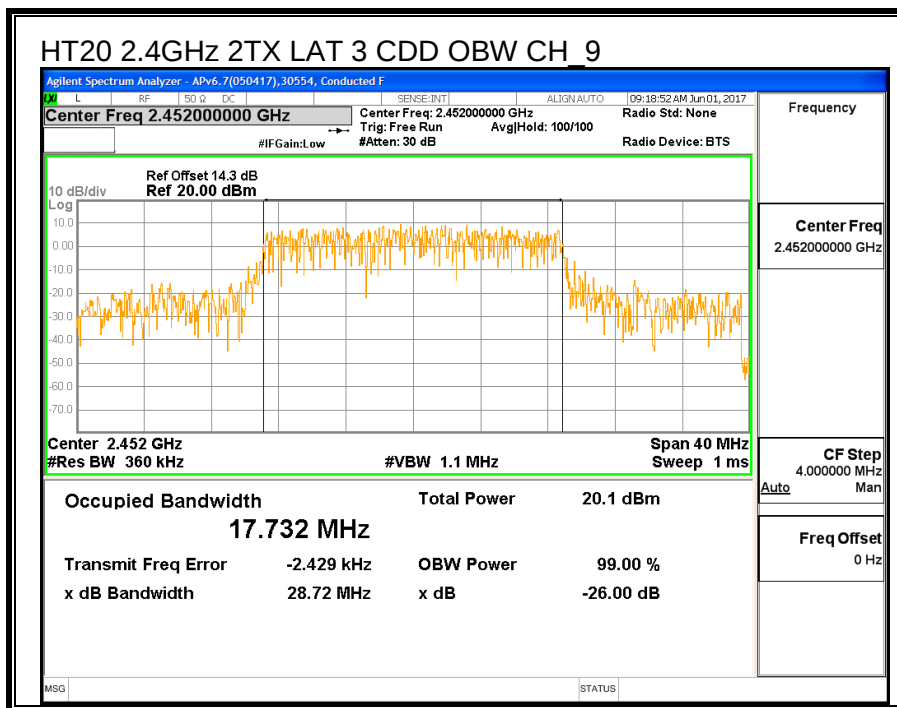
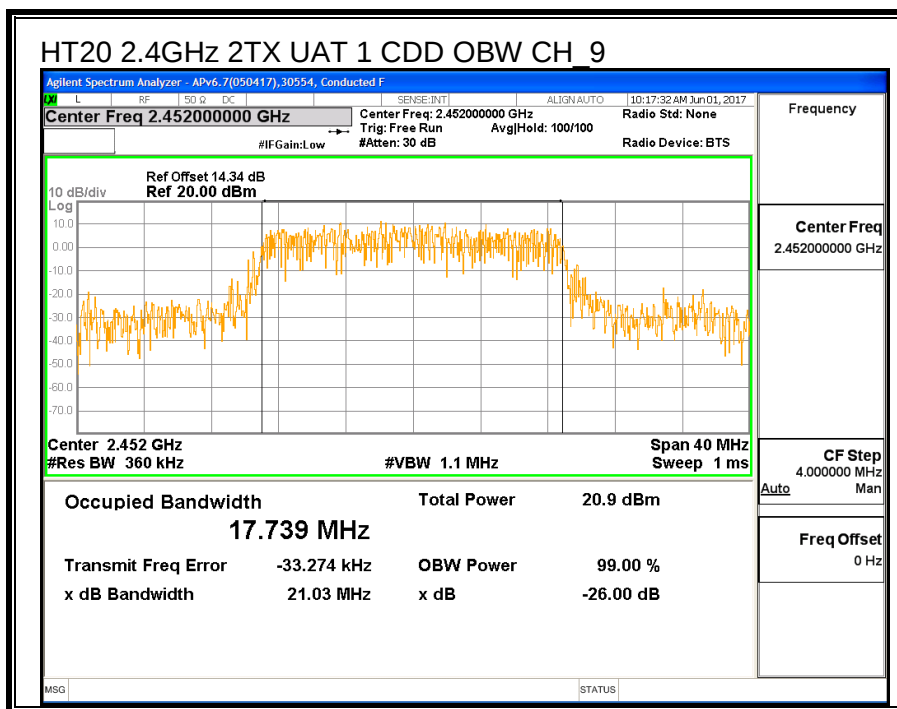
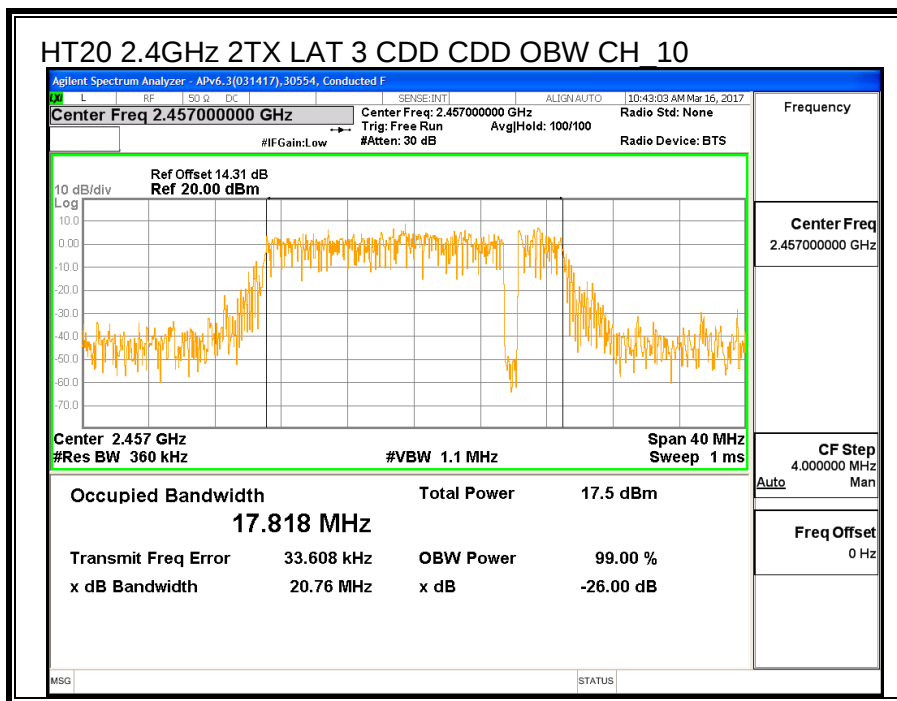
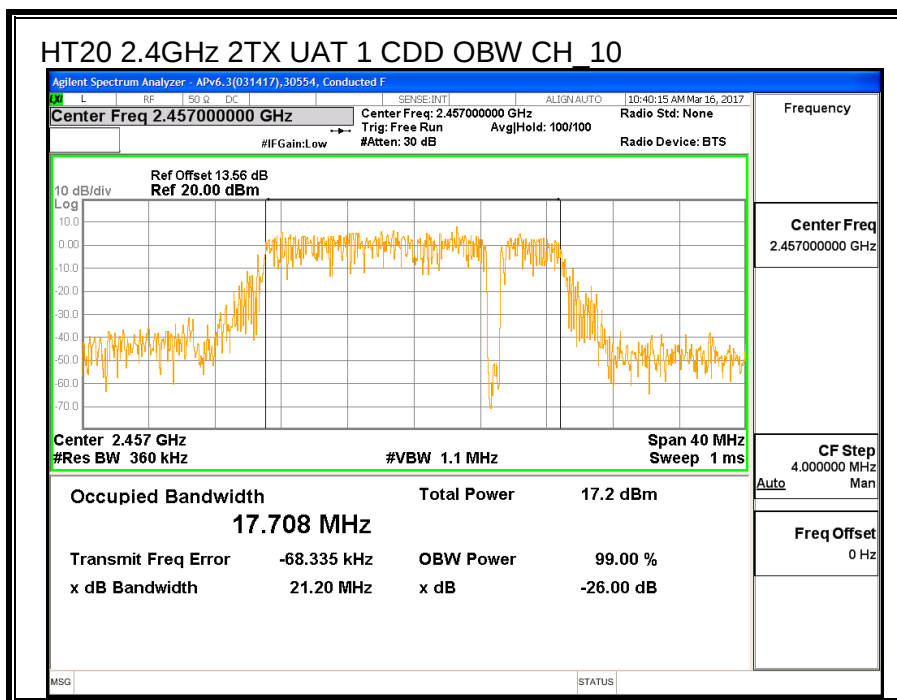
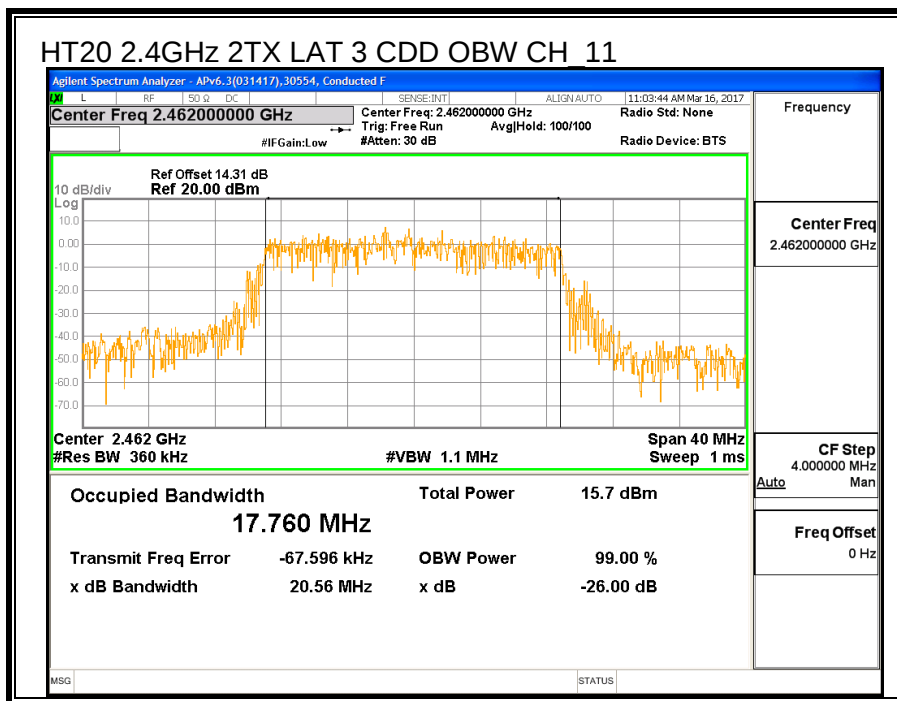
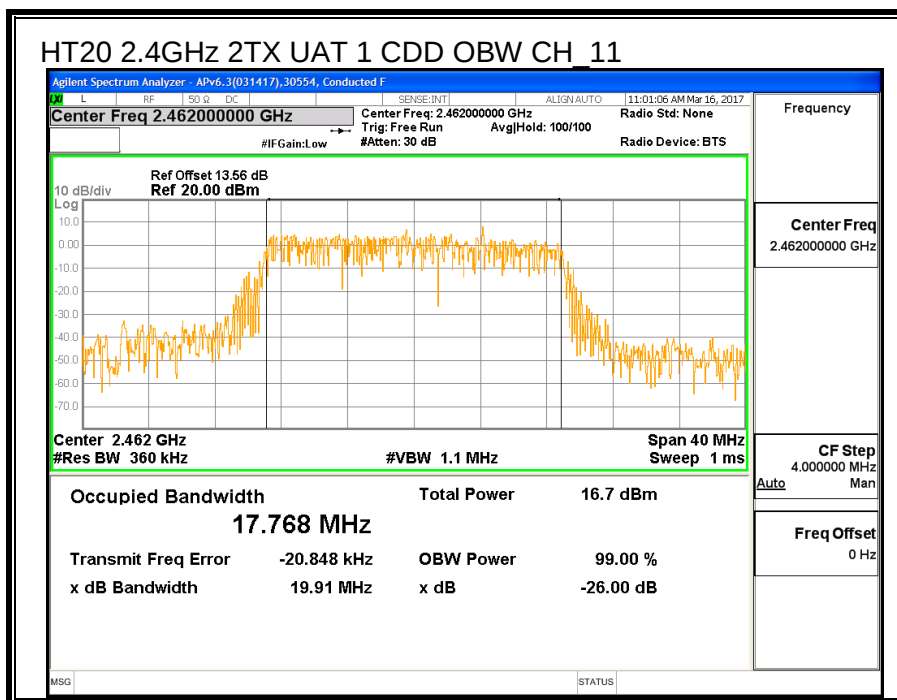
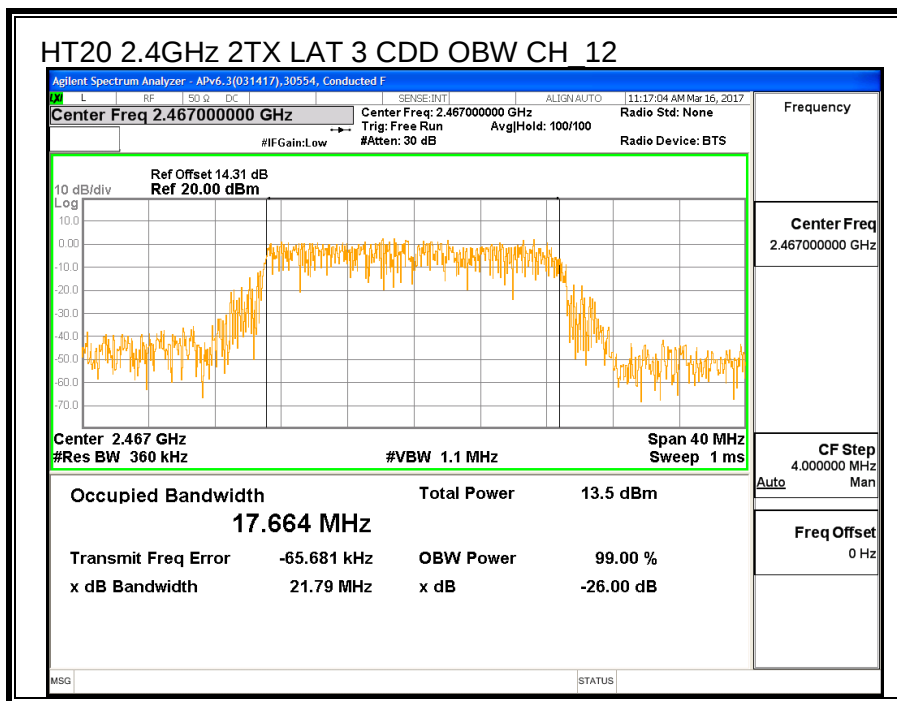
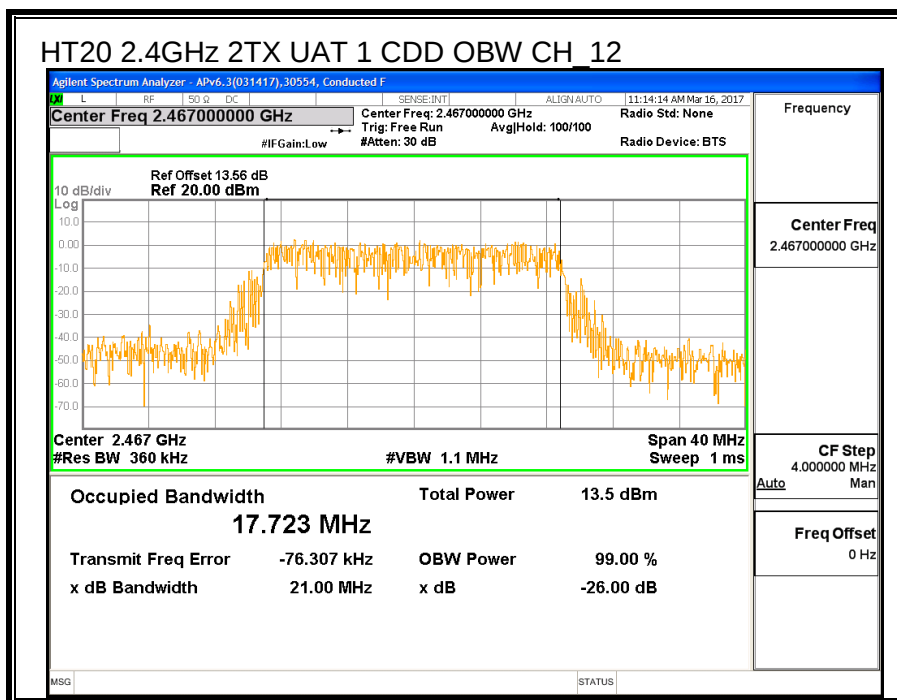
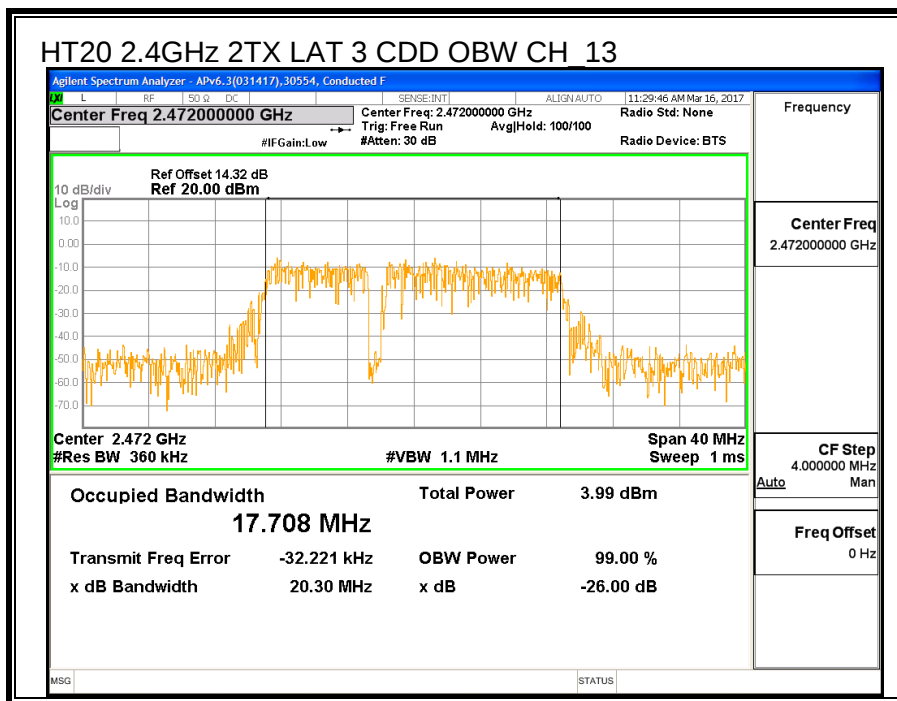
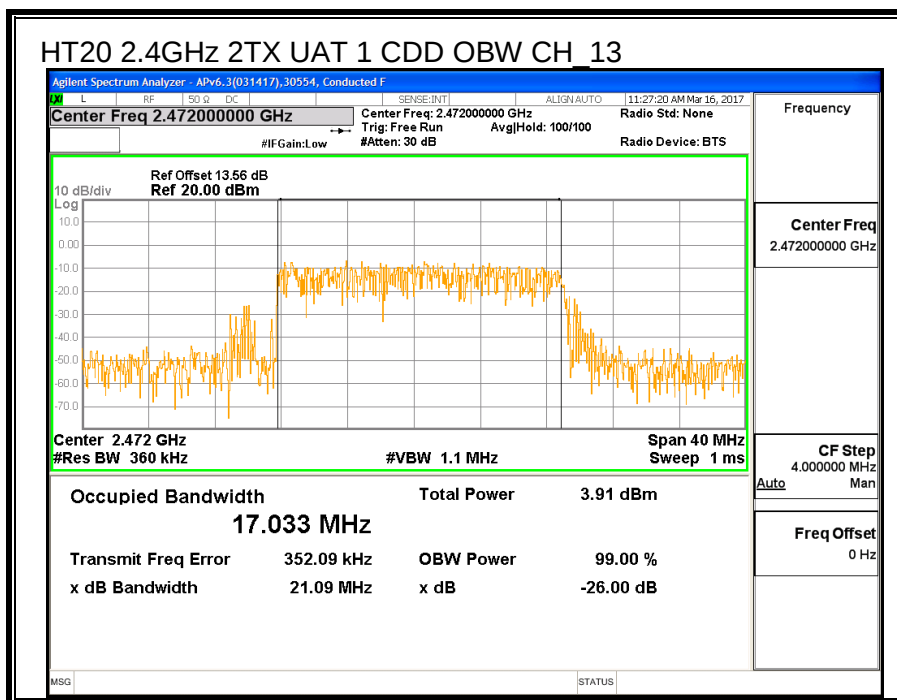












