

## 8.5. 11n HT20 LAT 3 SISO MODE IN THE 2.4GHz BAND

### 8.5.1. 6 dB BANDWIDTH

#### LIMITS

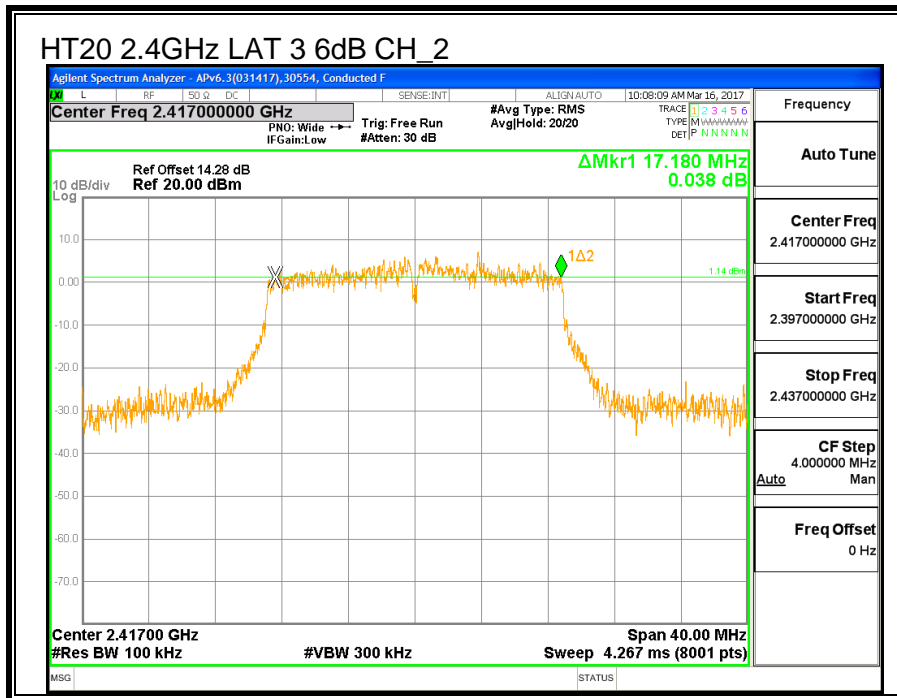
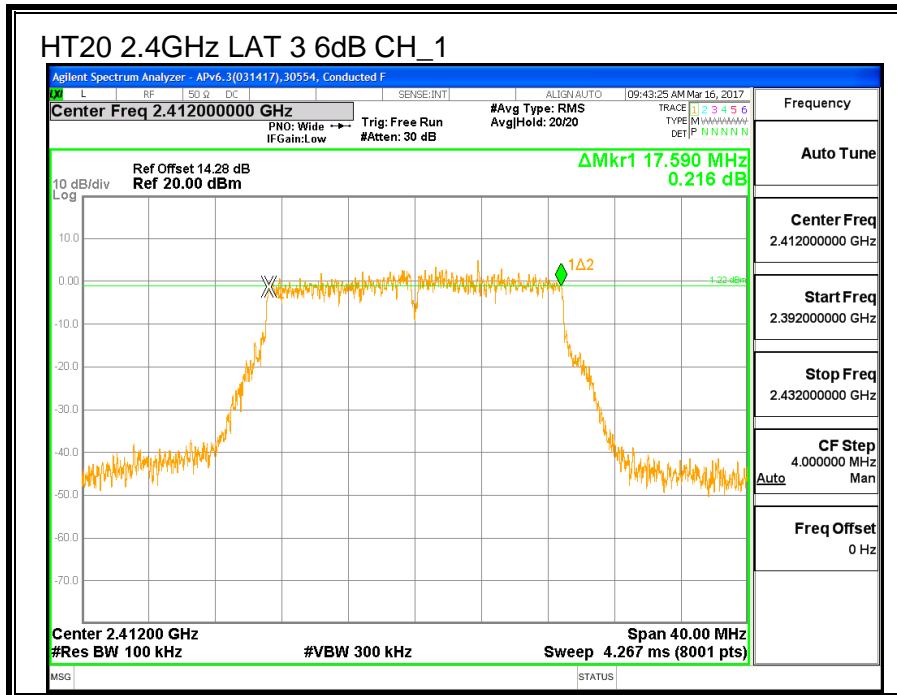
FCC §15.247 (a) (2)

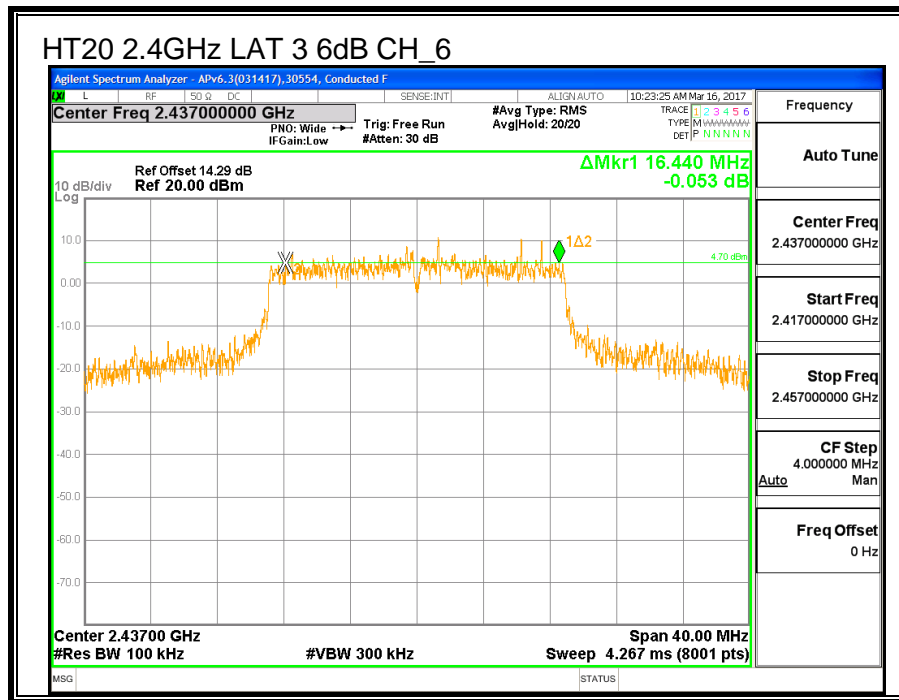
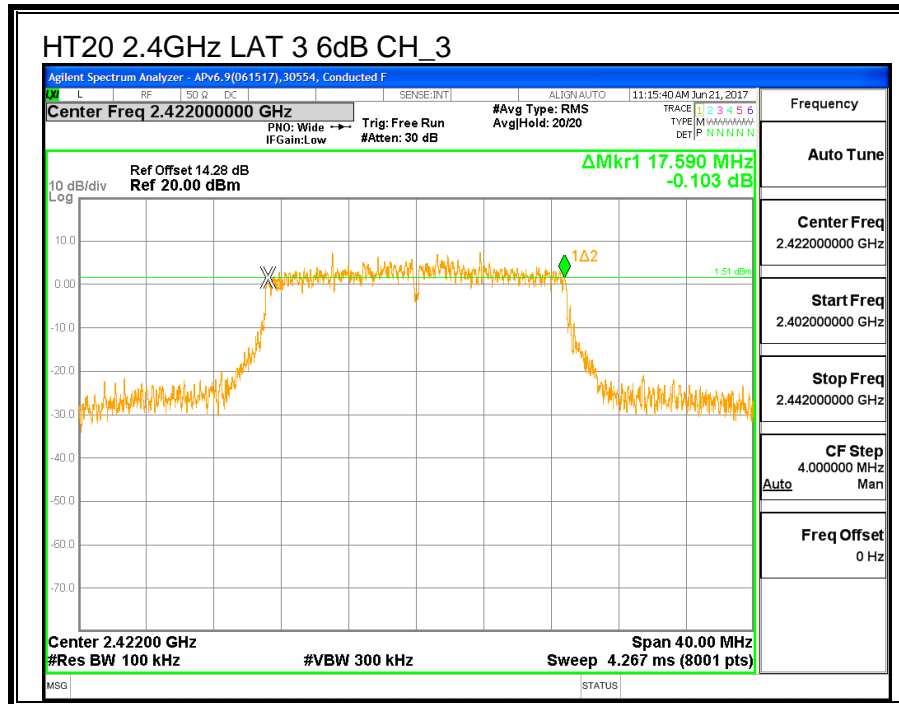
IC RSS-247 (5.2) (a)

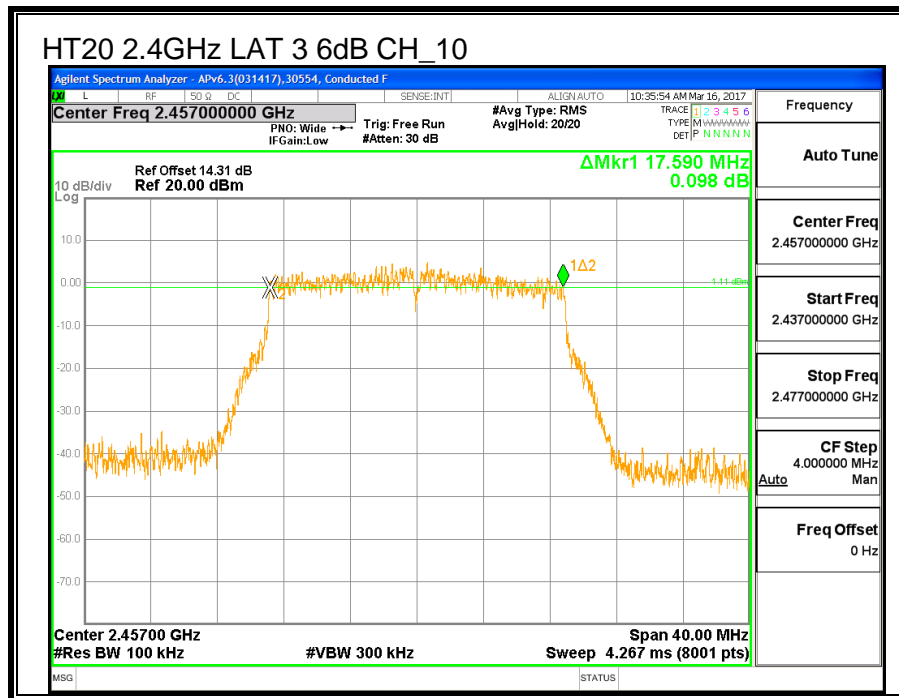
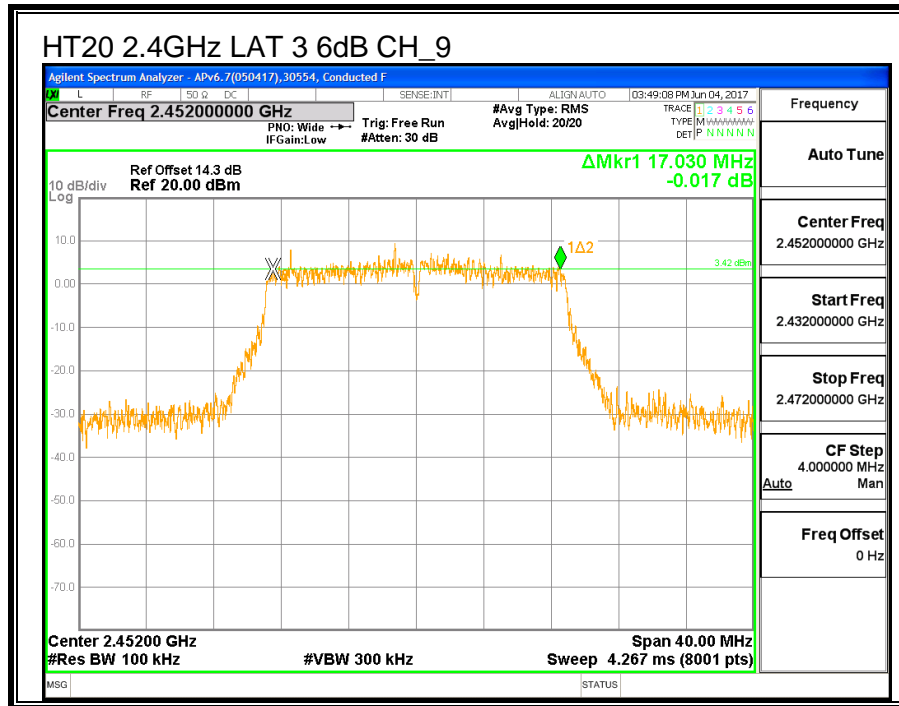
The minimum 6 dB bandwidth shall be at least 500 kHz.

#### RESULTS

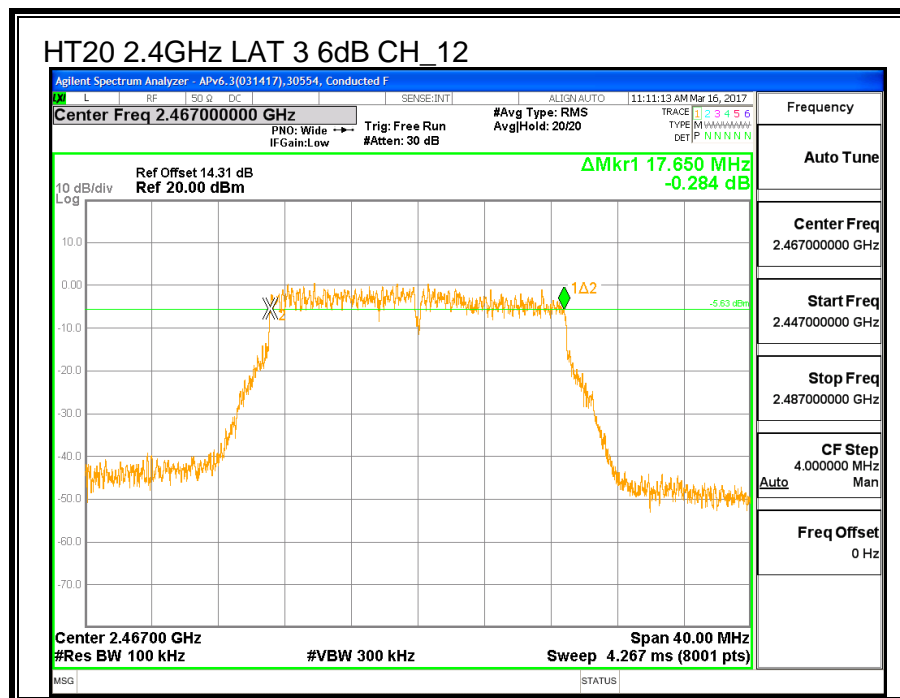
Channel	Frequency	6 dB BW LAT 3 (MHz)	Minimum Limit (MHz)
Low_1	2412	17.590	0.5
Low_2	2417	17.180	0.5
Low_3	2422	17.590	0.5
Middle_6	2437	16.440	0.5
High_9	2452	17.030	0.5
High_10	2457	17.590	0.5
High_11	2462	17.325	0.5
High_12	2467	17.650	0.5
High_13	2472	16.945	0.5

