8.3.6. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

LIMITS

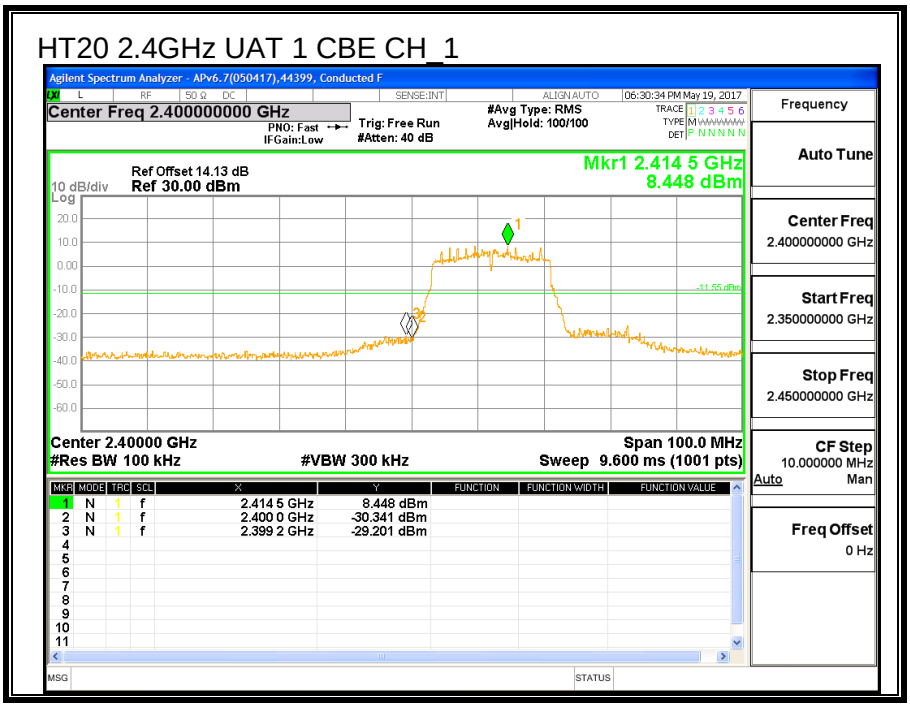
FCC §15.247 (d)

IC RSS-247 (5.5)

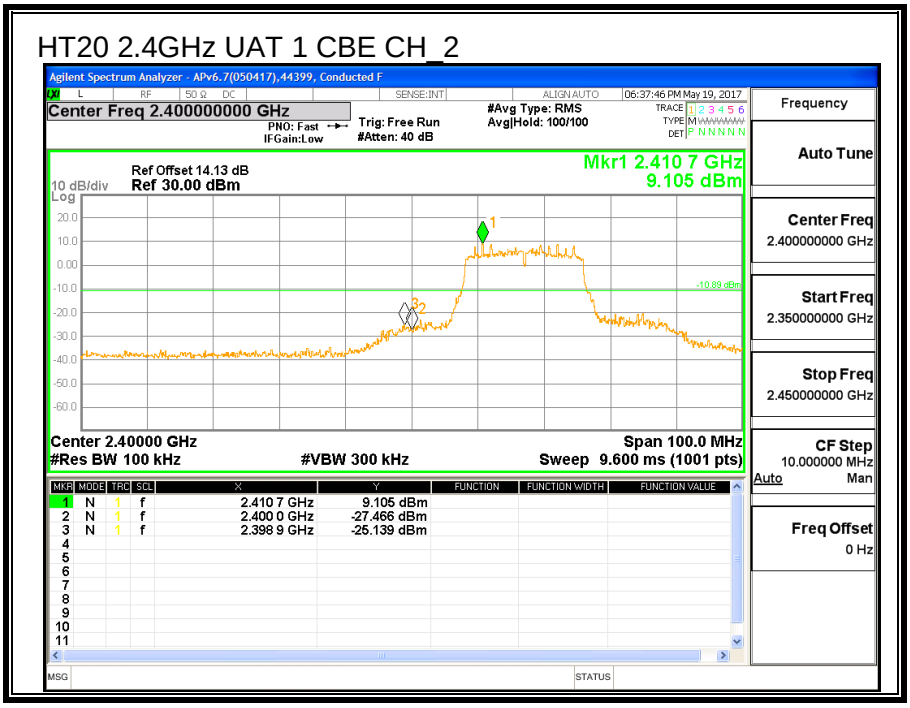
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the 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.

CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

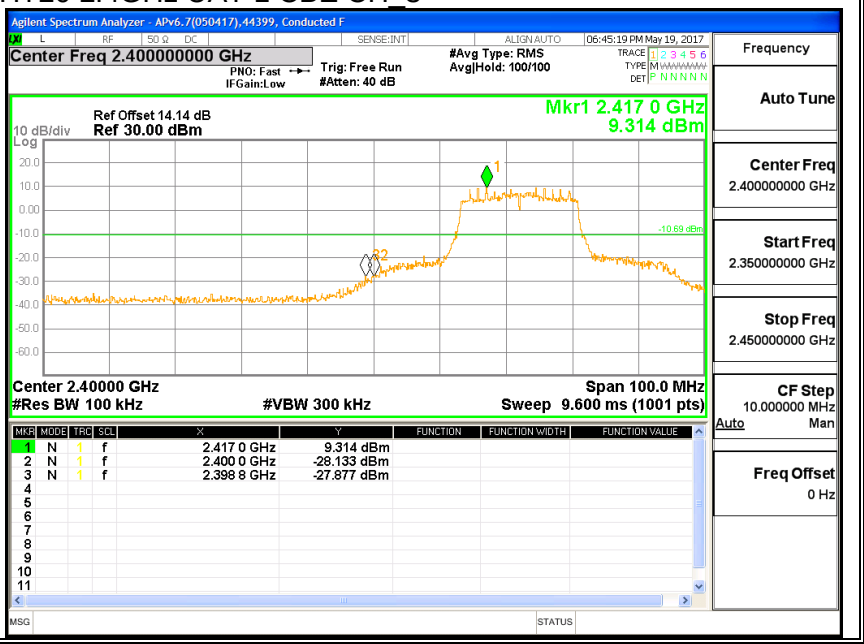
HT20 2.4GHz UAT 1 CBE CH_1



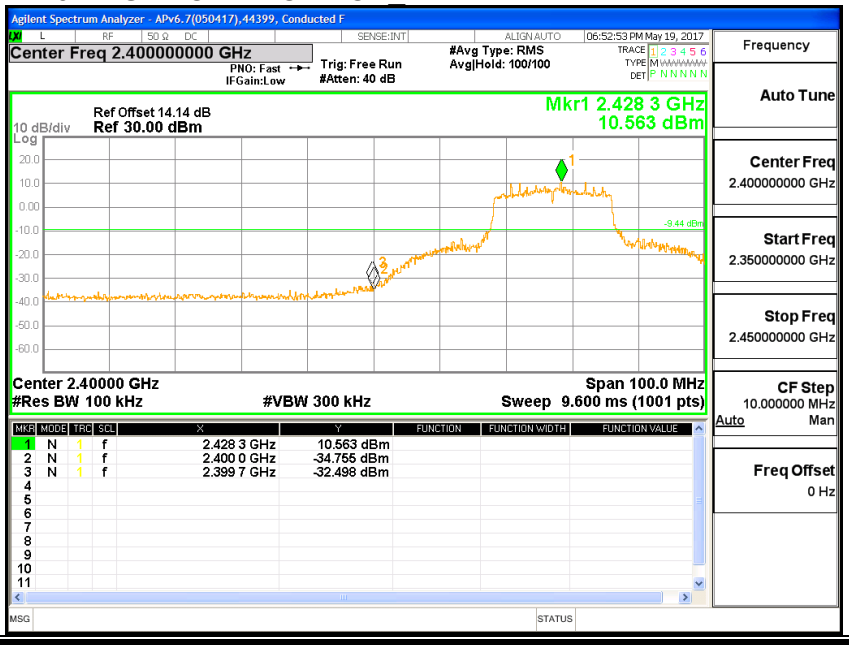
HT20 2.4GHz UAT 1 CBE CH_2



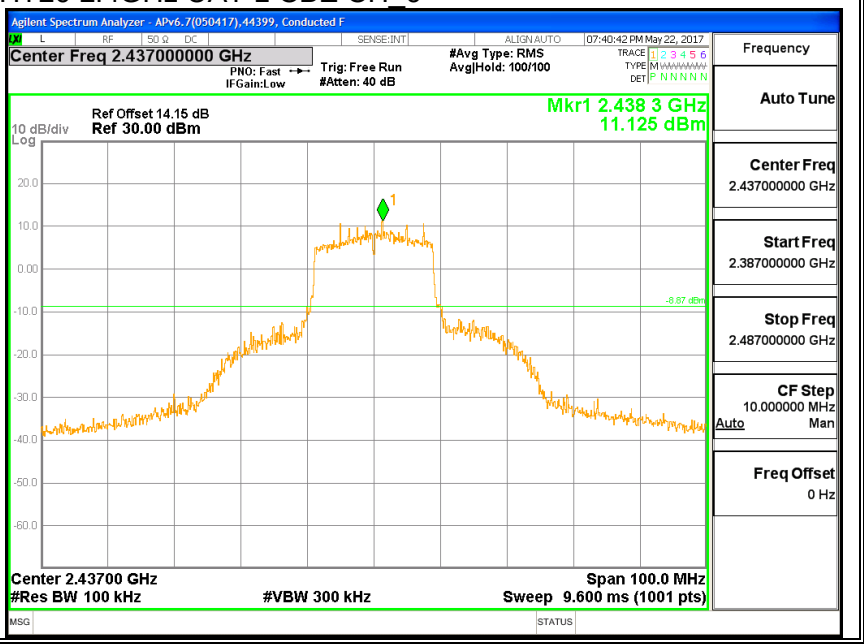
HT20 2.4GHz UAT 1 CBE CH_3



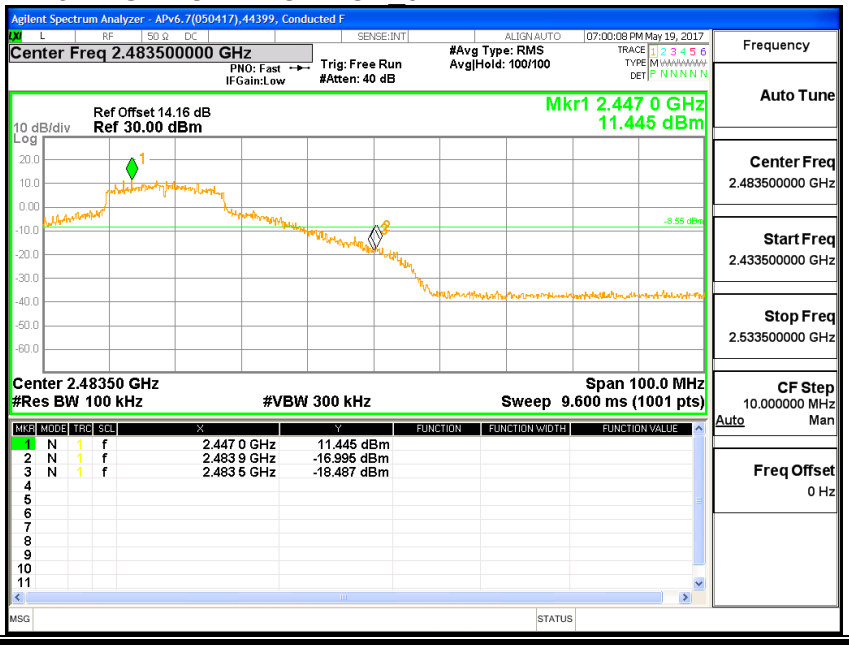
HT20 2.4GHz UAT 1 CBE CH_4



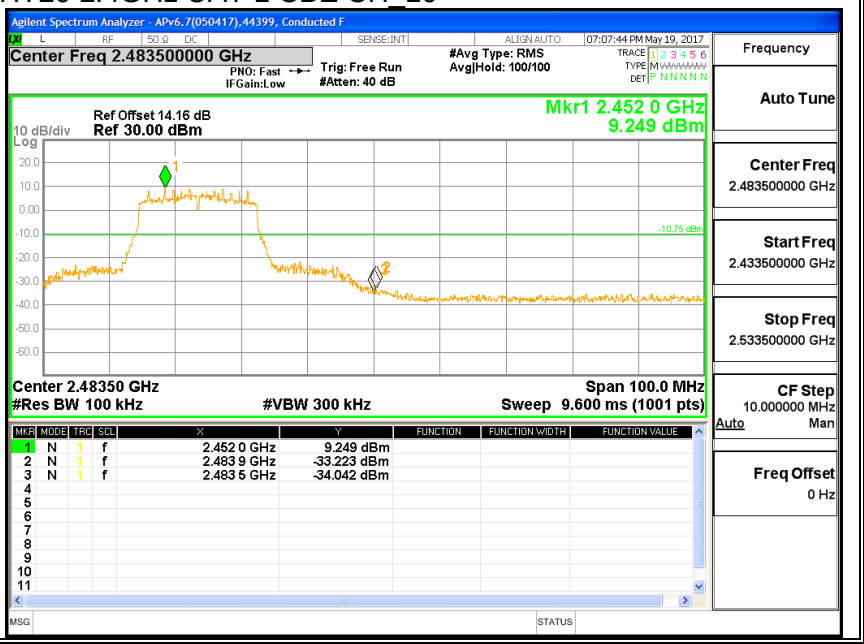
HT20 2.4GHz UAT 1 CBE CH_6



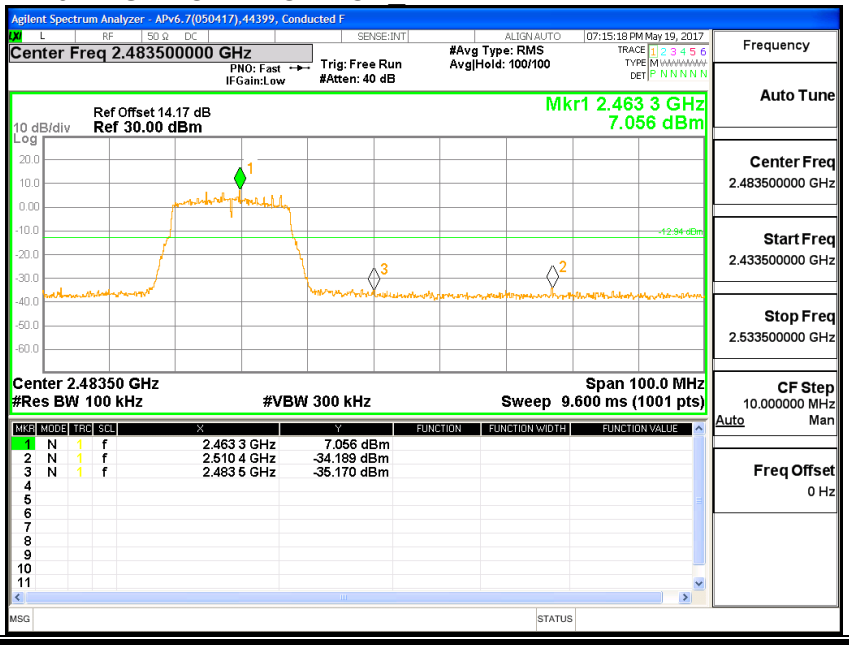
HT20 2.4GHz UAT 1 CBE CH_9



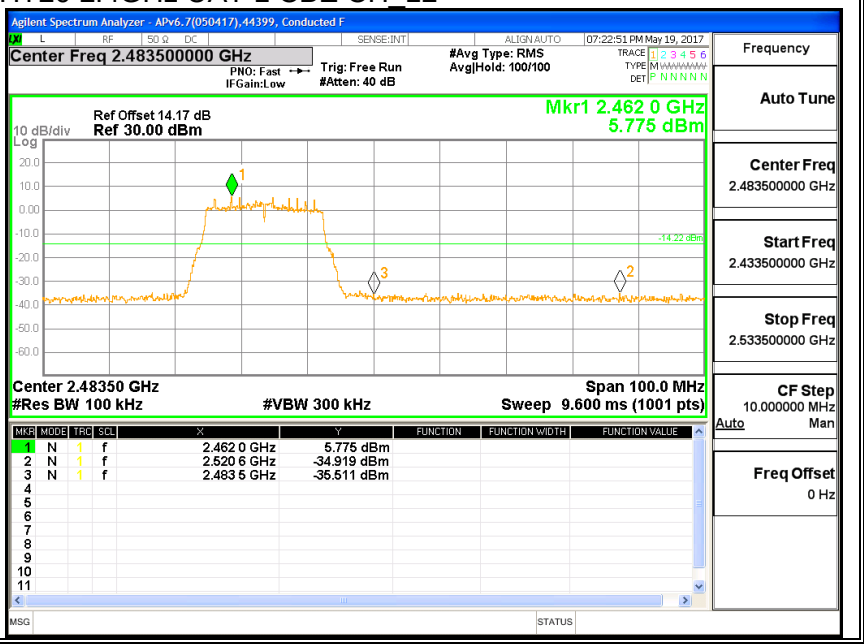
HT20 2.4GHz UAT 1 CBE CH_10



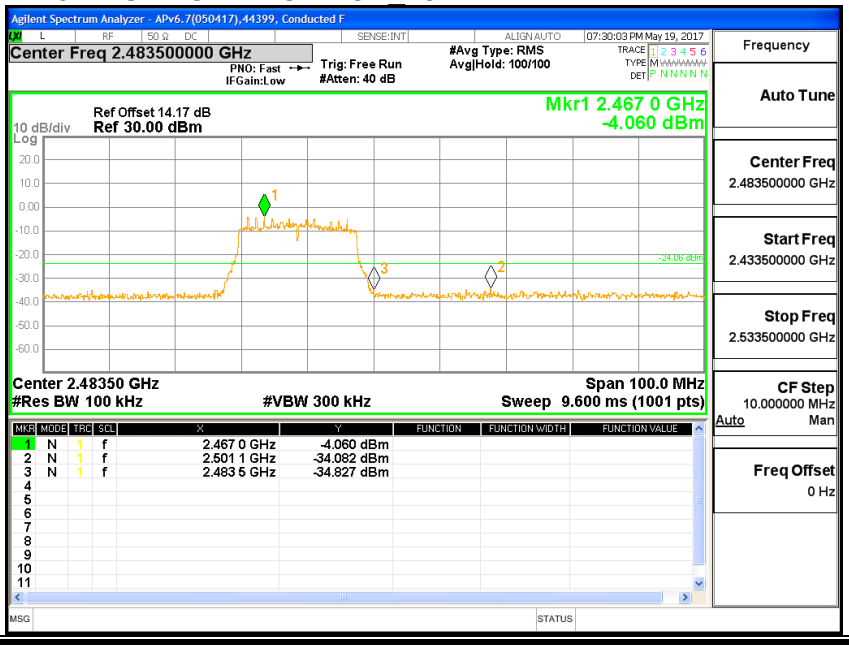
HT20 2.4GHz UAT 1 CBE CH_11



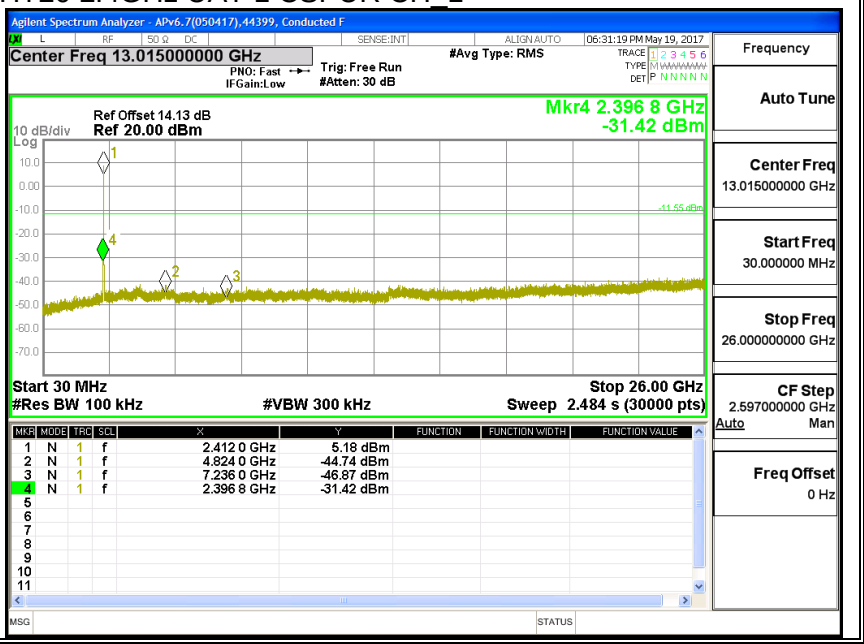
HT20 2.4GHz UAT 1 CBE CH_12



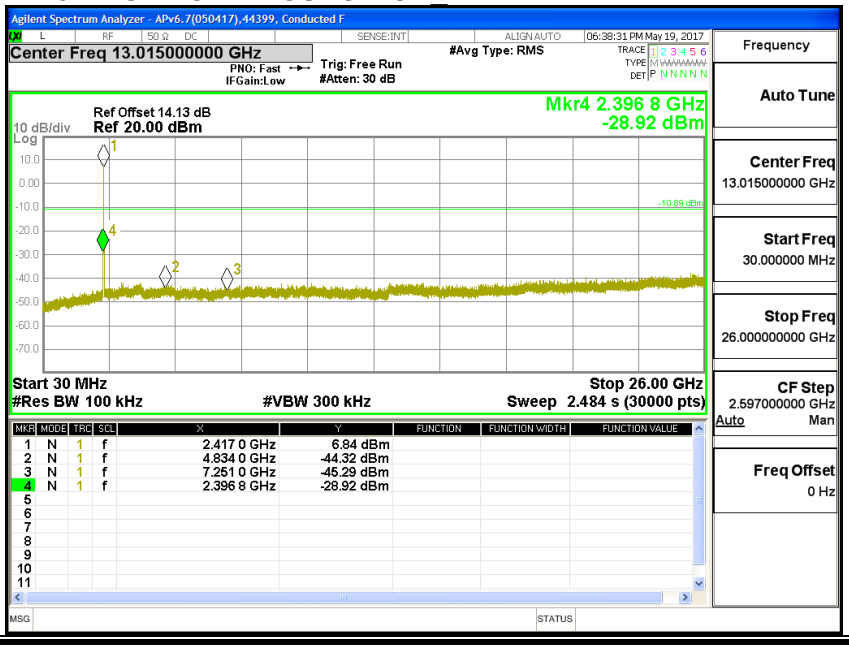
HT20 2.4GHz UAT 1 CBE CH_13



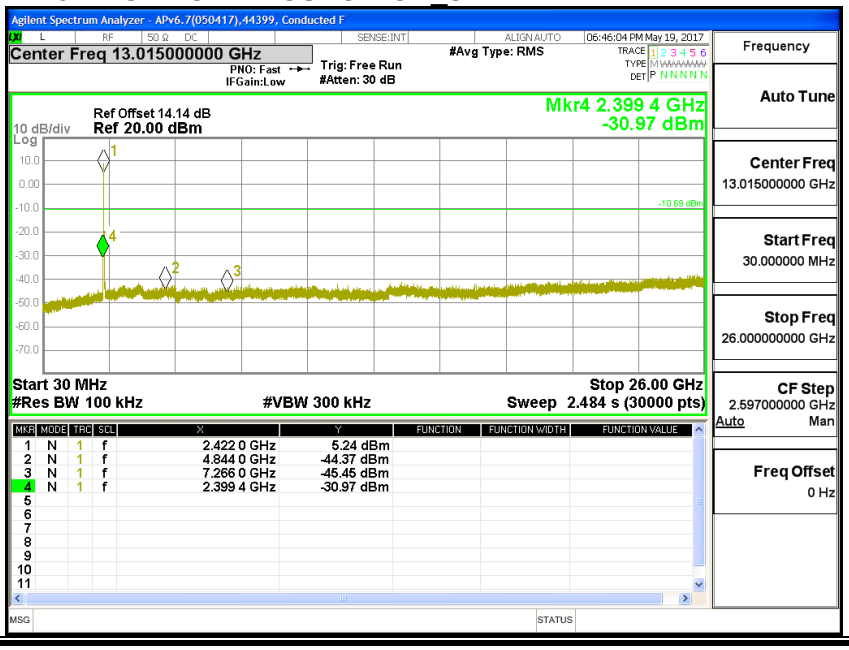
HT20 2.4GHz UAT 1 CSPUR CH_1



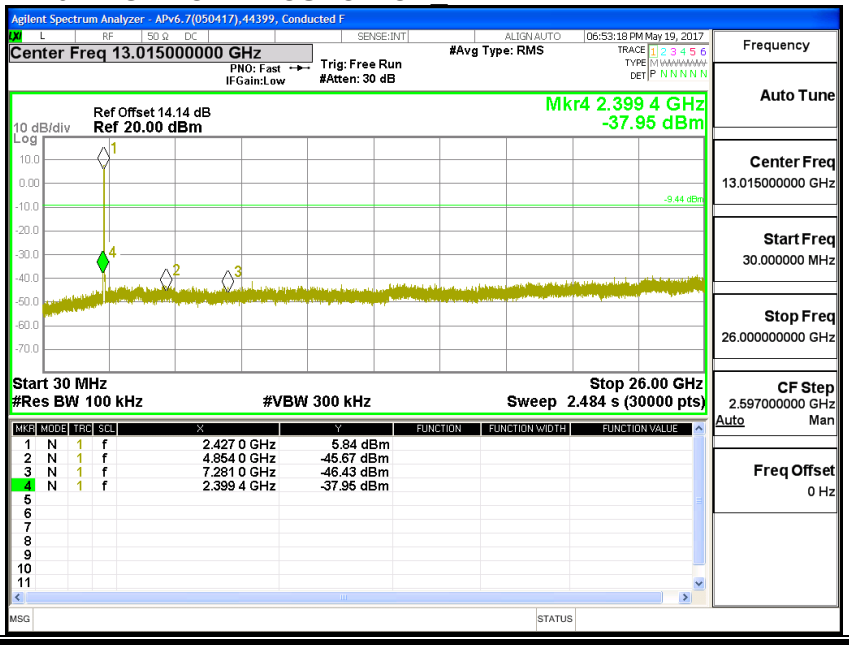
HT20 2.4GHz UAT 1 CSPUR CH_2



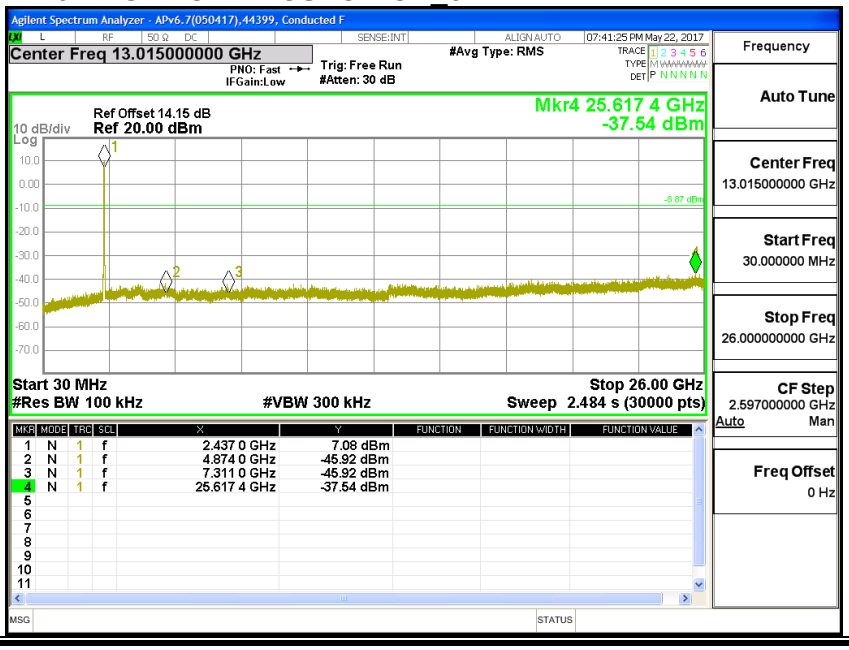
HT20 2.4GHz UAT 1 CSPUR CH_3



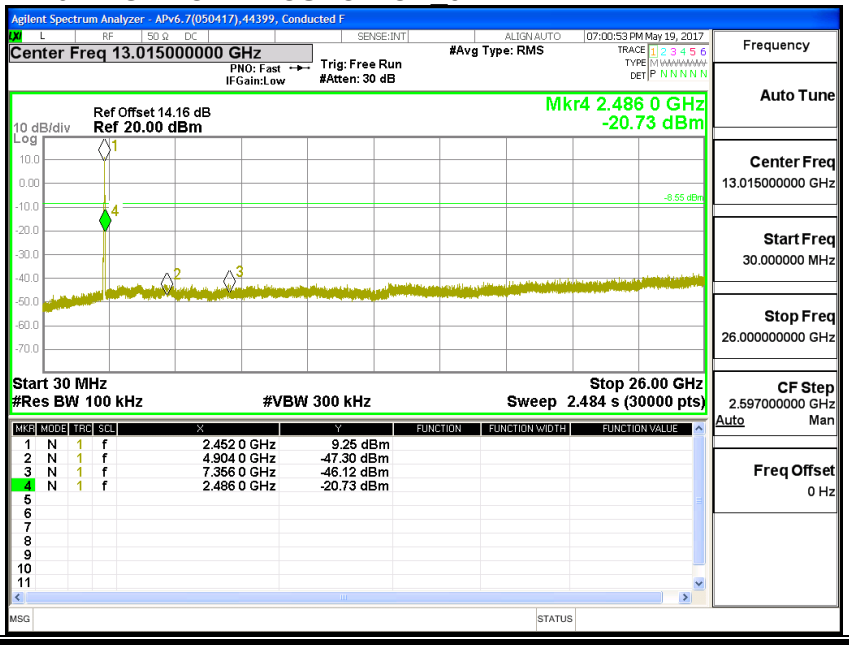
HT20 2.4GHz UAT 1 CSPUR CH_4



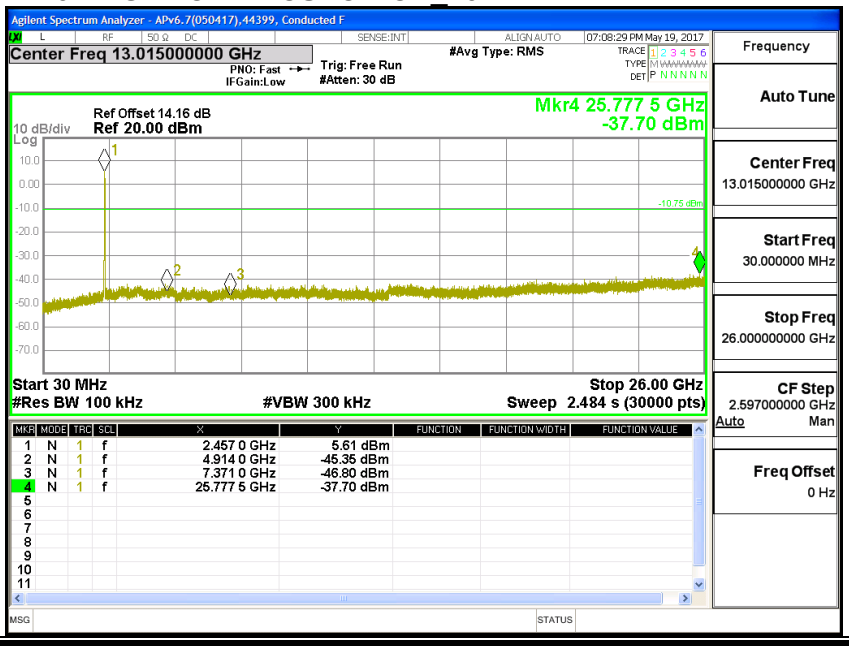
HT20 2.4GHz UAT 1 CSPUR CH_6



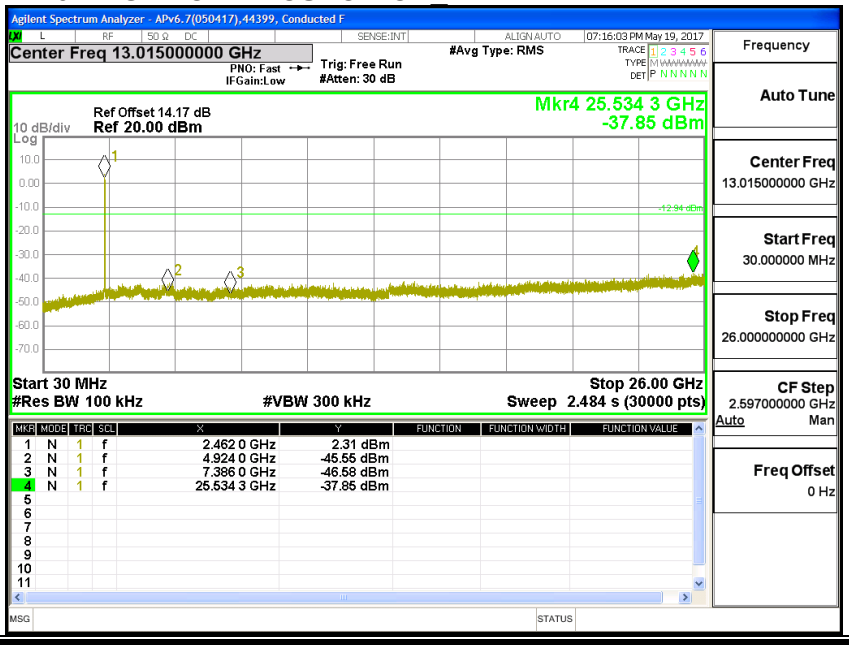
HT20 2.4GHz UAT 1 CSPUR CH_9



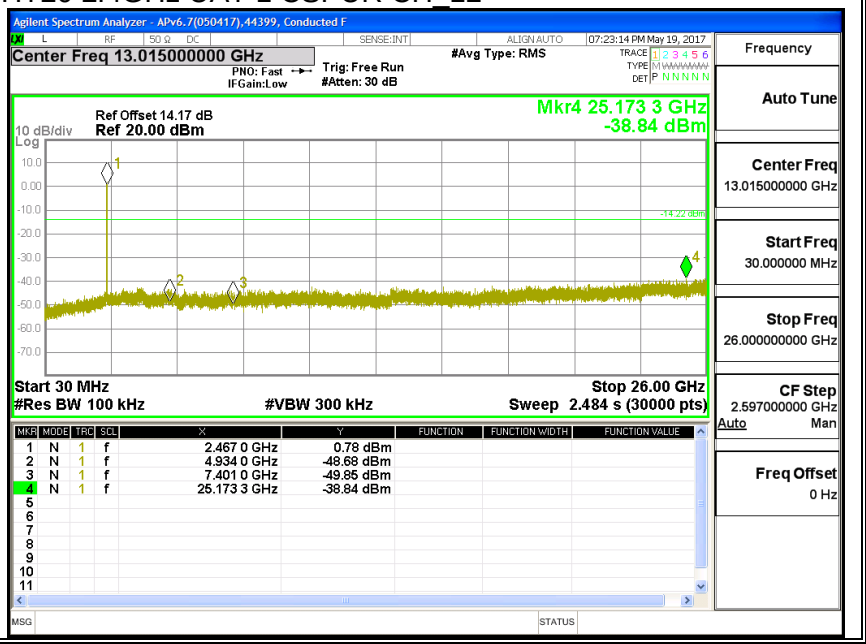
HT20 2.4GHz UAT 1 CSPUR CH_10



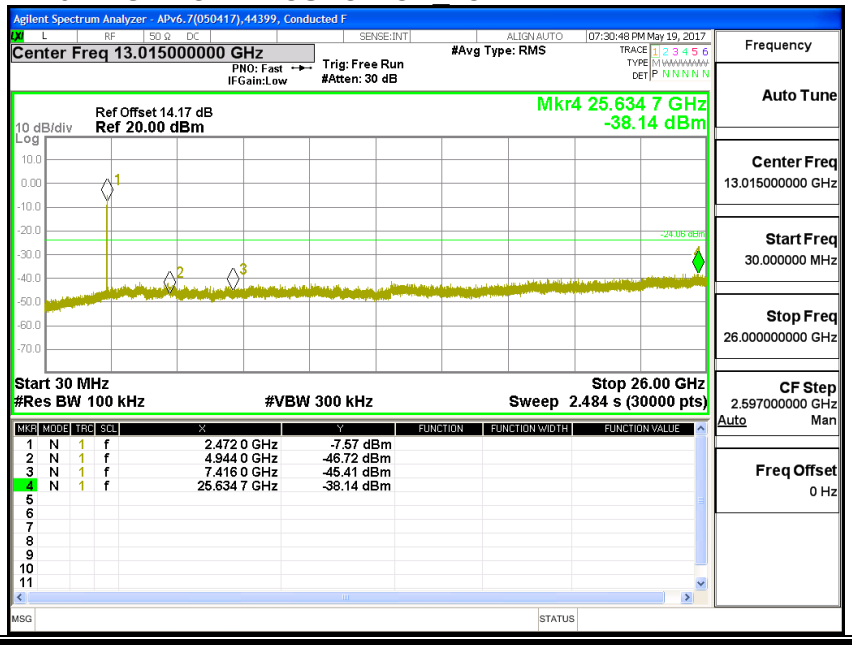
HT20 2.4GHz UAT 1 CSPUR CH_11



HT20 2.4GHz UAT 1 CSPUR CH_12



HT20 2.4GHz UAT 1 CSPUR CH_13



8.4. 11n HT20 LAT 3 SISO MODE IN THE 2.4GHz BAND

8.4.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

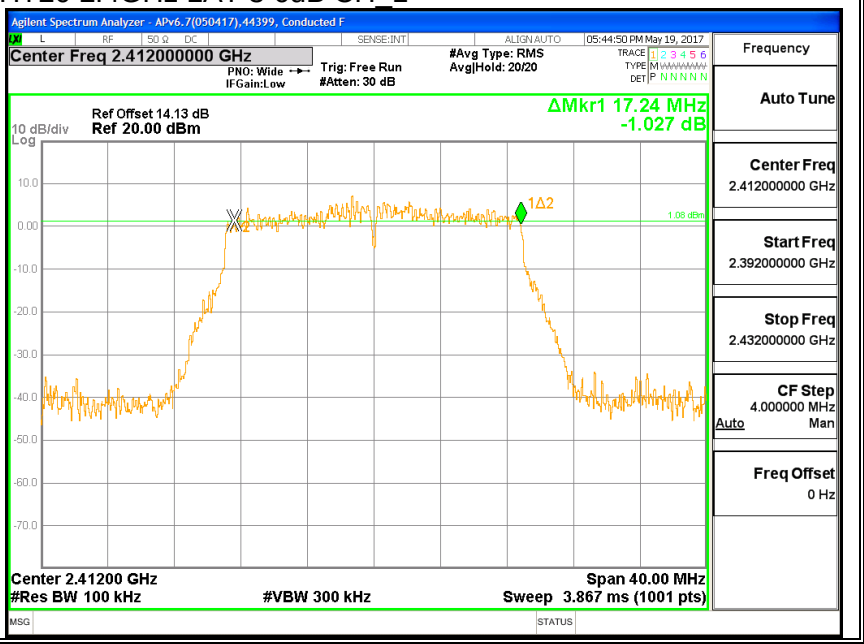
IC RSS-247 (5.2) (a)

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

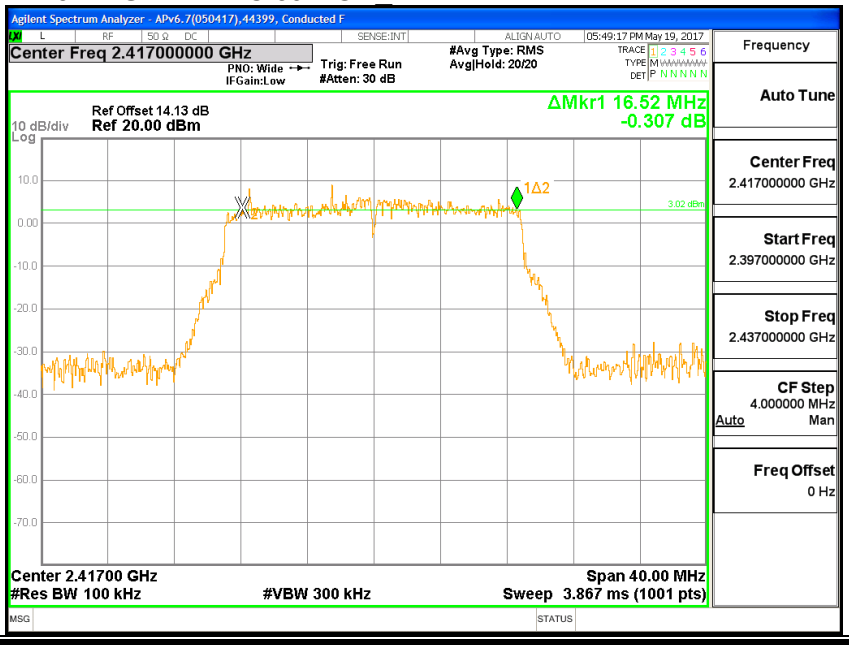
RESULTS

Channel	Frequency	6 dB BW LAT 3 (MHz)	Minimum Limit (MHz)
Low_1	2412	17.24	0.5
Low_2	2417	16.52	0.5
Low_3	2422	17.36	0.5
Low_4	2427	17.60	0.5
Middle_6	2437	17.76	0.5
High_9	2452	17.36	0.5
High_10	2457	17.72	0.5
High_11	2462	17.56	0.5
High_12	2467	17.28	0.5
High_13	2472	16.24	0.5