8.6.3. AVERAGE POWER

ID:	29446	Date:	6/9/2017
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LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	Power UAT 1 (MHz)	Power LAT 3 (MHz)
Low_1	2412	14.67	14.93
Low_2	2417	17.86	17.92
Low_3	2422	19.25	19.43
Middle_6	2437	20.52	20.93
High_9	2452	19.32	19.45
High_10	2457	16.42	16.45
High_11	2462	14.35	14.48
High_12	2467	12.91	12.94
High_13	2472	3.97	3.80

8.6.4. OUTPUT POWER

ID:	29446	Date:	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

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

UAT 1	LAT 3	Uncorrelated Chains
Gain	Gain	Directional
(dBi)	(dBi)	Gain
(dBi)	(dBi)	(dBi)
1.01	-2.24	-0.32

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	-0.32	30.00	30	36	30.00
Low_2	2417	-0.32	30.00	30	36	30.00
Low_3	2422	-0.32	30.00	30	36	30.00
Mid	2437	-0.32	30.00	30	36	30.00
High_9	2452	-0.32	30.00	30	36	30.00
High_10	2457	-0.32	30.00	30	36	30.00
High_11	2462	-0.32	30.00	30	36	30.00
High_12	2467	-0.32	30.00	30	36	30.00
High_13	2472	-0.32	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)	UAT 1 Meas Power (dBm)	LAT 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margi (dB)
Low_1	2412	21.27	21.63	24.46	30.00	-5.54
Low_2	2417	24.16	24.42	27.30	30.00	-2.70
Low_3	2422	25.45	25.63	28.55	30.00	-1.45
Mid	2437	26.07	26.62	29.36	30.00	-0.64
High_9	2452	25.52	25.55	28.55	30.00	-1.45
High_10	2457	22.92	23.05	26.00	30.00	-4.00
High_11	2462	20.95	20.88	23.93	30.00	-6.07
High_12	2467	19.41	19.44	22.44	30.00	-7.56
High_13	2472	10.57	10.48	13.54	30.00	-16.46

8.6.5. 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.

DIRECTIONAL ANTENNA GAIN

For PSD used correlated gain: The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

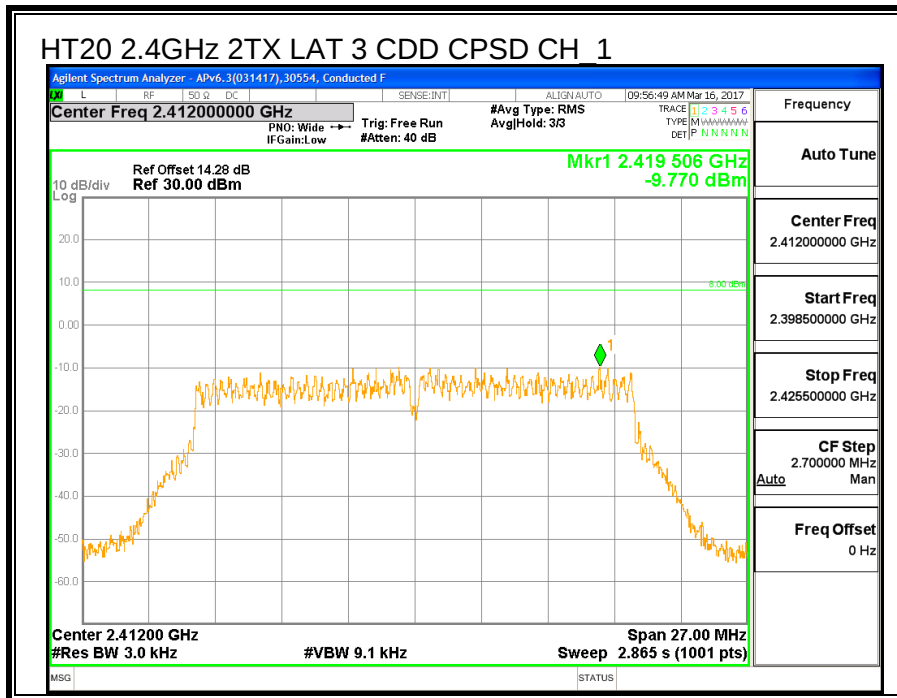
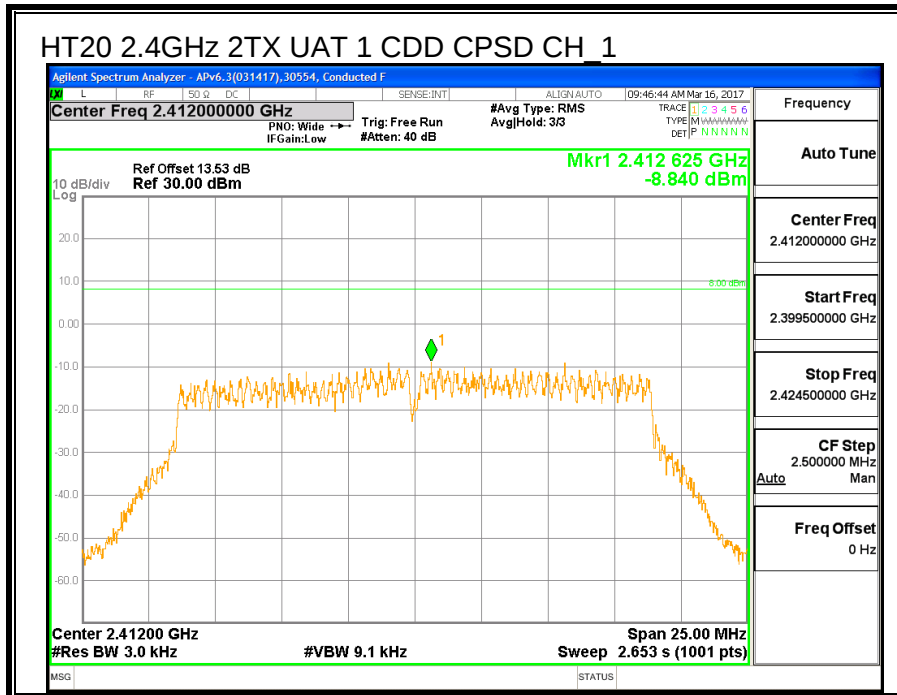
UAT1 Antenna Gain (dBi)	LAT 3 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
1.01	-2.24	2.55

