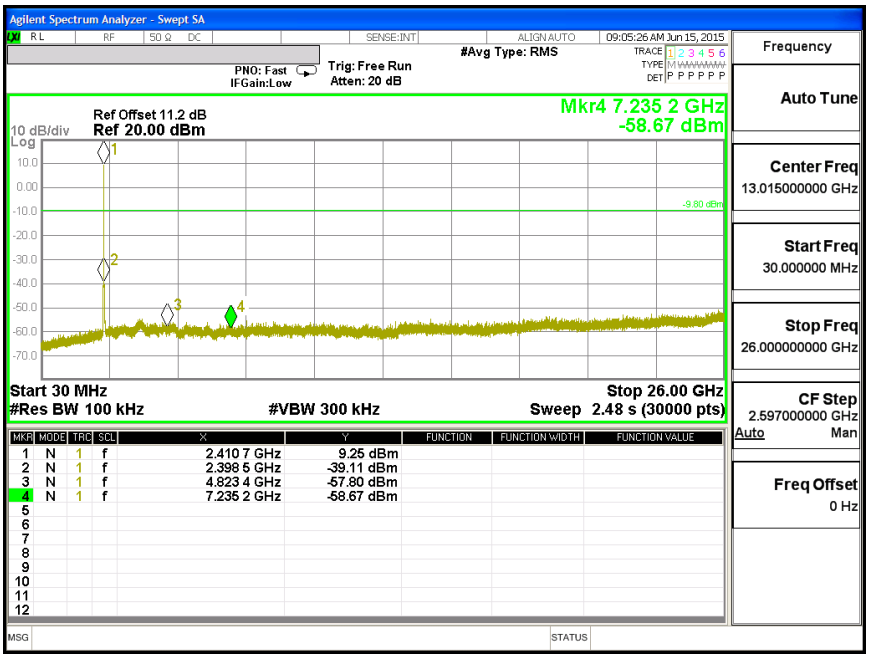
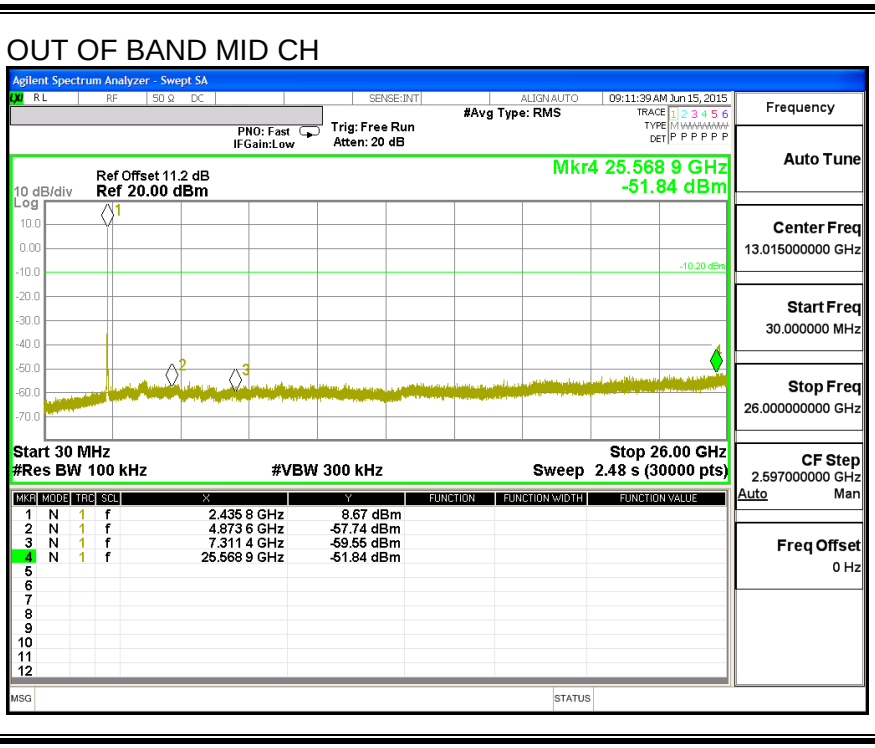
OUT-OF-BAND EMISSIONS

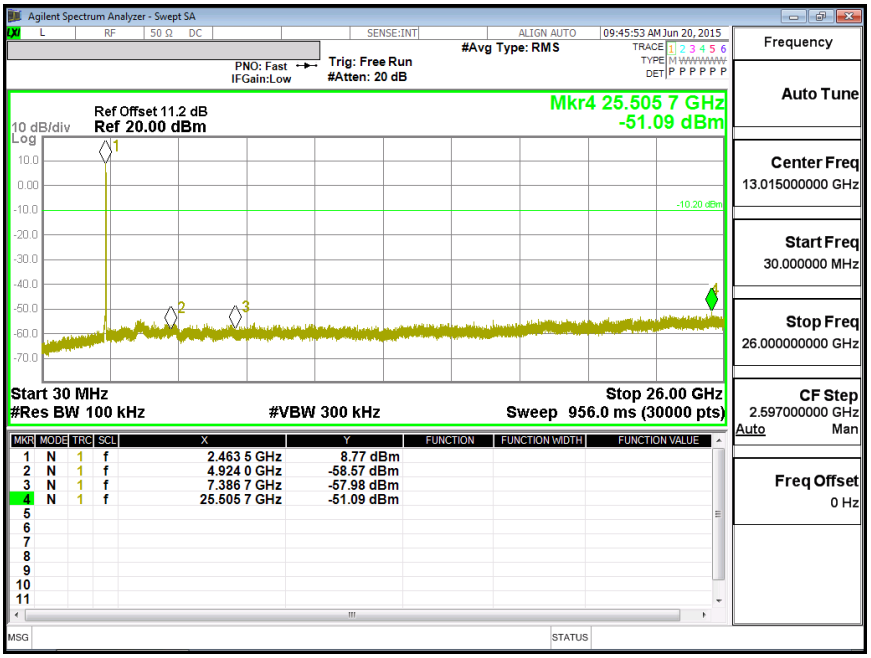
OUT OF BAND LOW CH



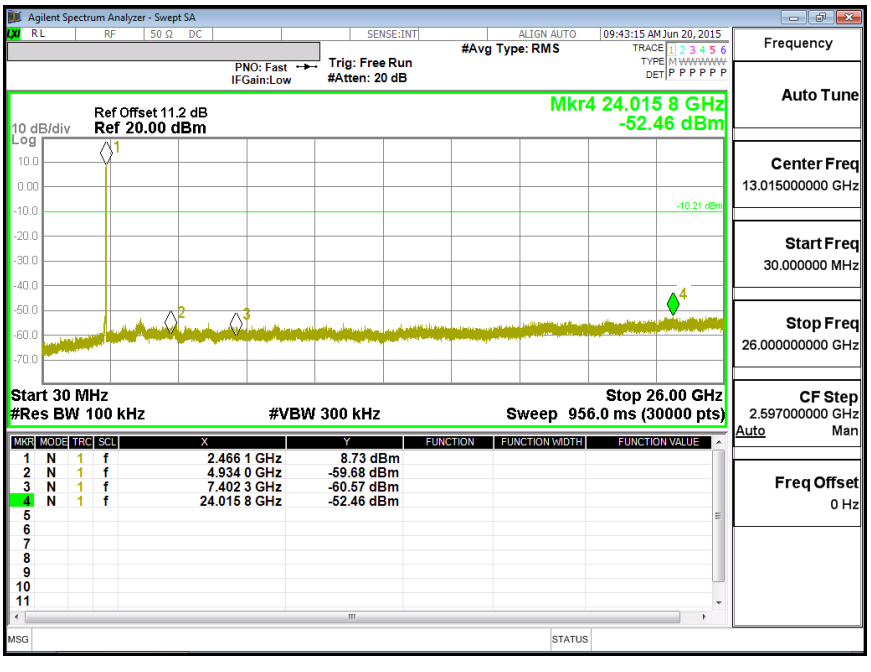
OUT OF BAND MID CH



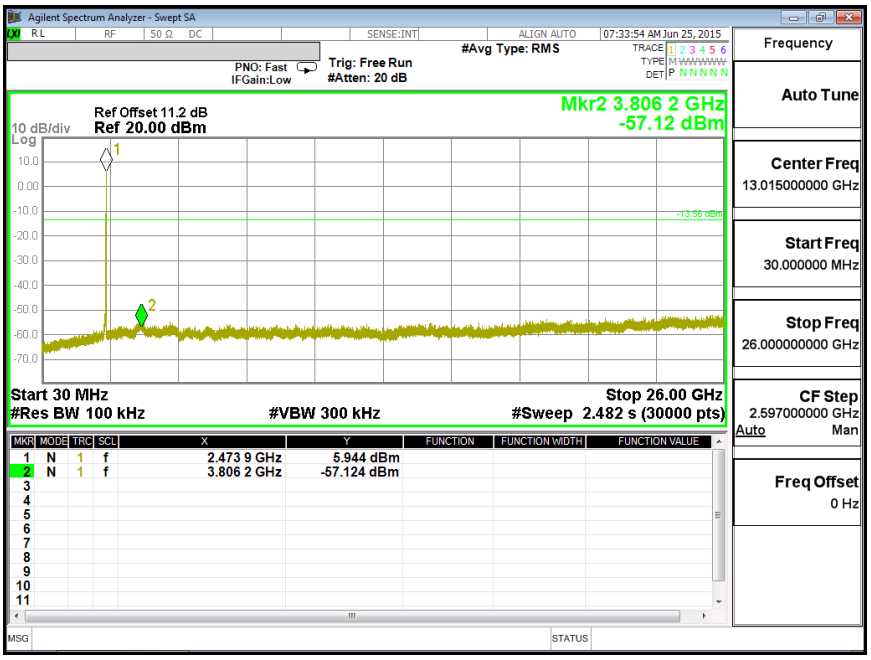
OUT OF BAND HIGH CH 11



OUT OF BAND HIGH CH 12



OUT OF BAND HIGH CH 13



7.4. 802.11n HT20 SISO MODE IN THE 2.4 GHz BAND

7.4.1. 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, Chain 0

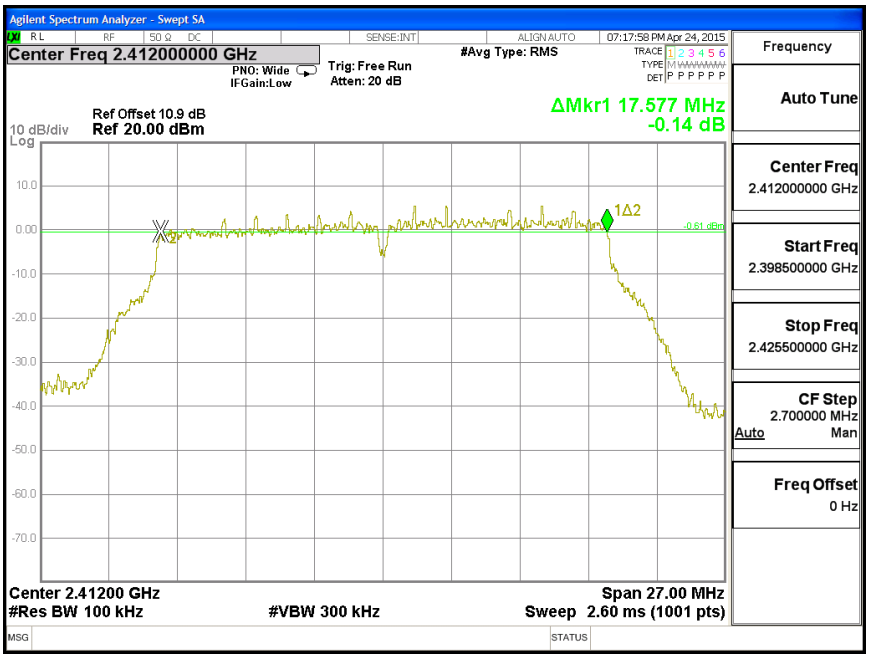
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low_1	2412	17.58	0.5
Low_2	2417	17.55	0.5
Mid	2437	17.69	0.5
High_9	2452	17.60	0.5
High_10	2457	17.58	0.5
High_11	2462	17.19	0.5
High_12	2467	16.68	0.5
High_13	2472	16.41	0.5

RESULTS, Chain 1

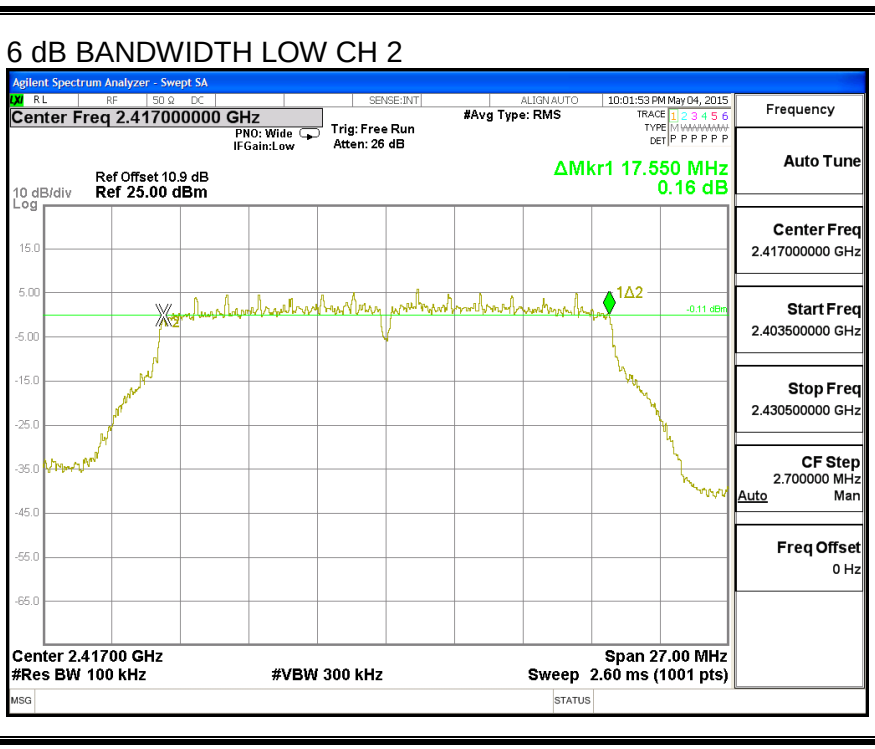
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low_1	2412	17.63	0.5
Low_2	2417	17.58	0.5
Mid	2437	17.58	0.5
High_9	2452	17.60	0.5
High_10	2457	17.33	0.5
High_11	2462	17.12	0.5
High_12	2467	17.25	0.5
High_13	2472	17.34	0.5

