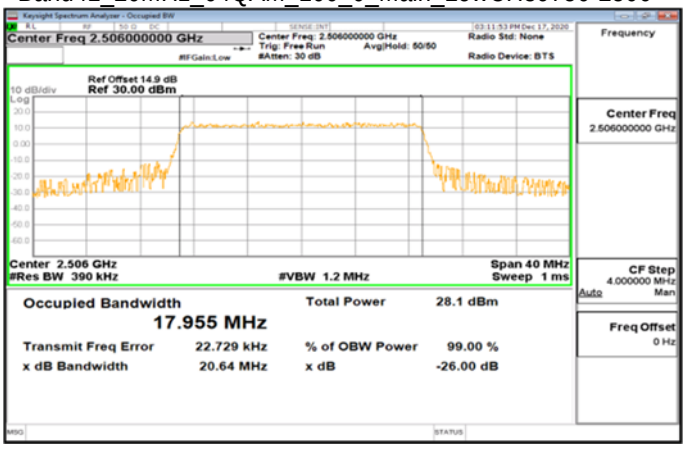
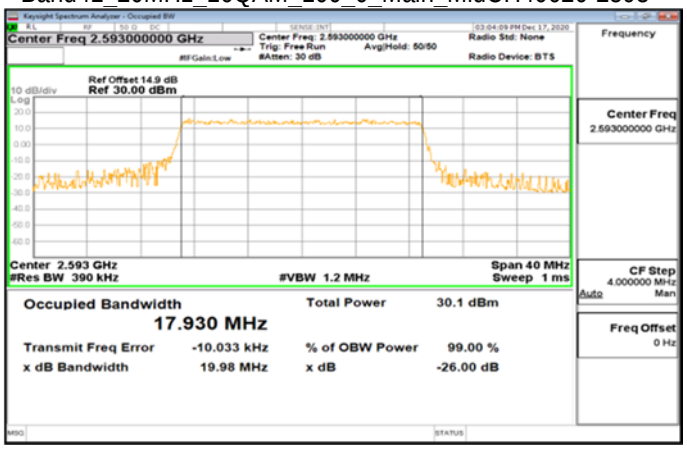
Band41_20MHz_16QAM_100_0_Main_LowCH39750-2506



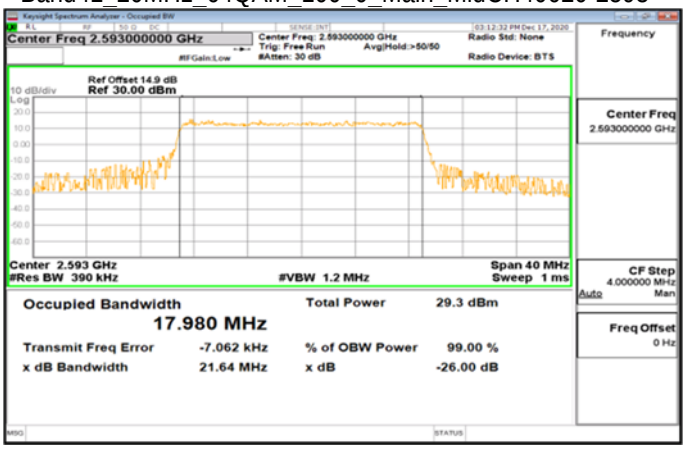
Band41_20MHz_64QAM_100_0_Main_LowCH39750-2506



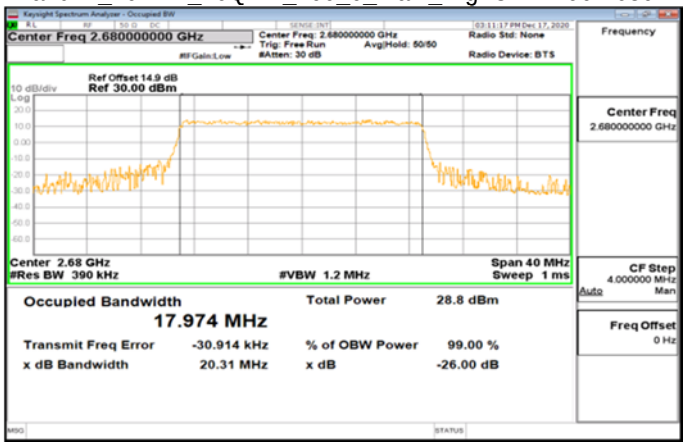
Band41_20MHz_16QAM_100_0_Main_MidCH40620-2593



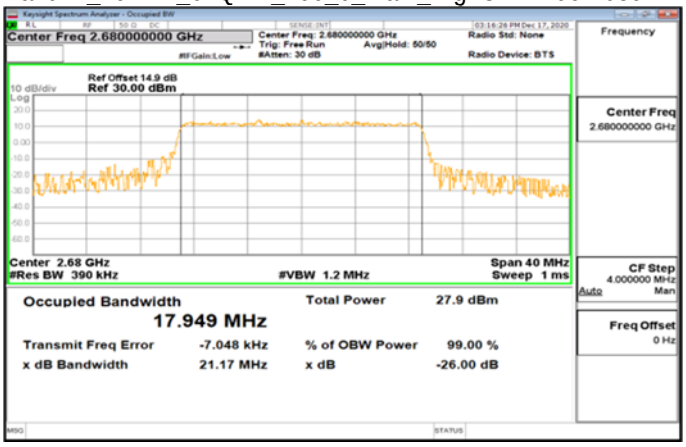
Band41_20MHz_64QAM_100_0_Main_MidCH40620-2593



Band41_20MHz_16QAM_100_0_Main_HighCH41490-2680



Band41_20MHz_64QAM_100_0_Main_HighCH41490-2680



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8 OUT OF BAND EMISSION AT ANTENNA TERMINALS

8.1 Standard Applicable

FCC §22.917(a)(b), §24.238(a), §27.53(m)(4)

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.