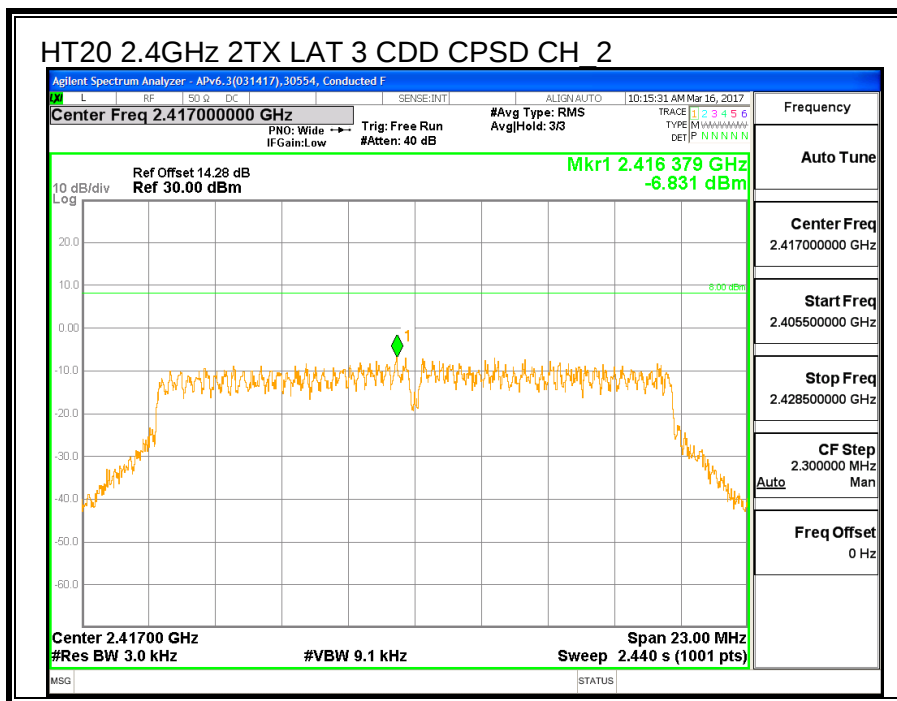
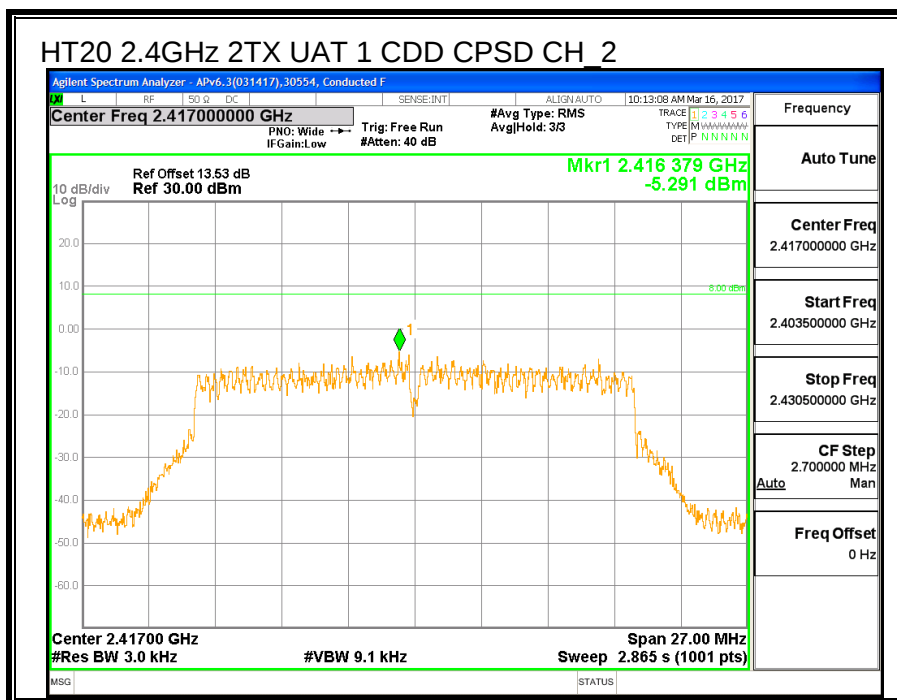
RESULTS

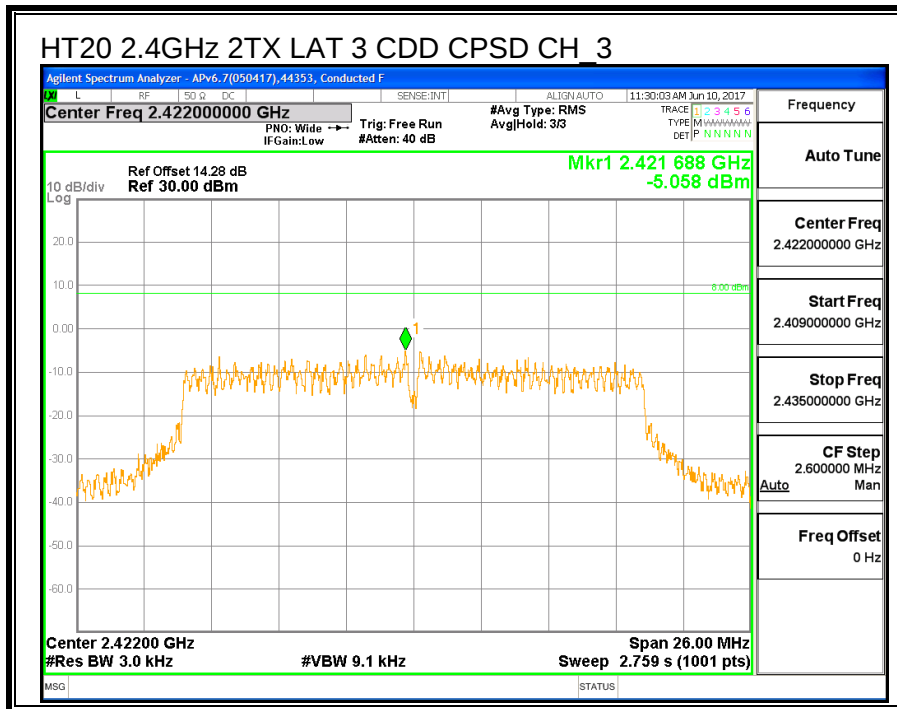
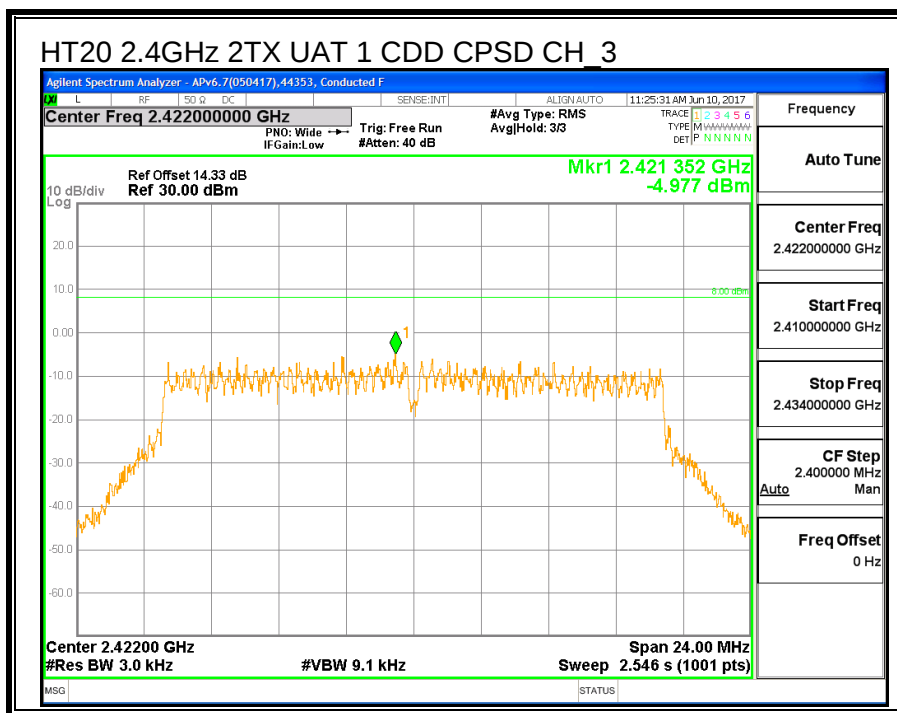
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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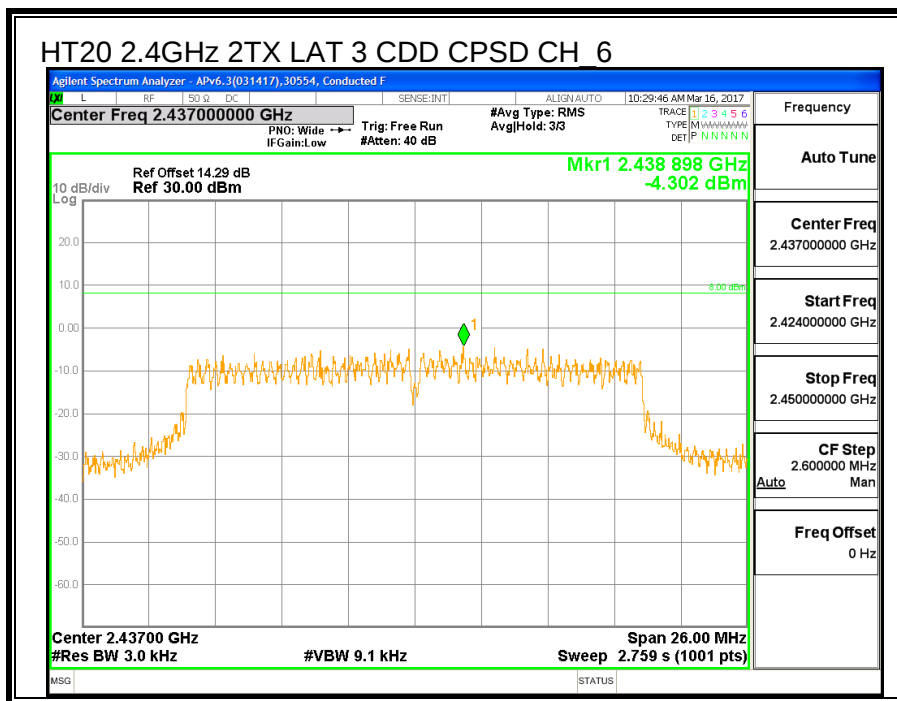
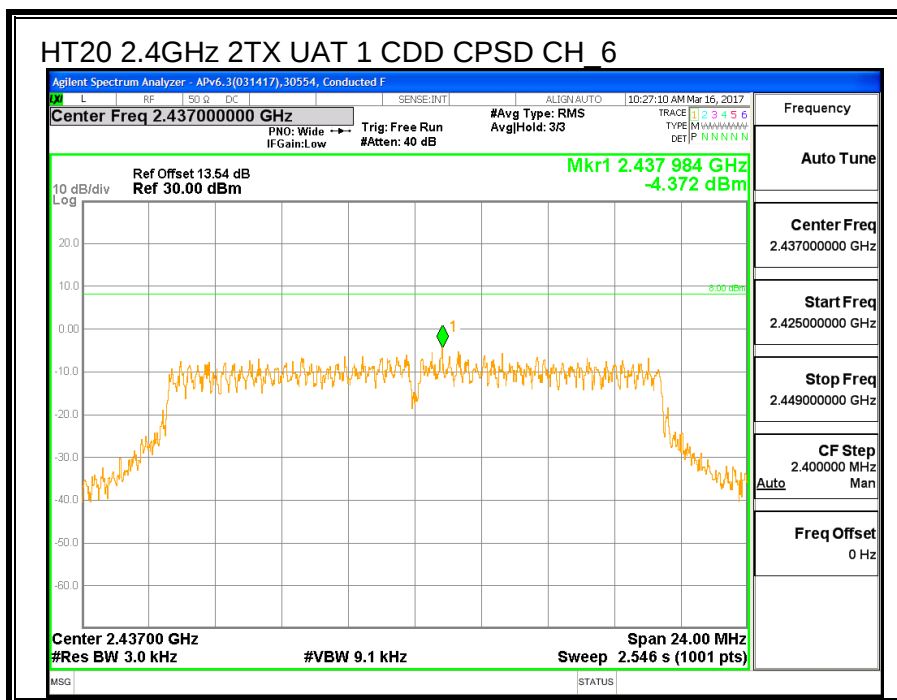
PSD Results

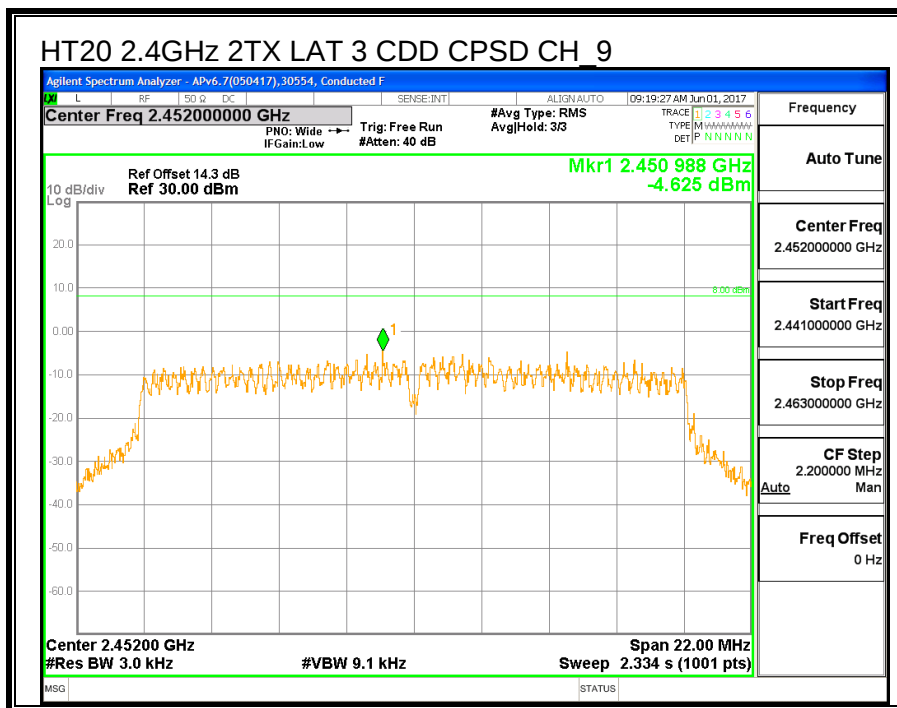
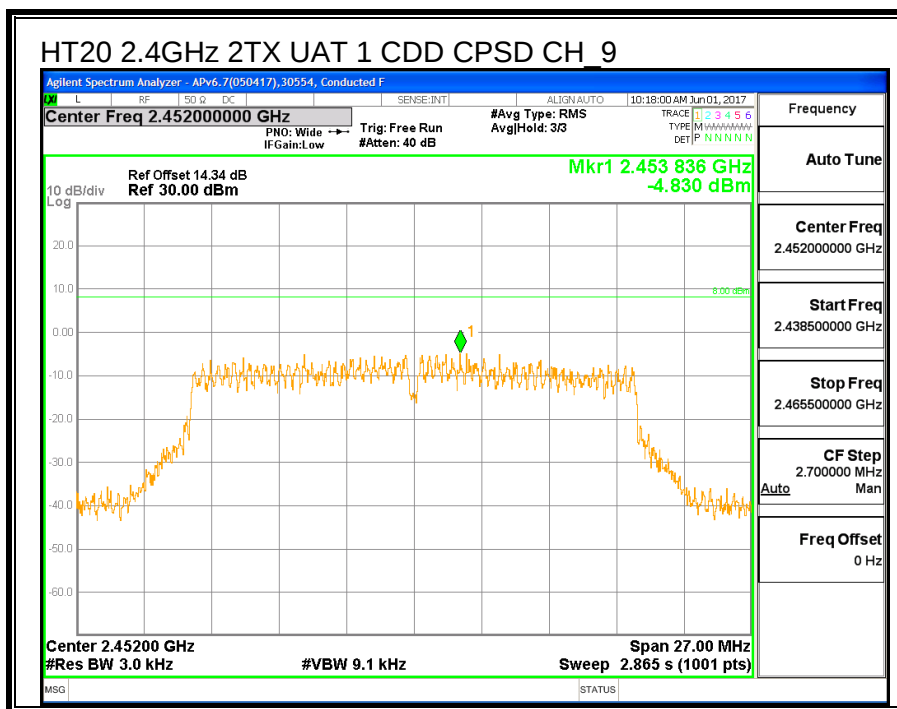
Channel	Frequency (MHz)	UAT 1 Meas (dBm/3kHz)	LAT 3 Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low_1	2412	-8.84	-9.77	-6.27	8.0	-14.3
Low_2	2417	-5.29	-6.83	-2.98	8.0	-11.0
Low_3	2422	-4.98	-5.06	-2.01	8.0	-10.0
Mid	2437	-4.37	-4.30	-1.33	8.0	-9.3
High_9	2452	-4.83	-4.63	-1.72	7.0	-8.7
High_10	2457	-7.81	-8.15	-4.97	8.0	-13.0
High_11	2462	-9.65	-7.35	-5.34	8.0	-13.3
High_12	2467	-10.30	-11.84	-7.99	8.0	-16.0
High_13	2472	-22.30	-22.56	-19.41	8.0	-27.4