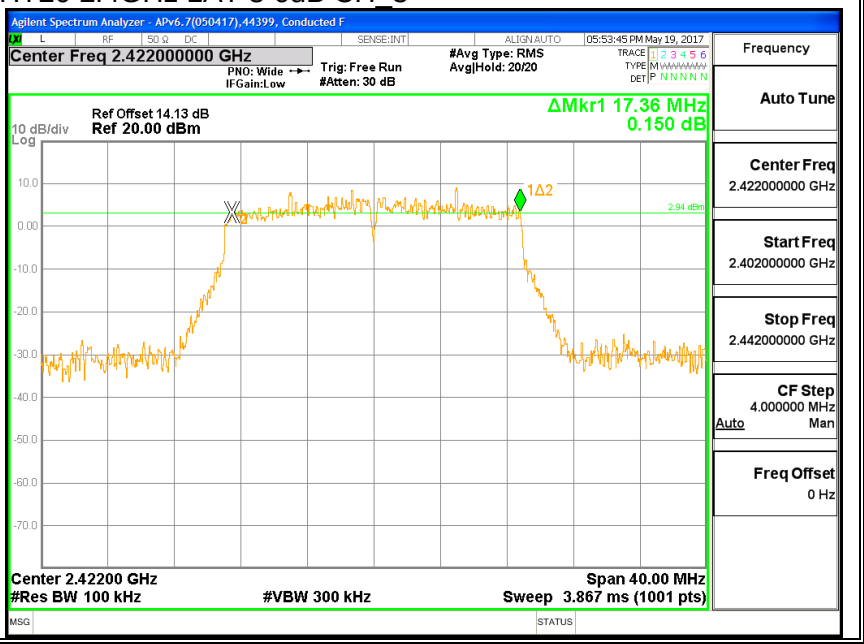
HT20 2.4GHz LAT 3 6dB CH_1



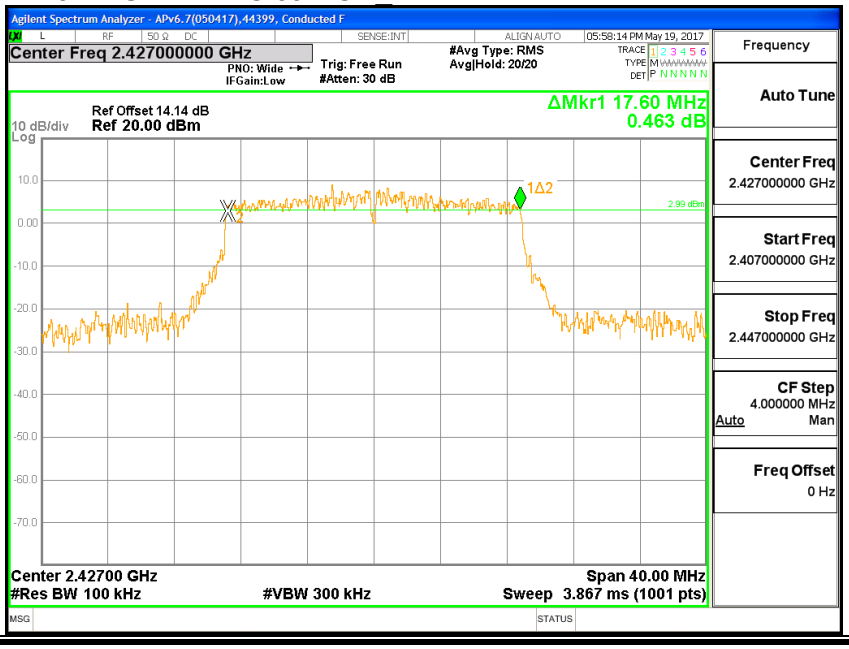
HT20 2.4GHz LAT 3 6dB CH_2



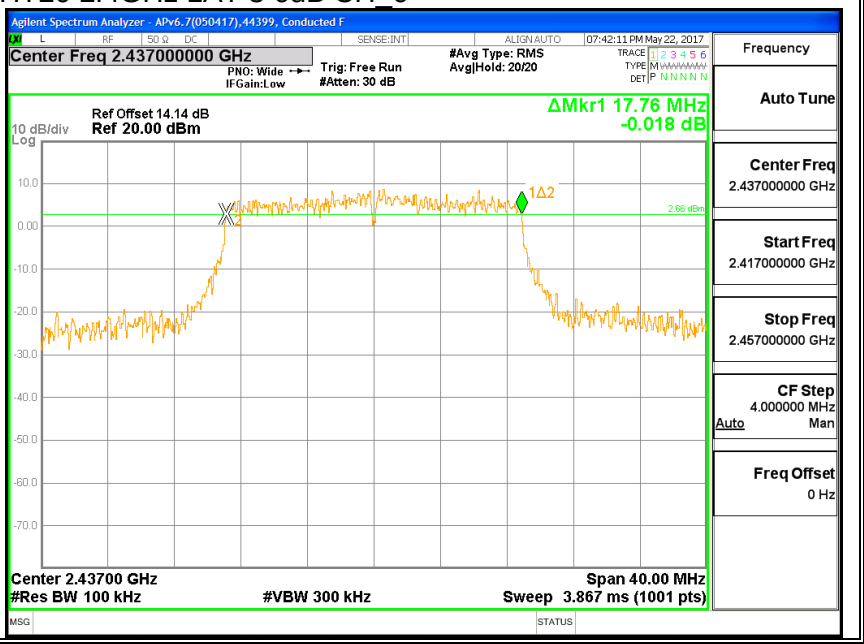
HT20 2.4GHz LAT 3 6dB CH_3



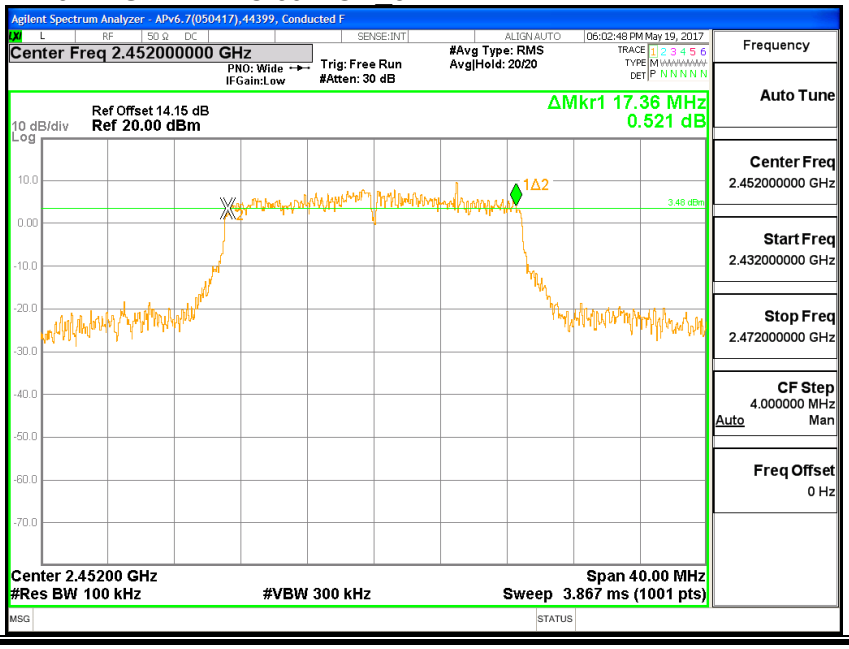
HT20 2.4GHz LAT 3 6dB CH_4



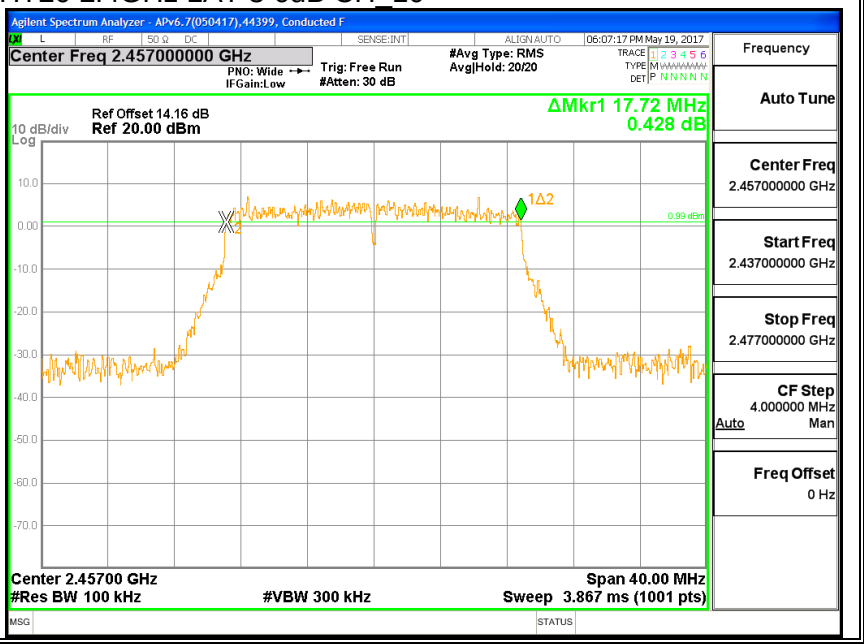
HT20 2.4GHz LAT 3 6dB CH_6



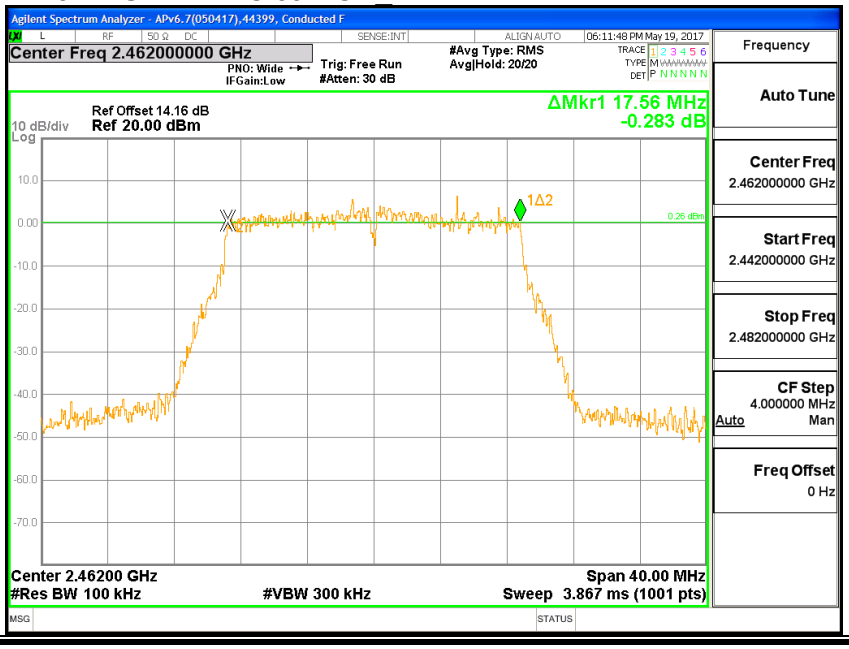
HT20 2.4GHz LAT 3 6dB CH_9



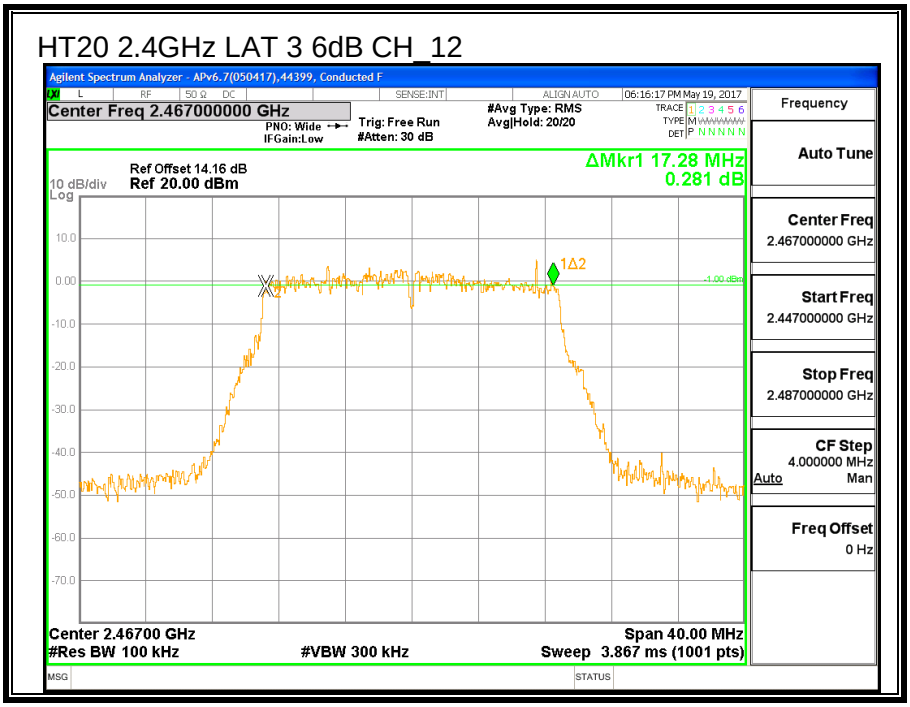
HT20 2.4GHz LAT 3 6dB CH_10



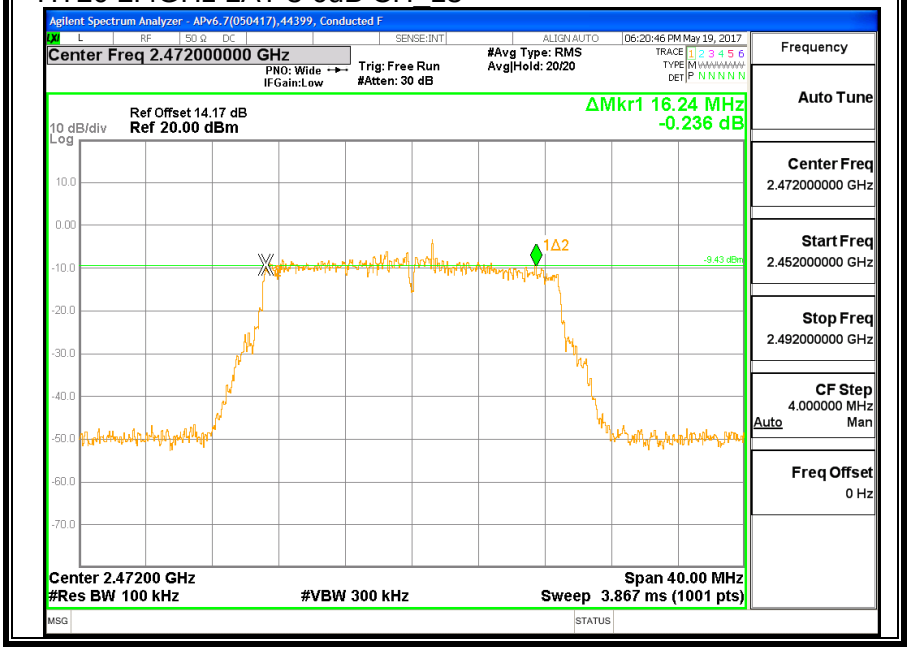
HT20 2.4GHz LAT 3 6dB CH_11



HT20 2.4GHz LAT 3 6dB CH_12



HT20 2.4GHz LAT 3 6dB CH_13



8.4.2. 99% BANDWIDTH

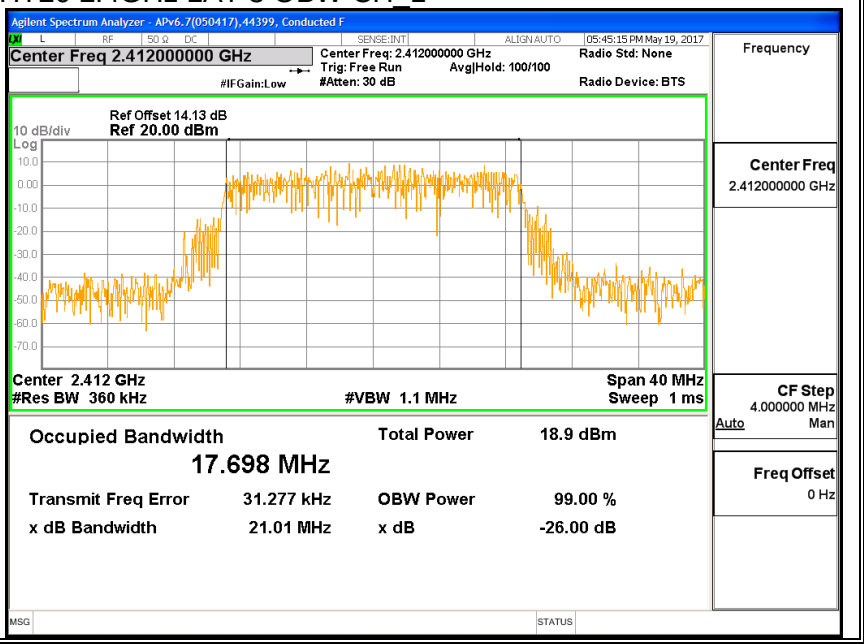
LIMITS

None; for reporting purposes only.

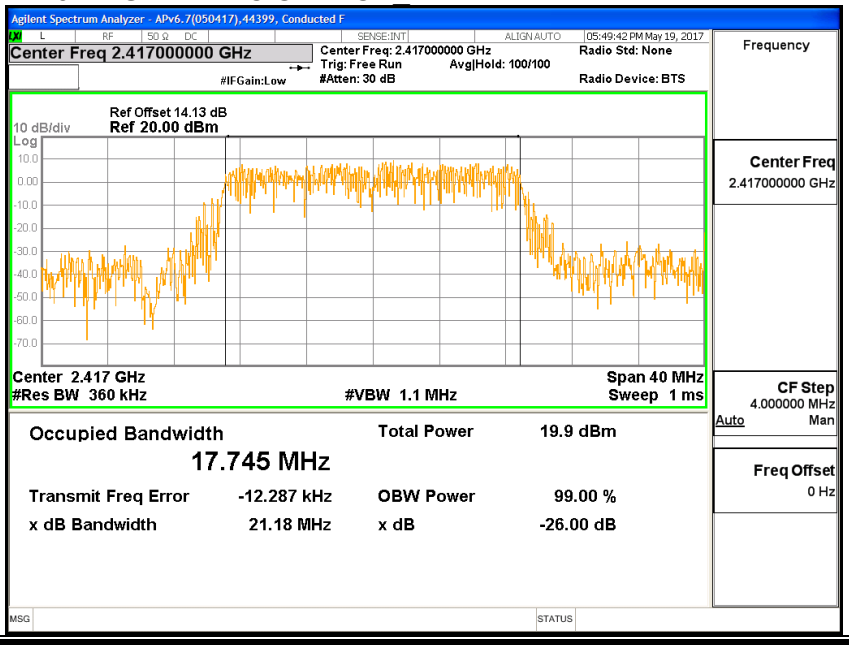
RESULTS

Channel	Frequency (MHz)	99% Bandwidth LAT 3 (MHz)
Low_1	2412	17.698
Low_2	2417	17.745
Low_3	2422	17.762
Low_4	2427	17.767
Middle_6	2437	17.818
High_9	2452	17.692
High_10	2457	17.796
High_11	2462	17.808
High_12	2467	17.715
High_13	2472	17.700

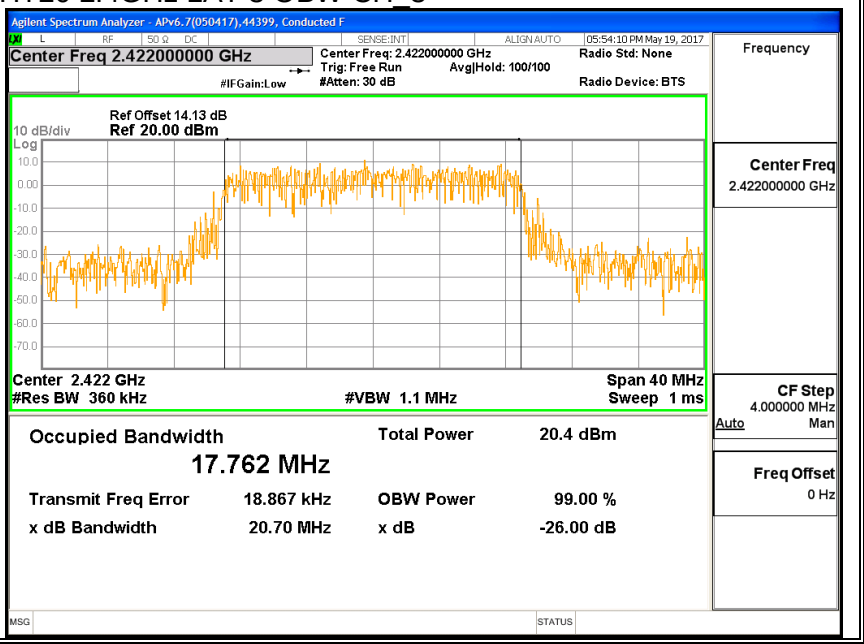
HT20 2.4GHz LAT 3 OBW CH_1



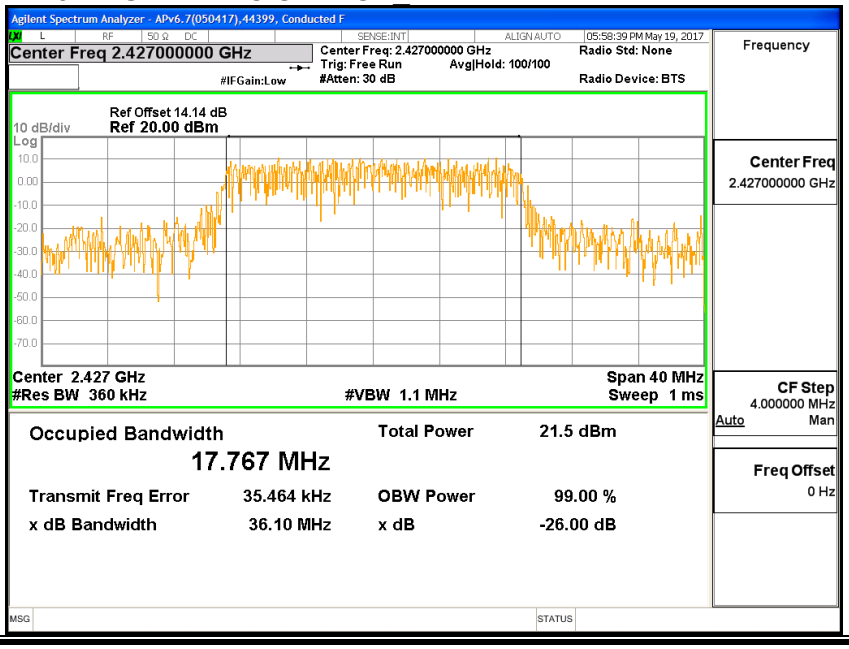
HT20 2.4GHz LAT 3 OBW CH_2



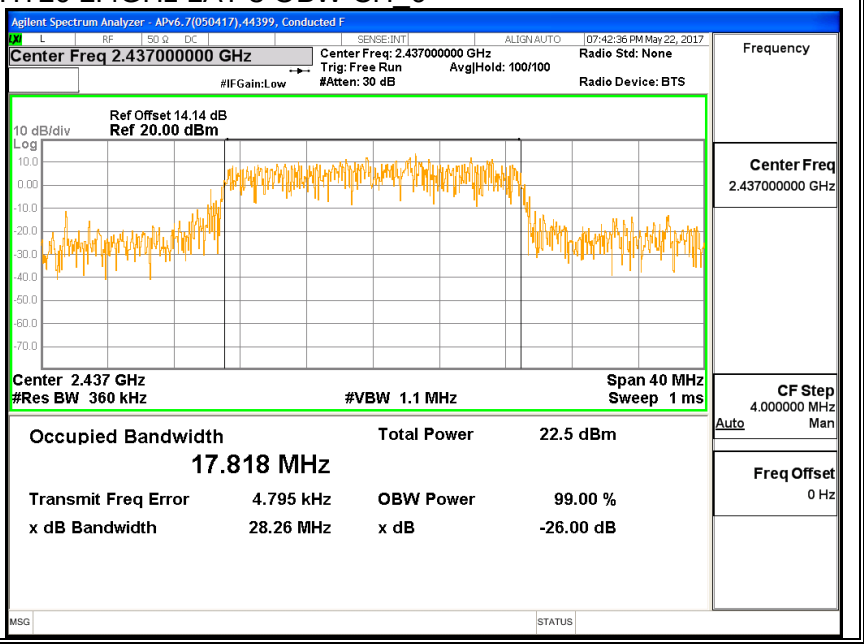
HT20 2.4GHz LAT 3 OBW CH_3



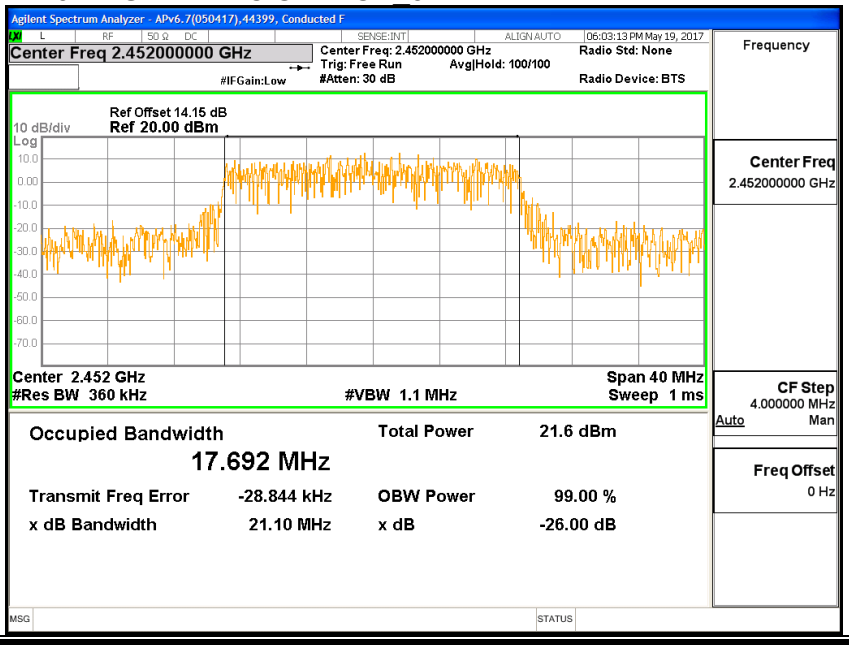
HT20 2.4GHz LAT 3 OBW CH_4



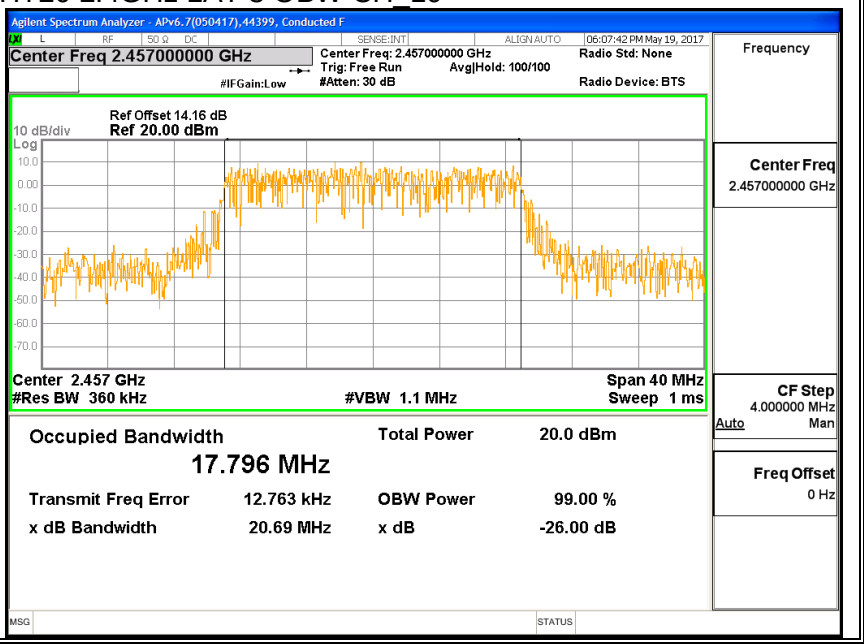
HT20 2.4GHz LAT 3 OBW CH_6



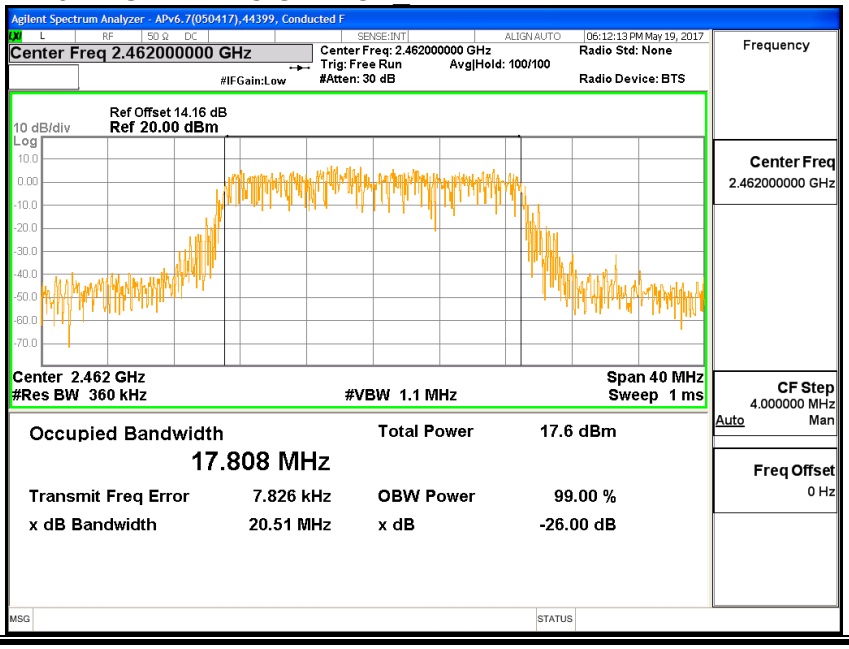
HT20 2.4GHz LAT 3 OBW CH_9



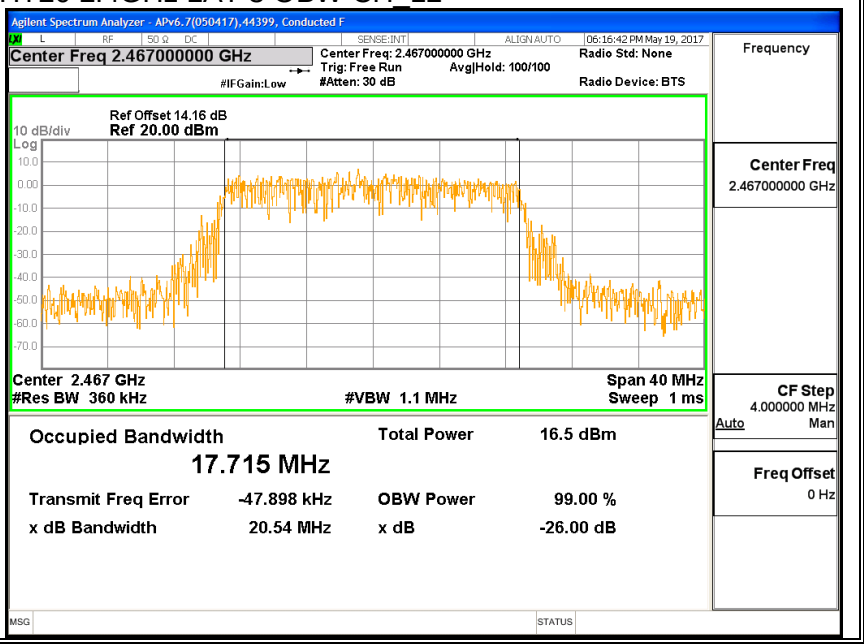
HT20 2.4GHz LAT 3 OBW CH_10



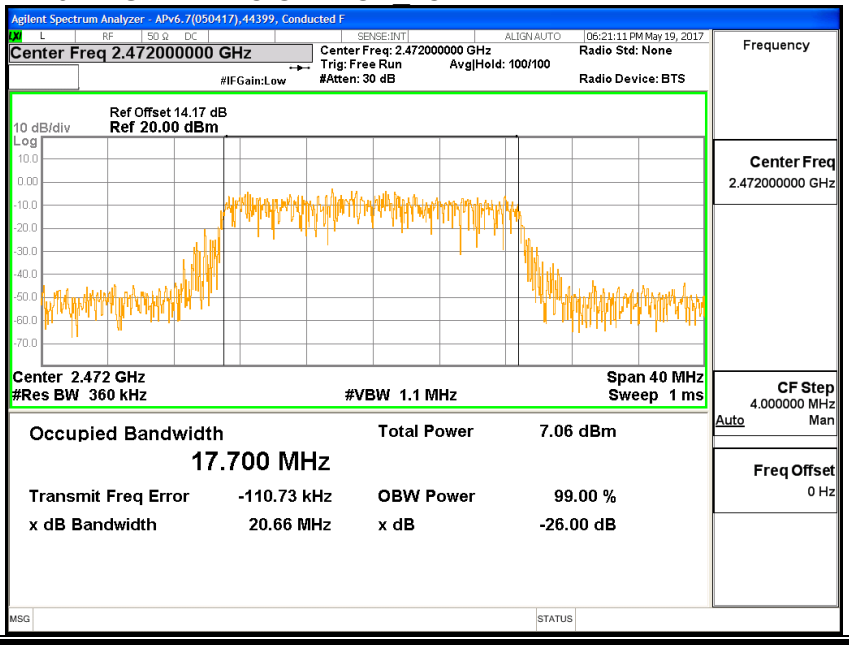
HT20 2.4GHz LAT 3 OBW CH_11



HT20 2.4GHz LAT 3 OBW CH_12



HT20 2.4GHz LAT 3 OBW CH_13



8.4.3. AVERAGE POWER

ID:	30554	Date:	8/1/2017

LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	Power LAT 3 (dBm)
Low_1	2412	17.32
Low_2	2417	19.41
Low_3	2422	21.38
Low_4	2427	21.35
Middle_6	2437	21.40
High_9	2452	21.29
High_10	2457	19.37
High_11	2462	17.42
High_12	2467	15.44
High_13	2472	7.86

8.4.4. OUTPUT POWER

ID:	30554	Date:	8/1/2017

LIMITS

FCC §15.247

IC RSS-247 (5.4) (d)

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

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	-5.49	30.00	30	36	30.00
Low_2	2417	-5.49	30.00	30	36	30.00
Low_3	2422	-5.49	30.00	30	36	30.00
Low_4	2427	-5.49	30.00	30	36	30.00
Mid_6	2437	-5.49	30.00	30	36	30.00
High_9	2452	-5.49	30.00	30	36	30.00
High_10	2457	-5.49	30.00	30	36	30.00
High_11	2462	-5.49	30.00	30	36	30.00
High_12	2467	-5.49	30.00	30	36	30.00
High_13	2472	-5.49	30.00	30	36	30.00

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

Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low_1	2412	23.90	23.90	30.00	-6.10
Low_2	2417	26.14	26.14	30.00	-3.86
Low_3	2422	28.10	28.10	30.00	-1.90
Low_4	2427	28.07	28.07	30.00	-1.93
Mid_6	2437	27.99	27.99	30.00	-2.01
High_9	2452	28.18	28.18	30.00	-1.82
High_10	2457	26.05	26.05	30.00	-3.95
High_11	2462	24.11	24.11	30.00	-5.89
High_12	2467	22.16	22.16	30.00	-7.84
High_13	2472	14.48	14.48	30.00	-15.52

8.4.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

IC RSS-247 (5.2) (d)

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.