FCC §27.53(m) (4) (6)

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Measurement procedure. Compliance with these rules is based on the use of measurement nstrumentation employing a resolution bandwidth of 1 megahertz 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; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent 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 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). 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. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

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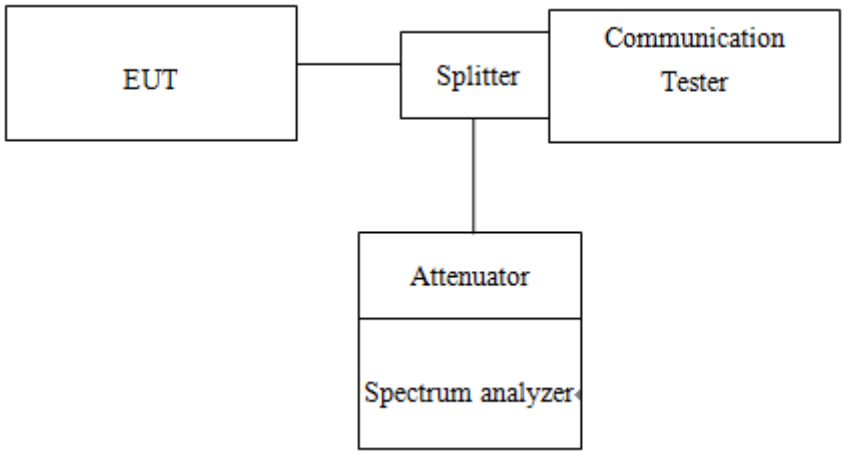
8.2 Test SET-UP



8.3 Measurement Procedure

8.3.1 Conducted Emission

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 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic.

1. To connect Antenna Port of EUT to Spectrum.
2. Set RBW = 1MHz & VBW = 1MHz on Spectrum.
3. Allow trace to fully stabilize
4. Repeat above procedures until all default test channel measured were complete.

8.3.2 Band Edge

1. To connect Antenna Port of EUT to Spectrum.
2. The band edge of low and high channels for the highest RF powers was measured. Setting RBW ≥ 1% EBW.
3. Allow trace to fully stabilize
4. Repeat above procedures until all default test channel measured were complete.

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8.4 Measurement Equipment Used

Conducted Emission (measured at antenna port) Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
PXA Spectrum Analyzer	Agilent	N9030A	MY53120760	04/21/2020	04/20/2021
DC Power Supply	Agilent	E3640A	KR93300208	08/19/2020	08/18/2021
Radio Communication Analyer	Anritsu	MT8815B	6200711454	04/01/2020	03/31/2021
Temperature Chamber	TERCHY	MHG-120LF	911009	05/20/2020	05/19/2021
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2020	01/01/2021
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2020	01/01/2021
Splitter	RF-LAMBAD	RFLT2W1G18G	11-JSPF412-018	01/02/2020	01/01/2021
Radio Communication Analyer	Anritsu	MT8821C	6261786084	01/18/2020	01/17/2021

8.5 Measurement Result:

Refer to next pages.

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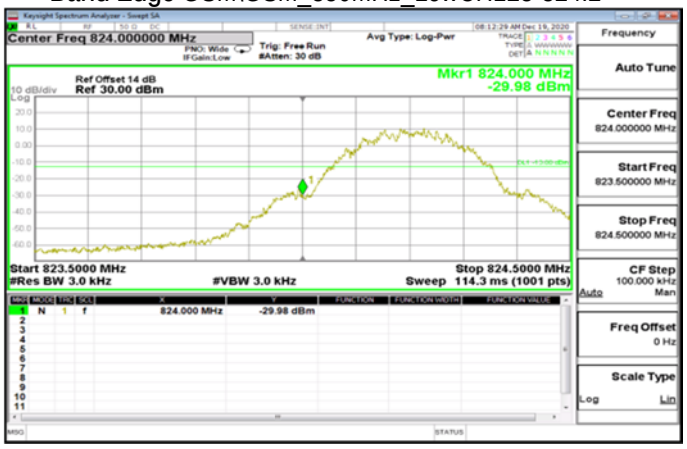
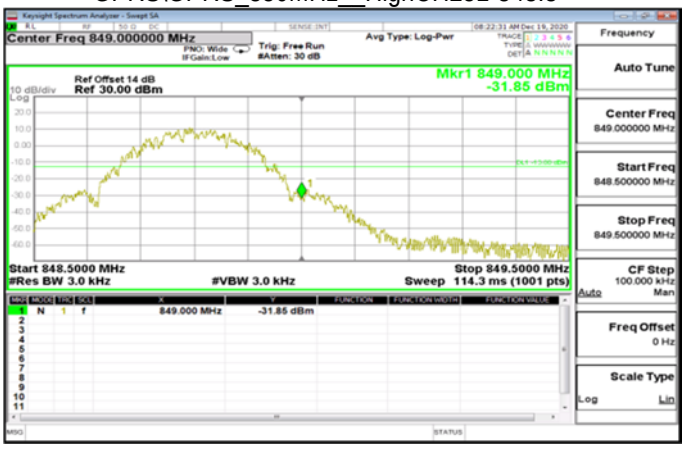
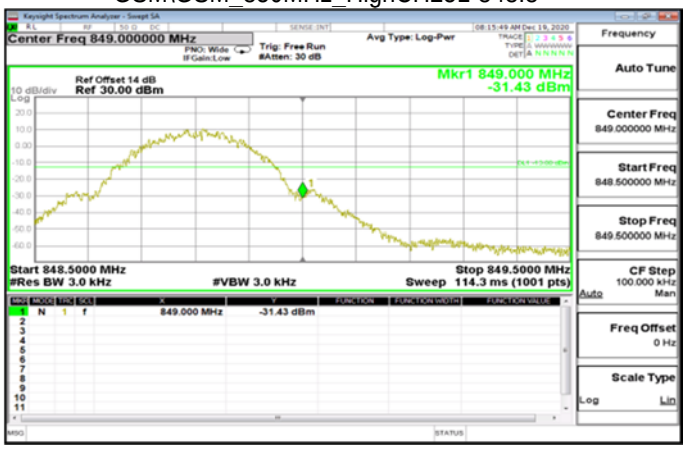
Band Edge GSM\GSM_850MHz_LowCH128-824.2



