4.8 Out-of-band Emissions

Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF con-ducted or a radiated measurement, pro-vided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter com-plies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

Test Procedure

Connect the transmitter output to spectrum analyzer using a low loss RF cable, and set the spectrum analyzer to RBW=100 kHz, VBW= 300 kHz, peak detector , and max hold. Measurements utilizing these setting are made of the in-band reference level, bandedge and out-of-band emissions.

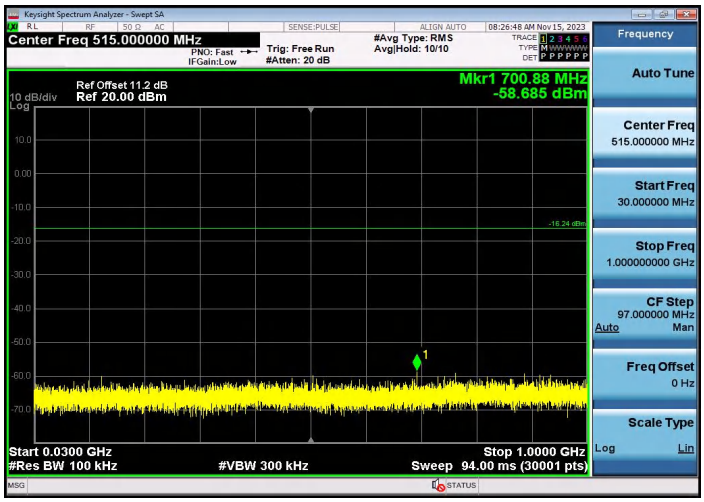
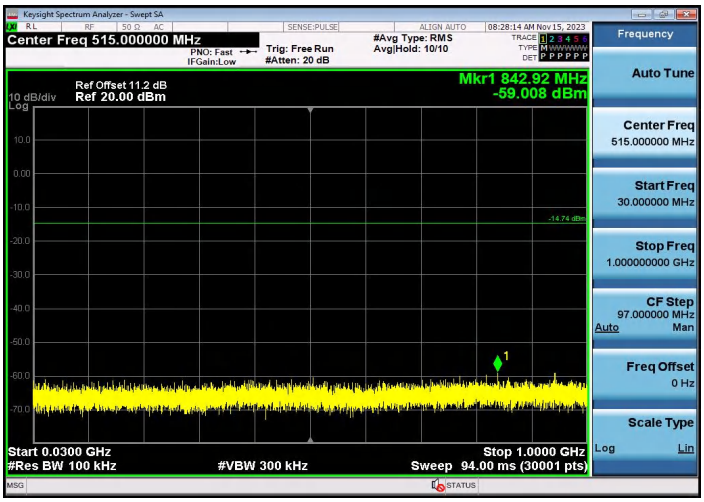
Test Configuration

Test Results

Remark: The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandage measurement data.
We measured all conditions (DH1, DH3, DH5) and recorded worst case at DH5.

Test plot as follows:

Ant 1

GFSK(CH00)	GFSK(CH39)
reference	*reference*
	
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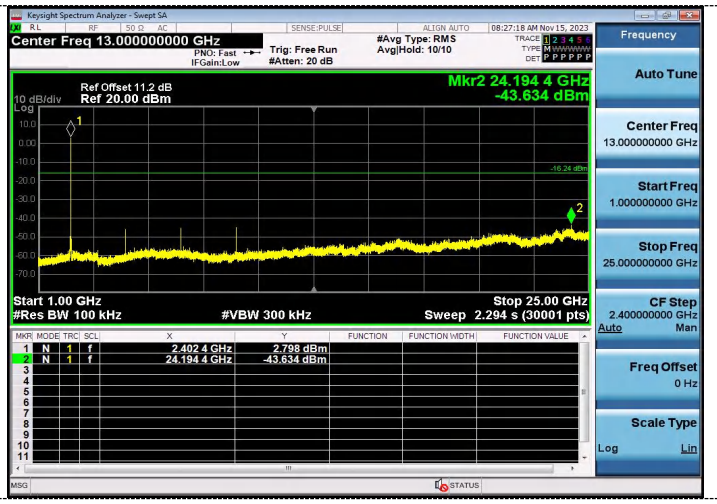	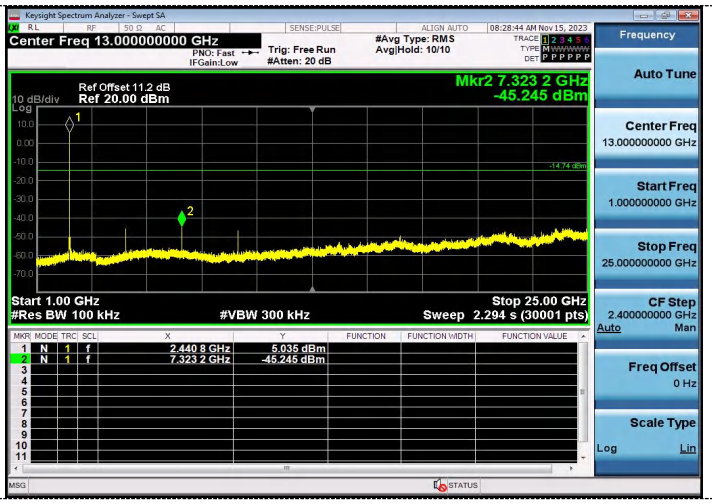
1G-25G	*1G-25G*