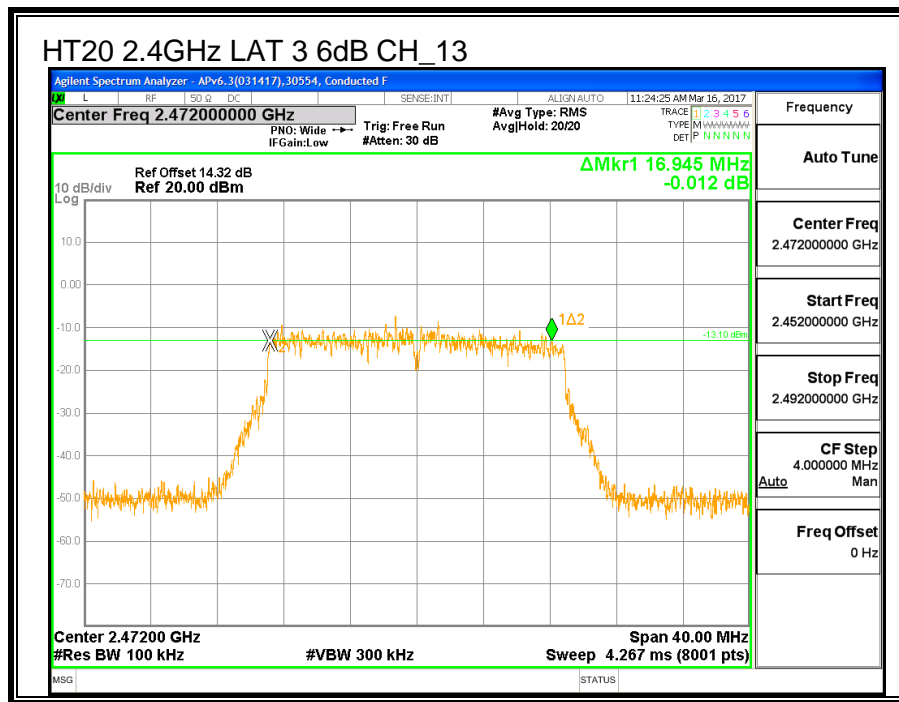












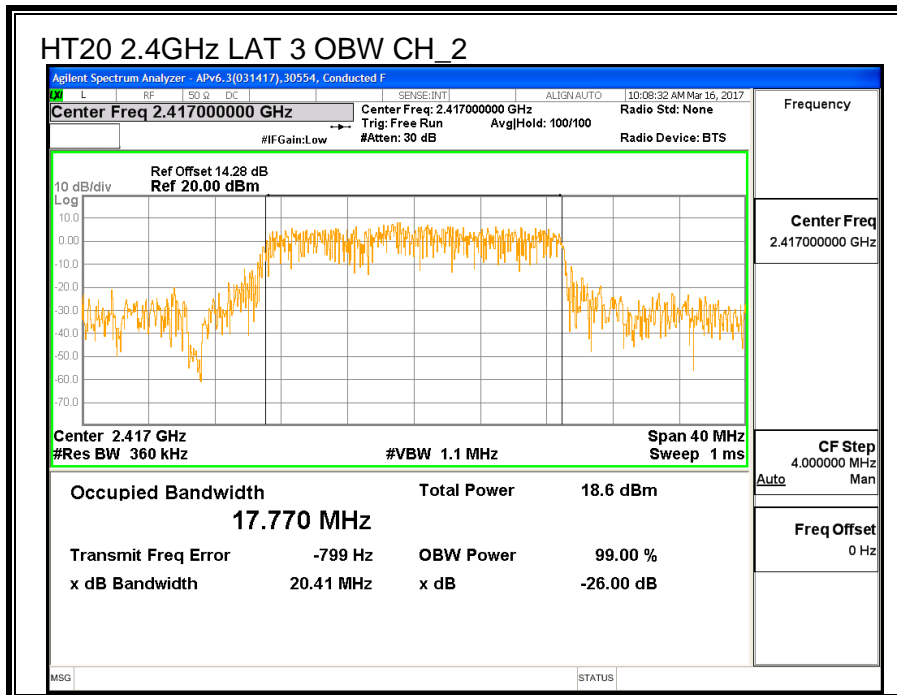
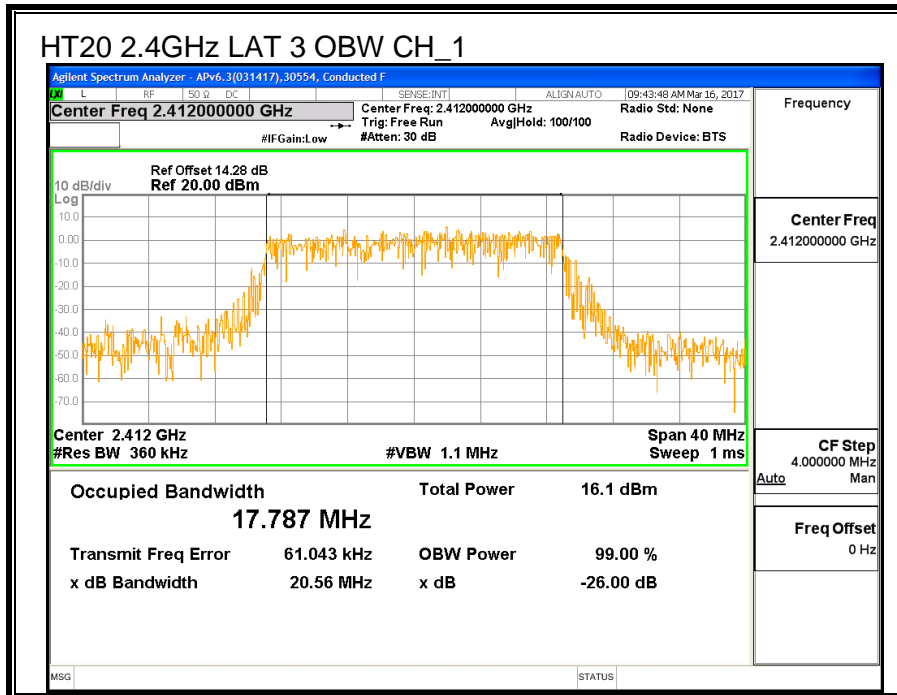
## 8.5.2. 99% BANDWIDTH

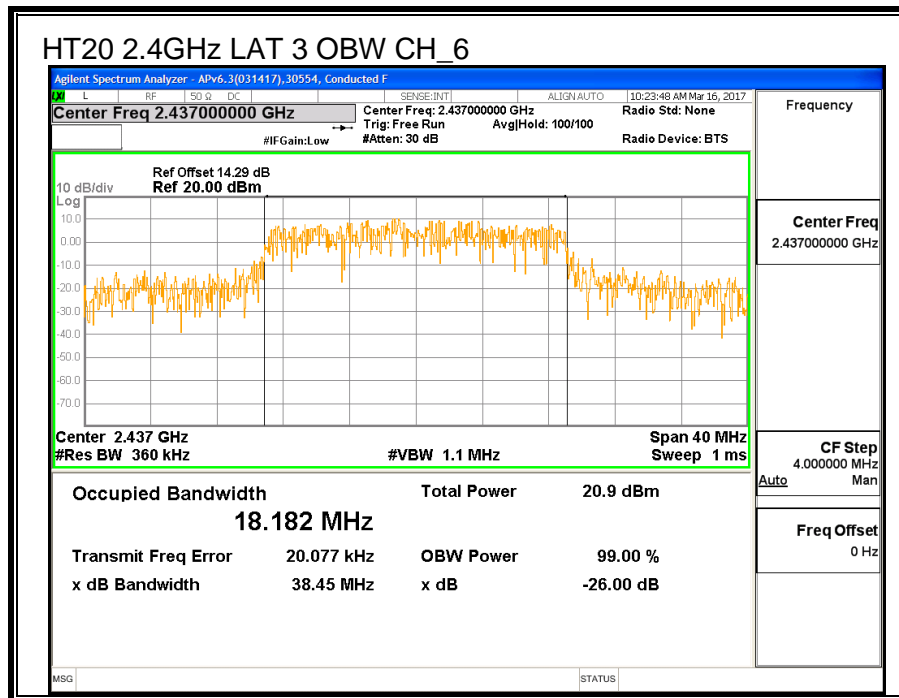
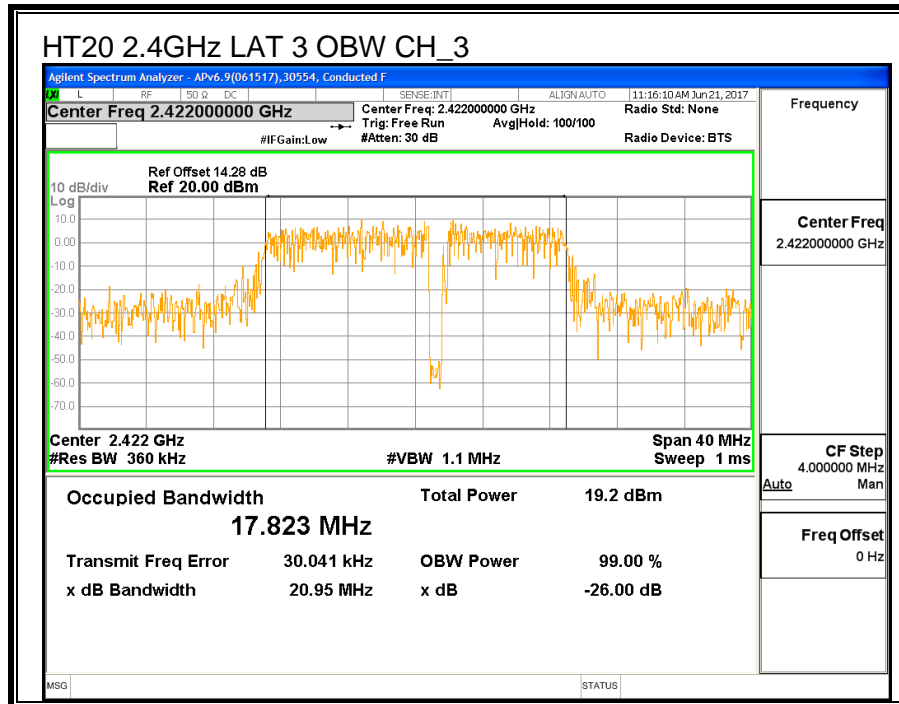
### LIMITS

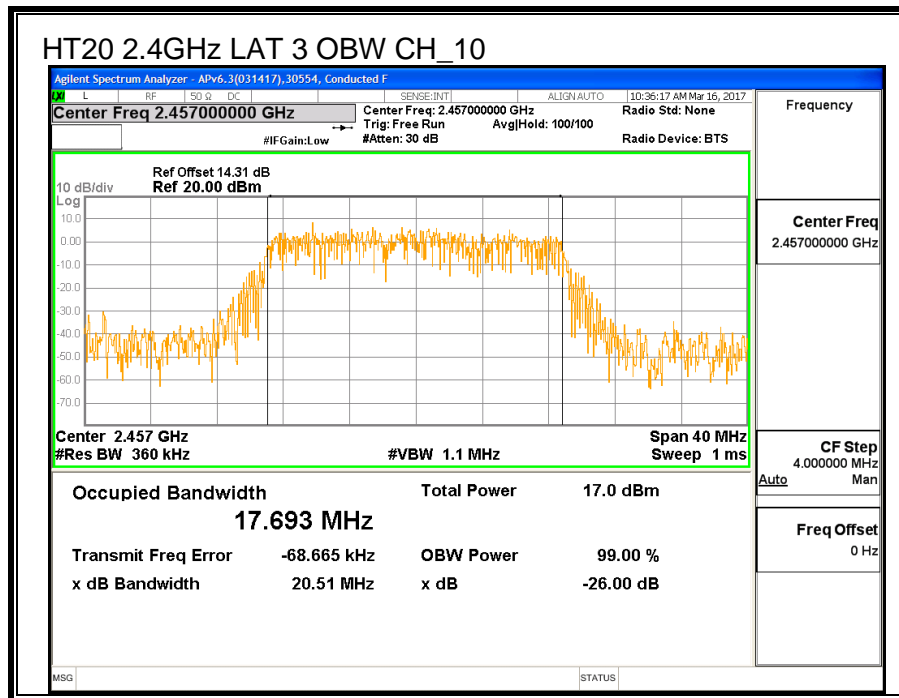
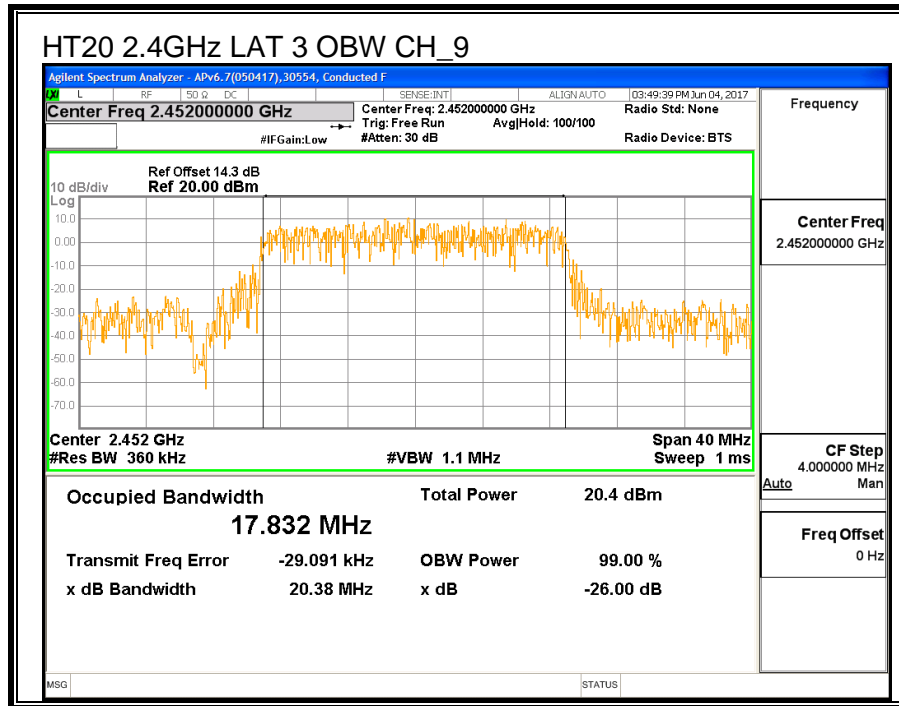
None; for reporting purposes only.

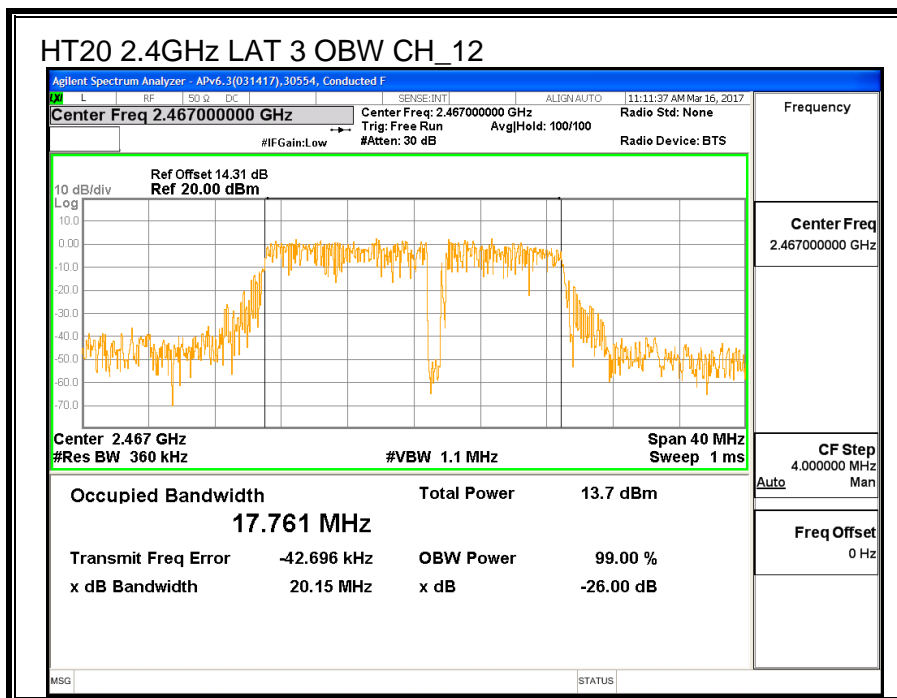
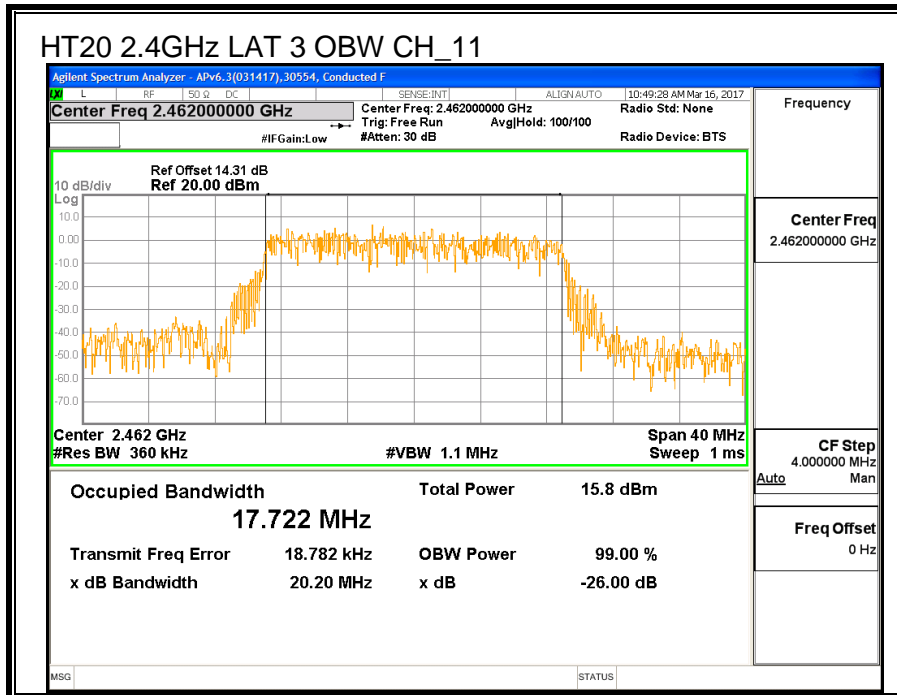
### RESULTS