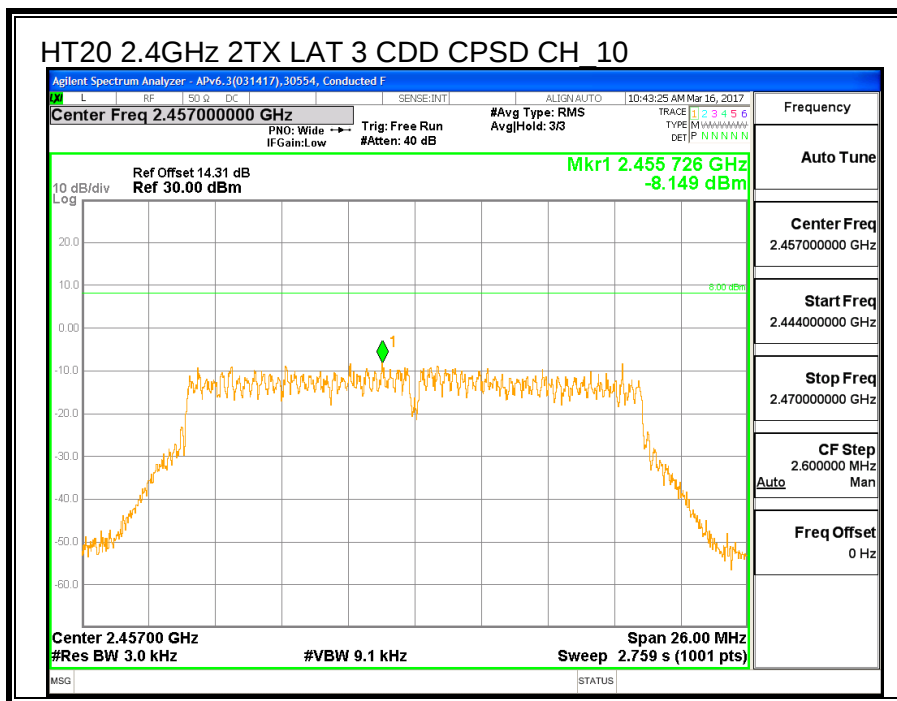
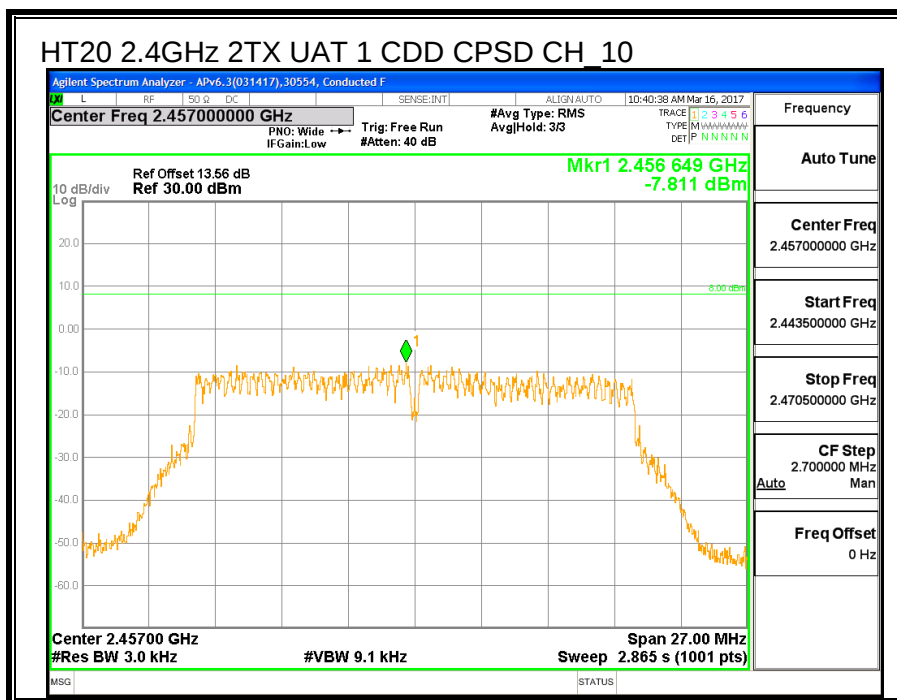


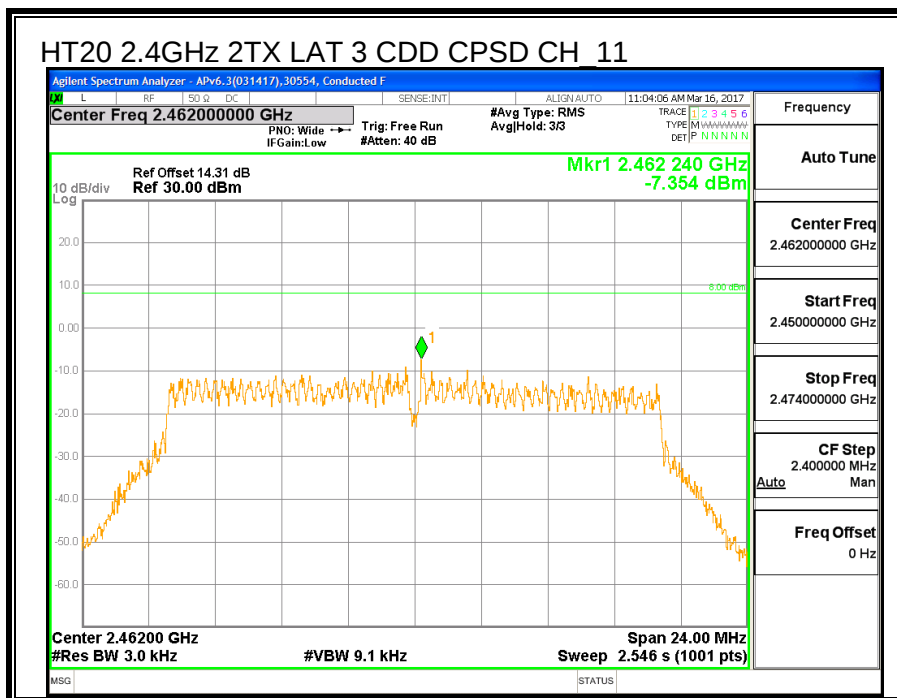
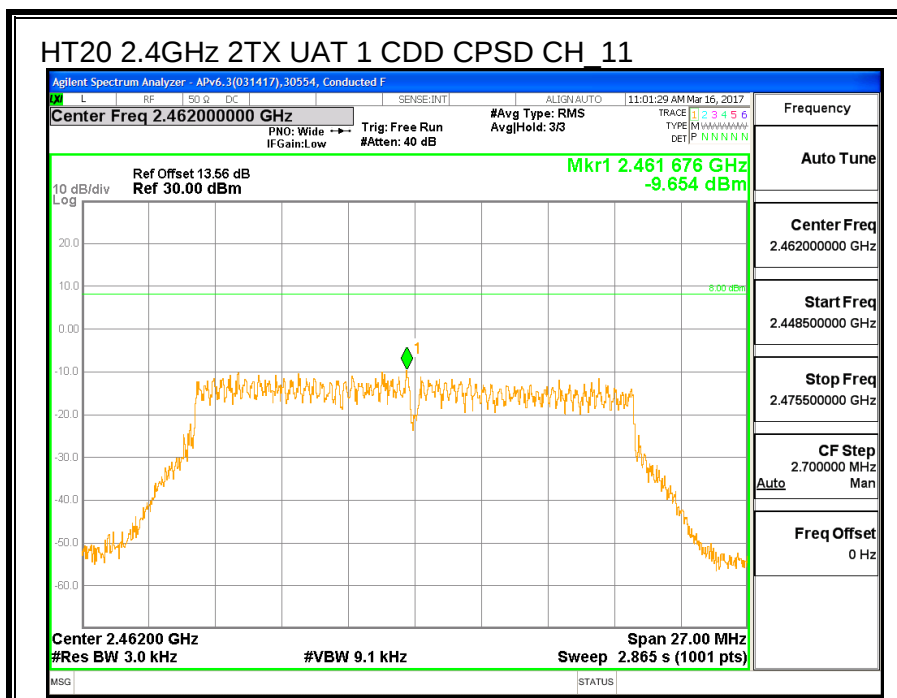


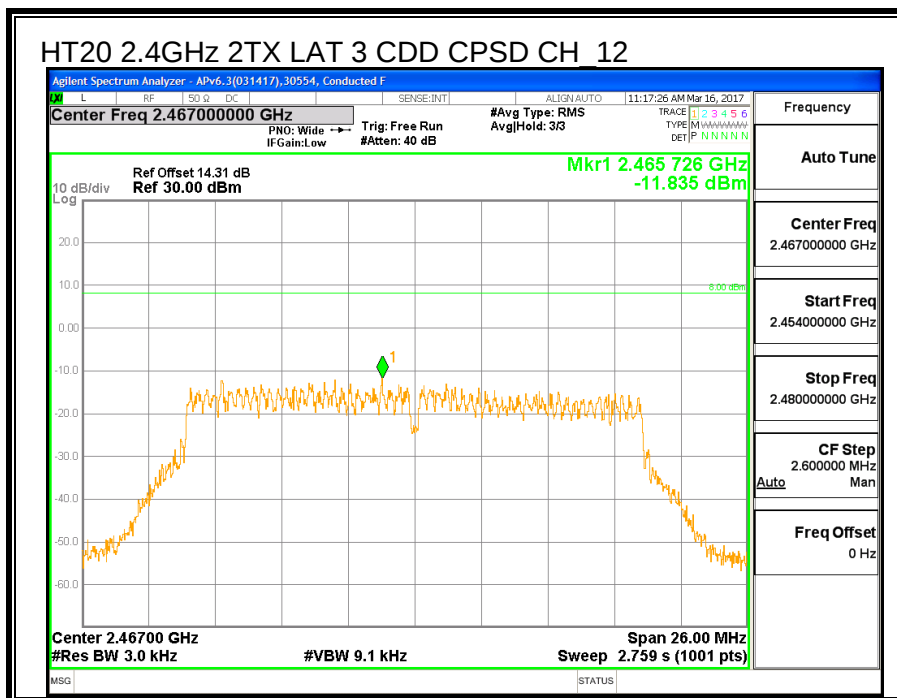
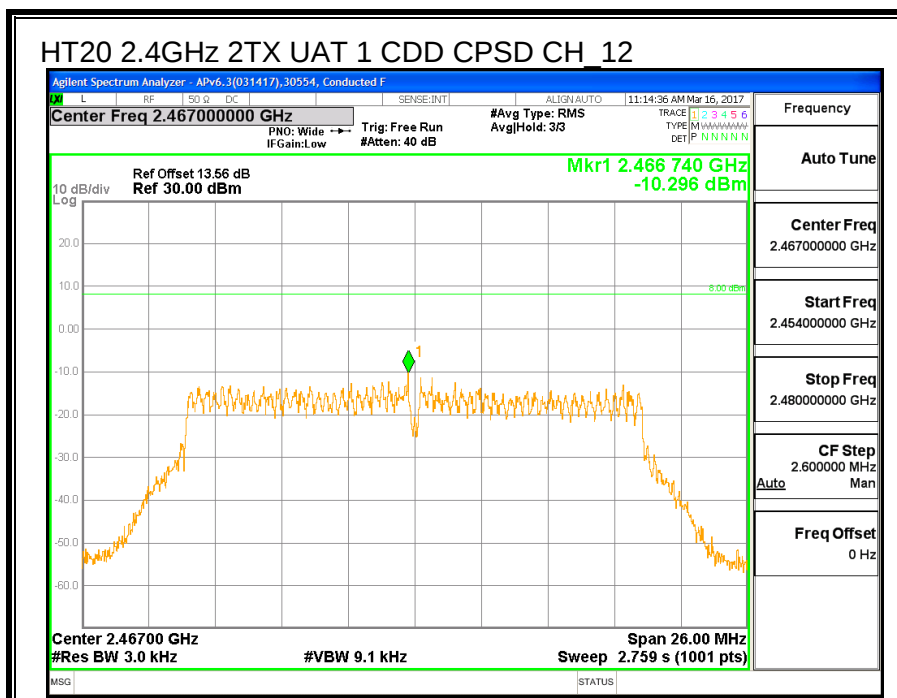


