

8.19.6. OUT-OF-BAND EMISSIONS

LIMITS

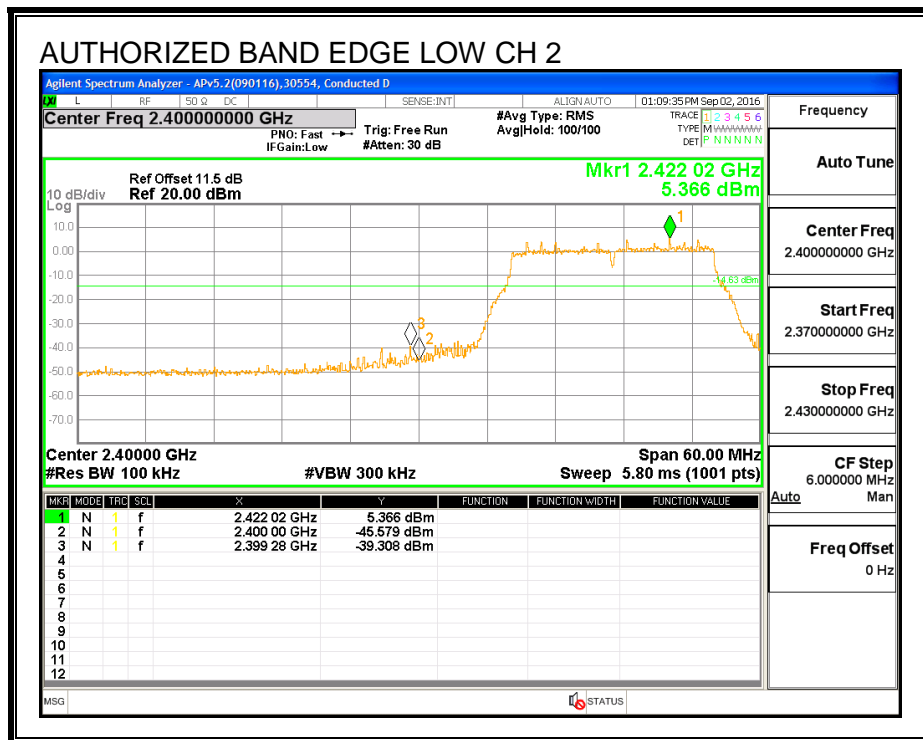
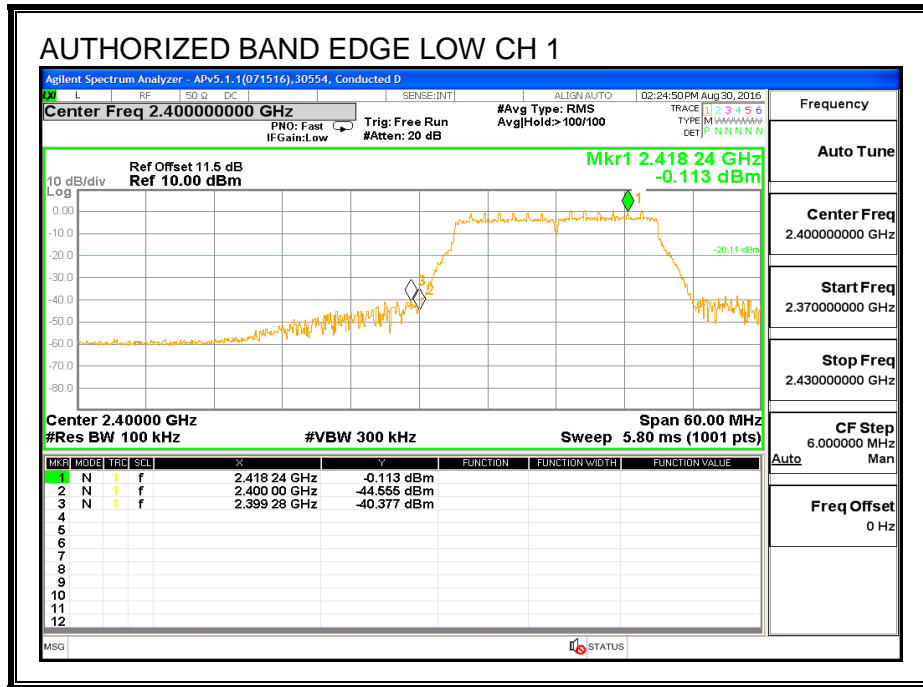
FCC §15.247 (d)

IC RSS-247 (5.5)

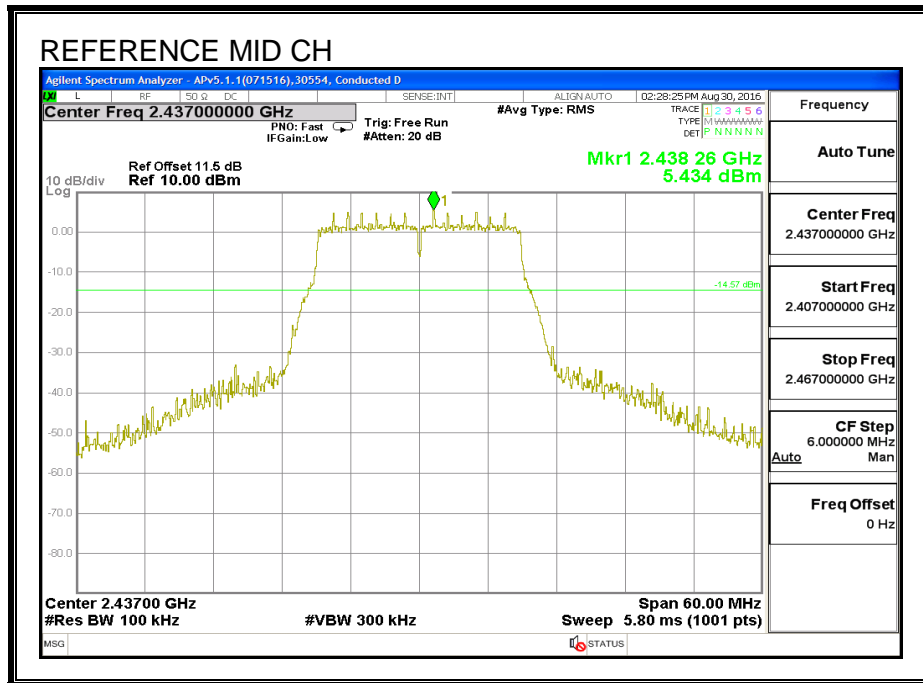
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies 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.

RESULTS

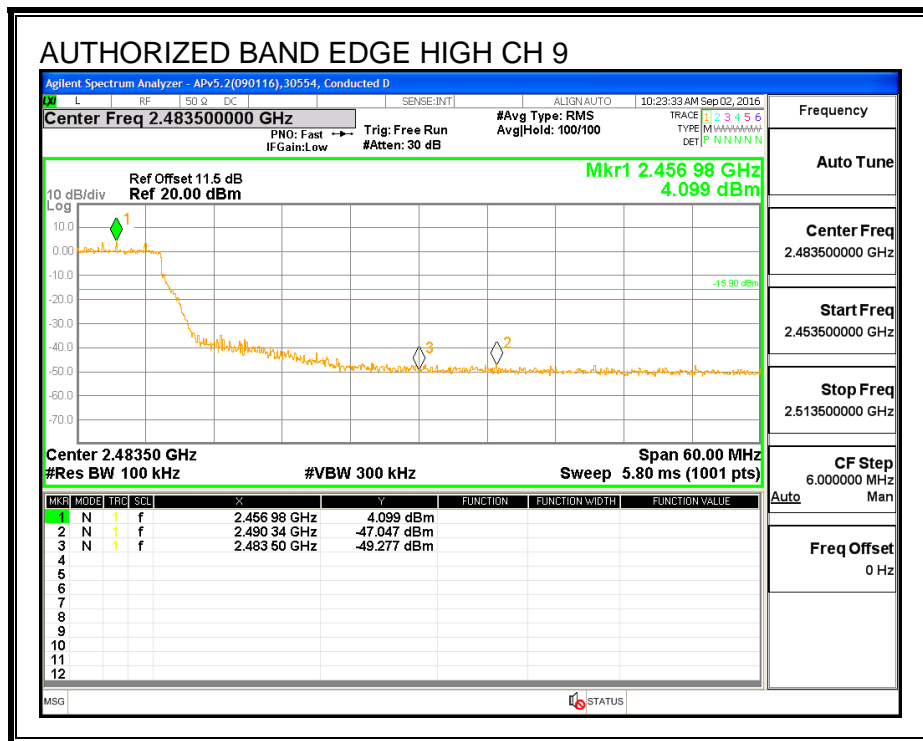
LOW CHANNEL BANDEDGE, Chain 0

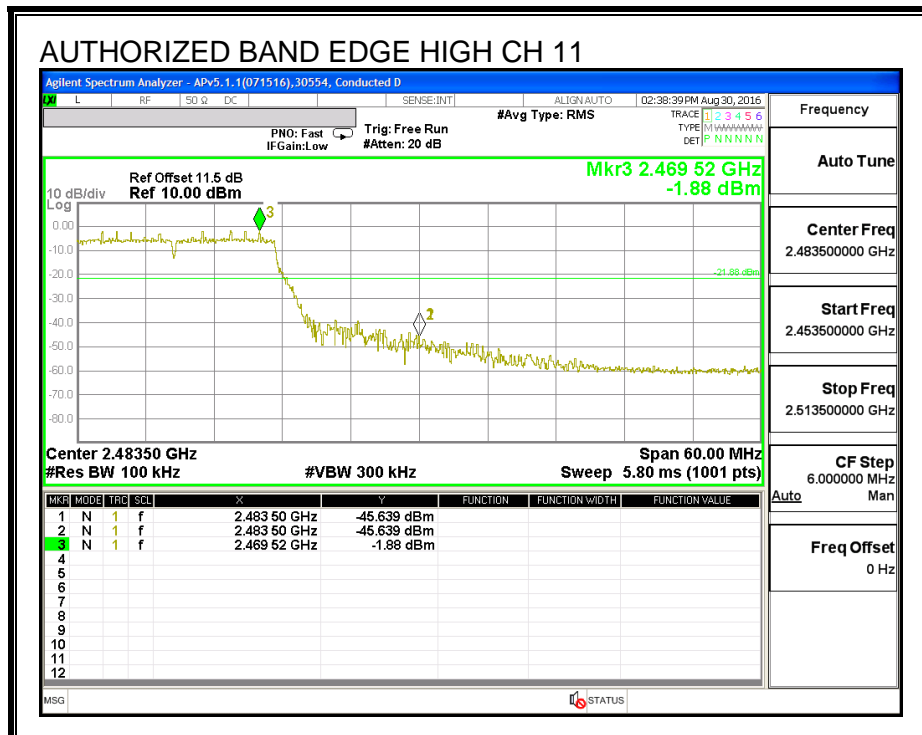
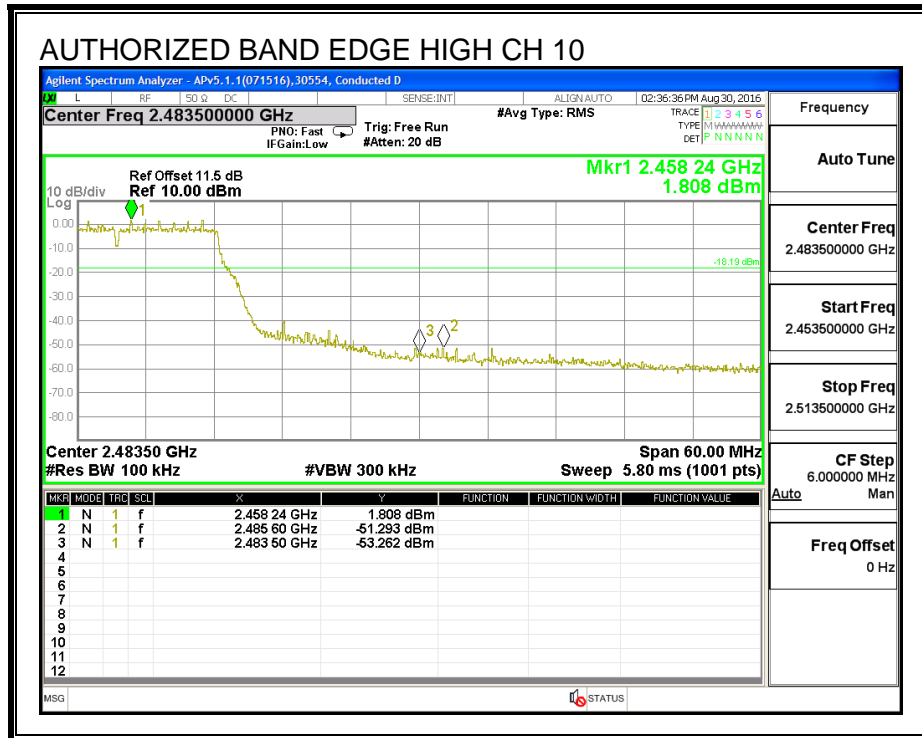


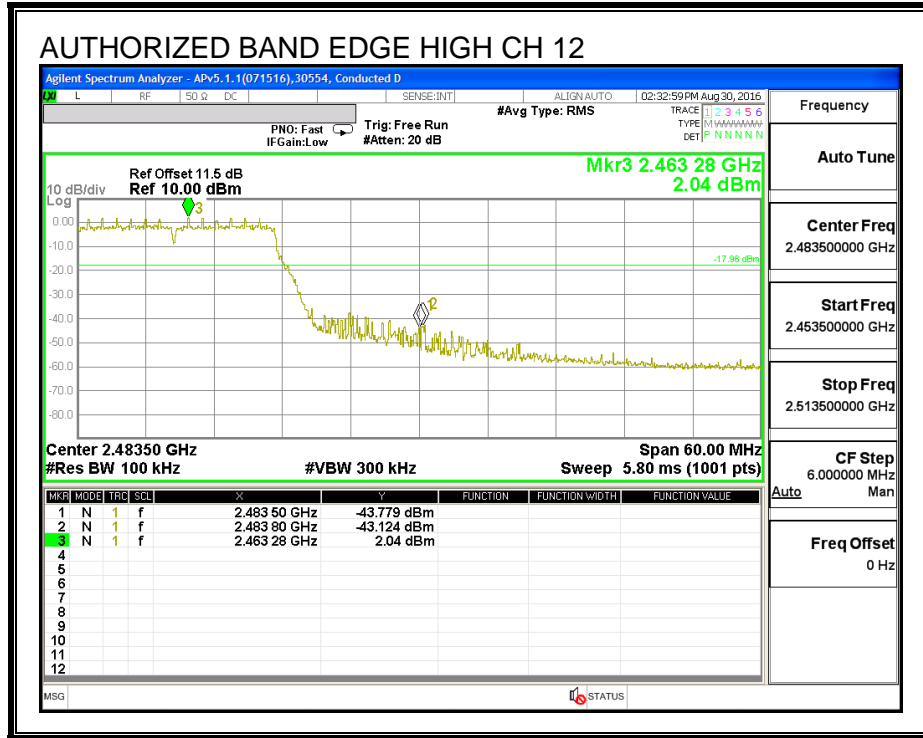
MID CHANNEL REFERENCE, Chain 0



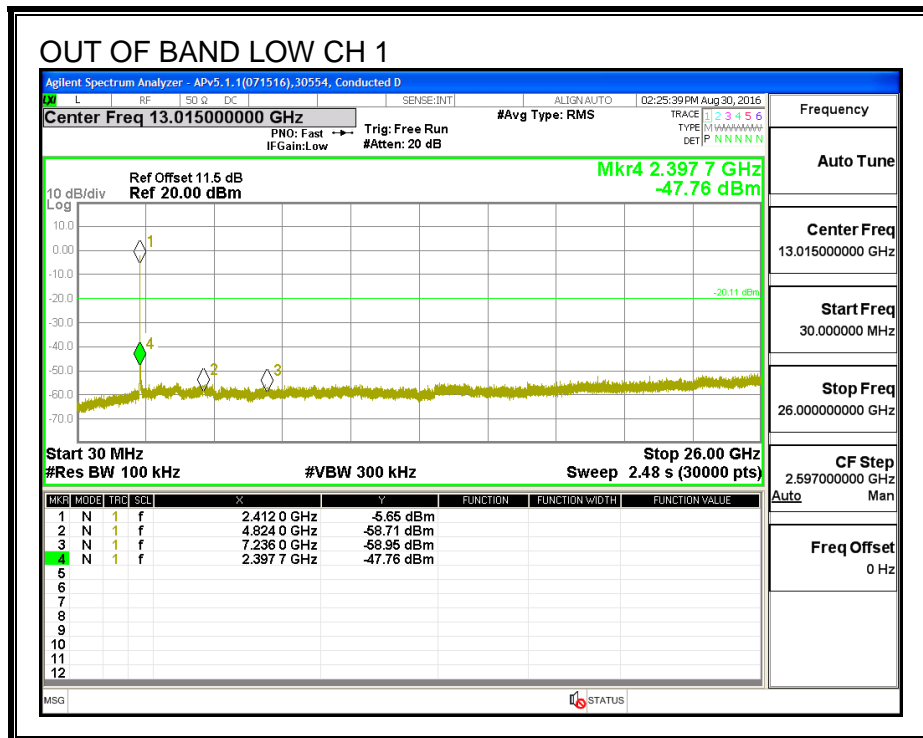
HIGH CHANNEL BANDEDGE, Chain 0

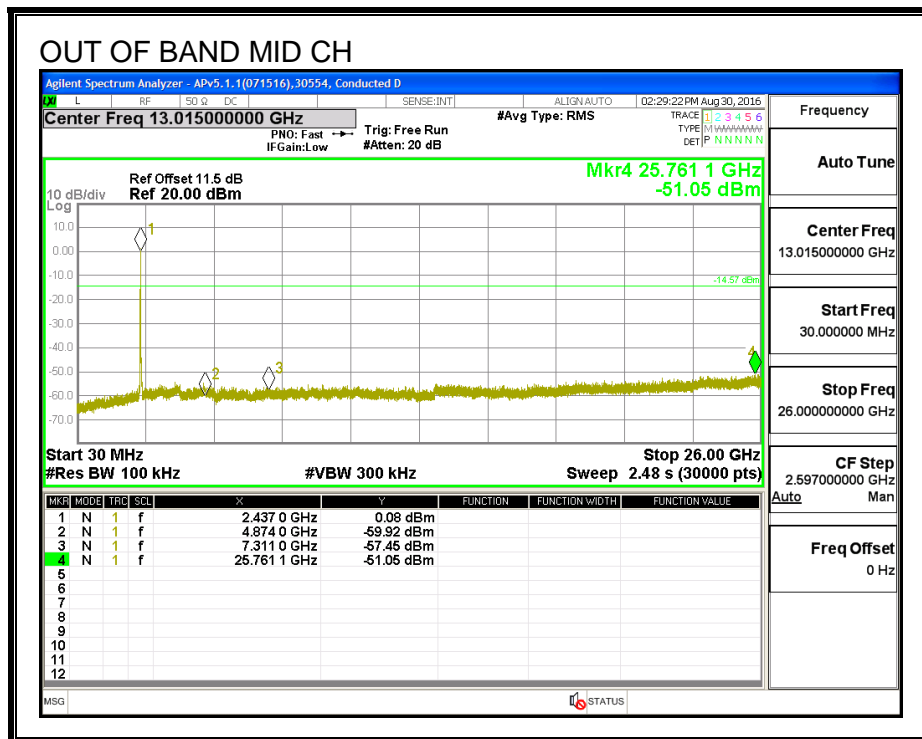
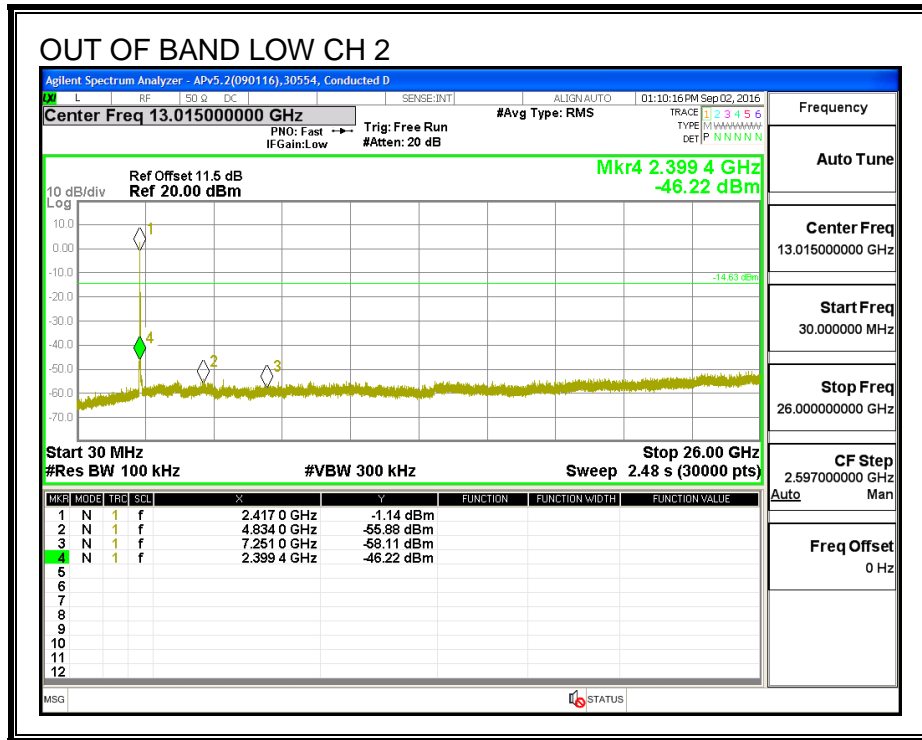


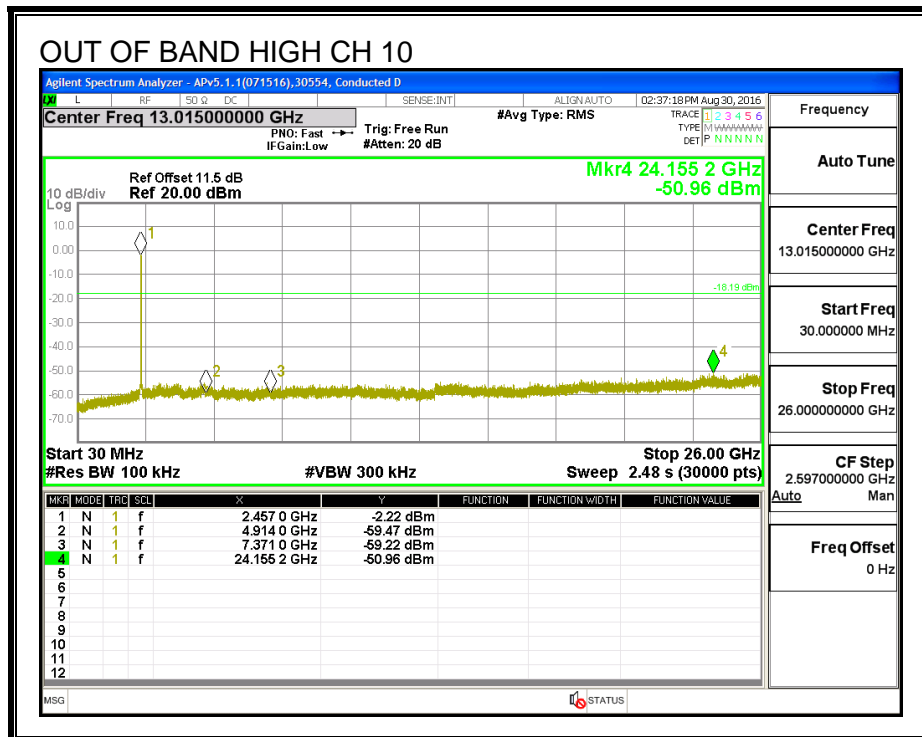
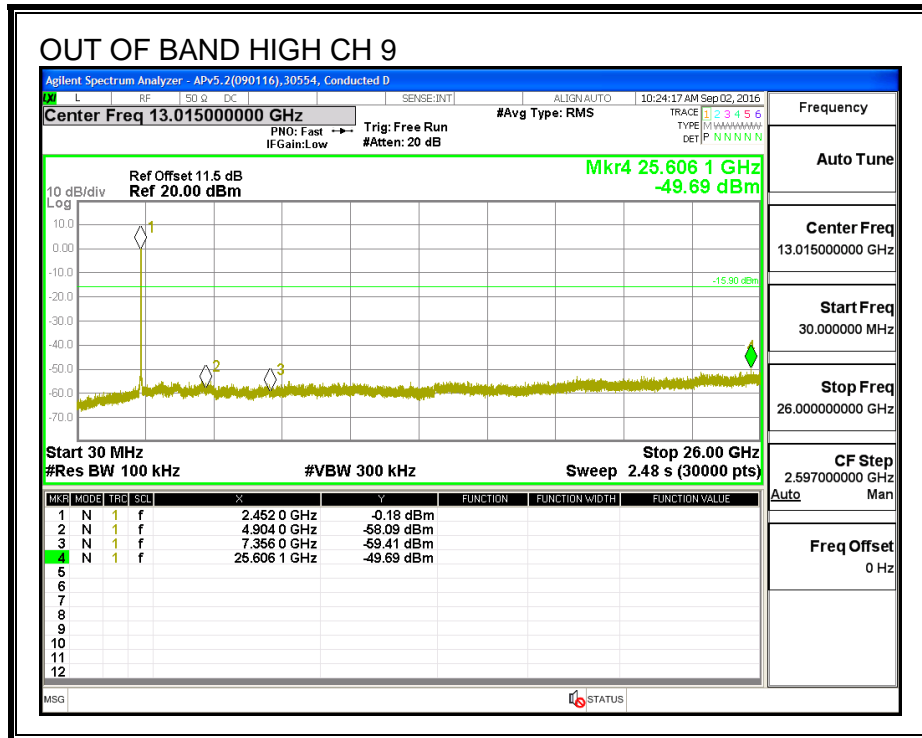