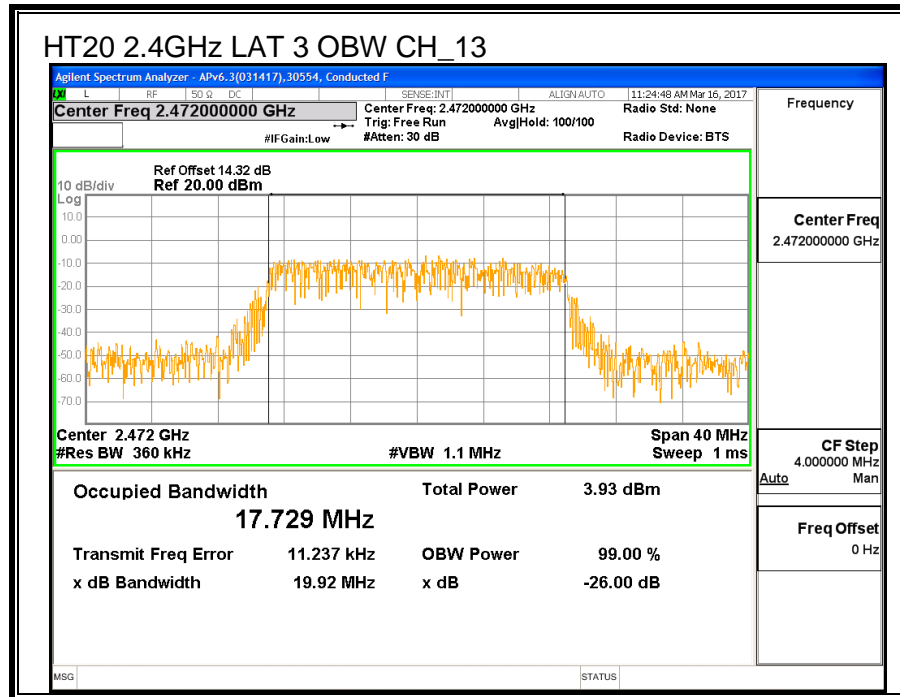
Channel	Frequency (MHz)	99% Bandwidth LAT 3 (MHz)
Low_1	2412	17.787
Low_2	2417	17.770
Low_3	2422	17.823
Middle_6	2437	18.182
High_9	2452	17.832
High_10	2457	17.693
High_11	2462	17.722
High_12	2467	17.761
High_13	2472	17.729













### 8.5.3. AVERAGE POWER

<b>ID:</b>	29446	<b>Date:</b>	6/9/2017
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#### LIMITS

None; for reporting purposes only.

#### RESULTS

Channel	Frequency (MHz)	Power LAT 3 (MHz)
Low_1	2412	15.82
Low_2	2417	18.37
Low_3	2422	19.83
Middle_6	2437	20.87
High_9	2452	19.84
High_10	2457	17.34
High_11	2462	15.82
High_12	2467	13.35
High_13	2472	3.98

#### 8.5.4. OUTPUT POWER

<b>ID:</b>	29446	<b>Date:</b>	6/9/2017
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#### 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	-2.24	30.00	30	36	30.00
Low_2	2417	-2.24	30.00	30	36	30.00
Low_3	2422	-2.24	30.00	30	36	30.00
Mid	2437	-2.24	30.00	30	36	30.00
High_9	2452	-2.24	30.00	30	36	30.00
High_10	2457	-2.24	30.00	30	36	30.00
High_11	2462	-2.24	30.00	30	36	30.00
High_12	2467	-2.24	30.00	30	36	30.00
High_13	2472	-2.24	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)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low_1	2412	22.42	22.42	30.00	-7.58
Low_2	2417	24.82	24.82	30.00	-5.18
Low_3	2422	26.03	26.03	30.00	-3.97
Mid	2437	27.17	27.17	30.00	-2.83
High_9	2452	26.14	26.14	30.00	-3.86
High_10	2457	23.64	23.64	30.00	-6.36
High_11	2462	22.32	22.32	30.00	-7.68
High_12	2467	20.05	20.05	30.00	-9.95
High_13	2472	10.65	10.65	30.00	-19.35

## 8.5.5. POWER SPECTRAL DENSITY

### LIMITS

FCC §15.247

IC RSS-247 (5.2) (b)

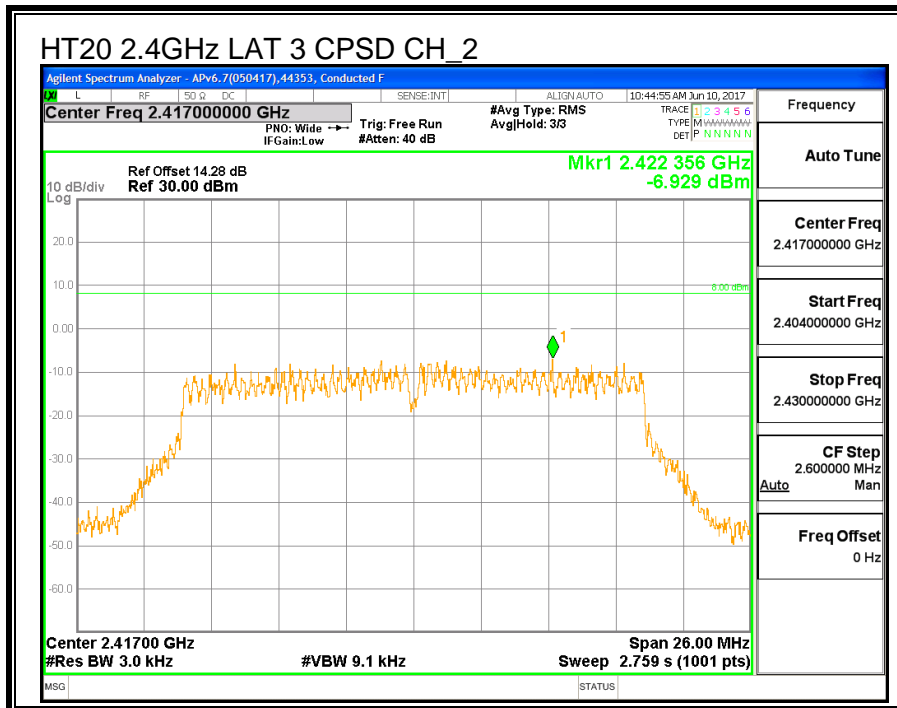
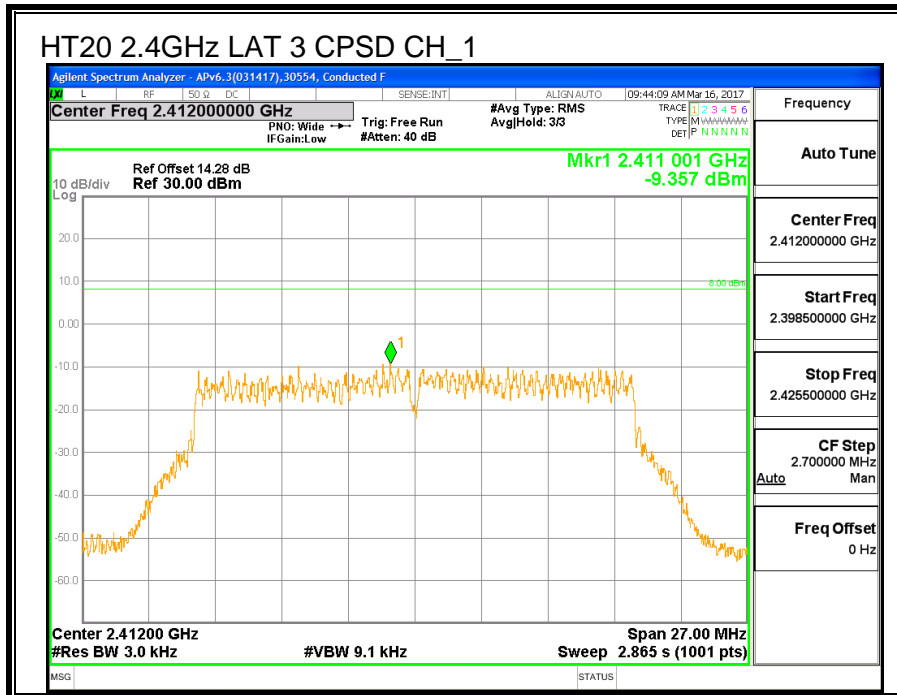
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 KHz band during any time interval of continuous transmissions.

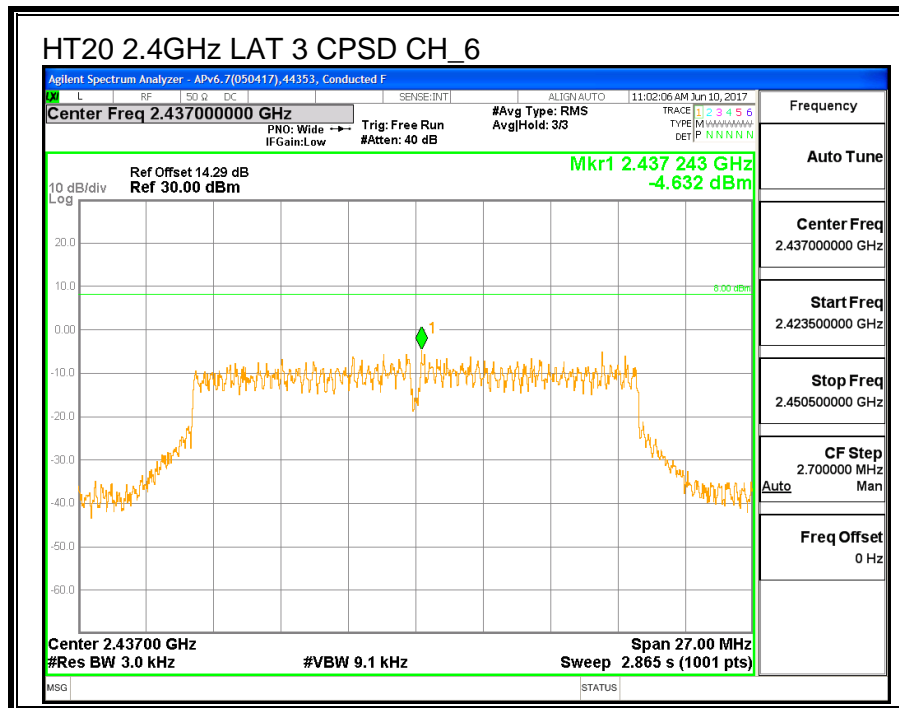
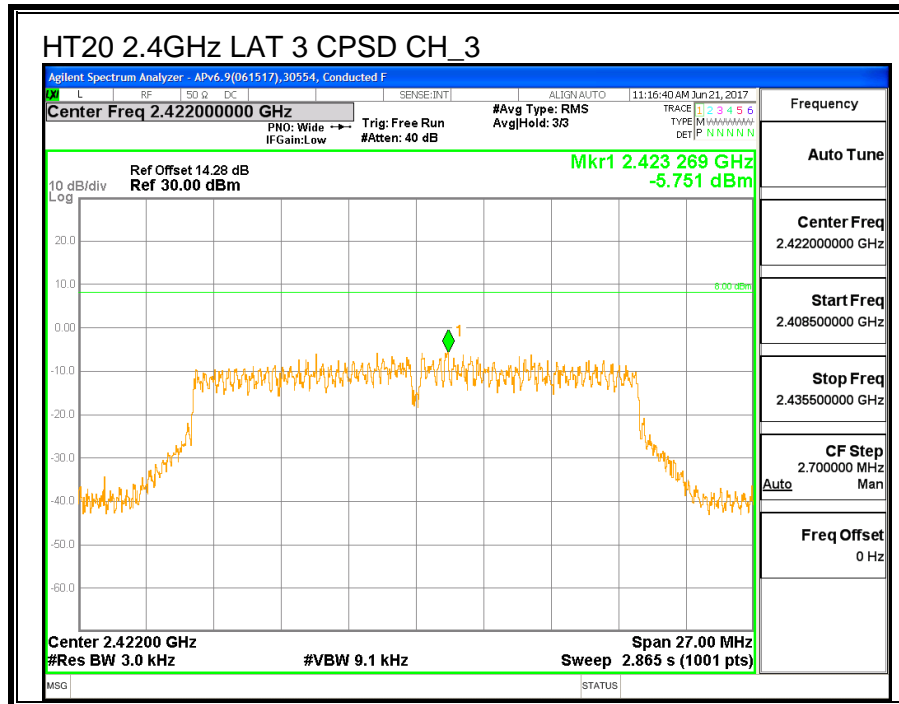
### RESULTS