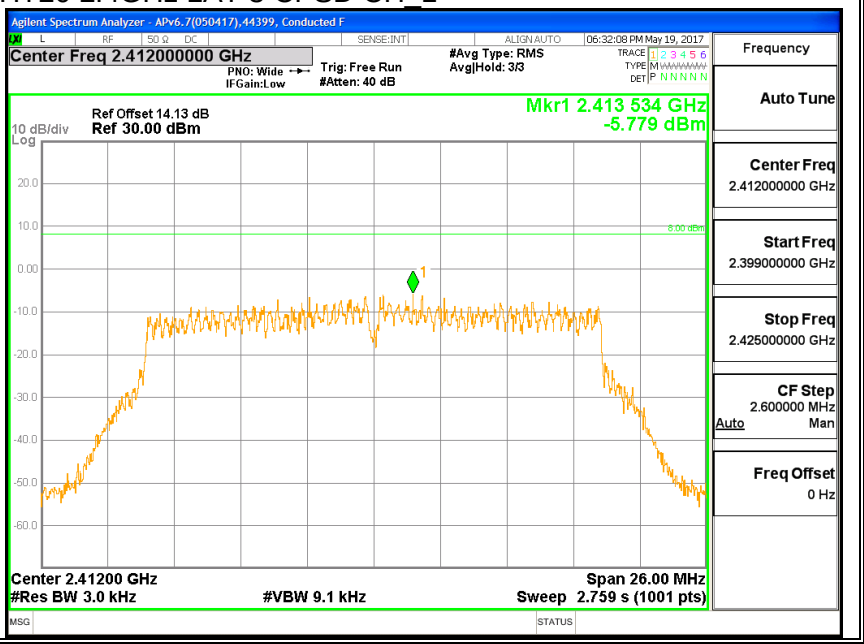
RESULTS

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

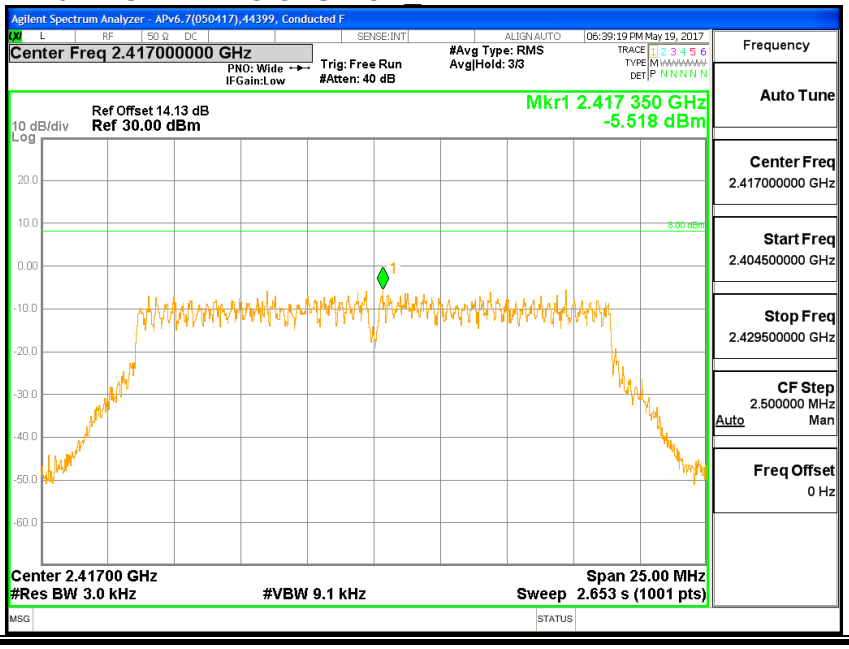
PSD Results

Channel	Frequency (MHz)	LAT 3 Meas (dBm)	Total Corr'd (dBm)	Limit (dBm)	Margin (dB)
Low_1	2412	-5.78	-5.78	8.0	-13.8
Low_2	2417	-5.52	-5.52	8.0	-13.5
Low_3	2422	-4.51	-4.51	8.0	-12.5
Low_4	2427	-3.46	-3.46	8.0	-11.5
Mid_6	2437	-3.42	-3.42	8.0	-11.4
High_9	2452	-2.87	-2.87	8.0	-10.9
High_10	2457	-5.30	-5.30	8.0	-13.3
High_11	2462	-7.94	-7.94	8.0	-15.9
High_12	2467	-8.15	-8.15	8.0	-16.2
High_13	2472	-17.73	-17.73	8.0	-25.7

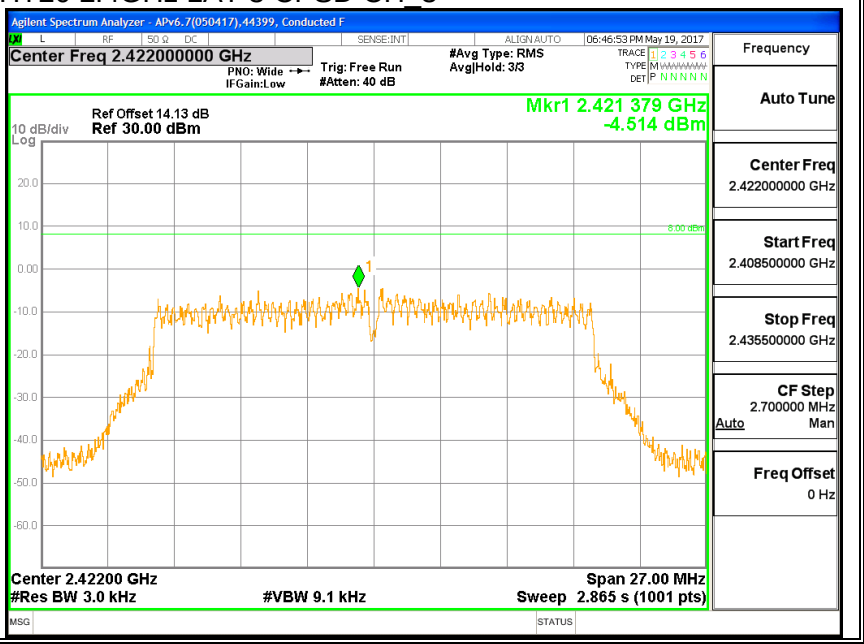
HT20 2.4GHz LAT 3 CPSD CH_1



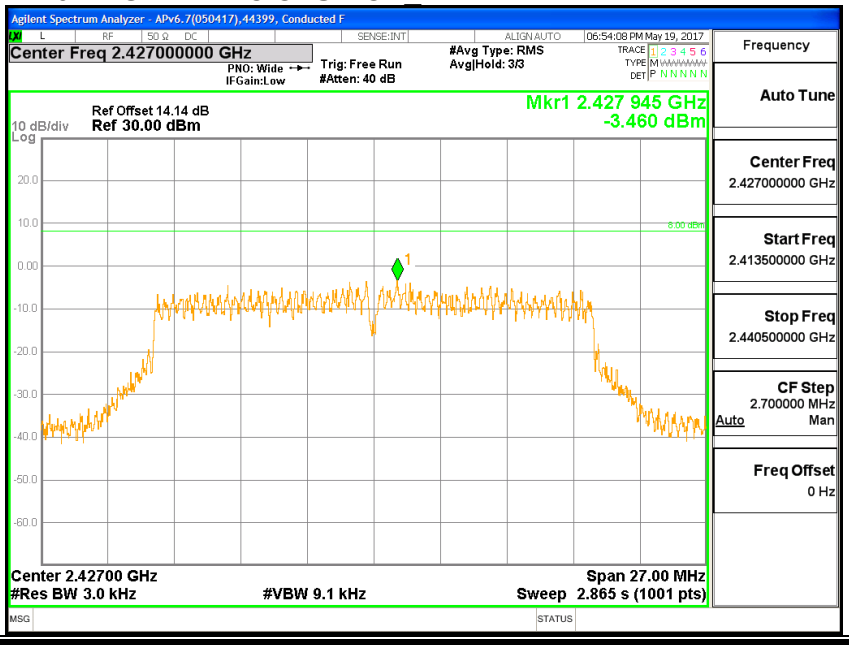
HT20 2.4GHz LAT 3 CPSD CH_2



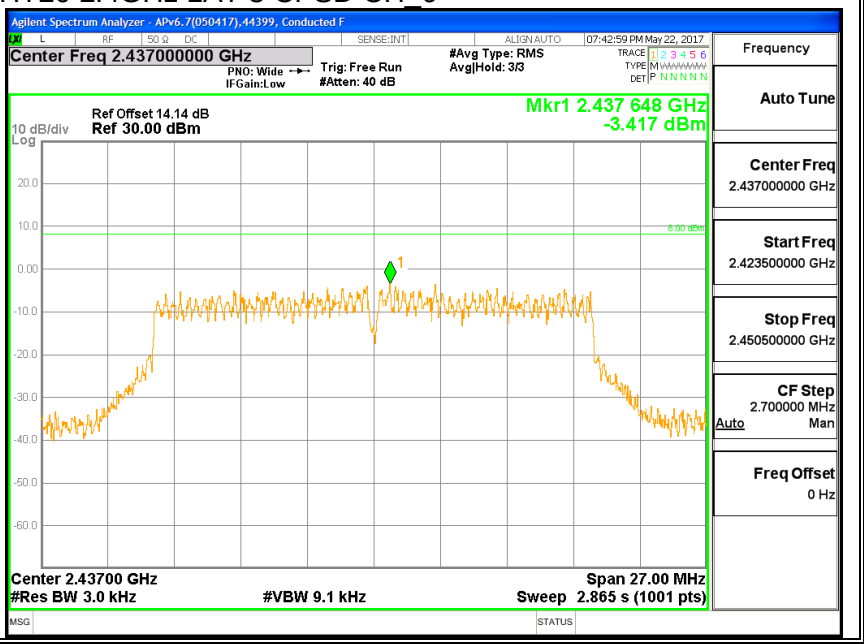
HT20 2.4GHz LAT 3 CPSD CH_3



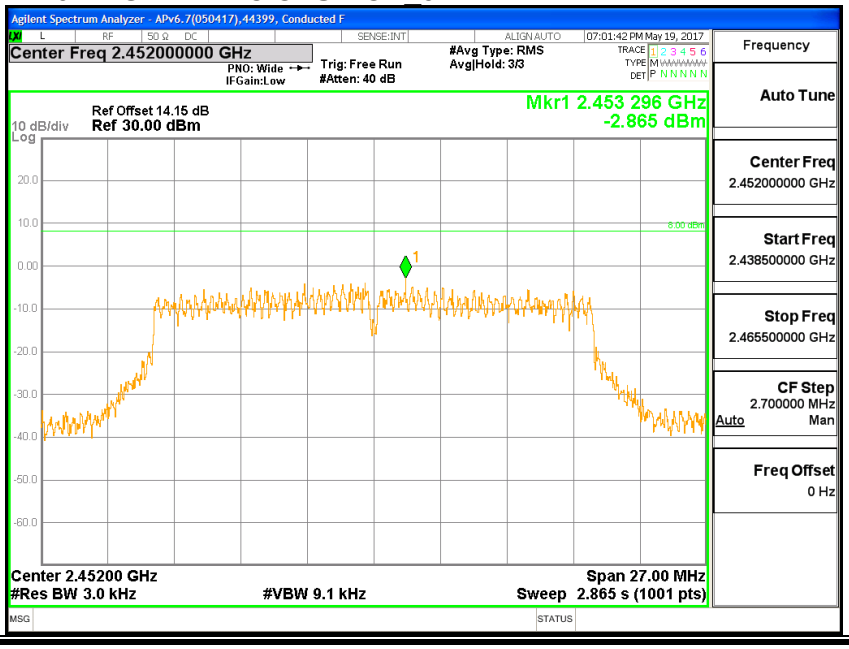
HT20 2.4GHz LAT 3 CPSD CH_4



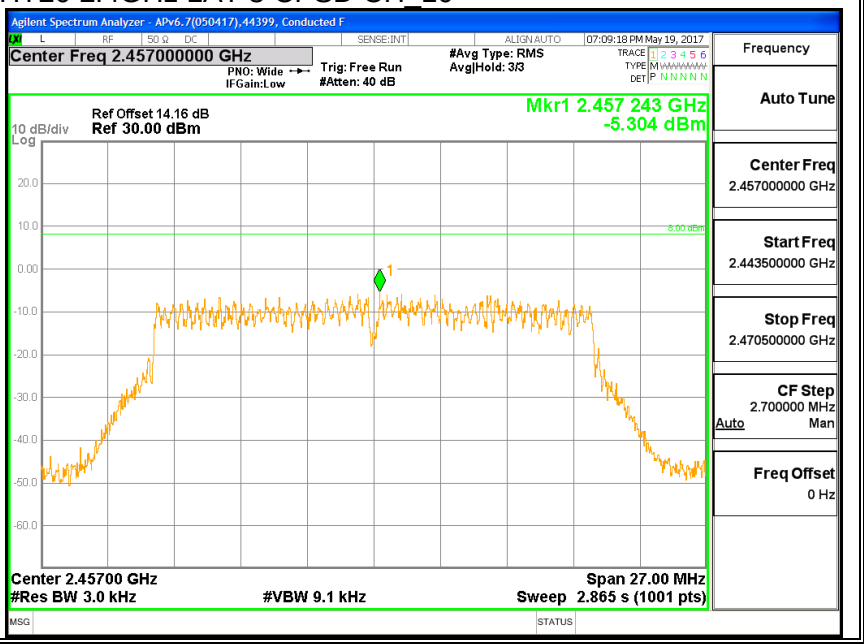
HT20 2.4GHz LAT 3 CPSD CH_6



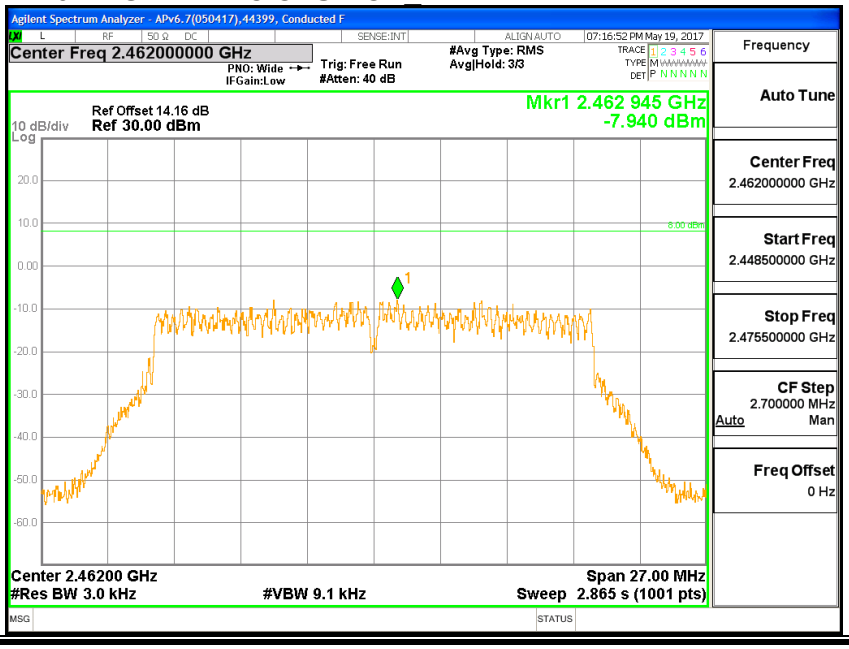
HT20 2.4GHz LAT 3 CPSD CH_9



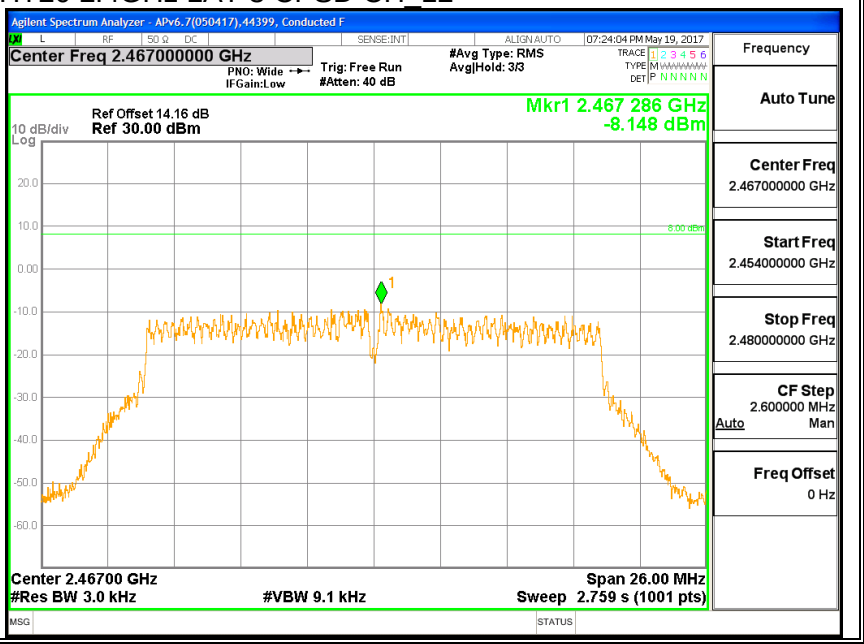
HT20 2.4GHz LAT 3 CPSD CH_10



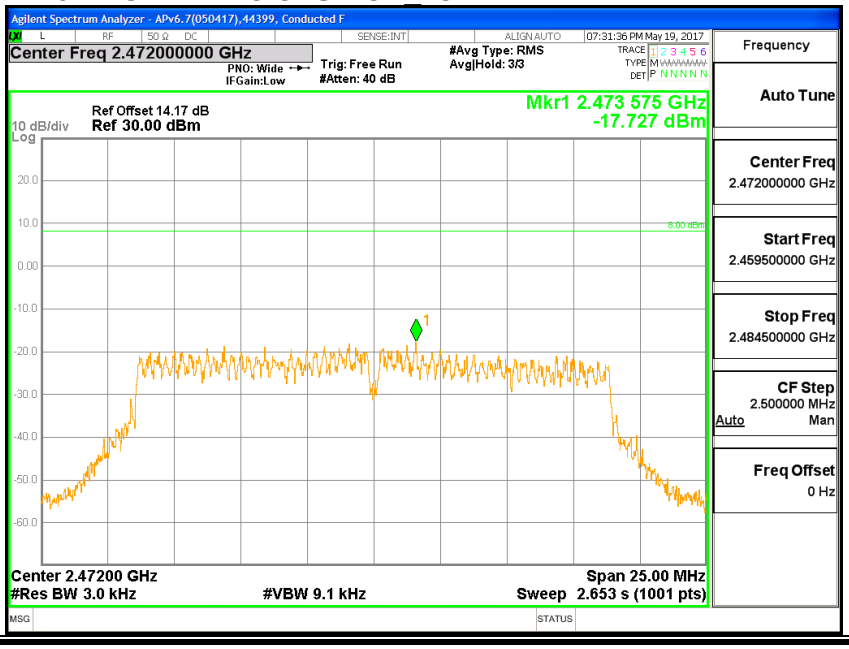
HT20 2.4GHz LAT 3 CPSD CH_11



HT20 2.4GHz LAT 3 CPSD CH_12



HT20 2.4GHz LAT 3 CPSD CH_13



8.4.6. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

LIMITS

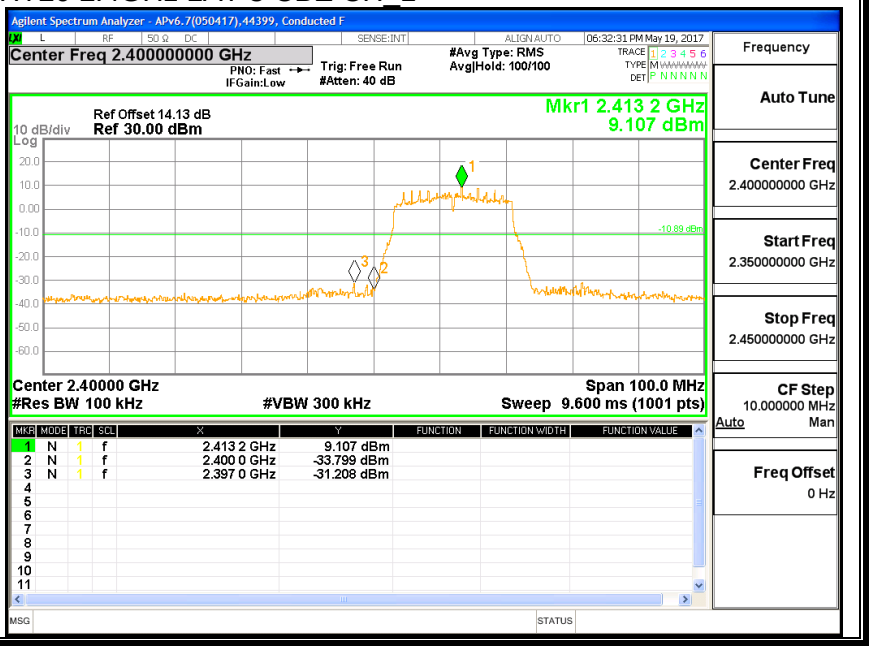
FCC §15.247 (d)

IC RSS-247 (5.5)

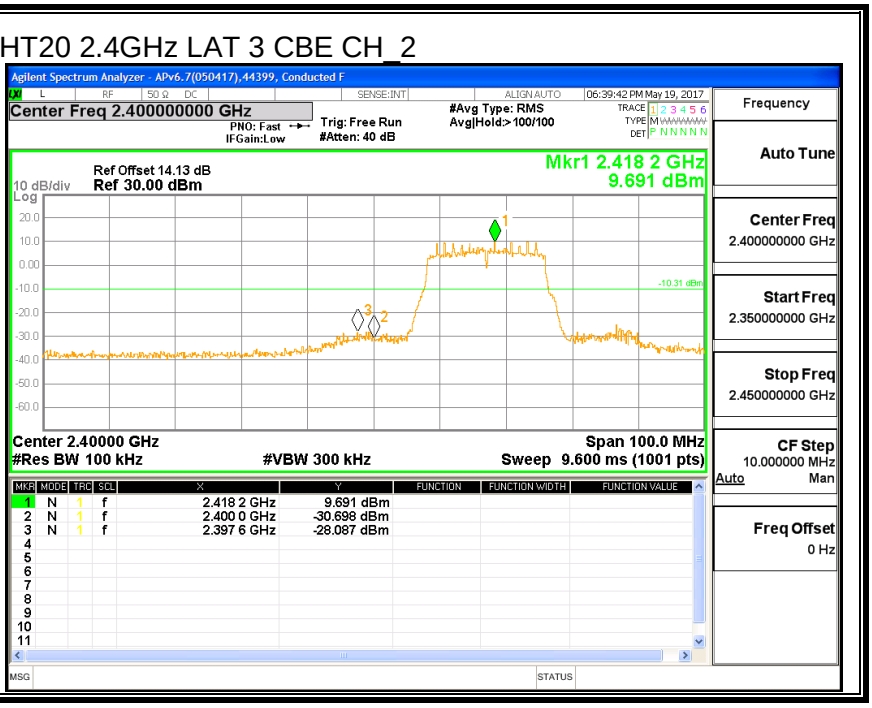
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the 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.

CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

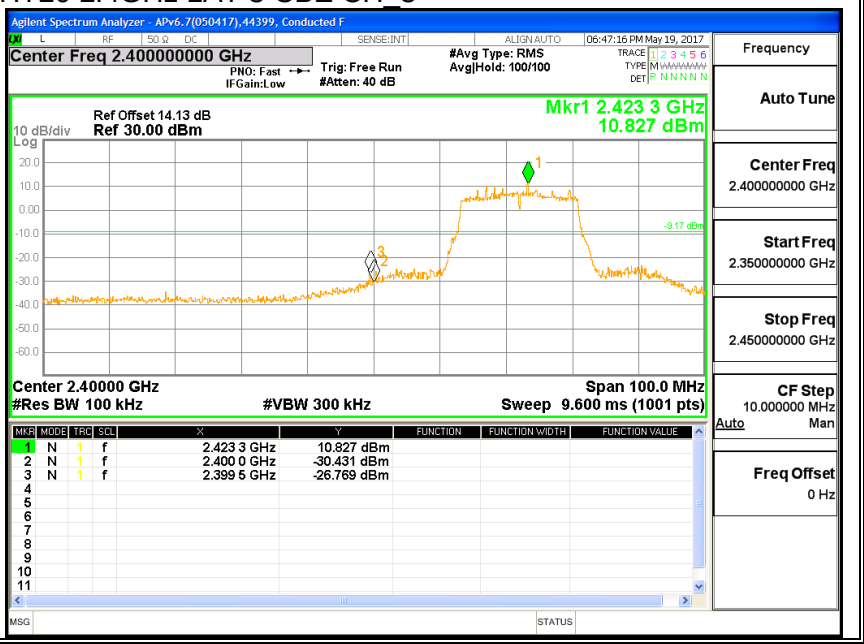
HT20 2.4GHz LAT 3 CBE CH_1



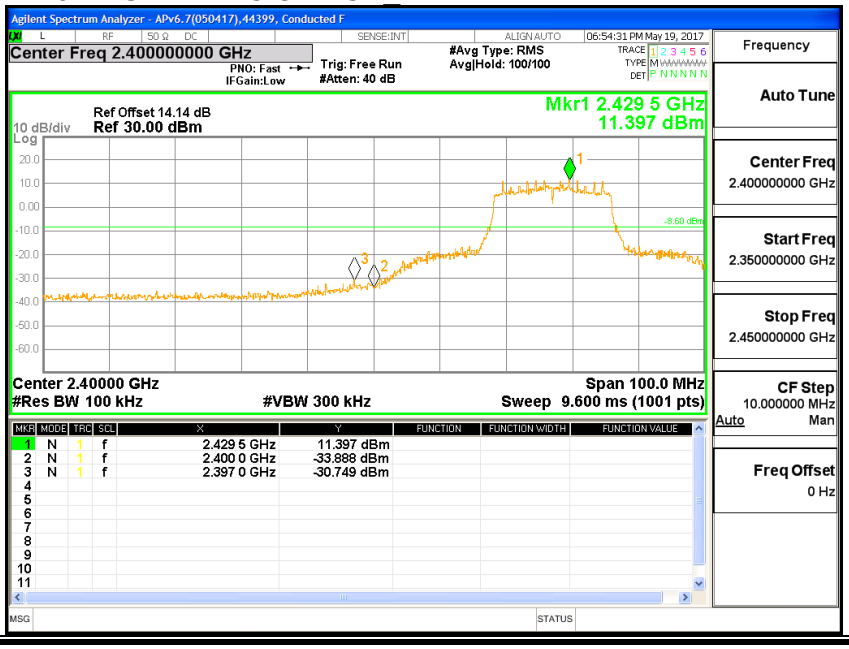
HT20 2.4GHz LAT 3 CBE CH_2



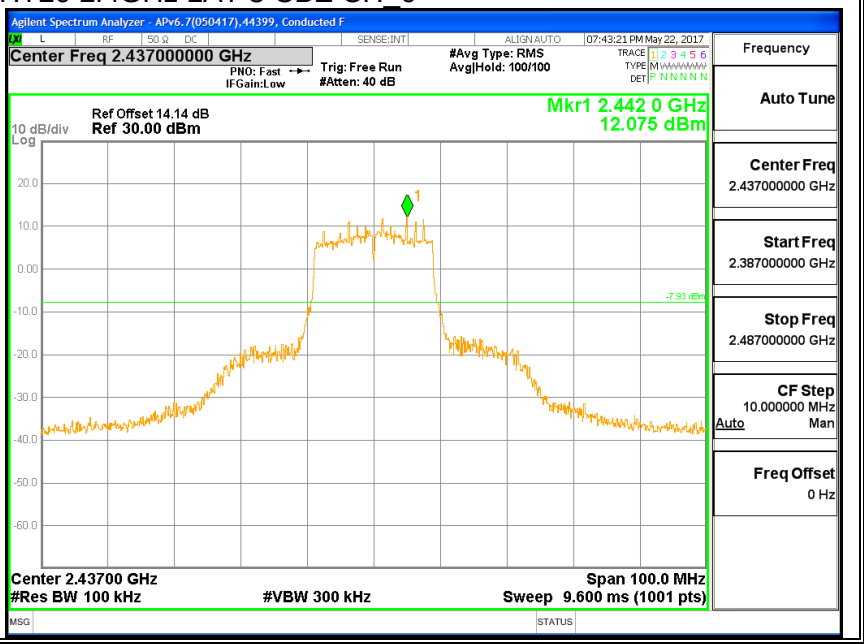
HT20 2.4GHz LAT 3 CBE CH_3



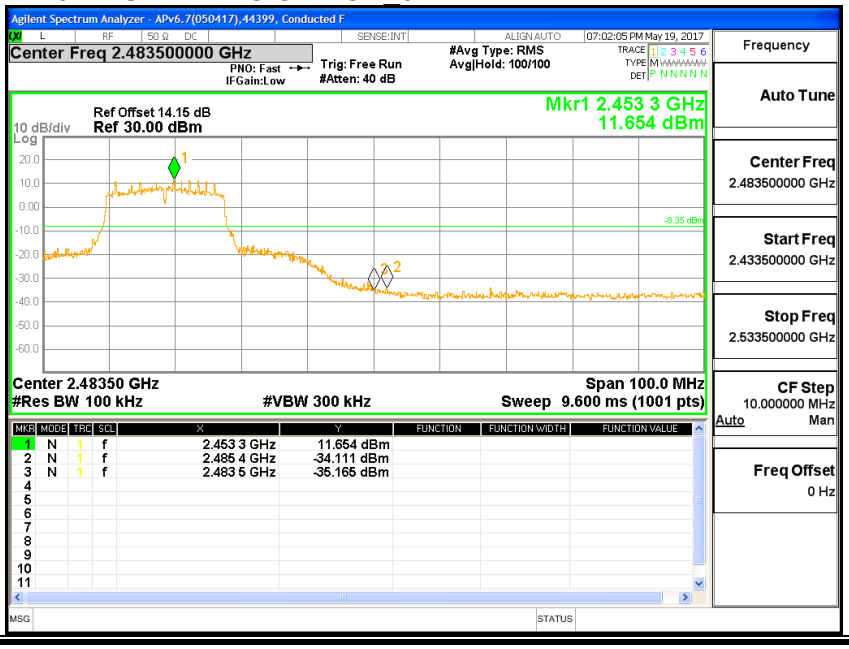
HT20 2.4GHz LAT 3 CBE CH_4



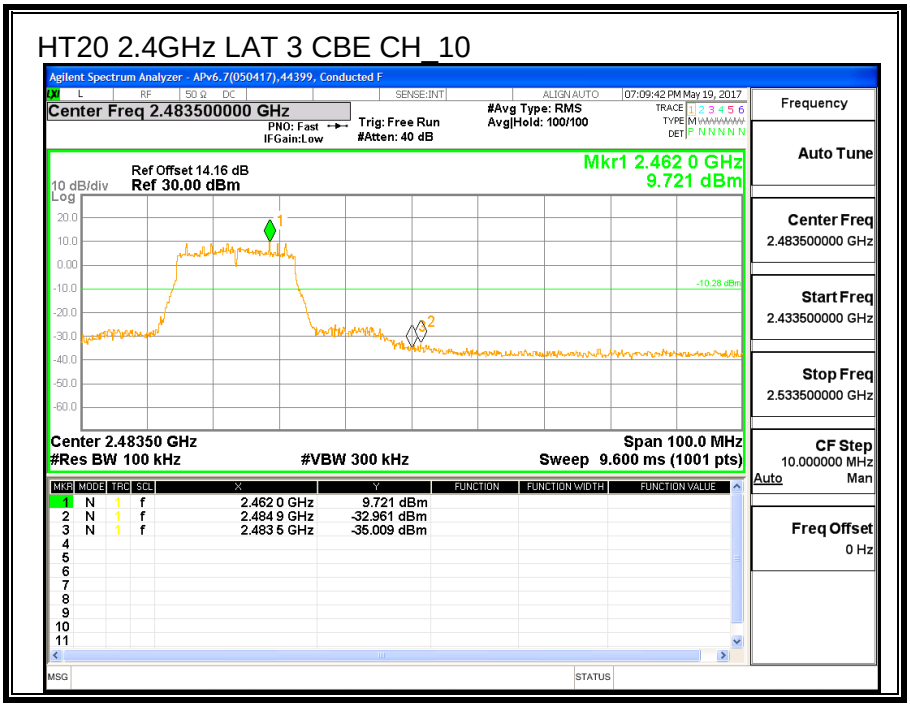
HT20 2.4GHz LAT 3 CBE CH_6



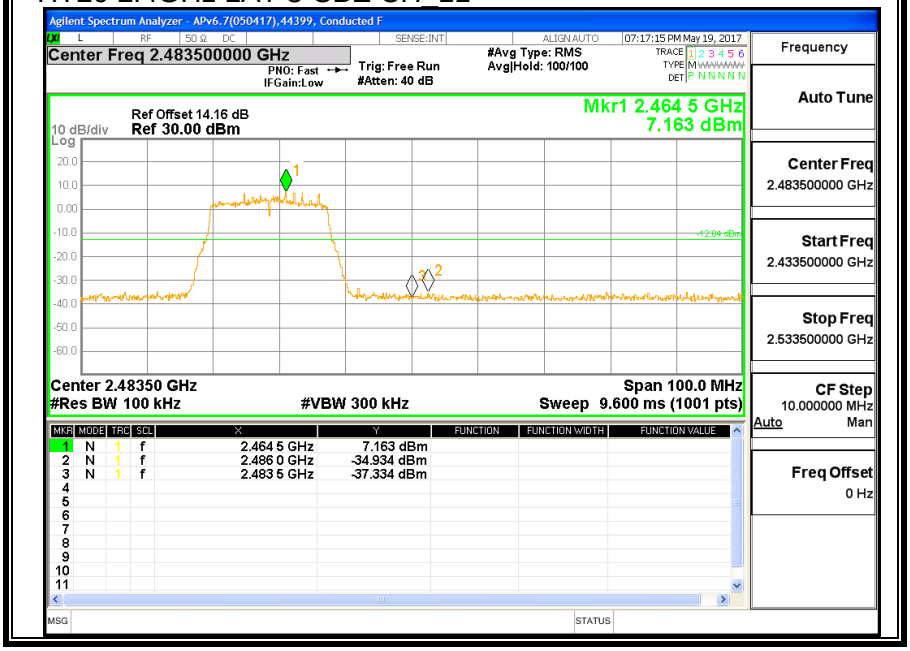
HT20 2.4GHz LAT 3 CBE CH_9



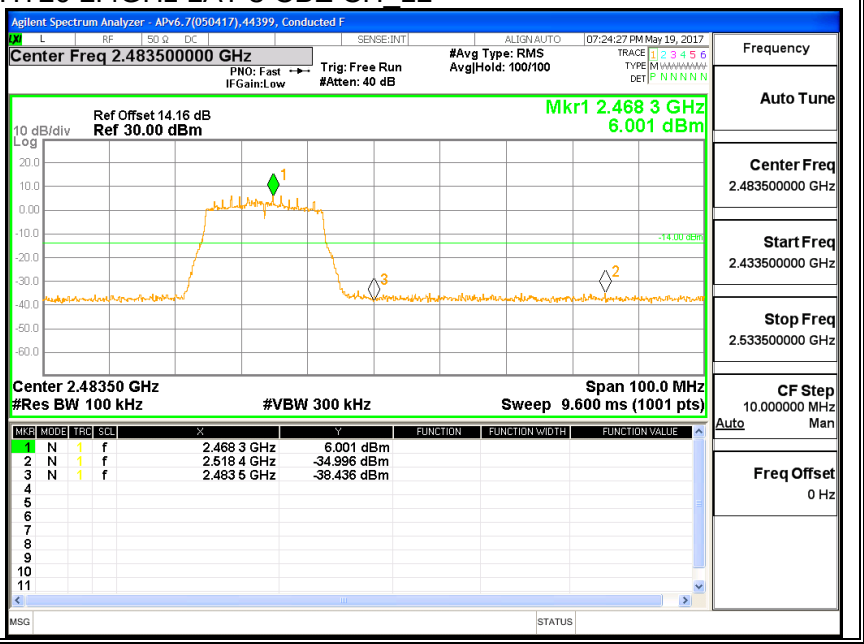
HT20 2.4GHz LAT 3 CBE CH_10



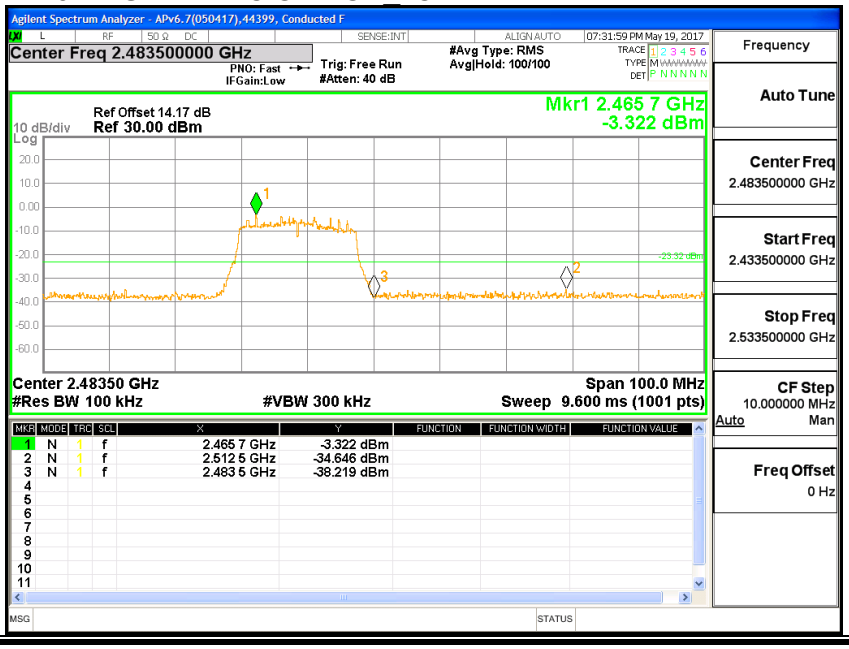
HT20 2.4GHz LAT 3 CBE CH_11



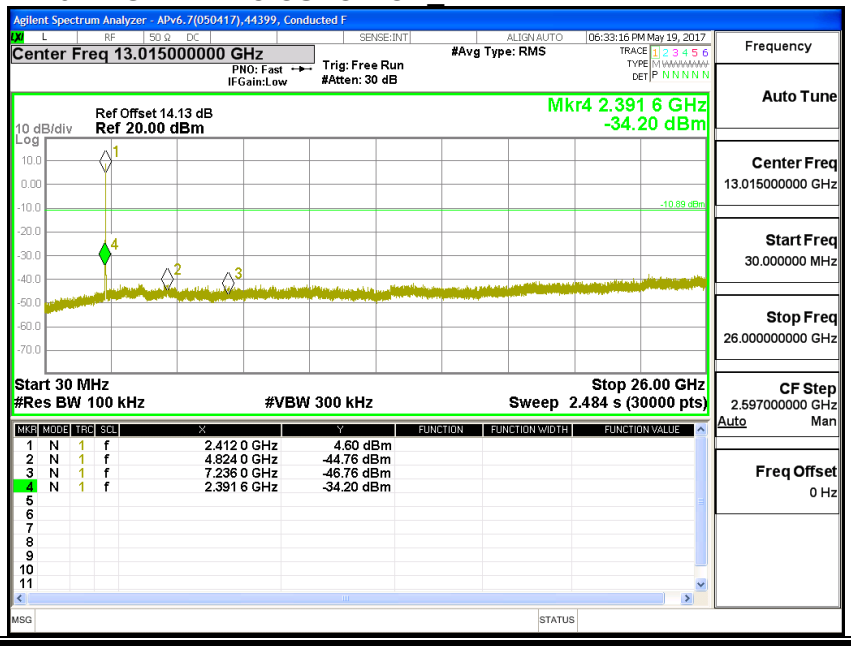
HT20 2.4GHz LAT 3 CBE CH_12



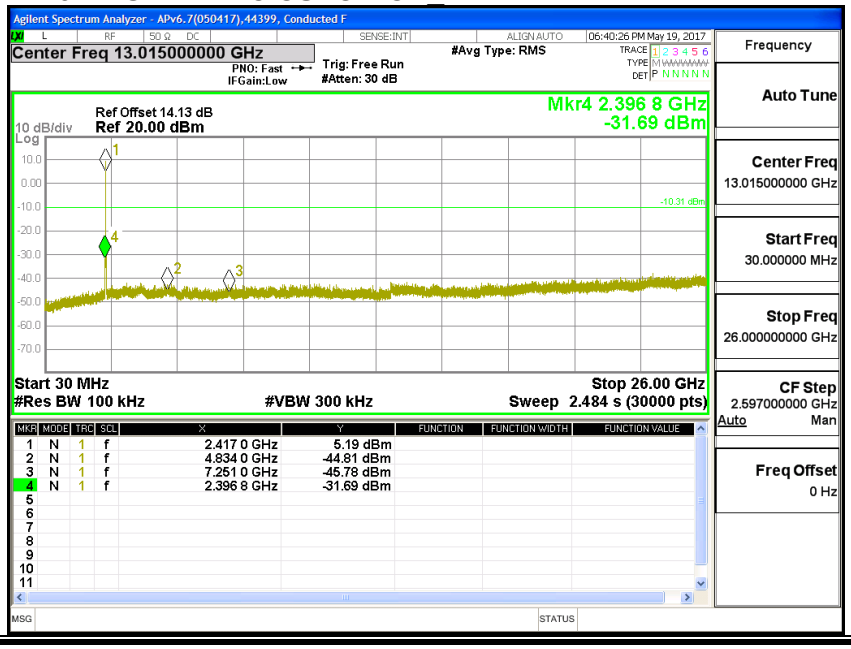
HT20 2.4GHz LAT 3 CBE CH_13



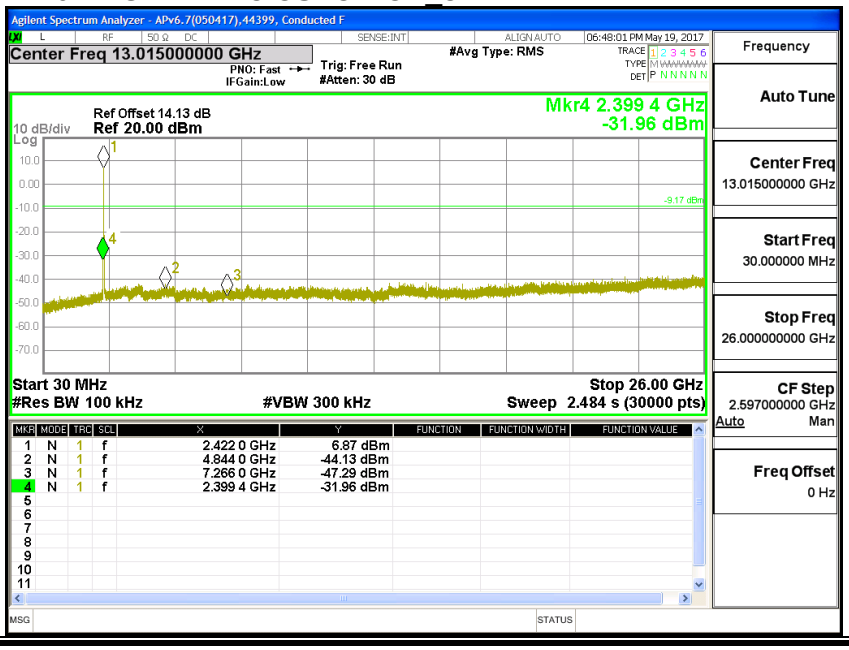
HT20 2.4GHz LAT 3 CSPUR CH_1



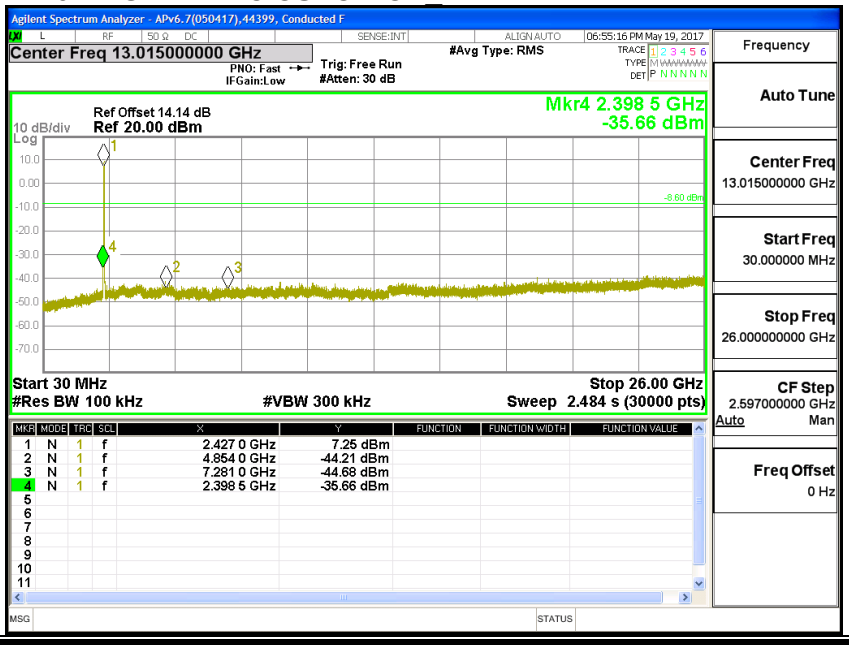
HT20 2.4GHz LAT 3 CSPUR CH_2



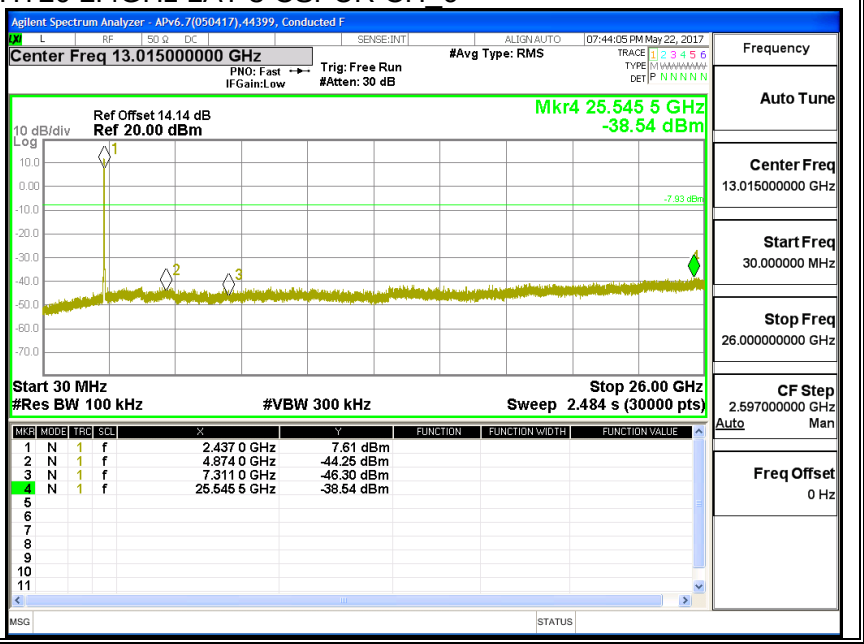
HT20 2.4GHz LAT 3 CSPUR CH_3



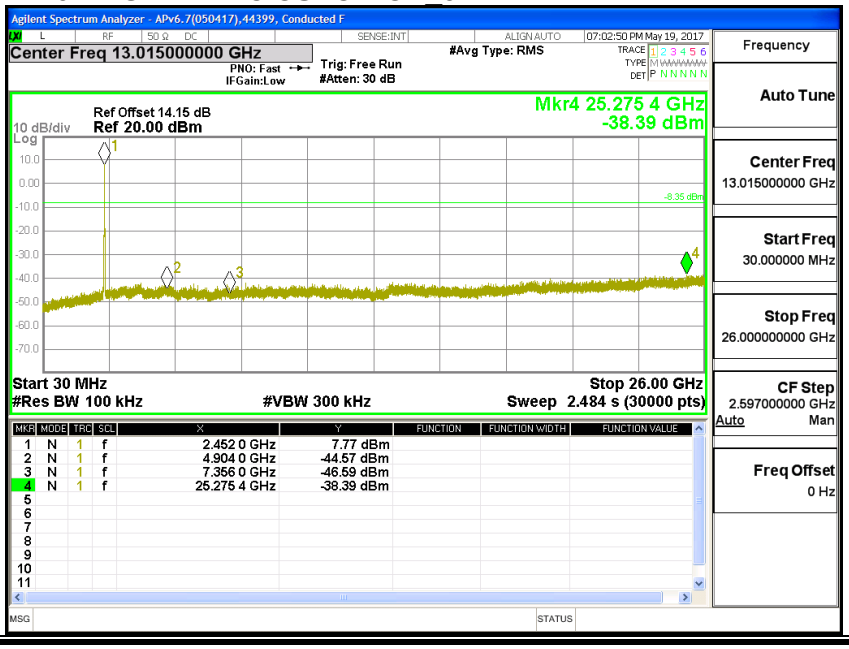
HT20 2.4GHz LAT 3 CSPUR CH_4



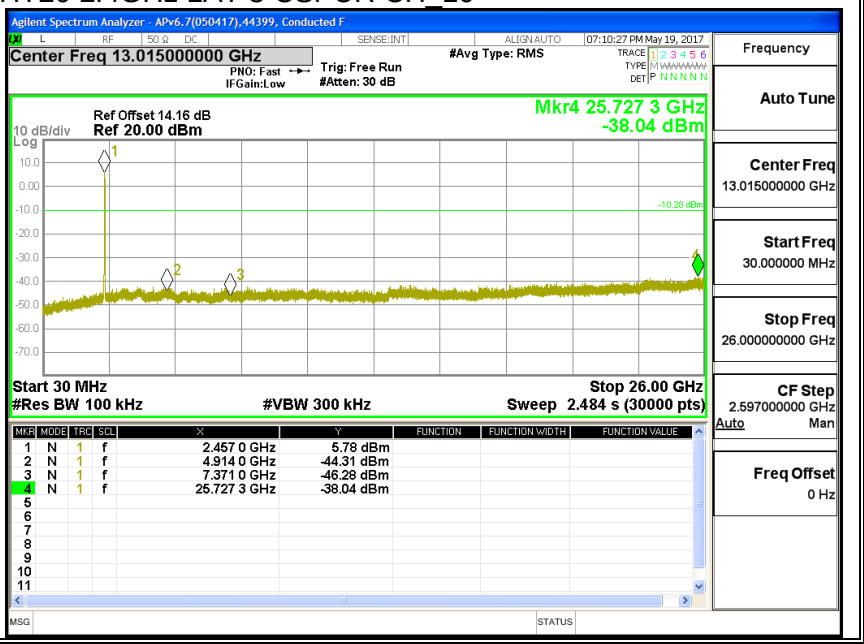
HT20 2.4GHz LAT 3 CSPUR CH_6



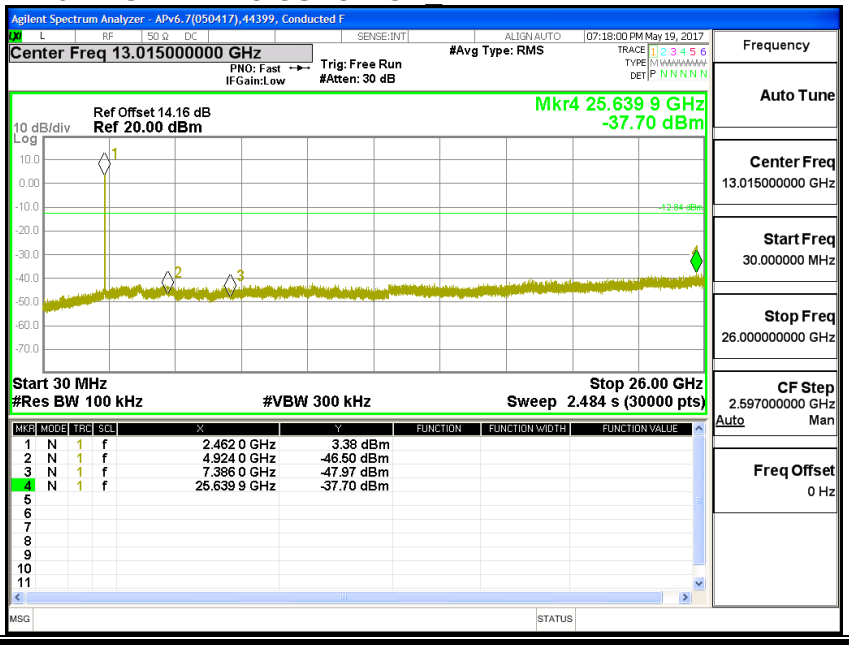
HT20 2.4GHz LAT 3 CSPUR CH_9



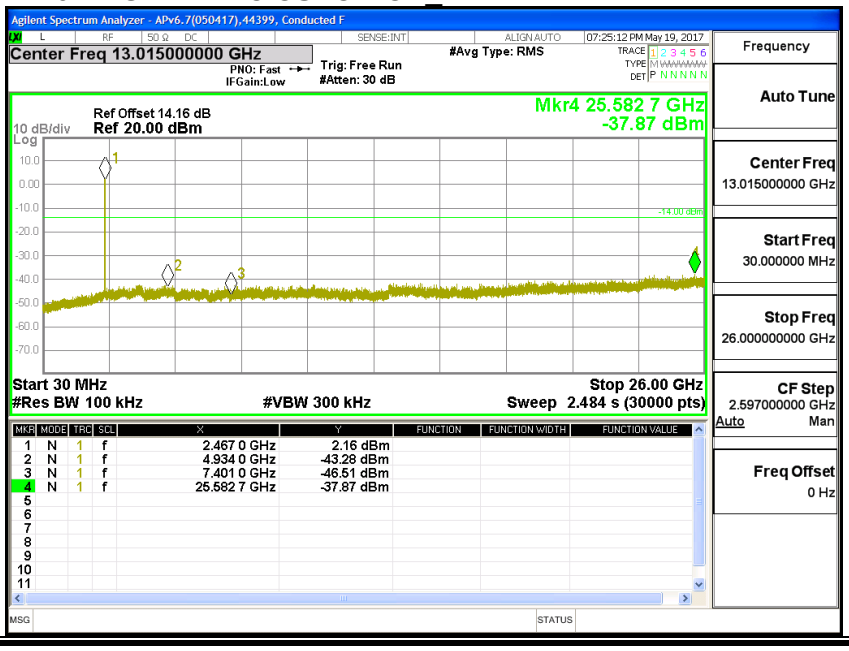
HT20 2.4GHz LAT 3 CSPUR CH_10



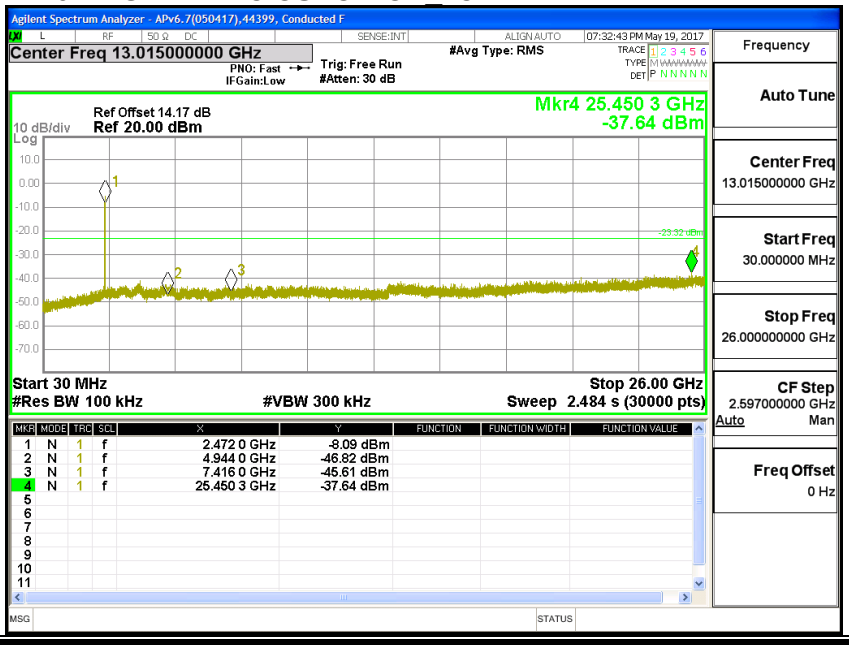
HT20 2.4GHz LAT 3 CSPUR CH_11



HT20 2.4GHz LAT 3 CSPUR CH_12



HT20 2.4GHz LAT 3 CSPUR CH_13



8.5. 11n HT20 2TX CDD MIMO MODE IN THE 2.4GHz BAND

8.5.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