GFSK(CH78)	π/4DQPSK (CH00)
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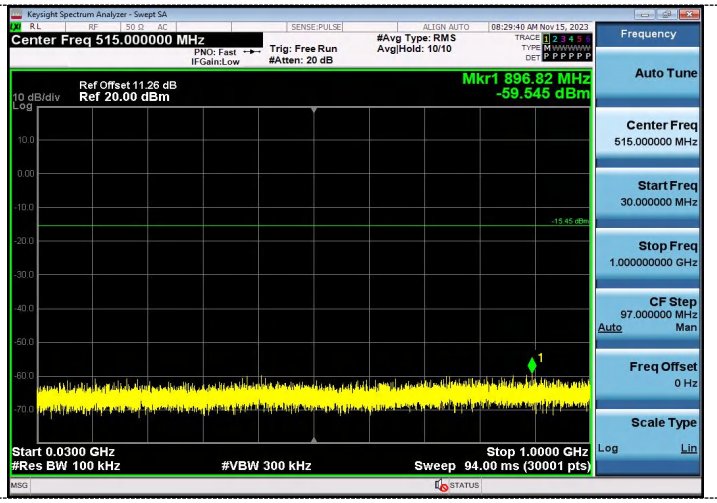	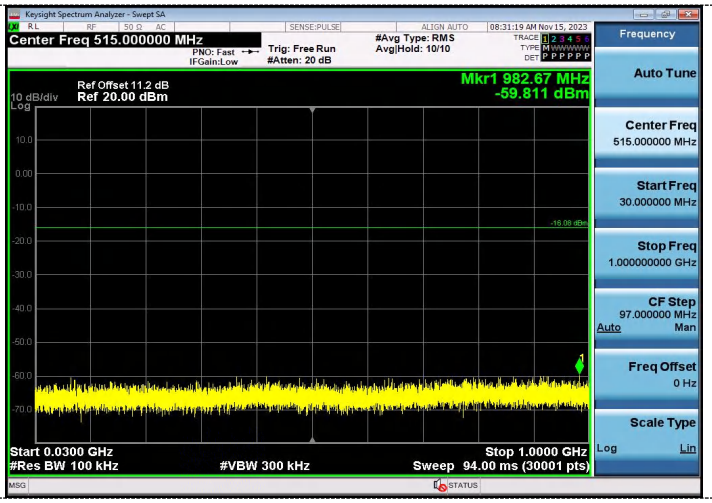
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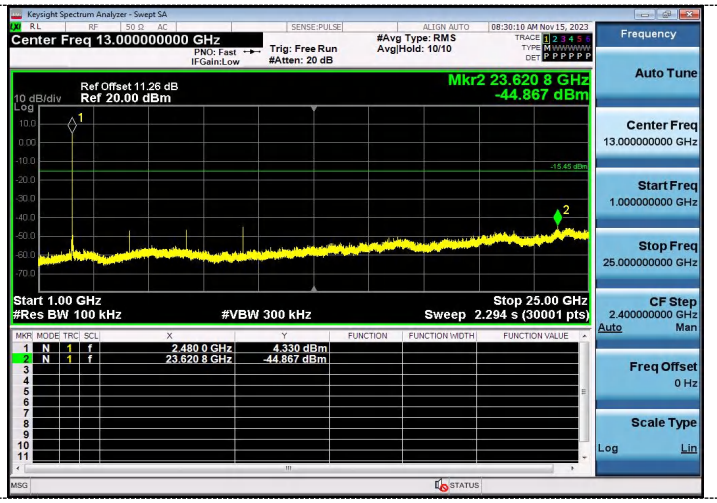
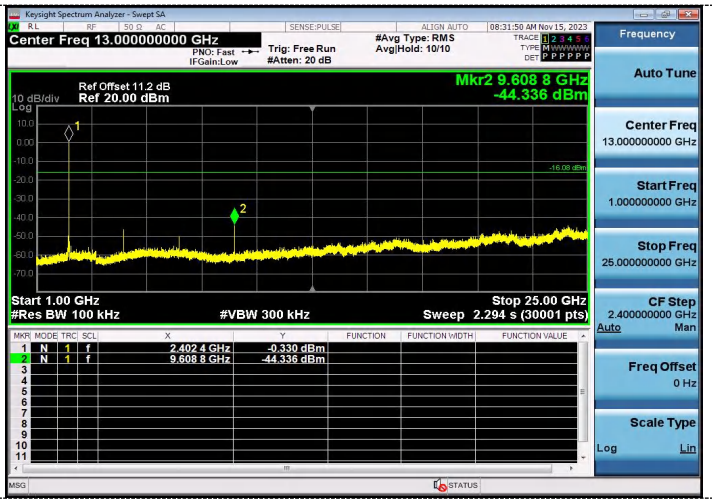
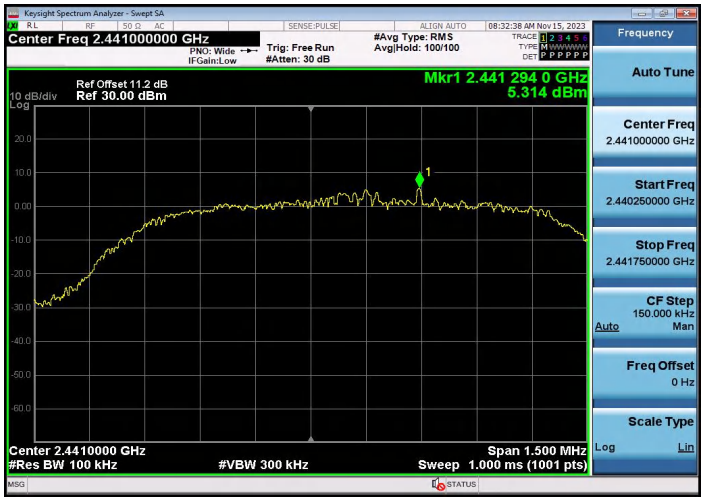
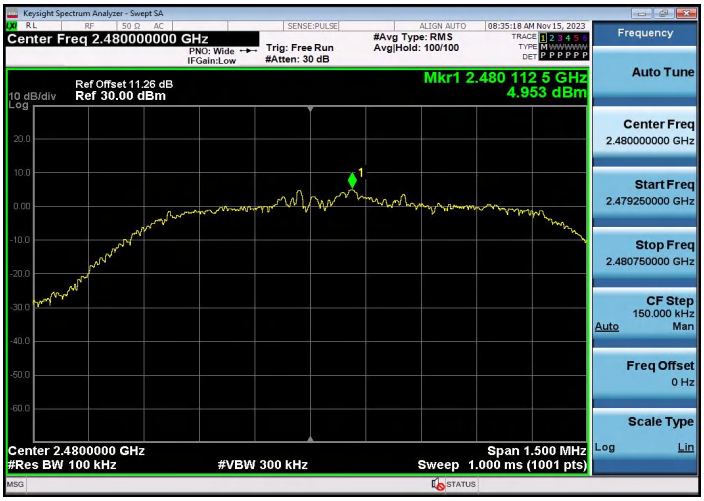
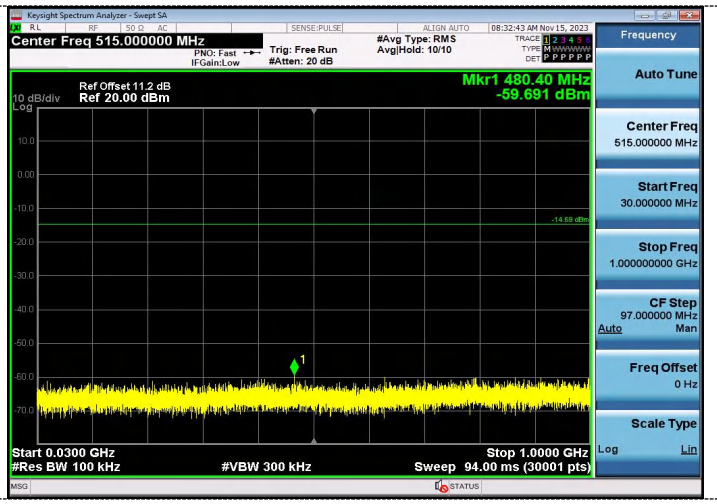
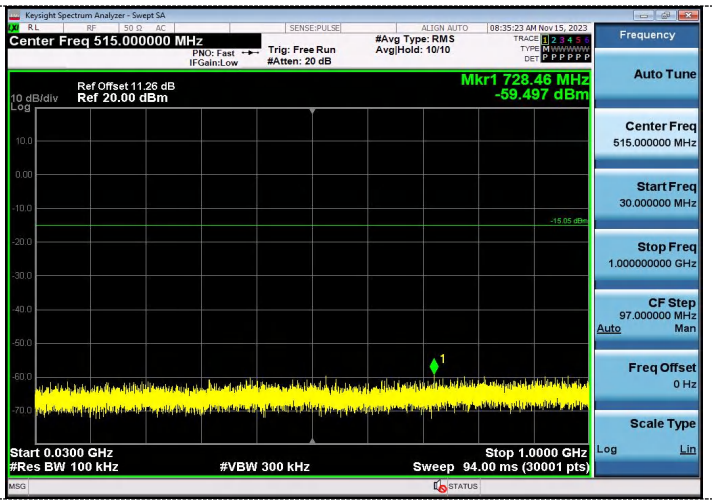
	