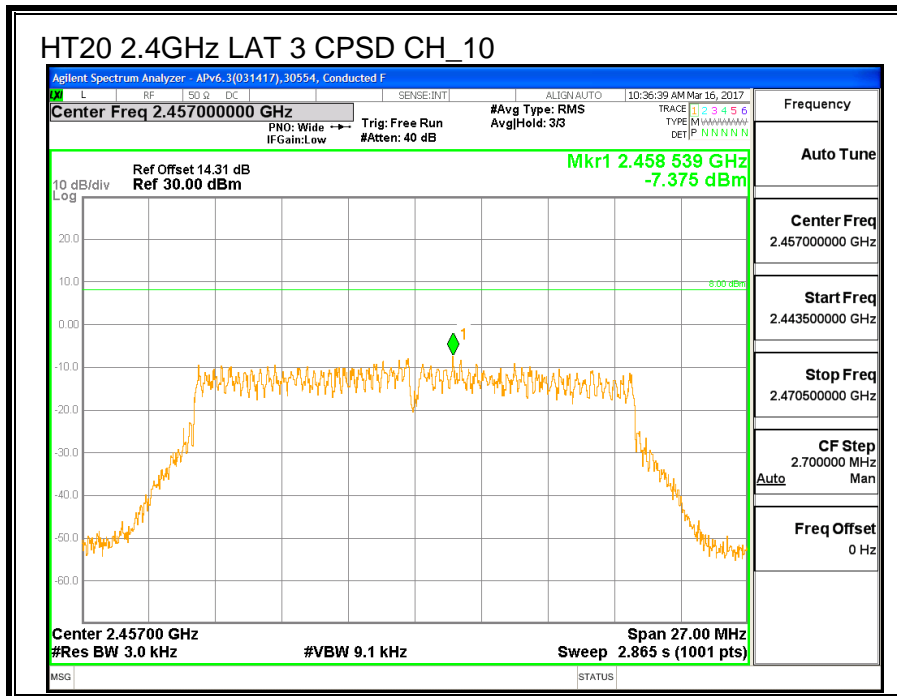
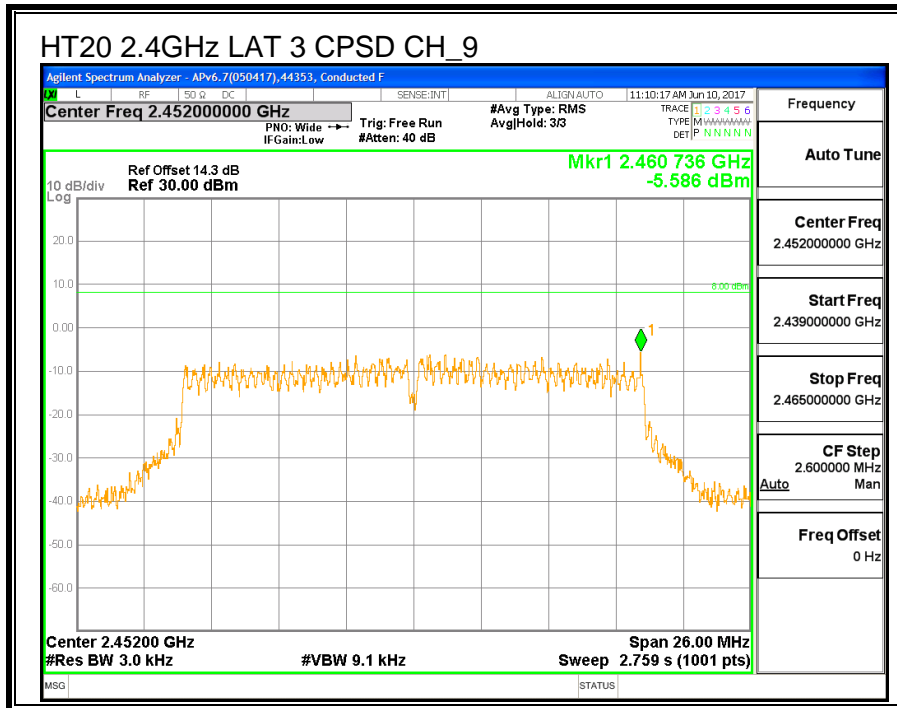
<b>Duty Cycle CF (dB)</b>	0.00	<b>Included in Calculations of Corr'd PSD</b>
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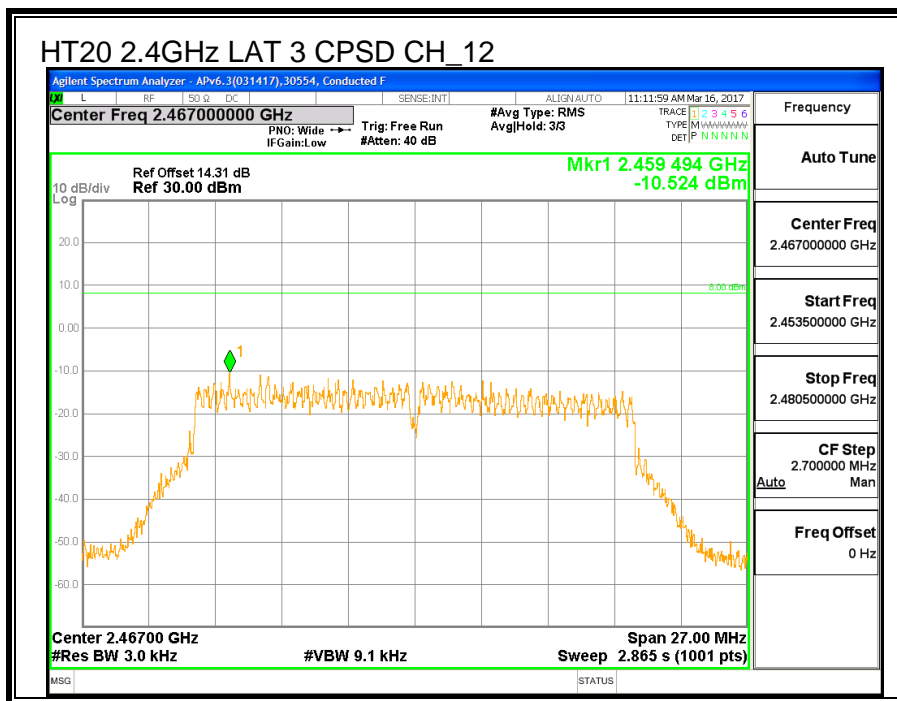
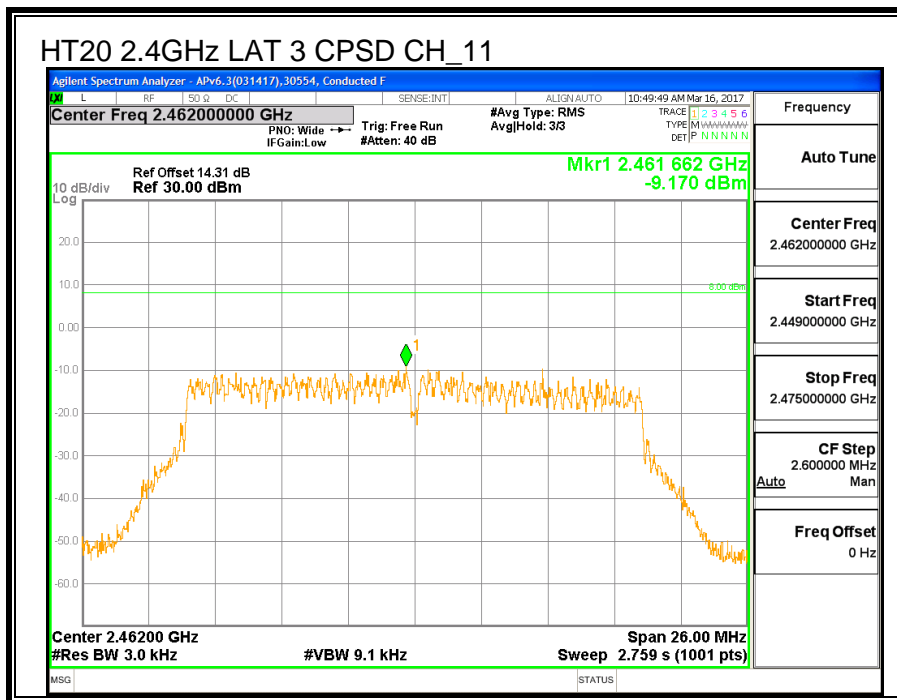
#### **PSD Results**

<b>Channel</b>	<b>Frequency (MHz)</b>	<b>Meas (dBm/3k Hz)</b>	<b>Total Corr'd PSD (dBm/3kHz)</b>	<b>Limit (dBm/3kHz)</b>	<b>Margin (dB)</b>
Low_1	2412	-9.36	-9.36	8.0	-17.4
Low_2	2417	-6.93	-6.93	8.0	-14.9
Low_3	2422	-5.75	-5.75	8.0	-13.8
Mid	2437	-4.63	-4.63	8.0	-12.6
High_9	2452	-5.59	-5.59	8.0	-13.6
High_10	2457	-7.38	-7.38	8.0	-15.4
High_11	2462	-9.17	-9.17	8.0	-17.2
High_12	2467	-10.52	-10.52	8.0	-18.5
High_13	2472	-21.20	-21.20	8.0	-29.2

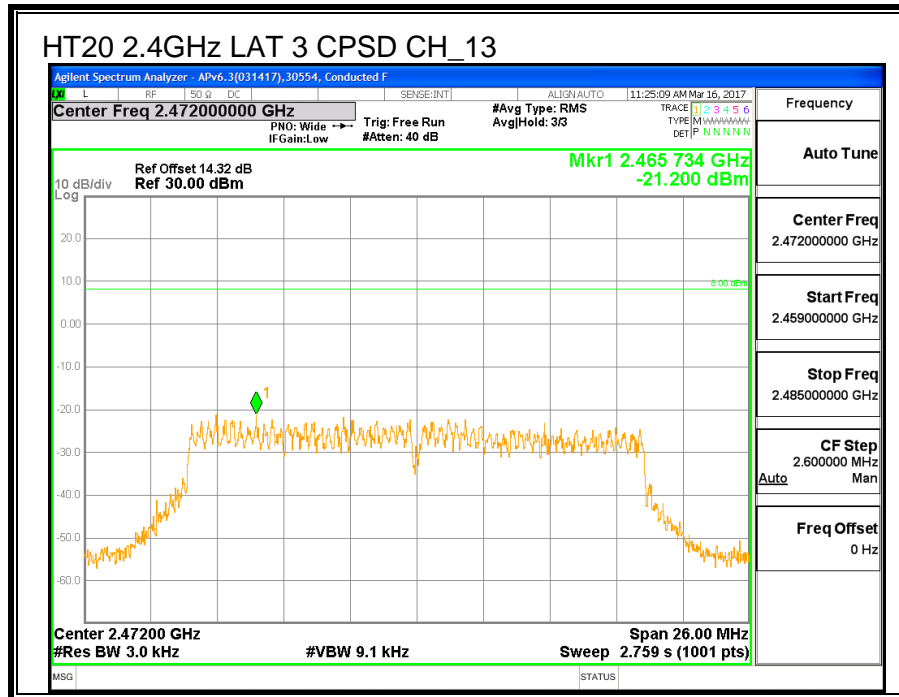












## 8.5.6. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

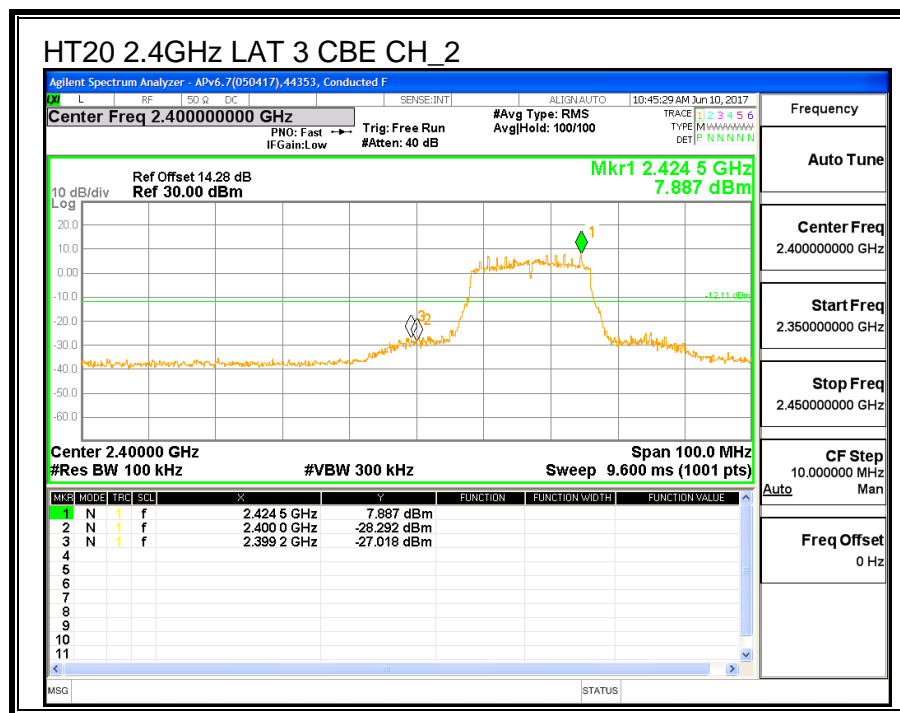
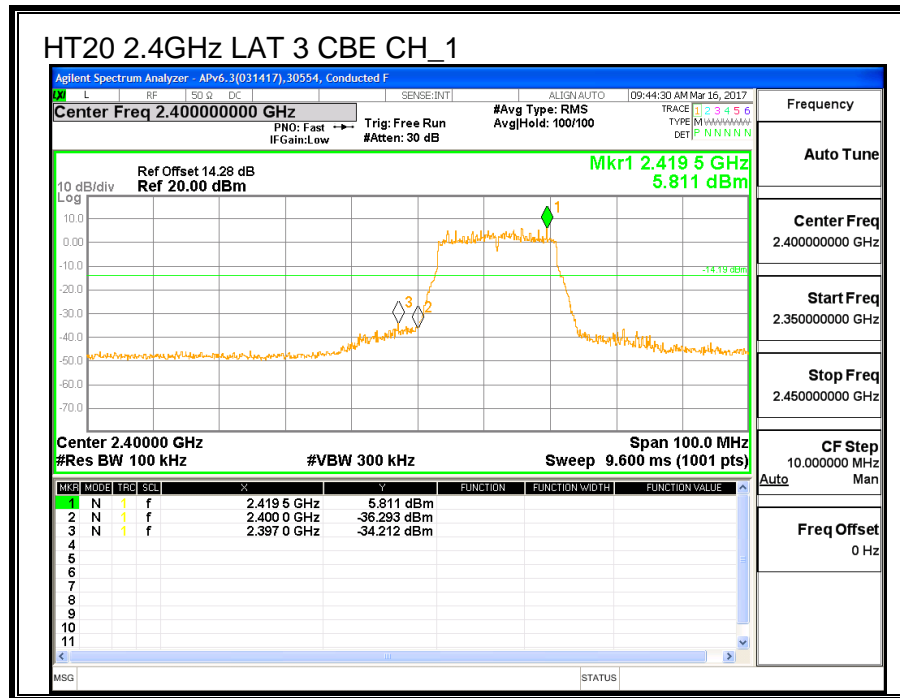
### LIMITS

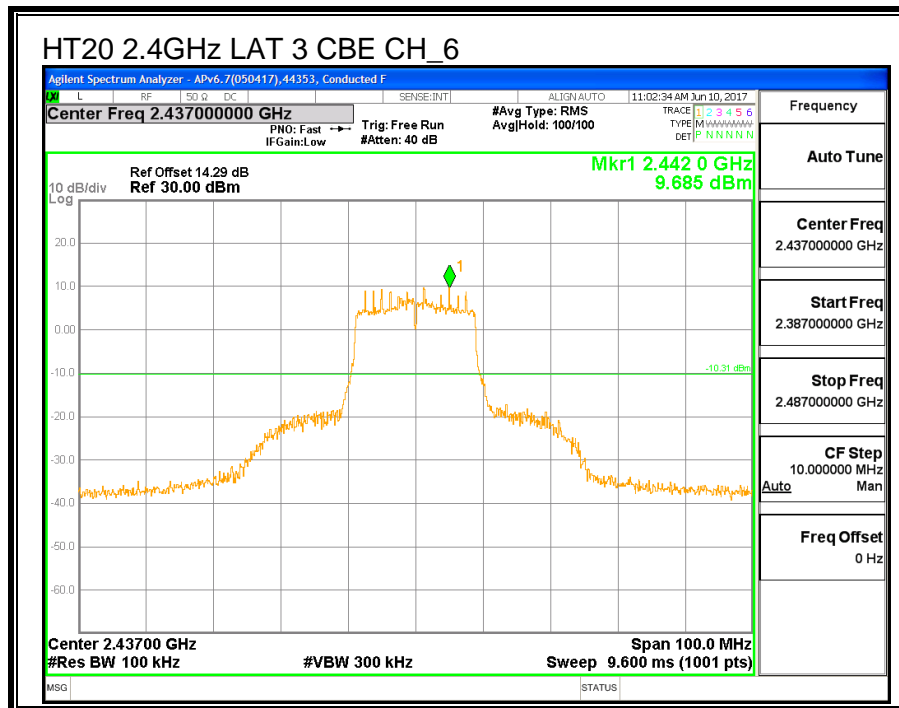
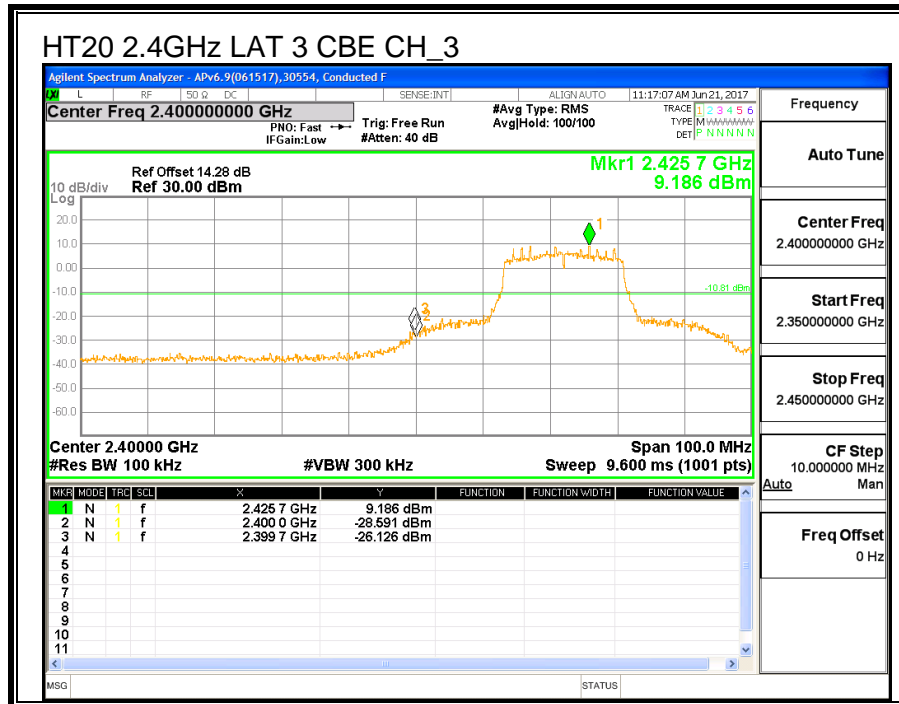
FCC §15.247 (d)