6 dB BANDWIDTH, Chain 0

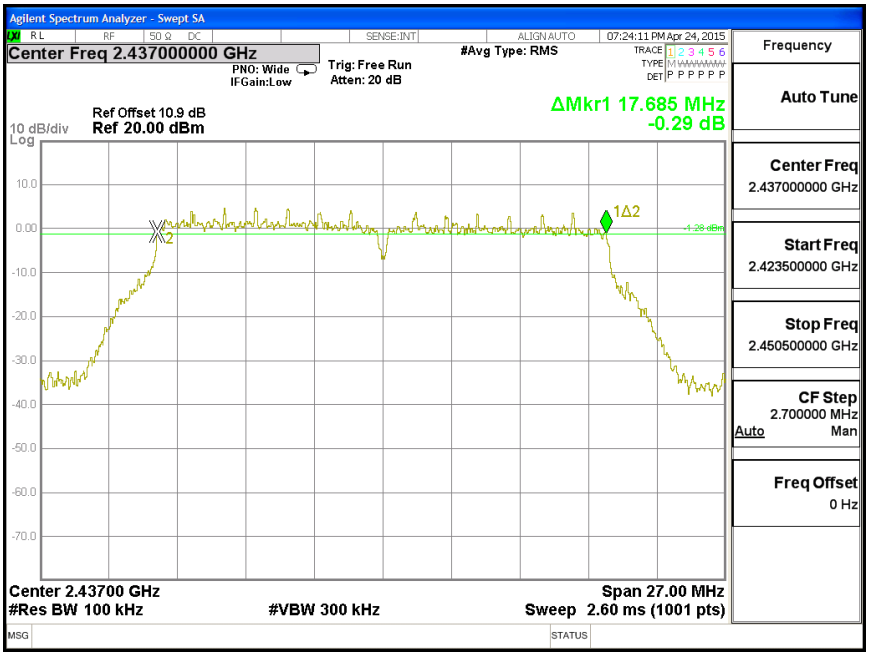
6 dB BANDWIDTH LOW CH 1



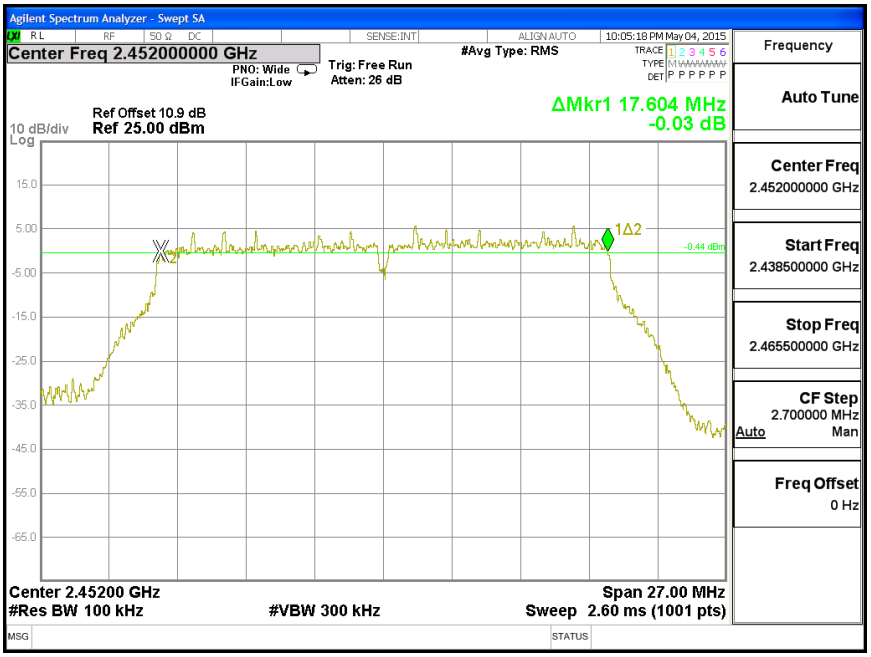
6 dB BANDWIDTH LOW CH 2



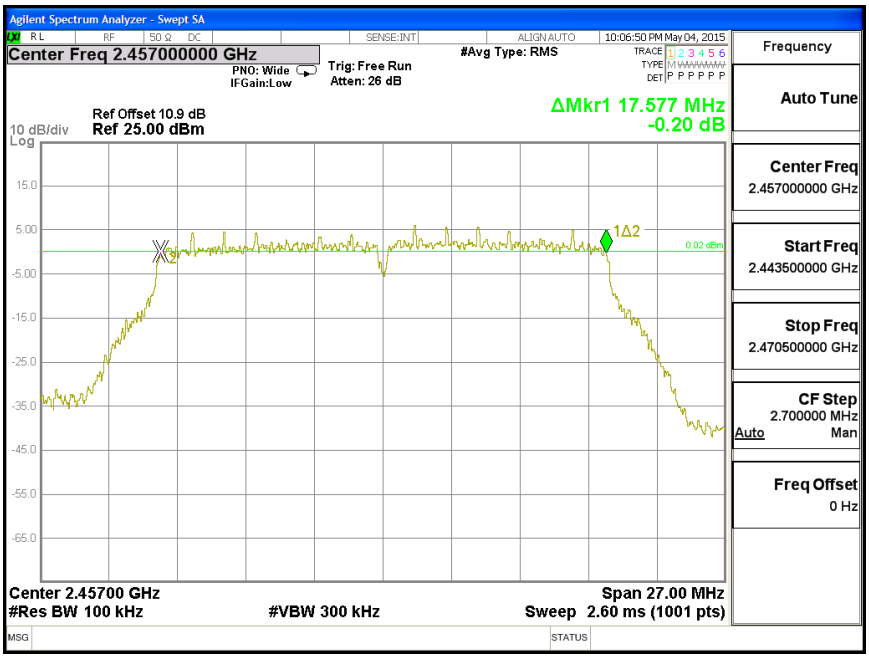
6 dB BANDWIDTH MID CH



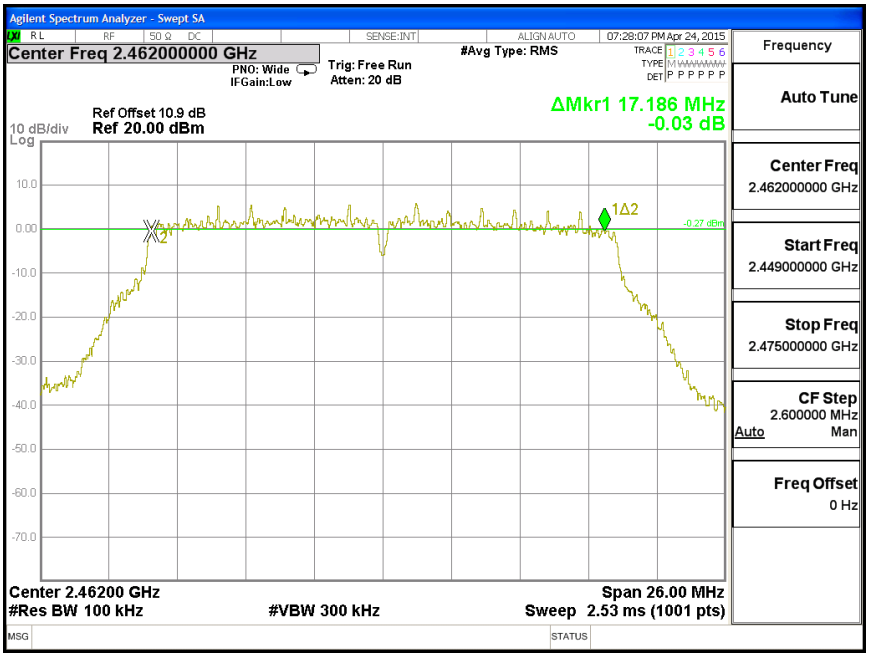
6 dB BANDWIDTH HIGH CH 9



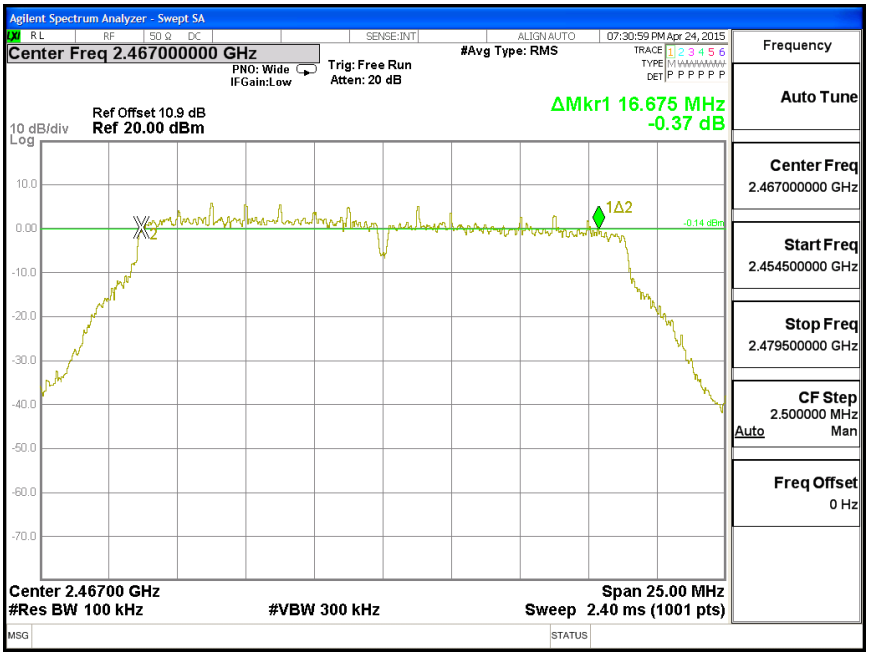
6 dB BANDWIDTH HIGH CH 10



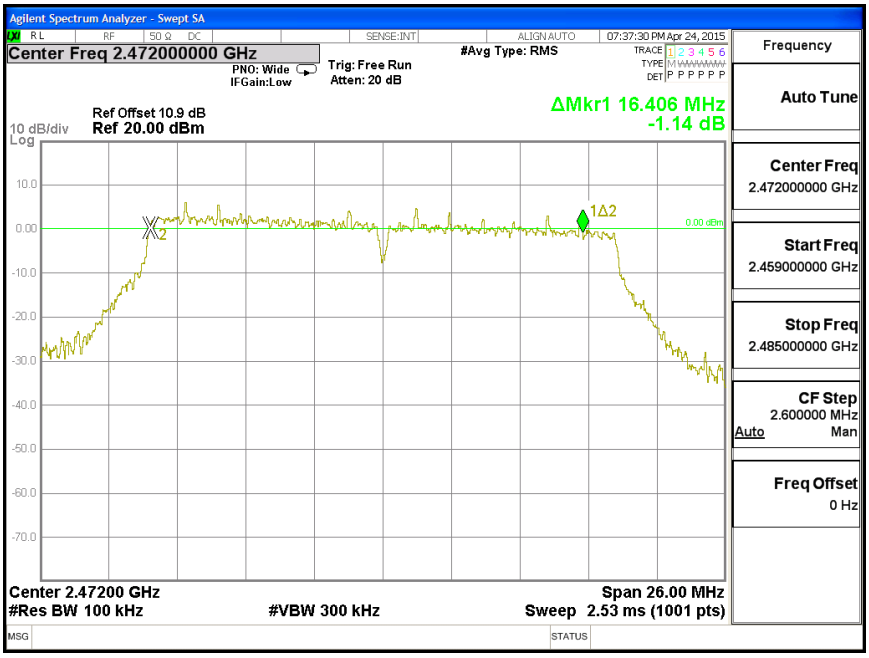
6 dB BANDWIDTH HIGH CH11



6 dB BANDWIDTH HIGH CH12

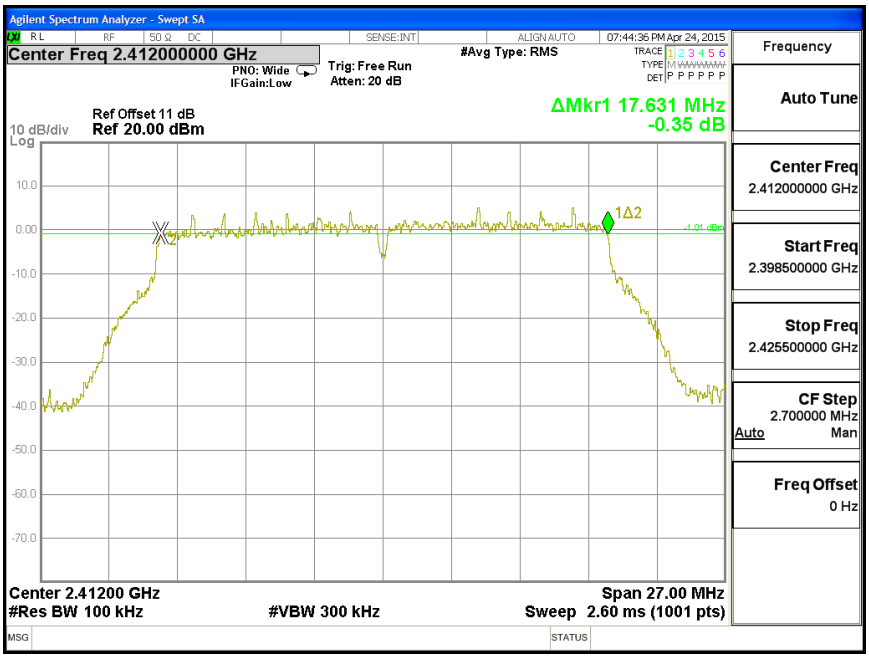


6 dB BANDWIDTH HIGH CH13

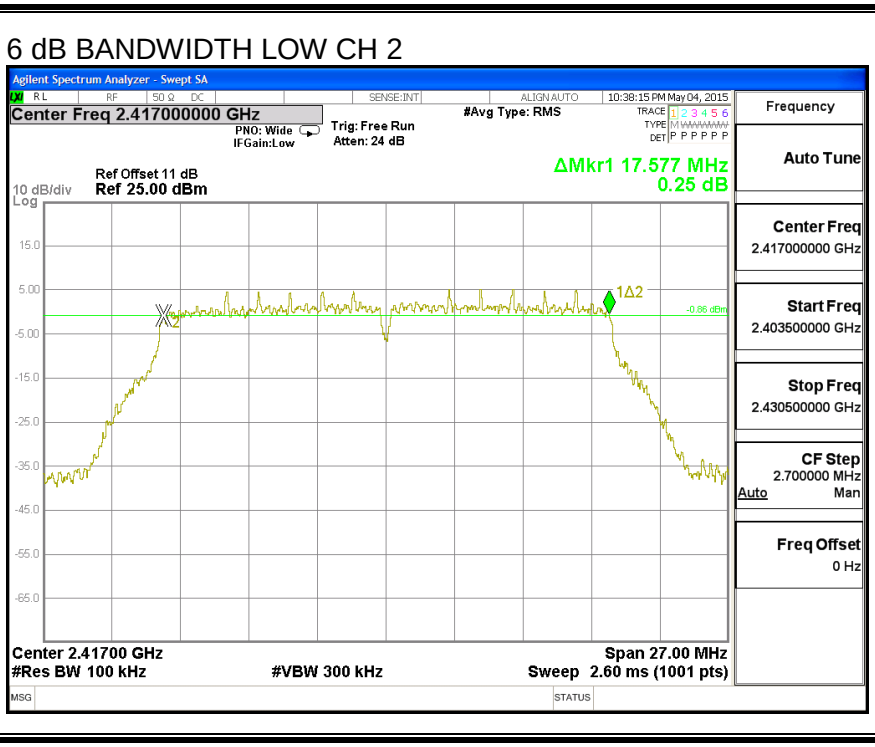


6 dB BANDWIDTH, Chain 1

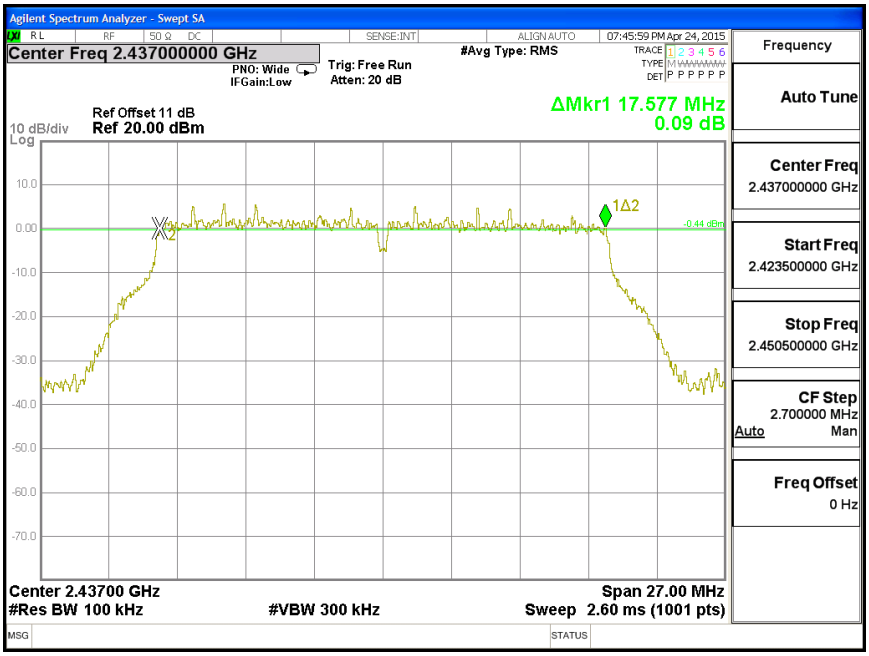
6 dB BANDWIDTH LOW CH 1



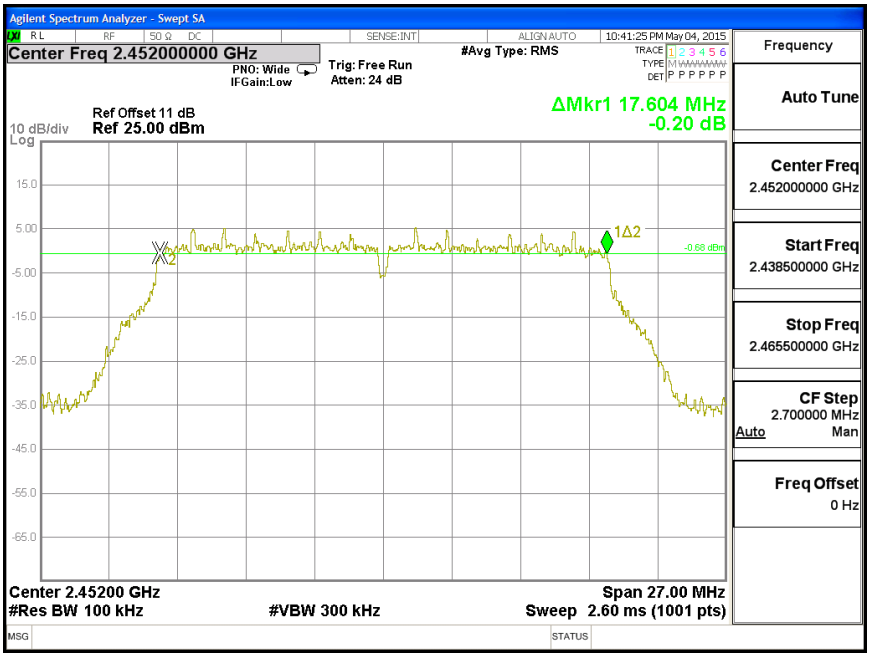
6 dB BANDWIDTH LOW CH 2



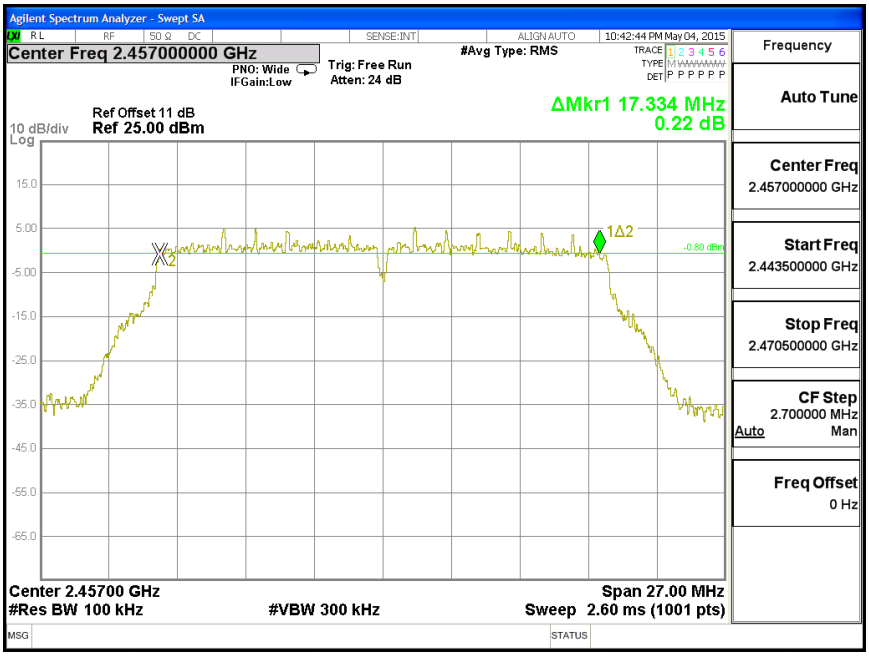
6 dB BANDWIDTH MID CH



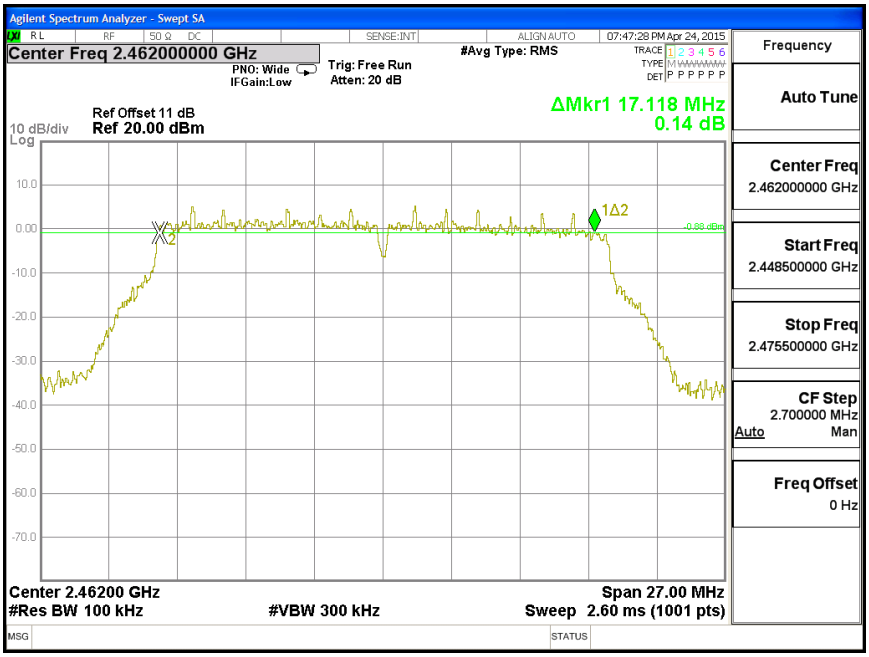
6 dB BANDWIDTH HIGH CH 9



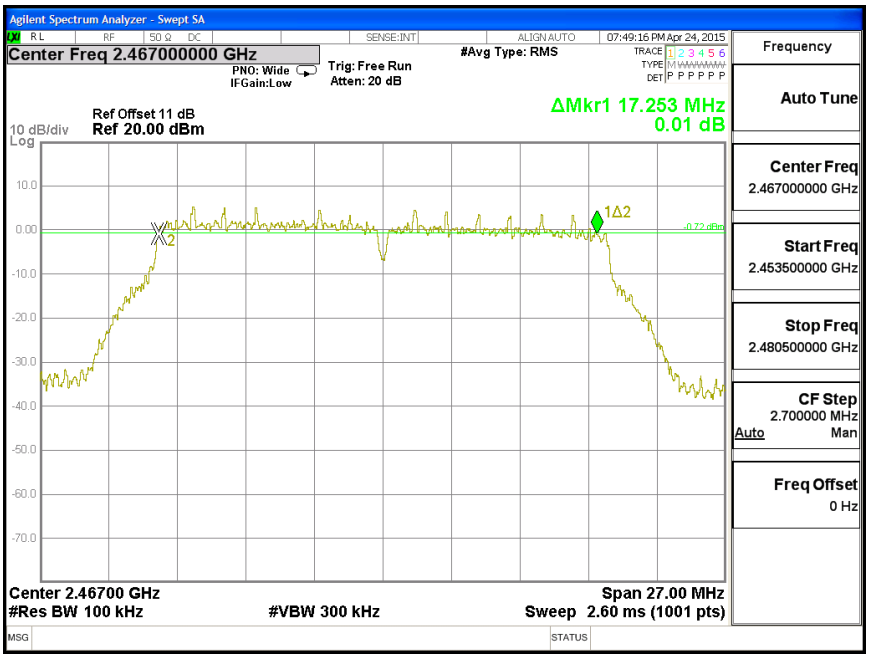
6 dB BANDWIDTH HIGH CH 10



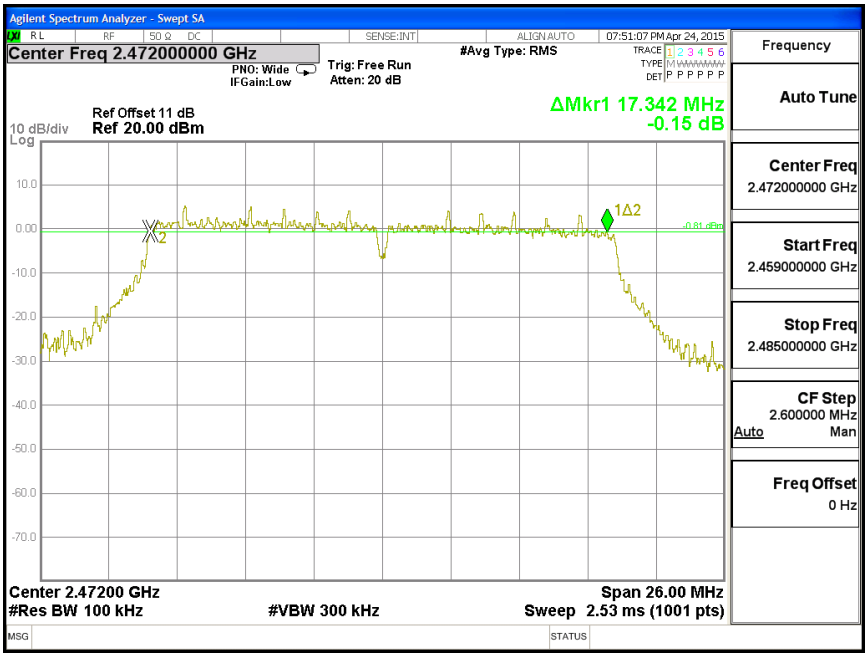
6 dB BANDWIDTH HIGH CH11



6 dB BANDWIDTH HIGH CH12



6 dB BANDWIDTH HIGH CH13



7.4.2. **99% BANDWIDTH**

LIMITS

None; for reporting purposes only.