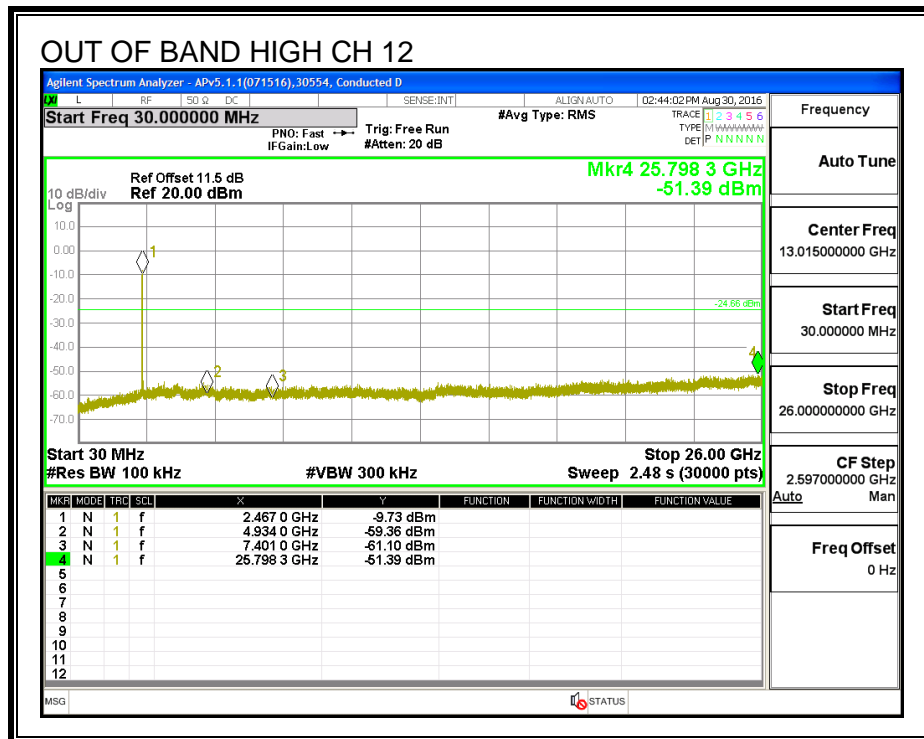
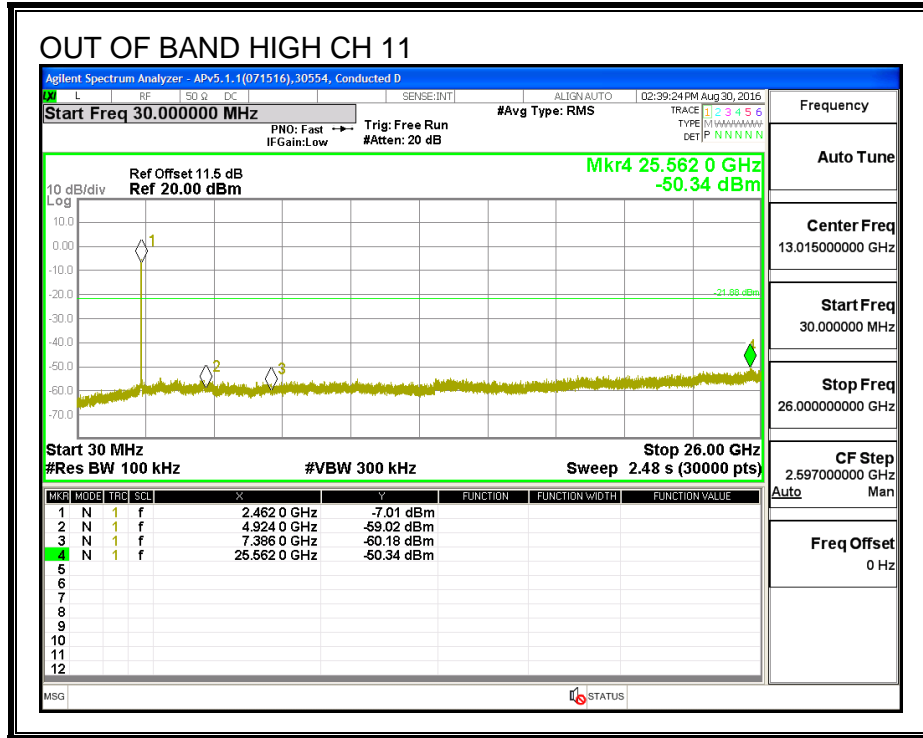


OUT-OF-BAND EMISSIONS, Chain 0

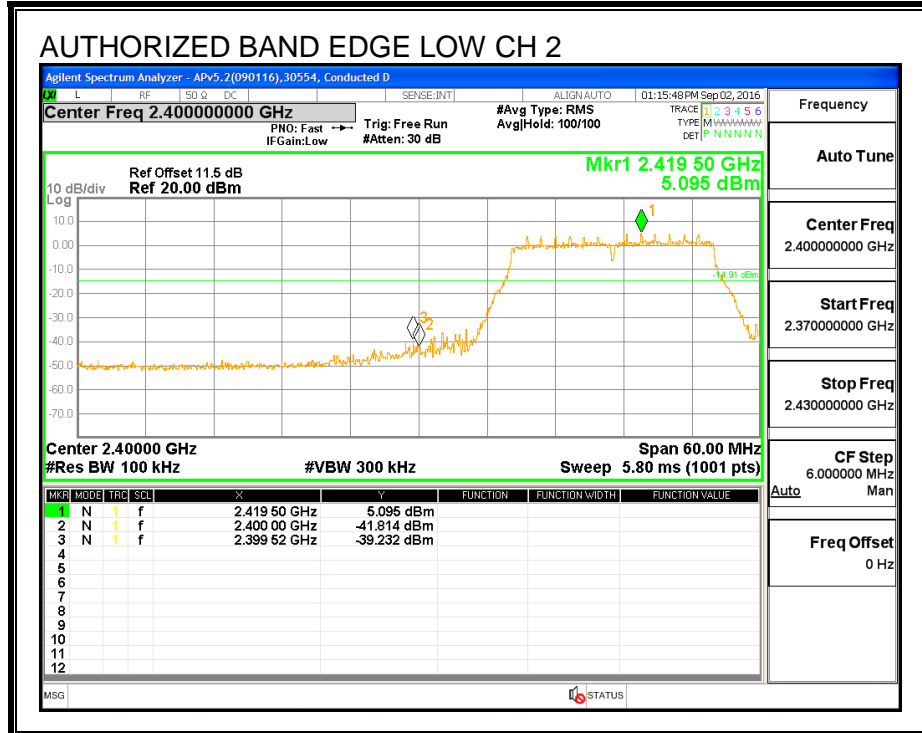
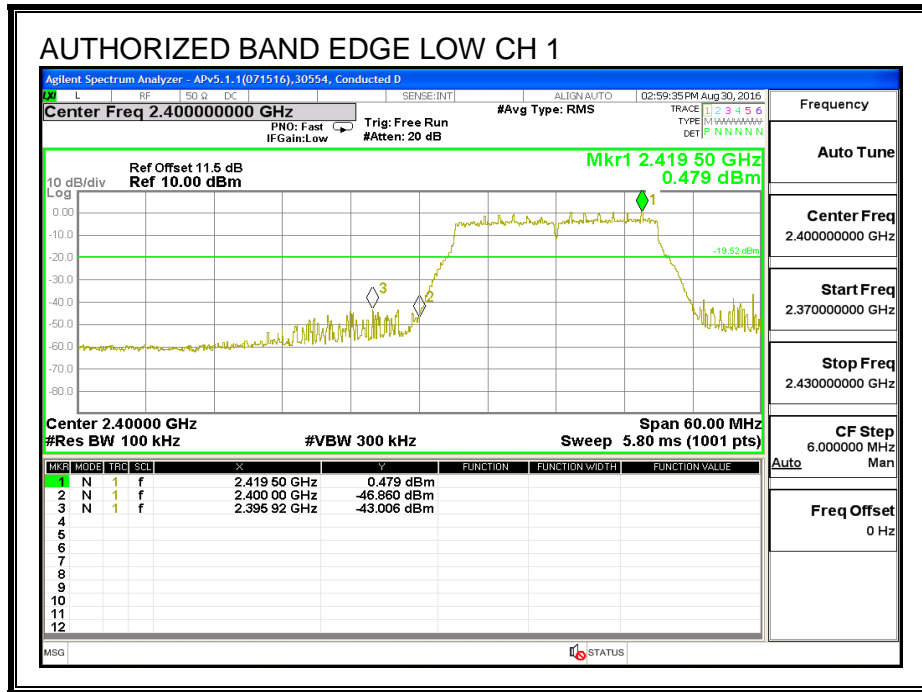




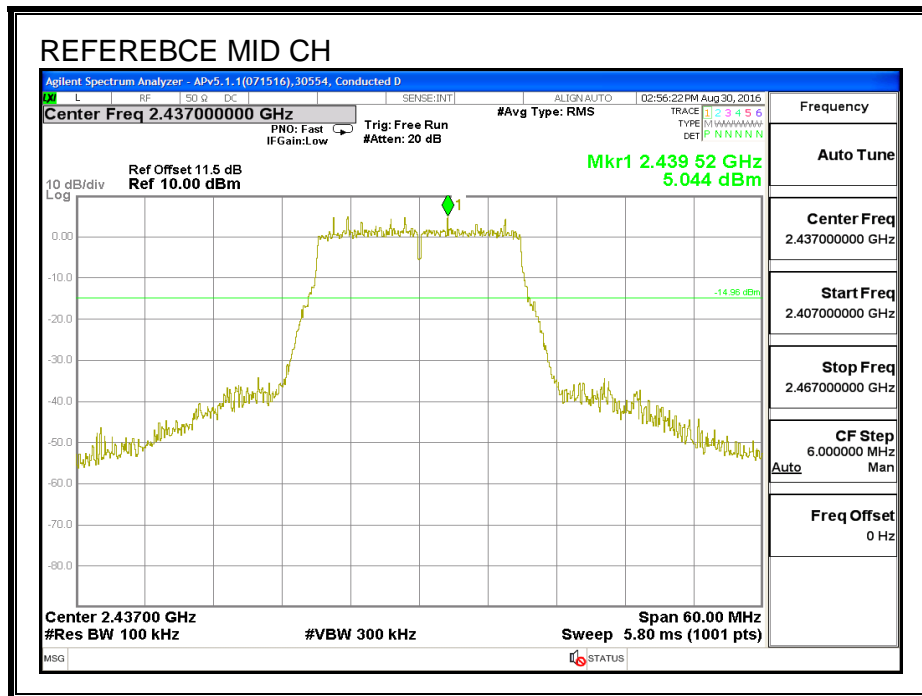




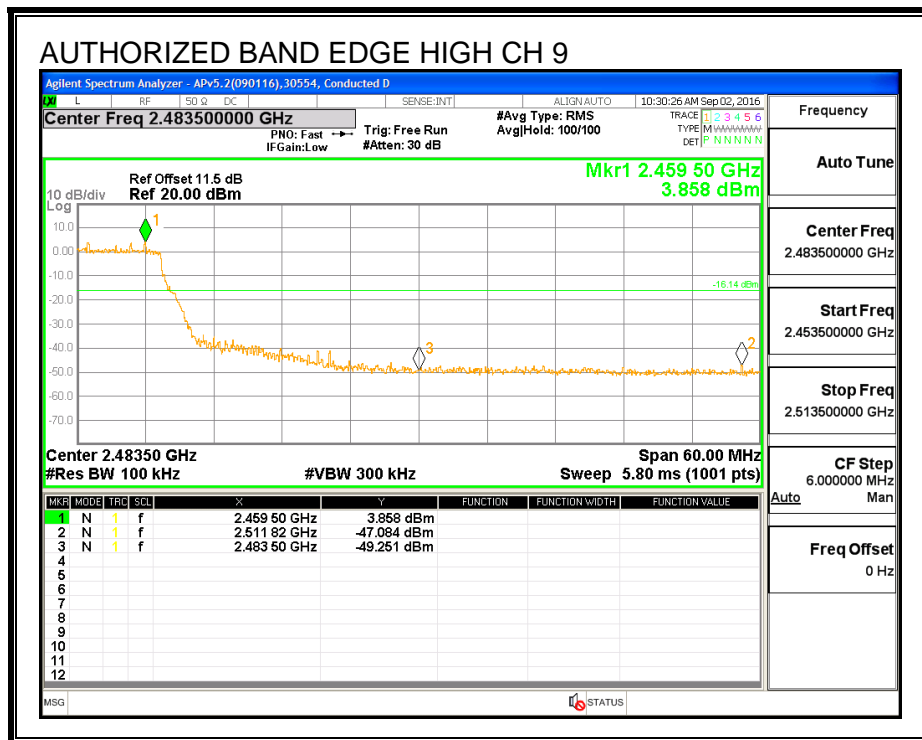
LOW CHANNEL BANDEDGE, Chain 2

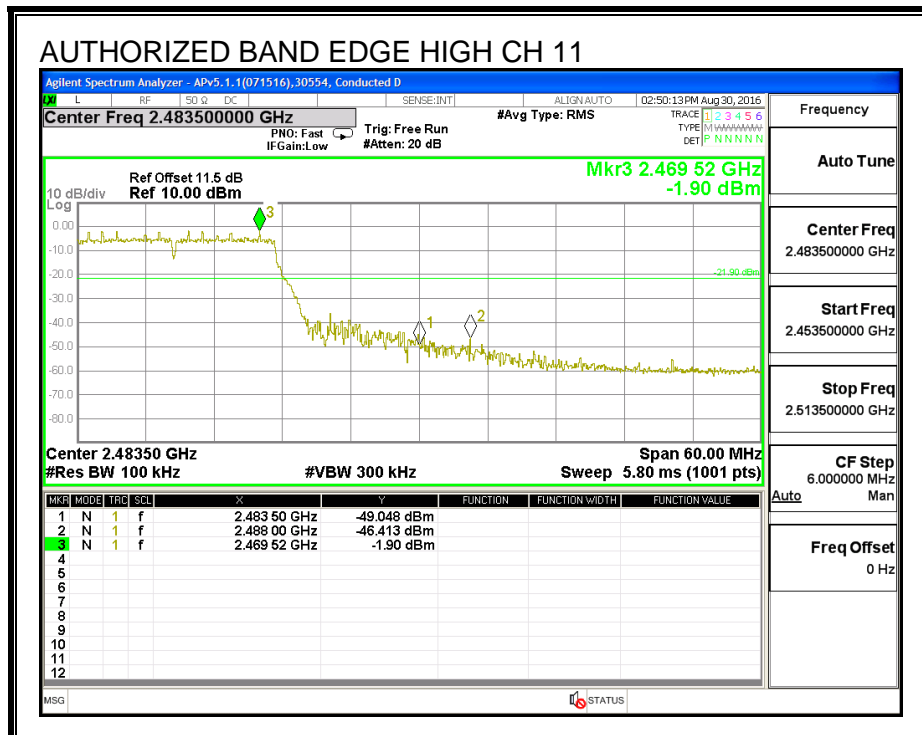
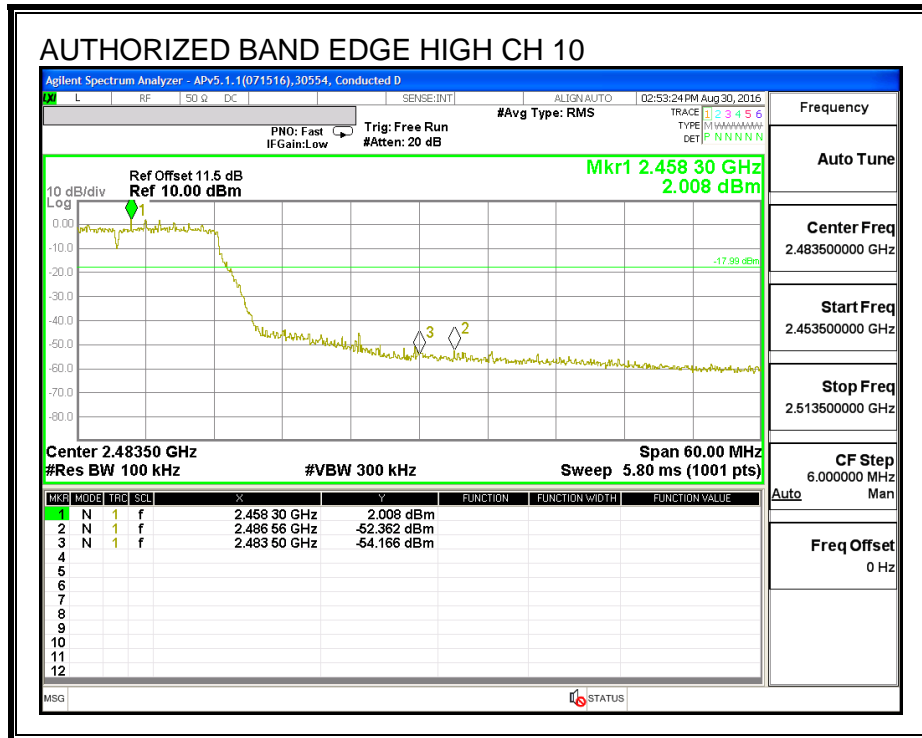


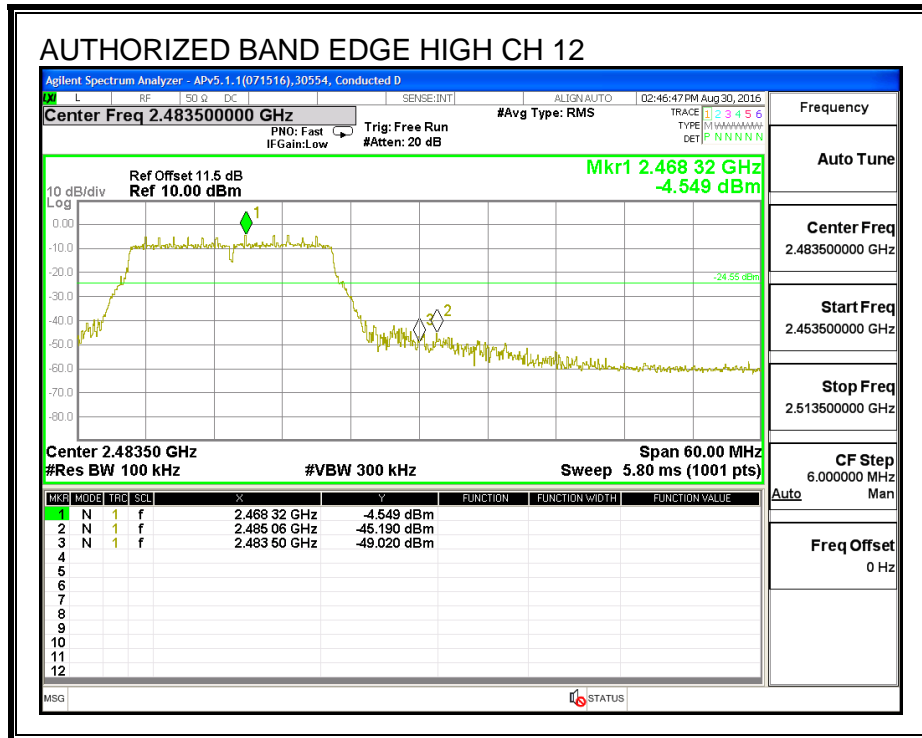
MID CHANNEL REFERENCE, Chain 2



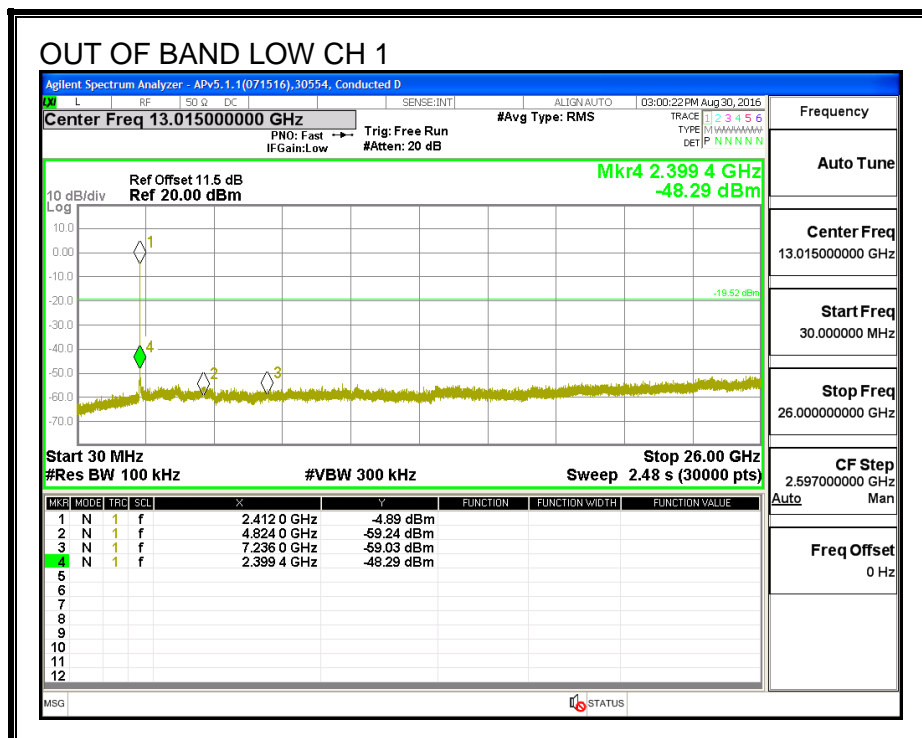
HIGH CHANNEL BANDEDGE, Chain 2

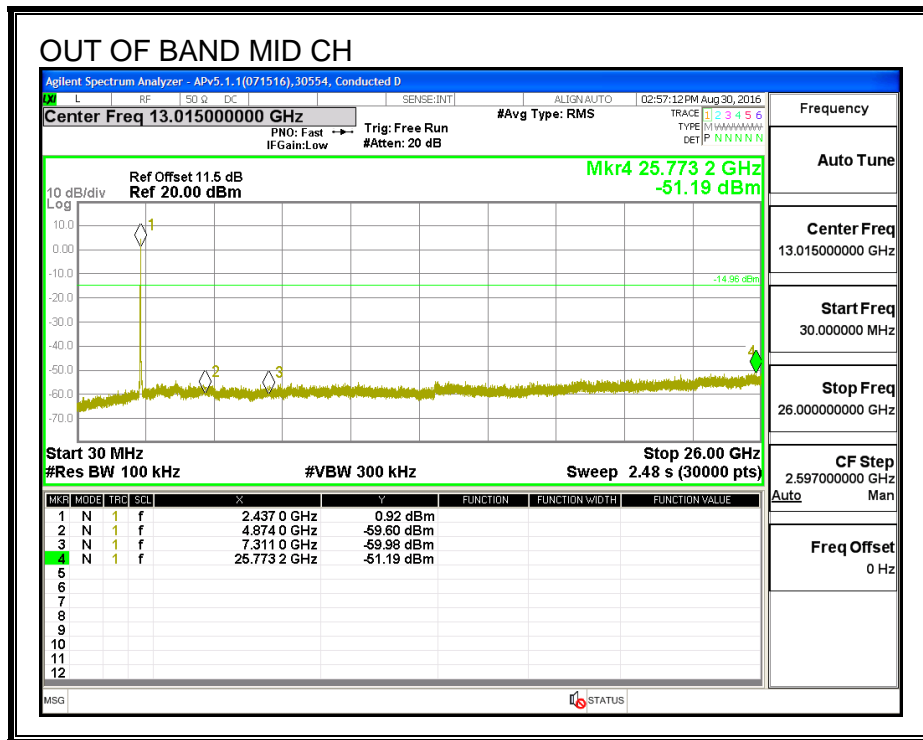
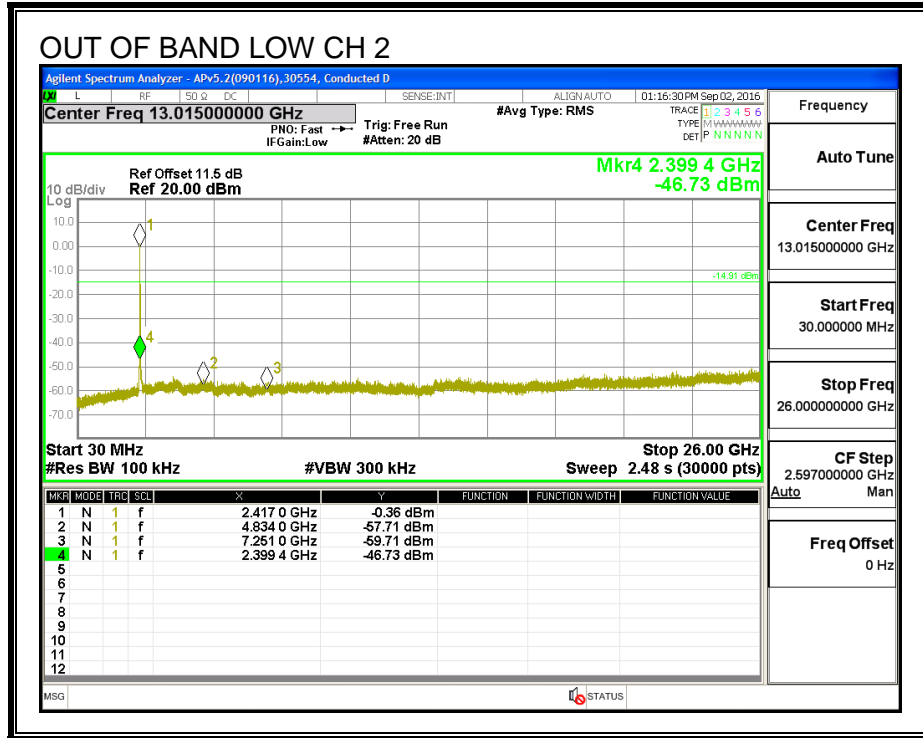


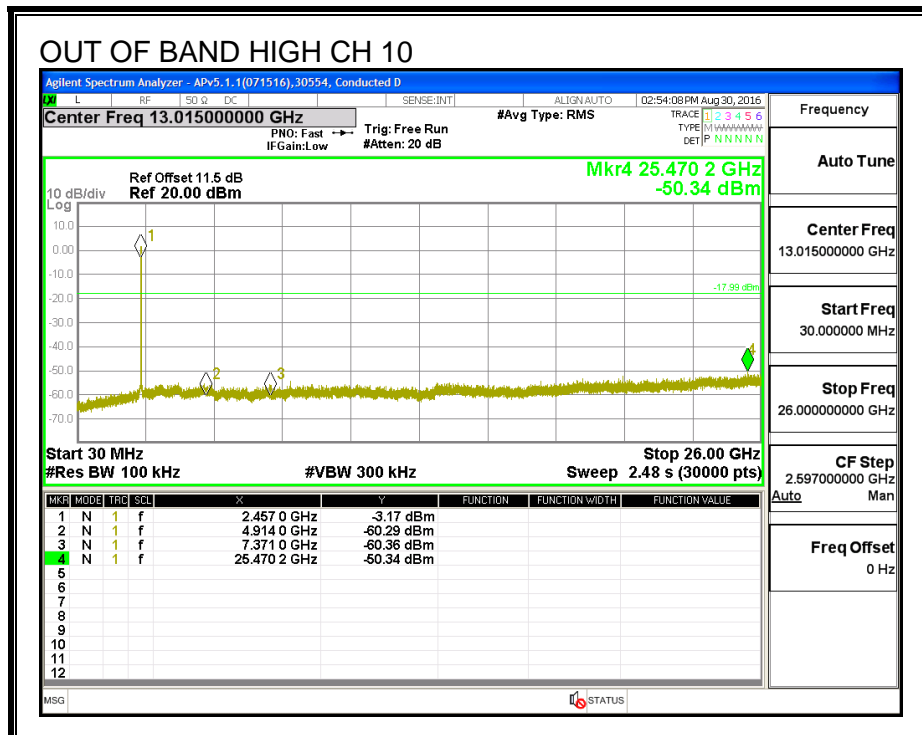
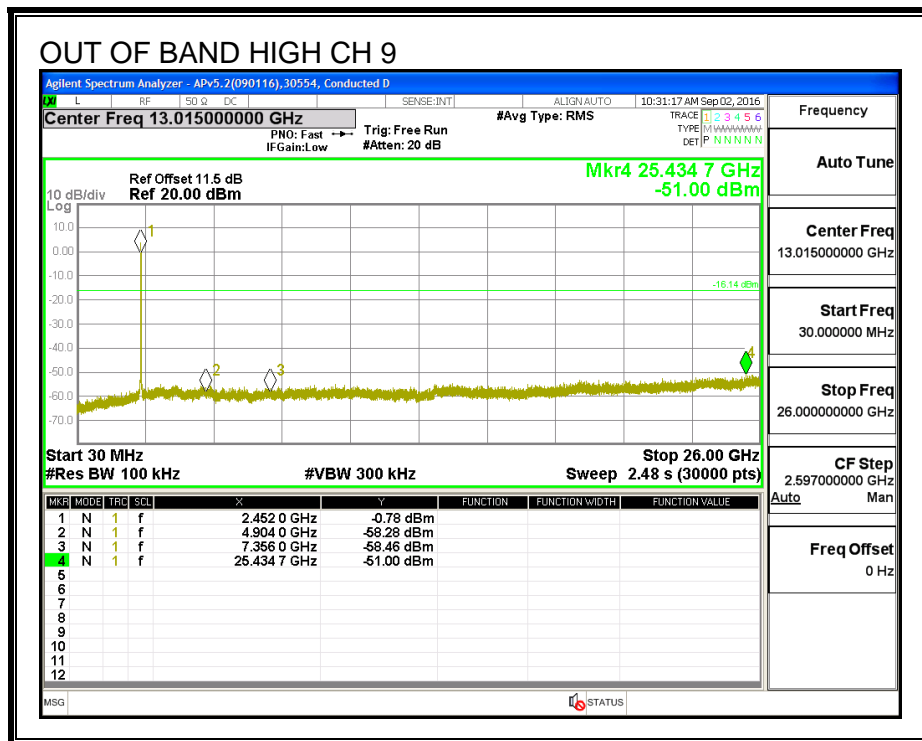