1G-25G	1G-25G

π/4DQPSK (CH39)	π/4DQPSK (CH78)
	
reference	reference
	
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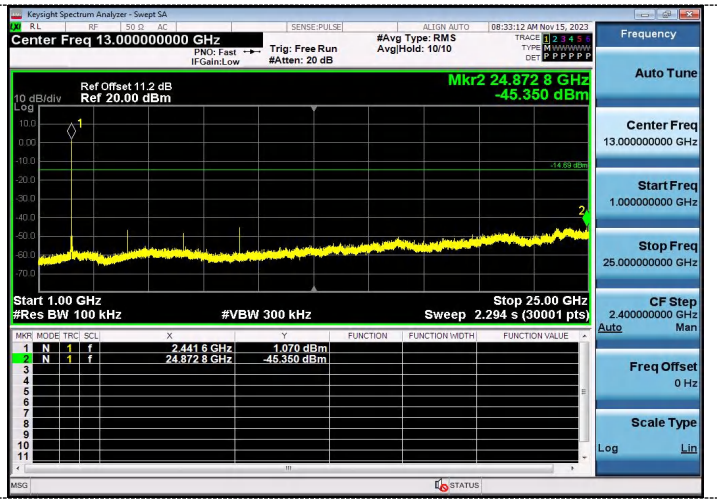
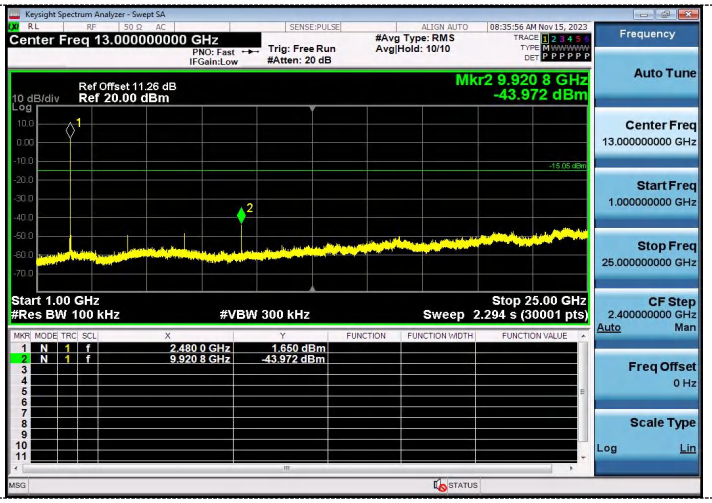
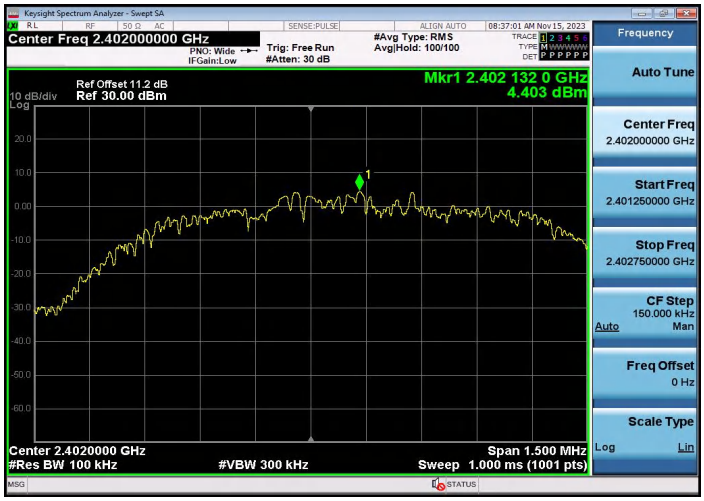
	
1G-25G	1G-25G

8DPSK (CH00)	8DPSK (CH39)
	
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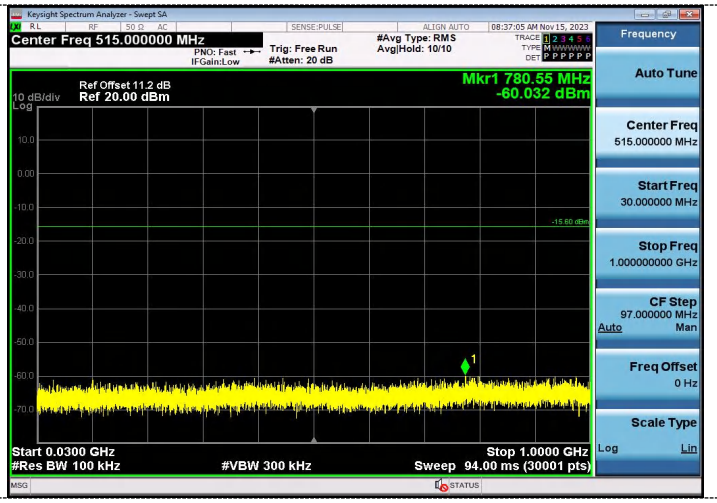	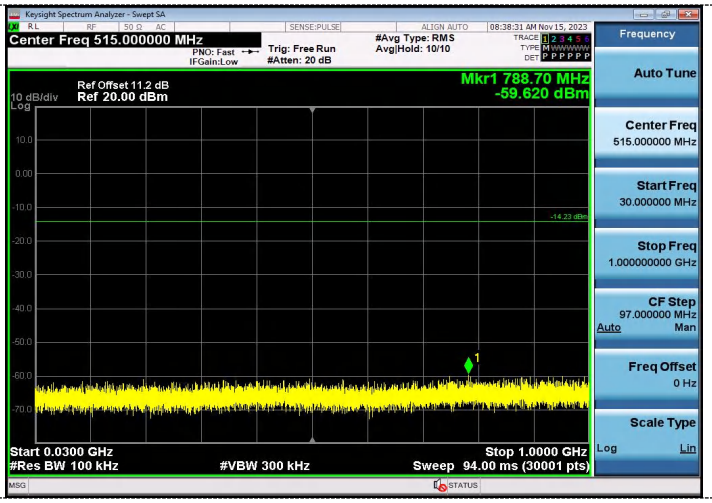
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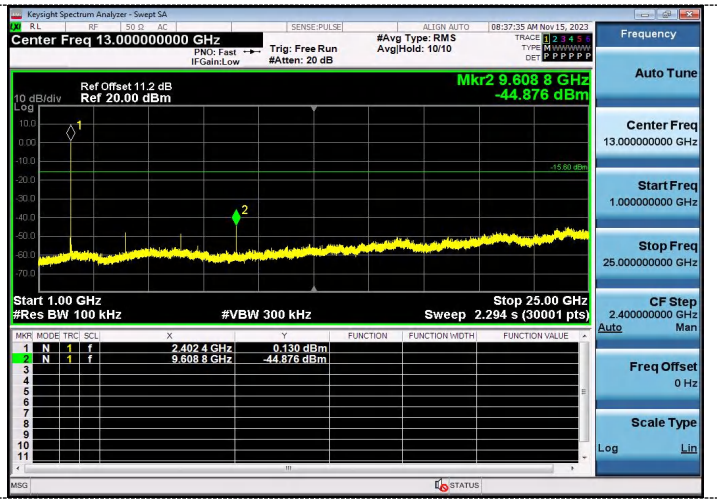	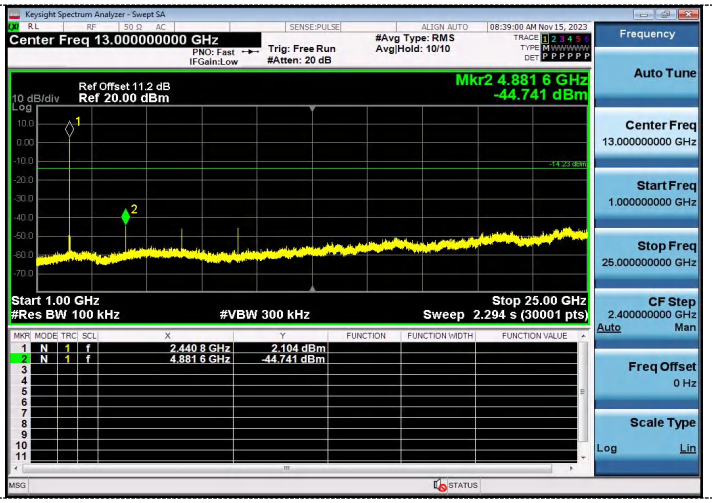
1G-25G	1G-25G