RESULTS, Chain 0

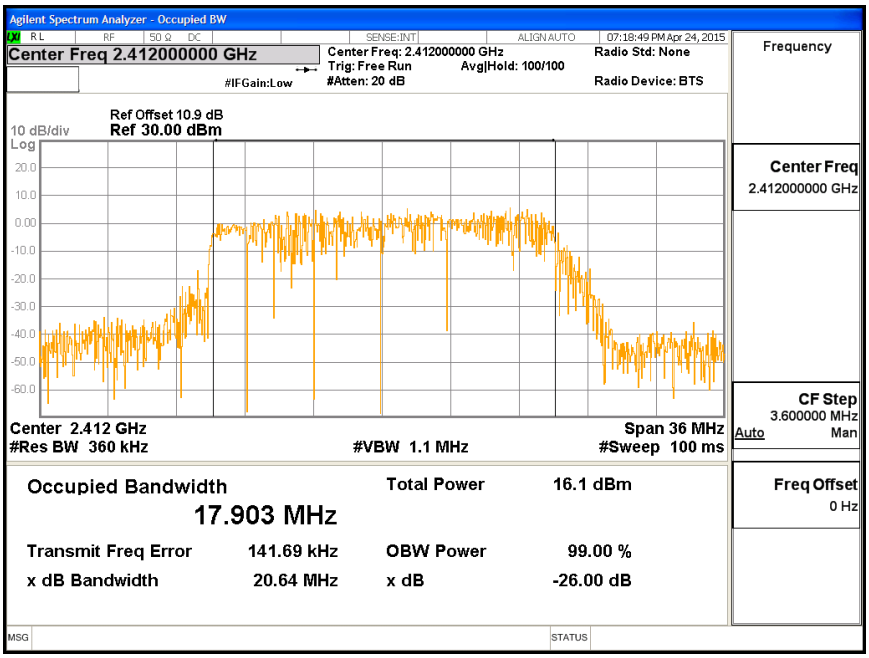
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low_1	2412	17.903
Low_2	2417	17.685
Mid	2437	17.830
High_9	2452	17.886
High_10	2457	17.781
High_11	2462	17.887
High_12	2467	17.846
High_13	2472	17.847

RESULTS, Chain 1

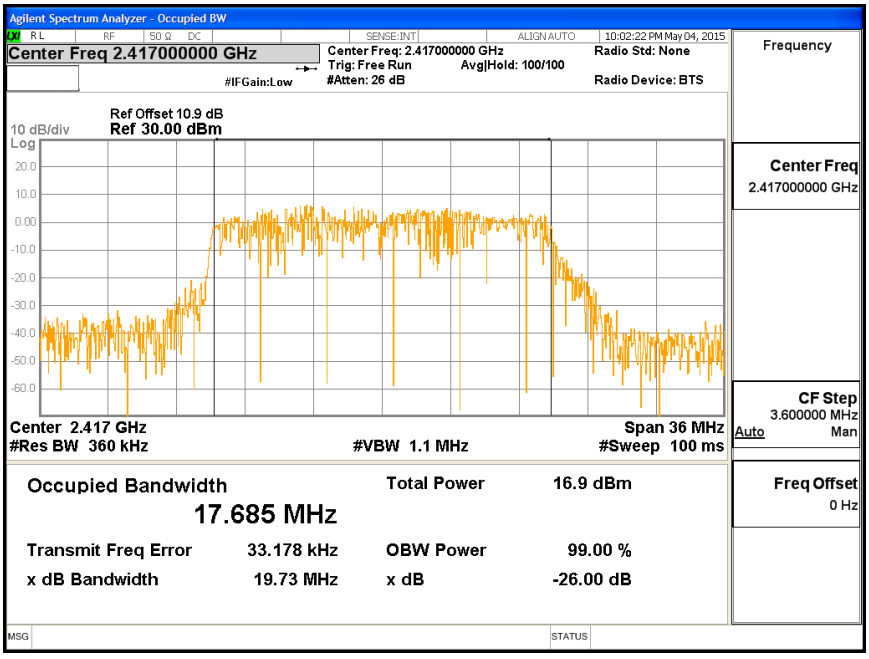
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low_1	2412	17.621
Low_2	2417	17.695
Mid	2437	17.760
High_9	2452	17.924
High_10	2457	17.621
High_11	2462	17.782
High_12	2467	17.973
High_13	2472	17.922