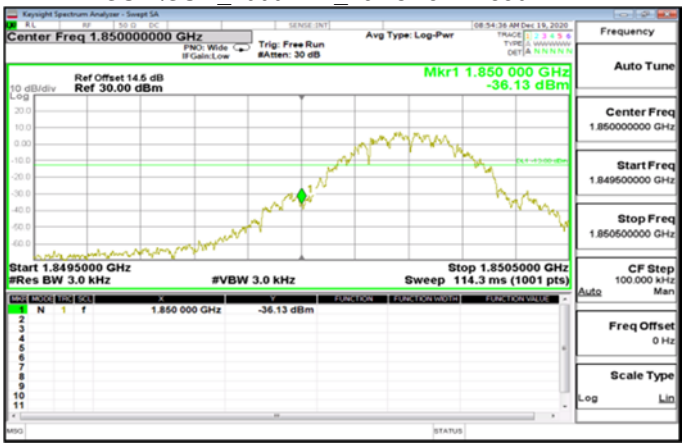
GPRS\GPRS_850MHz__HighCH251-848.8



GSM\GSM_850MHz_HighCH251-848.8



GSM\GSM_1900MHz_LowCH512-1850.2



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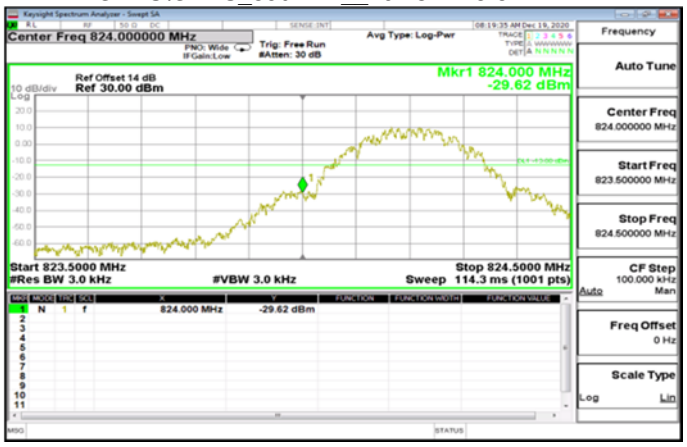
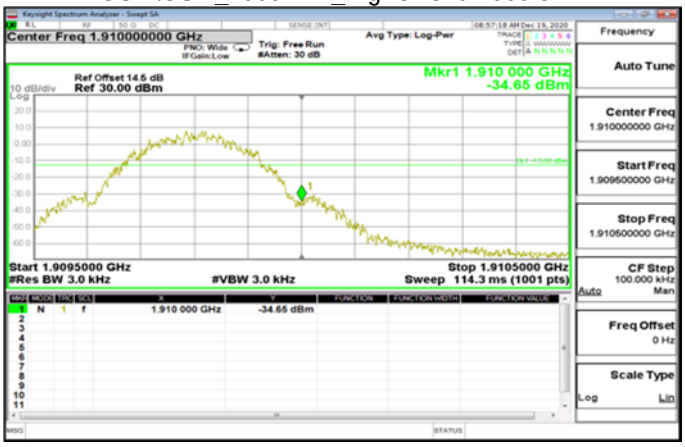


GSM\GSM_1900MHz_HighCH810-1909.8



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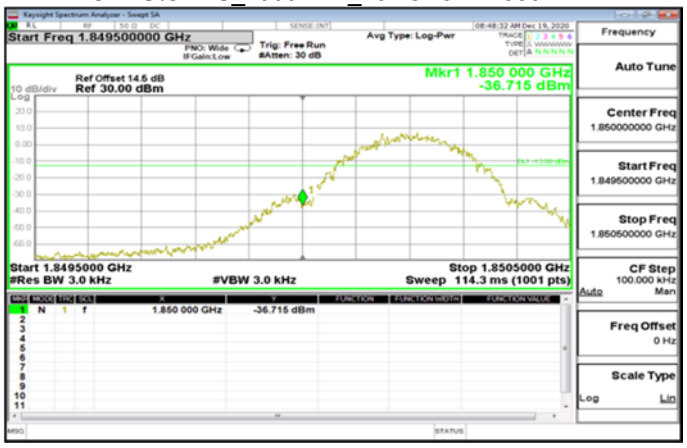
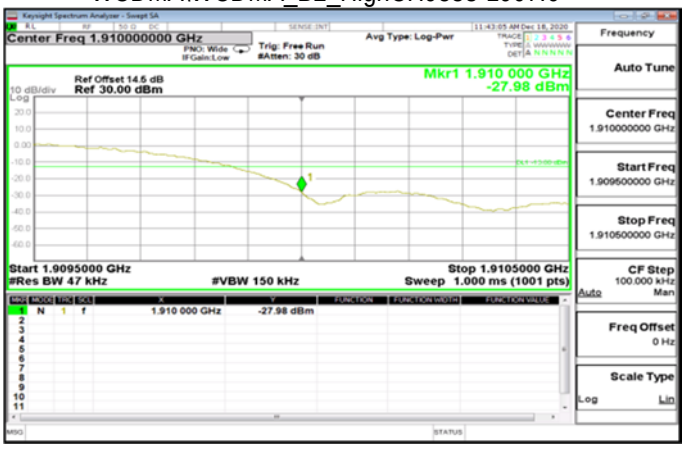
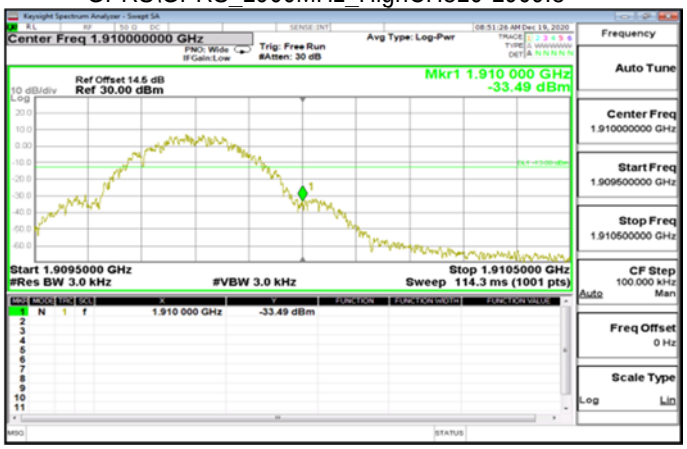
GPRS\GPRS_1900MHz_LowCH512-1850.2



WCDMA\WCDMA_B2_HighCH9538-1907.6



GPRS\GPRS_1900MHz_HighCH810-1909.8



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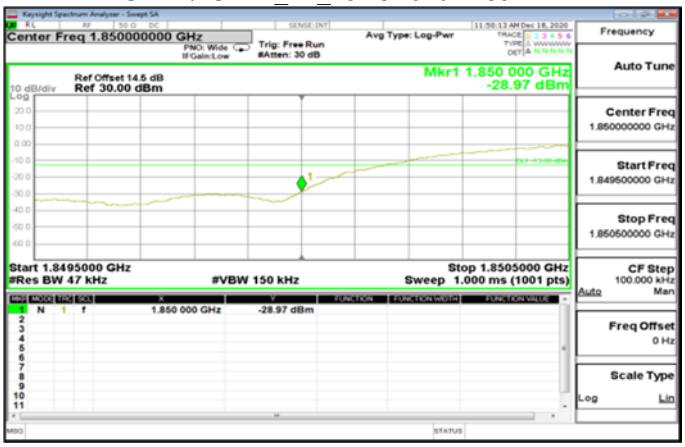