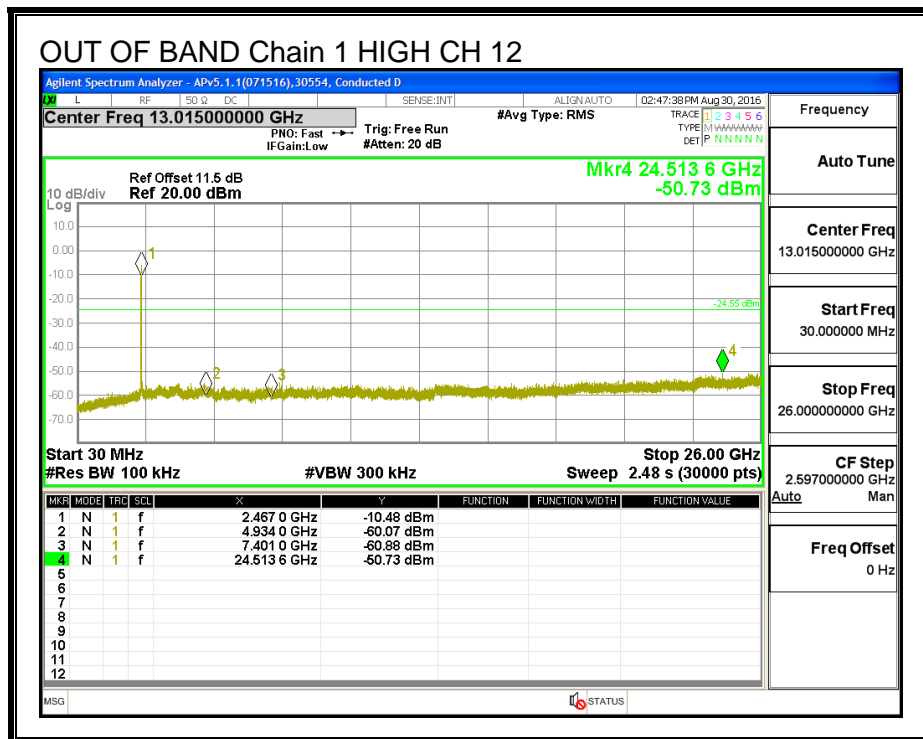
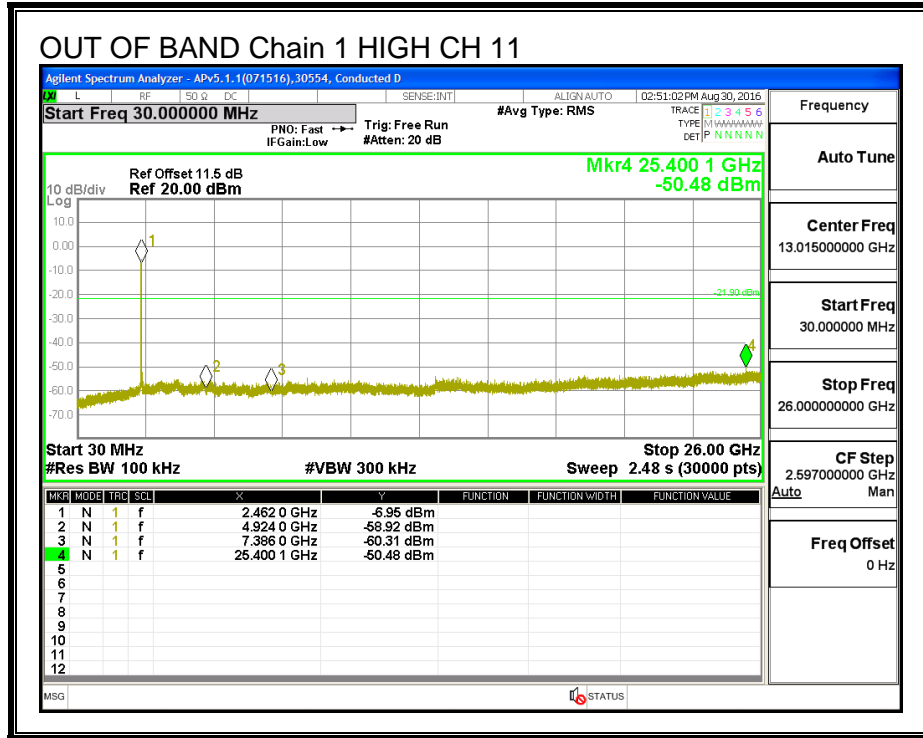


OUT-OF-BAND EMISSIONS, Chain 2









8.20. 802.11n 2Tx CDD MODE IN THE 2.4 GHZ BAND, CHAIN 1+2

8.20.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

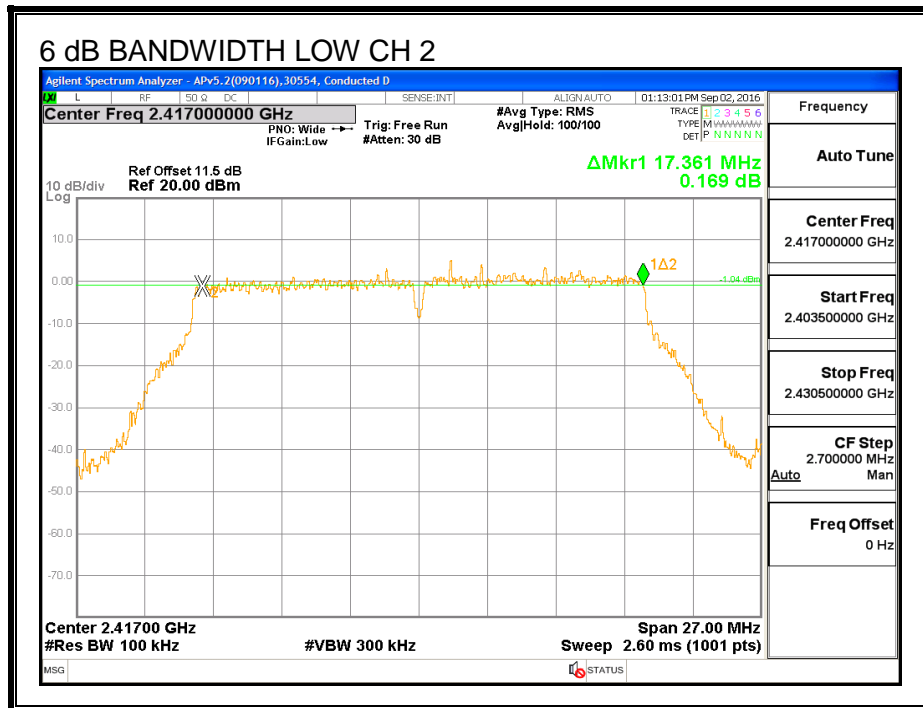
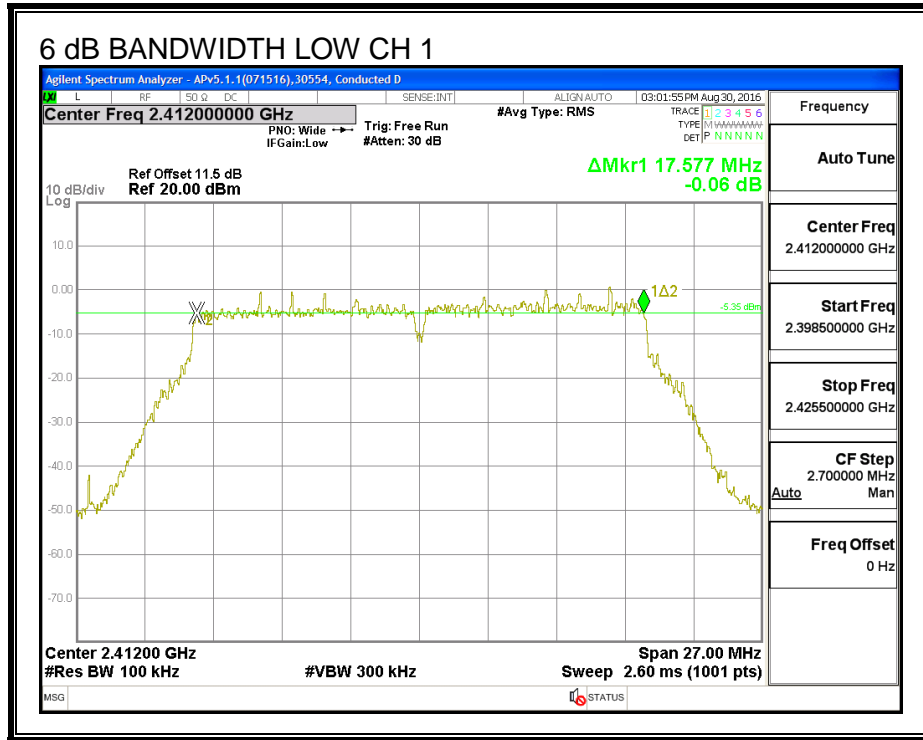
IC RSS-247 (5.2) (1)

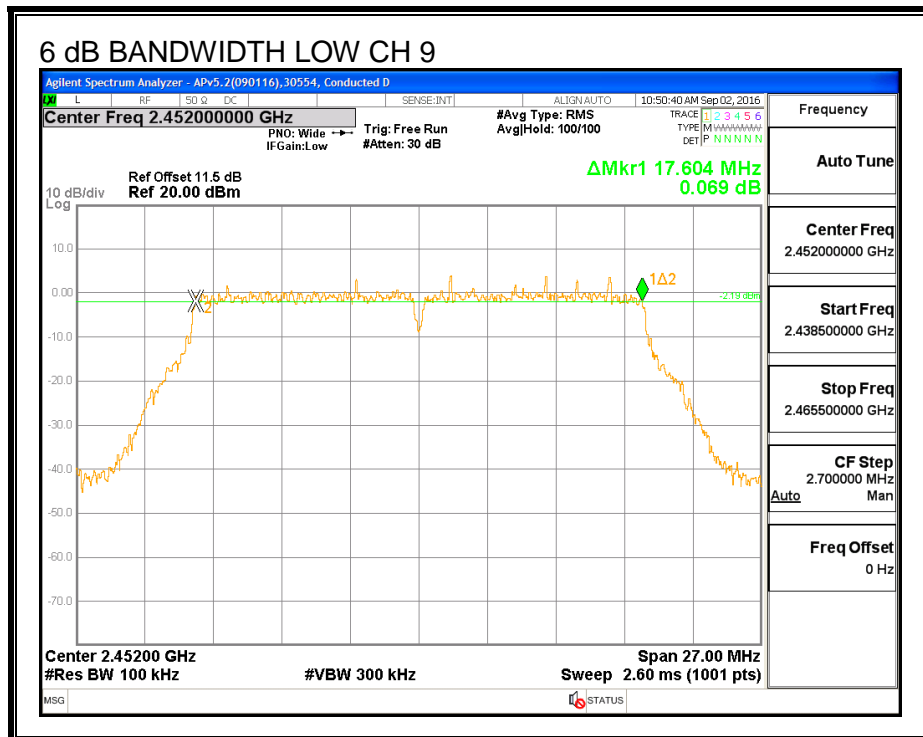
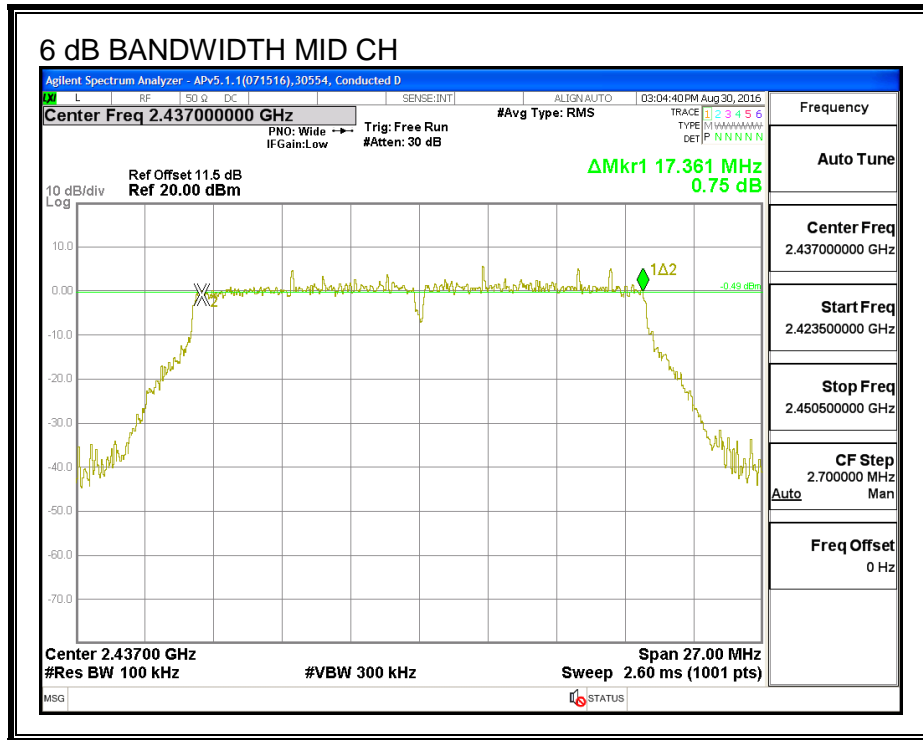
The minimum 6 dB bandwidth shall be at least 500 kHz.

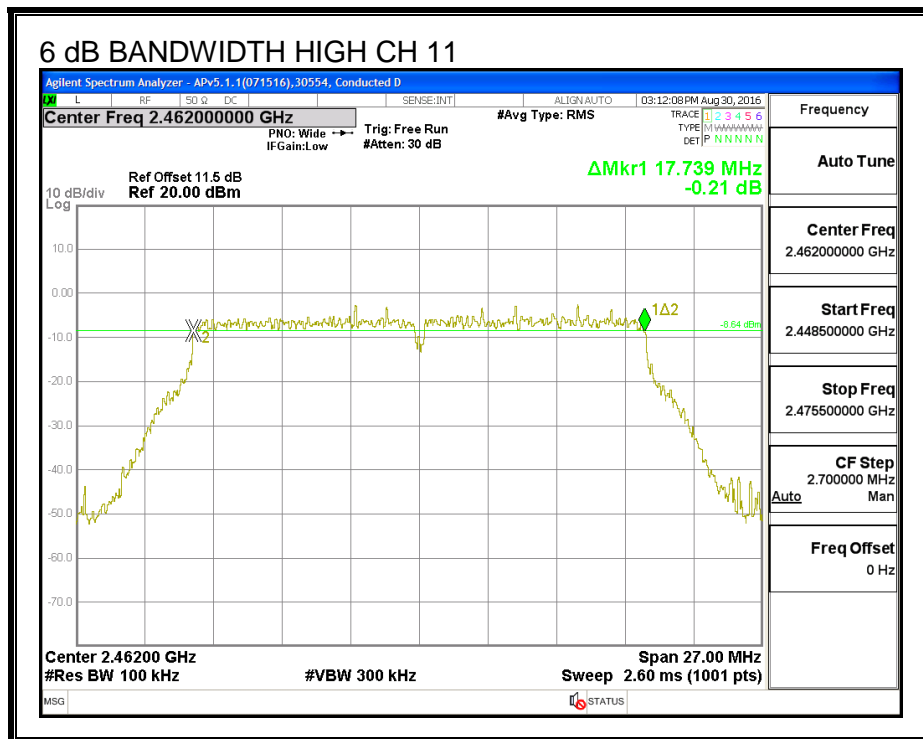
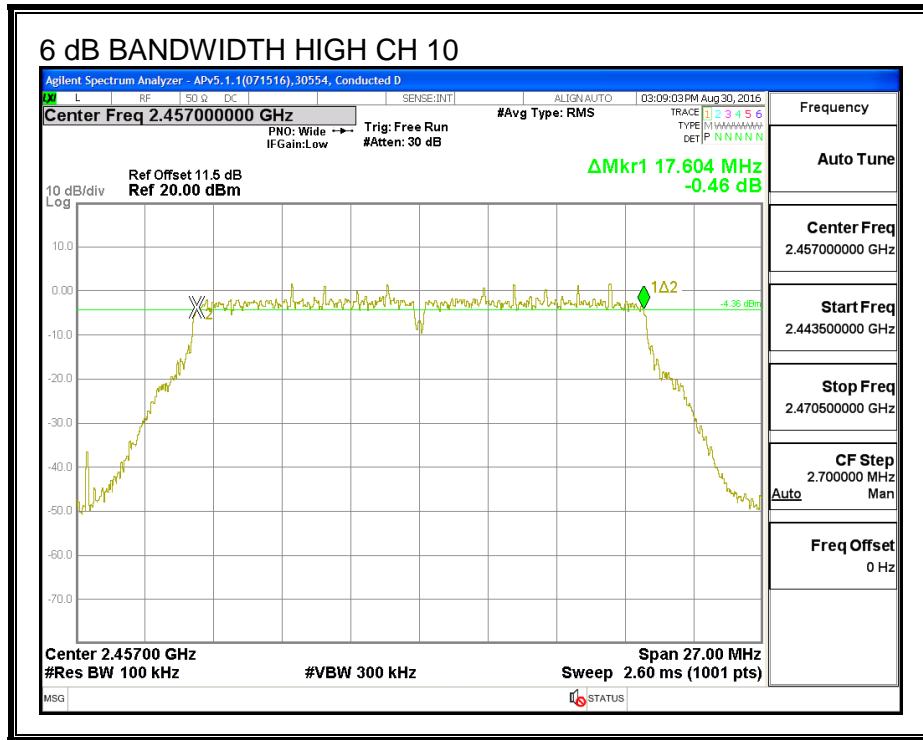
RESULTS

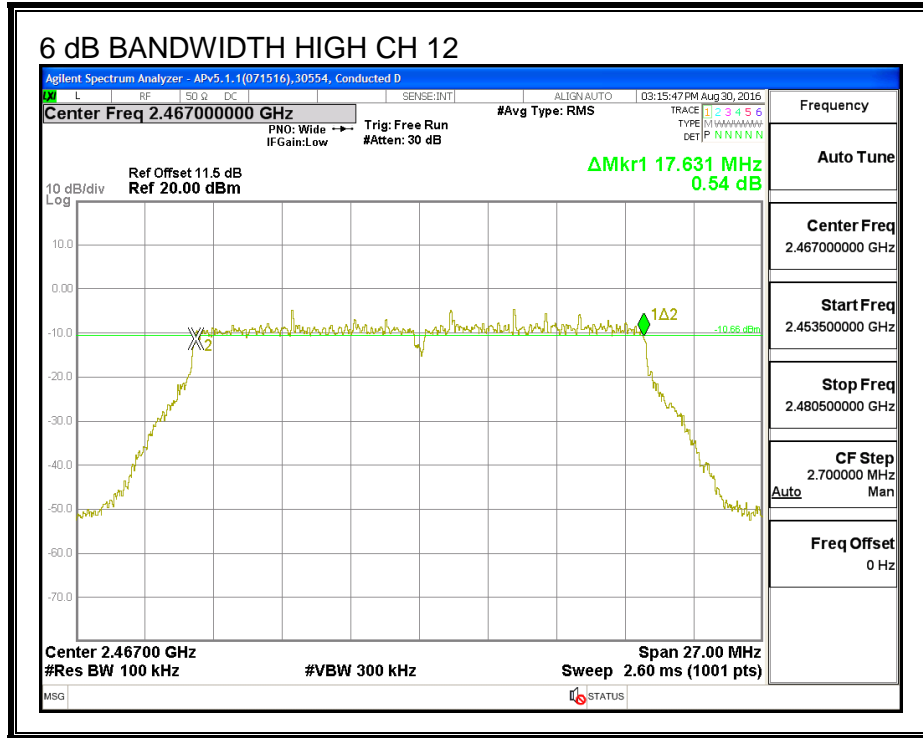
Channel	Frequency (MHz)	6 dB BW Chain 1 (MHz)	6 dB BW Chain 2 (MHz)	Minimum Limit (MHz)
Low_1	2412	17.577	17.631	0.5
Low_2	2417	17.361	17.334	0.5
Mid	2437	17.361	17.631	0.5
High_9	2452	17.604	17.631	0.5
High_10	2457	17.604	17.631	0.5
High_11	2462	17.739	17.631	0.5
High_12	2467	17.631	17.658	0.5

6 dB BANDWIDTH, Chain 1

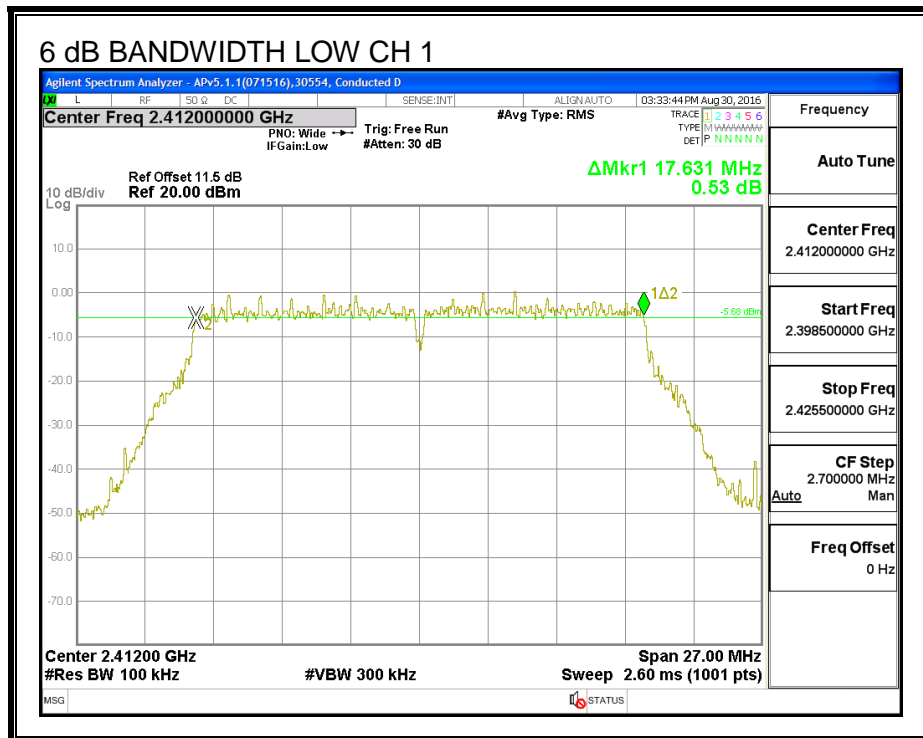


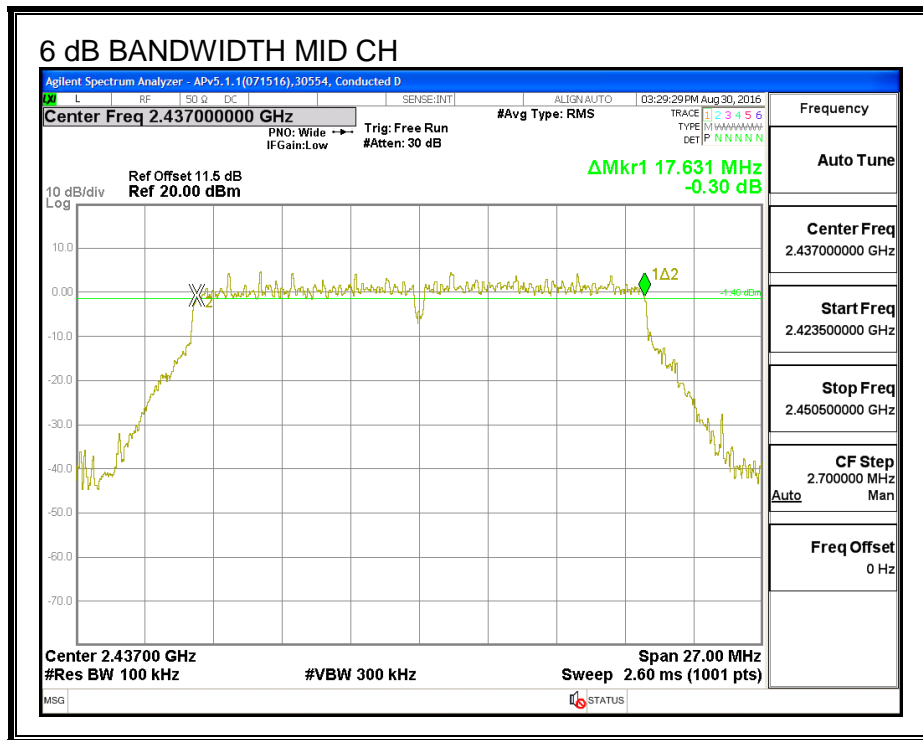
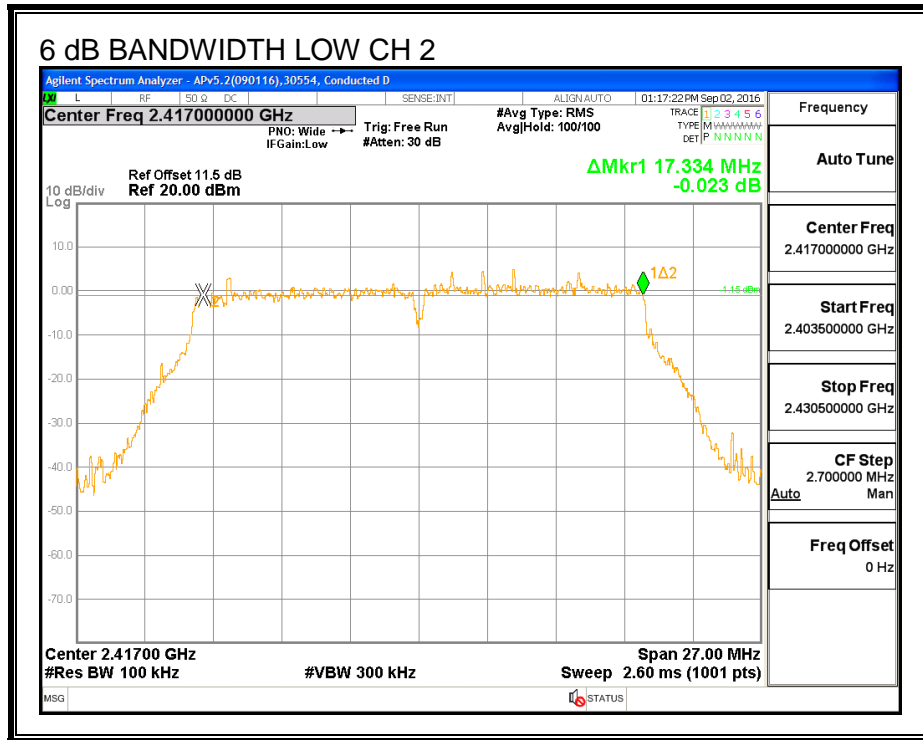