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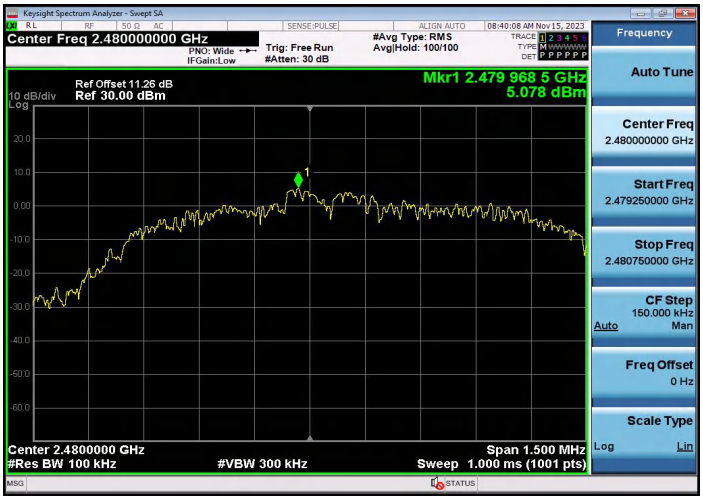	
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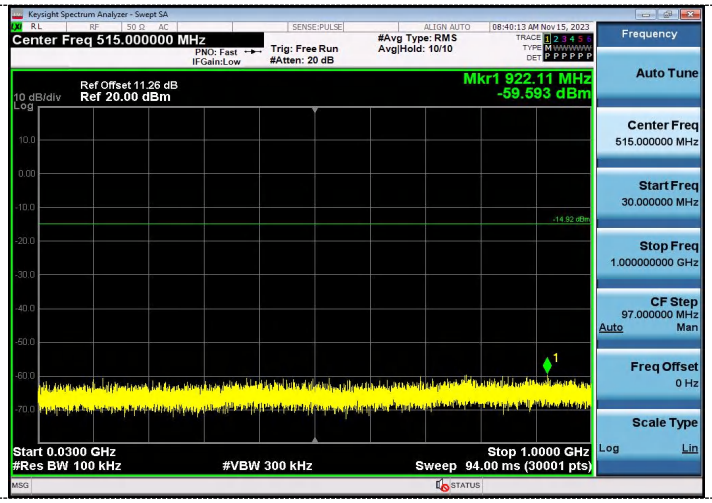	
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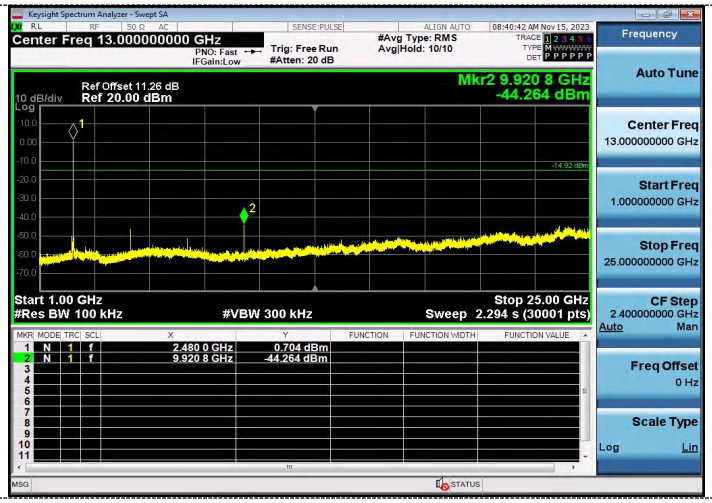	
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Ant 2

GFSK(CH00)	GFSK(CH39)
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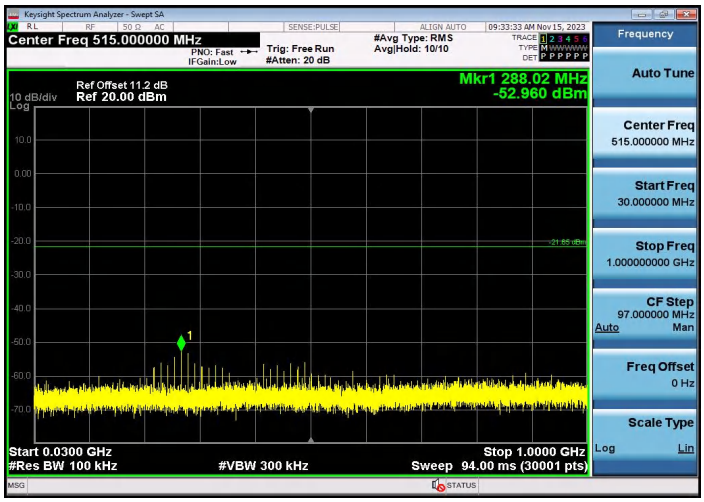	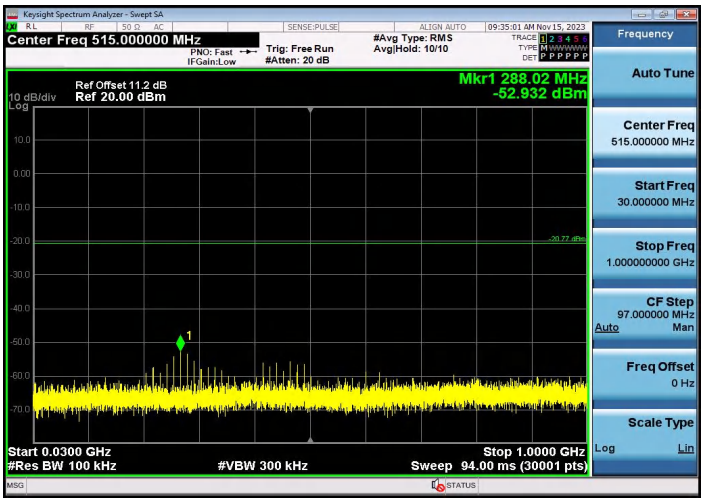
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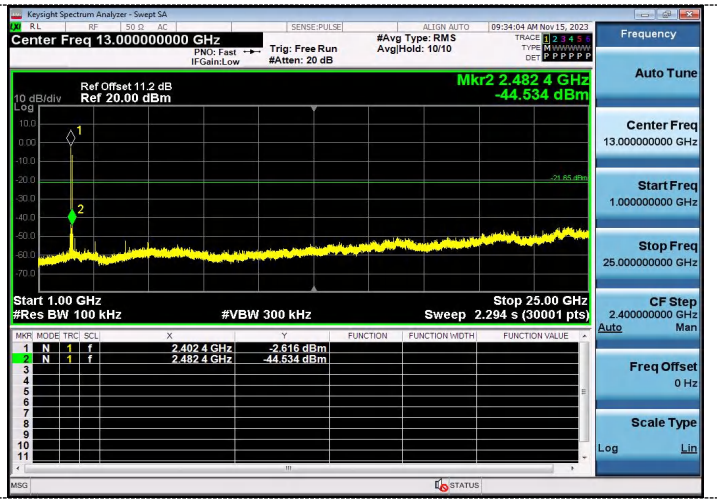	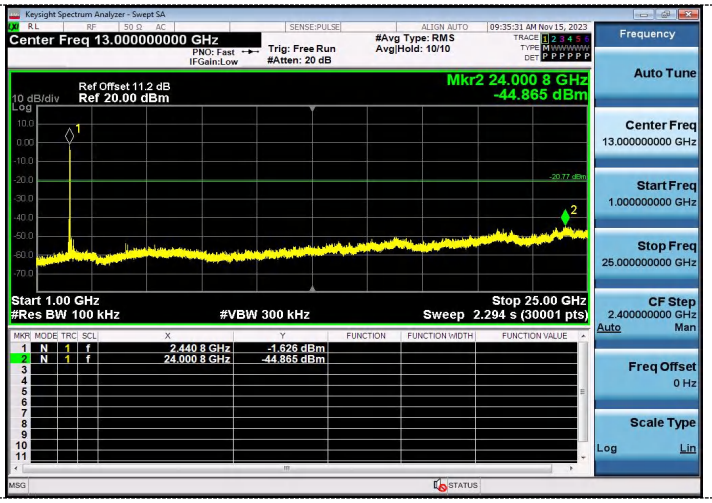
1G-25G	1G-25G