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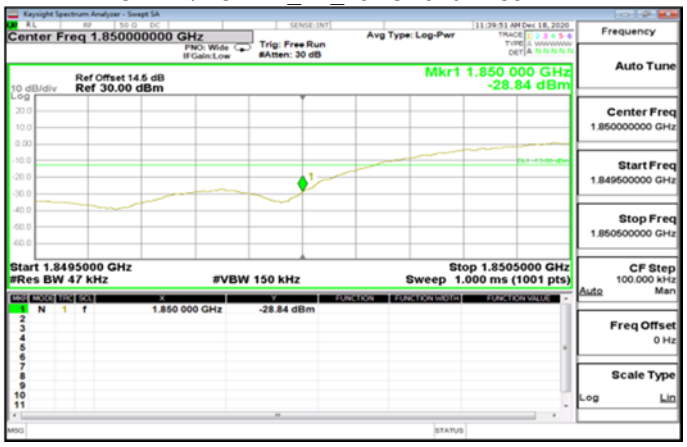

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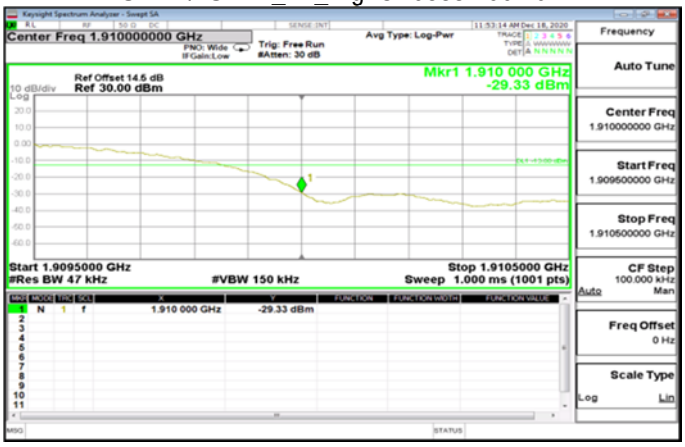

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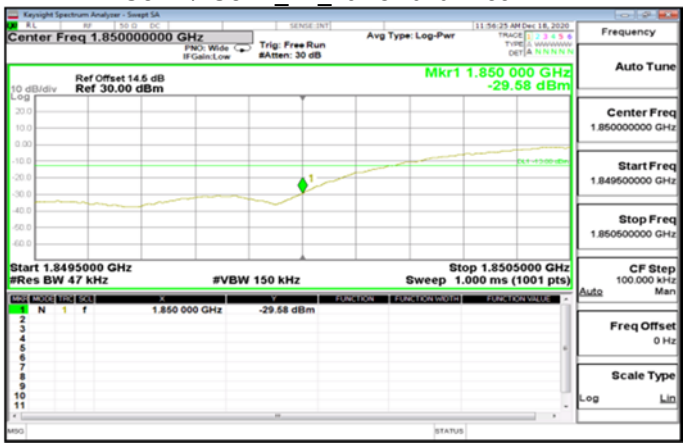
HSUPA\HSUPA_B2_LowCH9262-1852.4



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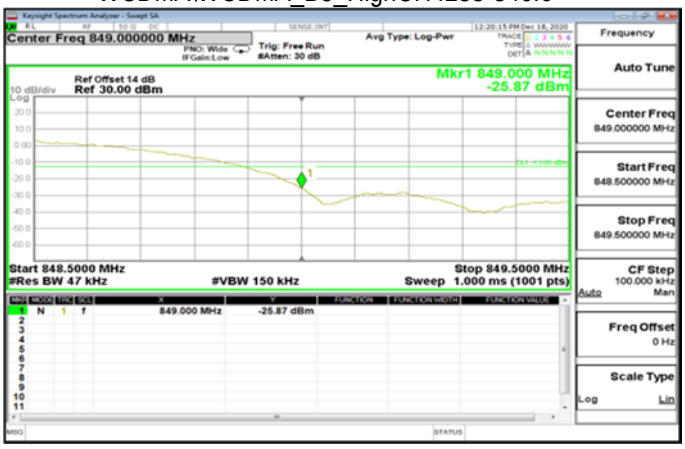

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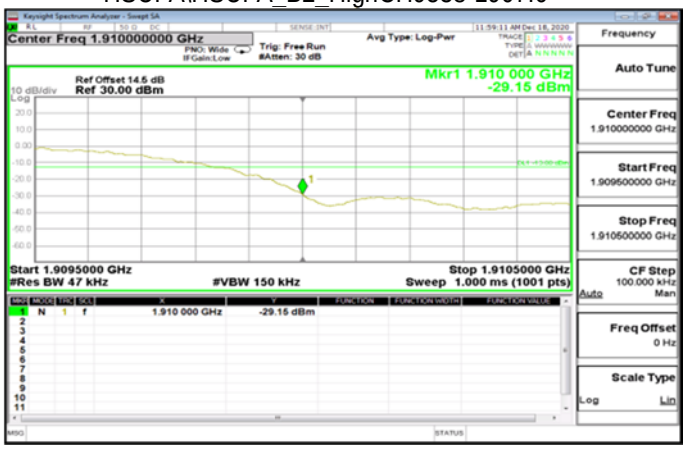

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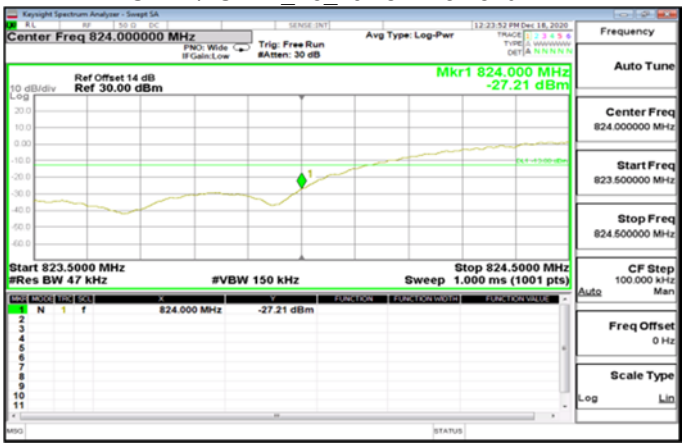