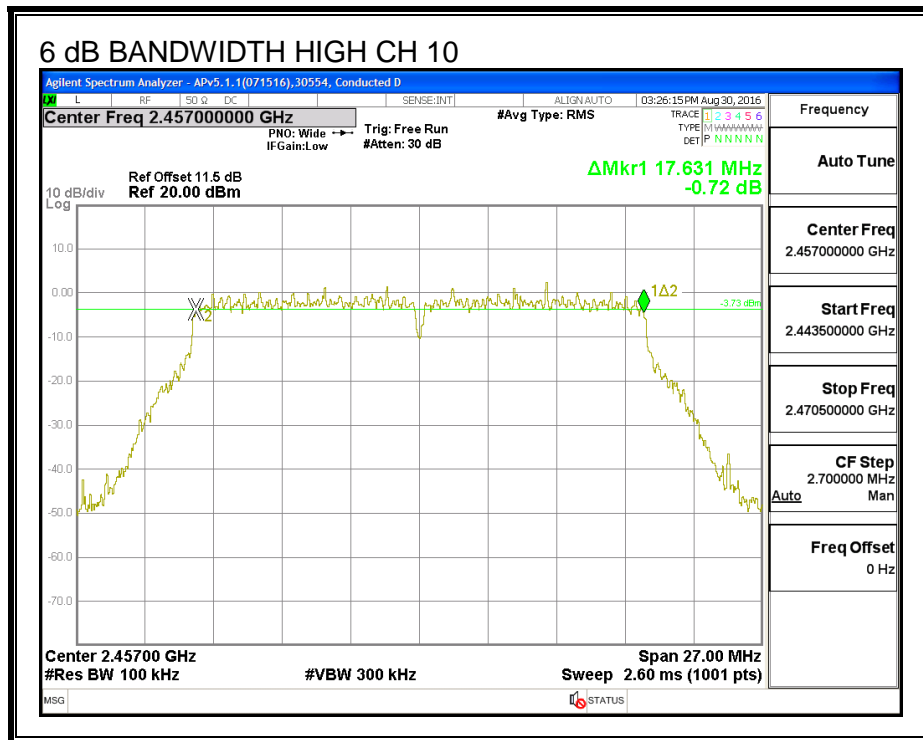
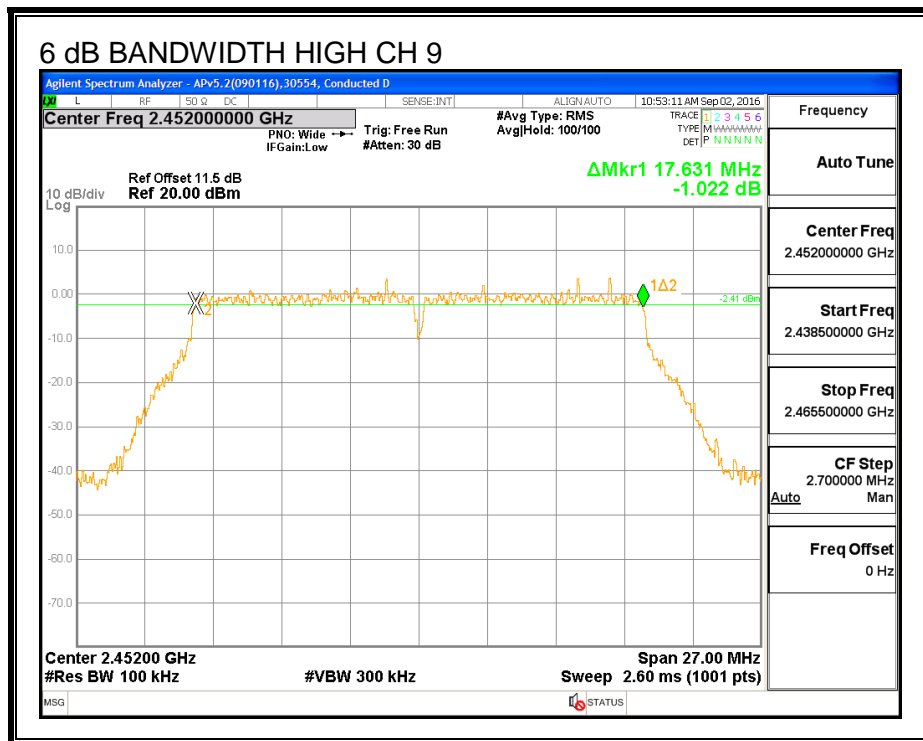


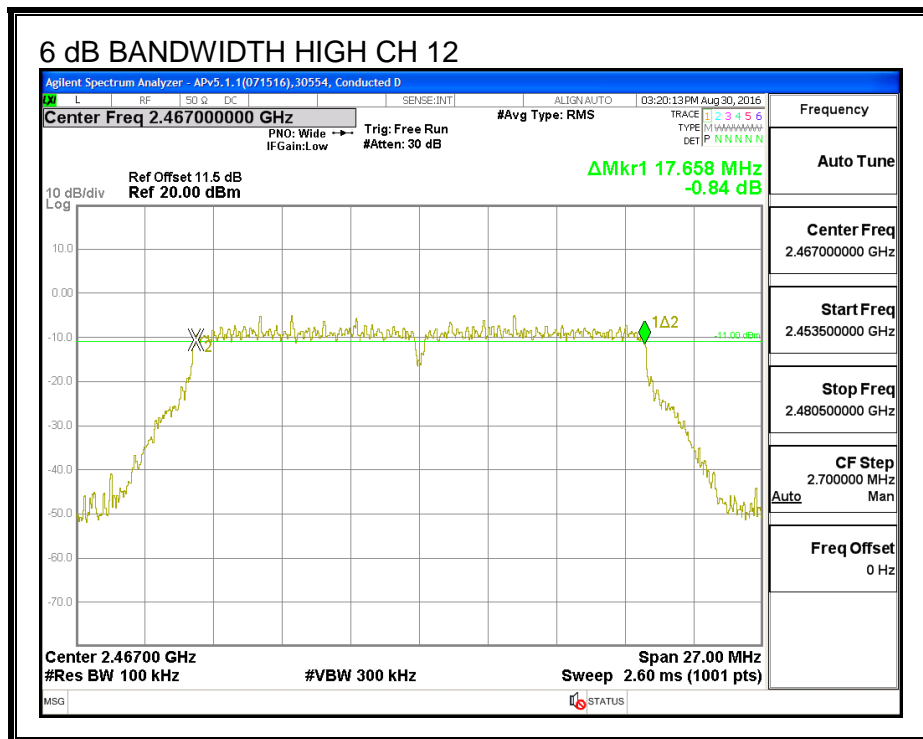
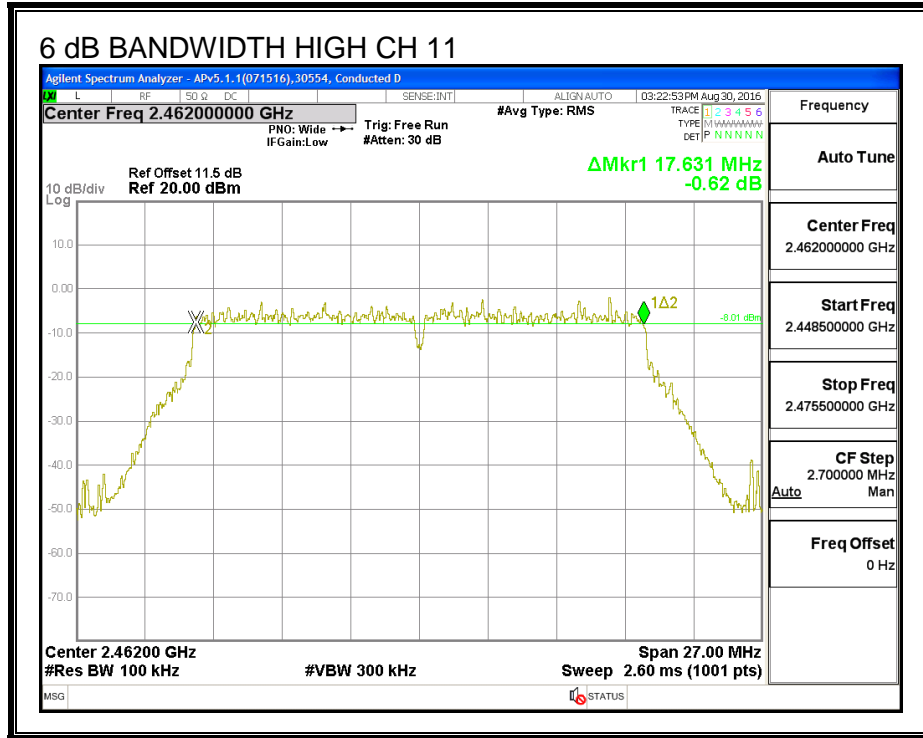


6 dB BANDWIDTH, Chain 2









8.20.2. 99% BANDWIDTH

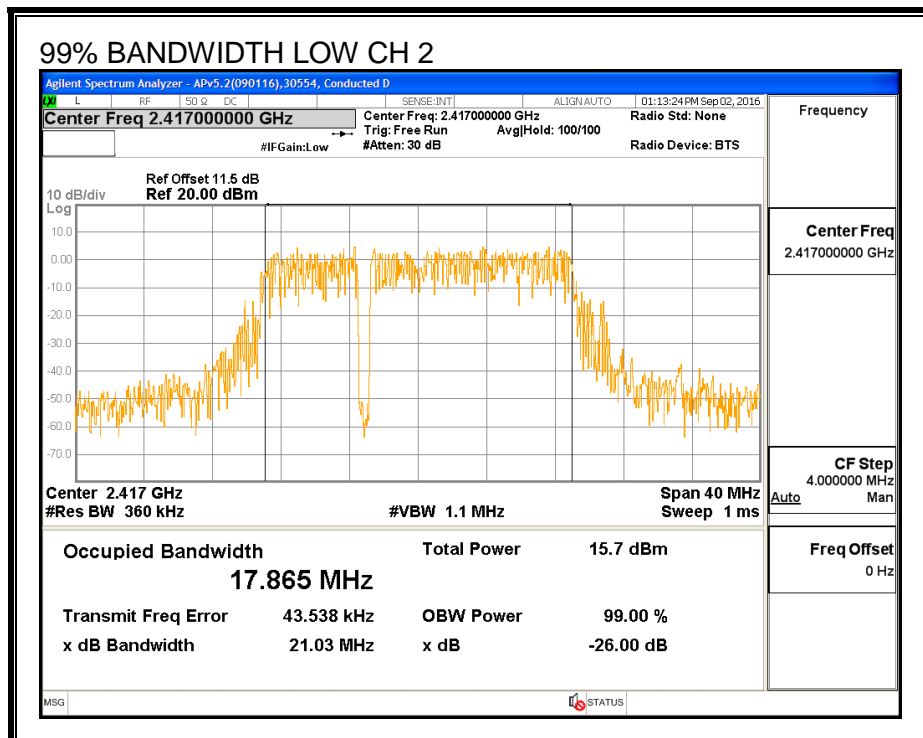
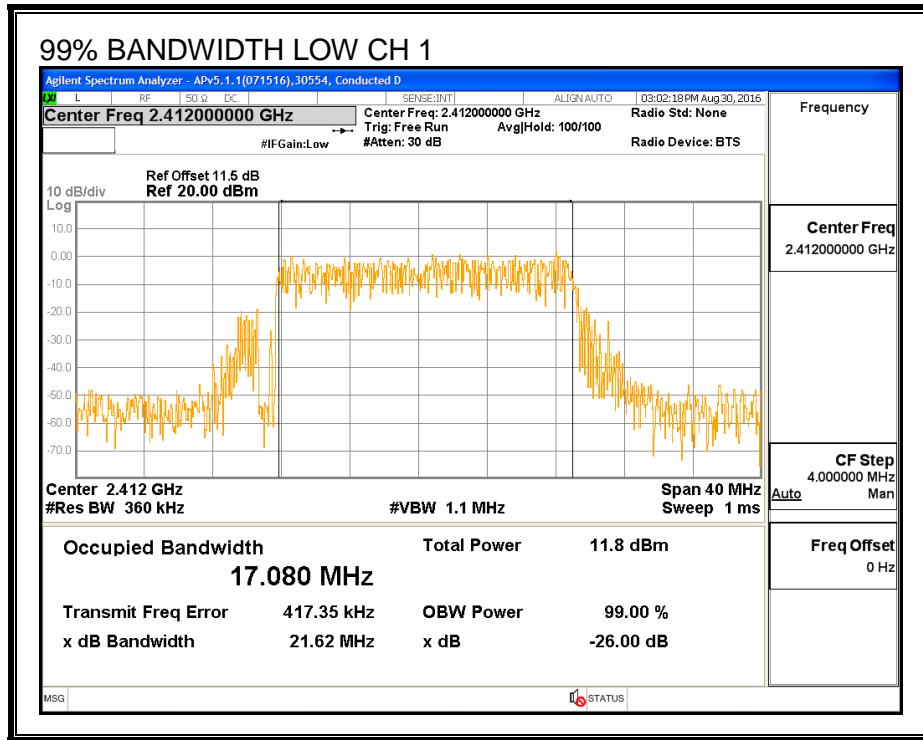
LIMITS

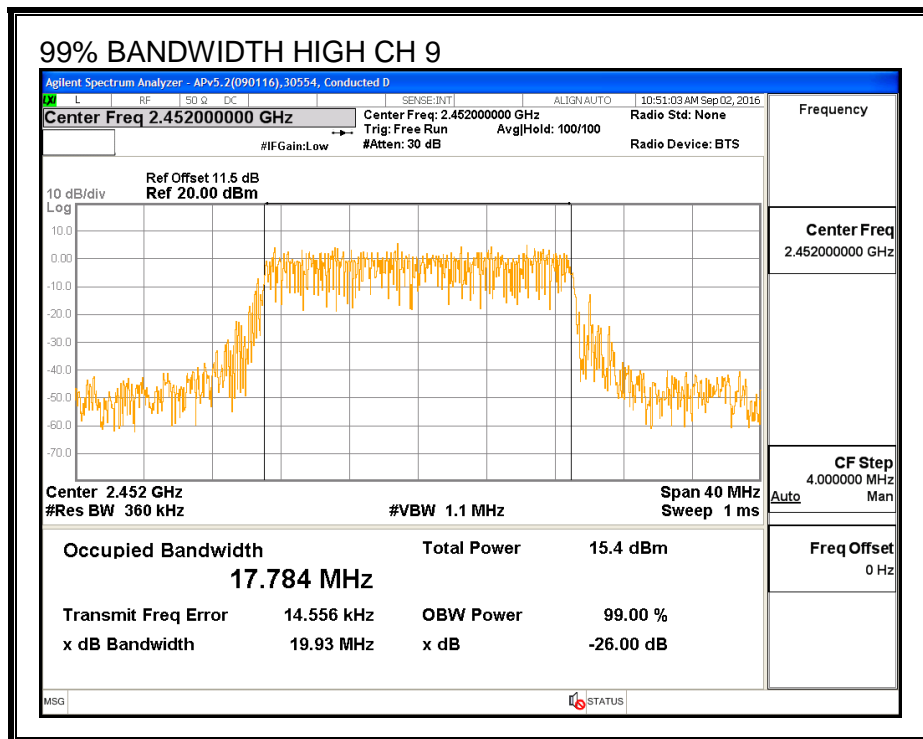
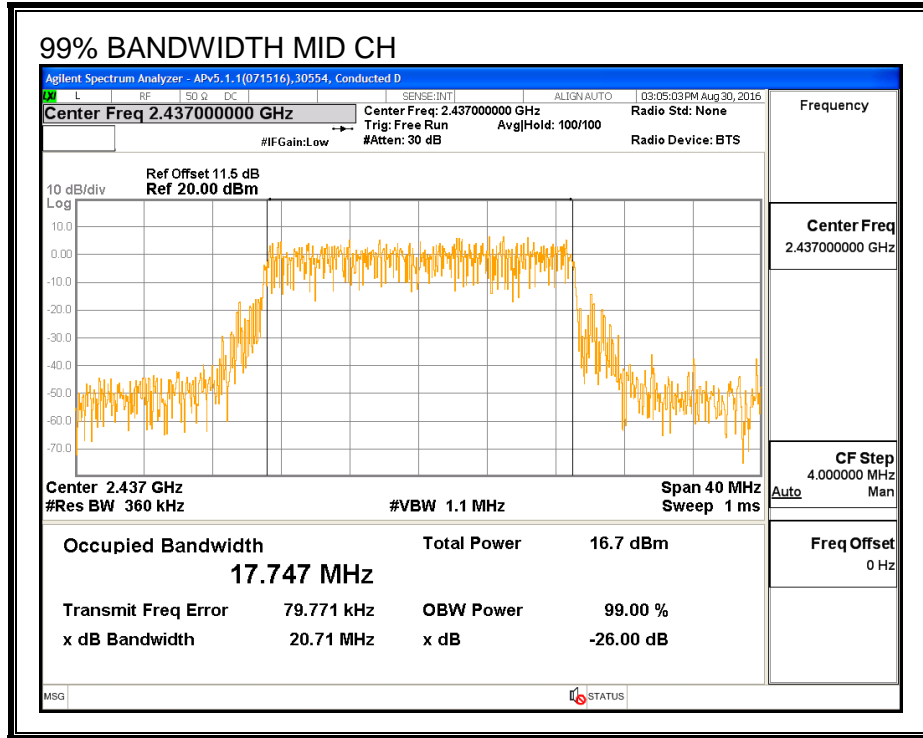
None; for reporting purposes only.

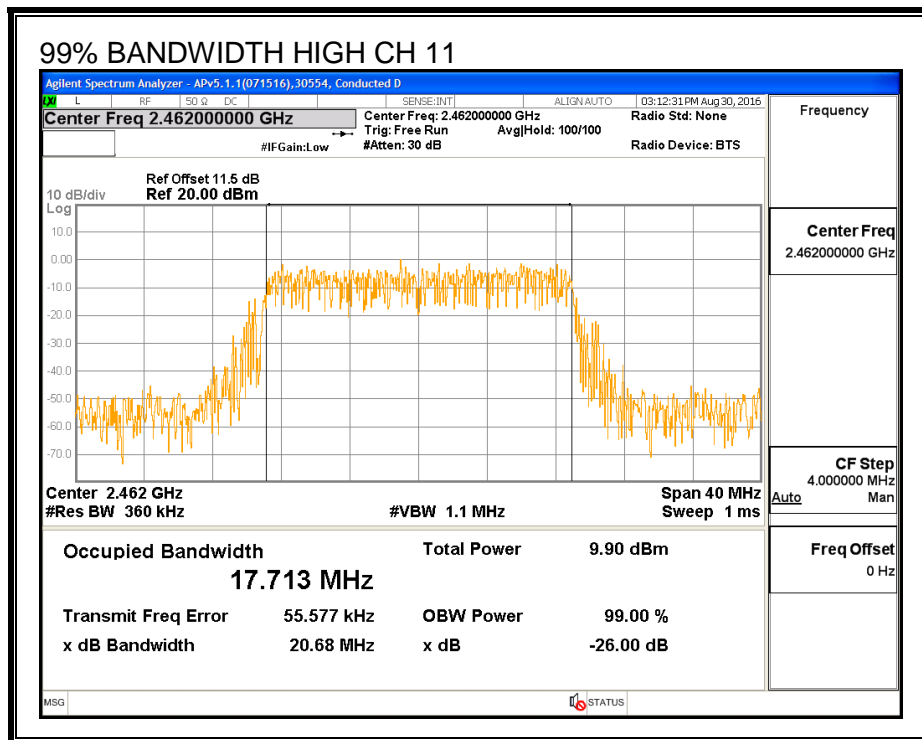
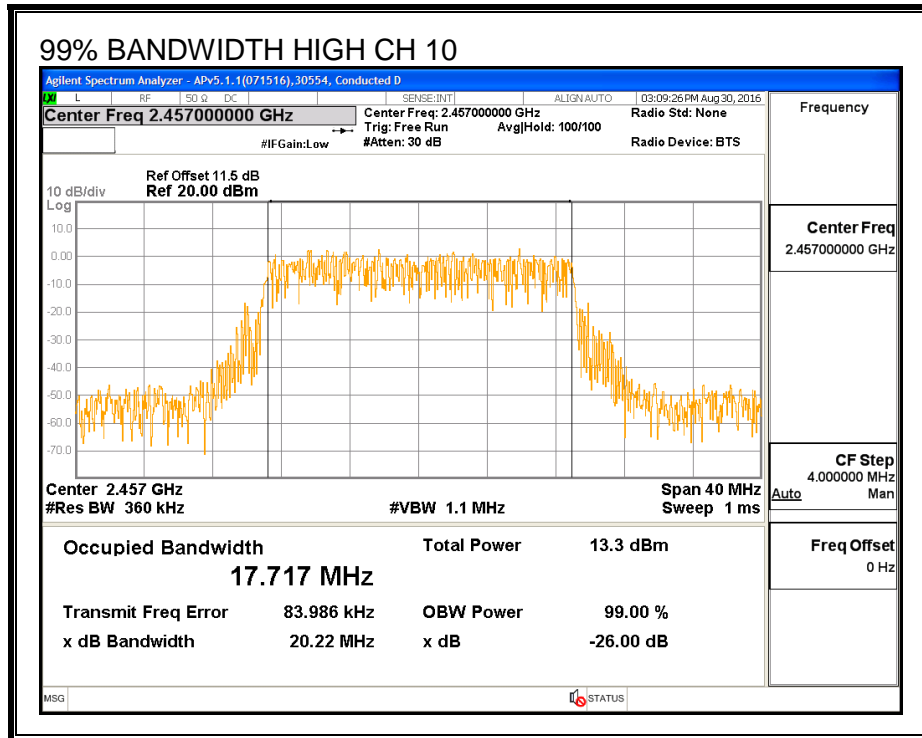
RESULTS

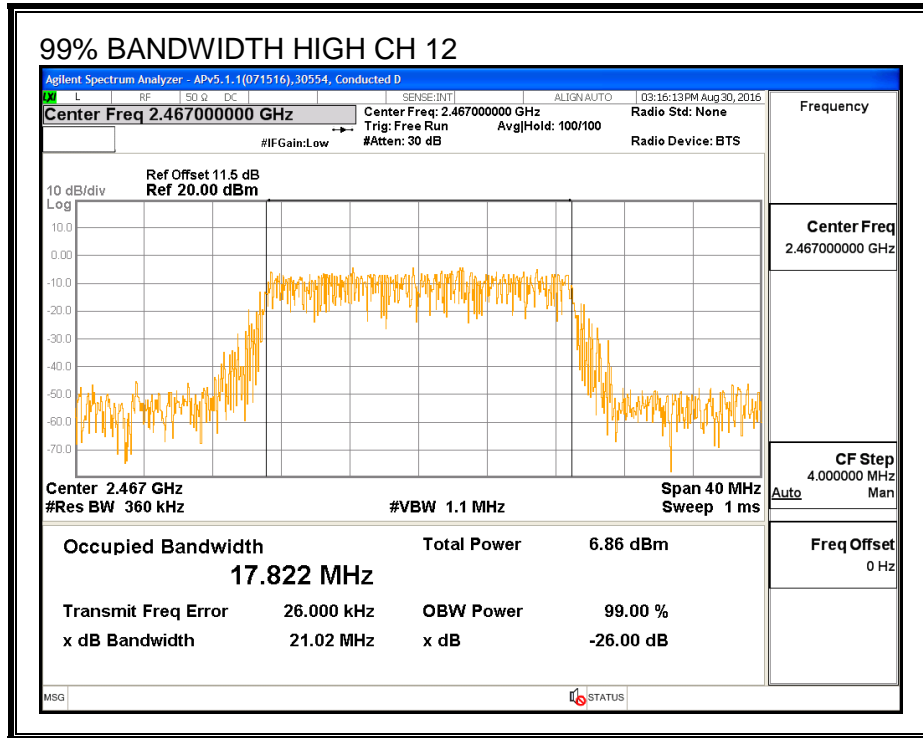
Channel	Frequency (MHz)	99% BW	
		Chain 1 (MHz)	Chain 2 (MHz)
Low_1	2412	17.080	17.919
Low_2	2417	17.865	17.755
Mid	2437	17.747	17.825
High_9	2452	17.784	17.739
High_10	2457	17.717	17.810
High_11	2462	17.713	17.651
High_12	2467	17.822	17.691