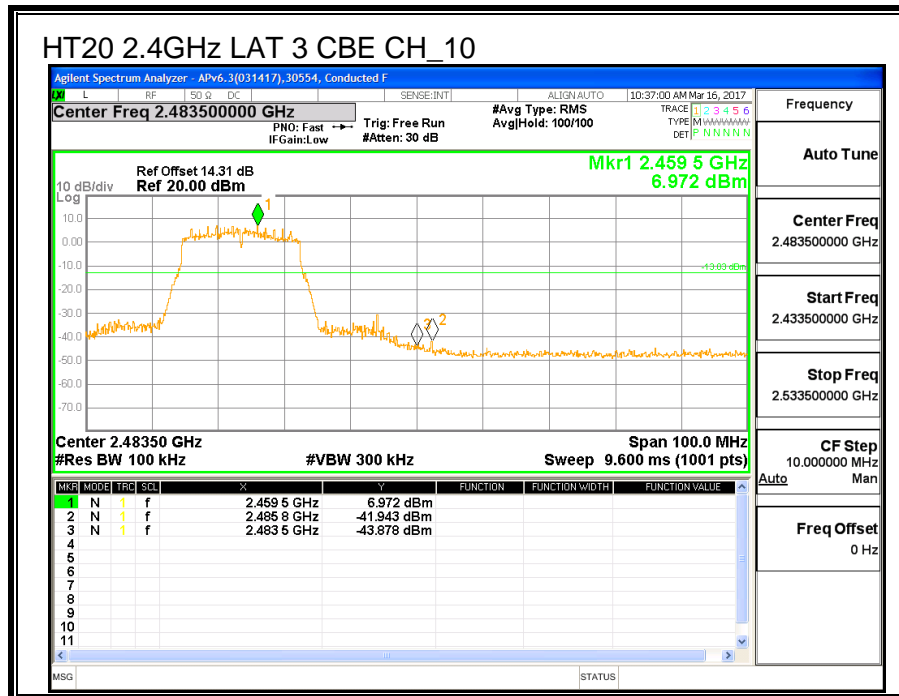
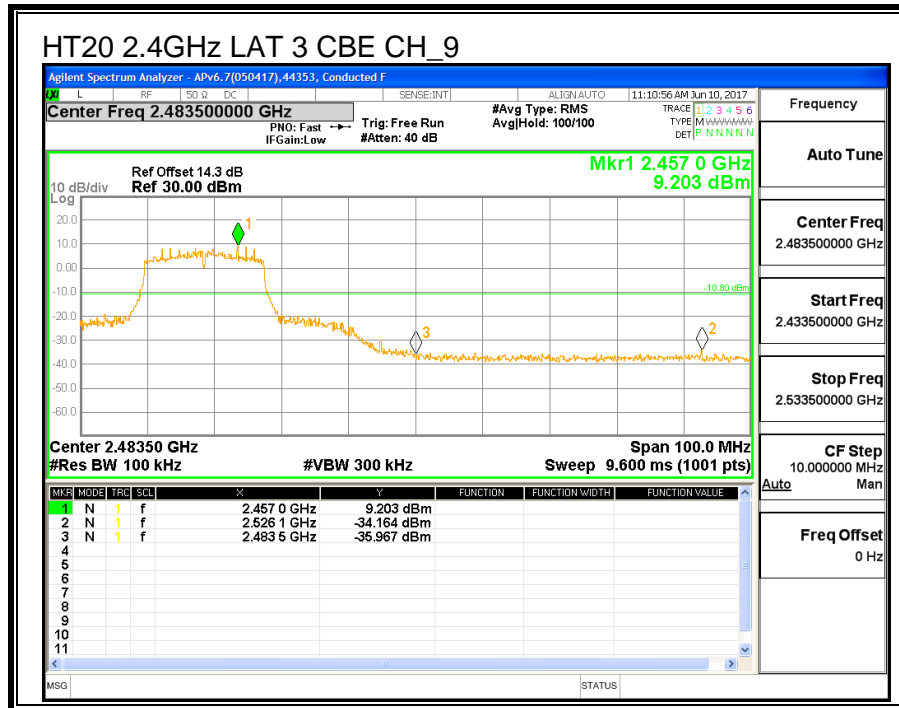
IC RSS-247 (5.5)

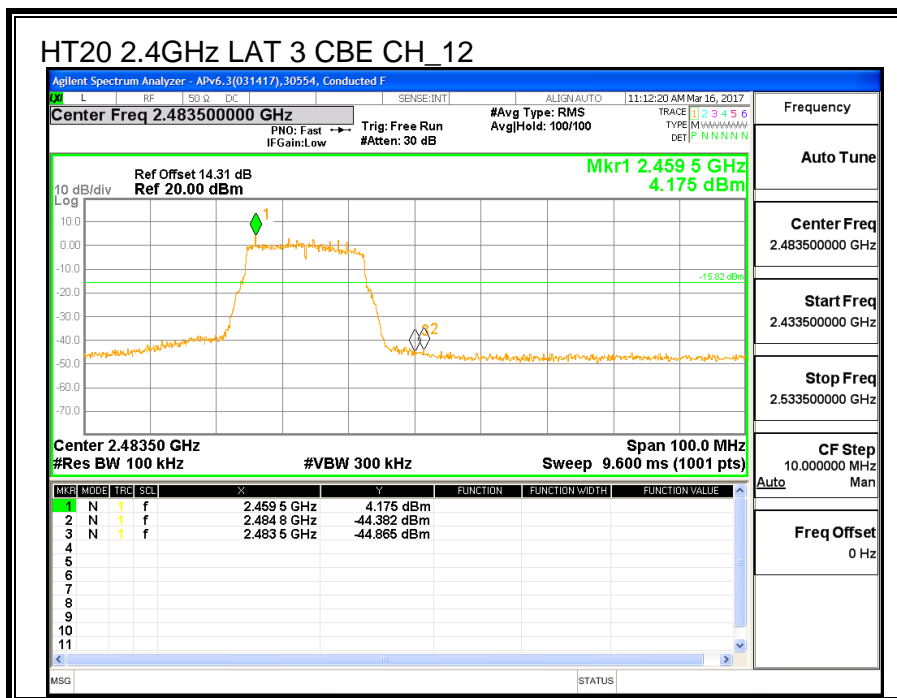
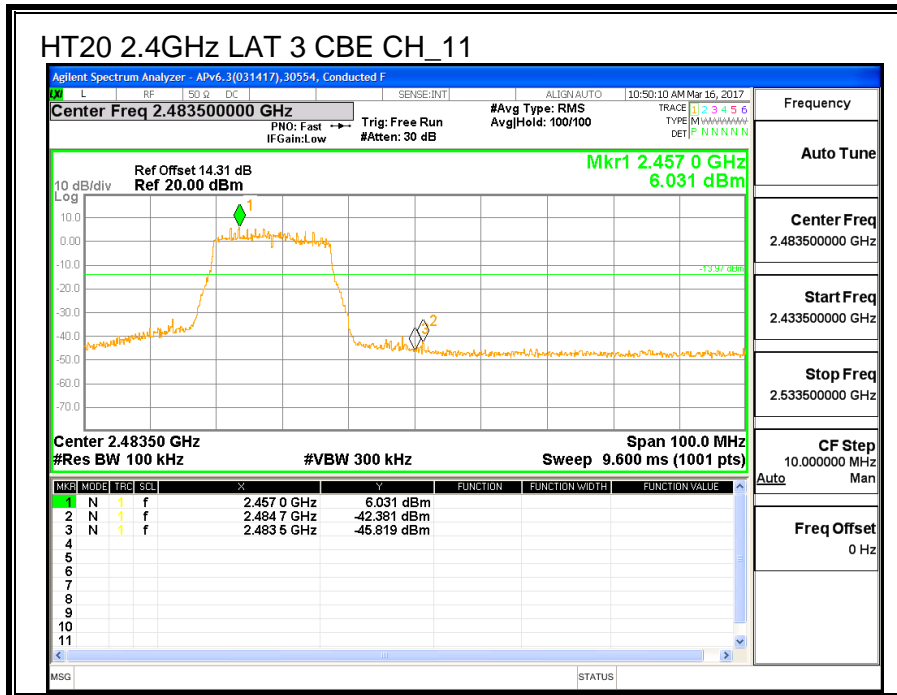
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the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

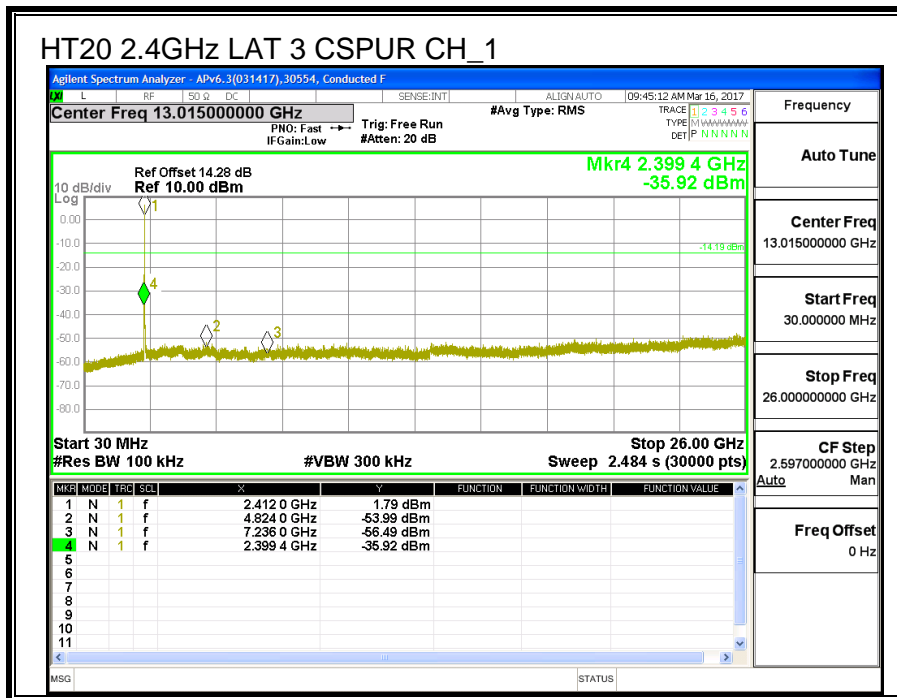
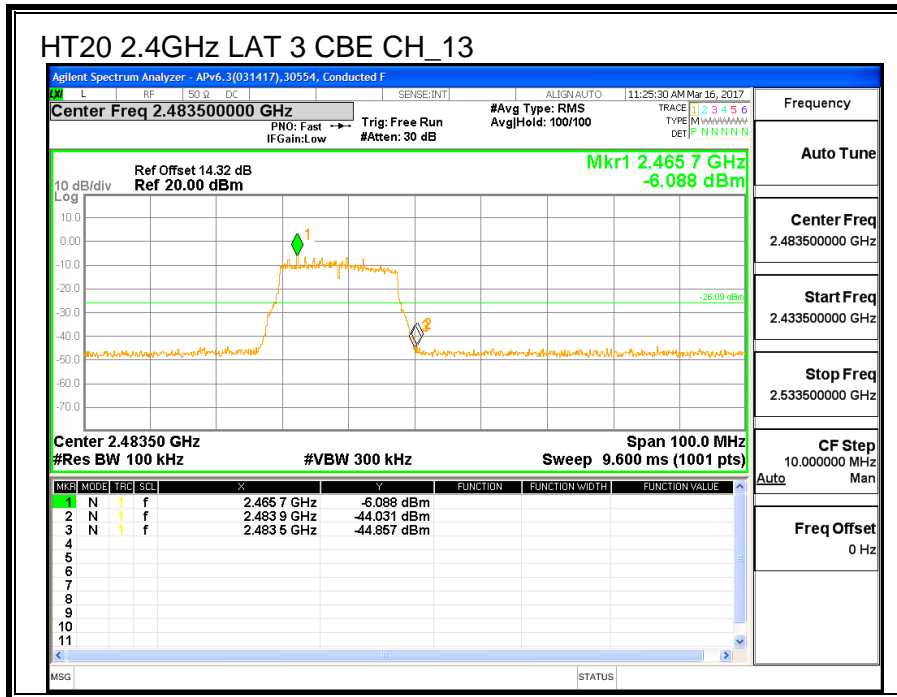
**CONDUCTED BANDEGE AND SPURIOUS EMISSIONS**

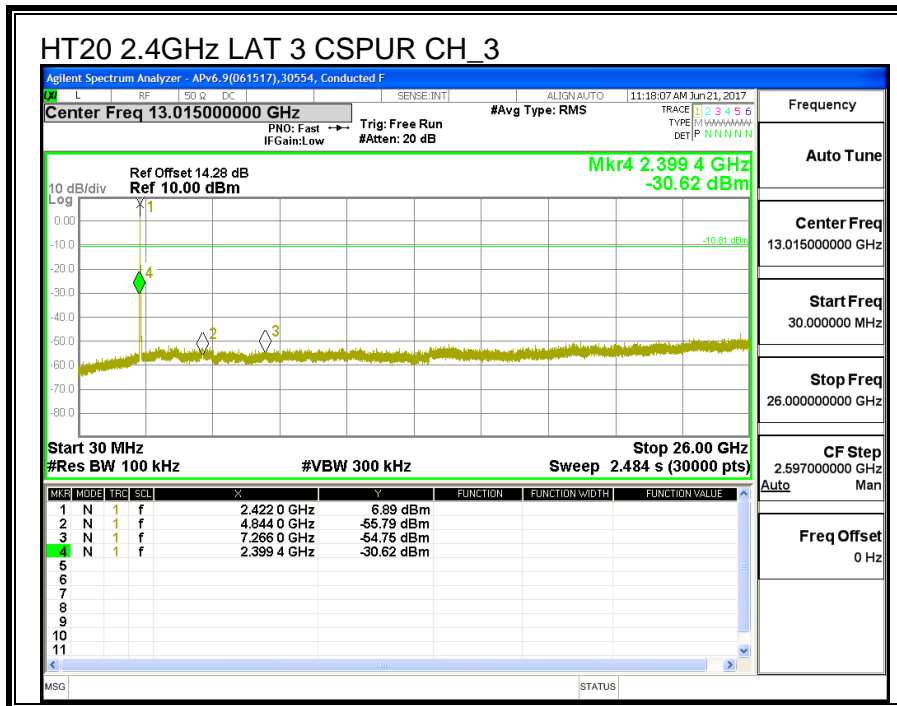
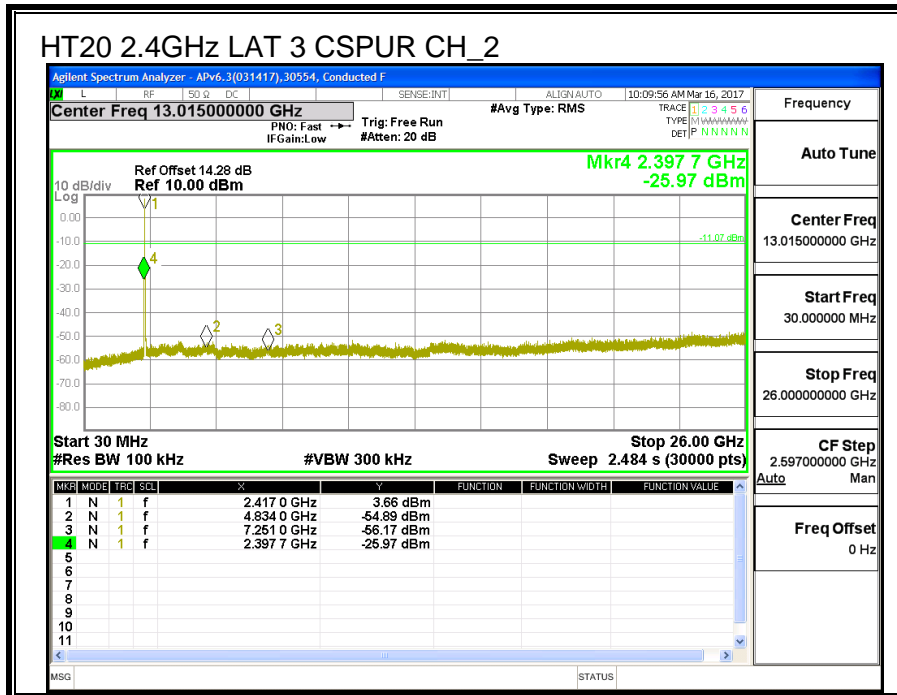