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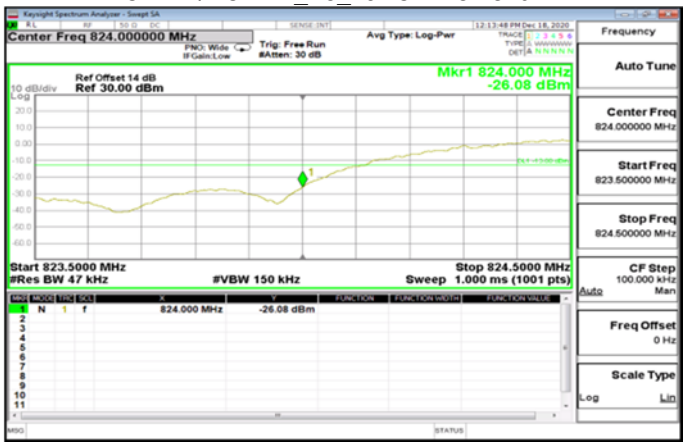

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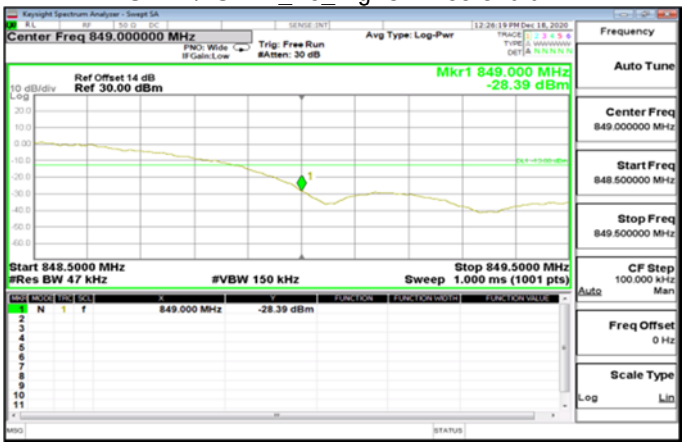

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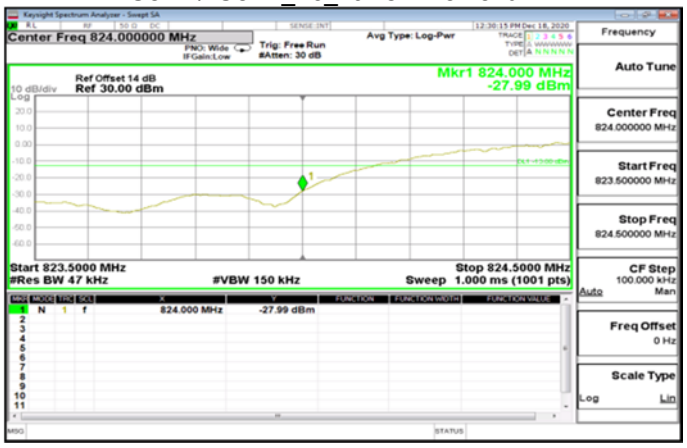
HSUPA\HSUPA_B5_LowCH4132-826.4



LTE\Band2_20MHz_QPSK_1_99_HighCH19100-1900

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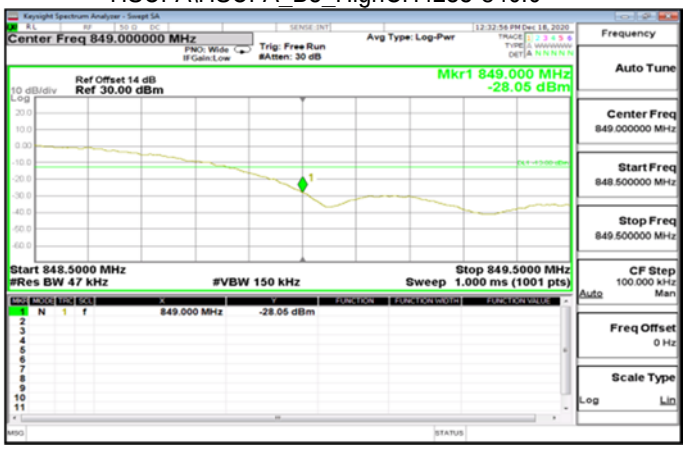
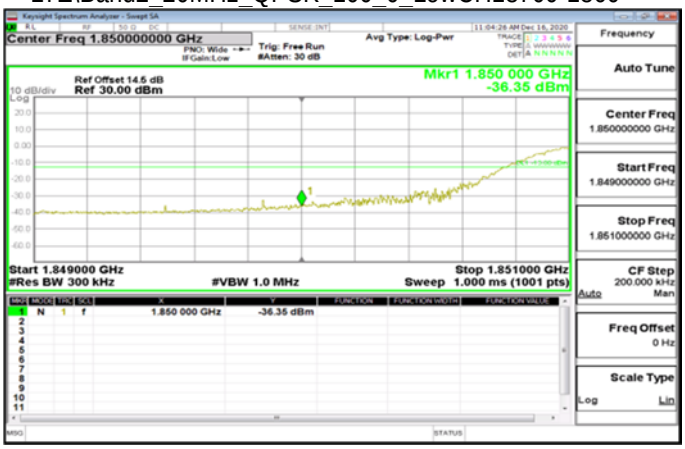
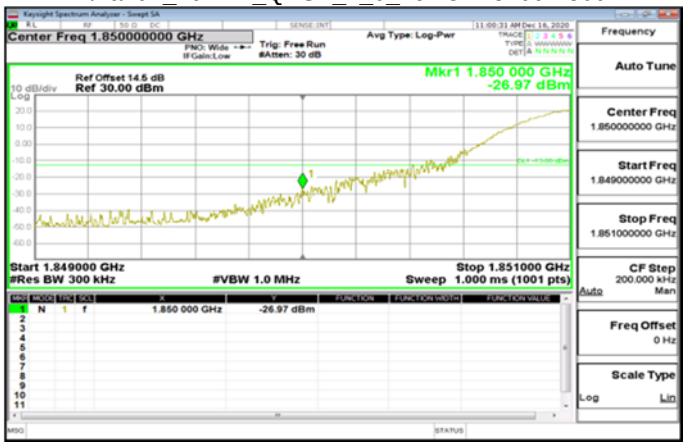