99% BANDWIDTH, Chain 0

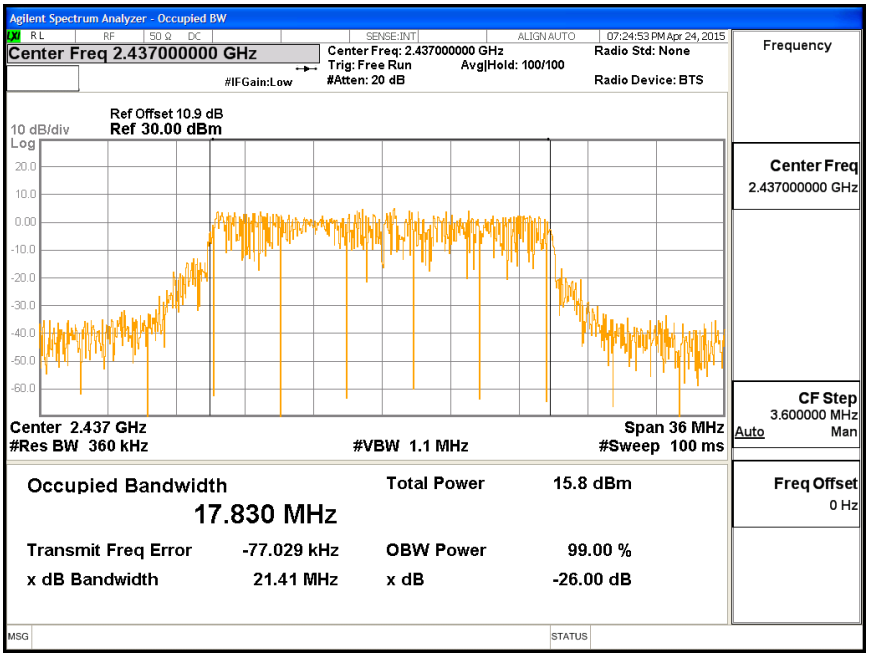
BANDWIDTH LOW CH 1



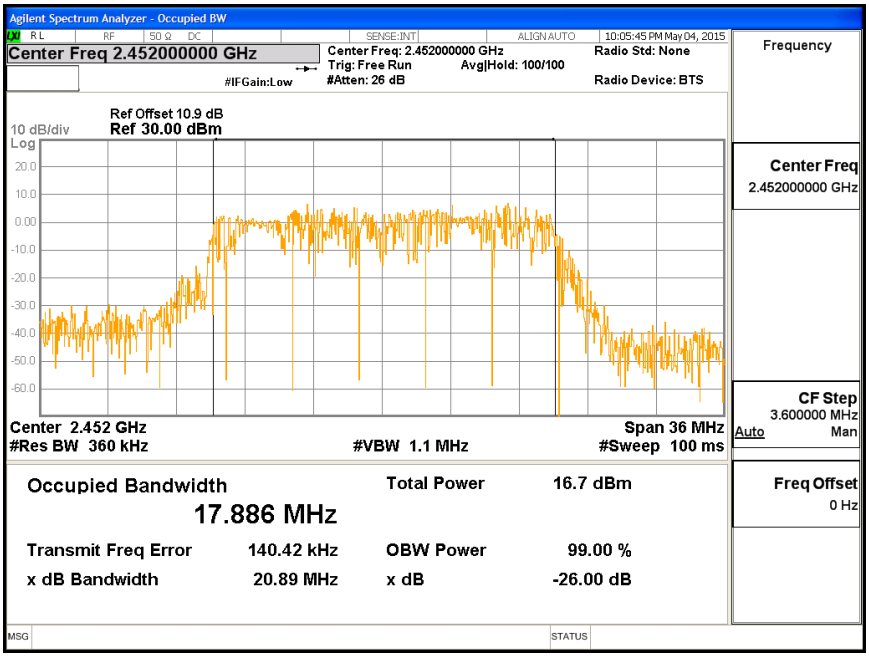
BANDWIDTH LOW CH 2



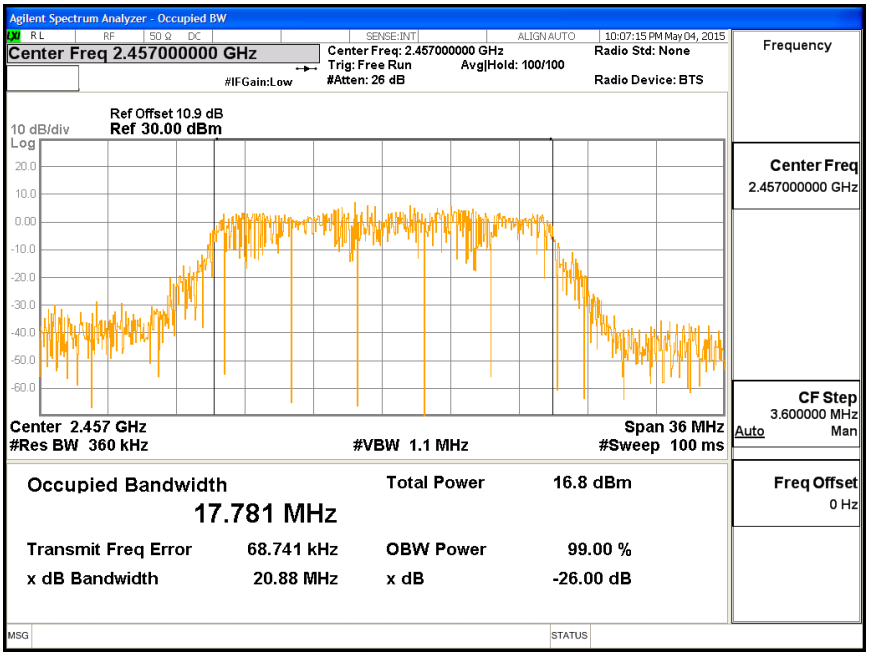
BANDWIDTH MID CH



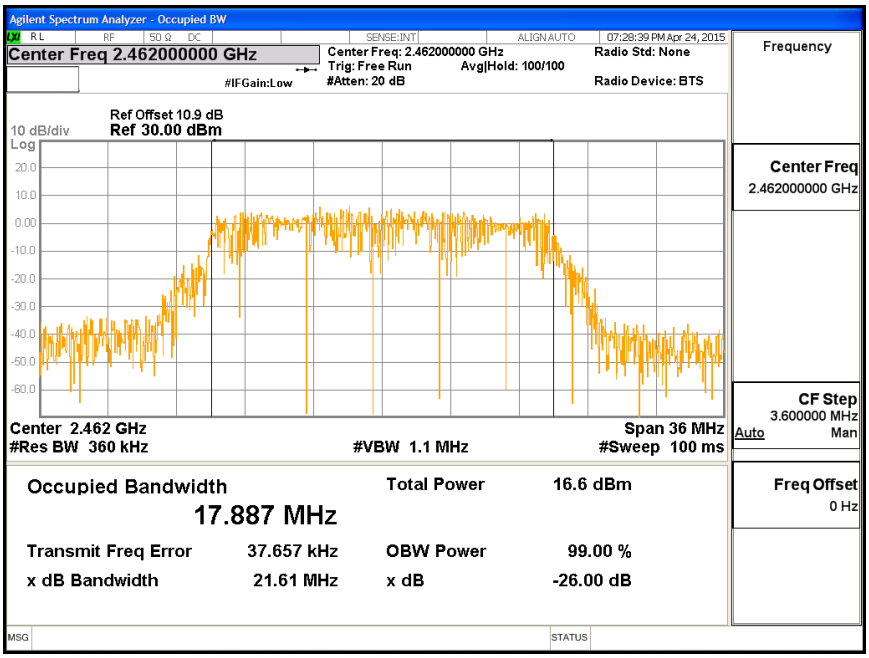
BANDWIDTH HIGH CH 9



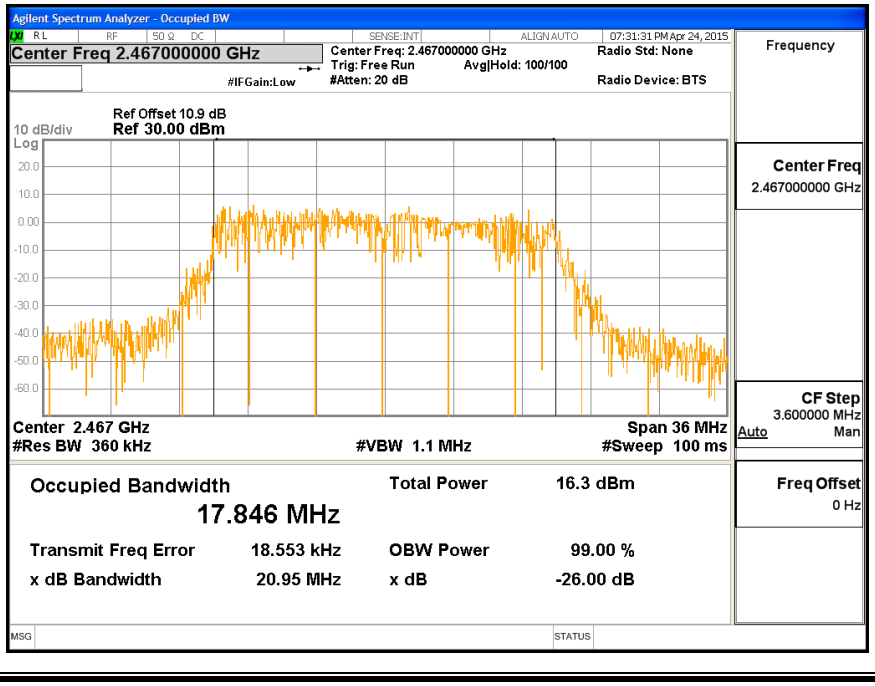
BANDWIDTH HIGH CH 10



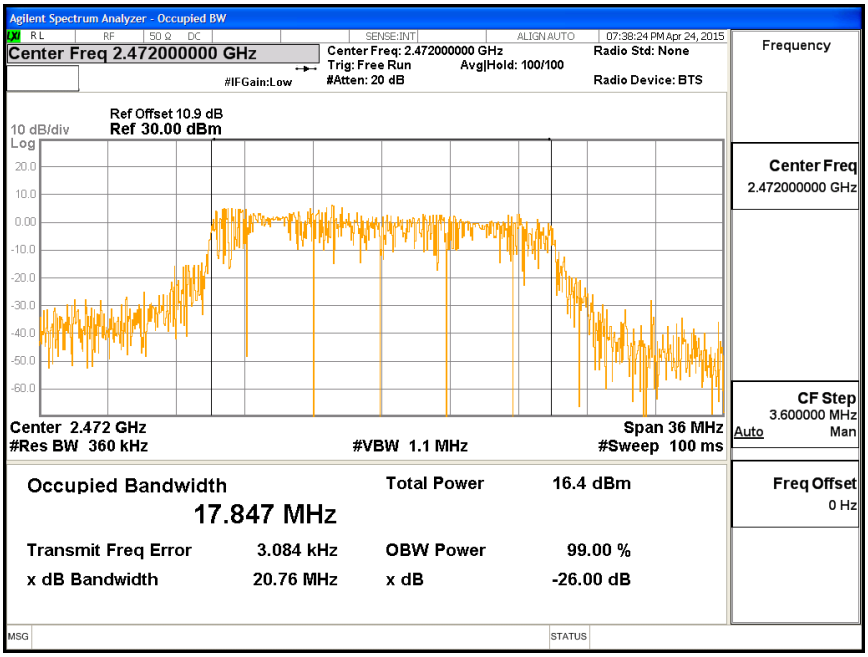
BANDWIDTH HIGH CH 11



BANDWIDTH HIGH CH 12

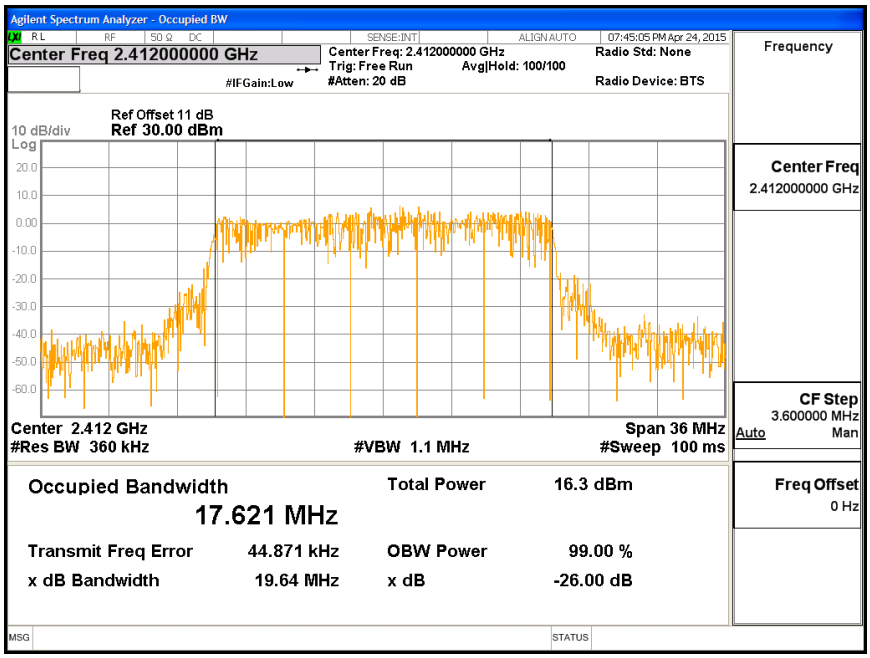


BANDWIDTH HIGH CH 13

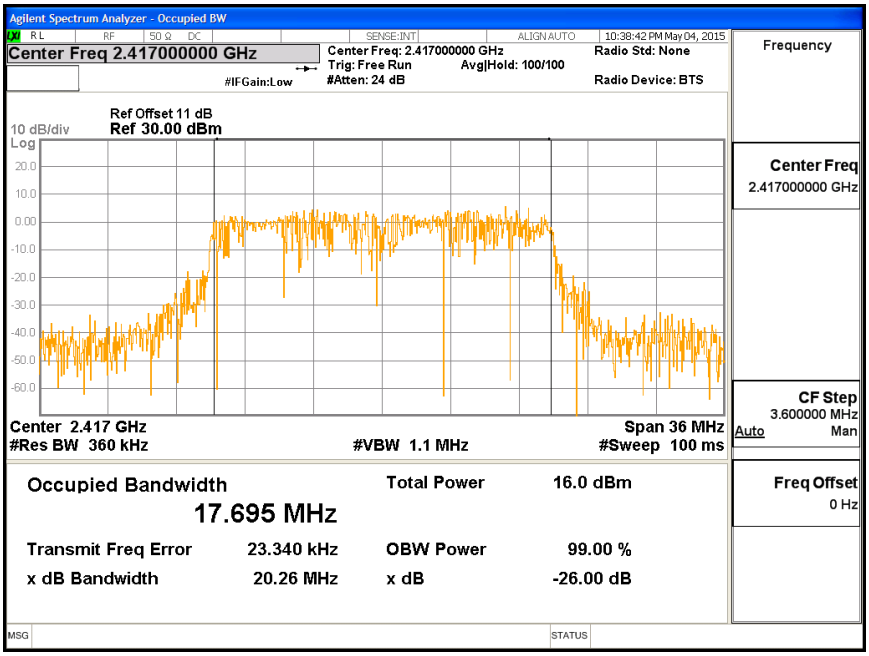


99% BANDWIDTH, Chain 1

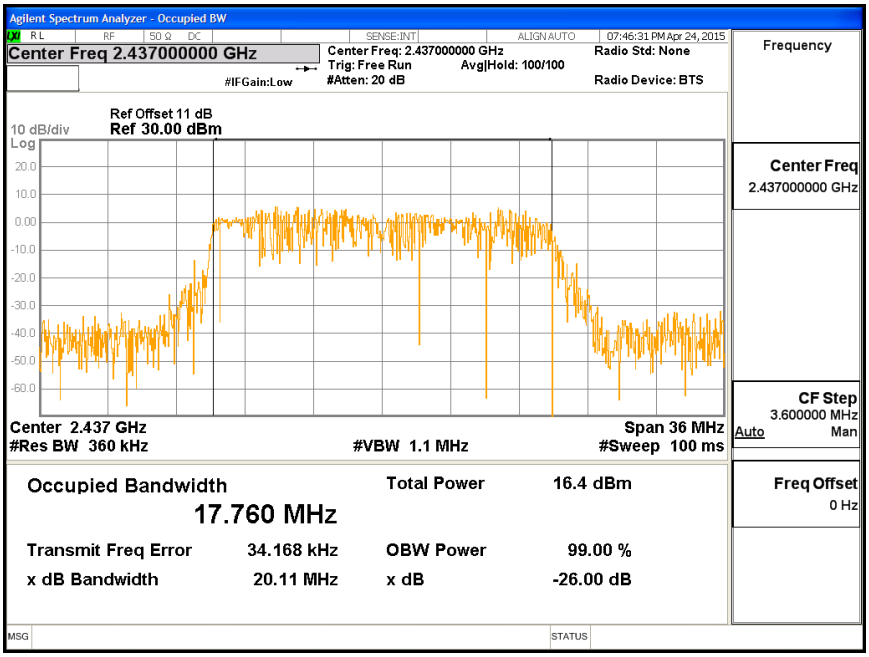
BANDWIDTH LOW CH 1



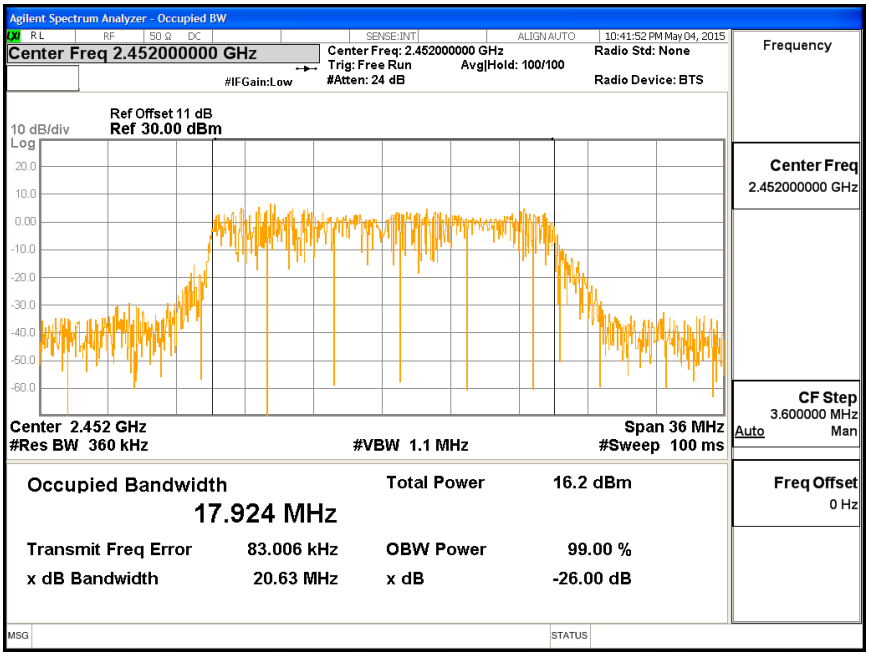
BANDWIDTH LOW CH 2



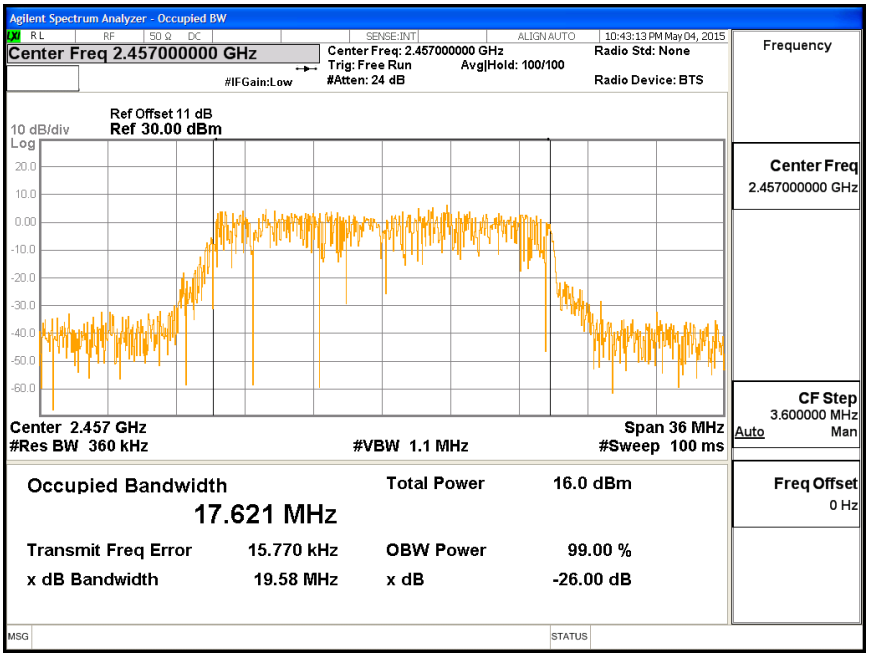
BANDWIDTH MID CH



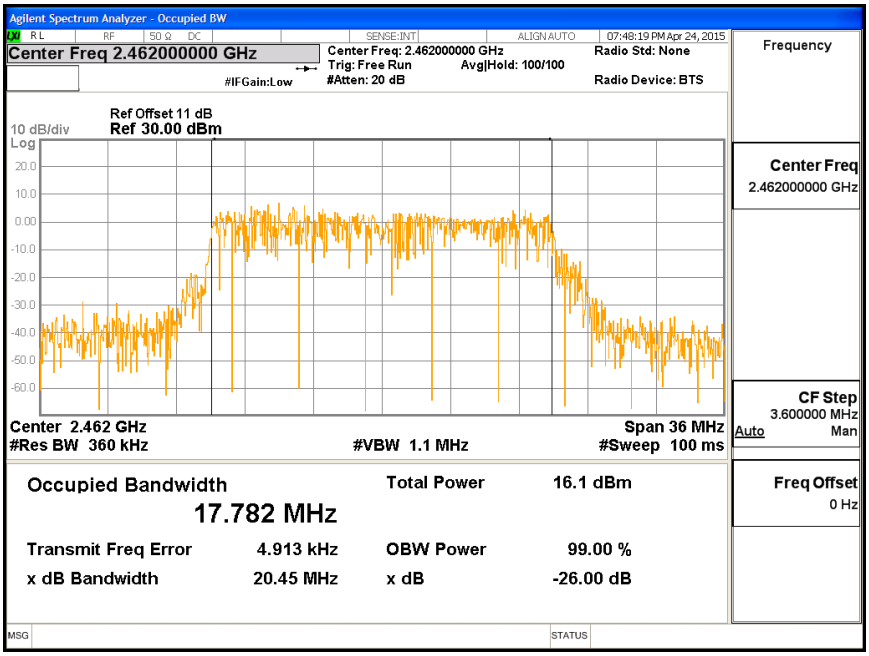
BANDWIDTH HIGH CH 9



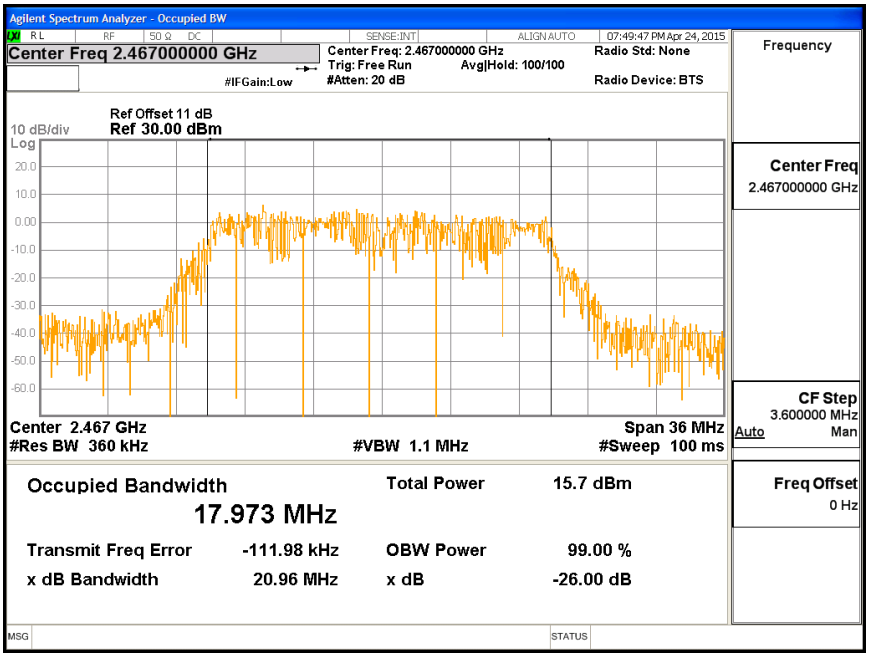
BANDWIDTH HIGH CH 10



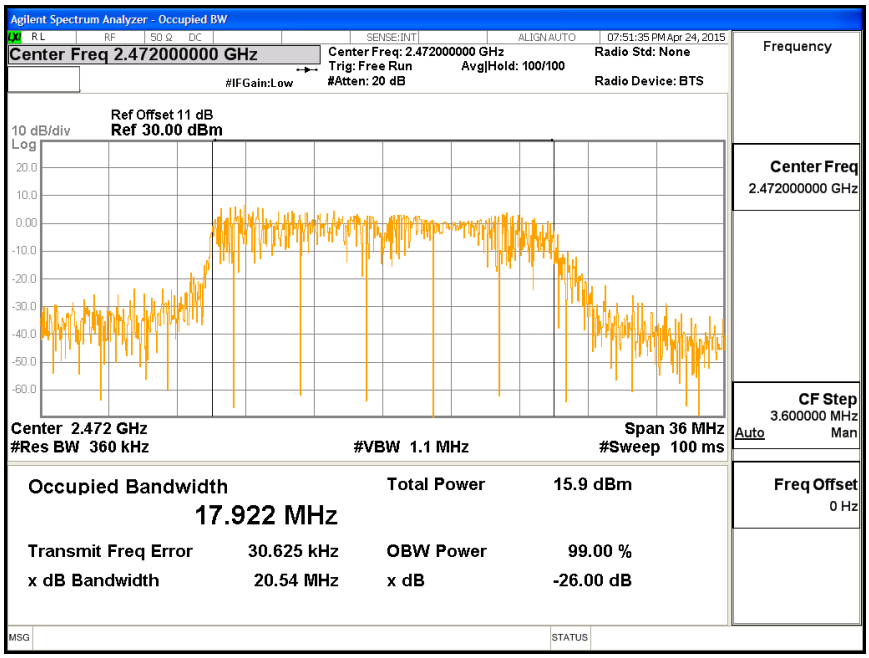
BANDWIDTH HIGH CH 11



BANDWIDTH HIGH CH 12



BANDWIDTH HIGH CH 13



7.4.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

RESULTS, Chain 0

Channel	Frequency (MHz)	Power (dBm)
Low_1	2412	15.97
Low_2	2417	16.93
Mid	2437	18.43
High_9	2452	18.37
High_10	2457	15.88
High_11	2462	14.91
High_12	2467	11.93
High_13	2472	2.98

RESULTS, Chain 1

Channel	Frequency (MHz)	Power (dBm)
Low_1	2412	15.93
Low_2	2417	16.89
Mid	2437	18.46
High_9	2452	18.41
High_10	2457	15.91
High_11	2462	14.86
High_12	2467	11.96
High_13	2472	2.95

7.4.4. OUTPUT POWER

LIMITS

FCC §15.247

IC RSS-247 (5.4) (4)

For systems using digital modulation in the 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

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS, Chain 0

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	1.38	30.00	30	36	30.00
Low_2	2417	1.38	30.00	30	36	30.00
Mid	2437	1.38	30.00	30	36	30.00
High_9	2452	1.38	30.00	30	36	30.00
High_10	2457	1.38	30.00	30	36	30.00
High_11	2462	1.38	30.00	30	36	30.00
High_12	2467	1.38	30.00	30	36	30.00
High_13	2472	1.38	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low_1	2412	22.05	22.05	30.00	-7.95
Low_2	2417	22.69	22.69	30.00	-7.31
Mid	2437	23.88	23.88	30.00	-6.12
High_9	2452	23.72	23.72	30.00	-6.28
High_10	2457	21.89	21.89	30.00	-8.11
High_11	2462	20.88	20.88	30.00	-9.12
High_12	2467	19.17	19.17	30.00	-10.83
High_13	2472	10.23	10.23	30.00	-19.77

RESULTS, Chain 1

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	-0.95	30.00	30	36	30.00
Low_2	2417	-0.95	30.00	30	36	30.00
Mid	2437	-0.95	30.00	30	36	30.00
High_9	2452	-0.95	30.00	30	36	30.00
High_10	2457	-0.95	30.00	30	36	30.00
High_11	2462	-0.95	30.00	30	36	30.00
High_12	2467	-0.95	30.00	30	36	30.00
High_13	2472	-0.95	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low_1	2412	21.95	21.95	30.00	-8.05
Low_2	2417	23.08	23.08	30.00	-6.92
Mid	2437	23.97	23.97	30.00	-6.03
High_9	2452	23.84	23.84	30.00	-6.16
High_10	2457	21.93	21.93	30.00	-8.07
High_11	2462	20.82	20.82	30.00	-9.18
High_12	2467	19.40	19.40	30.00	-10.60
High_13	2472	10.13	10.13	30.00	-19.87

7.4.5. **POWER SPECTRAL DENSITY**

LIMITS

FCC §15.247

IC RSS-247 (5.2) (2)

For digitally modulated systems, the power spectral density conducted form 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, Chain 0

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low_1	2412	-9.52	8.0	-17.5
Low_2	2417	-8.25	8.0	-16.3
Mid	2437	-6.52	8.0	-14.5
High_9	2452	-6.58	8.0	-14.6
High_10	2457	-9.45	8.0	-17.4
High_11	2462	-10.81	8.0	-18.8
High_12	2467	-13.93	8.0	-21.9
High_13	2472	-22.86	8.0	-30.9