GFSK(CH78)	π/4DQPSK (CH00)
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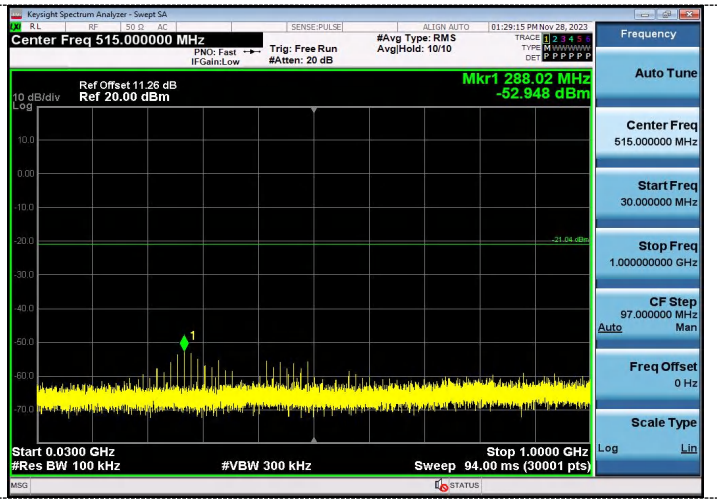	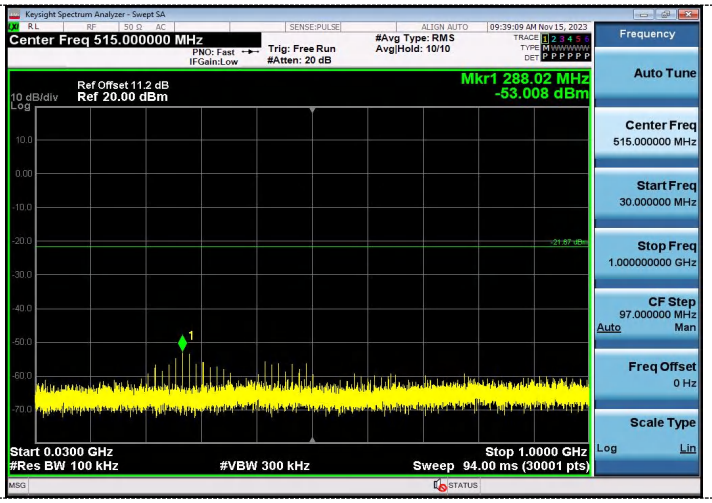
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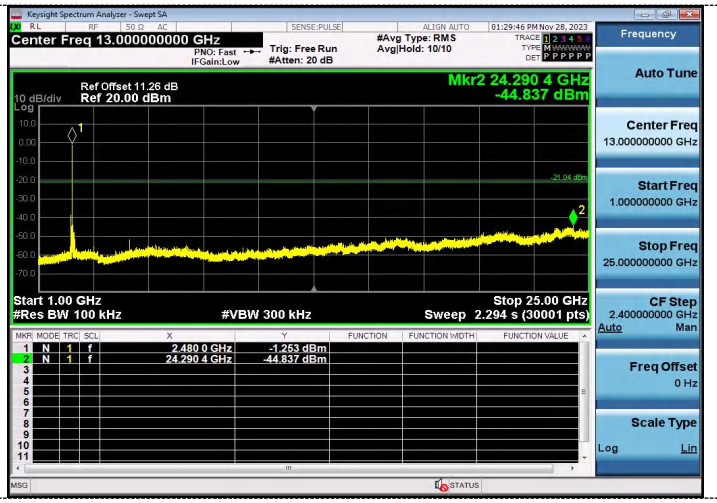
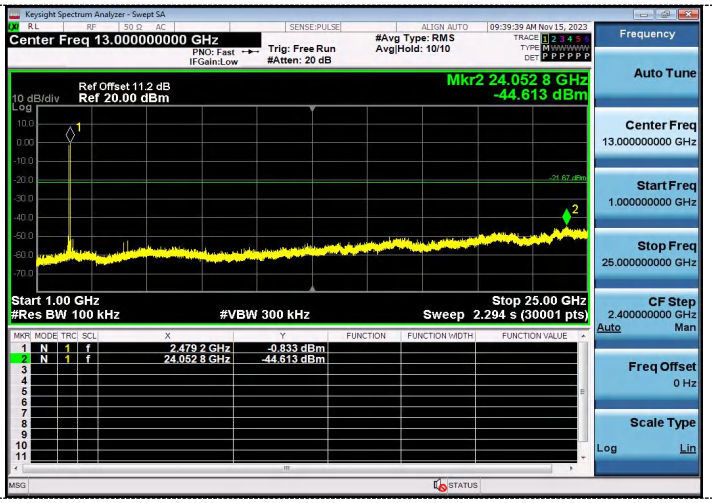
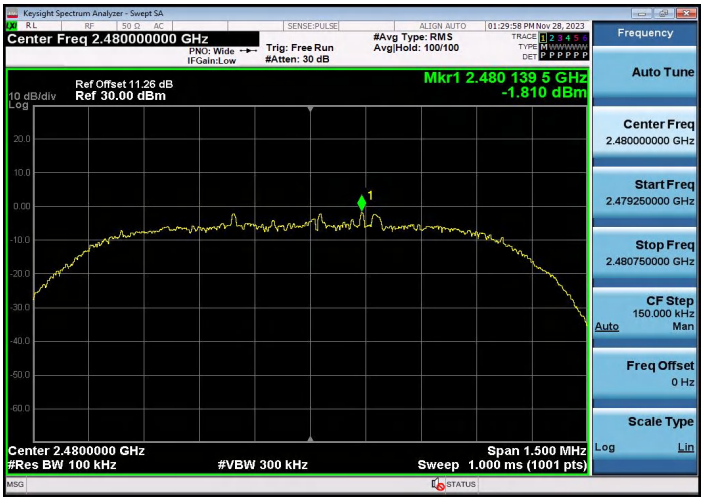
	