99% BANDWIDTH, Chain 1

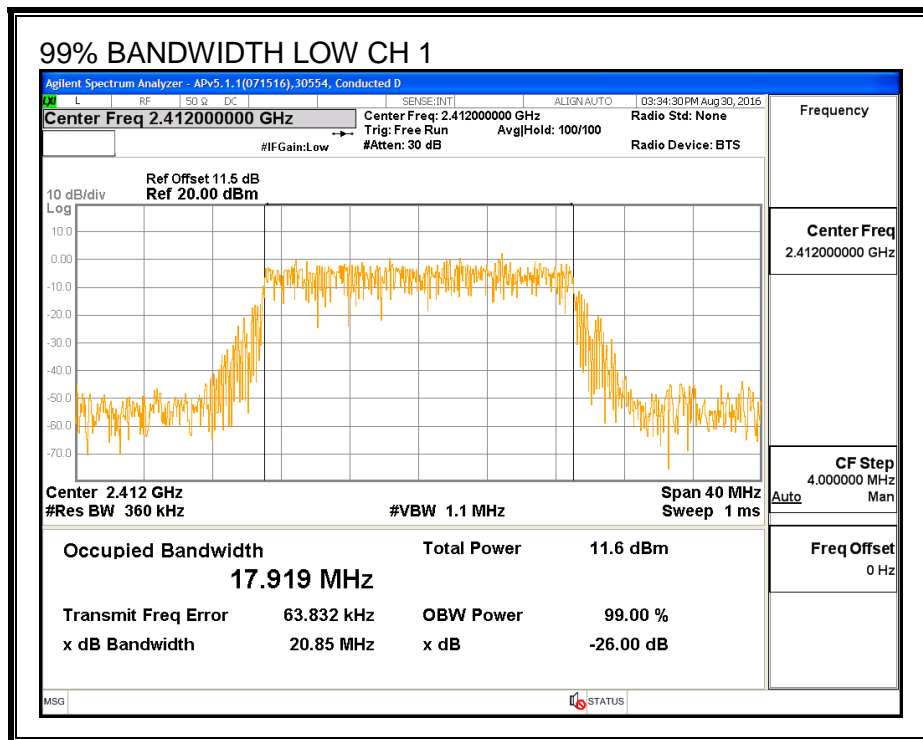


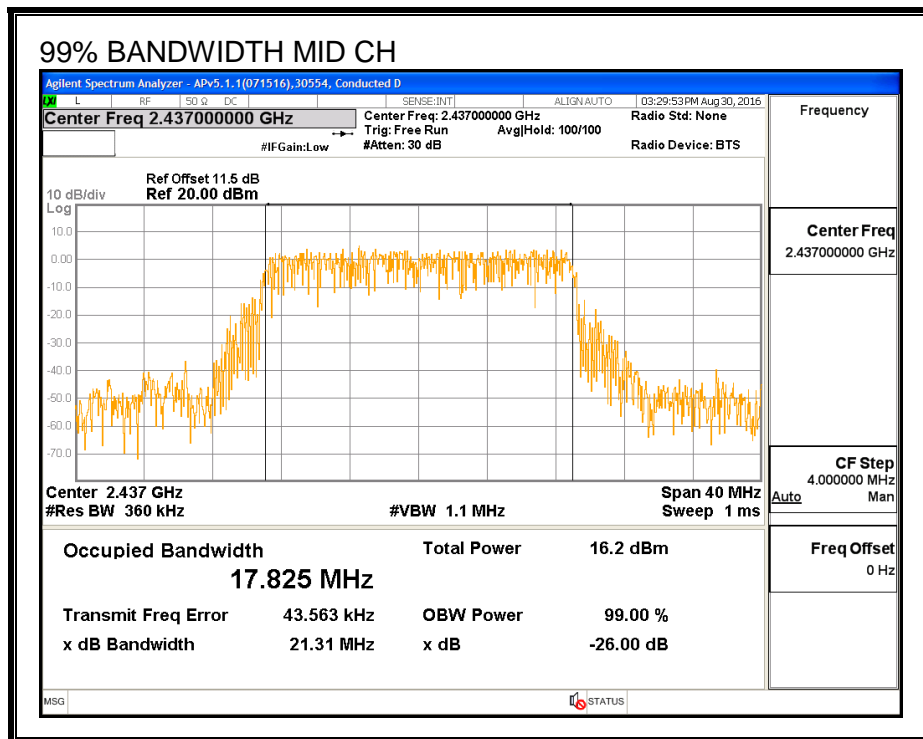
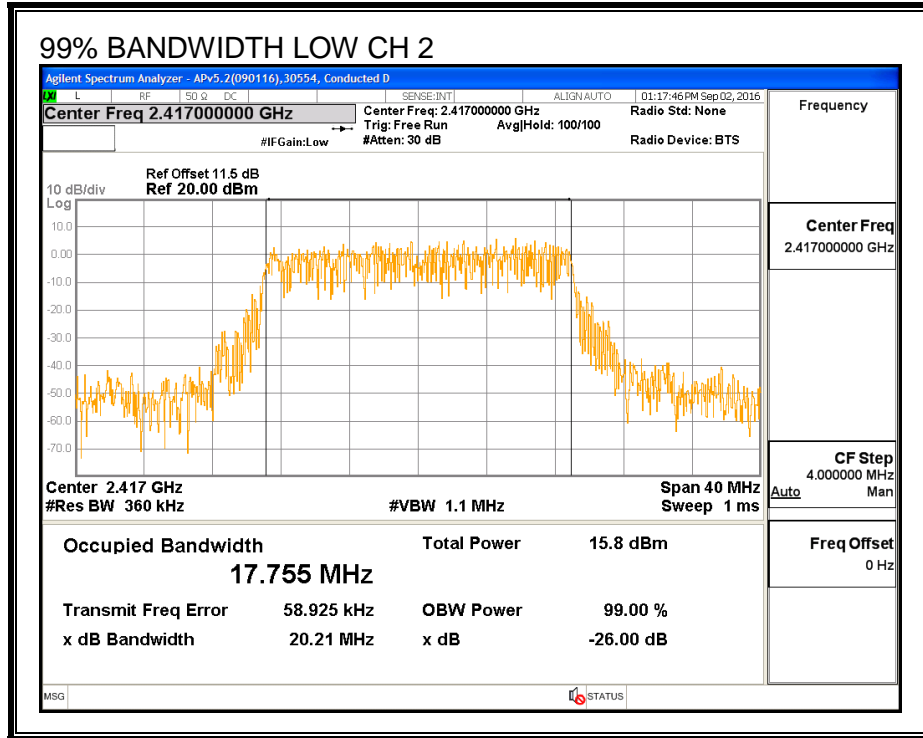


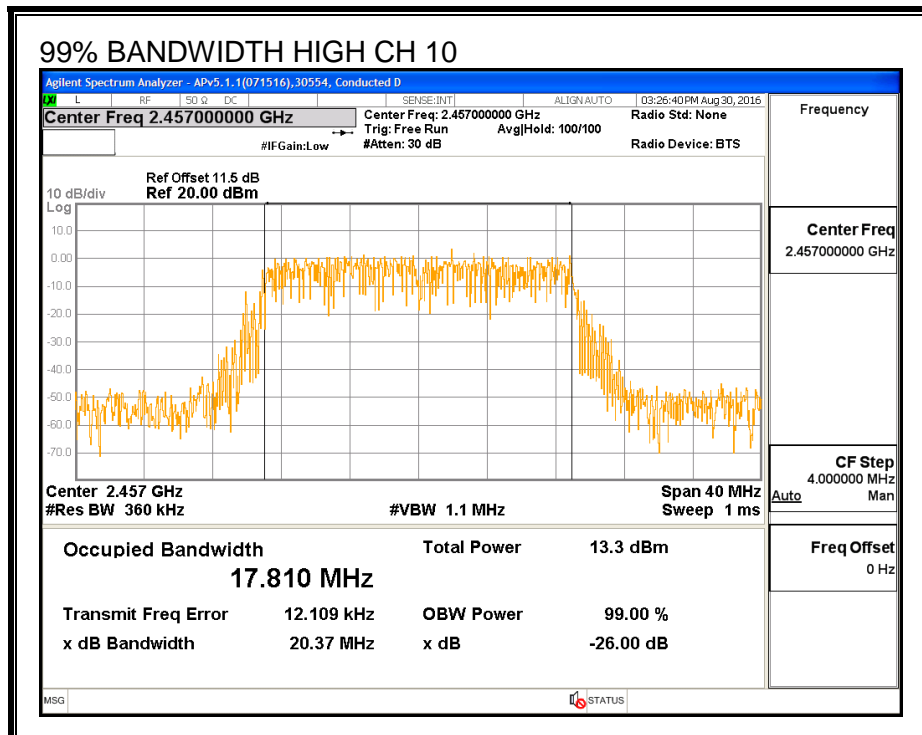
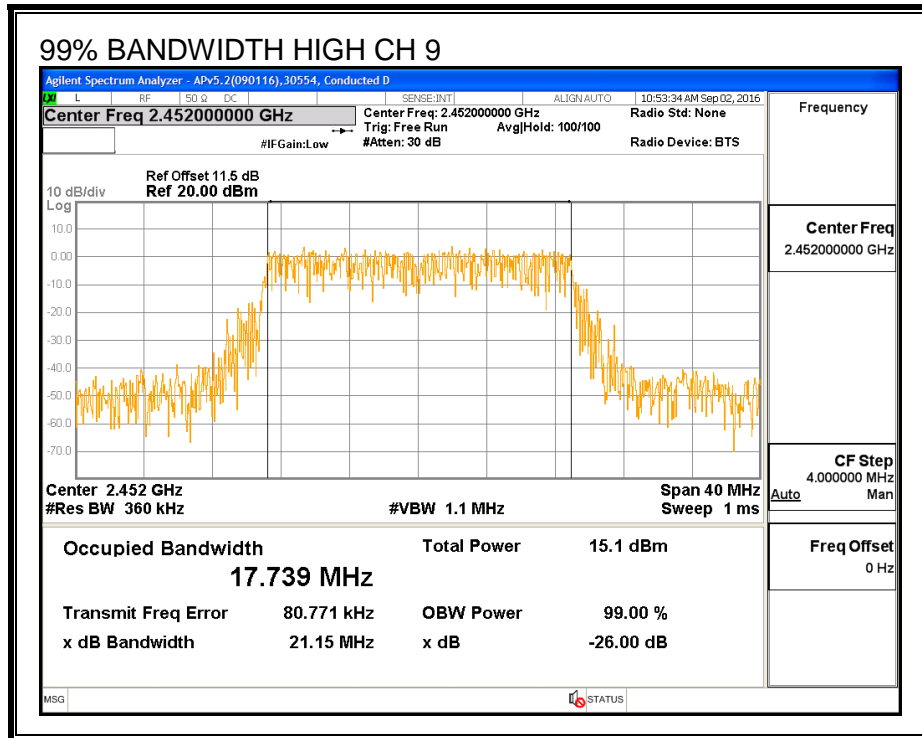


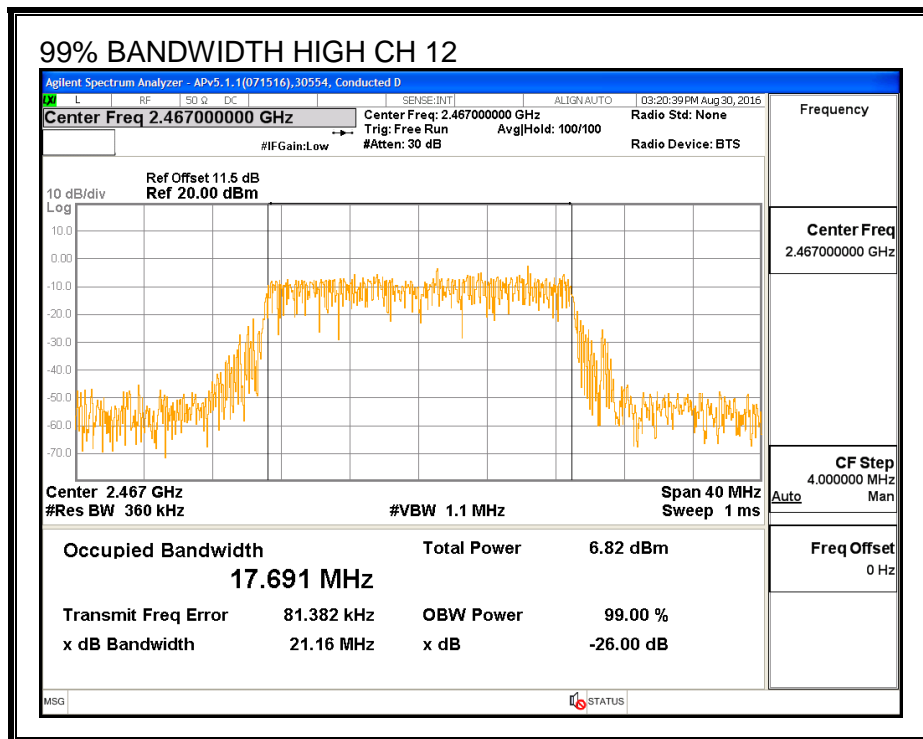
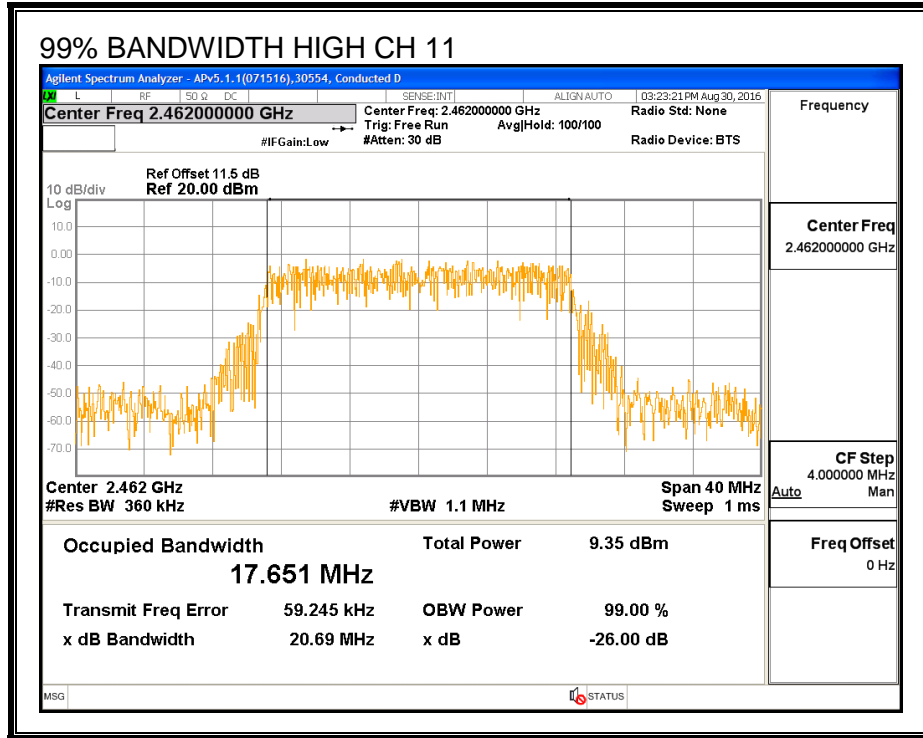


99% BANDWIDTH, Chain 2









8.20.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	Chain 1 Power (dBm)	Chain 2 Power (dBm)	Total Power (dBm)
Low_1	2412	11.42	11.48	14.46
Low_2	2417	15.76	15.85	18.82
Mid	2437	16.32	16.39	19.37
High_9	2452	15.30	15.42	18.37
High_10	2457	13.39	13.47	16.44
High_11	2462	9.48	9.46	12.48
High_12	2467	6.78	6.93	9.87

8.20.4. OUTPUT POWER

LIMITS

FCC §15.247

IC RSS-247 (5.4) (4)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

Chain 1 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
3.3	2.1	2.7

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low_1	2412	2.74	30.00	30	36	30.00
Low_2	2417	2.74	30.00	30	36	30.00
Mid	2437	2.74	30.00	30	36	30.00
High_9	2452	2.74	30.00	30	36	30.00
High_10	2457	2.74	30.00	30	36	30.00
High_11	2462	2.74	30.00	30	36	30.00
High_12	2467	2.74	30.00	30	36	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power
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Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margi (dB)
Low_1	2412	14.70	14.66	17.69	30.00	-12.31
Low_2	2417	18.20	18.31	21.27	30.00	-8.73
Mid	2437	19.92	19.99	22.97	30.00	-7.03
High_9	2452	18.30	18.69	21.51	30.00	-8.49
High_10	2457	16.31	16.58	19.46	30.00	-10.54
High_11	2462	12.20	12.66	15.45	30.00	-14.55
High_12	2467	9.78	9.10	12.46	30.00	-17.54

8.20.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

IC RSS-247 (5.2) (2)

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 KHz band during any time interval of continuous transmissions.

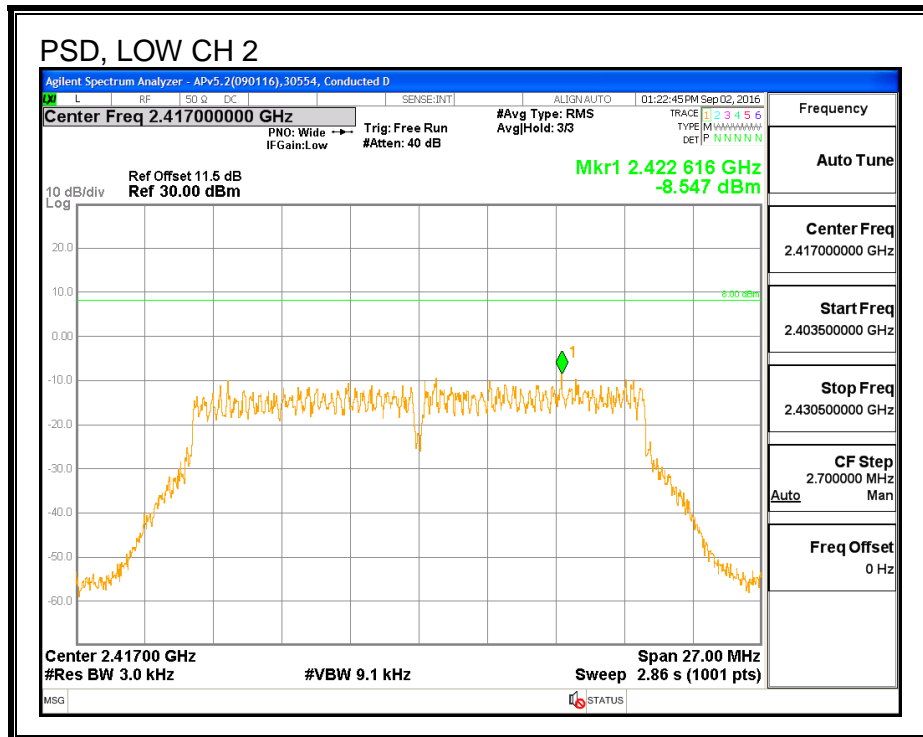
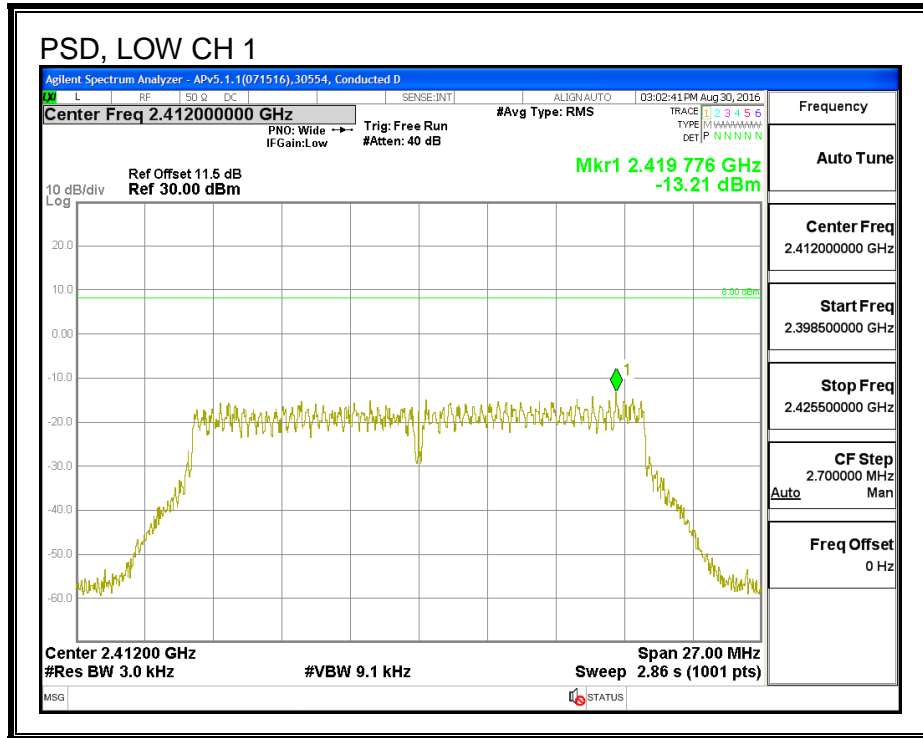
RESULTS

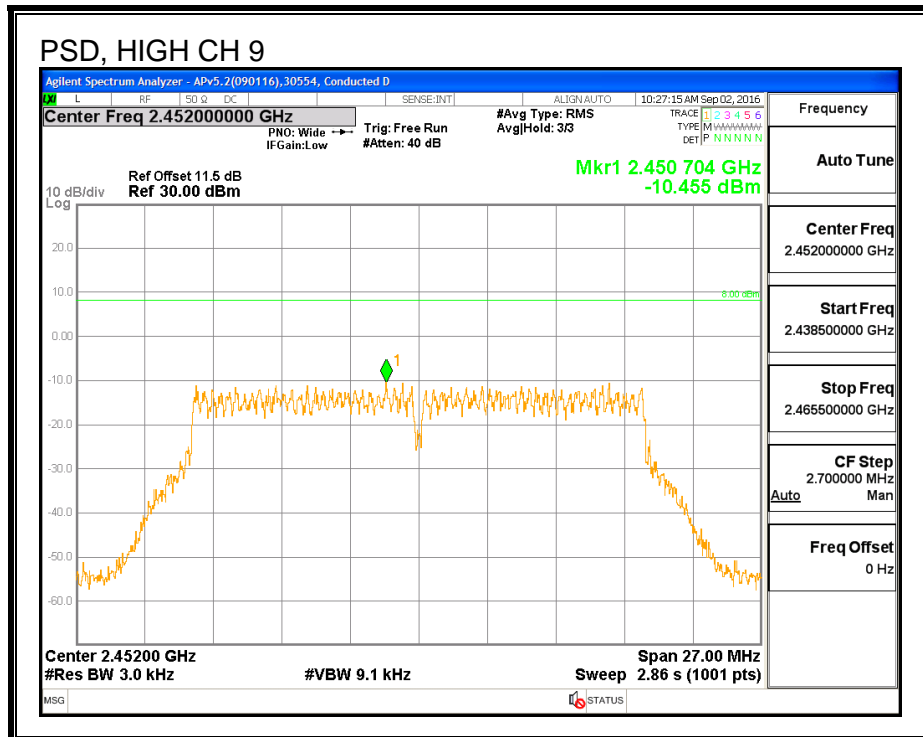
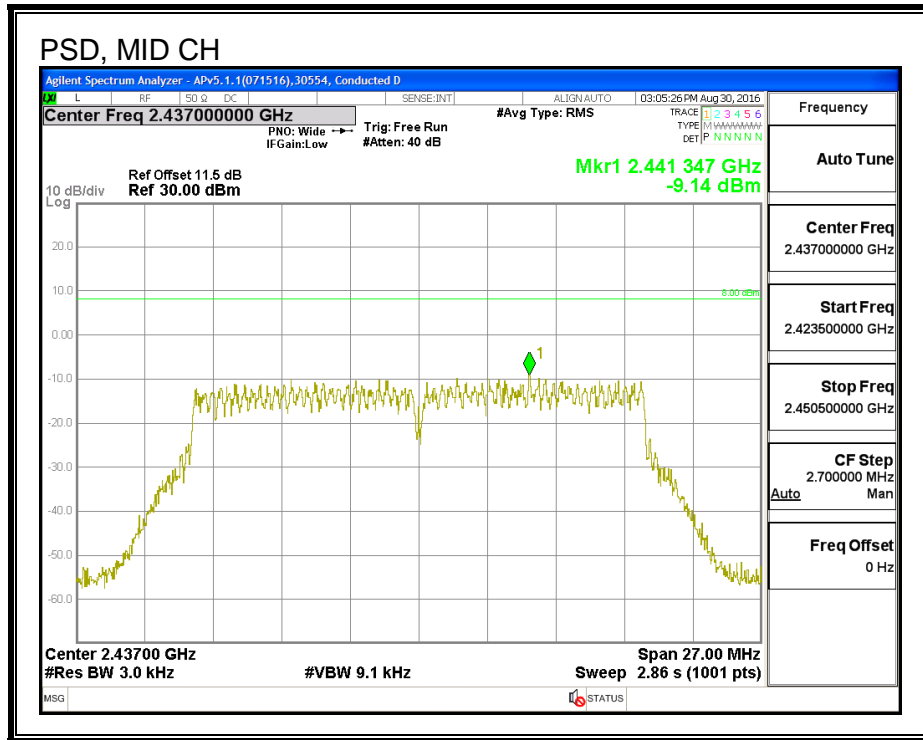
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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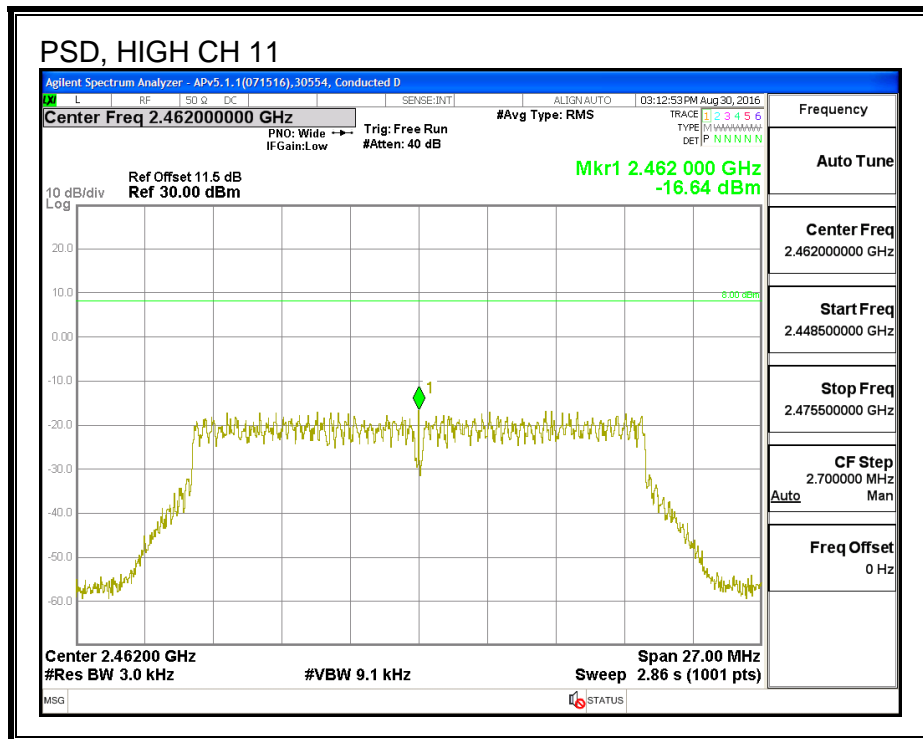
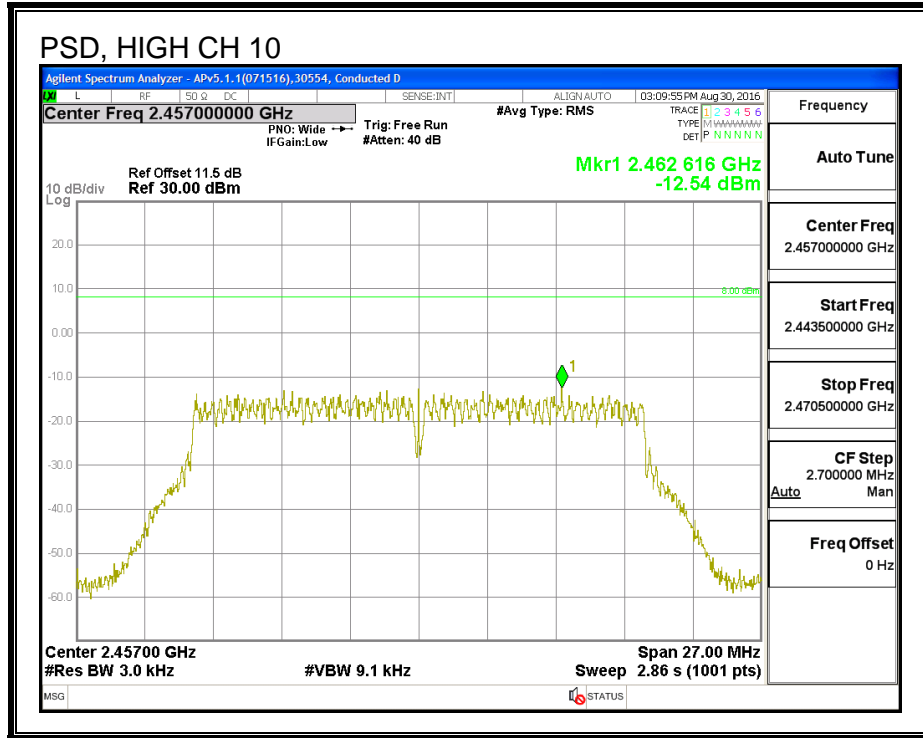
PSD Results