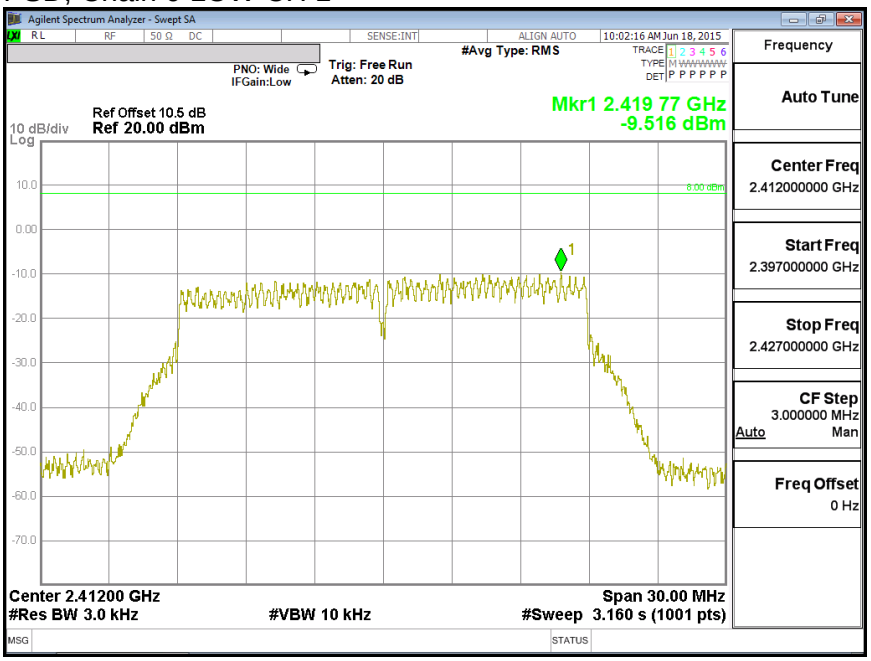
RESULTS, Chain 1

PSD Results

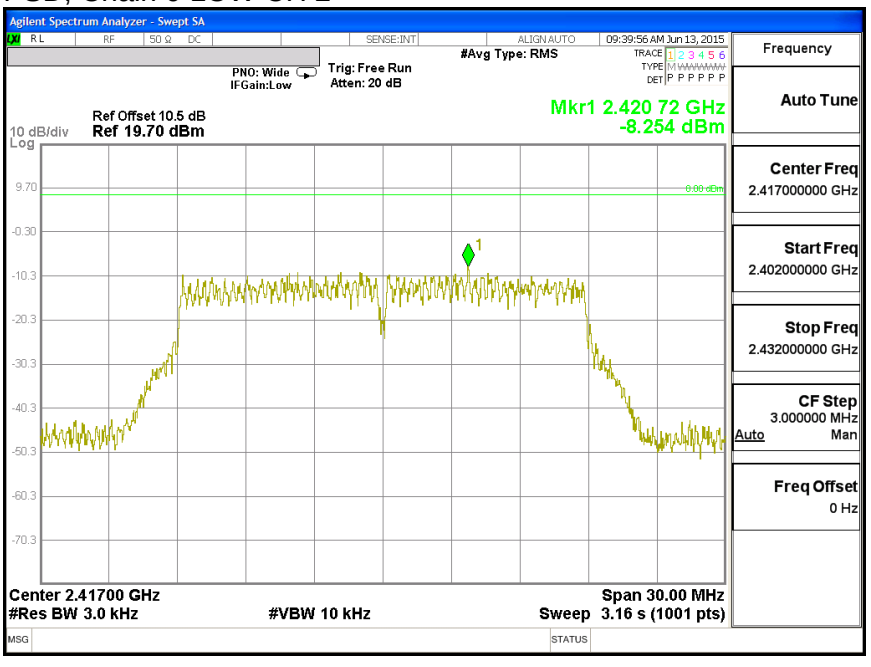
Channel	Frequency (MHz)	Chain 1 Meas (dBm)	Limit (dBm)	Margin (dB)
Low_1	2412	-9.71	8.0	-17.7
Low_2	2417	-8.27	8.0	-16.3
Mid	2437	-6.31	8.0	-14.3
High_9	2452	-6.64	8.0	-14.6
High_10	2457	-9.29	8.0	-17.3
High_11	2462	-10.53	8.0	-18.5
High_12	2467	-14.03	8.0	-22.0
High_13	2472	-23.11	8.0	-31.1