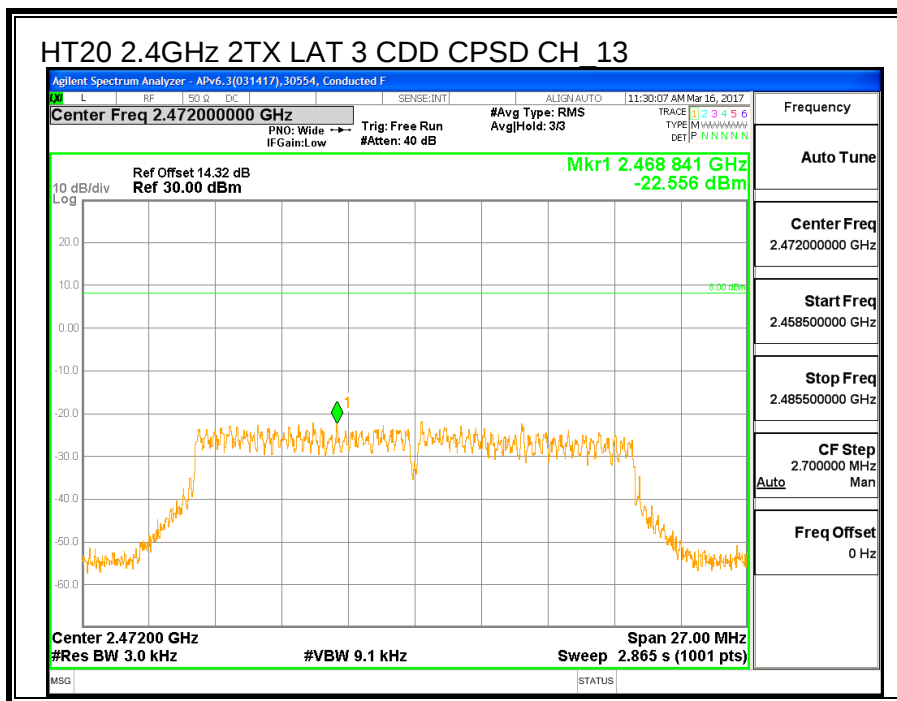
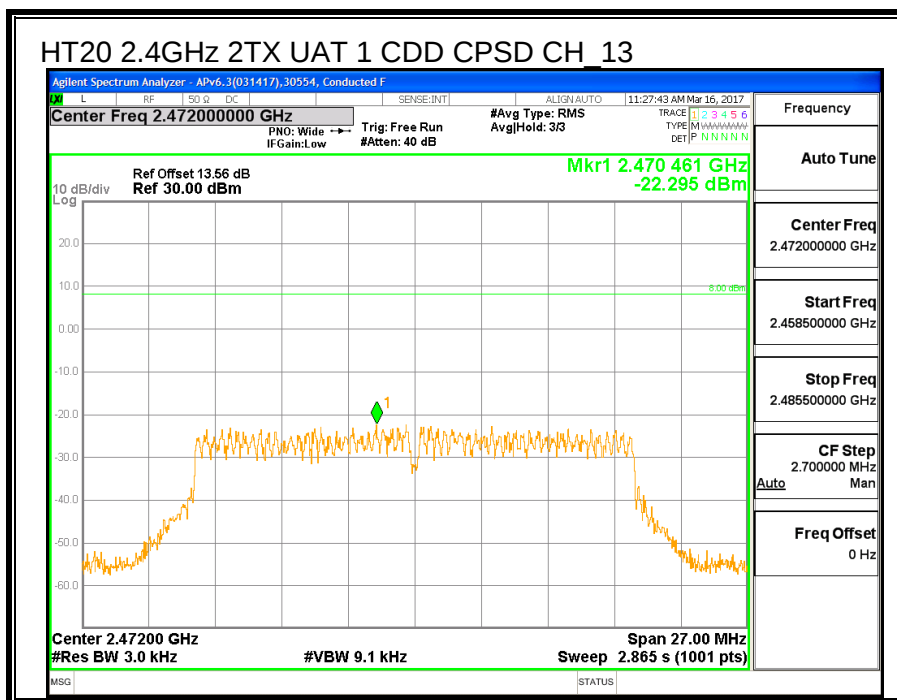












8.6.6. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

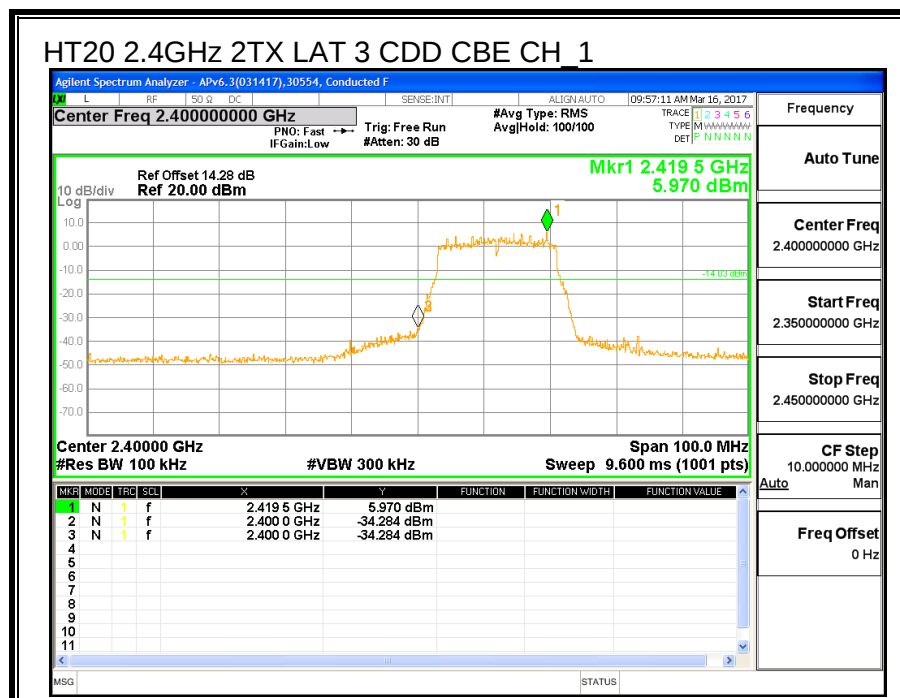
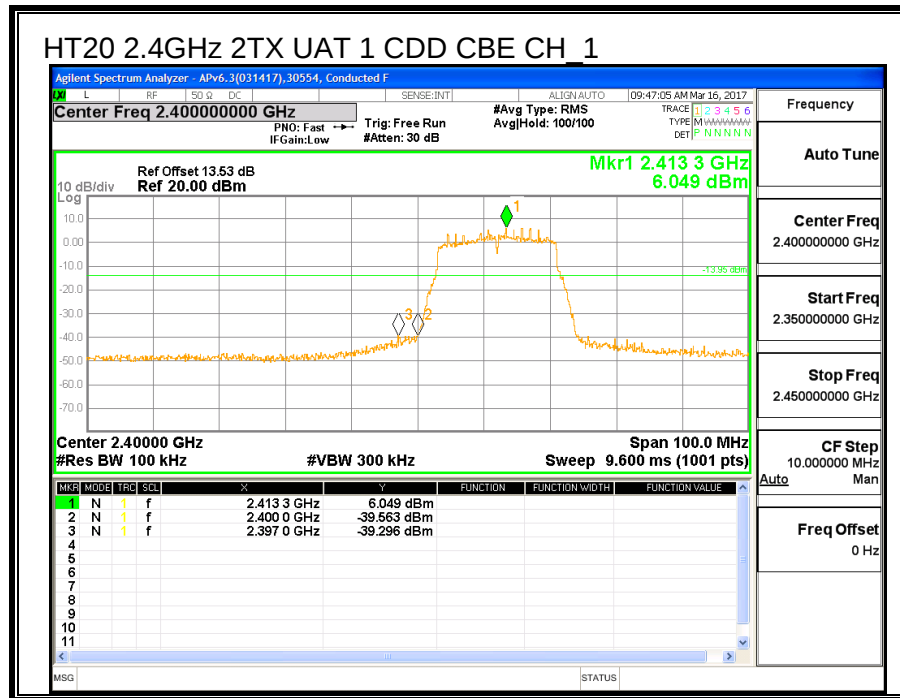
LIMITS

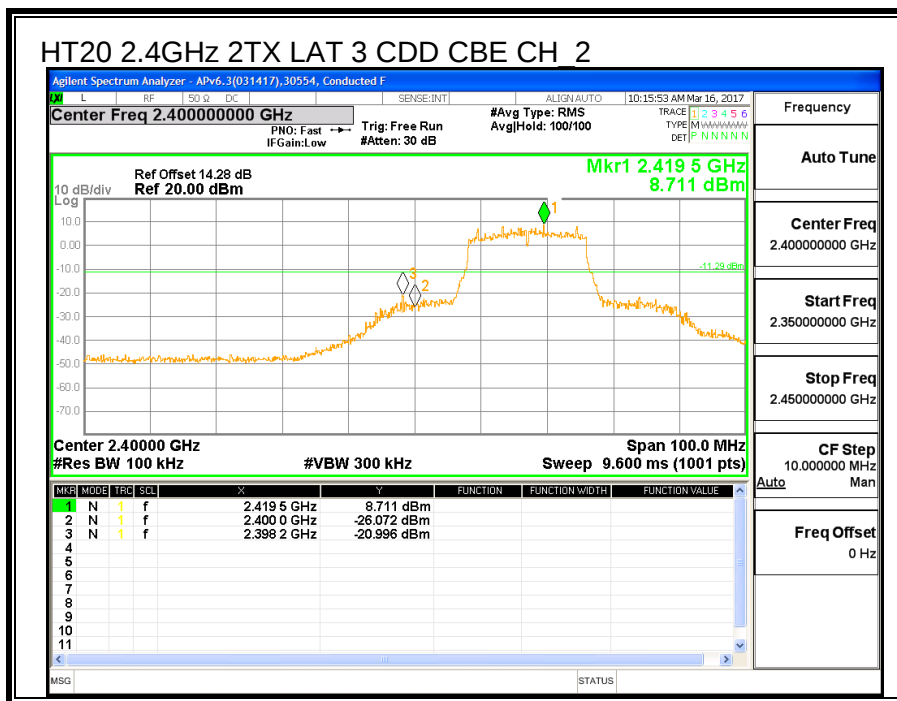
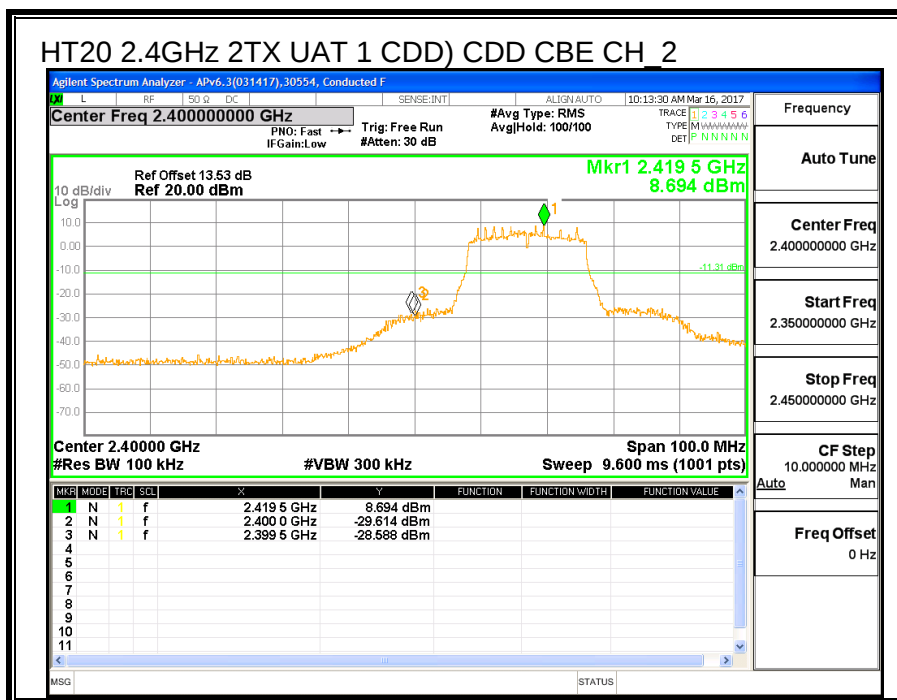
FCC §15.247 (d)