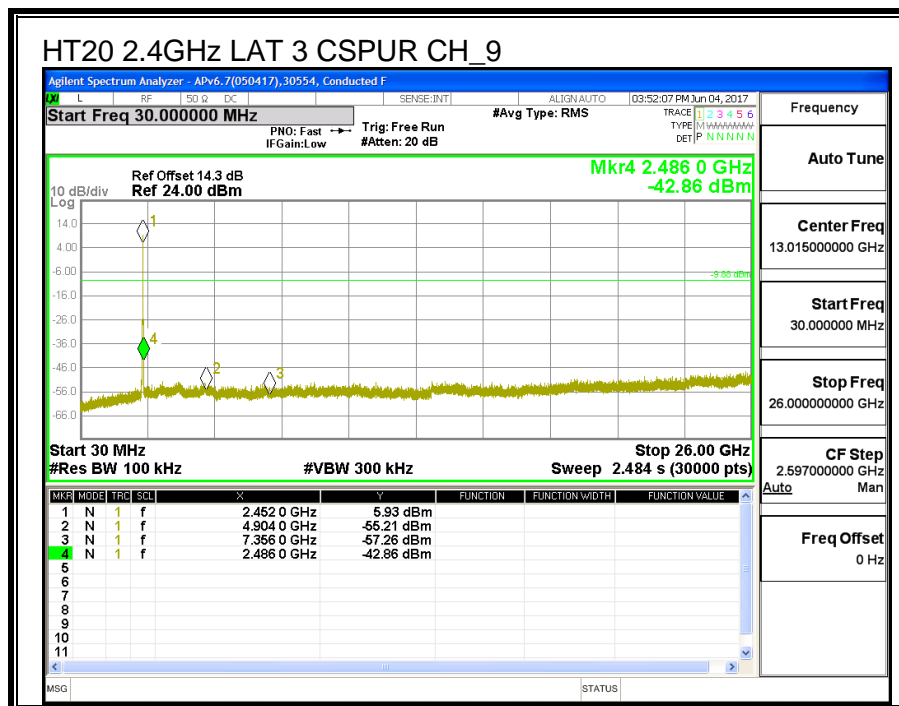
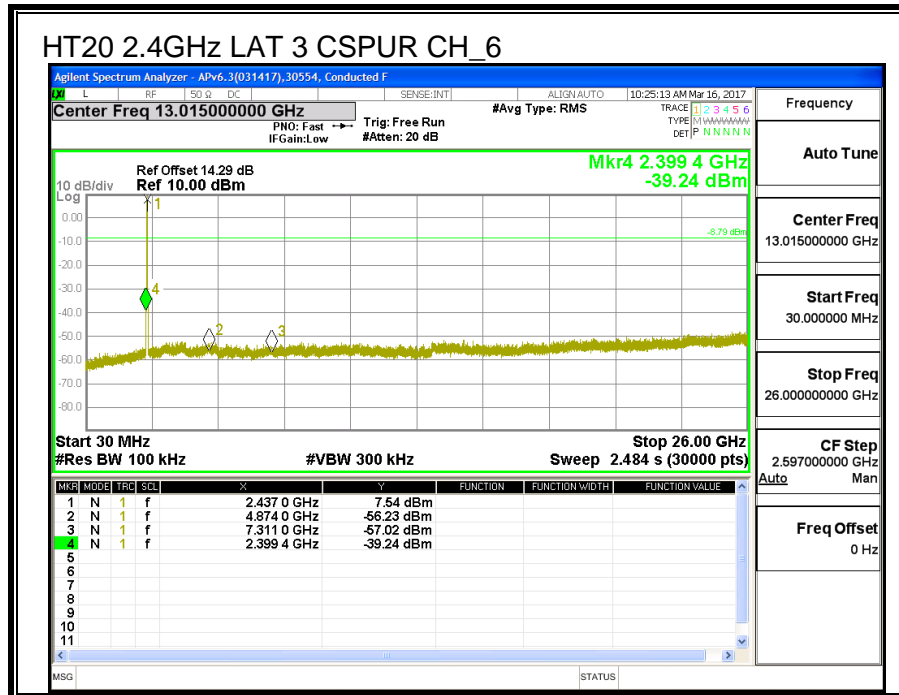


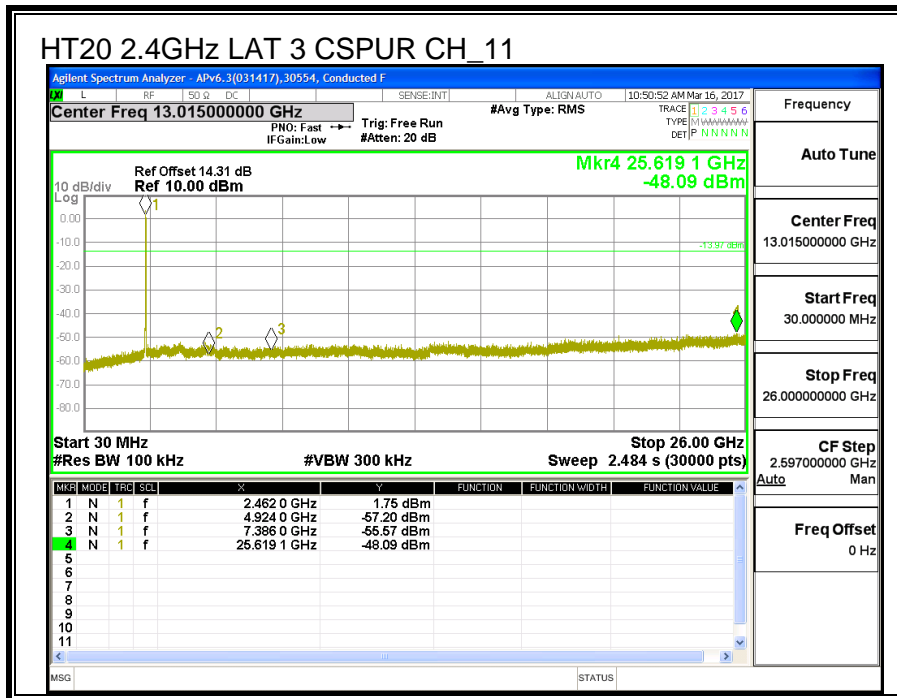
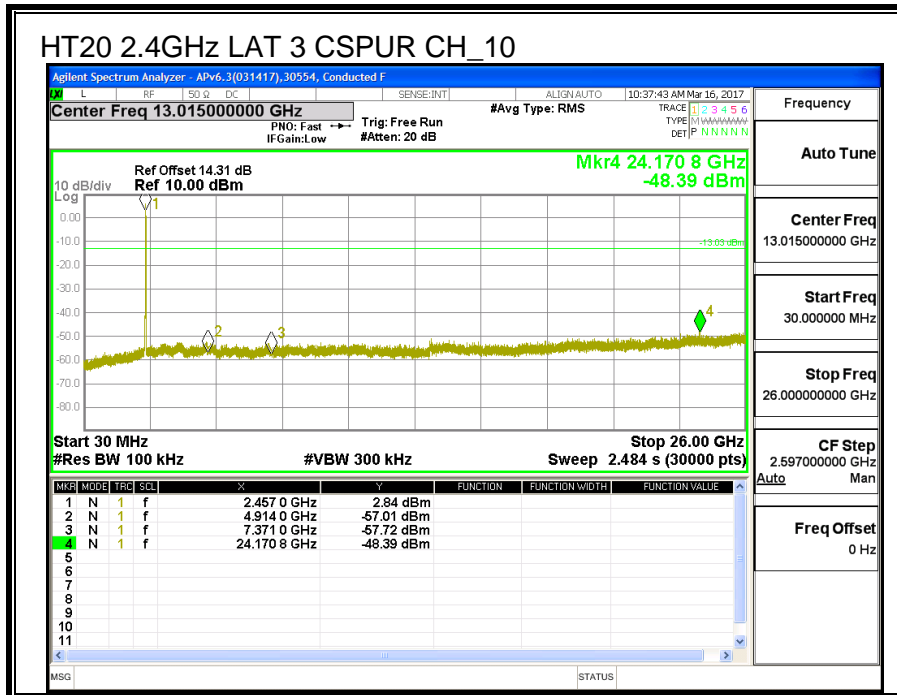


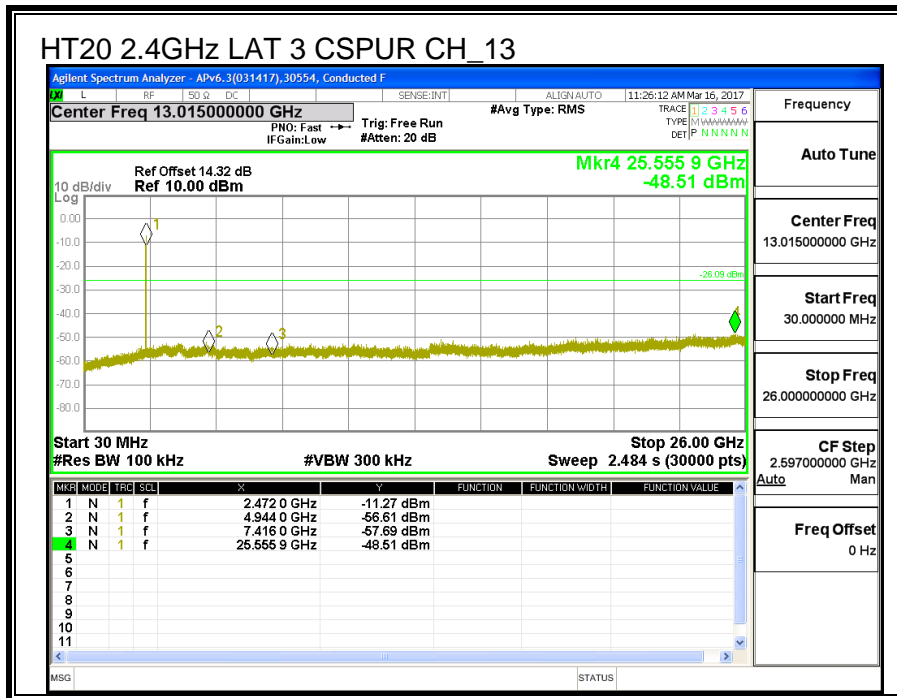
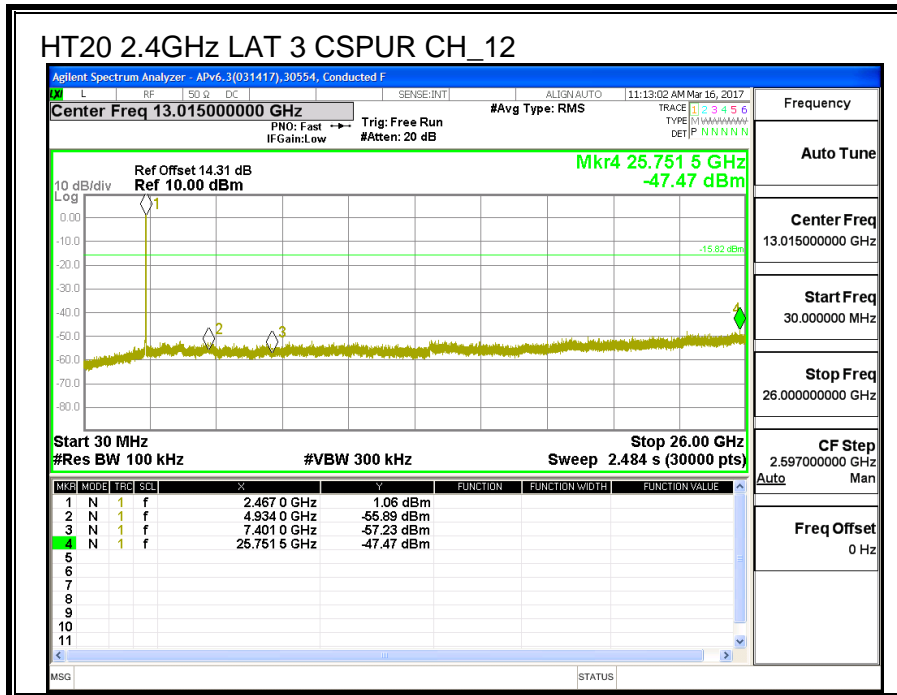












## 8.6. 11n HT20 2TX CDD MIMO MODE IN THE 2.4GHz BAND

### 8.6.1. 6 dB BANDWIDTH

#### LIMITS

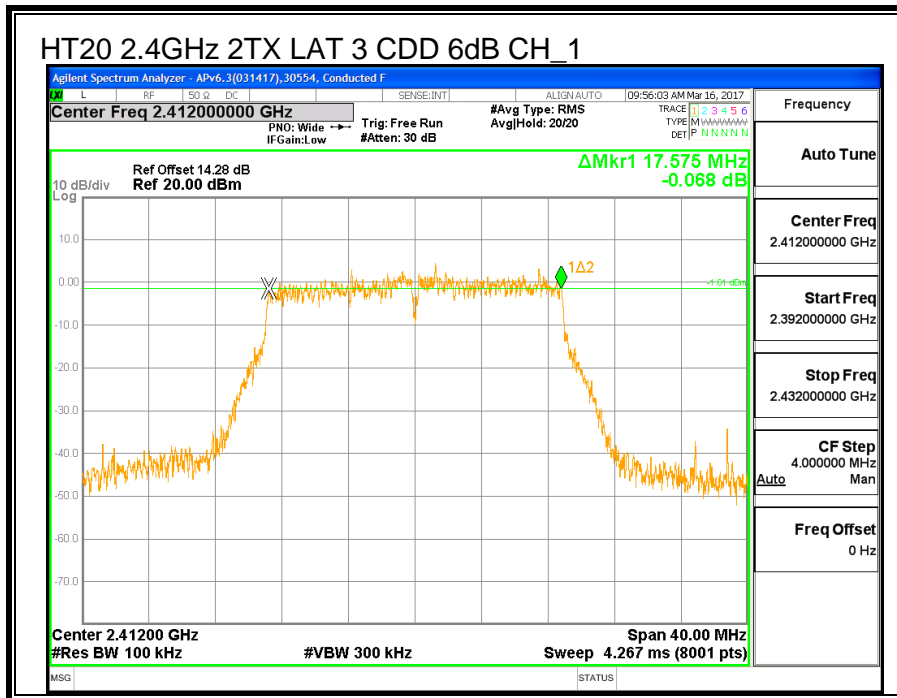
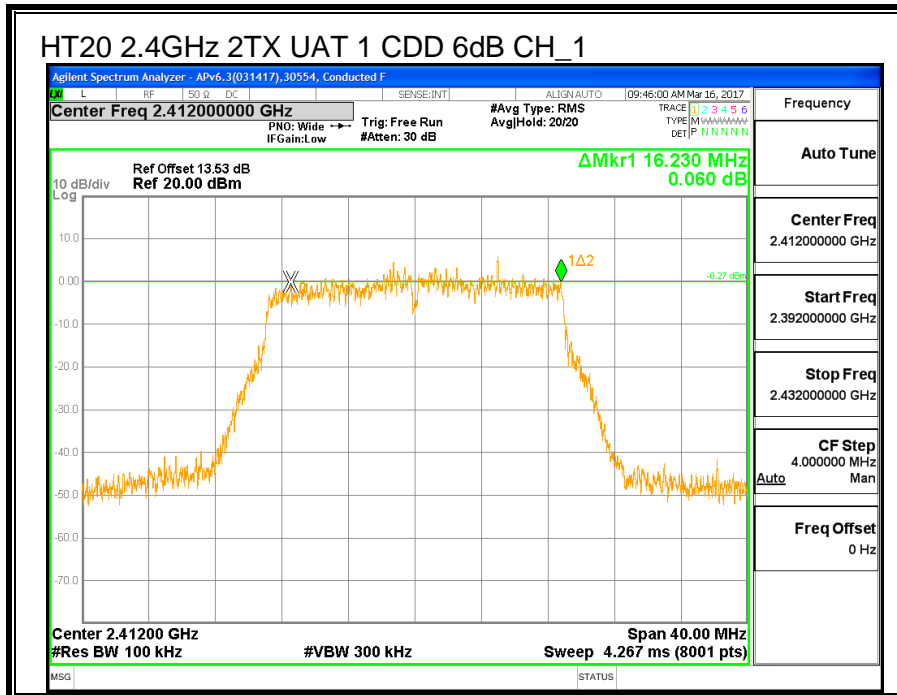
FCC §15.247 (a) (2)