PSD, Chain 0

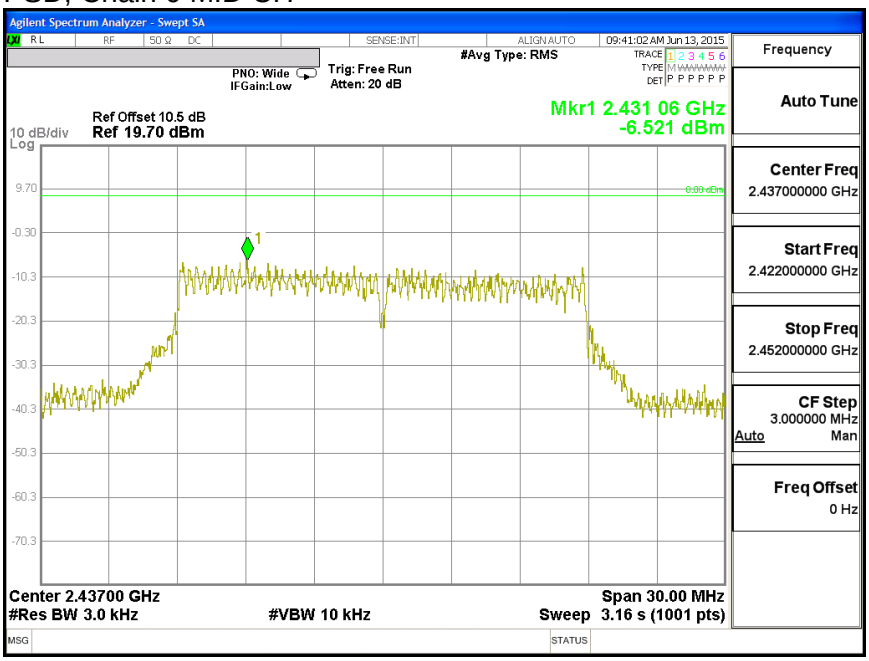
PSD, Chain 0 LOW CH 1



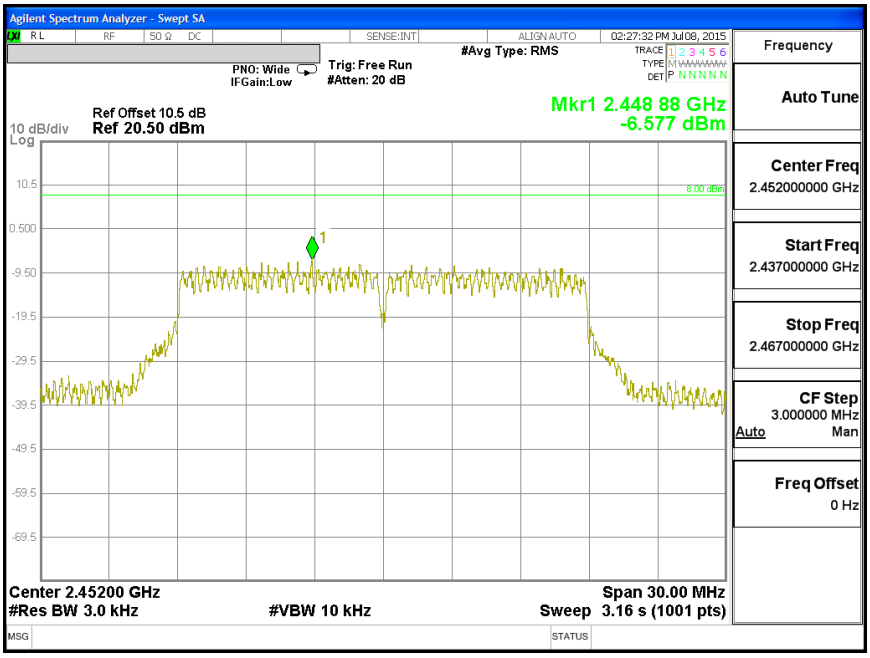
PSD, Chain 0 LOW CH 2



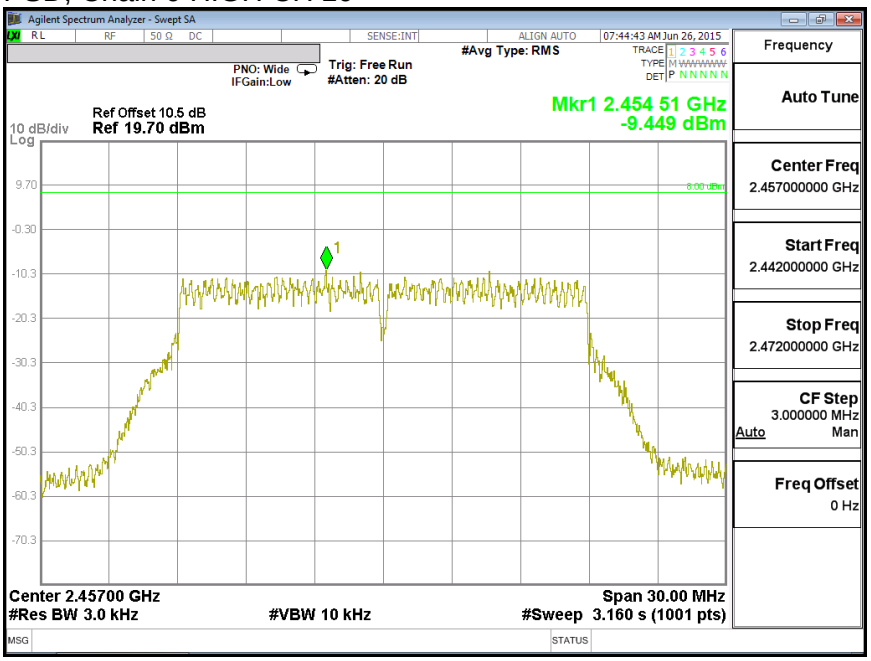
PSD, Chain 0 MID CH



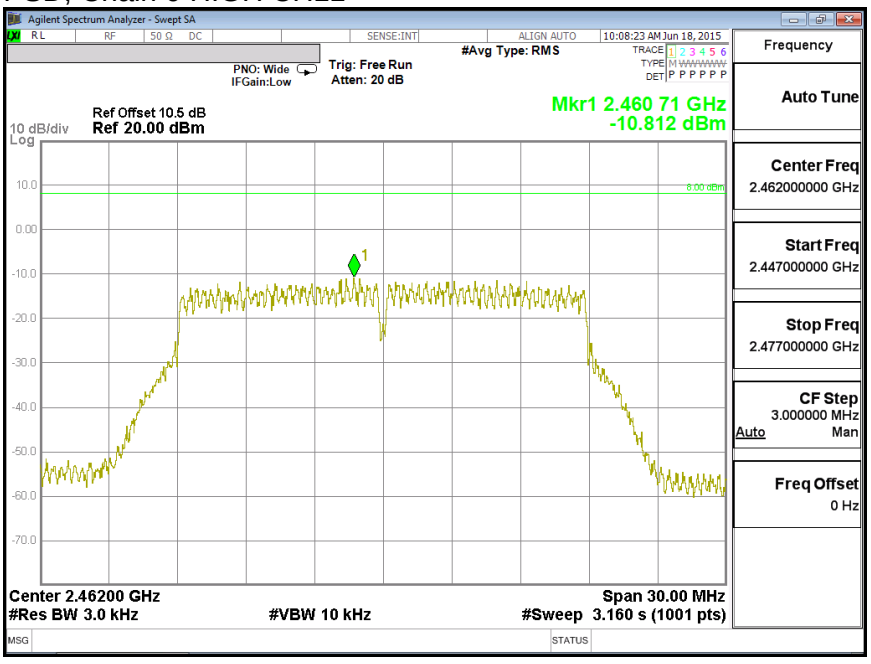
6 dB BANDWIDTH HIGH CH 9



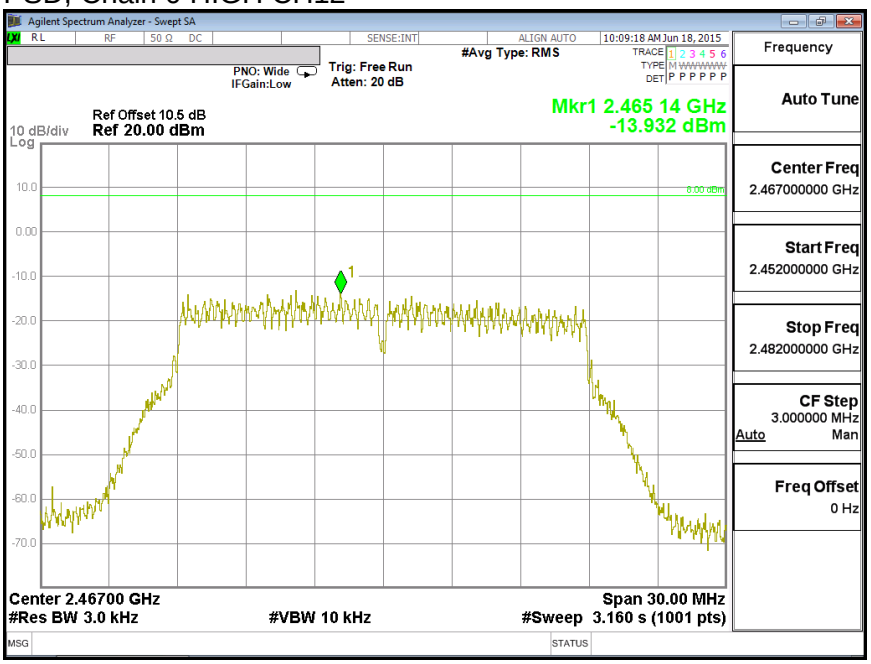
PSD, Chain 0 HIGH CH 10



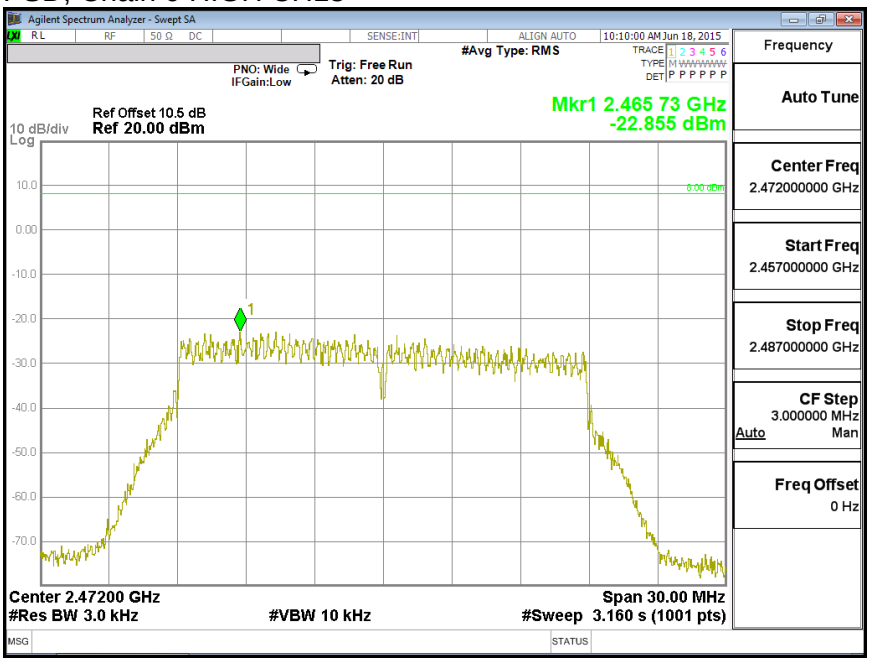
PSD, Chain 0 HIGH CH11



PSD, Chain 0 HIGH CH12

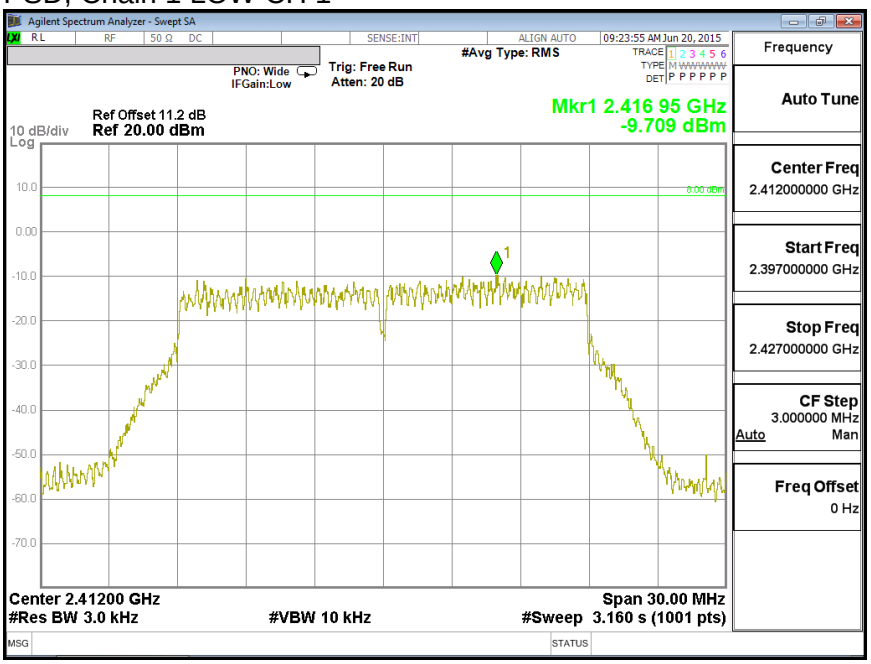


PSD, Chain 0 HIGH CH13

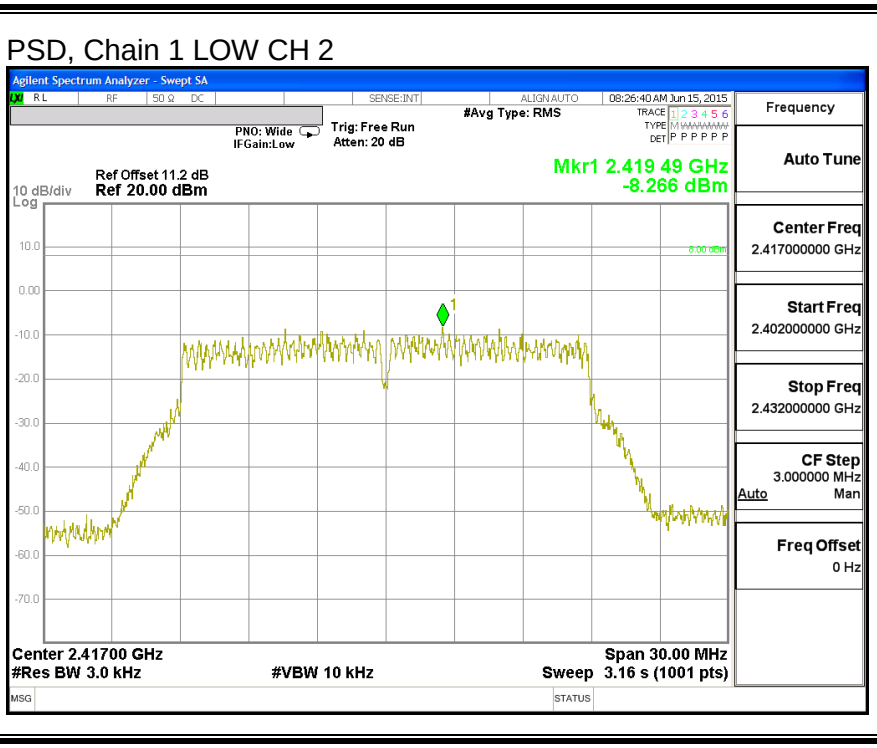


PSD, Chain 1

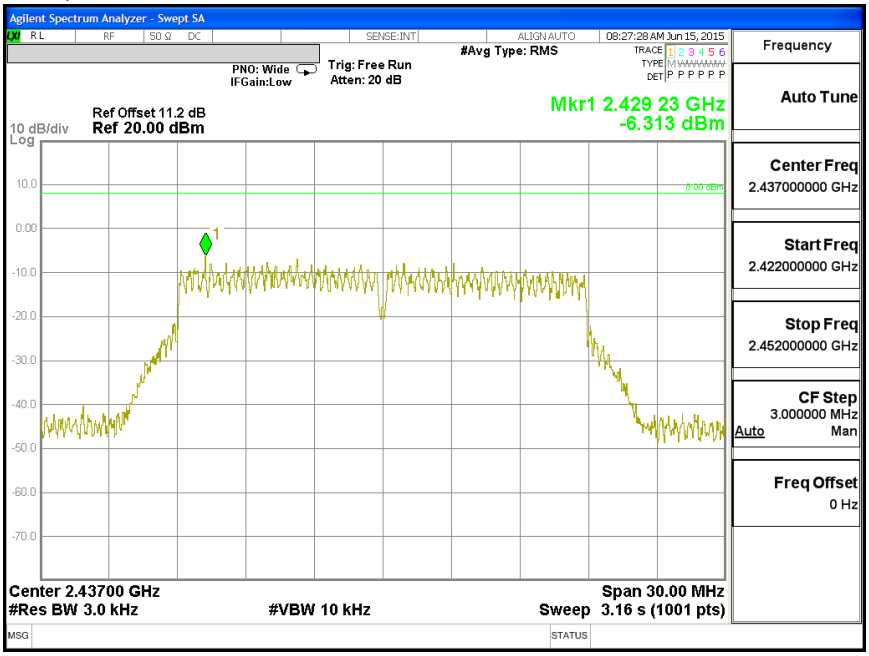
PSD, Chain 1 LOW CH 1



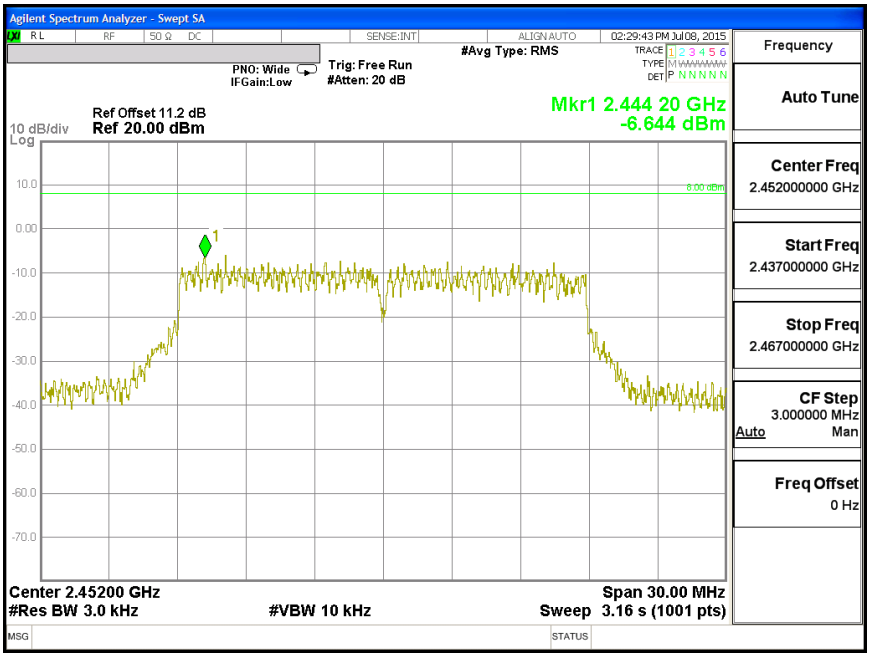
PSD, Chain 1 LOW CH 2



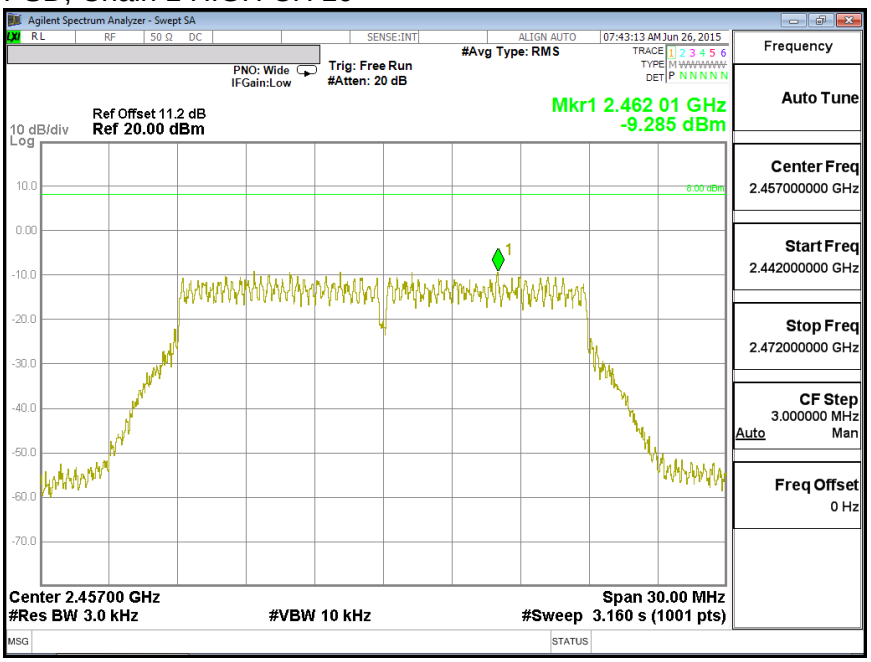
PSD, Chain 1 MID CH



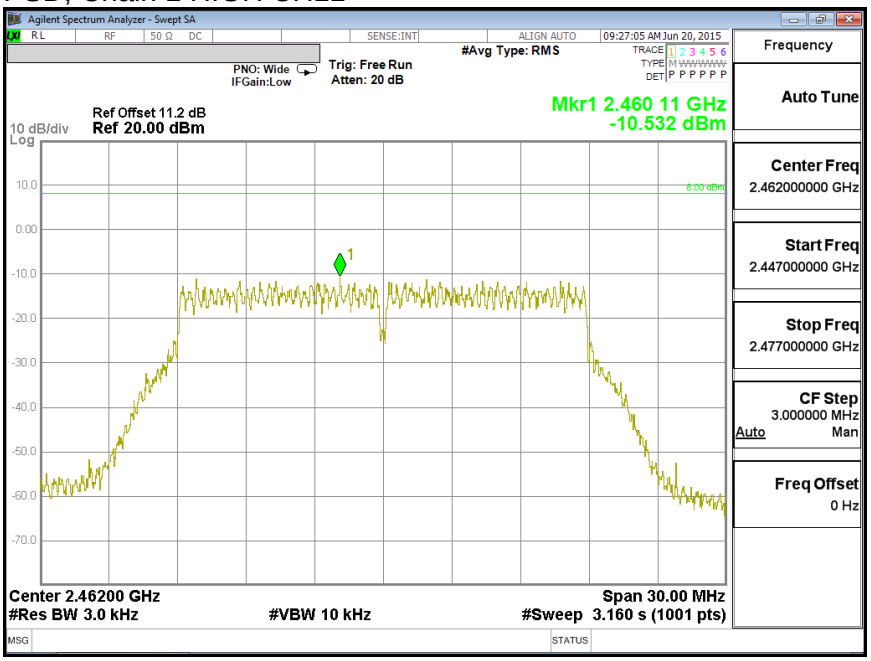
6 dB BANDWIDTH HIGH CH 9



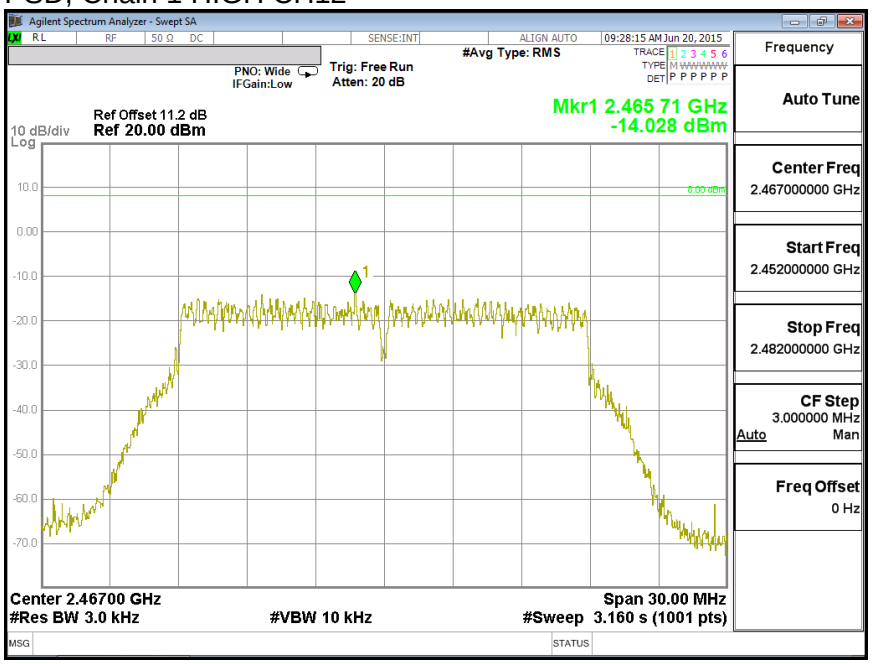
PSD, Chain 1 HIGH CH 10



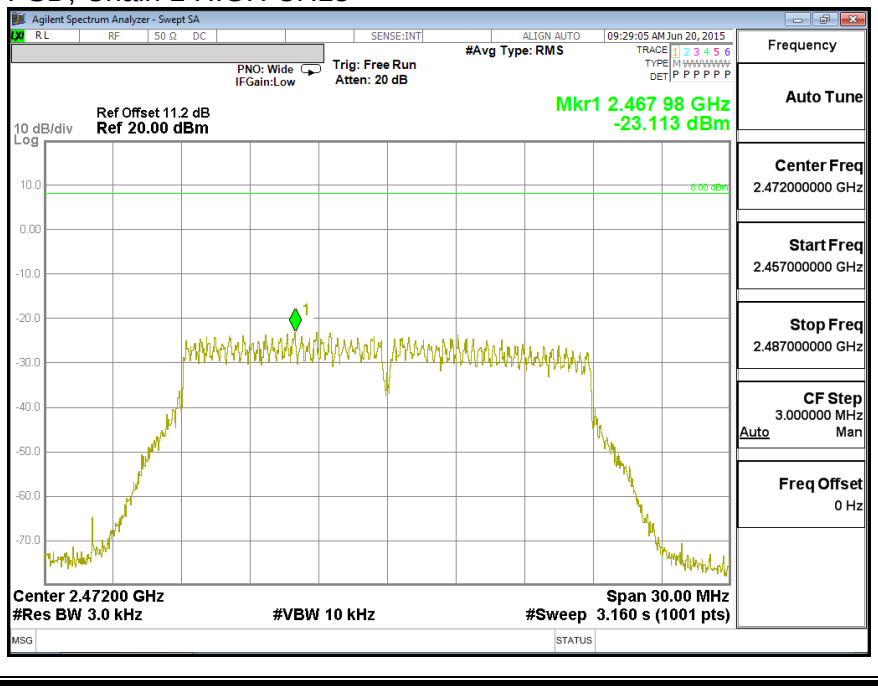
PSD, Chain 1 HIGH CH11



PSD, Chain 1 HIGH CH12



PSD, Chain 1 HIGH CH13



7.4.6. **OUT-OF-BAND EMISSIONS**

LIMITS

FCC §15.247 (d)

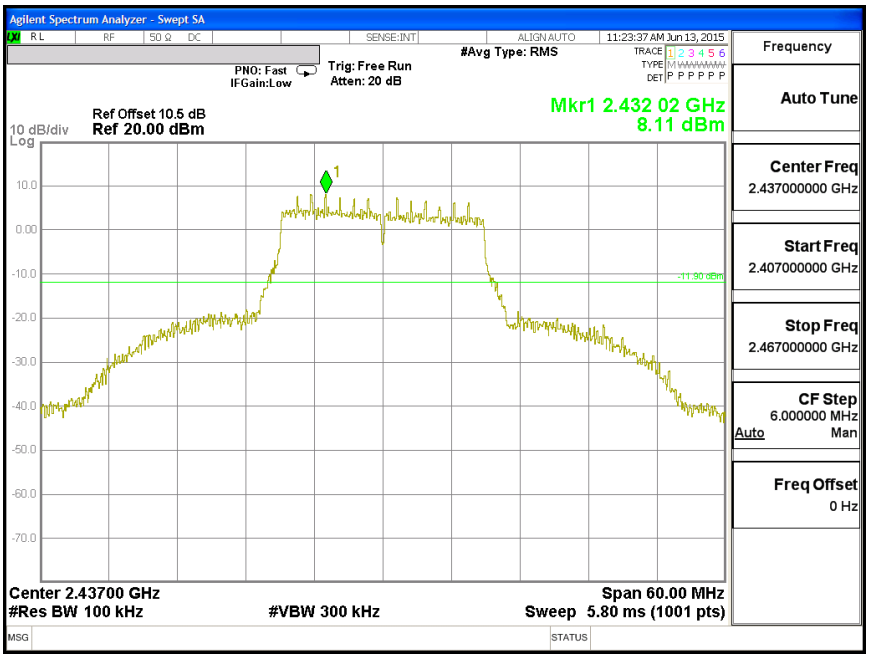
IC RSS-247 (5.5)