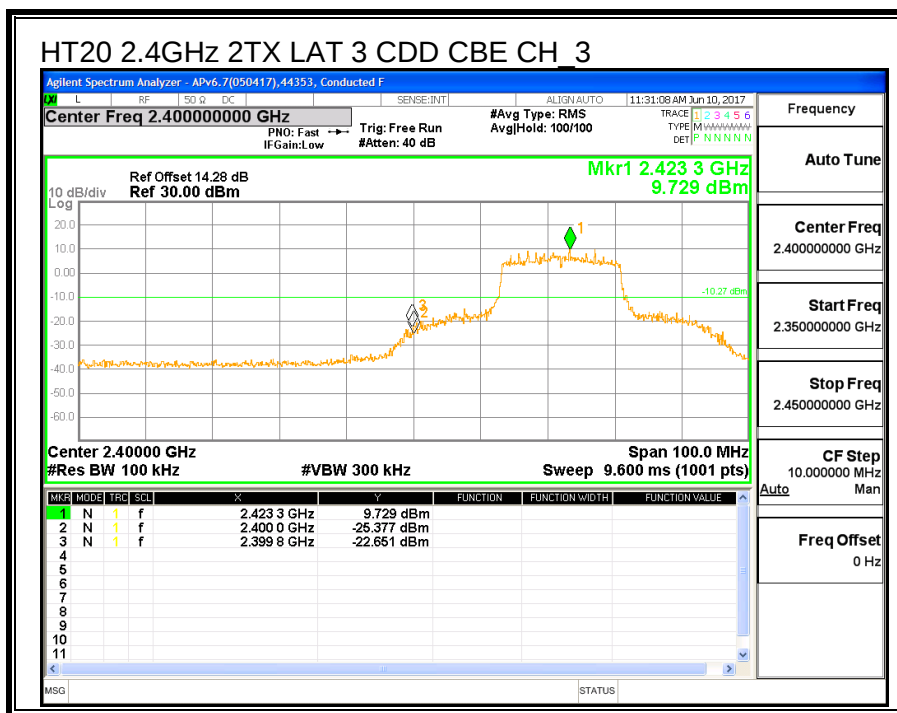
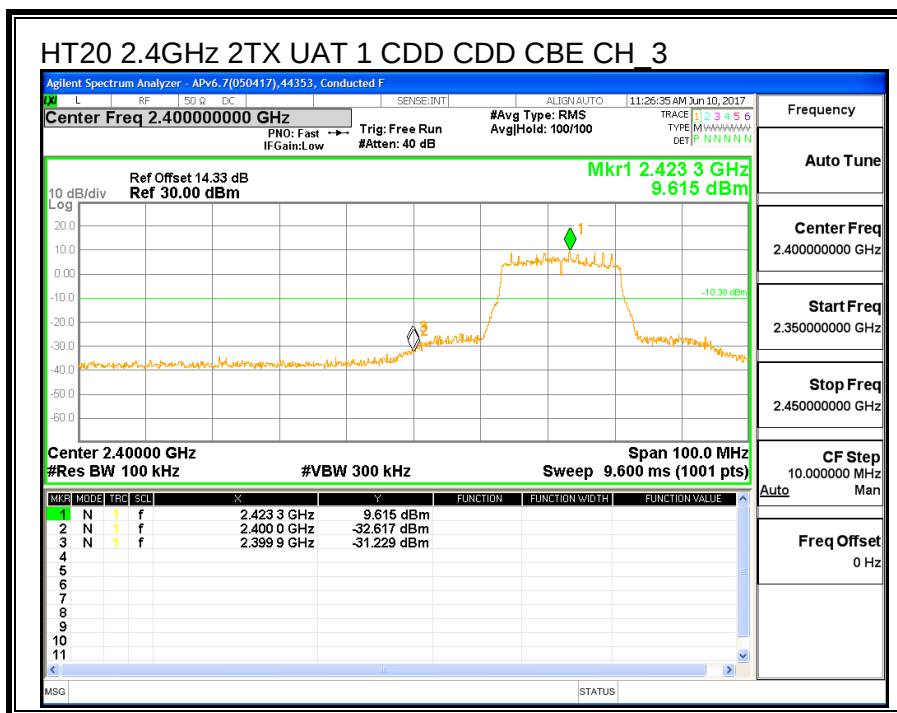
IC RSS-247 (5.5)

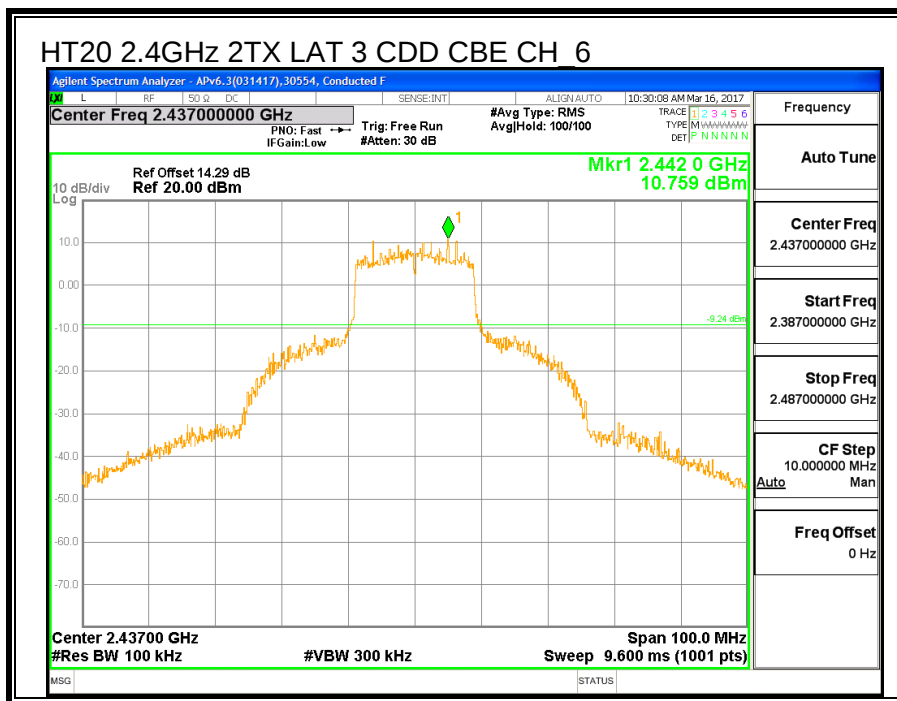
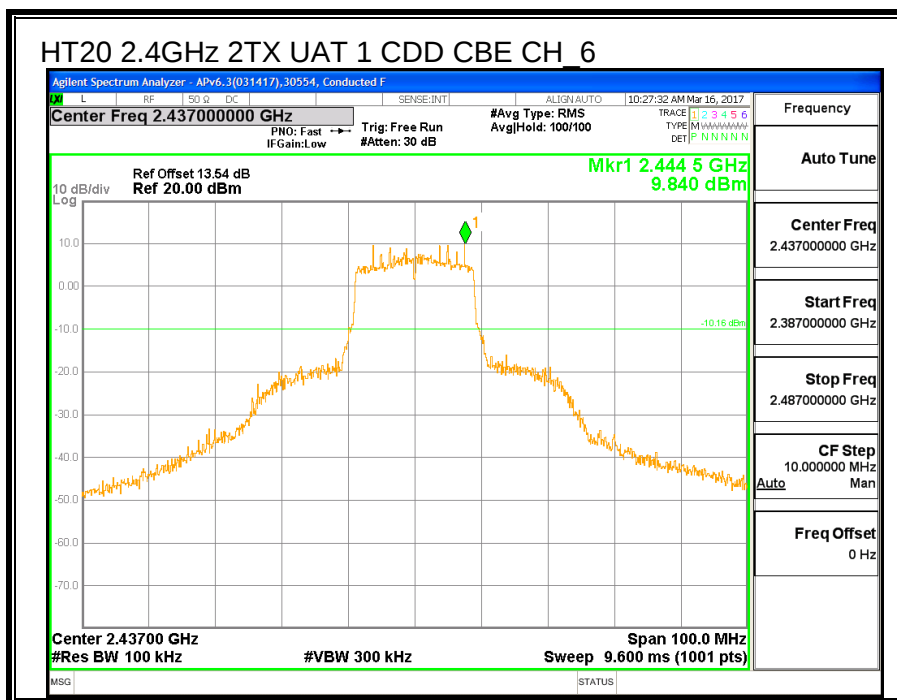
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the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

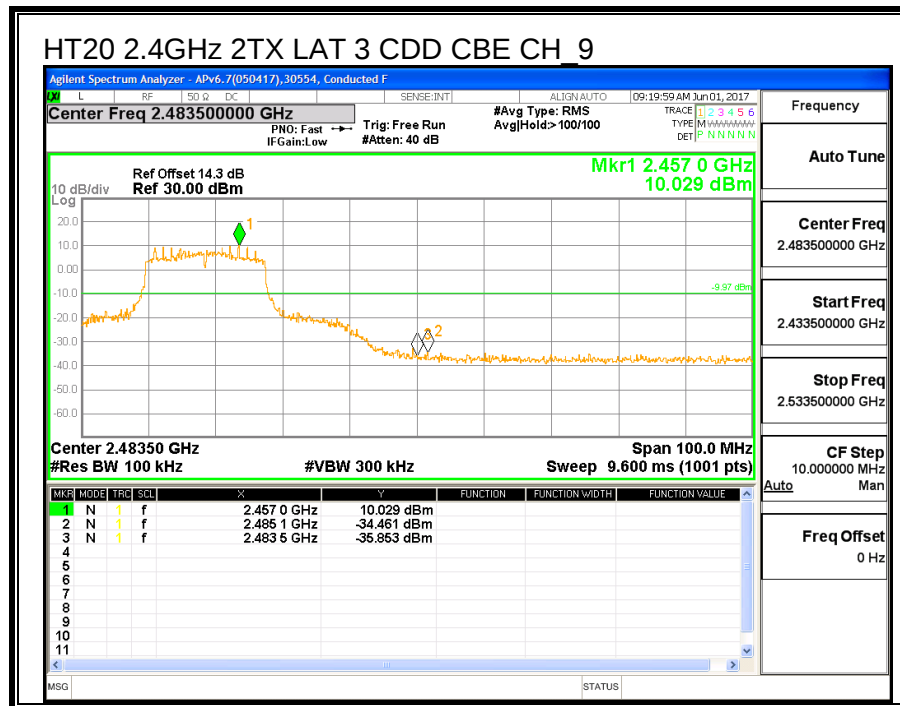
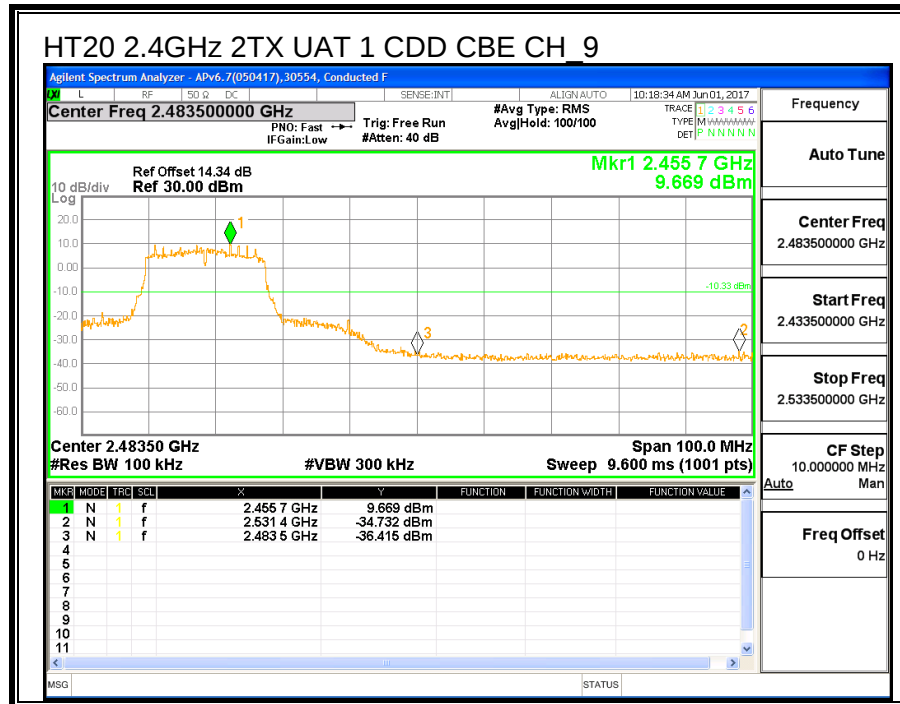
CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

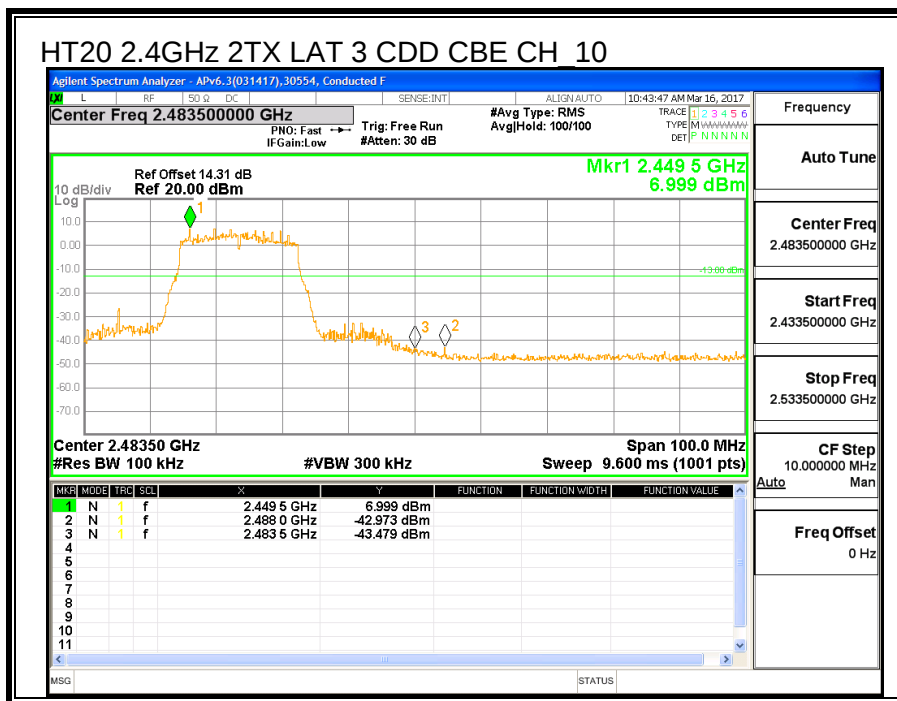
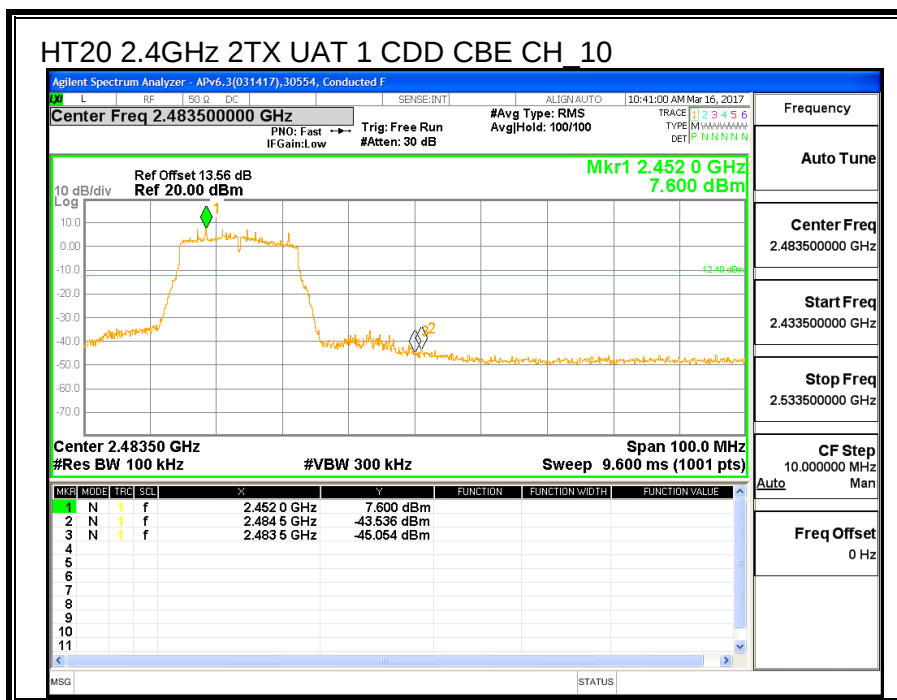