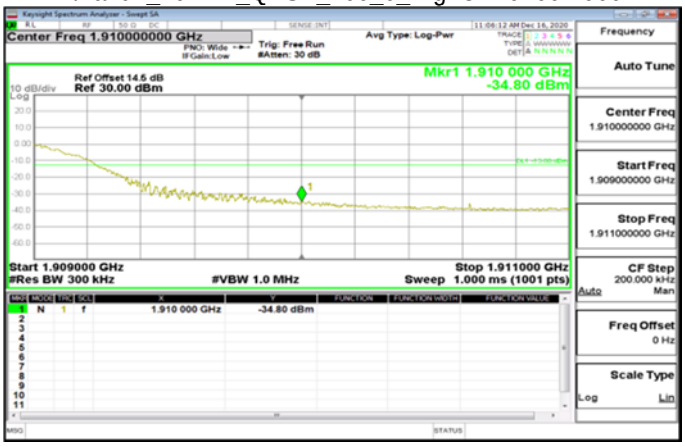
LTE\Band2_20MHz_QPSK_100_0_LowCH18700-1860



LTE\Band2_20MHz_QPSK_1_0_LowCH18700-1860



LTE\Band2_20MHz_QPSK_100_0_HighCH19100-1900



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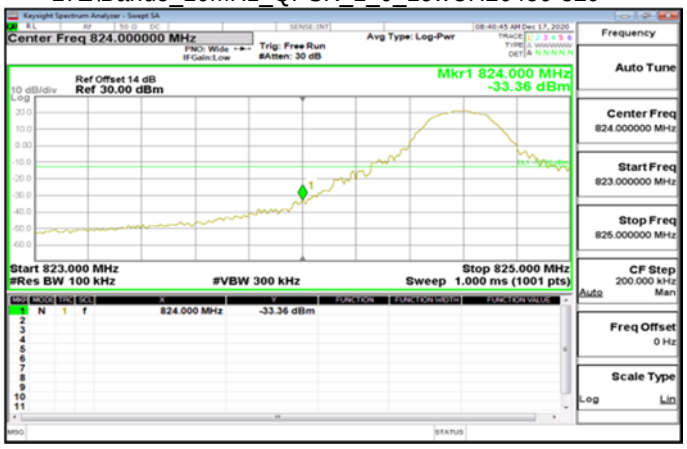
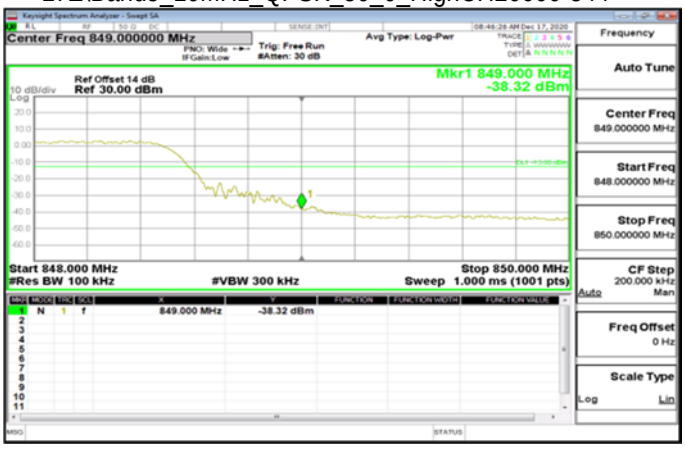
LTE\Band5_10MHz_QPSK_1_0_LowCH20450-829

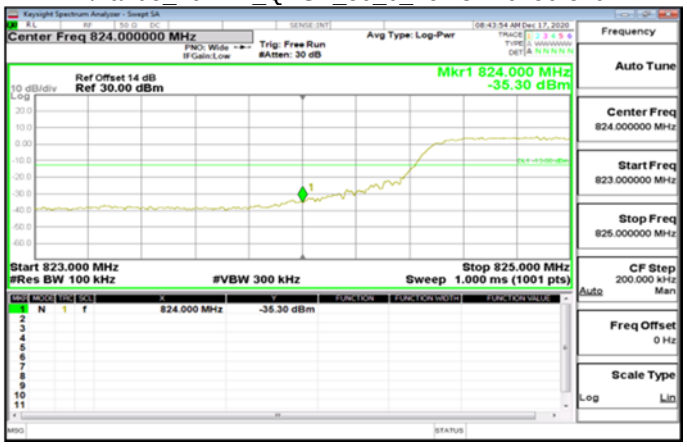


LTE\Band5_10MHz_QPSK_50_0_HighCH20600-844



LTE\Band5_10MHz_QPSK_1_49_HighCH20600-844

LTE\Band5_10MHz_QPSK_50_0_LowCH20450-829



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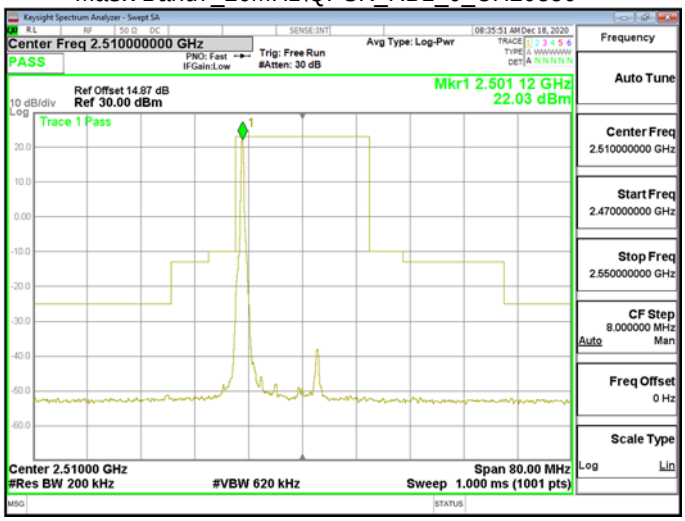
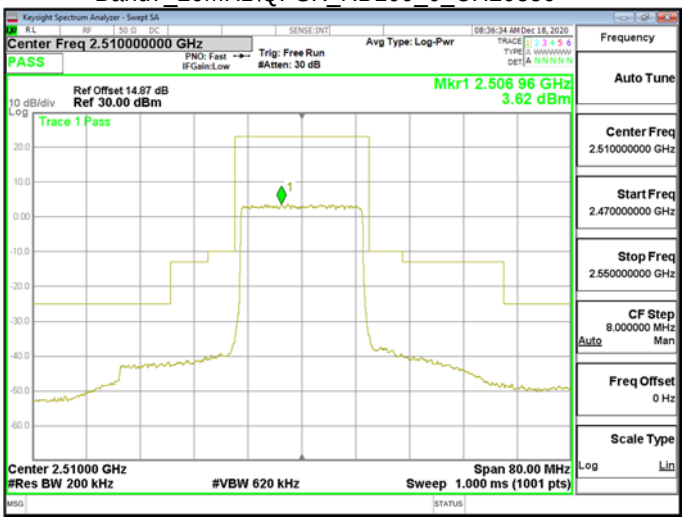
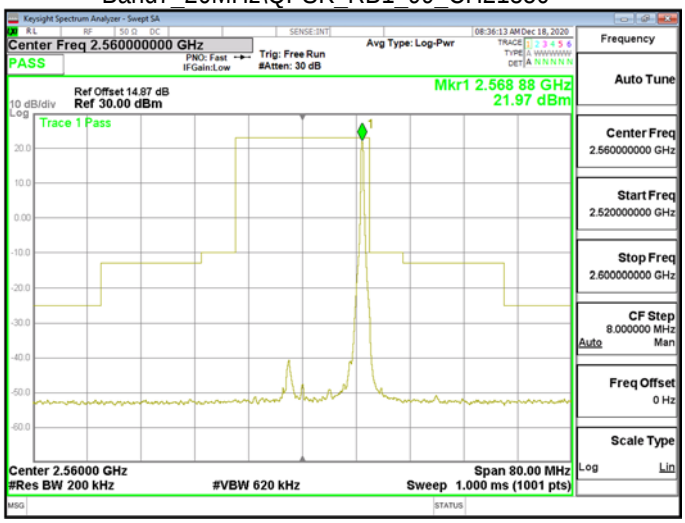
Mask Band7_20MHz\QPSK_RB1_0_CH20850