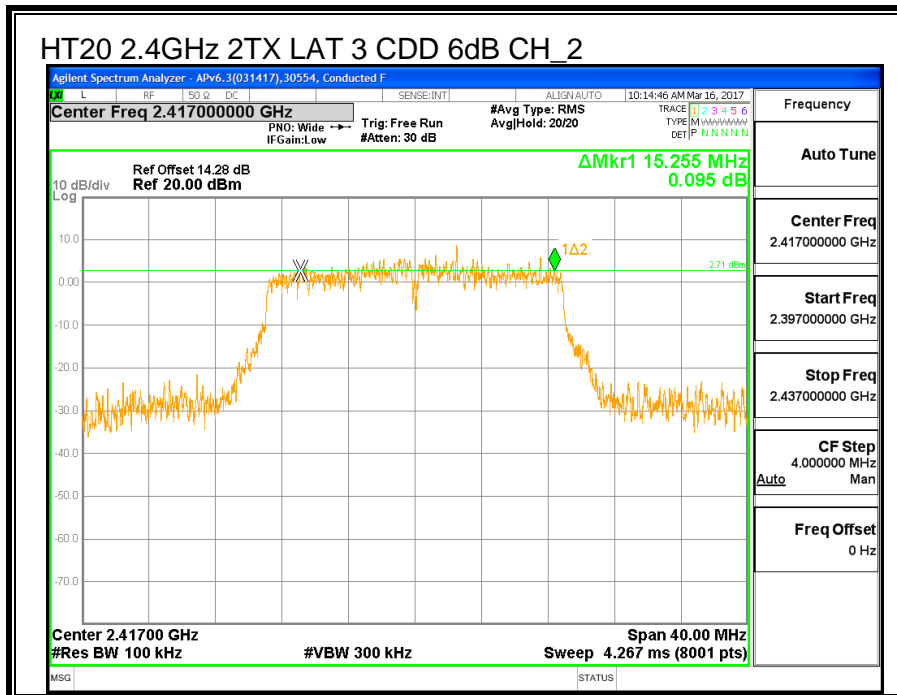
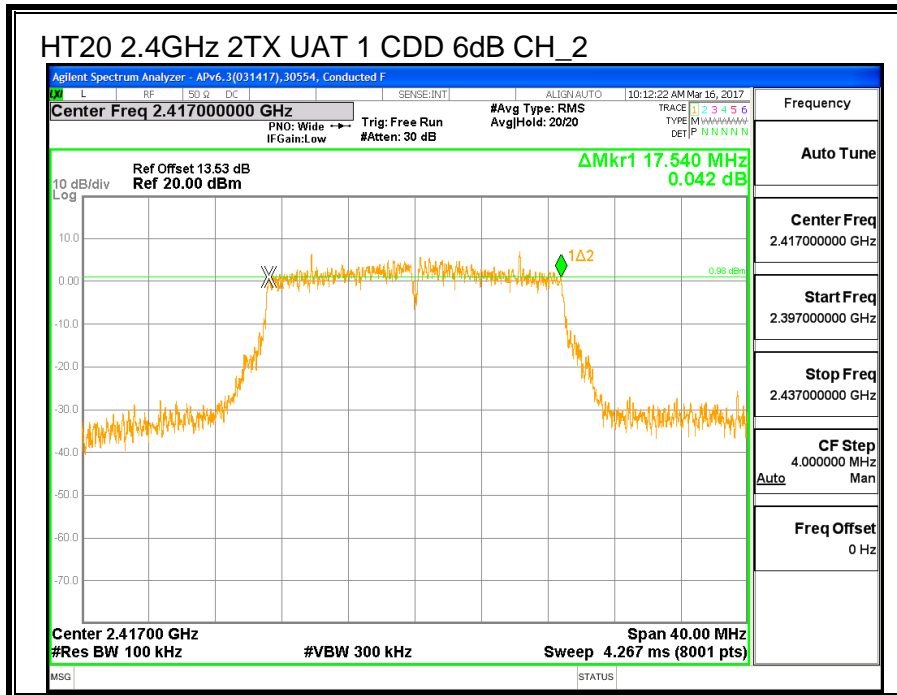
IC RSS-247 (5.2) (a)

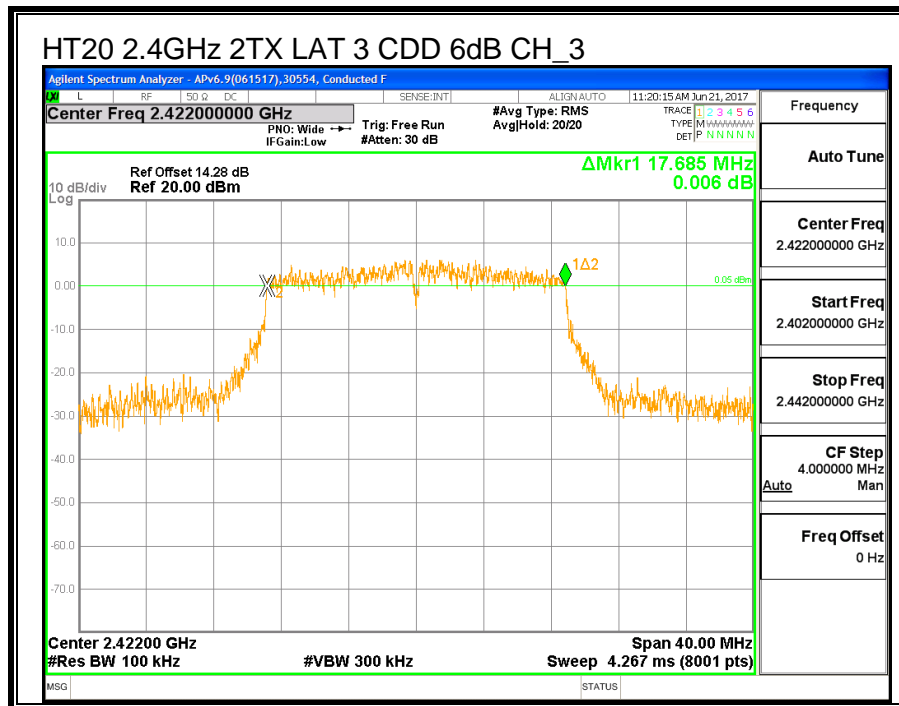
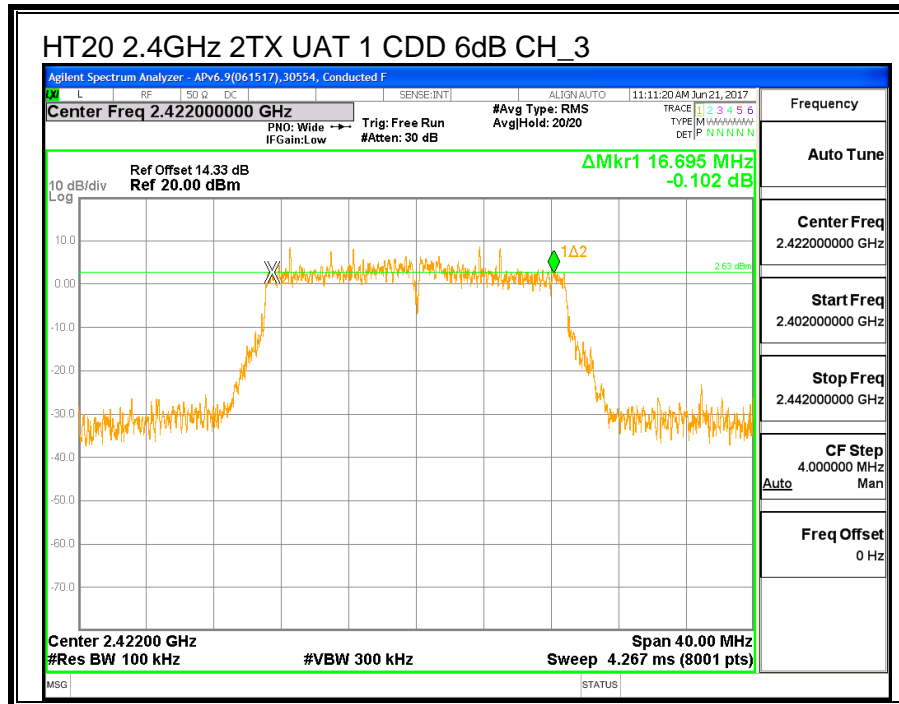
The minimum 6 dB bandwidth shall be at least 500 kHz.

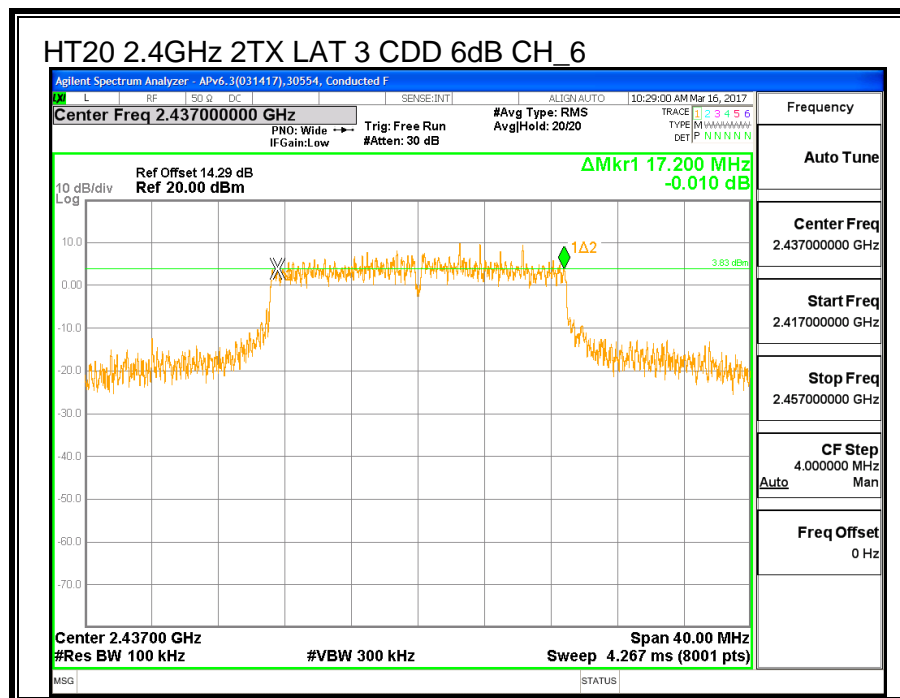
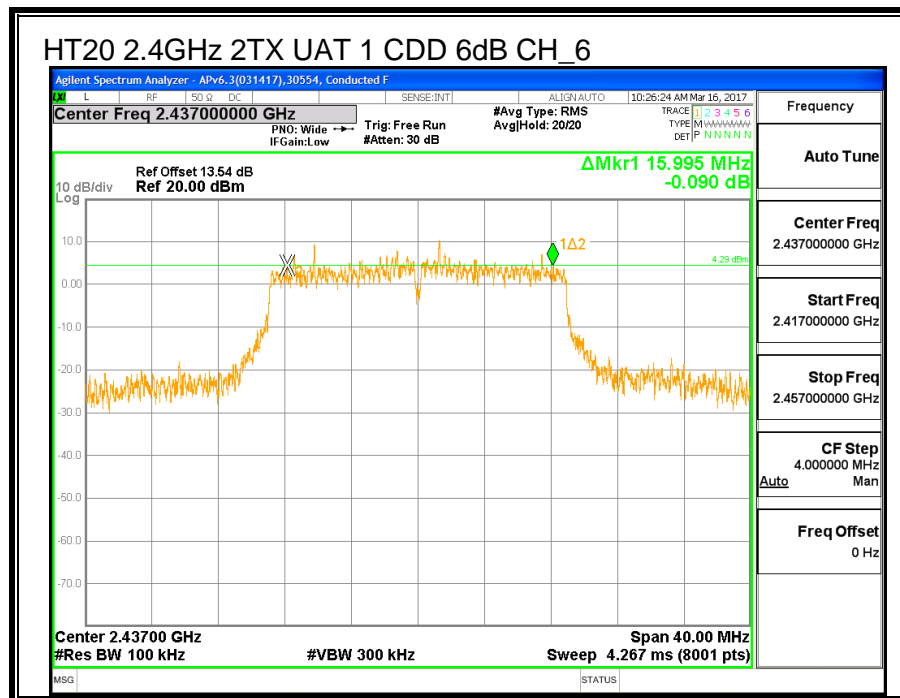
#### RESULTS

Channel	Frequen cy	6 dB BW UAT 1 (MHz)	6 dB BW LAT 3 (MHz)	Minimum Limit (MHz)
Low_1	2412	16.230	17.575	0.5
Low_2	2417	17.540	15.255	0.5
Low_3	2422	16.695	17.685	0.5
Middle_6	2437	15.995	17.200	0.5
High_9	2452	17.590	14.065	0.5
High_10	2457	17.600	16.785	0.5
High_11	2462	17.690	16.725	0.5
High_12	2467	16.935	16.960	0.5
High_13	2472	17.600	17.615	0.5

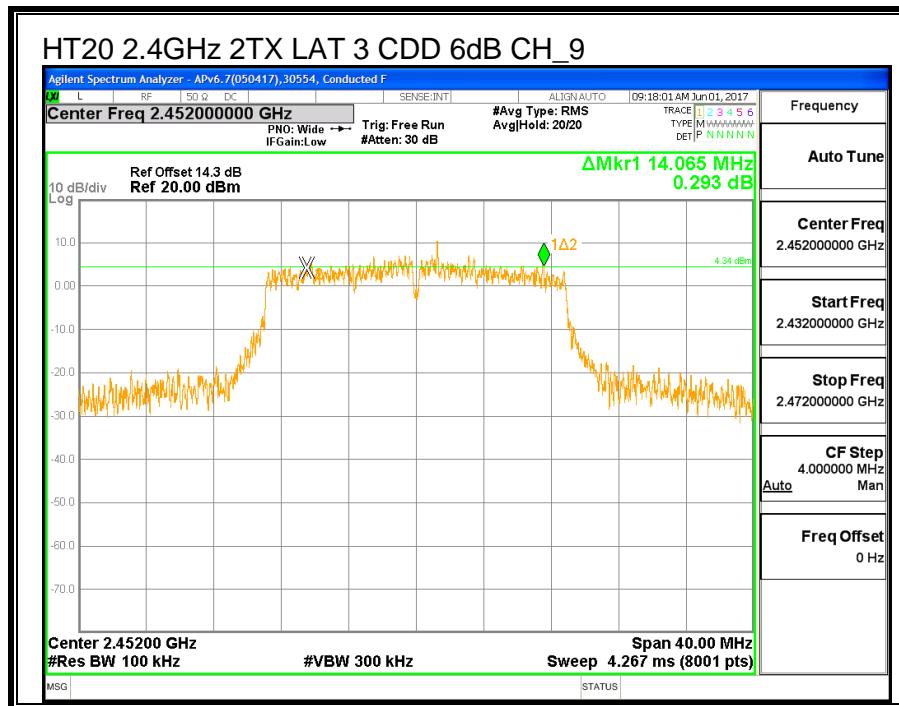
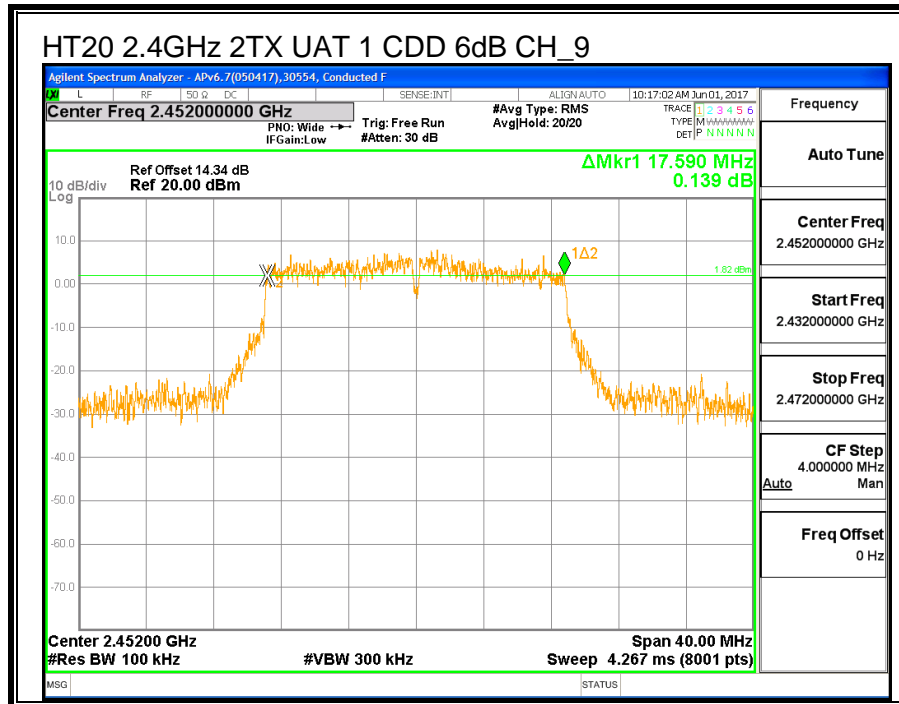