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

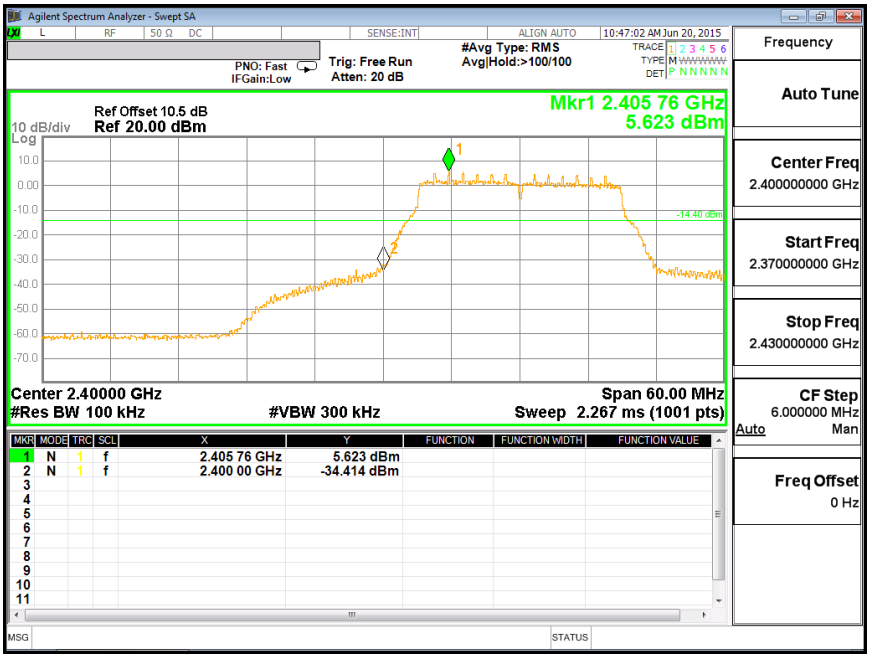
IN-BAND REFERENCE LEVEL, Chain 0

REFERENCE LEVEL MID CH

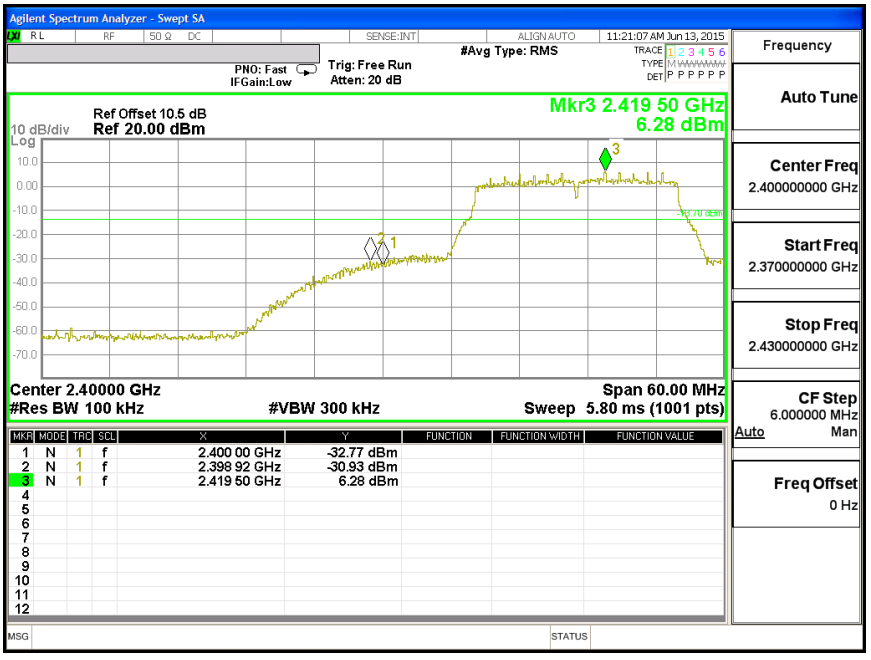


LOW CHANNEL BANDEDGE

AUTHORIZED BAND EDGE LOW CH 1

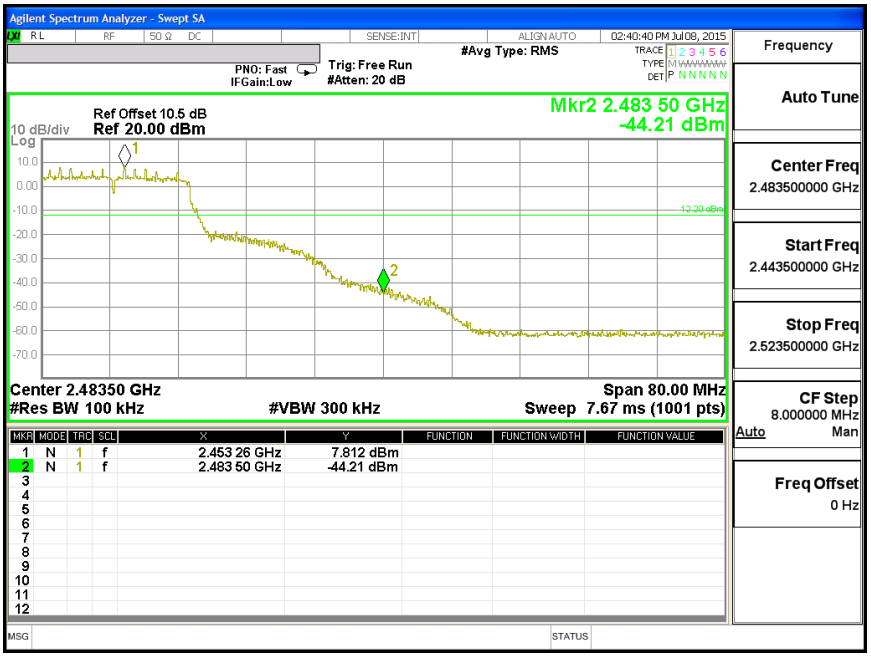


AUTHORIZED BAND EDGE LOW CH 2

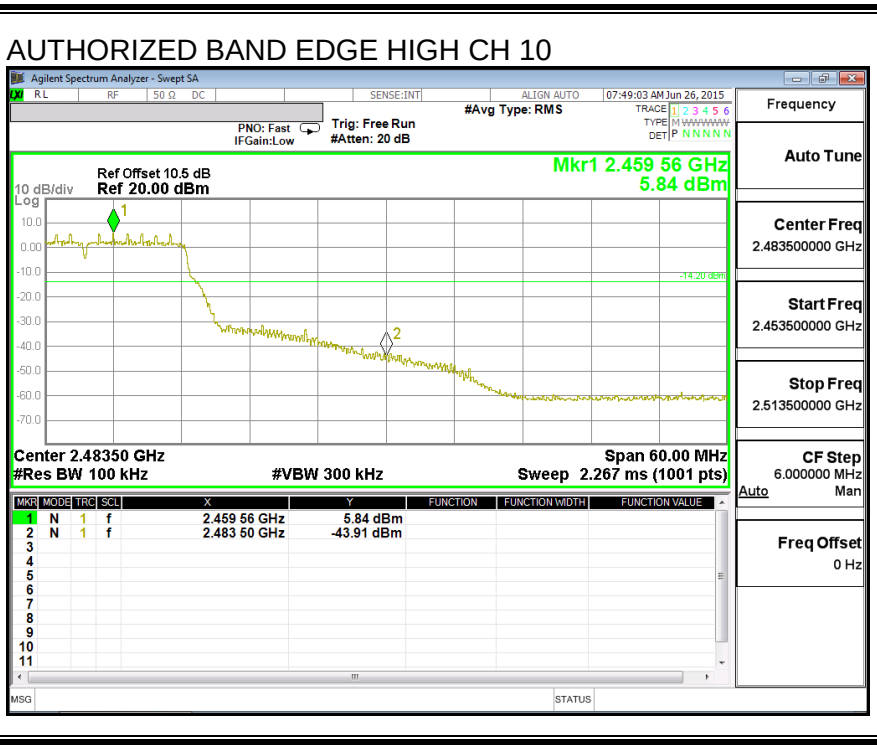


HIGH CHANNEL BANDEDGE

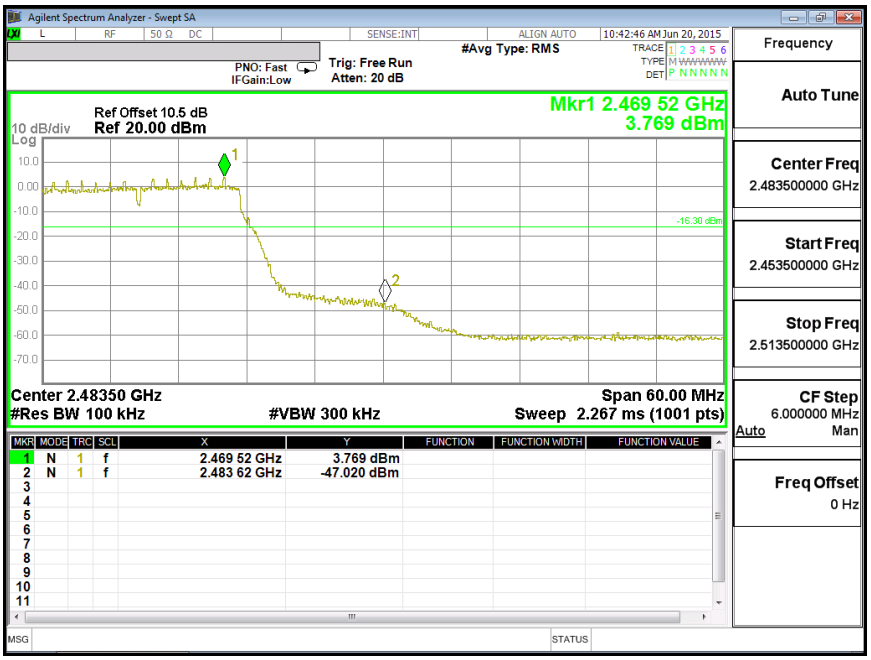
AUTHORIZED BAND EDGE HIGH CH 9



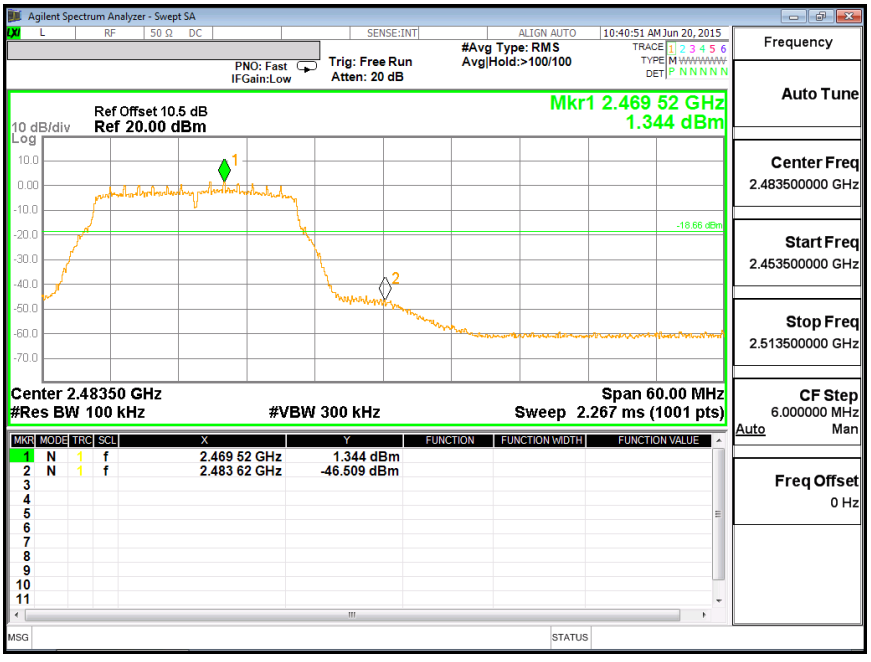
AUTHORIZED BAND EDGE HIGH CH 10



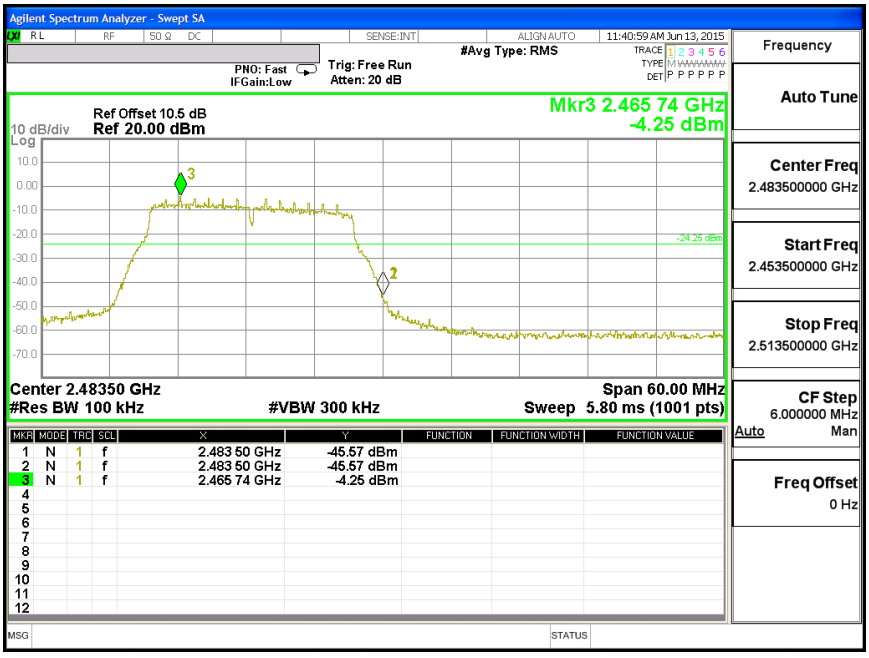
AUTHORIZED BAND EDGE HIGH CH 11



AUTHORIZED BAND EDGE HIGH CH 12

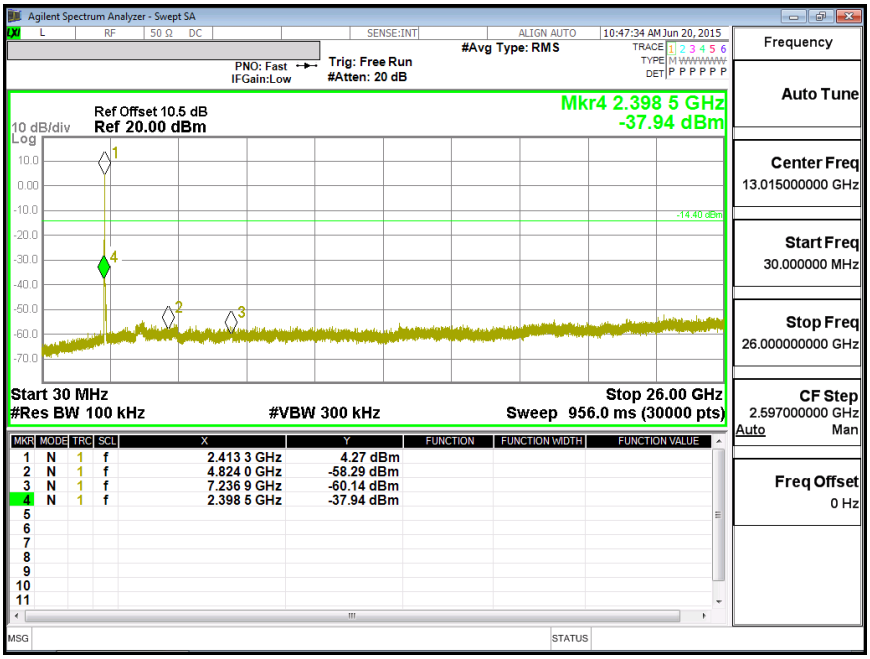


AUTHORIZED BAND EDGE HIGH CH 13

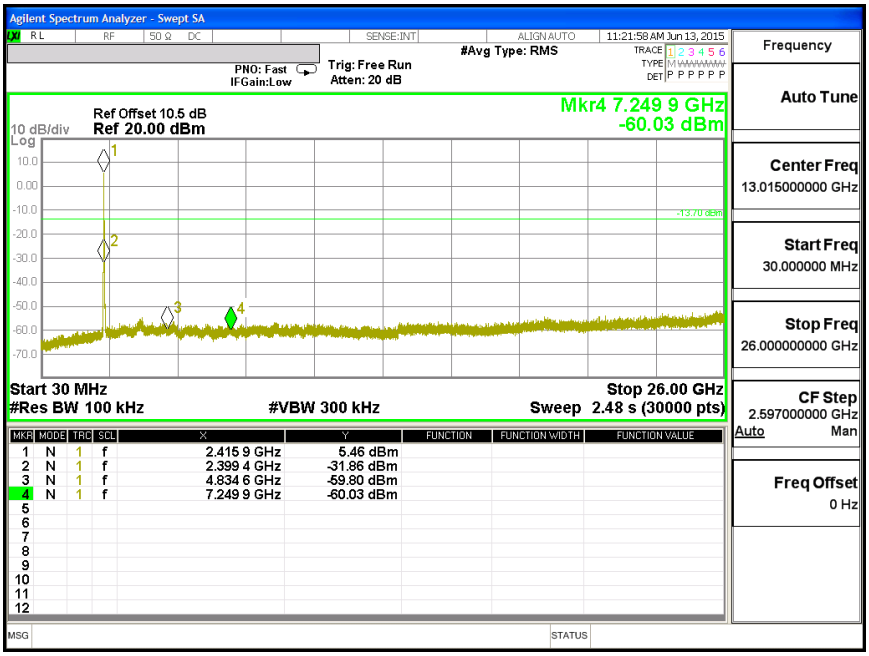


OUT-OF-BAND EMISSIONS

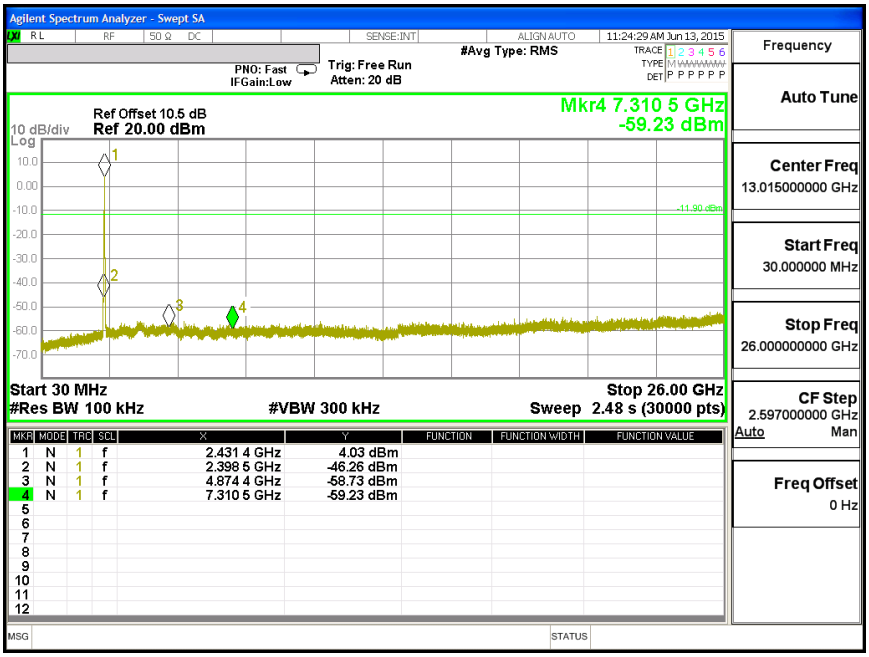
OUT OF BAND LOW CH 1



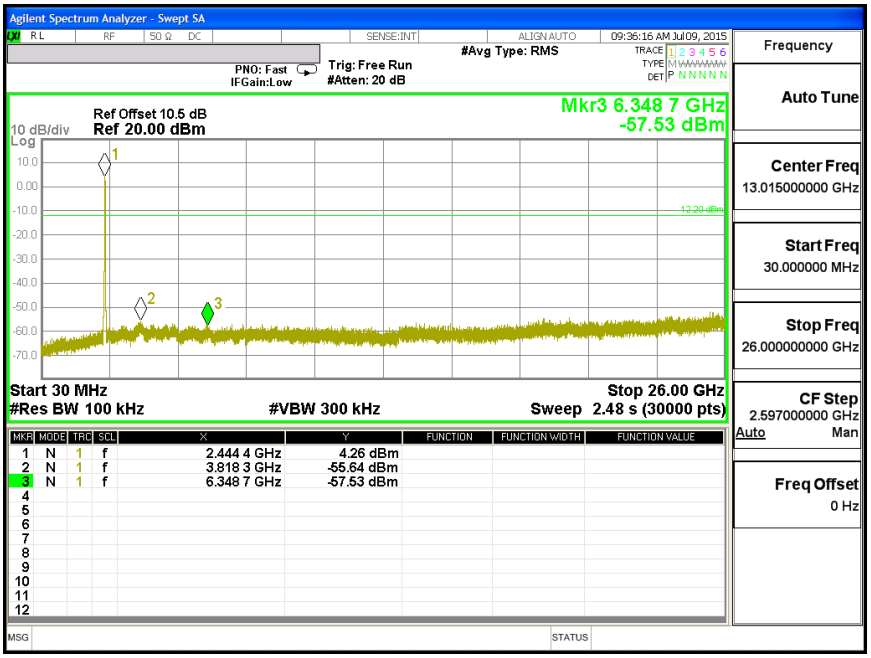
OUT OF BAND LOW CH 2



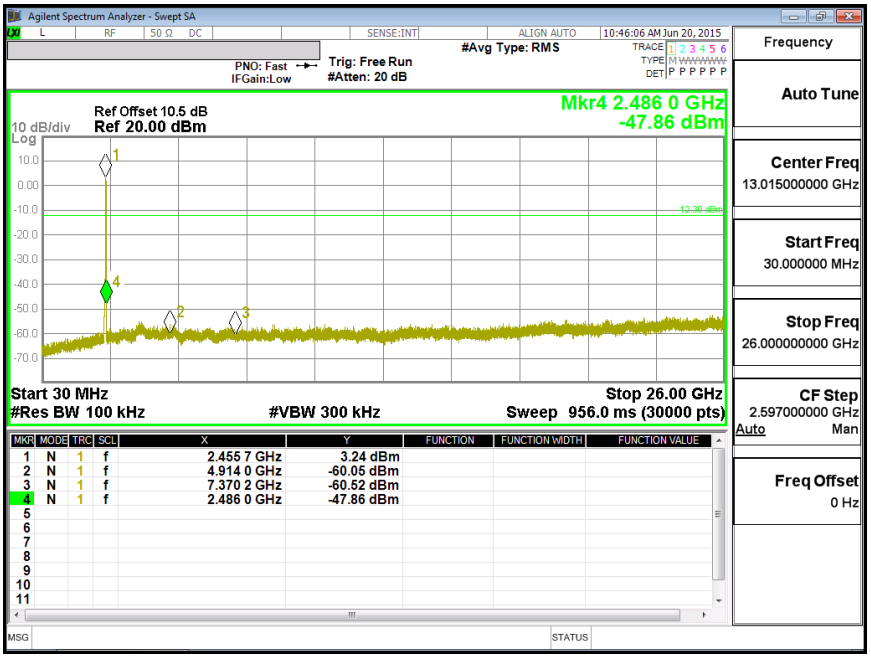
OUT OF BAND MID CH



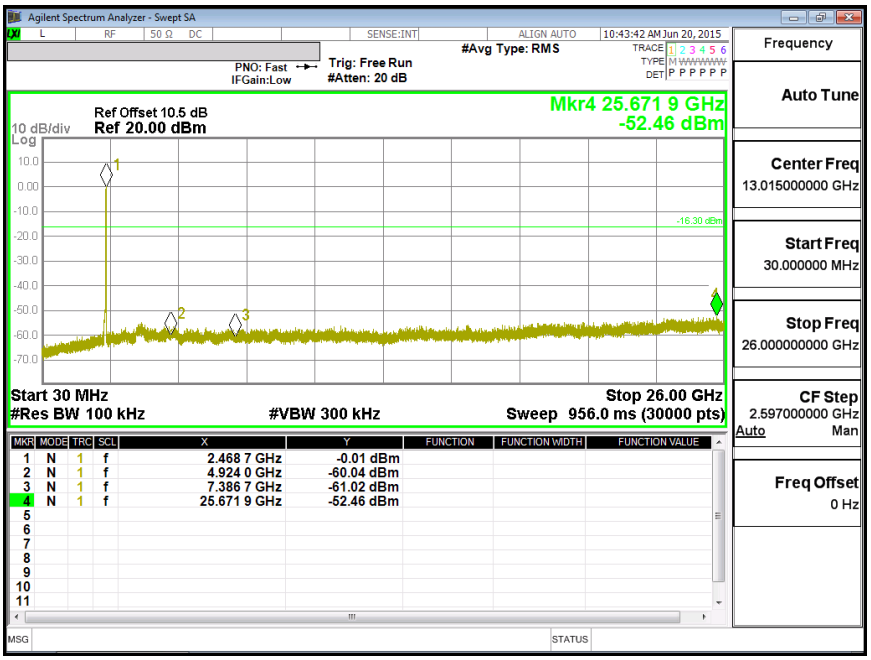