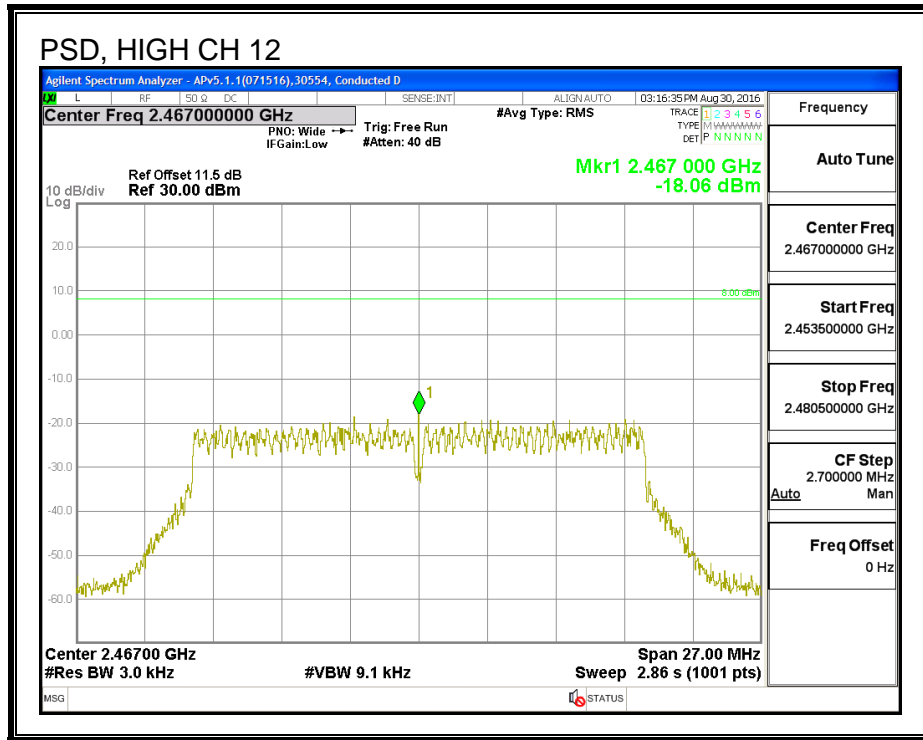
Channel	Frequency (MHz)	Chain 1 Meas (dBm)	Chain 2 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low_1	2412	-13.21	-14.30	-10.71	8.0	-18.7
Low_2	2417	-8.55	-9.66	-6.06	8.0	-14.1
Mid	2437	-9.14	-8.22	-5.65	8.0	-13.6
High_9	2452	-10.46	-10.73	-7.58	8.0	-15.6
High_10	2457	-12.54	-12.48	-9.50	8.0	-17.5
High_11	2462	-16.64	-16.51	-13.56	8.0	-21.6
High_12	2467	-18.06	-18.03	-15.03	8.0	-23.0

PSD, Chain 1

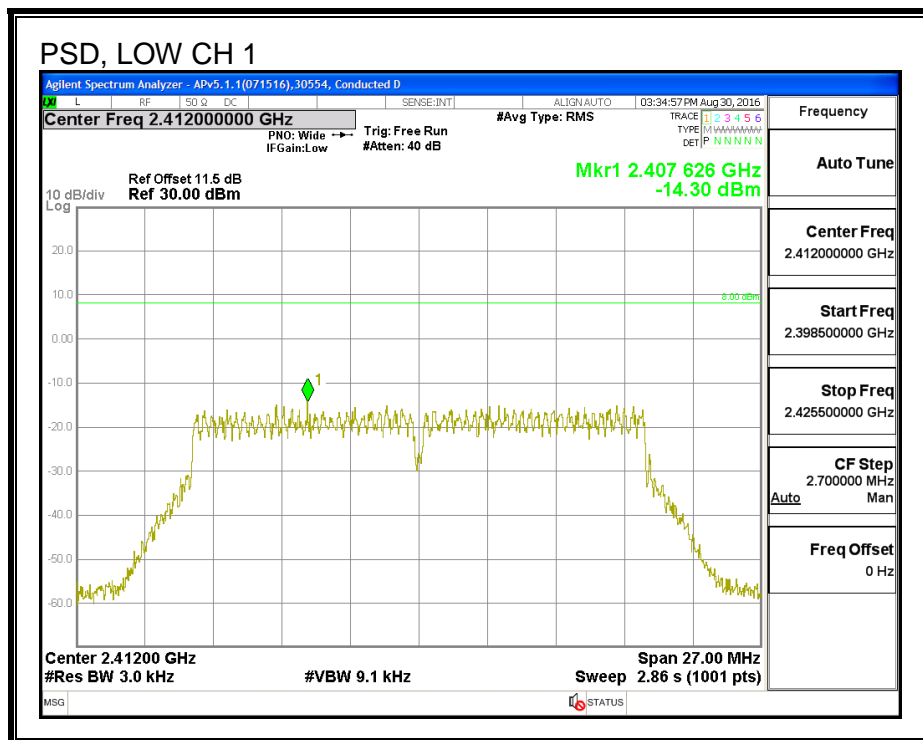


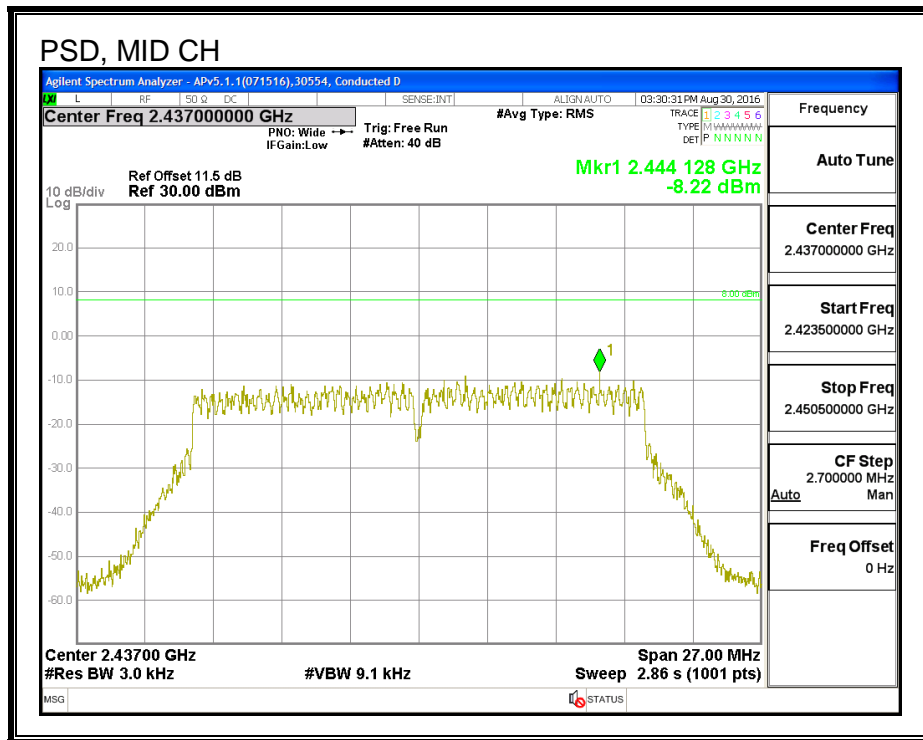
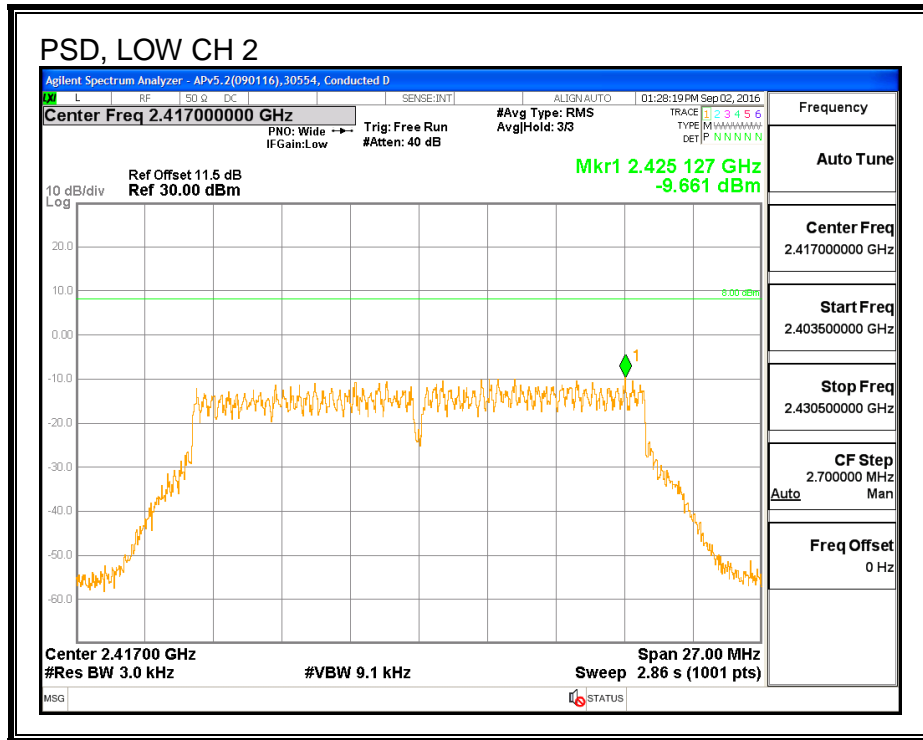


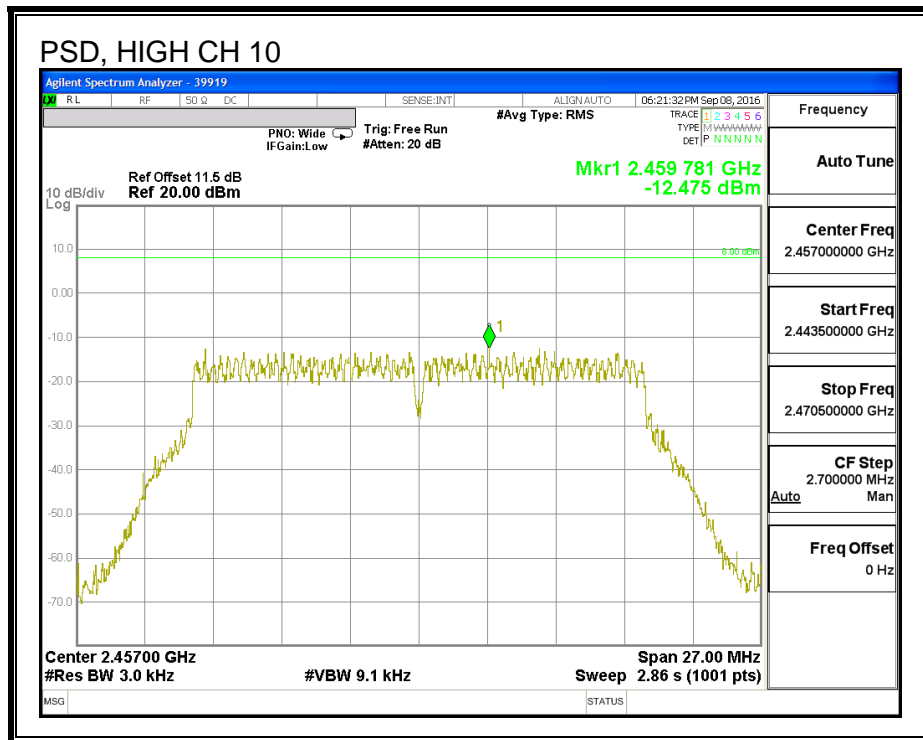
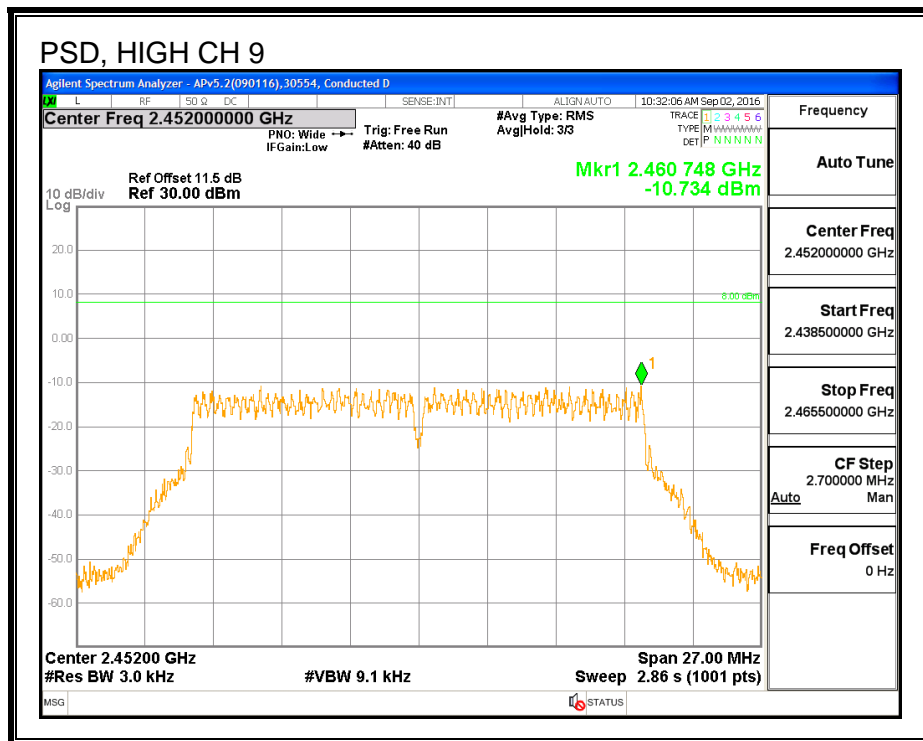


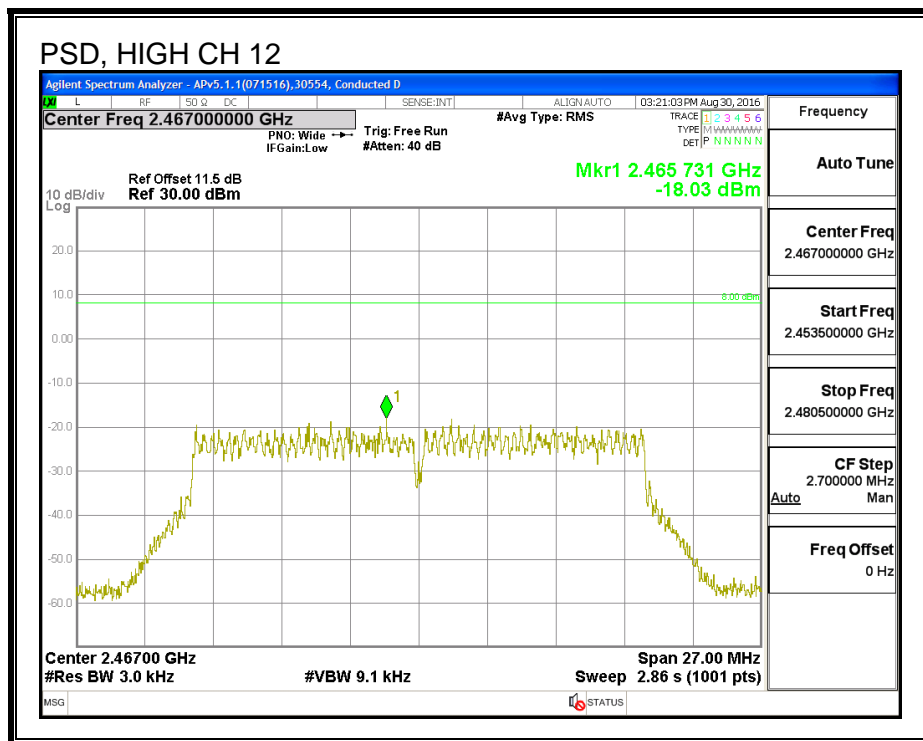
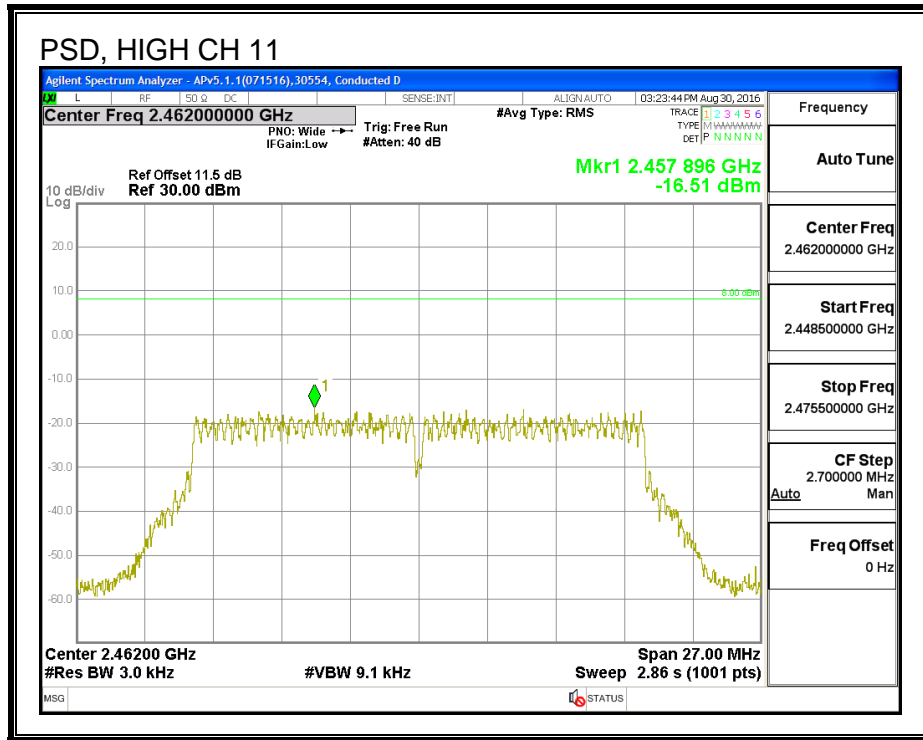


PSD, Chain 2









8.20.6. OUT-OF-BAND EMISSIONS

LIMITS

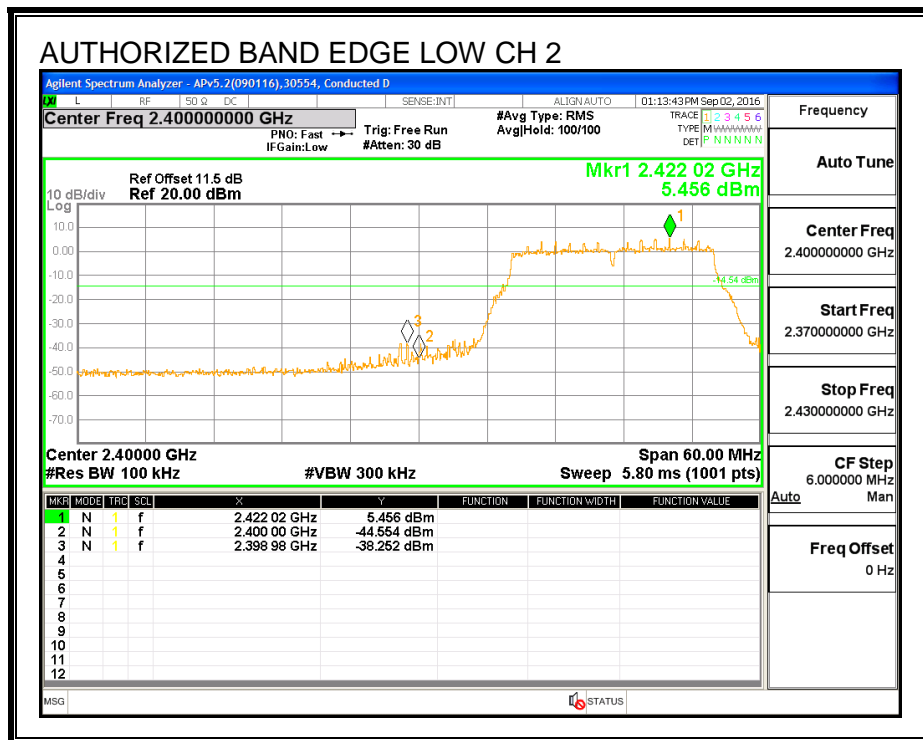
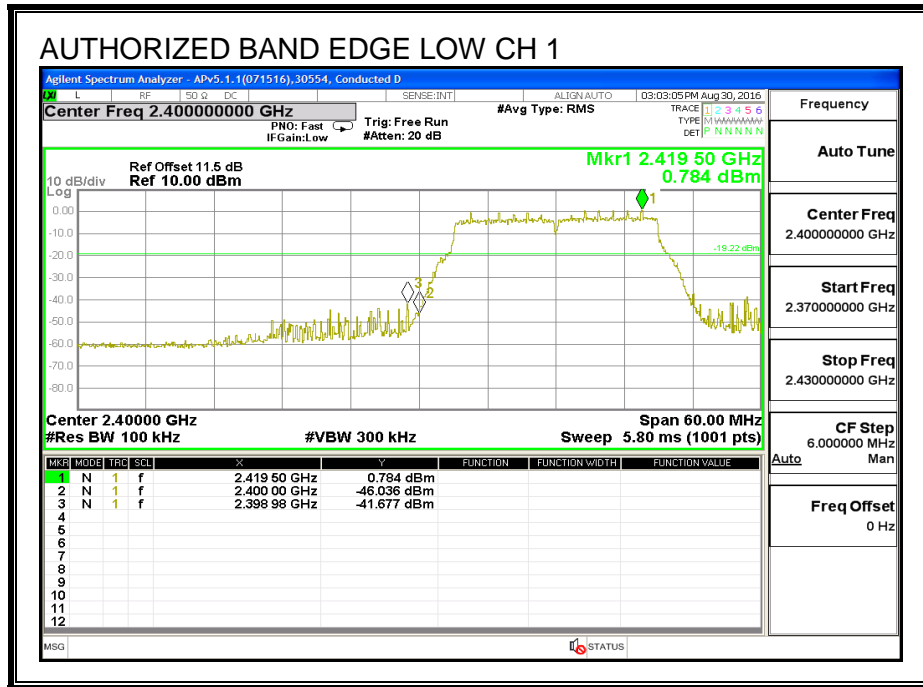
FCC §15.247 (d)

IC RSS-247 (5.5)

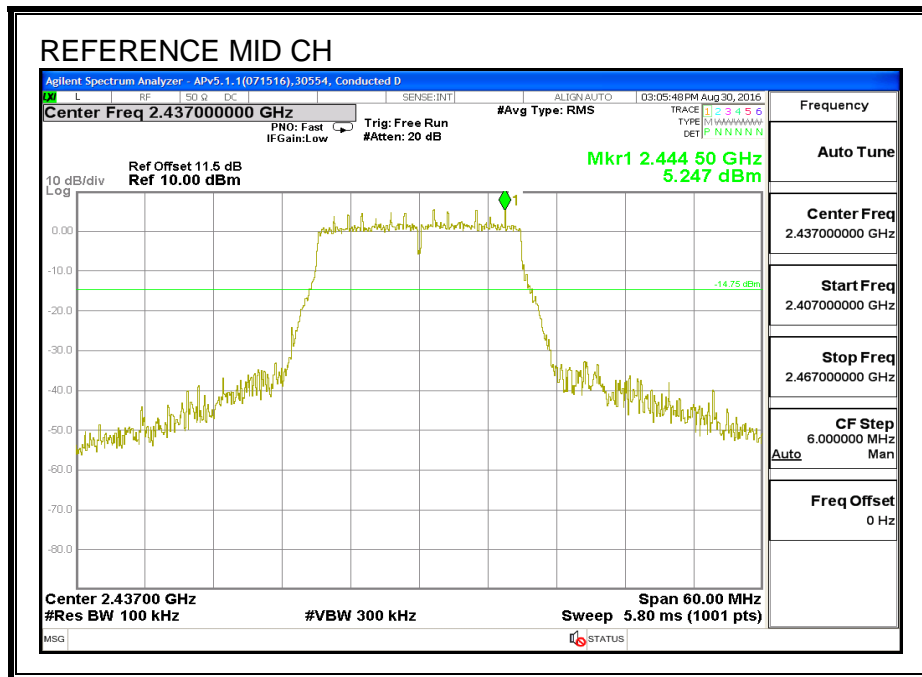
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies 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.