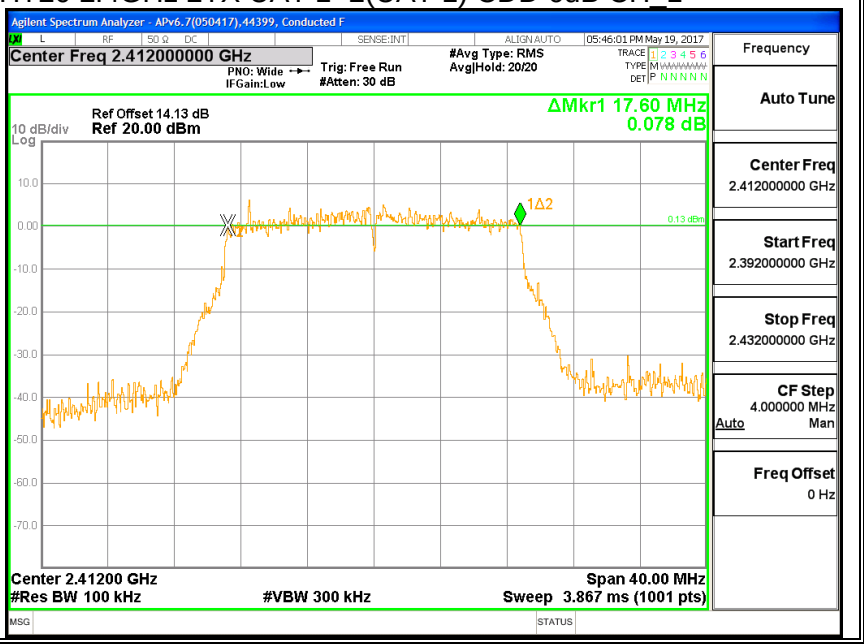
IC RSS-247 (5.2) (a)

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

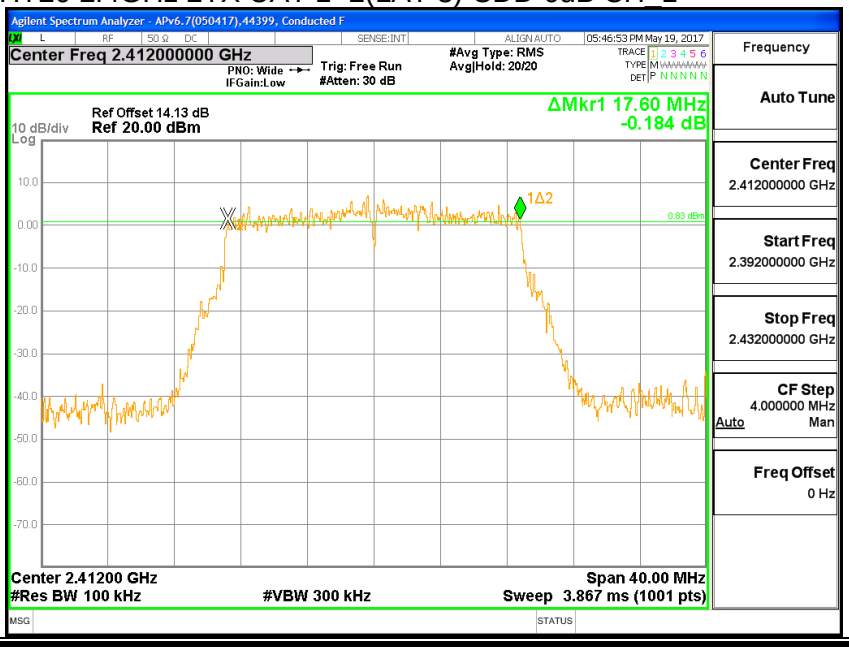
RESULTS

Channel	Frequency	6 dB BW UAT 1 (MHz)	6 dB BW LAT 3 (MHz)	Minimum Limit (MHz)
Low_1	2412	17.60	17.60	0.5
Low_2	2417	17.64	16.76	0.5
Low_3	2422	17.72	17.24	0.5
Low_4	2427	17.24	17.60	0.5
Middle_6	2437	17.64	16.96	0.5
High_9	2452	17.64	15.04	0.5
High_10	2457	17.68	17.60	0.5
High_11	2462	17.68	17.68	0.5
High_12	2467	17.56	17.72	0.5
High_13	2472	17.72	17.56	0.5

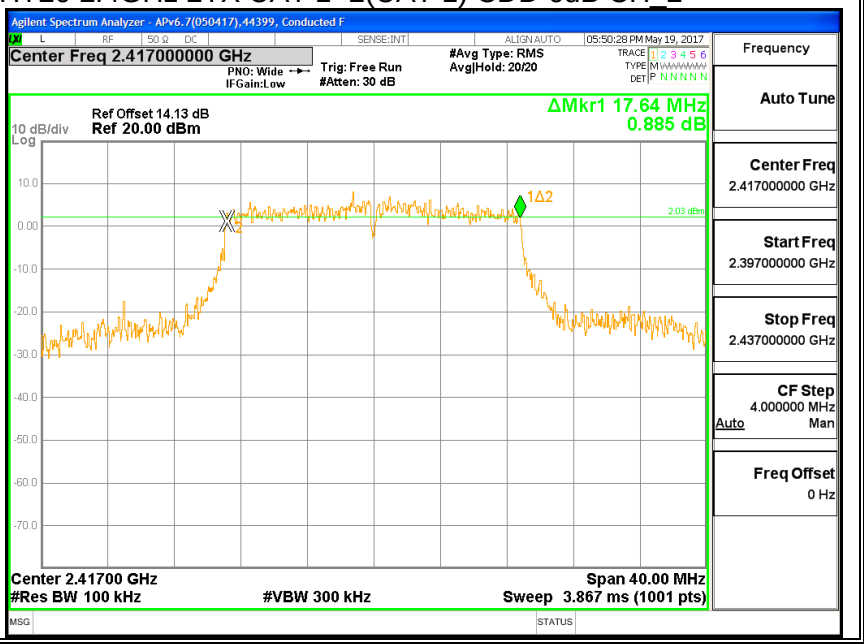
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD 6dB CH_1



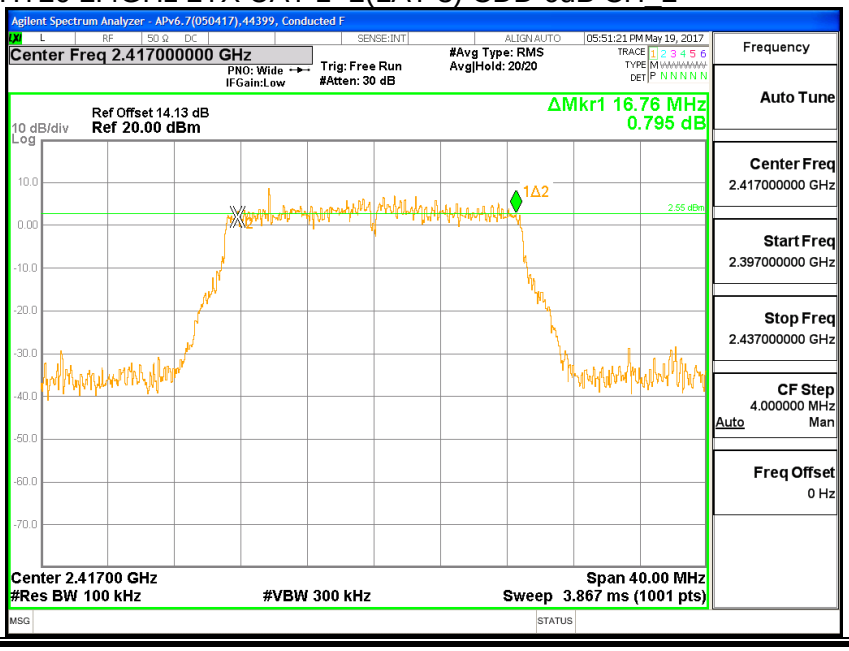
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD 6dB CH_1



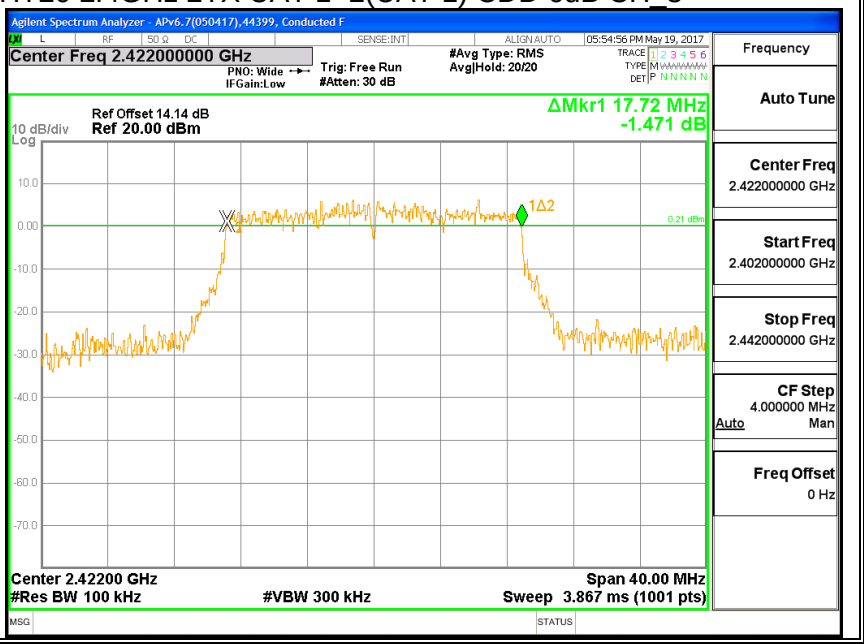
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD 6dB CH_2



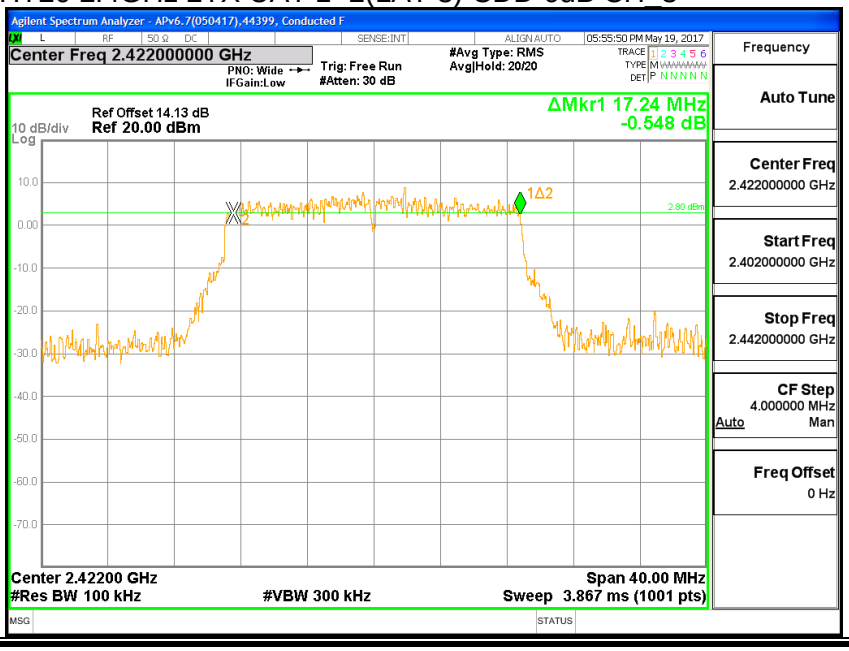
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD 6dB CH_2



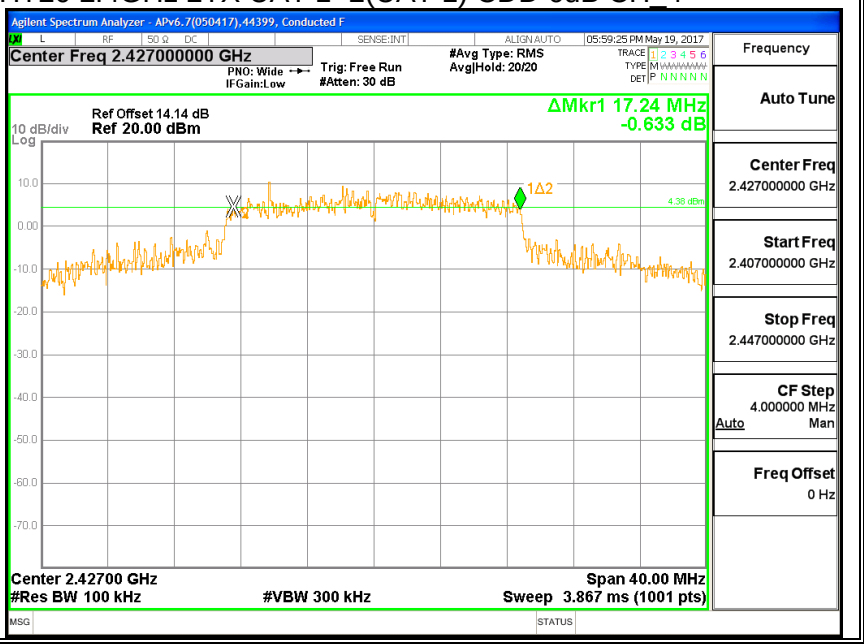
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD 6dB CH_3



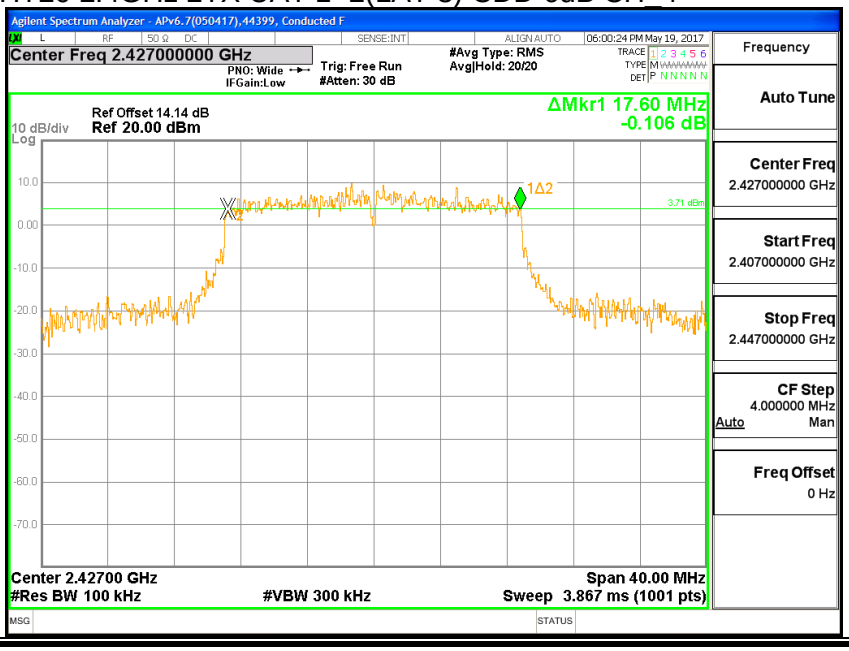
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD 6dB CH_3



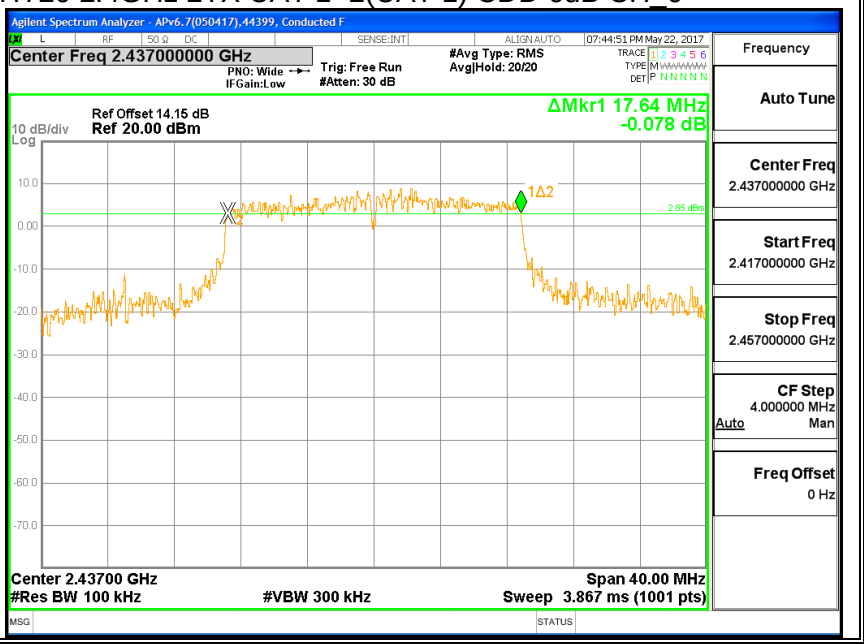
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD 6dB CH_4



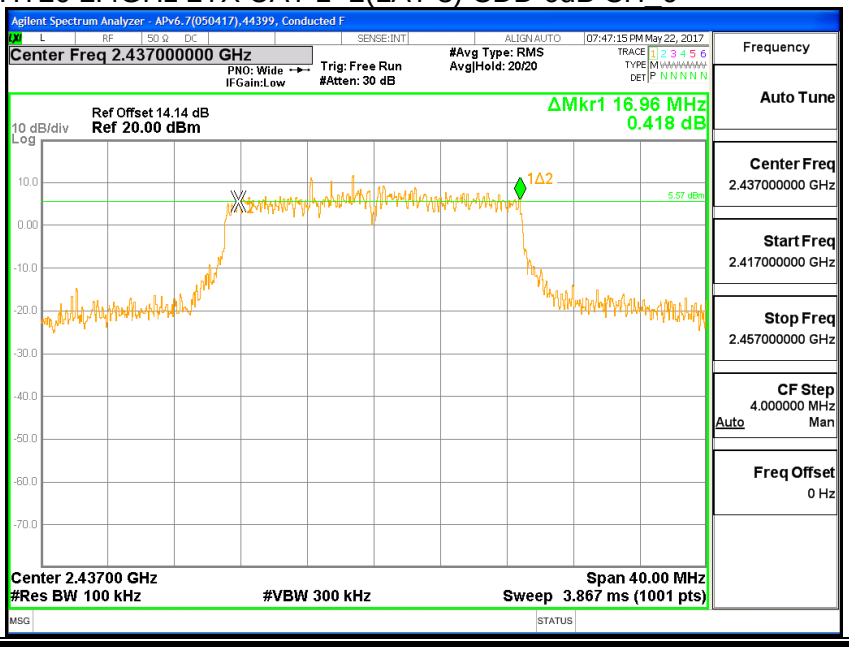
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD 6dB CH_4



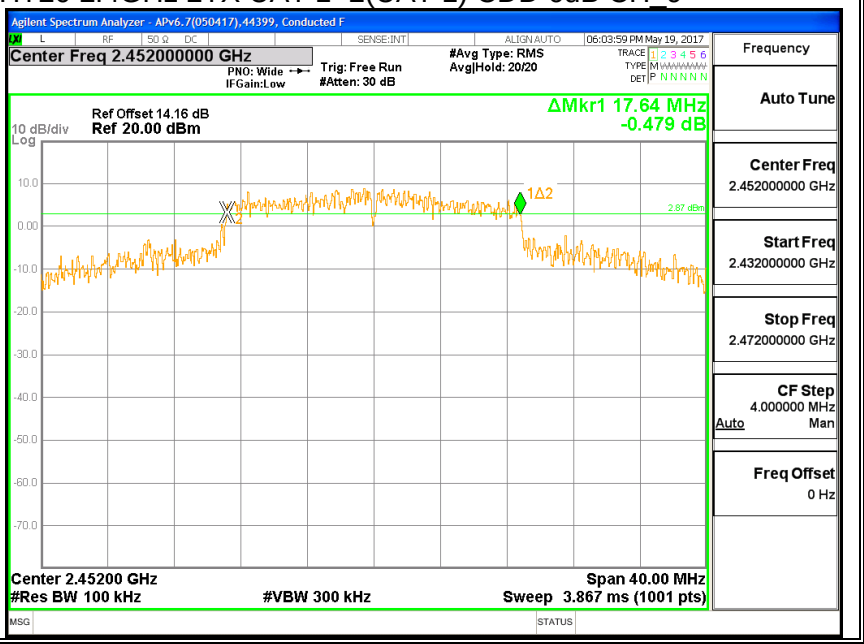
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD 6dB CH_6