OUT OF BAND HIGH CH 9



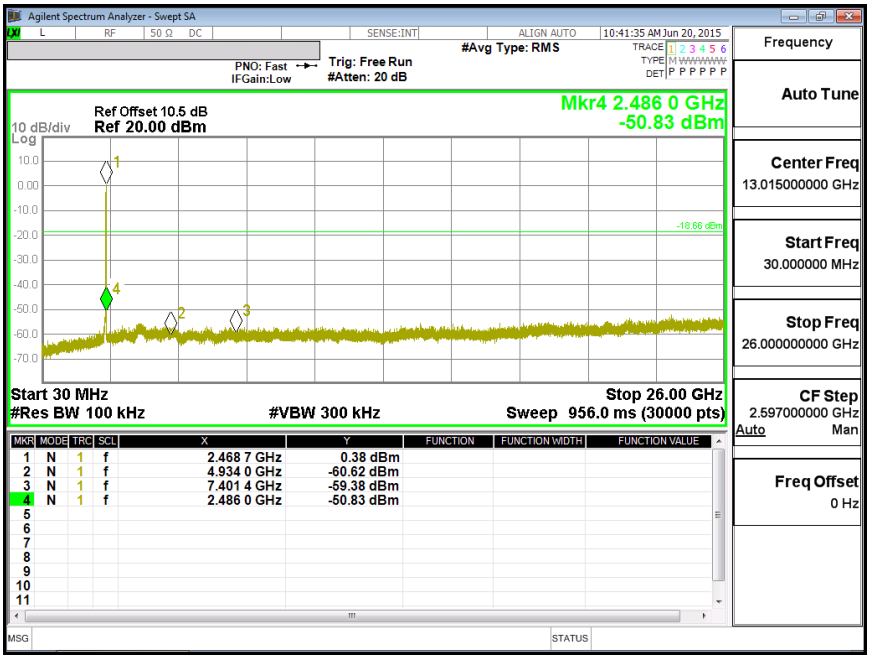
OUT OF BAND HIGH CH 10



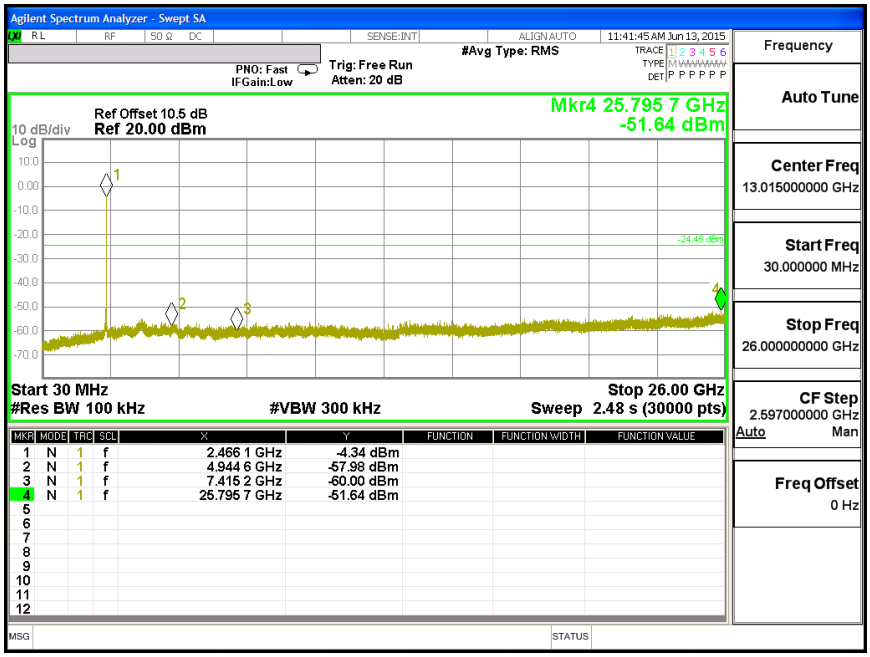
OUT OF BAND HIGH CH 11



OUT OF BAND HIGH CH 12

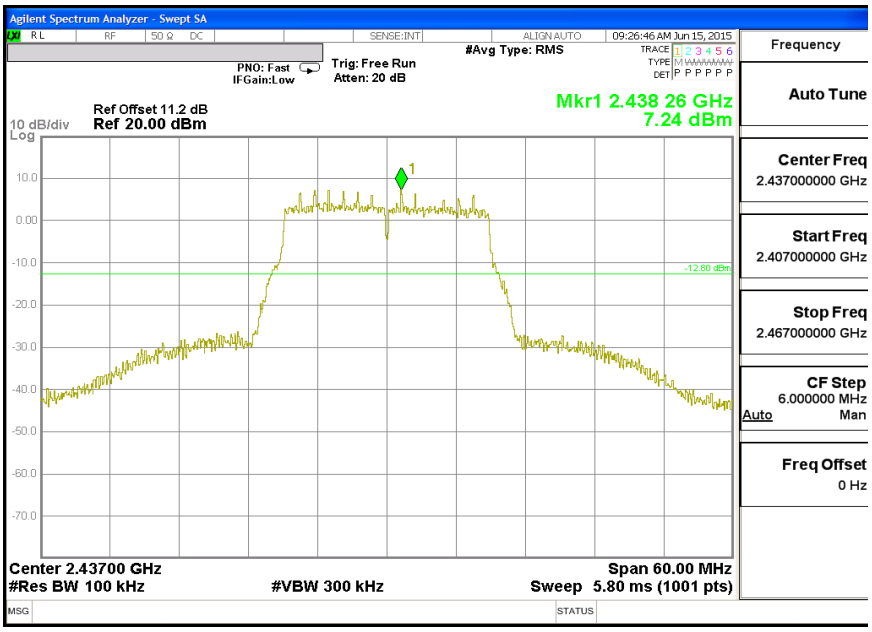


OUT OF BAND HIGH CH 13



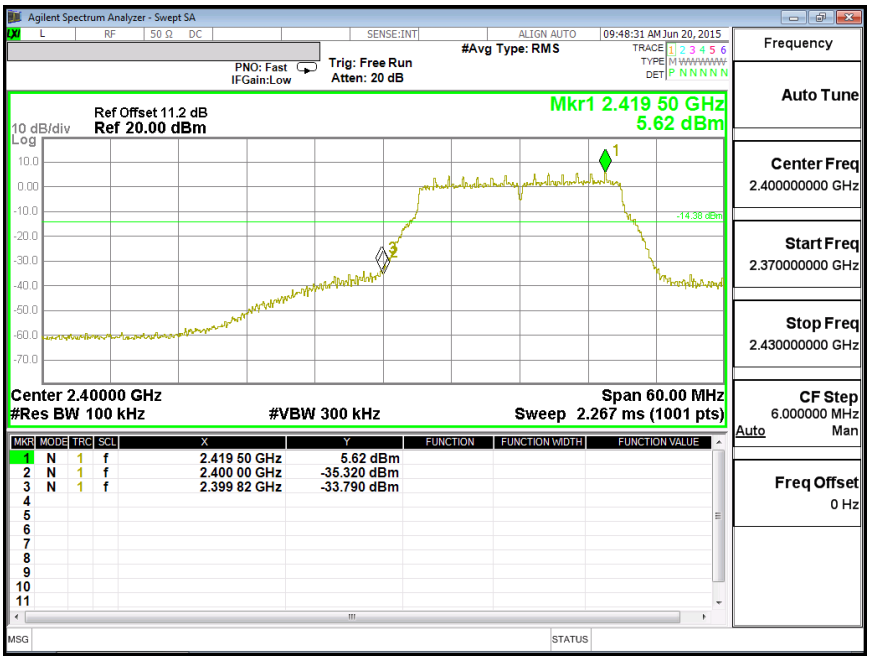
IN-BAND REFERENCE LEVEL, Chain 1

REFERENCE LEVEL MID CH

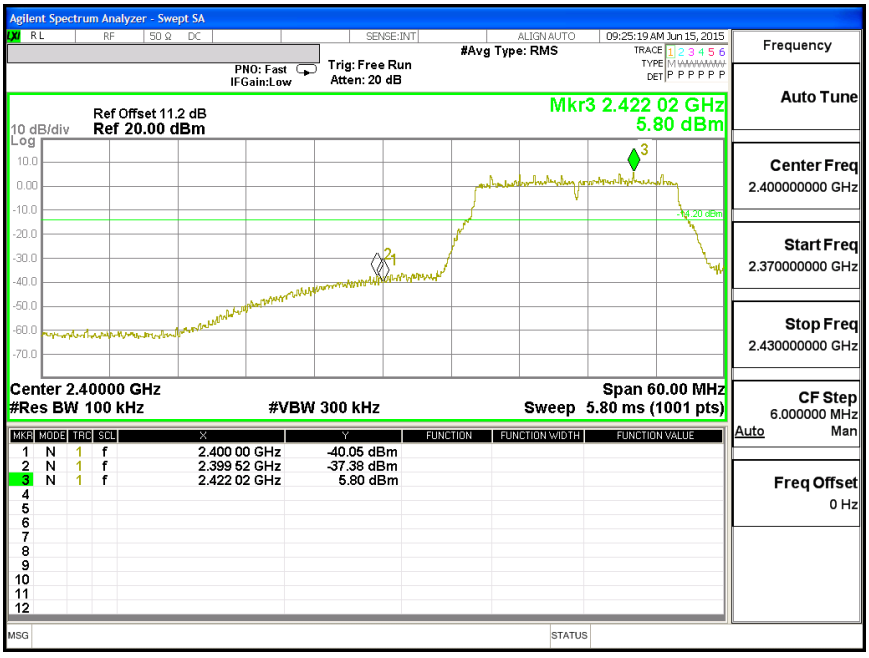


LOW CHANNEL BANDEDGE

AUTHORIZED BAND EDGE LOW CH 1

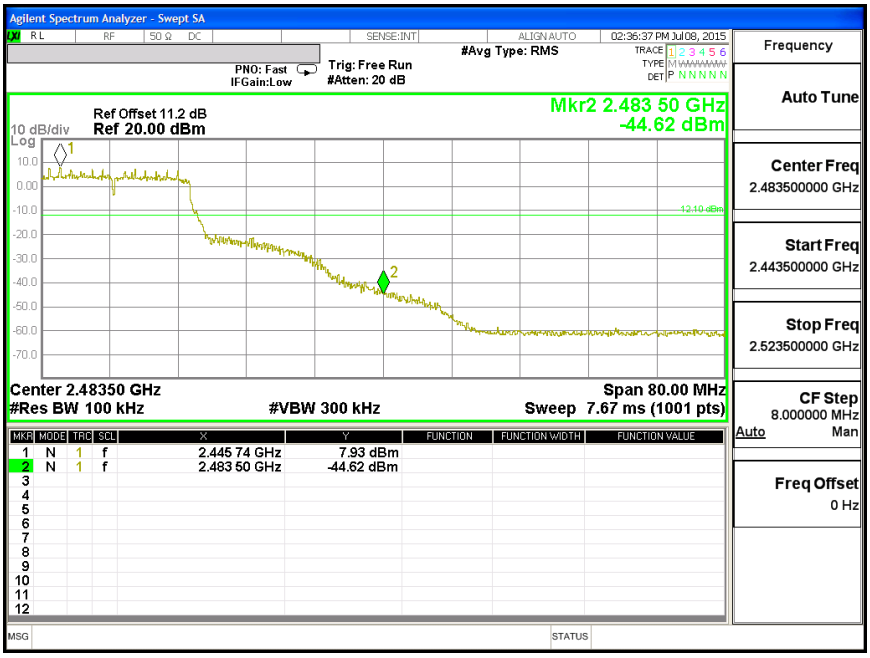


AUTHORIZED BAND EDGE LOW CH 2

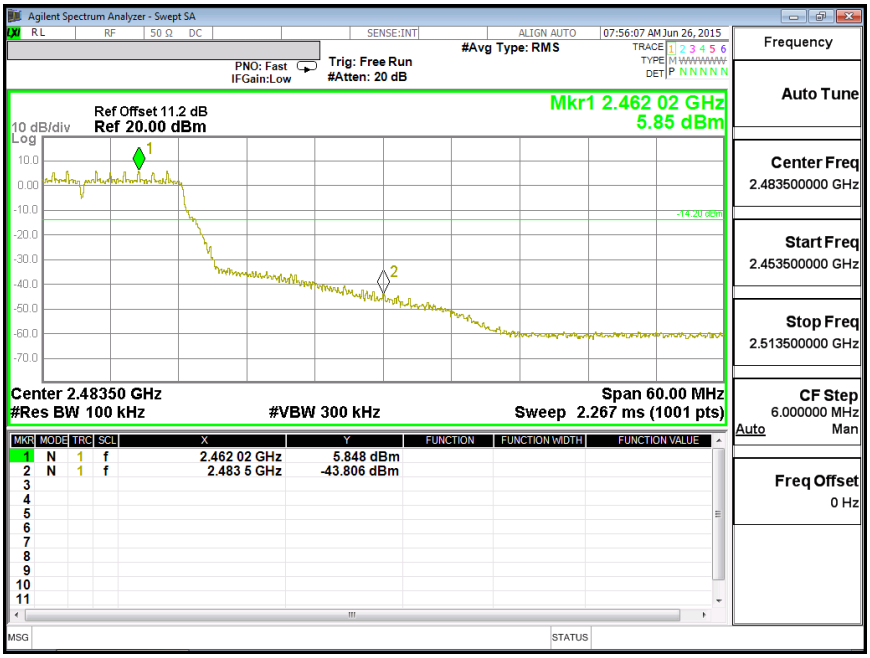


HIGH CHANNEL BANDEDGE

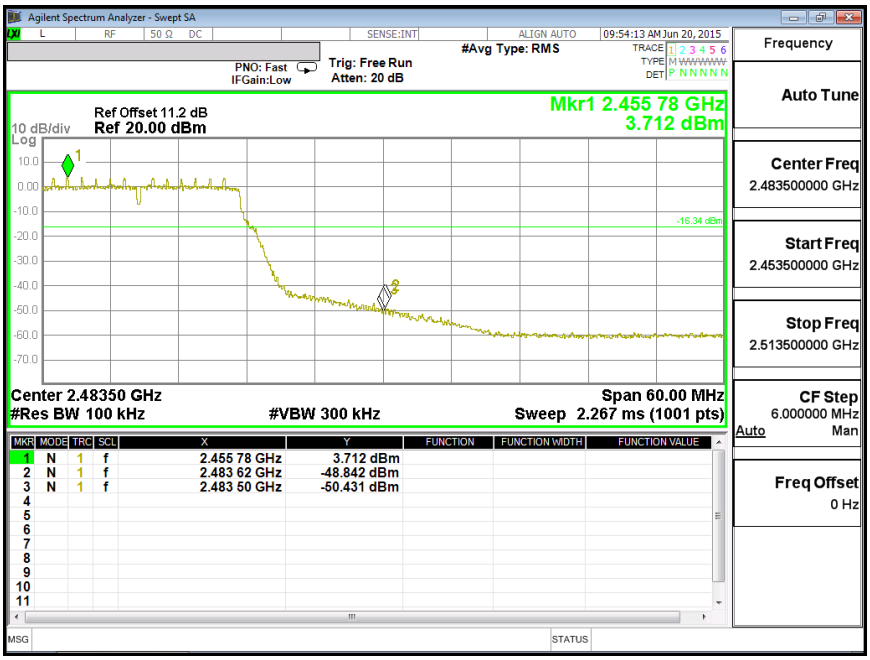
AUTHORIZED BAND EDGE LOW CH 9



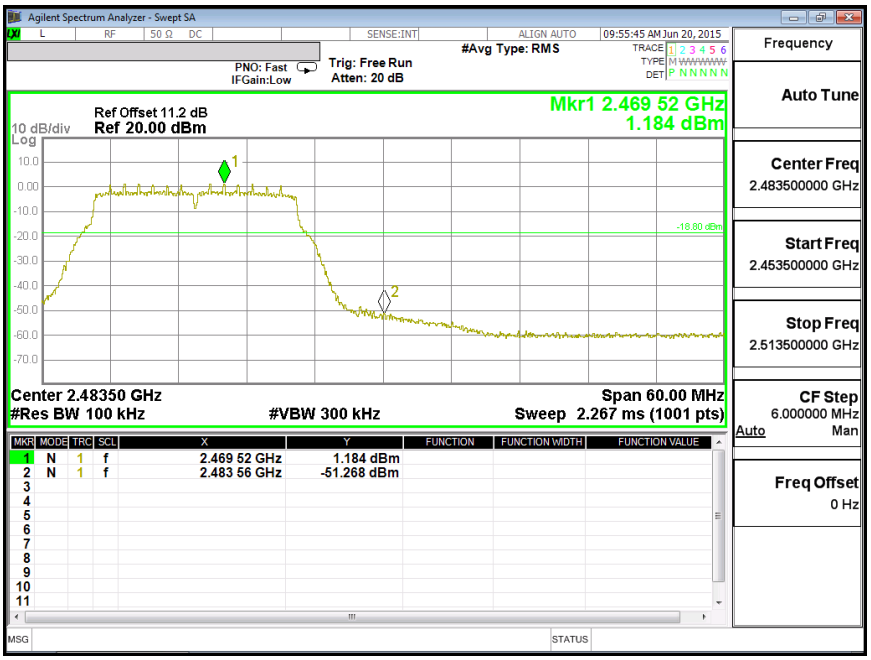
AUTHORIZED BAND EDGE HIGH CH 10



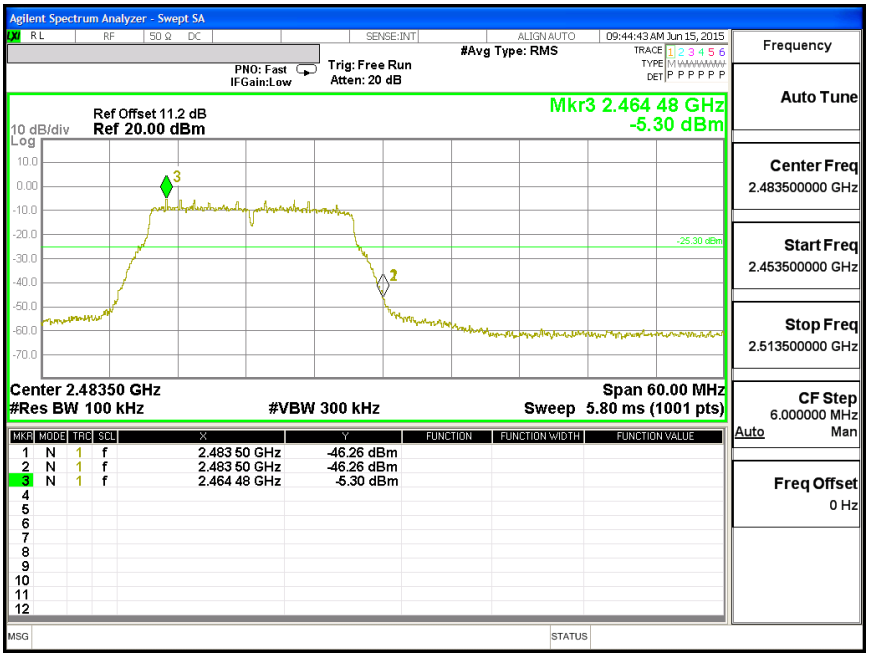
AUTHORIZED BAND EDGE HIGH CH11



AUTHORIZED BAND EDGE HIGH CH12

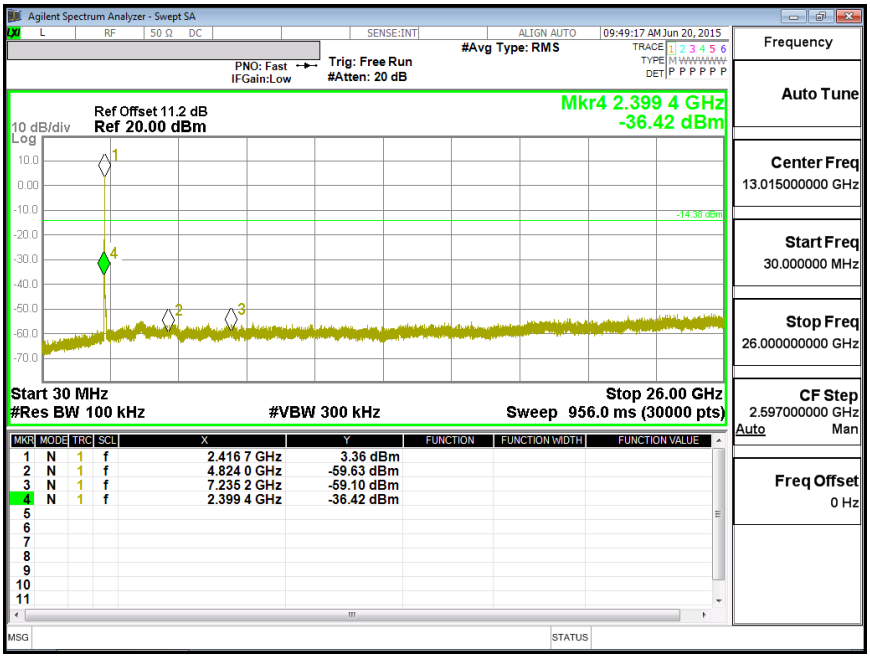


AUTHORIZED BAND EDGE HIGH CH13



OUT-OF-BAND EMISSIONS

OUT OF BAND LOW CH 1



OUT OF BAND LOW CH 2