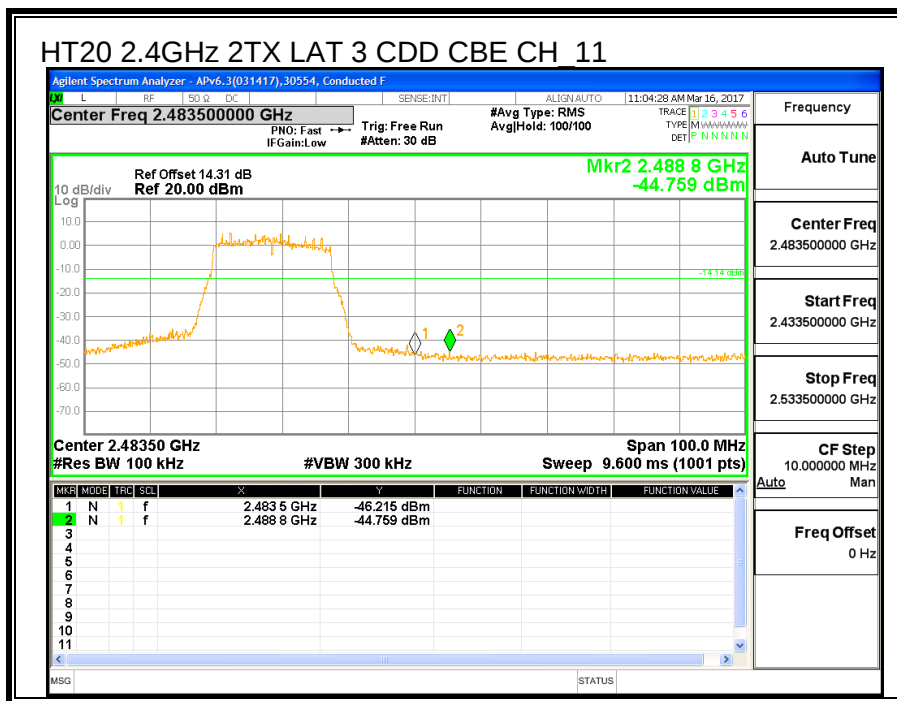
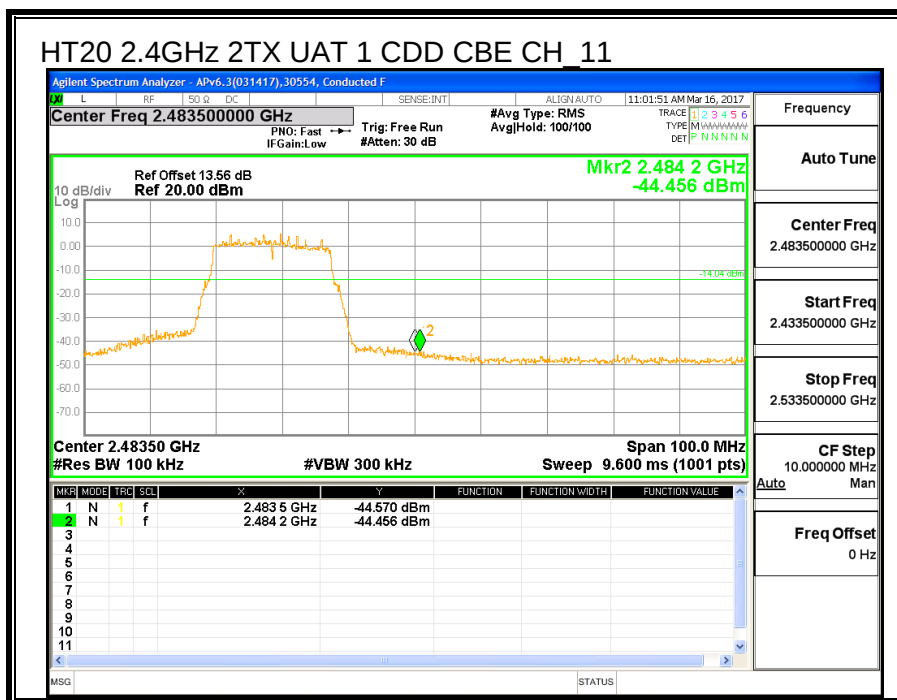


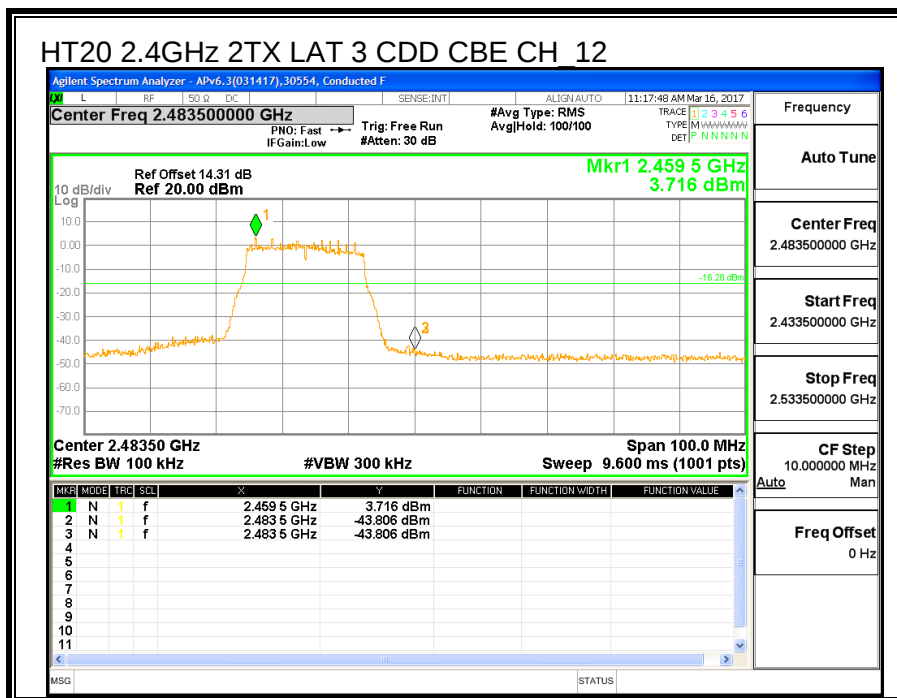
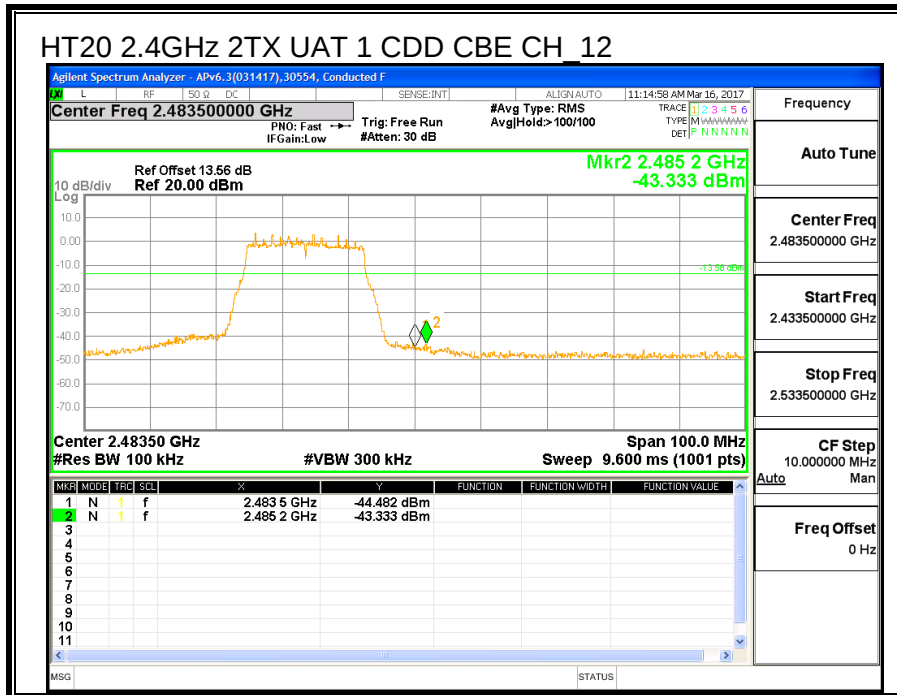


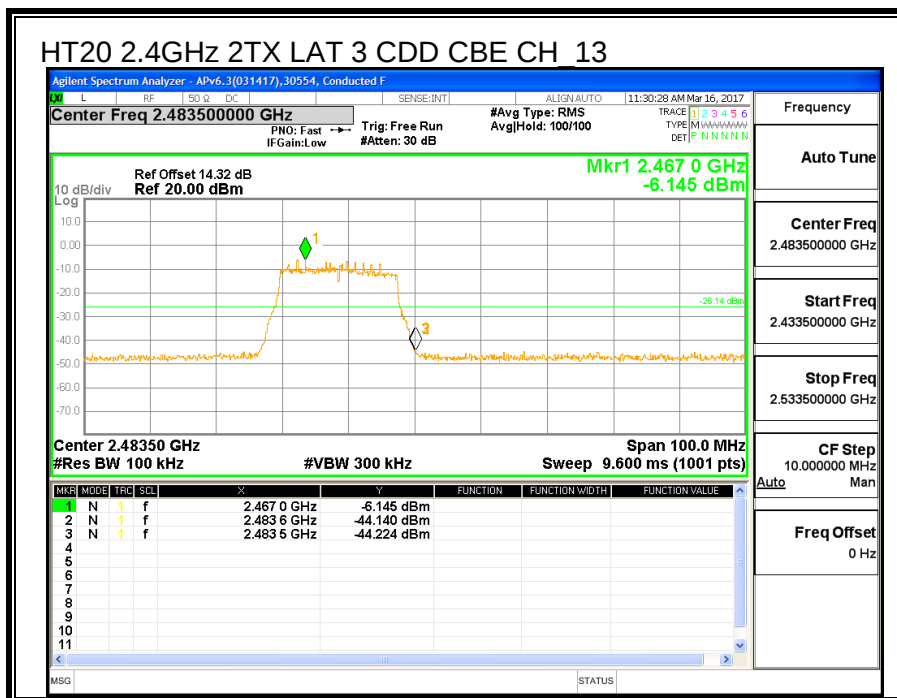
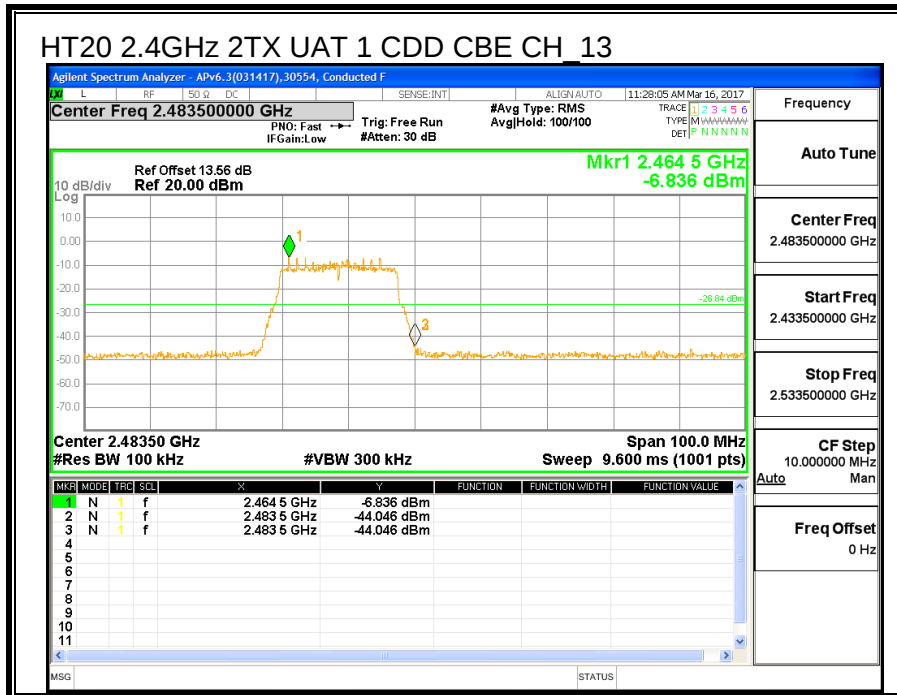