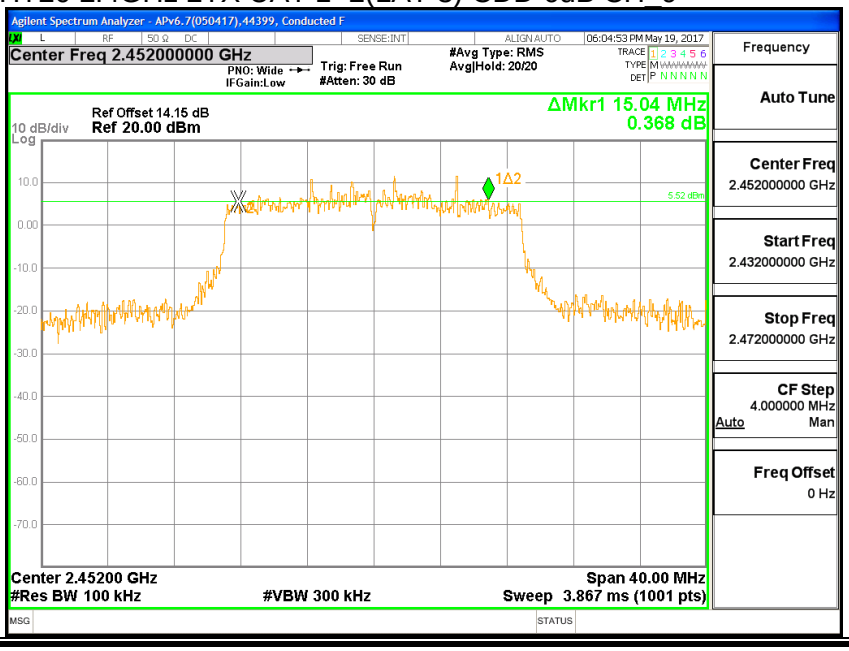
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD 6dB CH_6



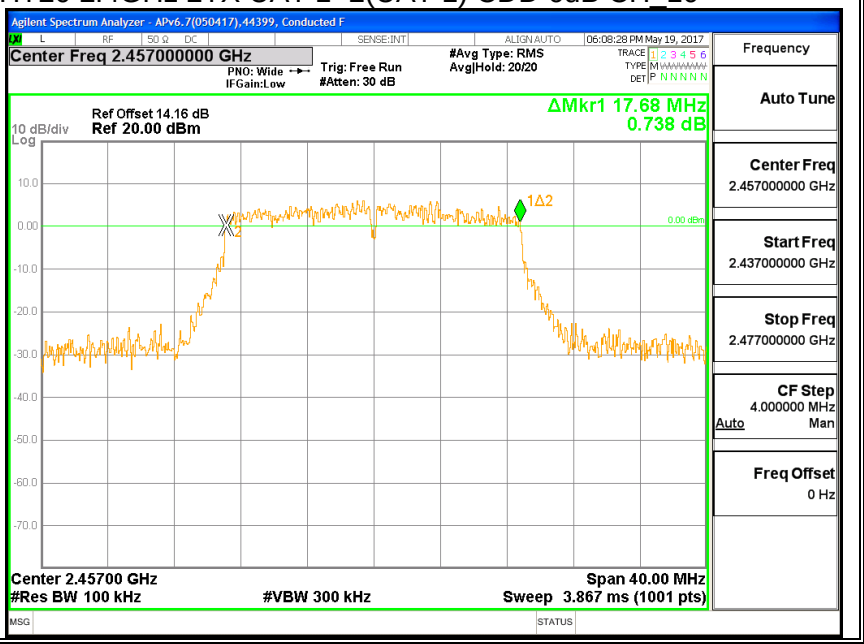
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD 6dB CH_9



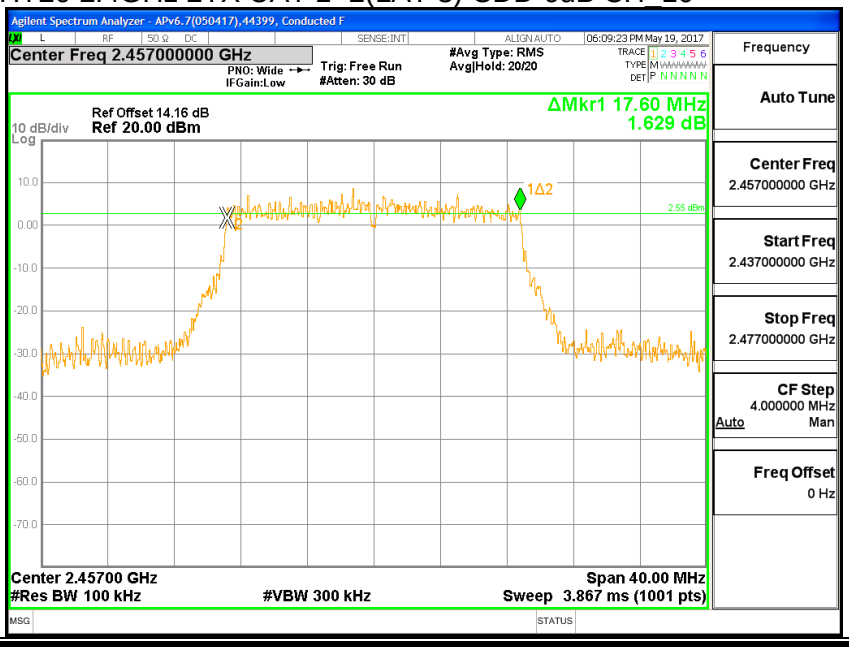
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD 6dB CH_9



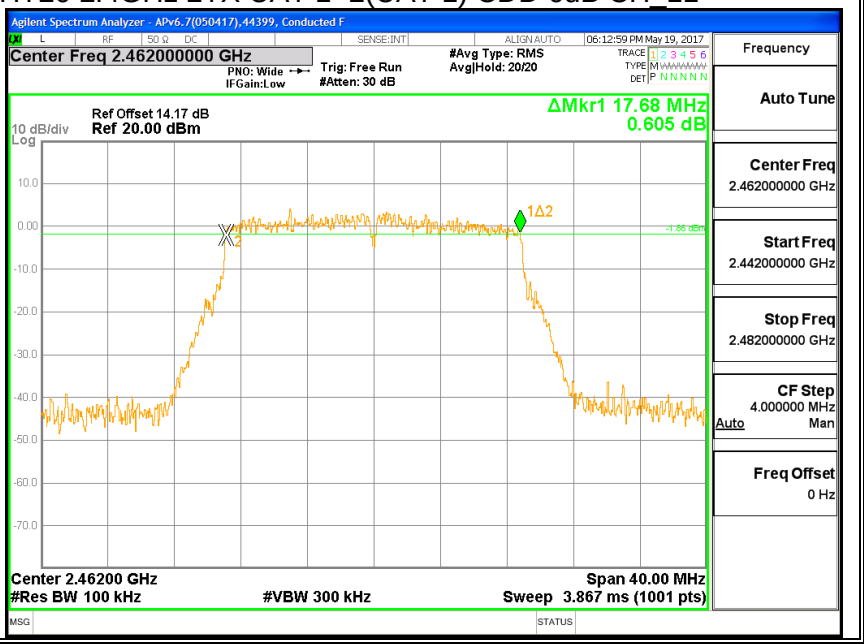
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD 6dB CH_10



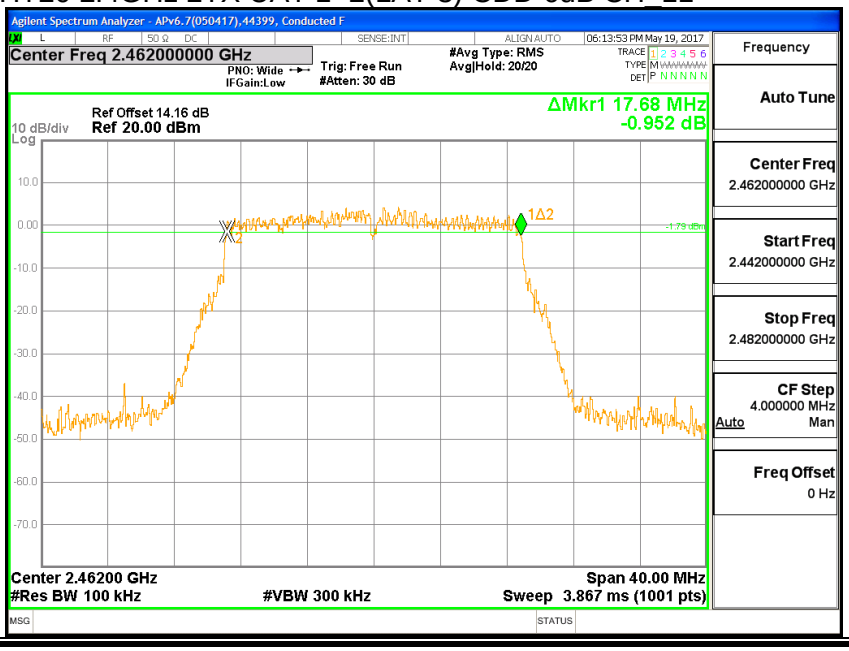
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD 6dB CH_10



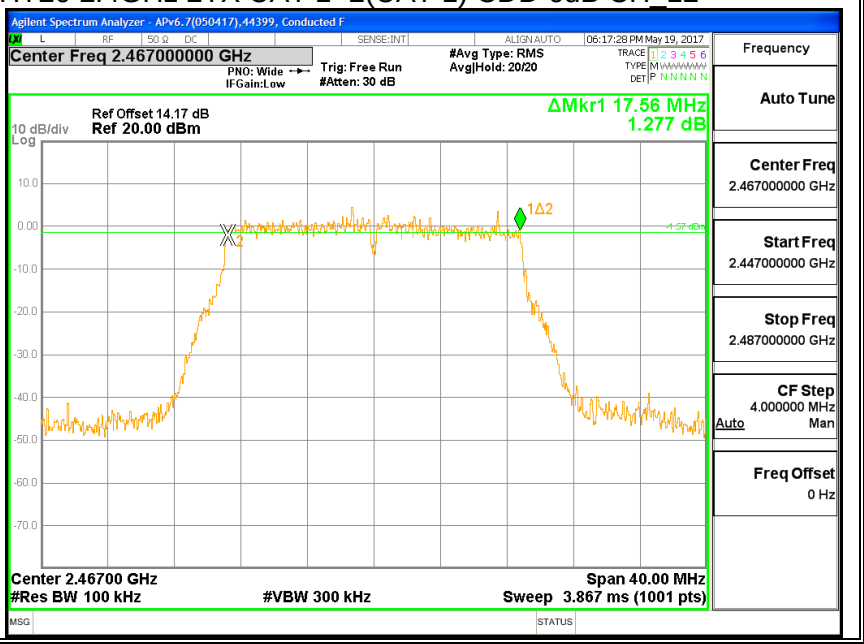
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD 6dB CH_11



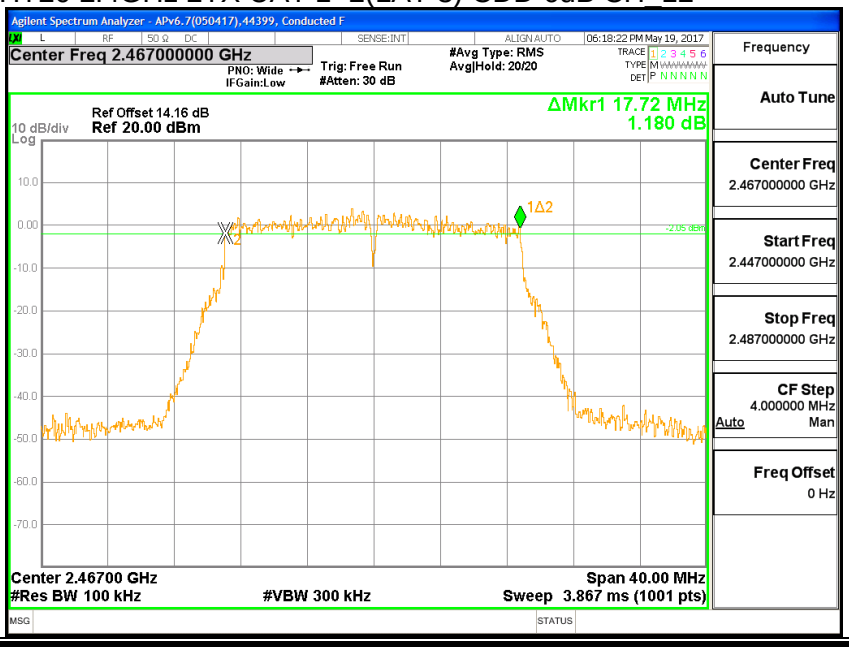
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD 6dB CH_11



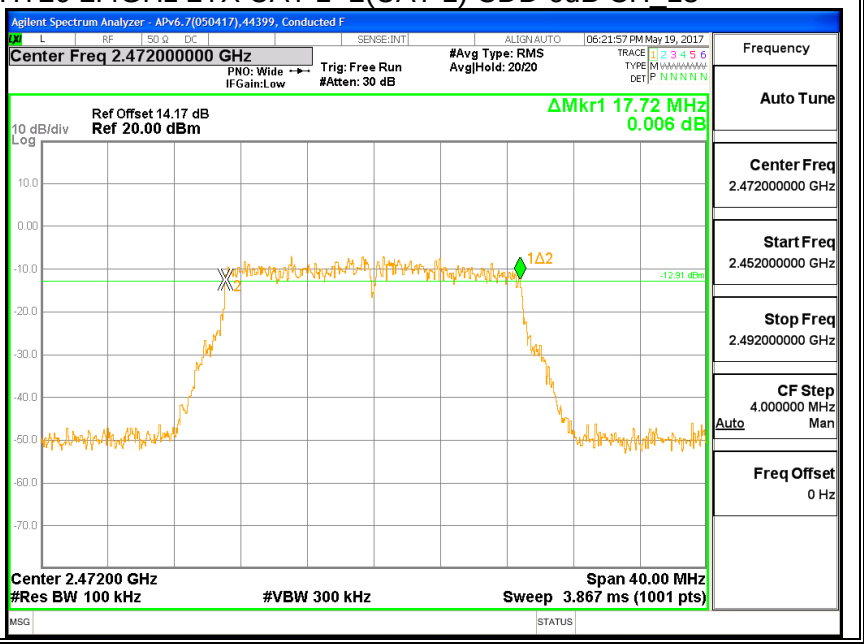
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD 6dB CH_12



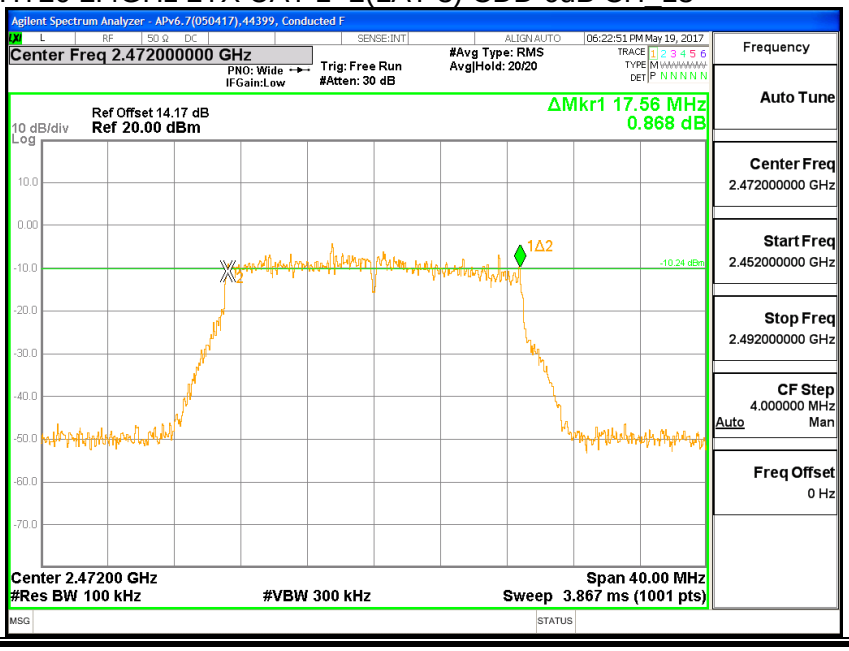
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD 6dB CH_12



HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD 6dB CH_13



HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD 6dB CH_13



8.5.2. 99% BANDWIDTH

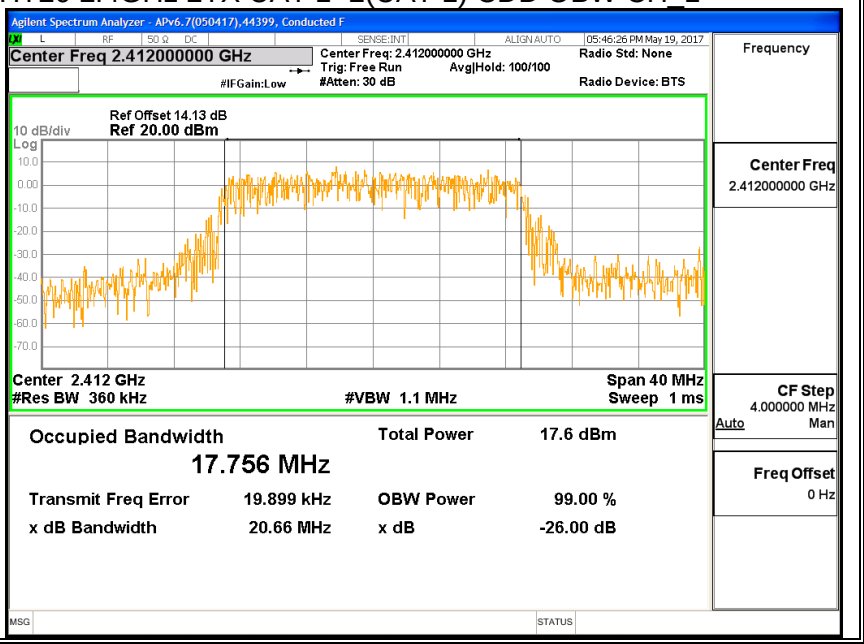
LIMITS

None; for reporting purposes only.

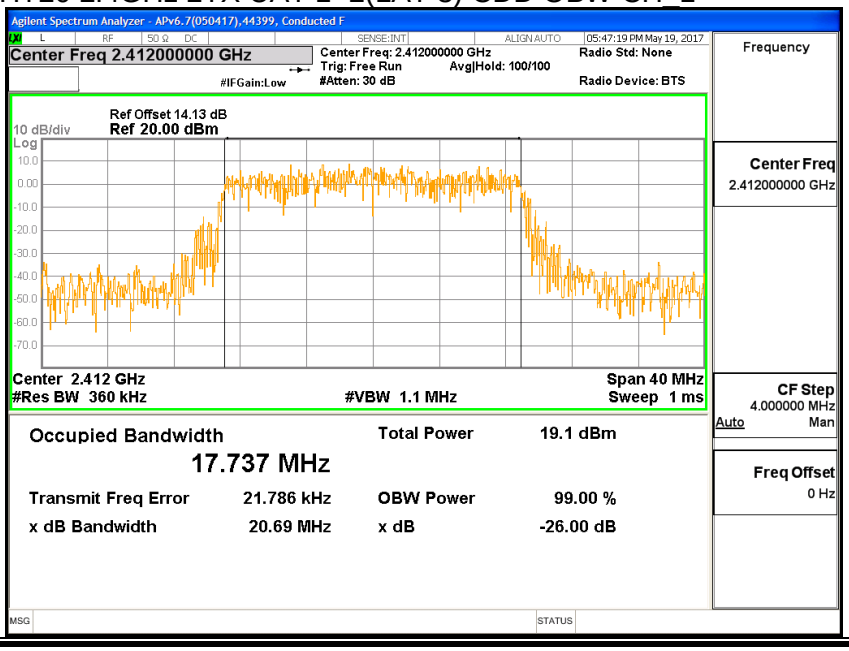
RESULTS

Channel	Frequency (MHz)	99% Bandwidth UAT 1 (MHz)	99% Bandwidth LAT 3 (MHz)
Low_1	2412	17.756	17.737
Low_2	2417	17.811	17.082
Low_3	2422	17.857	17.718
Low_4	2427	17.691	17.759
Middle_6	2437	17.994	17.955
High_9	2452	17.758	17.973
High_10	2457	17.773	17.699
High_11	2462	17.750	17.799
High_12	2467	17.783	17.725
High_13	2472	17.758	17.822

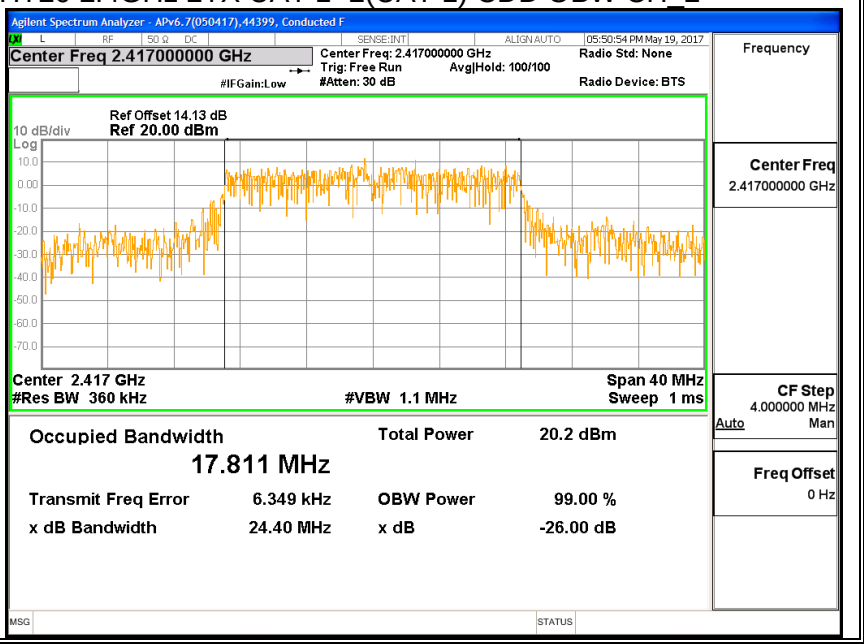
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD OBW CH_1



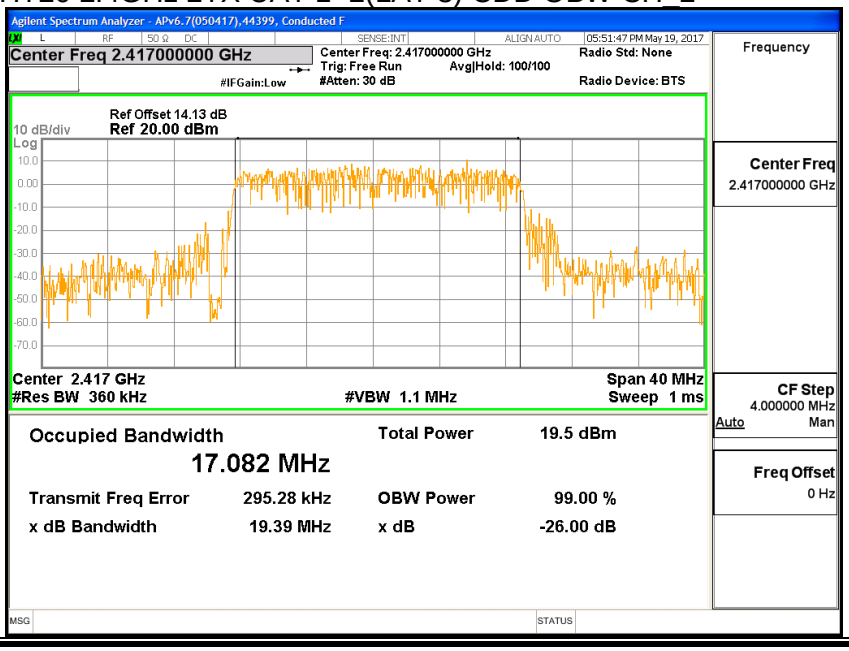
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD OBW CH_1



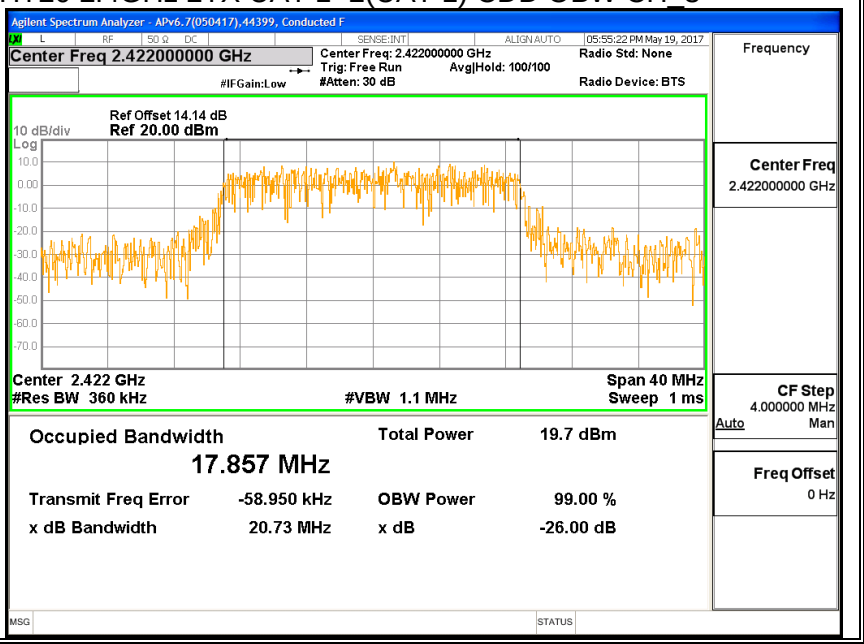
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD OBW CH_2