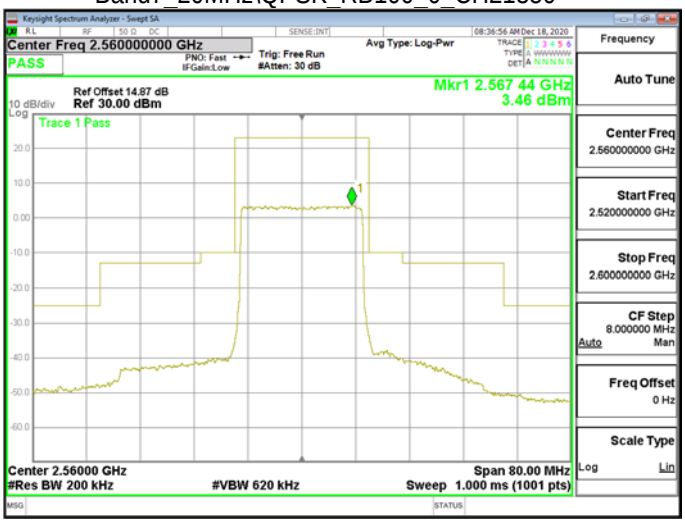
Band7_20MHz\QPSK_RB100_0_CH20850



Band7_20MHz\QPSK_RB1_99_CH21350



Band7_20MHz\QPSK_RB100_0_CH21350



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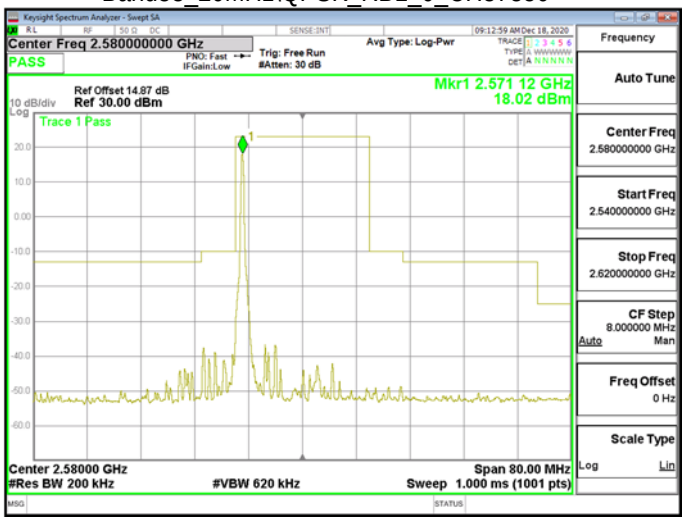
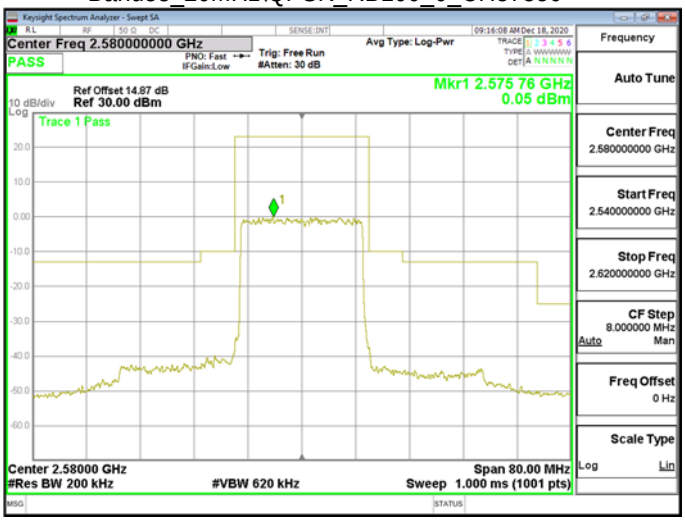
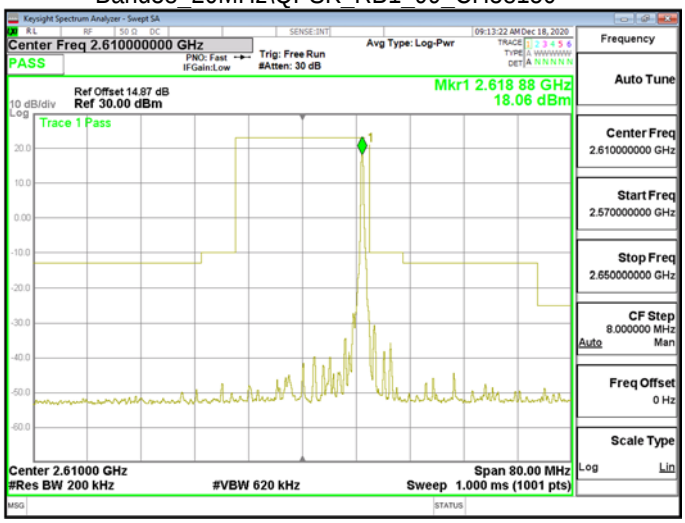
Band38_20MHz\QPSK_RB1_0_CH37850