RESULTS

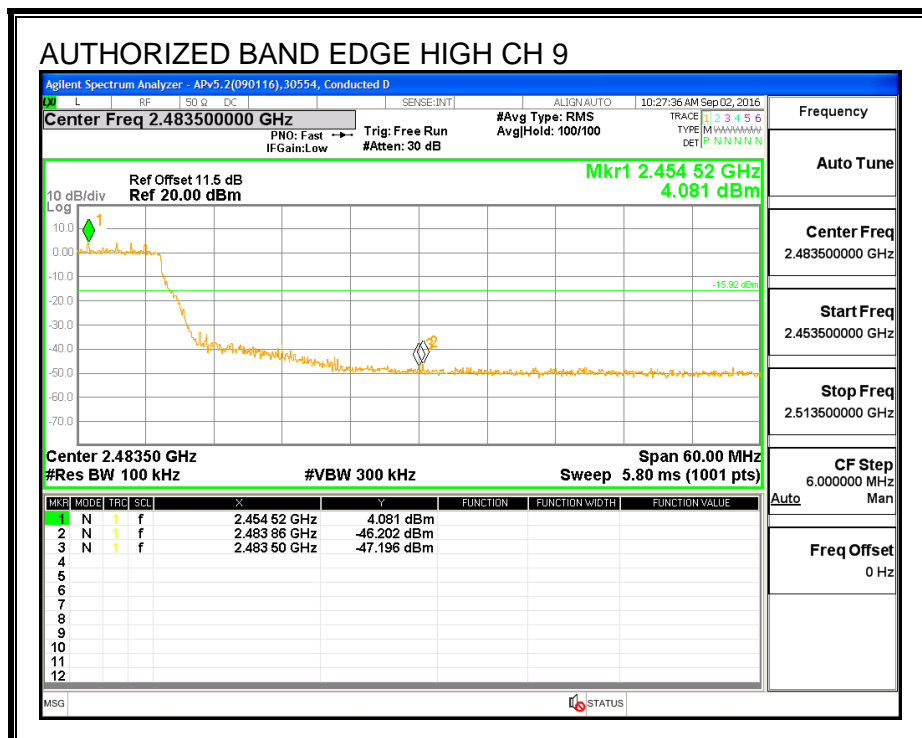
LOW CHANNEL BANDEDGE, Chain 1

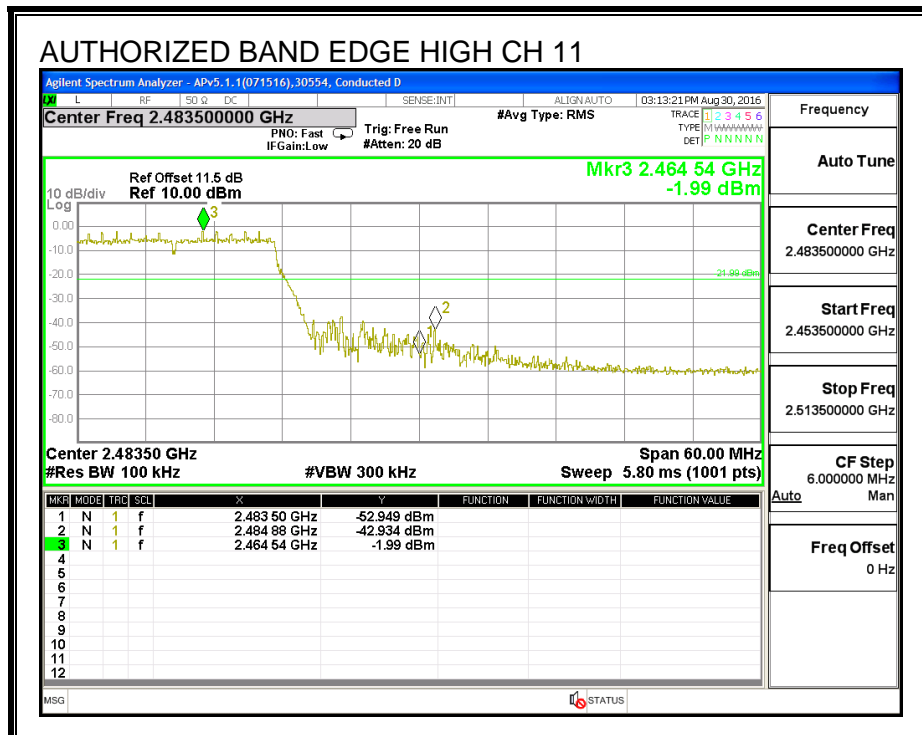
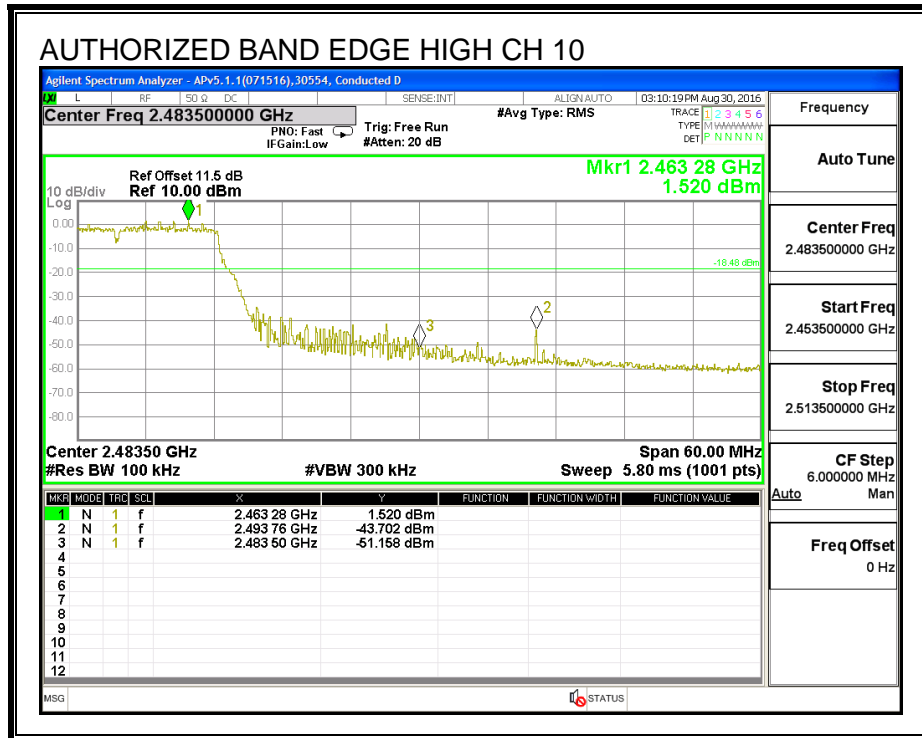


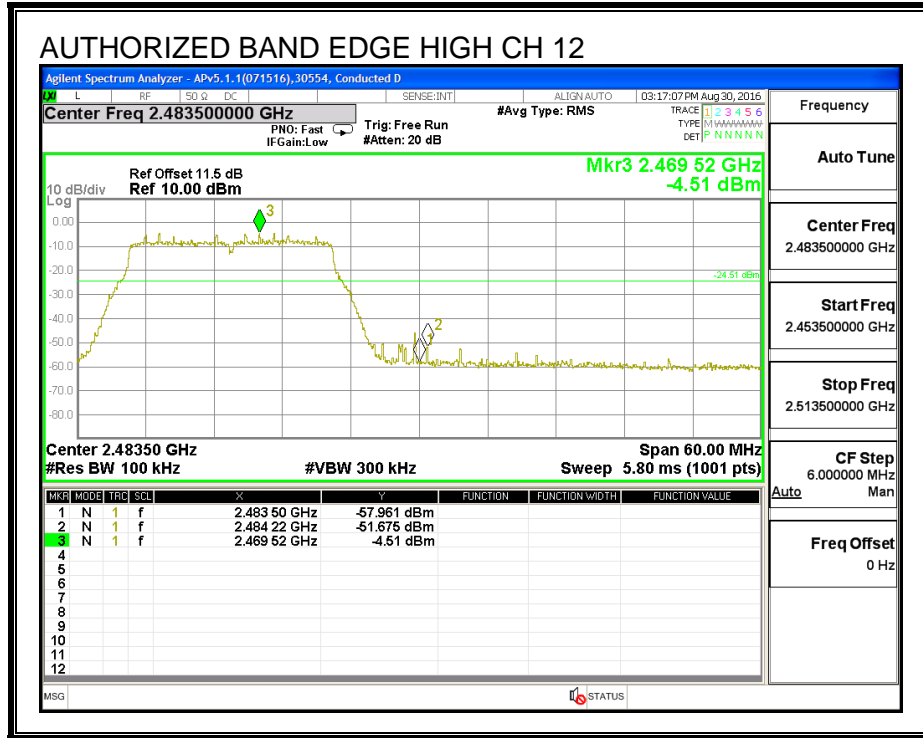
MID CHANNEL REFERENCE, Chain 1



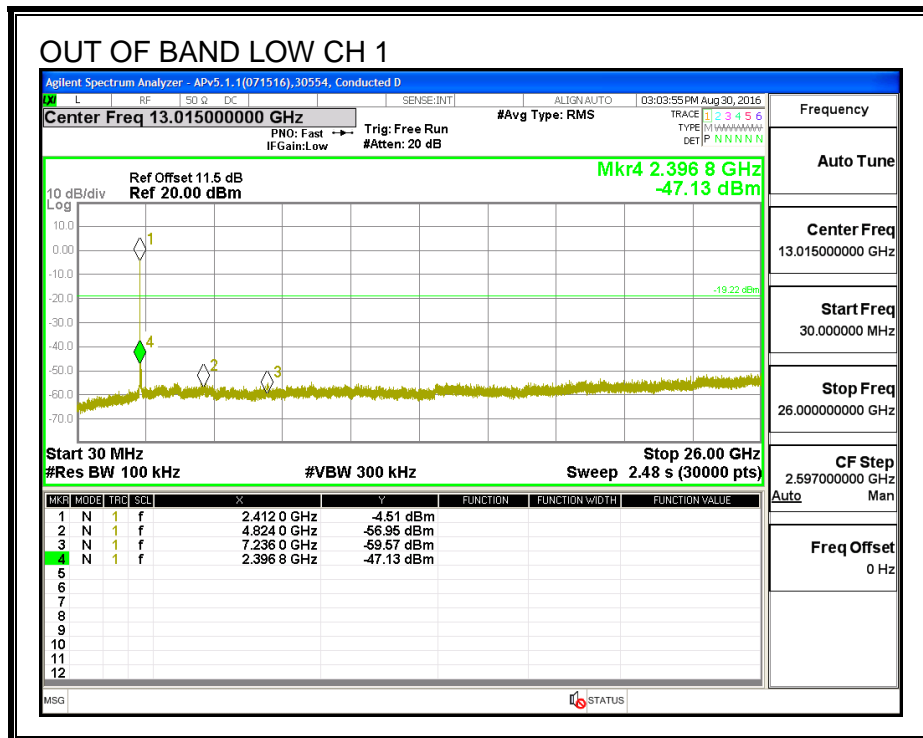
HIGH CHANNEL BANDEDGE, Chain 1

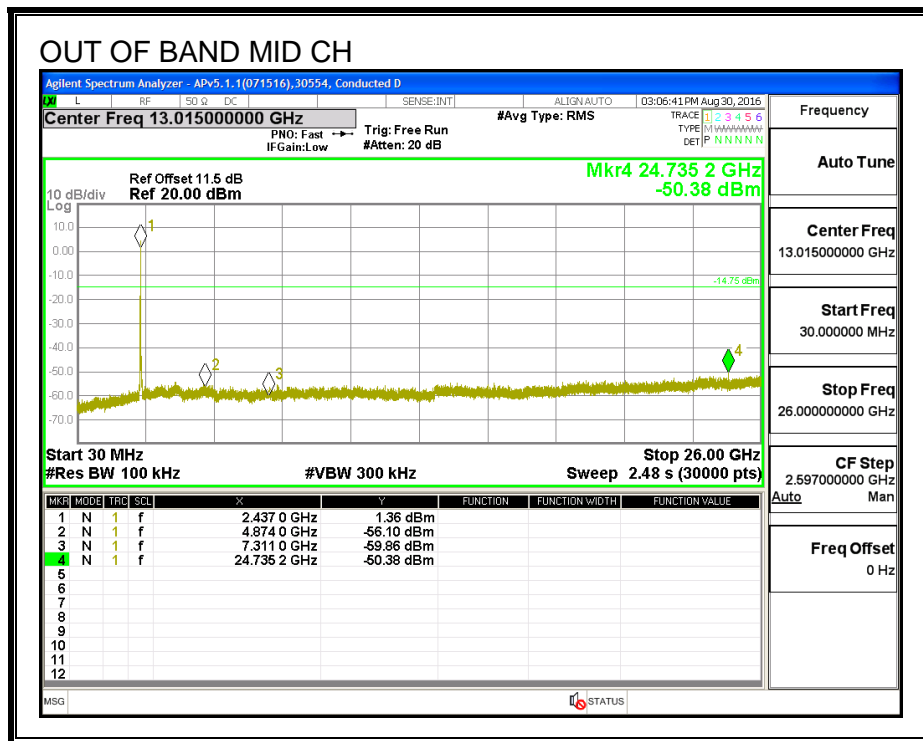
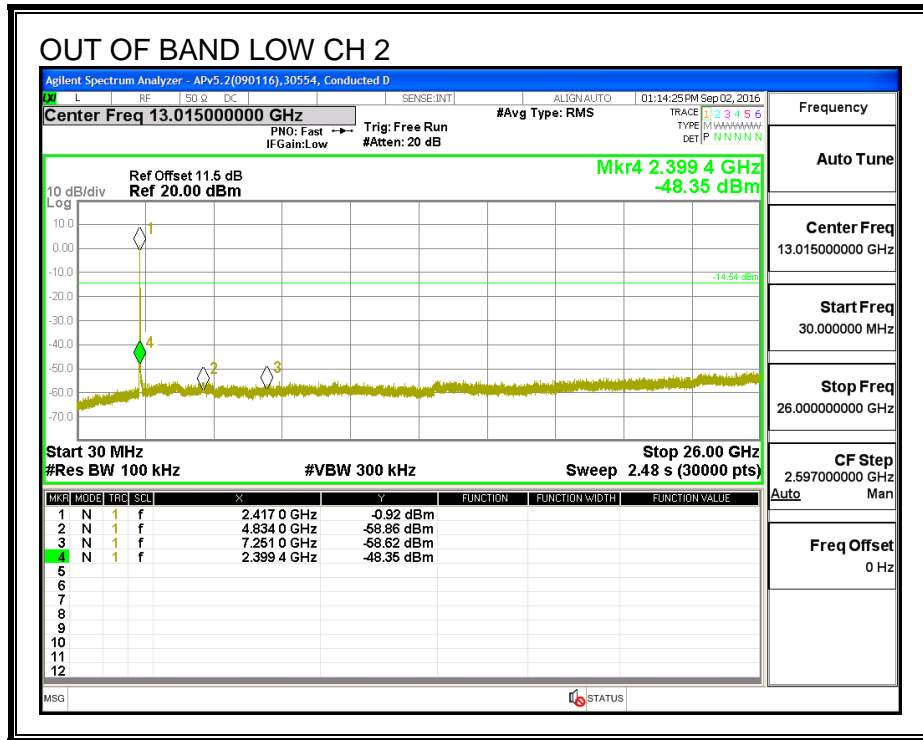


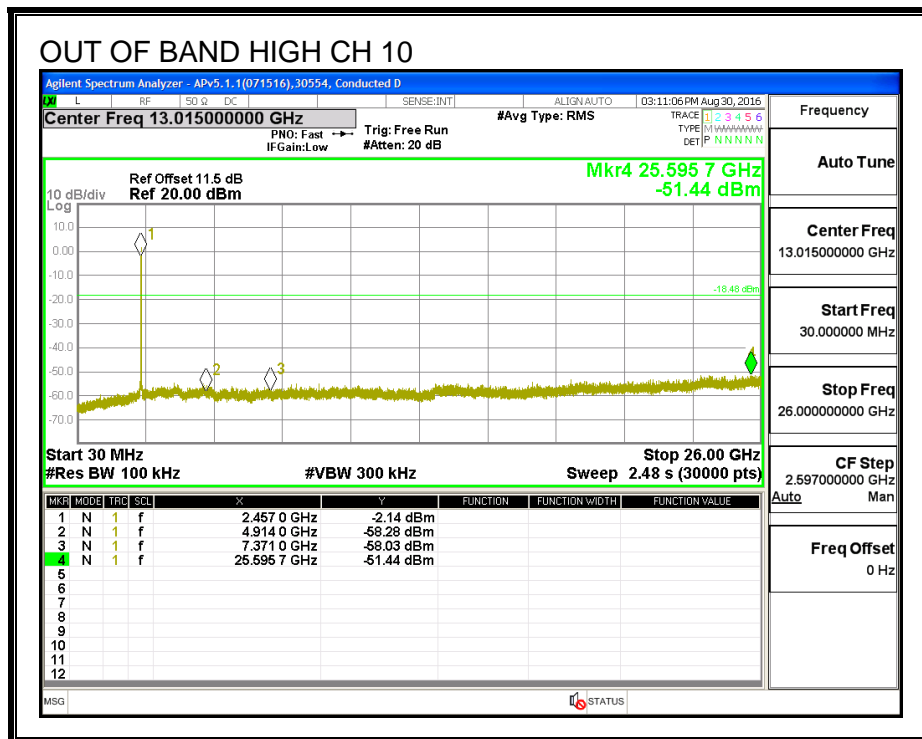
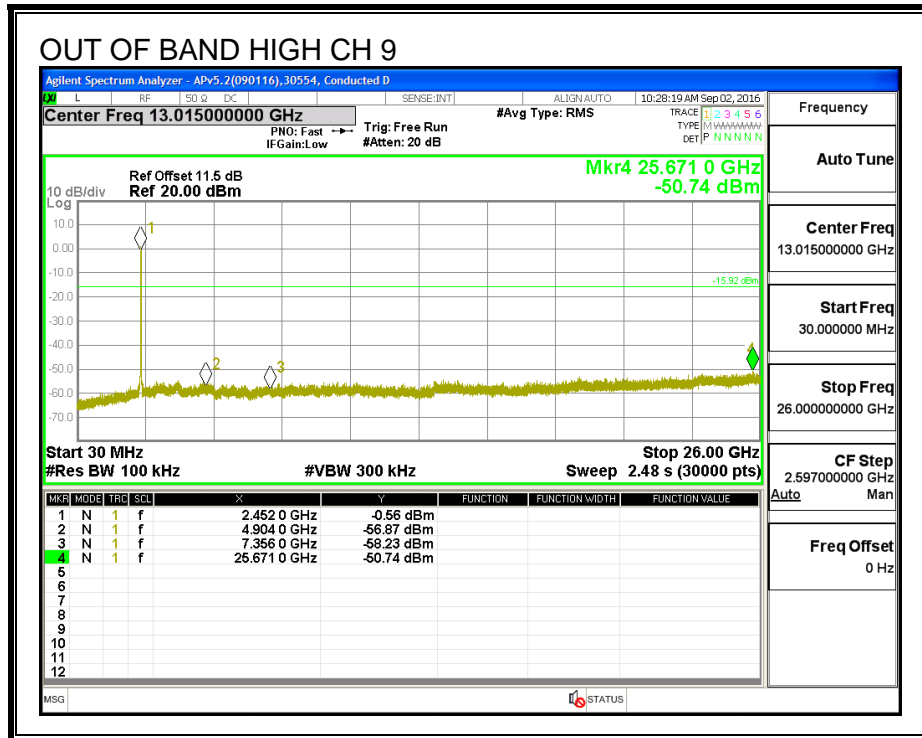


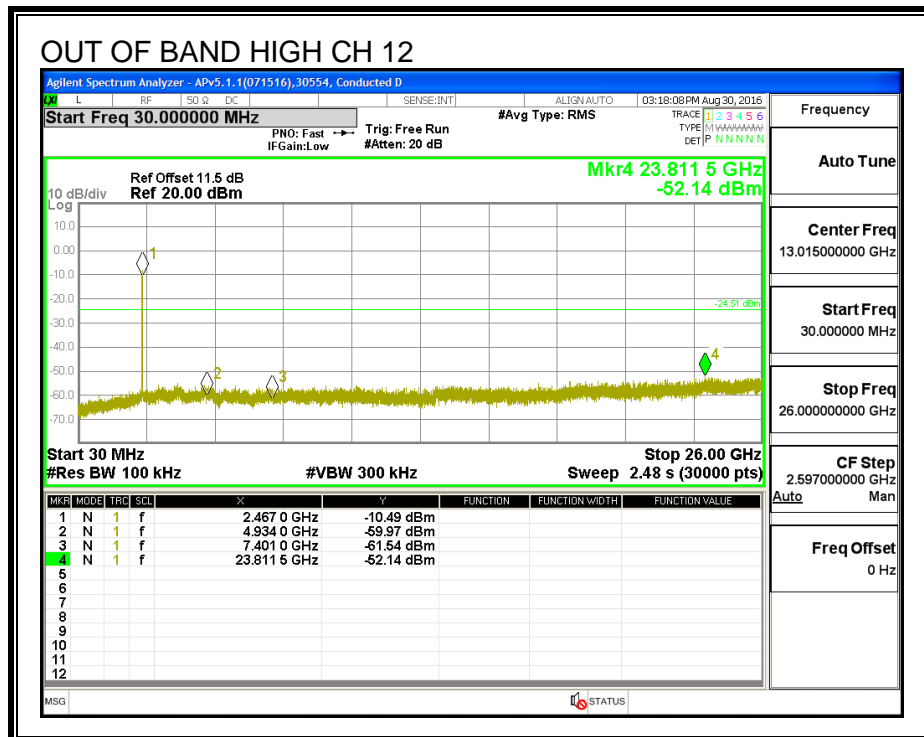
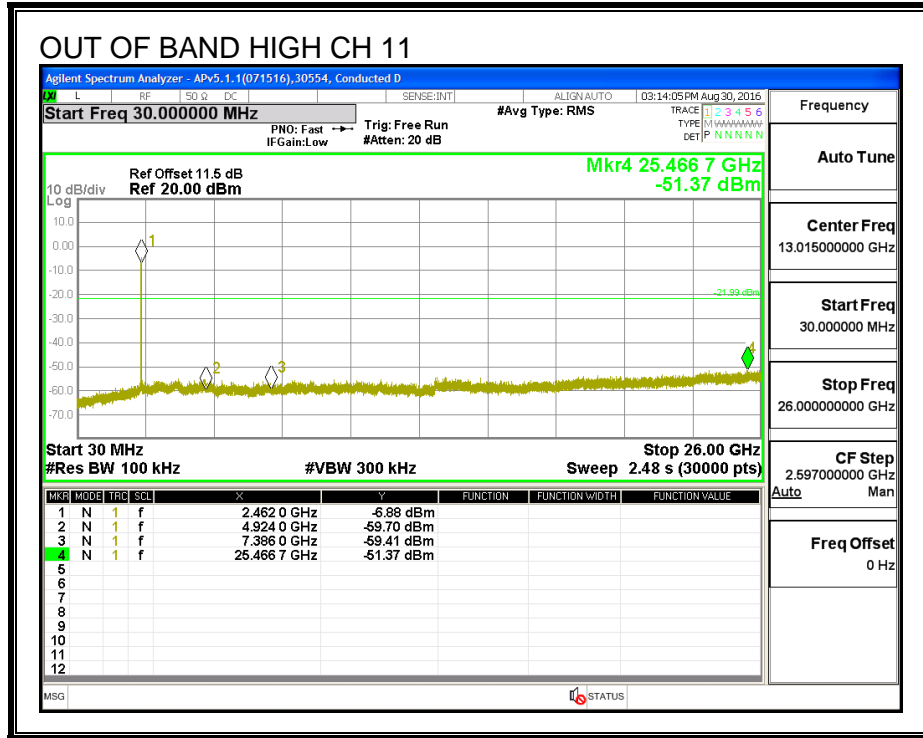


OUT-OF-BAND EMISSIONS, Chain 1

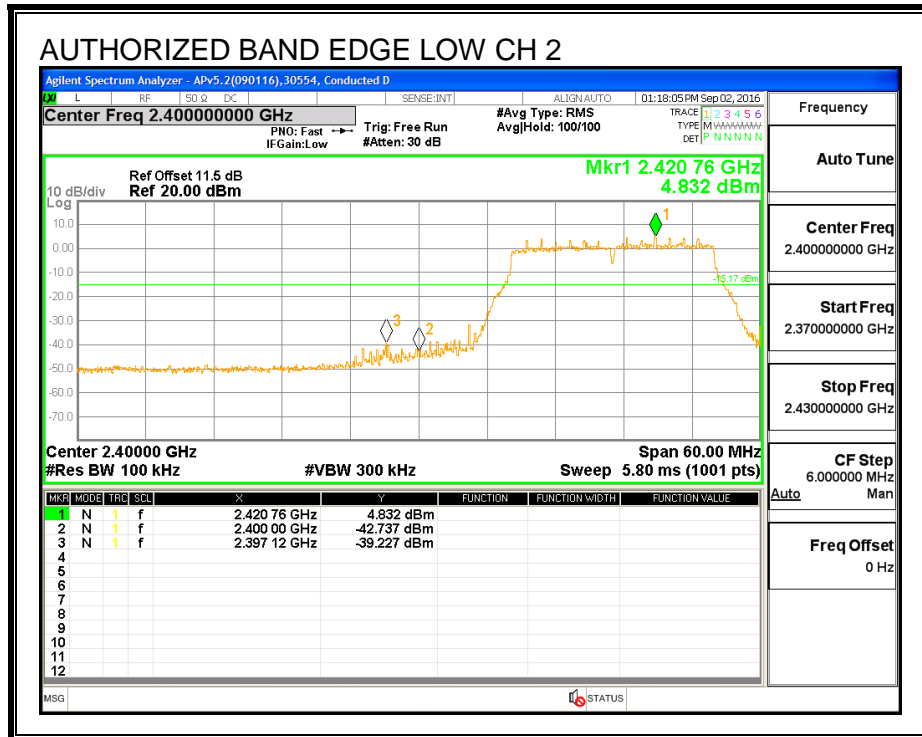
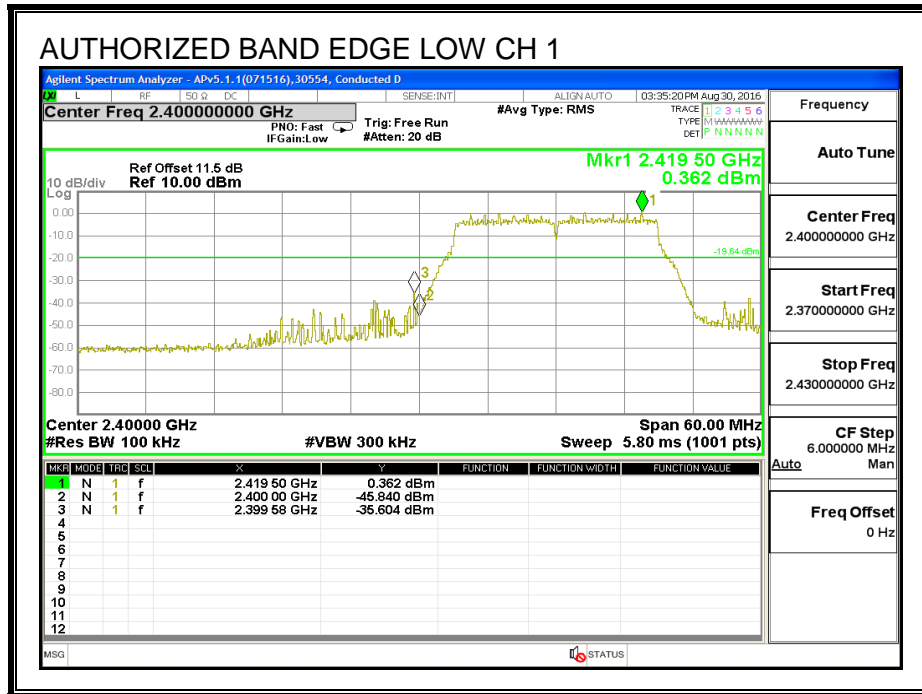