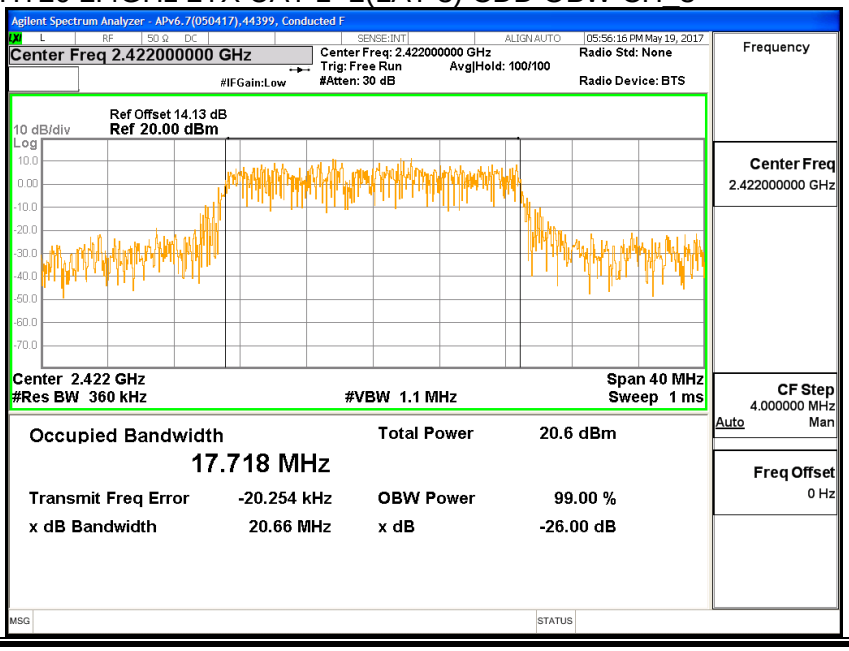
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD OBW CH_2



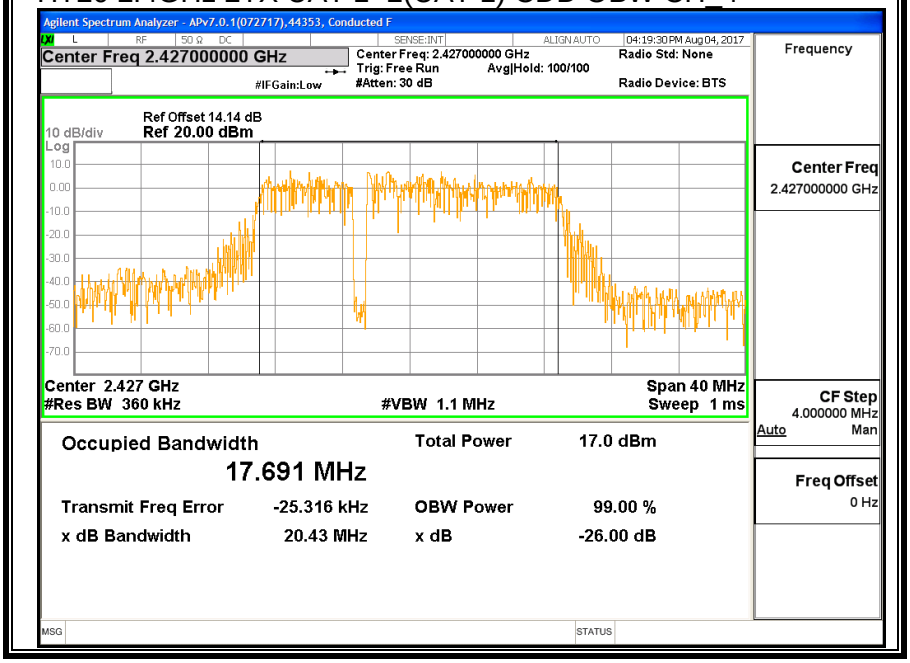
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD OBW CH_3



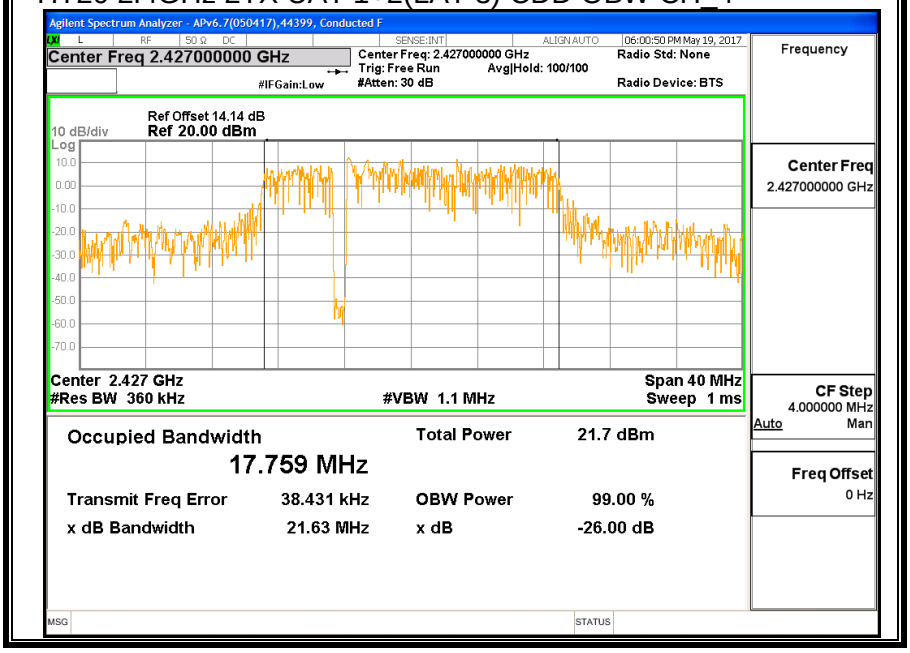
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD OBW CH_3



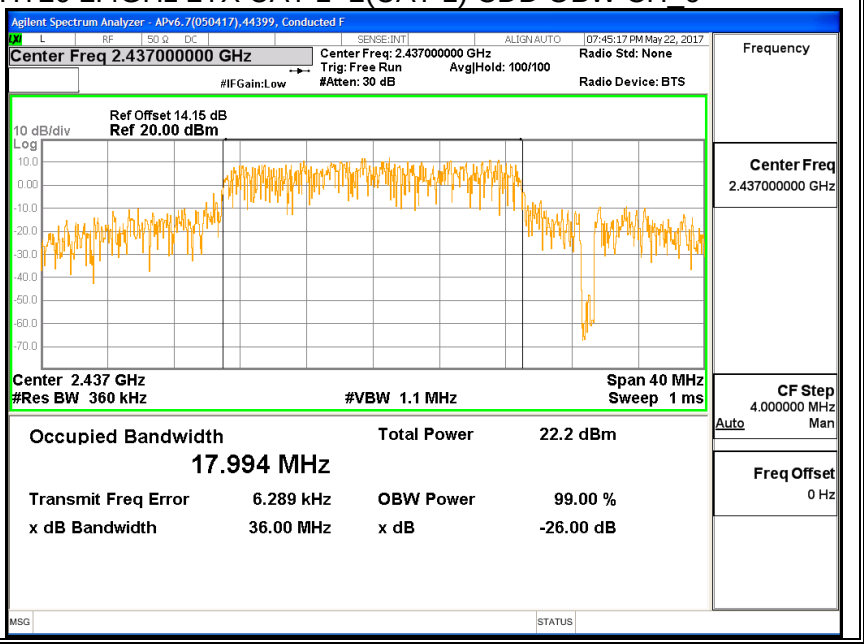
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD OBW CH_4



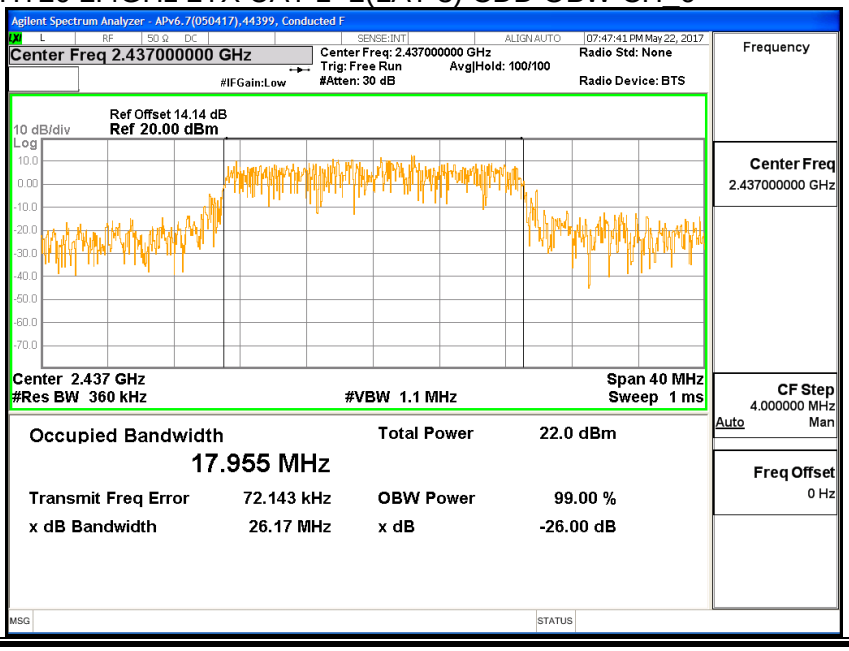
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD OBW CH_4



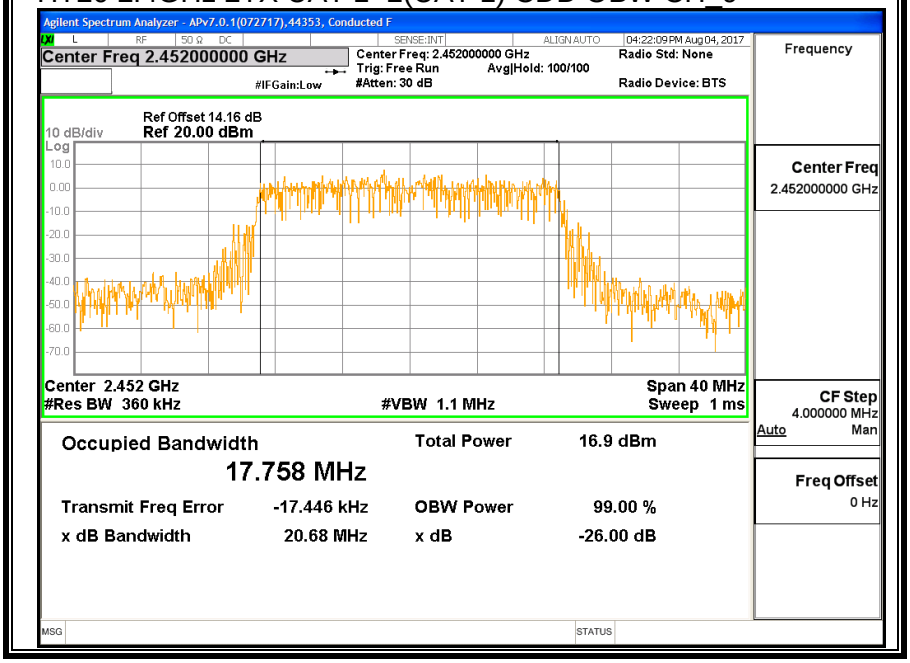
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD OBW CH_6



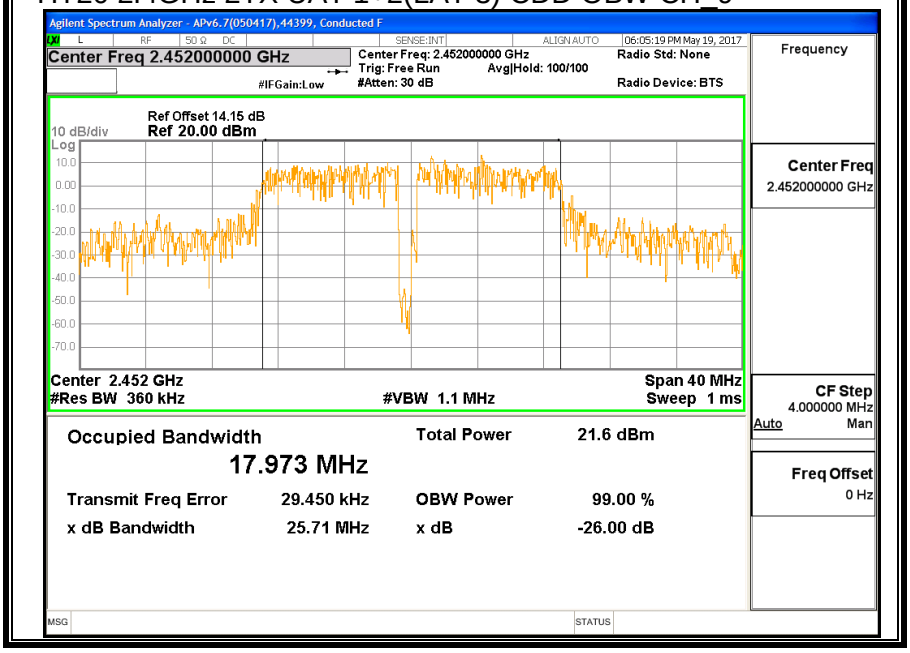
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD OBW CH_6



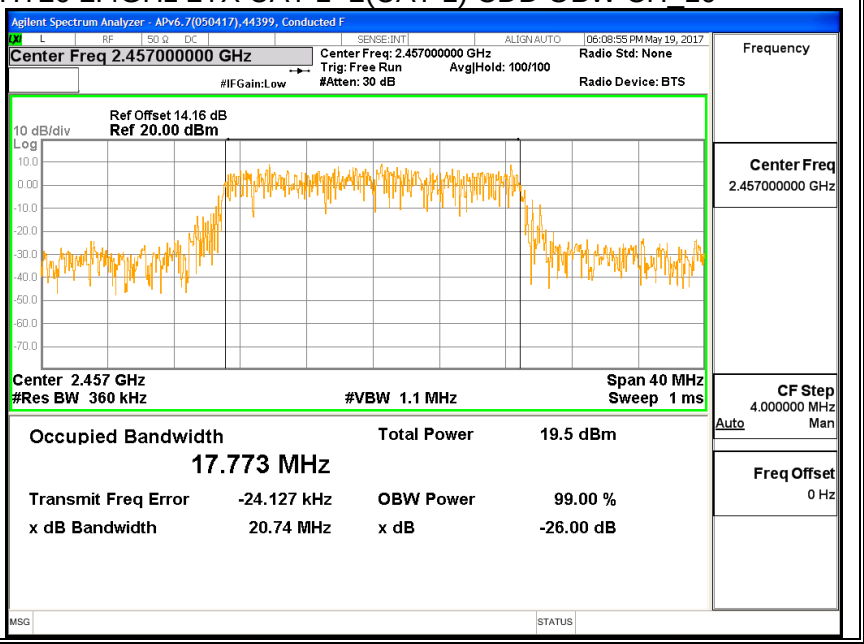
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD OBW CH_9



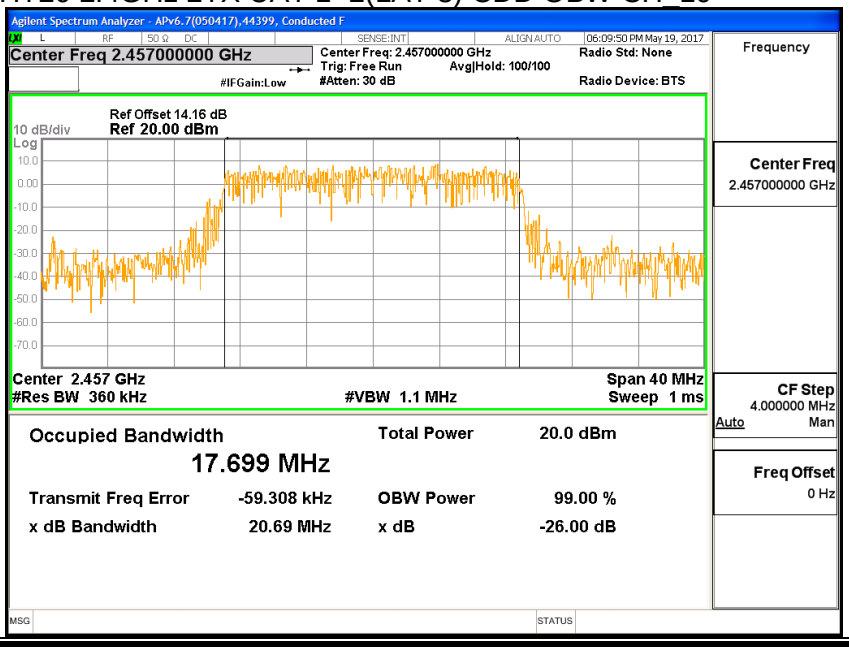
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD OBW CH_9



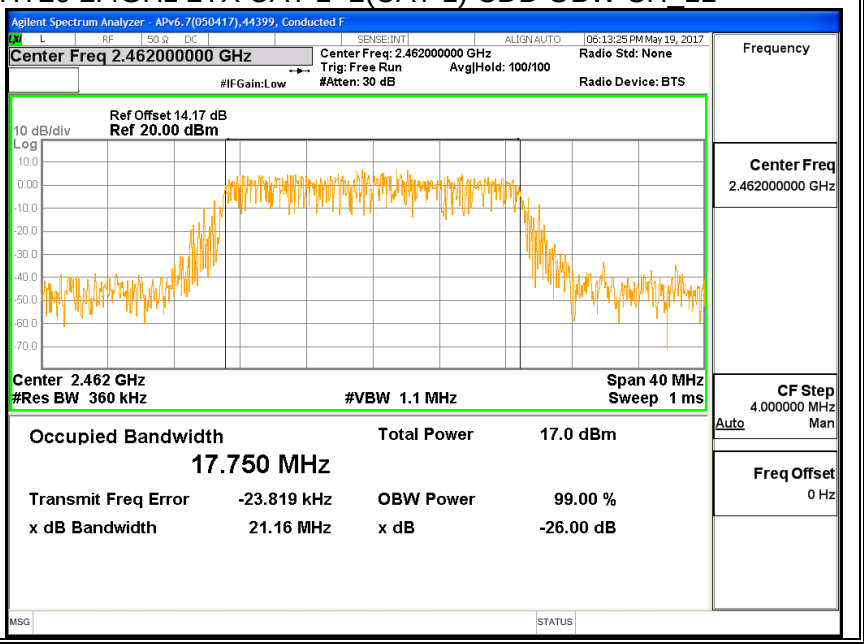
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD OBW CH_10



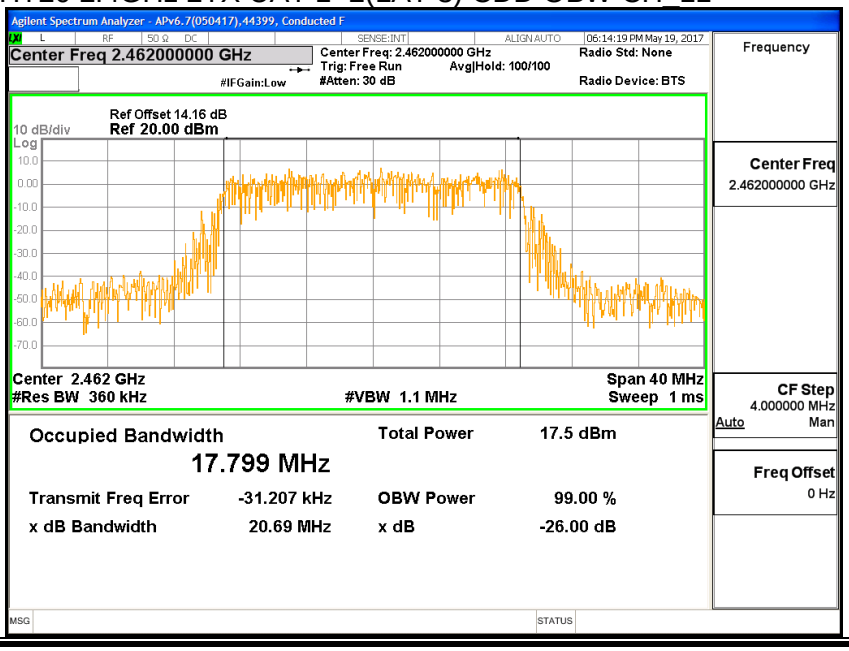
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD OBW CH_10



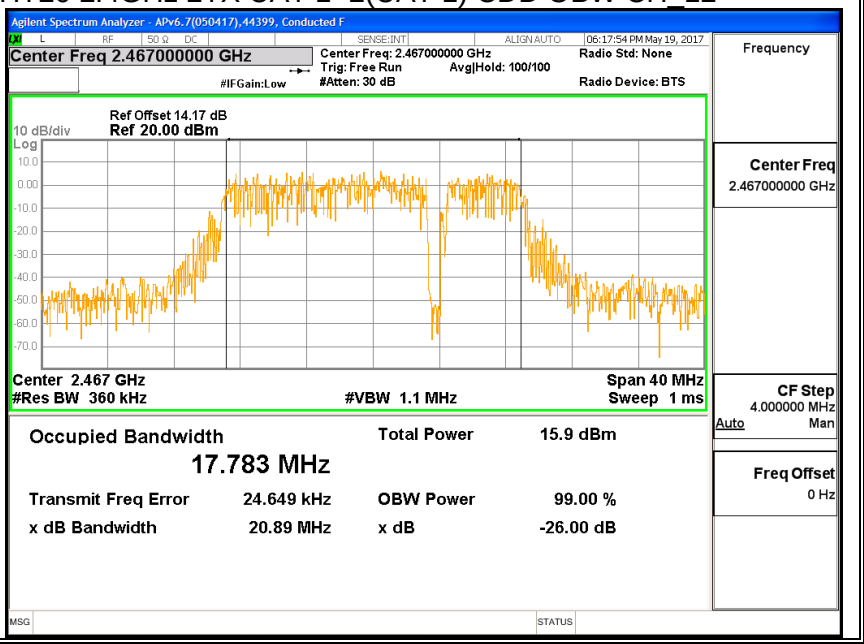
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD OBW CH_11



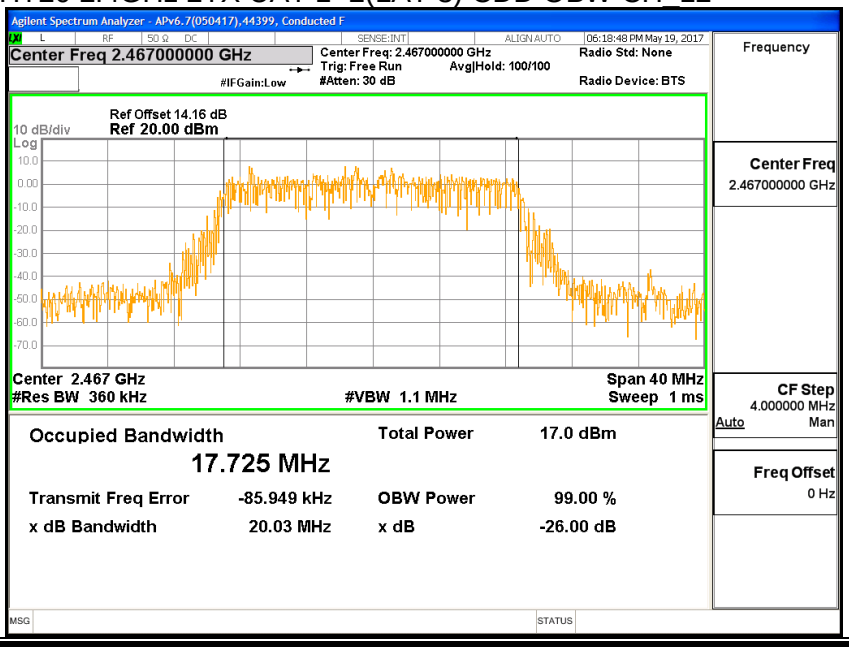
HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD OBW CH_11



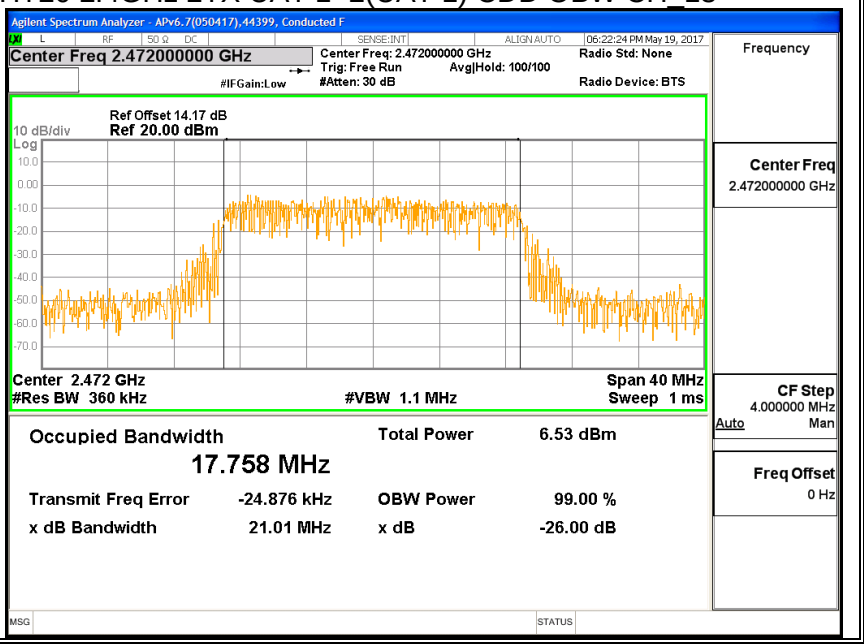
HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD OBW CH_12



HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD OBW CH_12



HT20 2.4GHz 2TX UAT 1+2(UAT 1) CDD OBW CH_13



HT20 2.4GHz 2TX UAT 1+2(LAT 3) CDD OBW CH_13