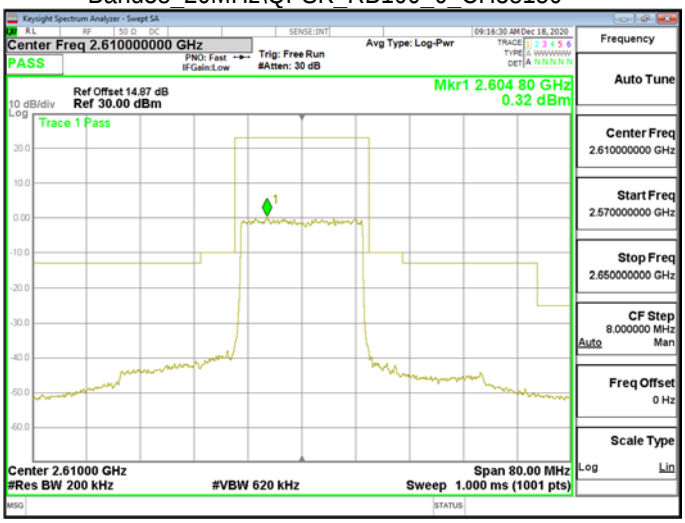
Band38_20MHz\QPSK_RB100_0_CH37850



Band38_20MHz\QPSK_RB1_99_CH38150



Band38_20MHz\QPSK_RB100_0_CH38150



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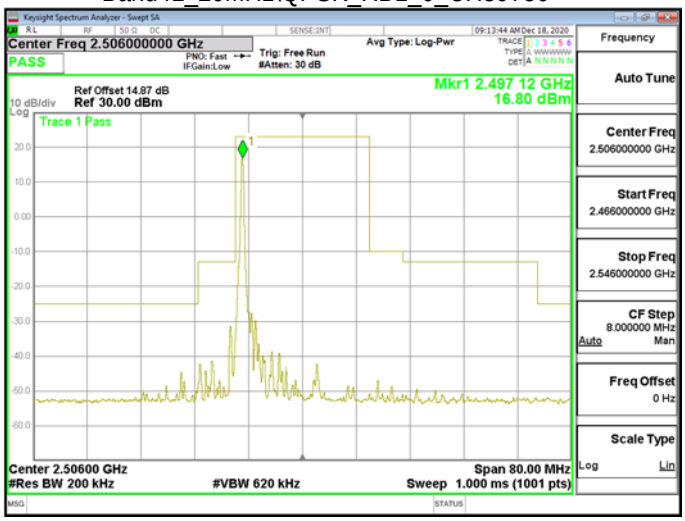
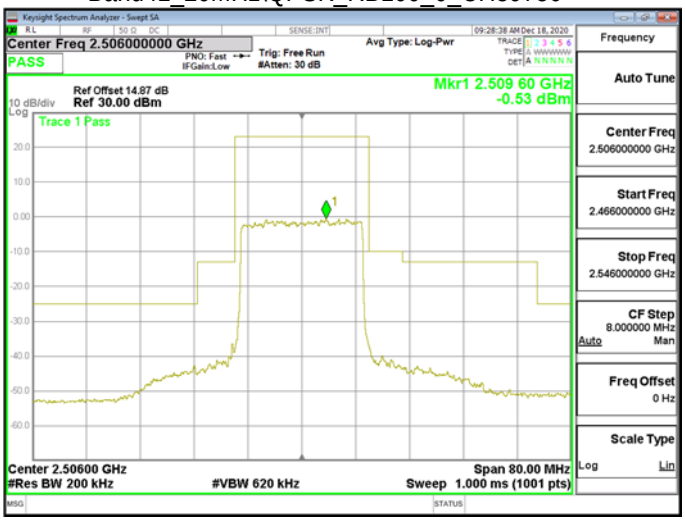
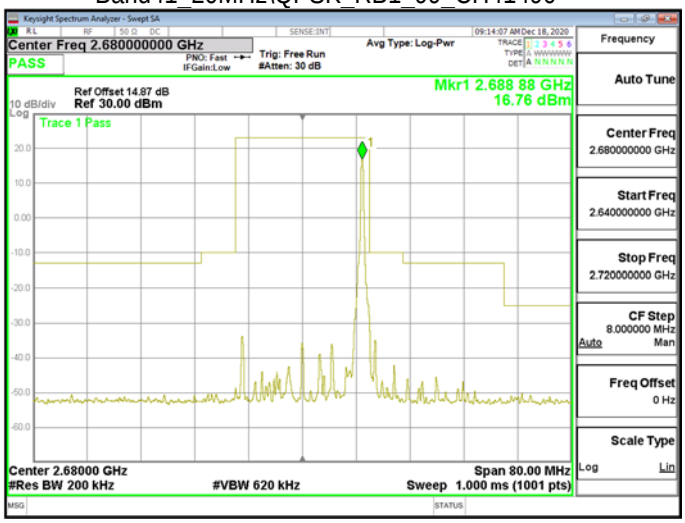
Band41_20MHz\QPSK_RB1_0_CH39750



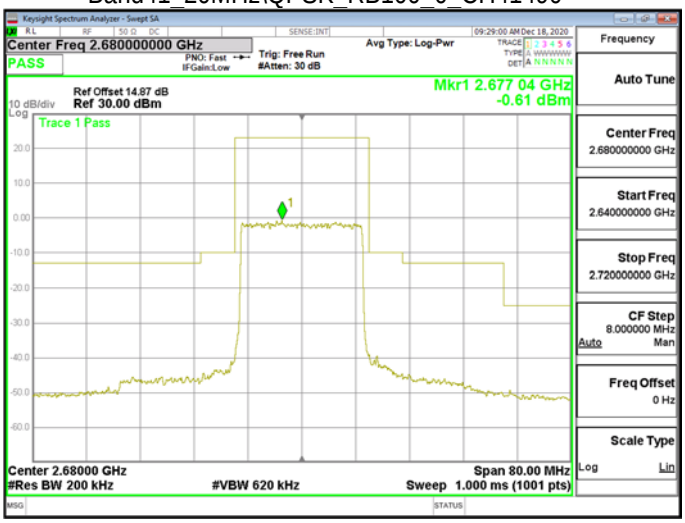
Band41_20MHz\QPSK_RB100_0_CH39750



Band41_20MHz\QPSK_RB1_99_CH41490



Band41_20MHz\QPSK_RB100_0_CH41490



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
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