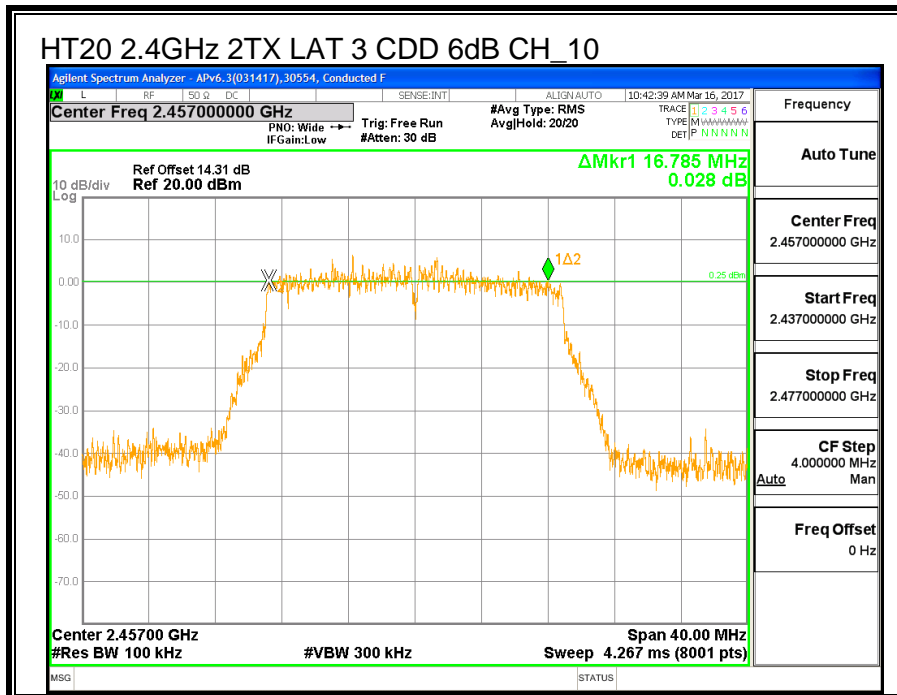
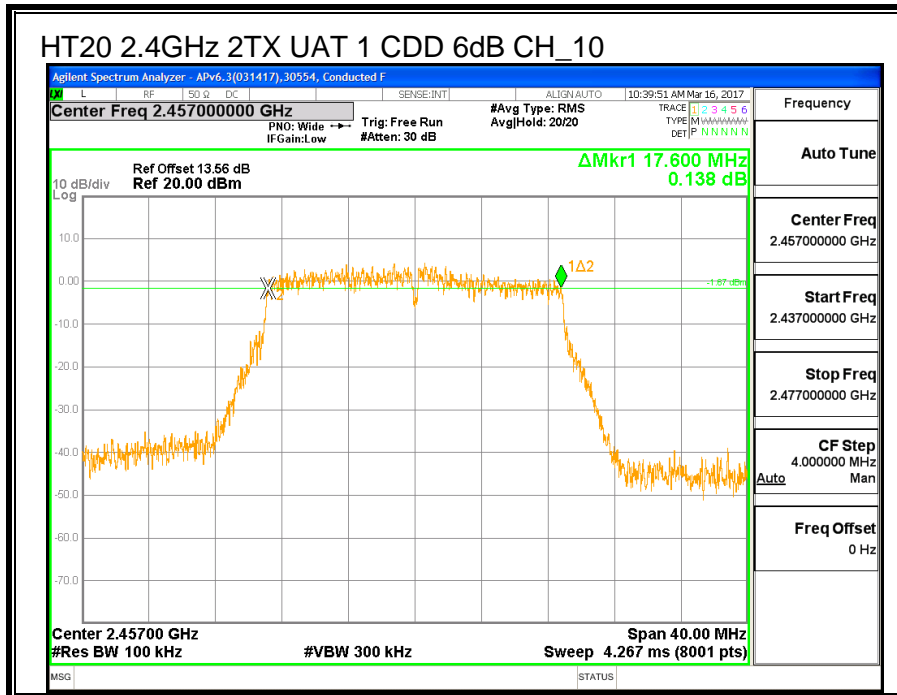


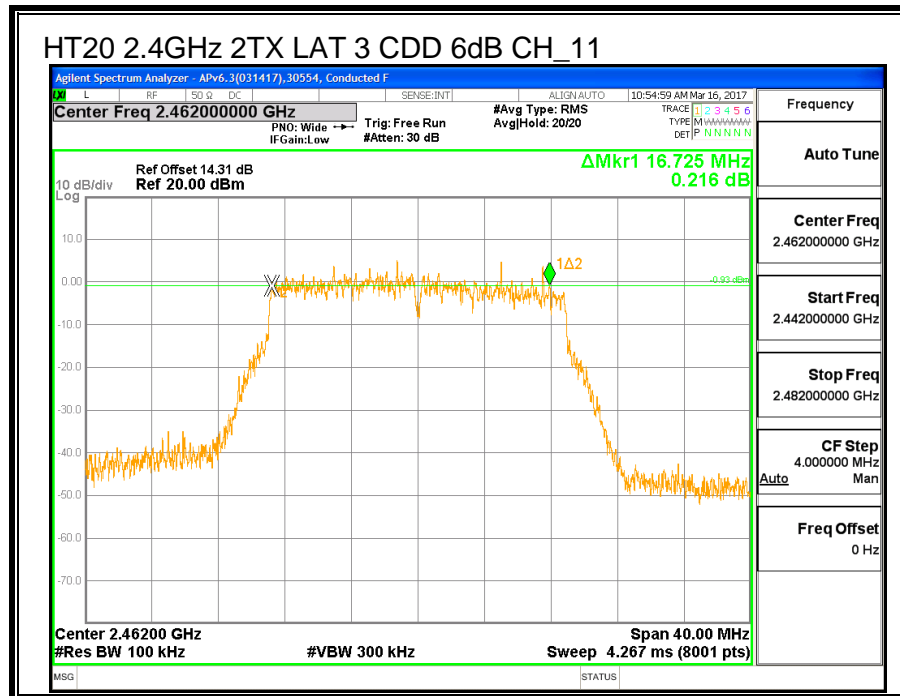
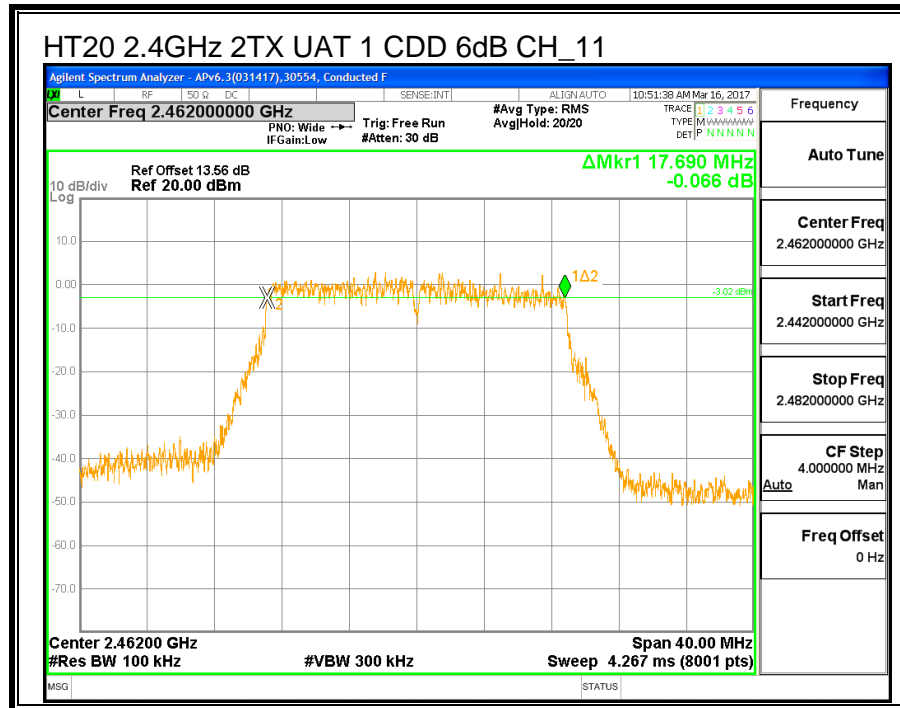


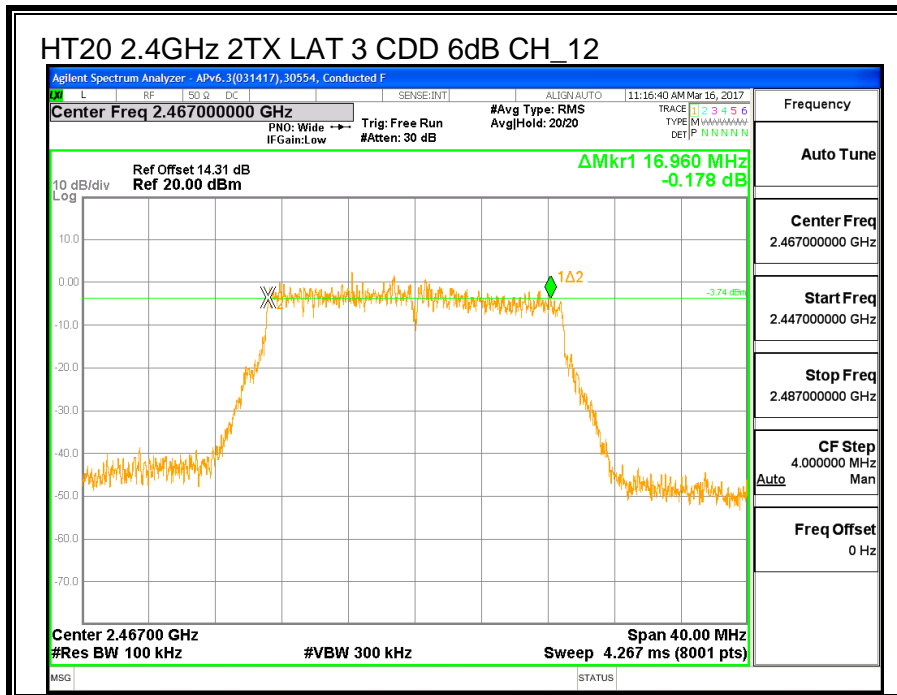
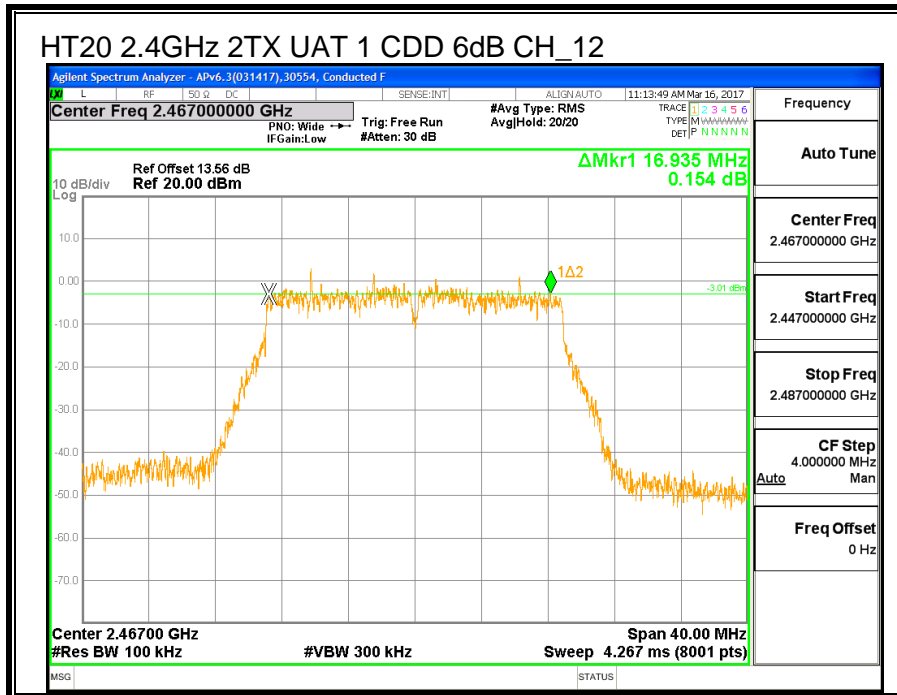


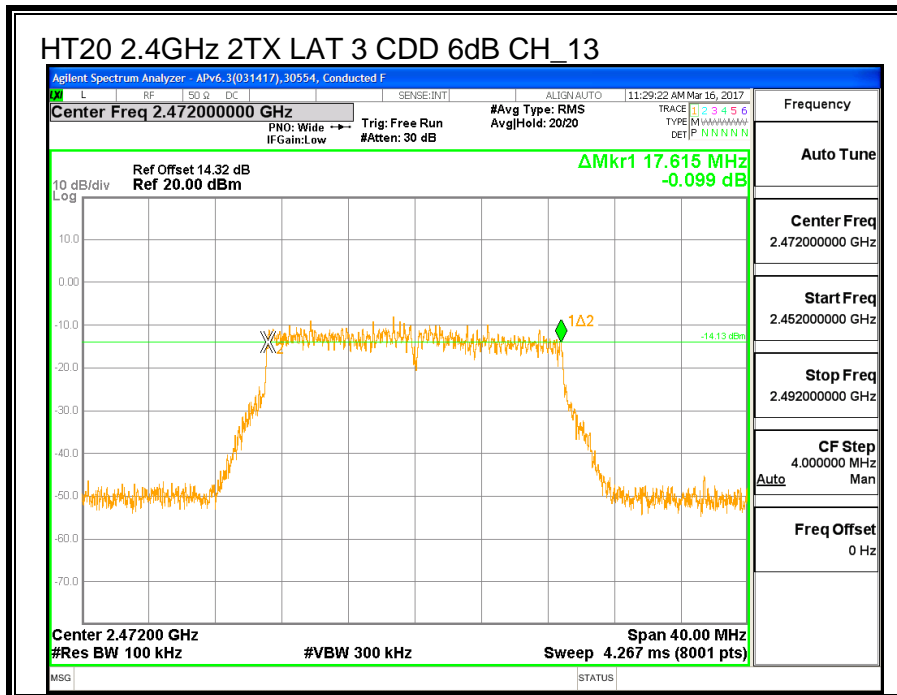
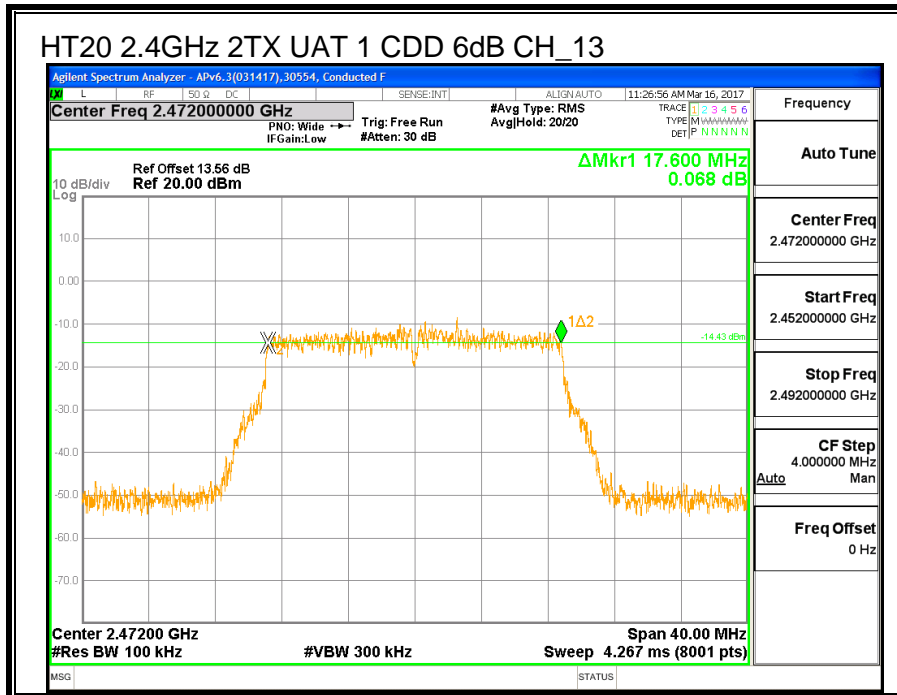












## 8.6.2. 99% BANDWIDTH

### LIMITS

None; for reporting purposes only.

### RESULTS

Channel	Frequency (MHz)	99% Bandwidth UAT 1 (MHz)	99% Bandwidth LAT 3 (MHz)
Low_1	2412	17.643	17.802
Low_2	2417	17.744	17.660
Low_3	2422	17.807	17.811
Middle_6	2437	17.887	18.059
High_9	2452	17.739	17.732
High_10	2457	17.708	17.818
High_11	2462	17.768	17.760
High_12	2467	17.723	17.664
High_13	2472	17.033	17.708