1G-25G	1G-25G

π/4DQPSK (CH39)	π/4DQPSK (CH78)
	
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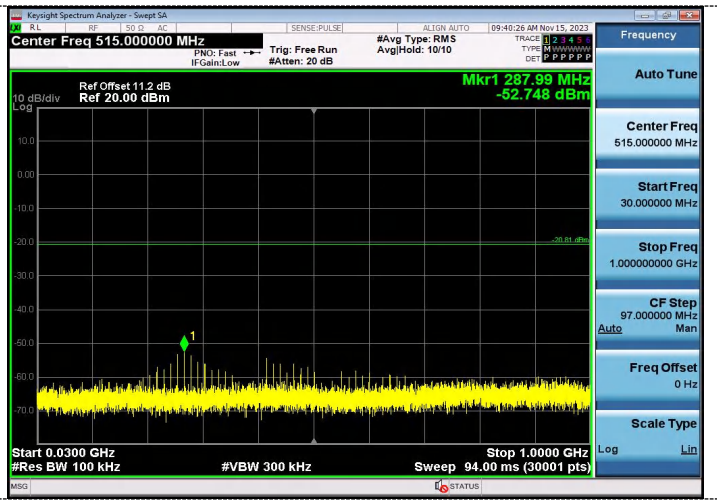	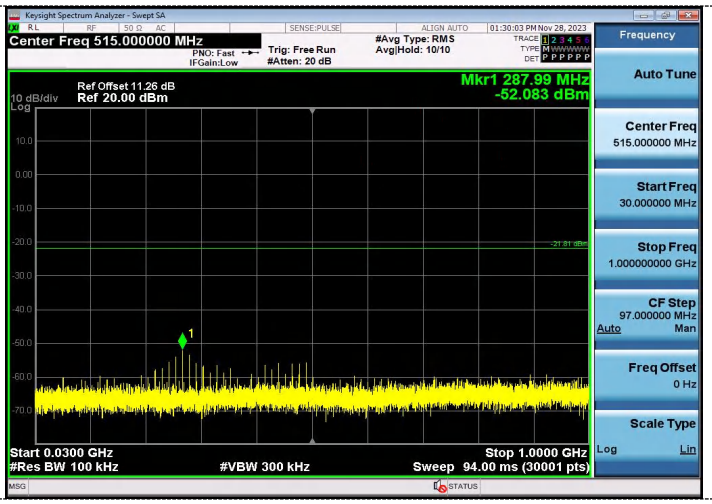
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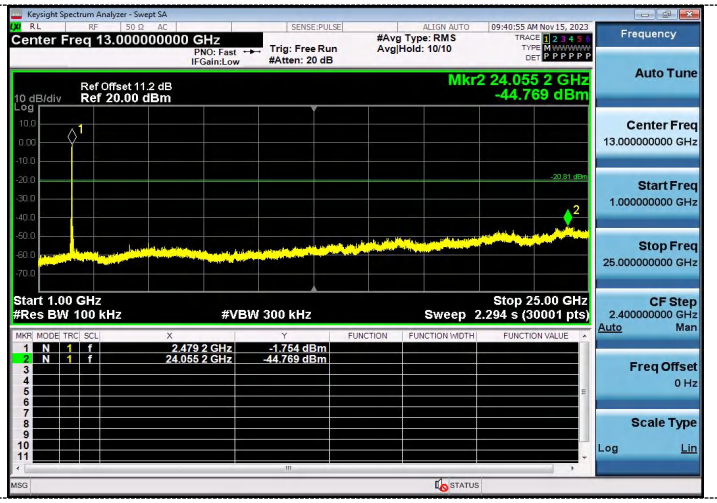	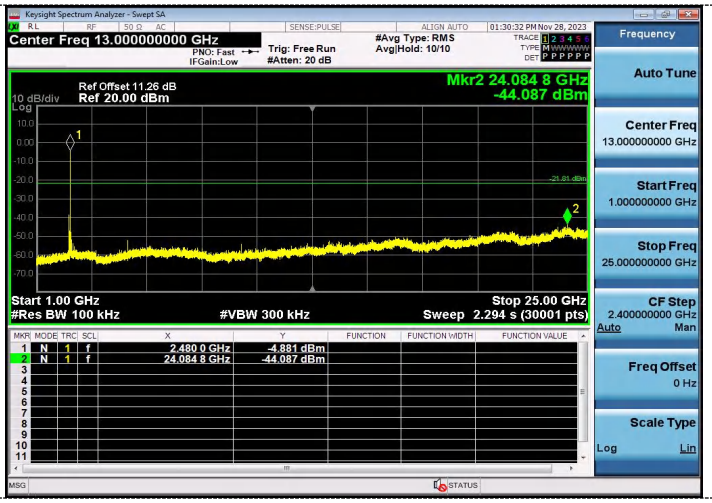
1G-25G	1G-25G