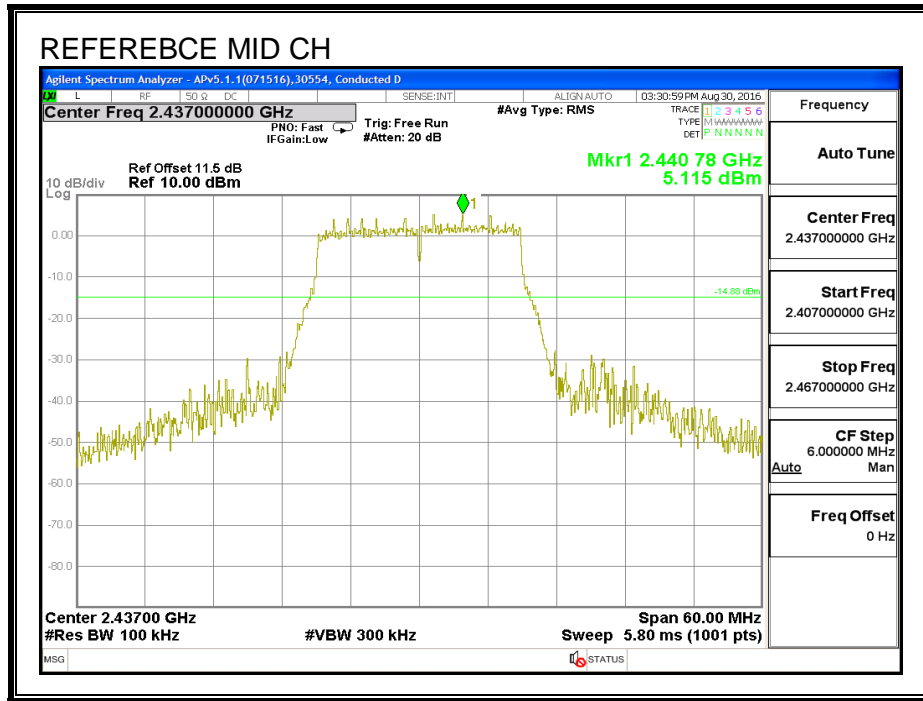




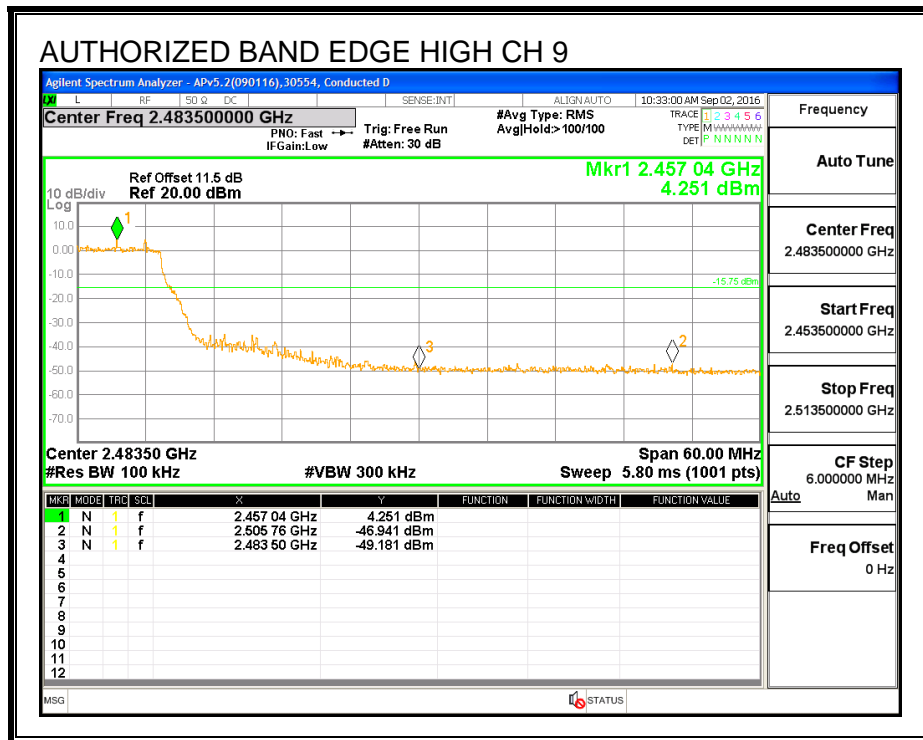
LOW CHANNEL BANDEDGE, Chain 2

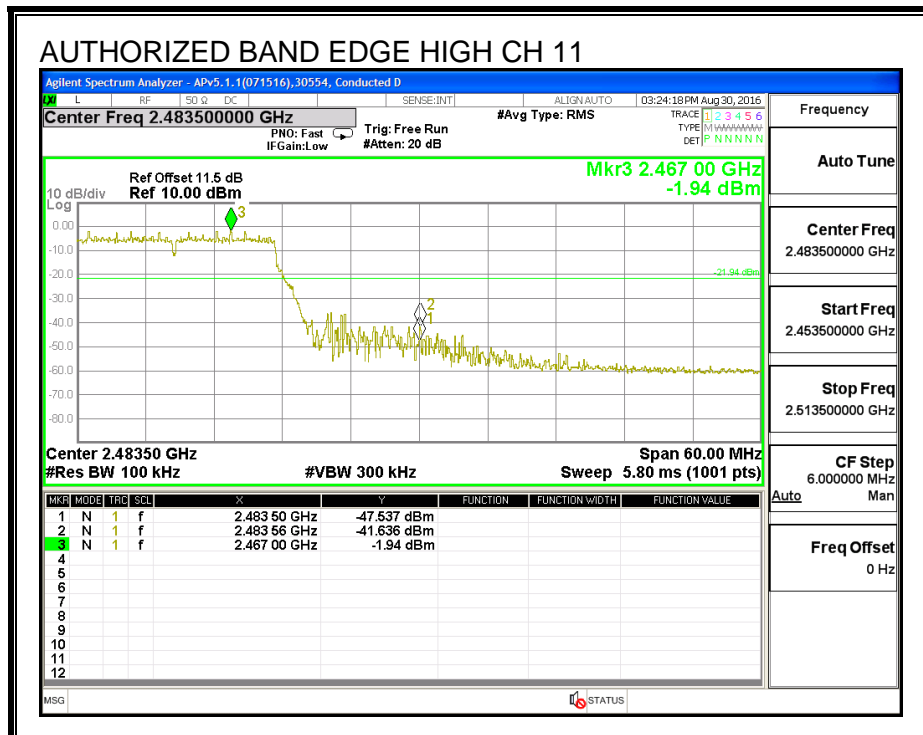
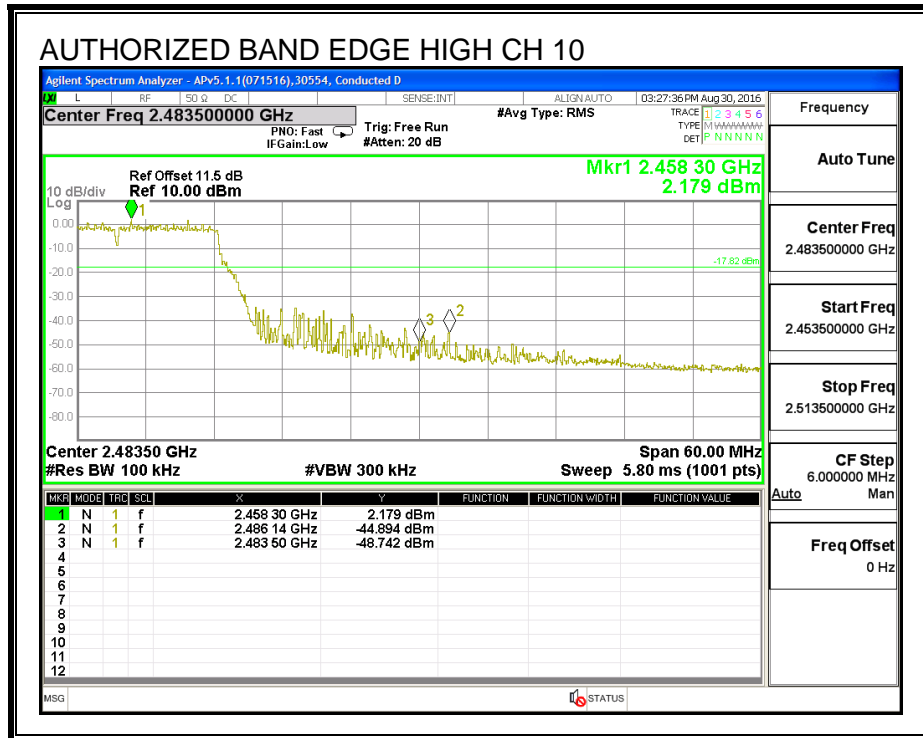


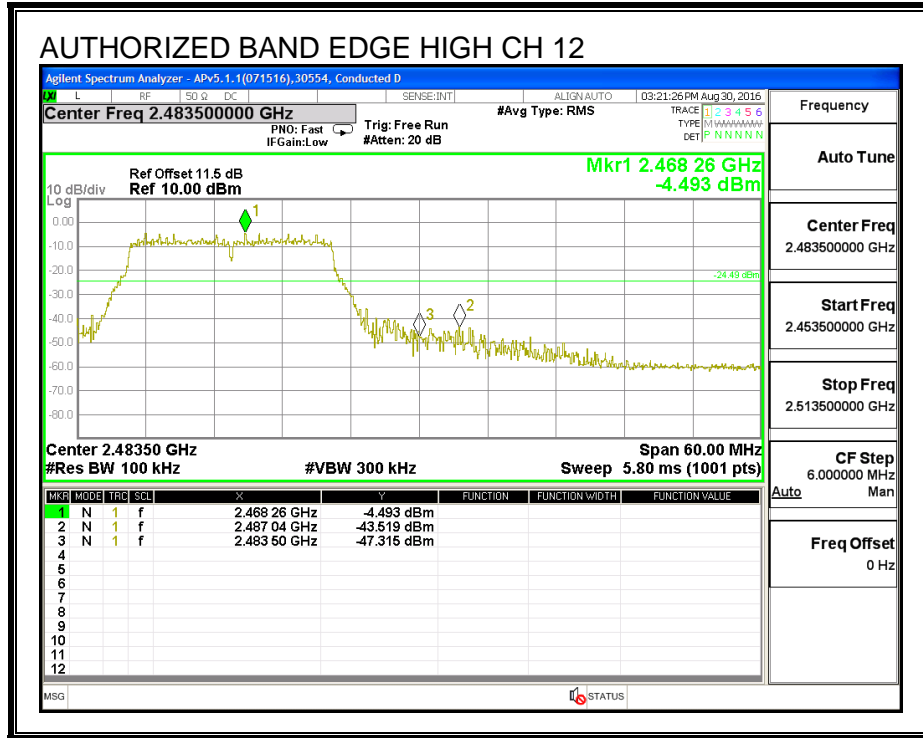
MID CHANNEL REFERENCE, Chain 2



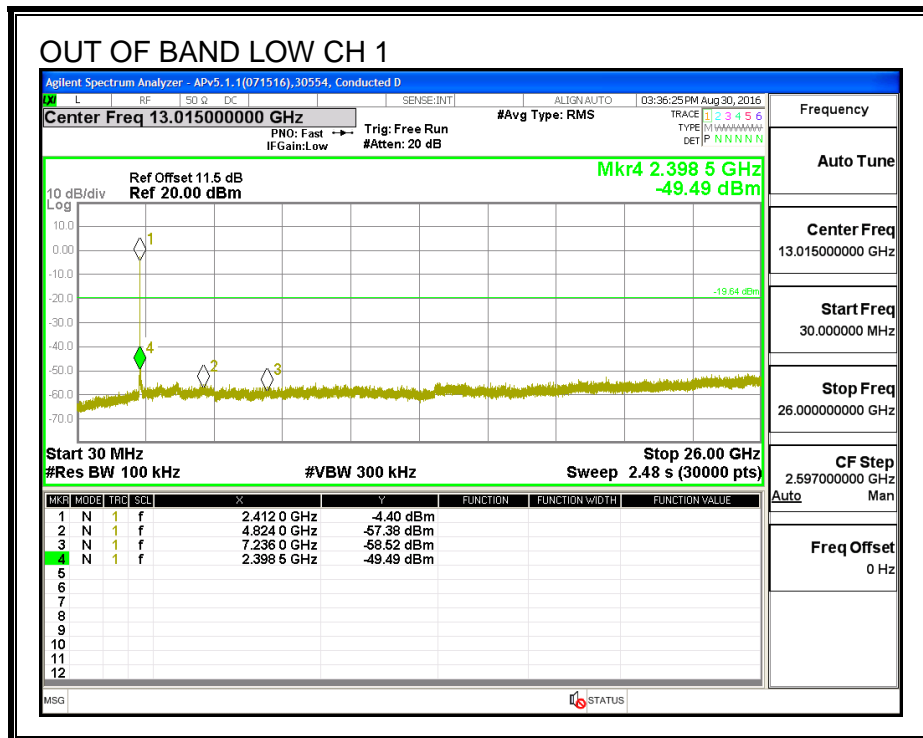
HIGH CHANNEL BANDEDGE, Chain 2

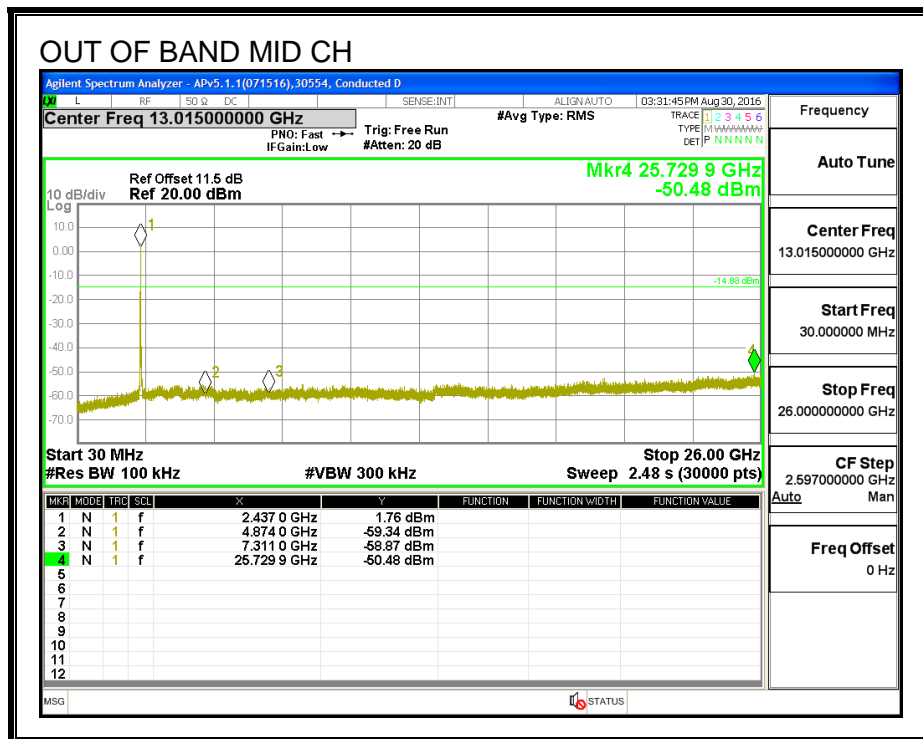
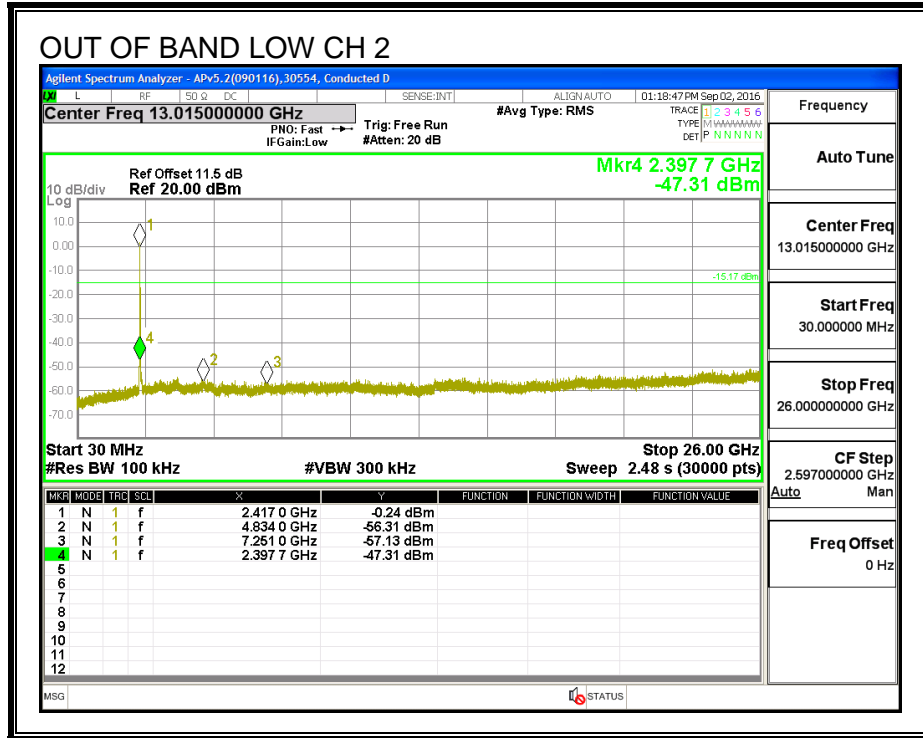


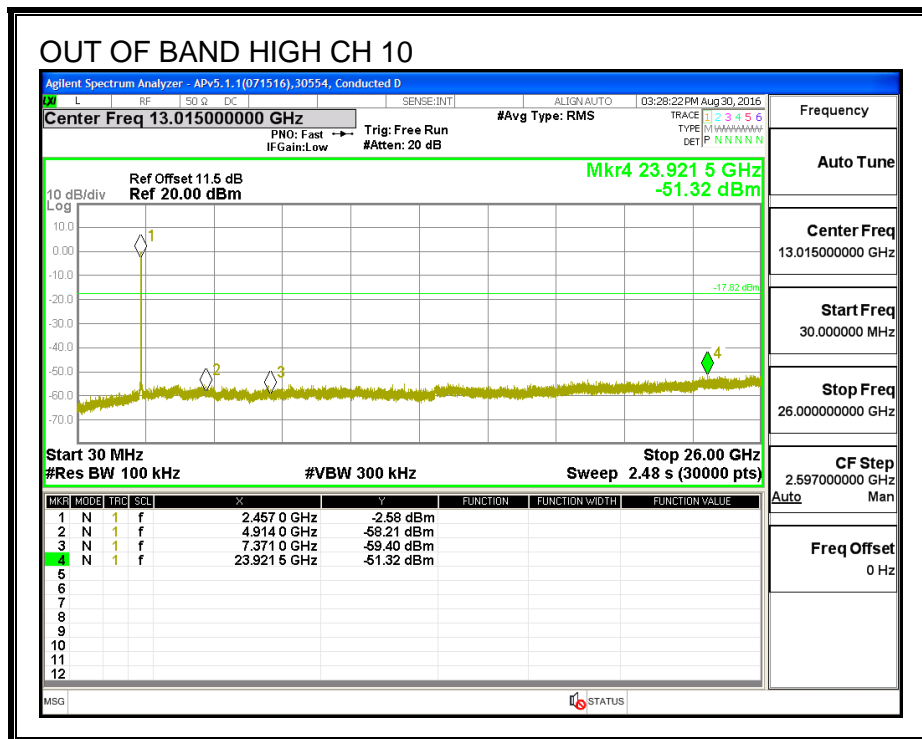
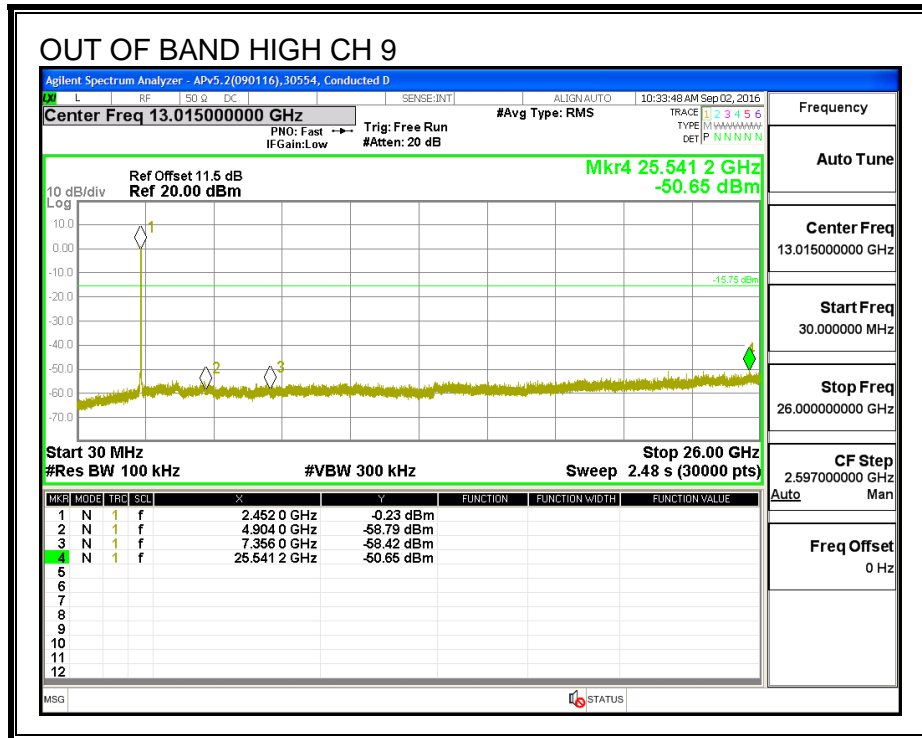


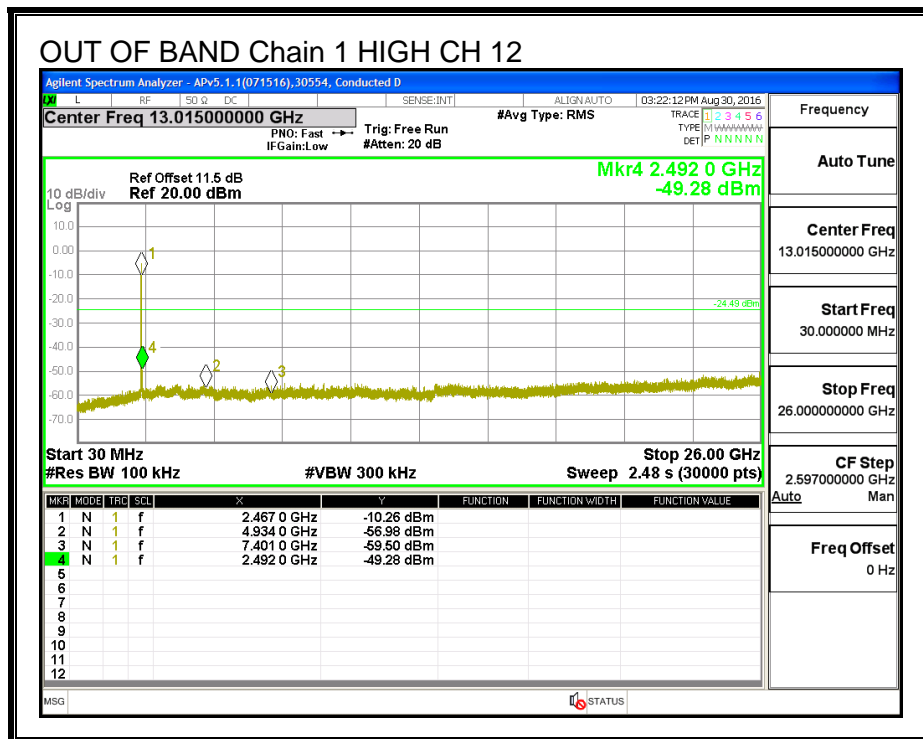
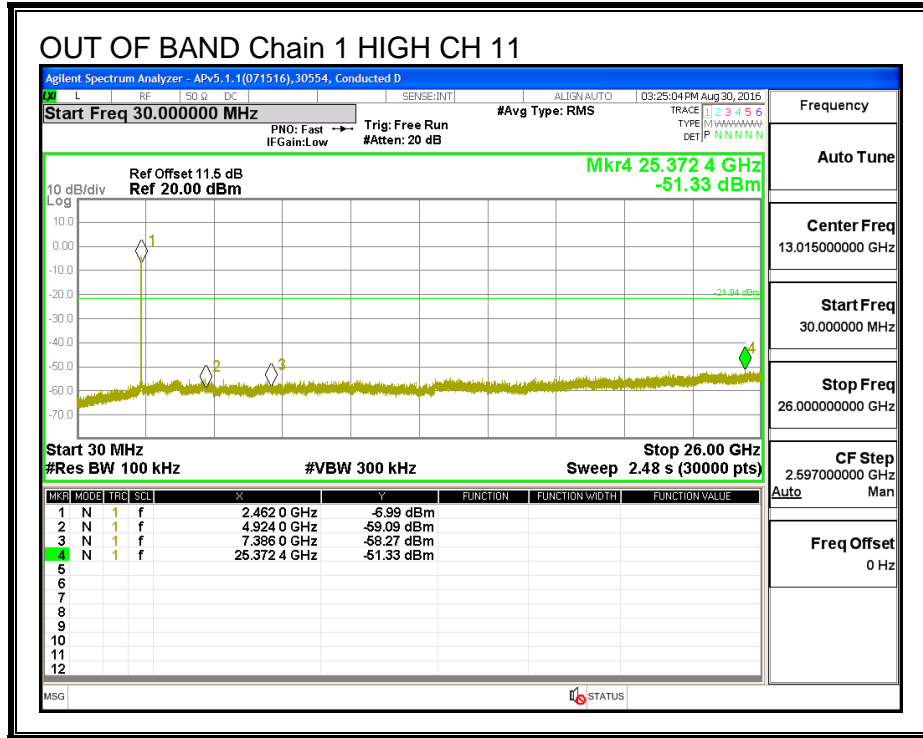


OUT-OF-BAND EMISSIONS, Chain 2









8.21. 802.11n HT20 3Tx CDD MODE IN THE 2.4 GHz BAND

8.21.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-247 (5.2) (1)

The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	6 dB BW Chain 2 (MHz)	Minimum Limit (MHz)
Low_1	2412	17.685	17.577	17.577	0.5
Low_2	2417	17.604	17.631	17.685	0.5
Mid_6	2437	17.631	17.604	17.631	0.5
High_8	2447	17.604	17.604	17.631	0.5
High_9	2452	17.631	17.631	17.658	0.5
High_10	2457	17.658	17.631	17.631	0.5
High_11	2462	17.604	17.604	17.604	0.5
High_12	2467	17.577	17.631	17.631	0.5