8DPSK (CH00)	8DPSK (CH39)
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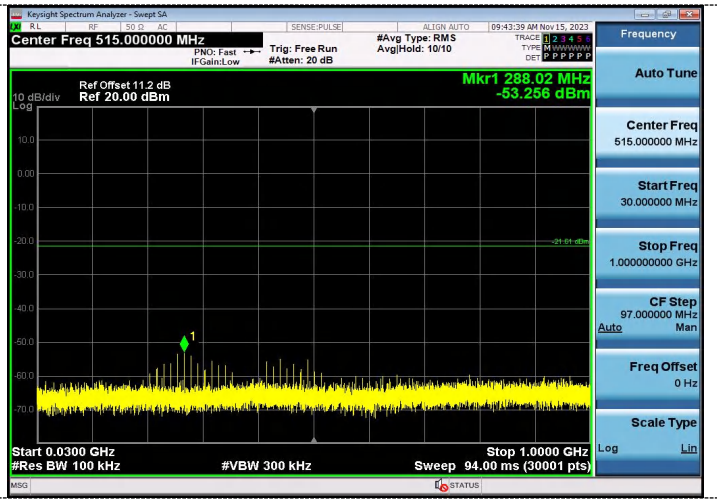	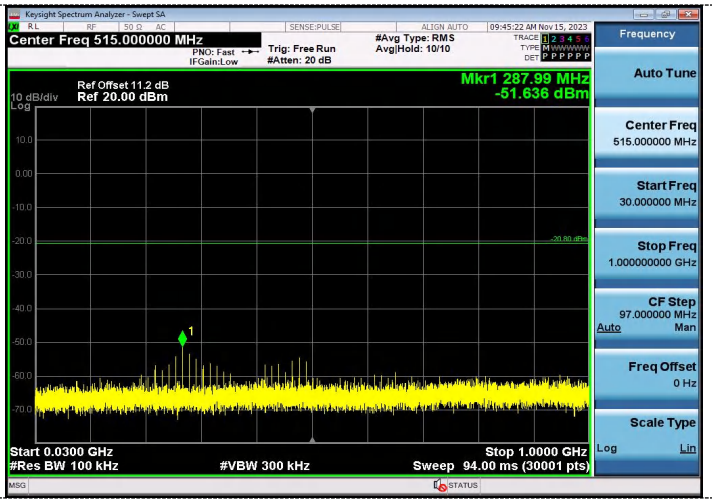
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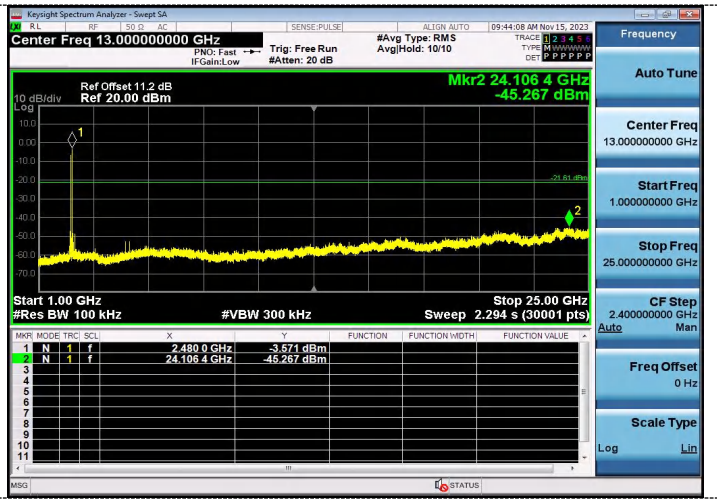	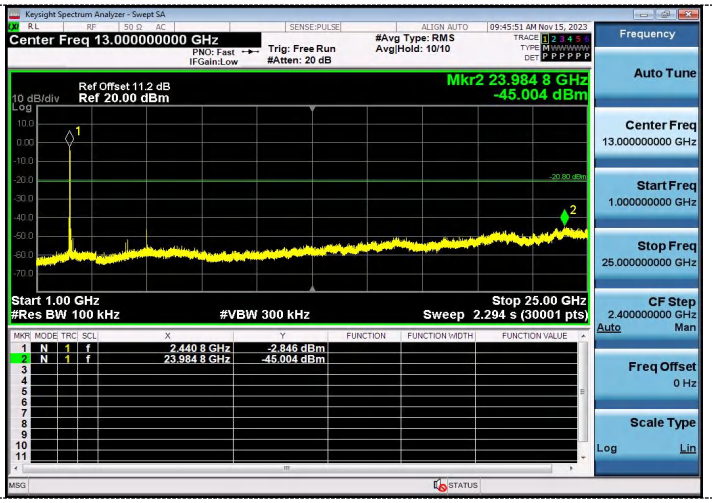
1G-25G	1G-25G

8DPSK (CH78)	
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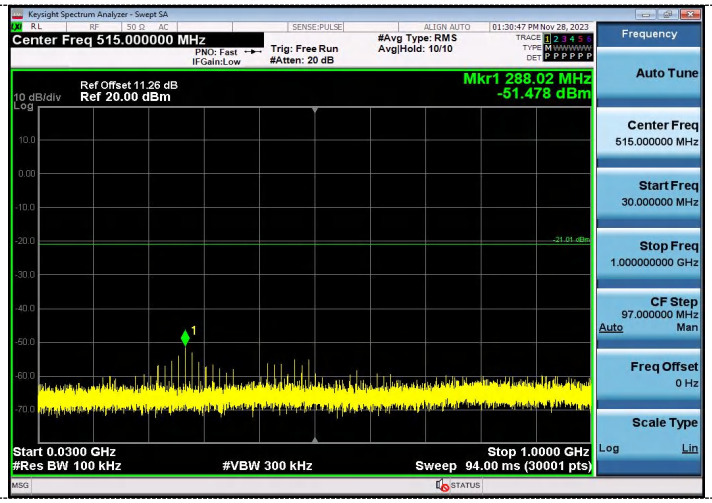	
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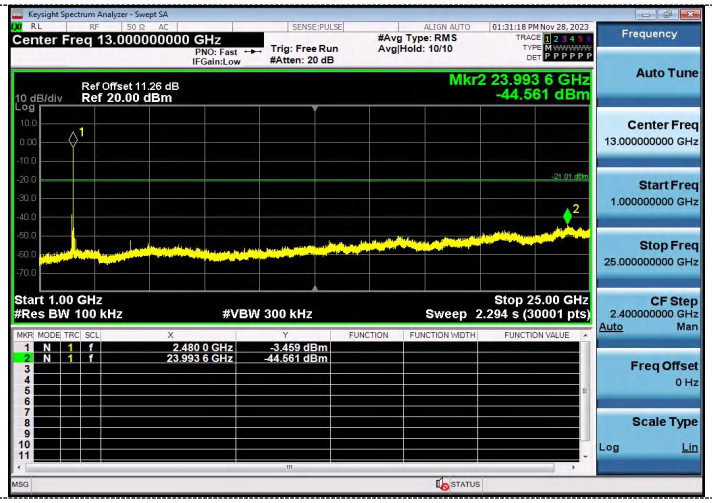
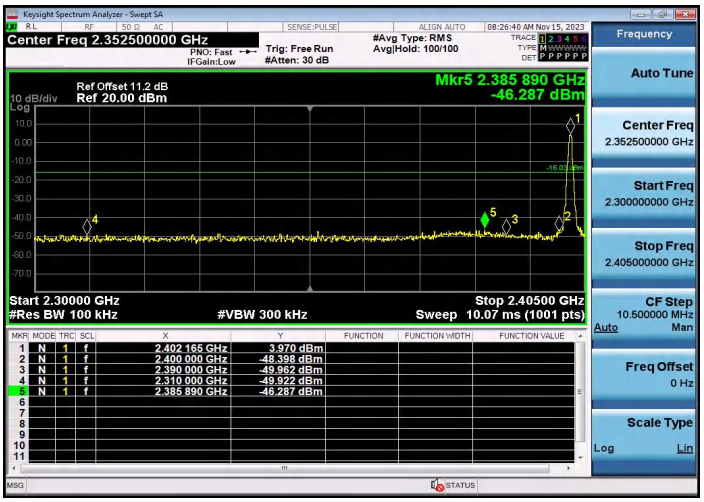
	
1G-25G	

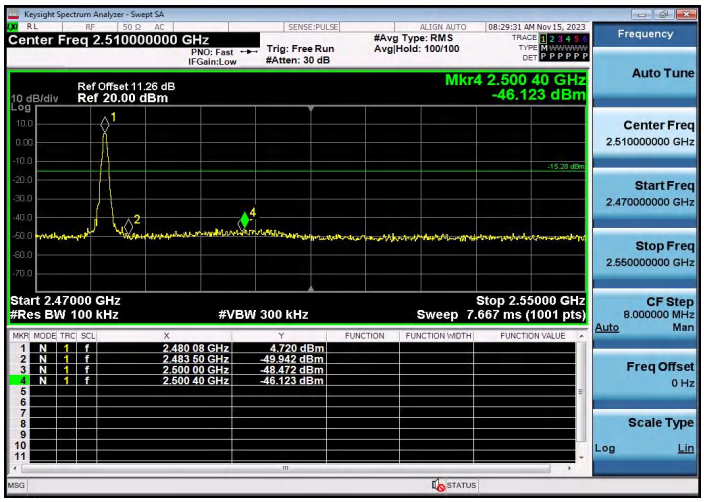
Band-edge Measurements for RF Conducted Emissions:

Ant 1

GFSK

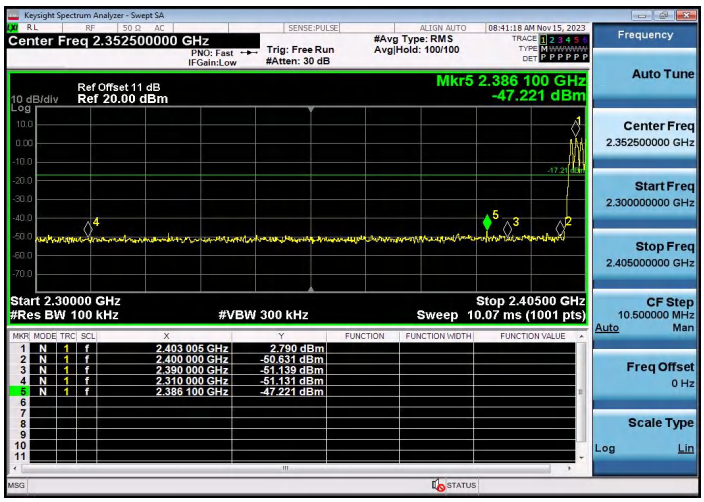


Left bandedge hoping off

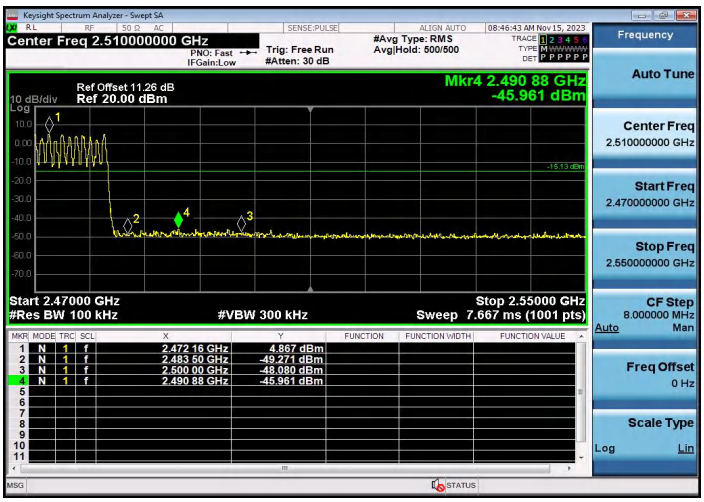


Right bandedge hoping off

GFSK

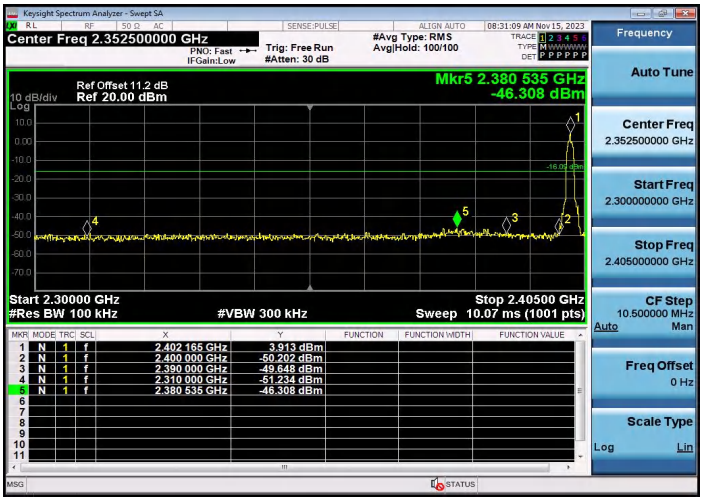


Left bandedge hoping on

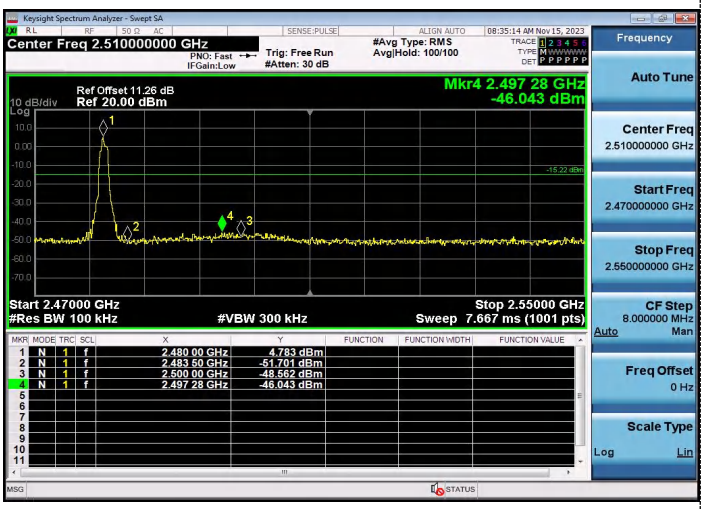


Right bandedge hoping on

π/4DQPSK

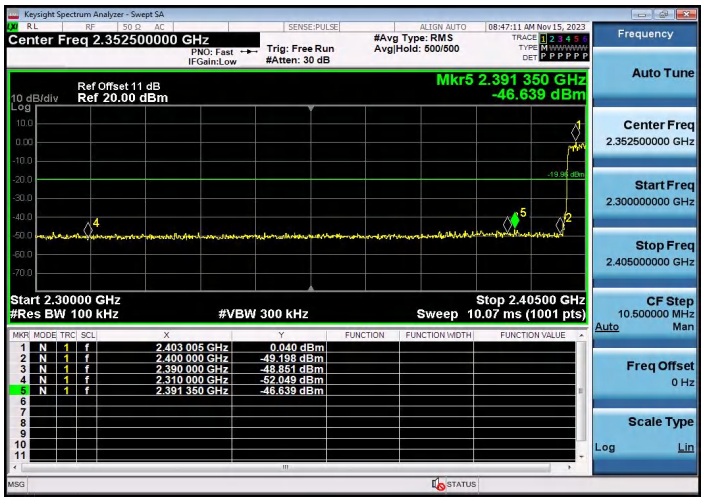


Left bandedge hoping off

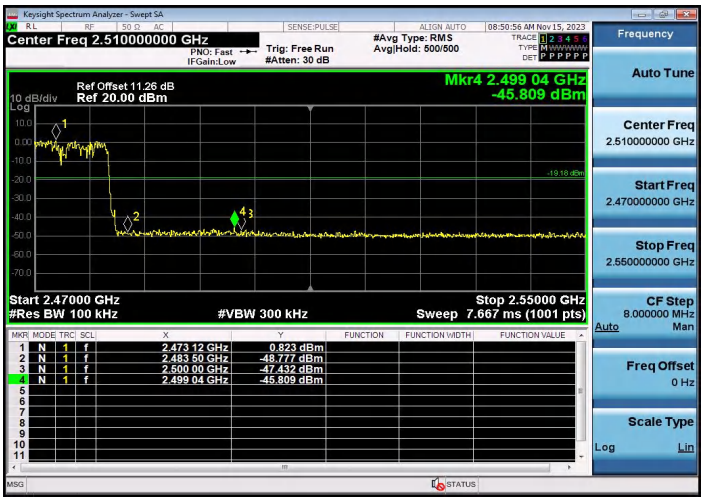


Right bandedge hoping off

π/4DQPSK



Left bandedge hoping on



Right bandedge hoping on