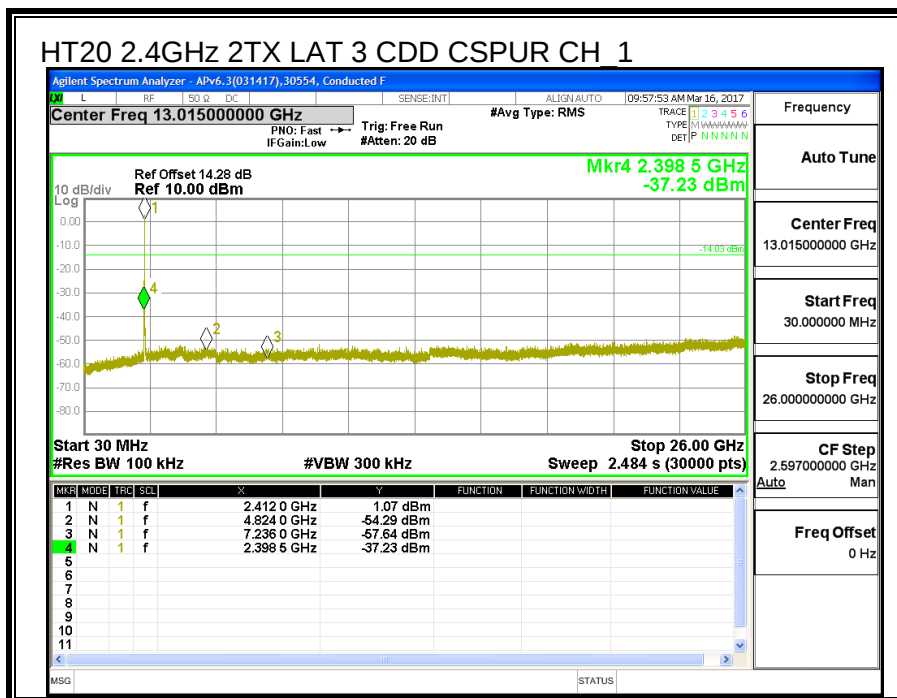
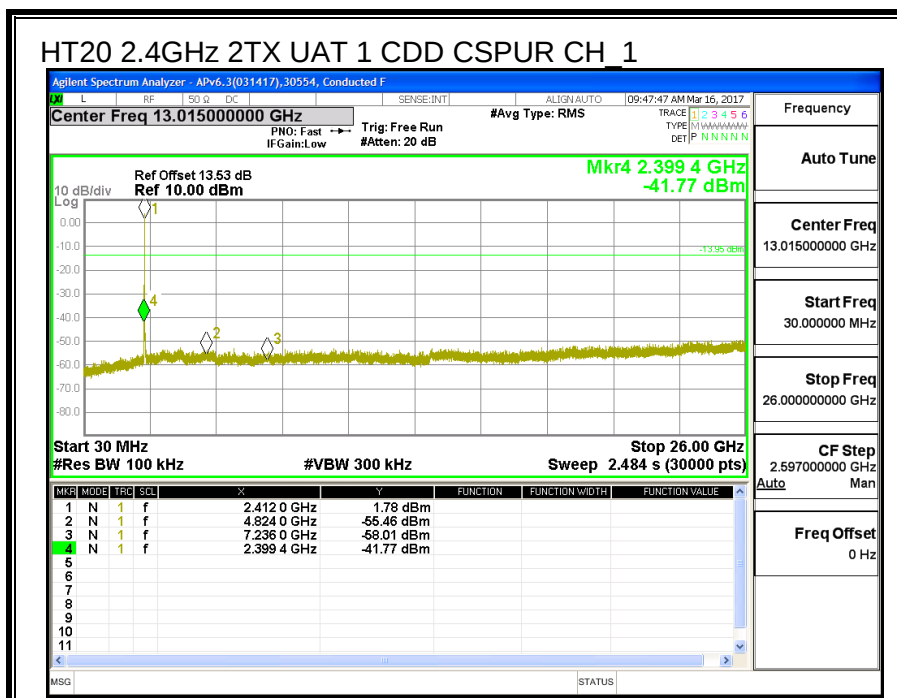


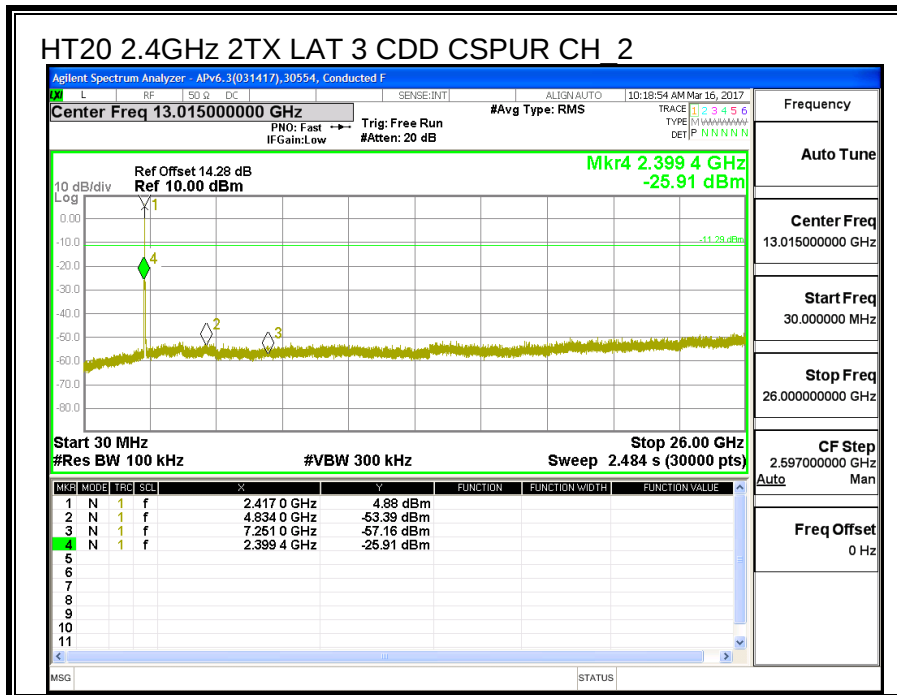
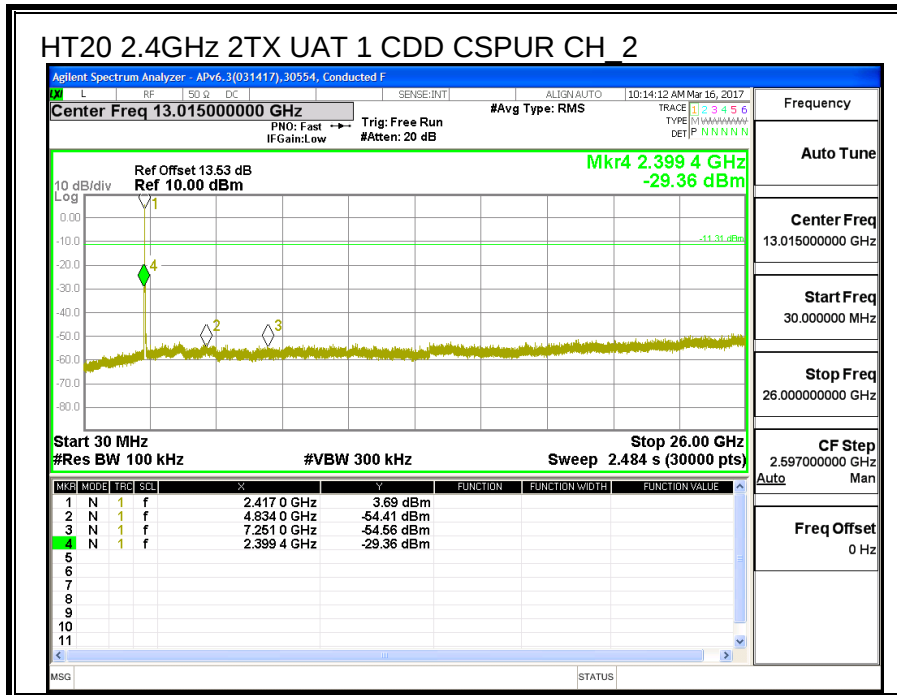


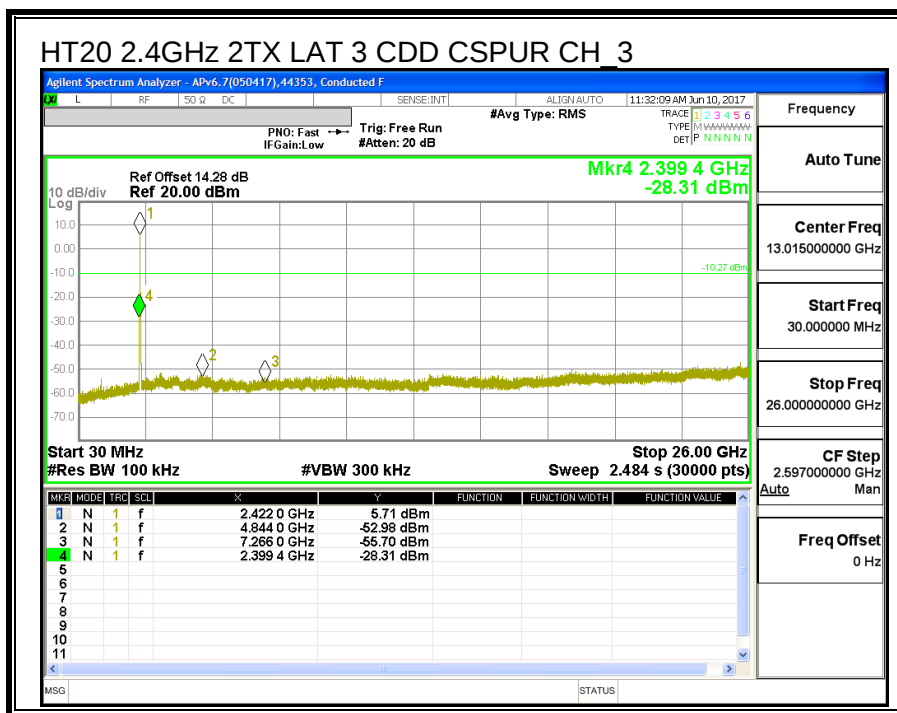
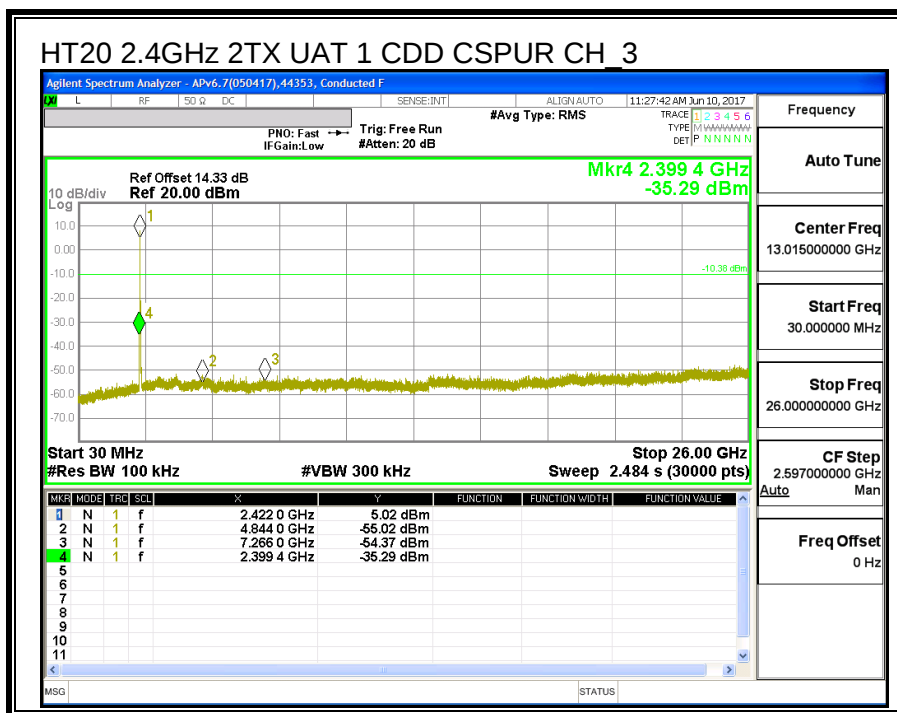


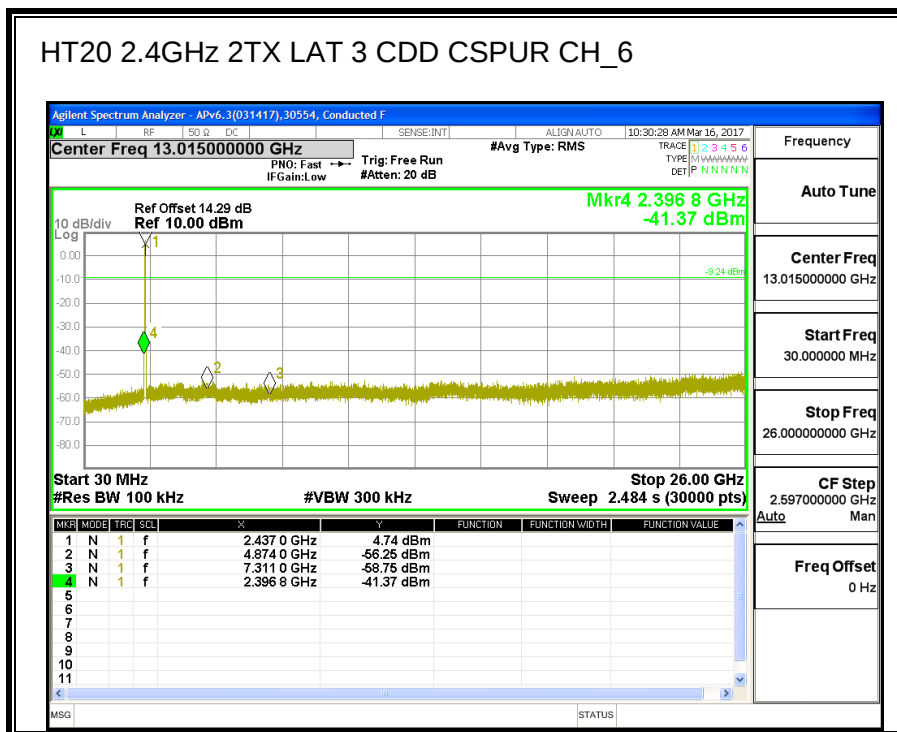
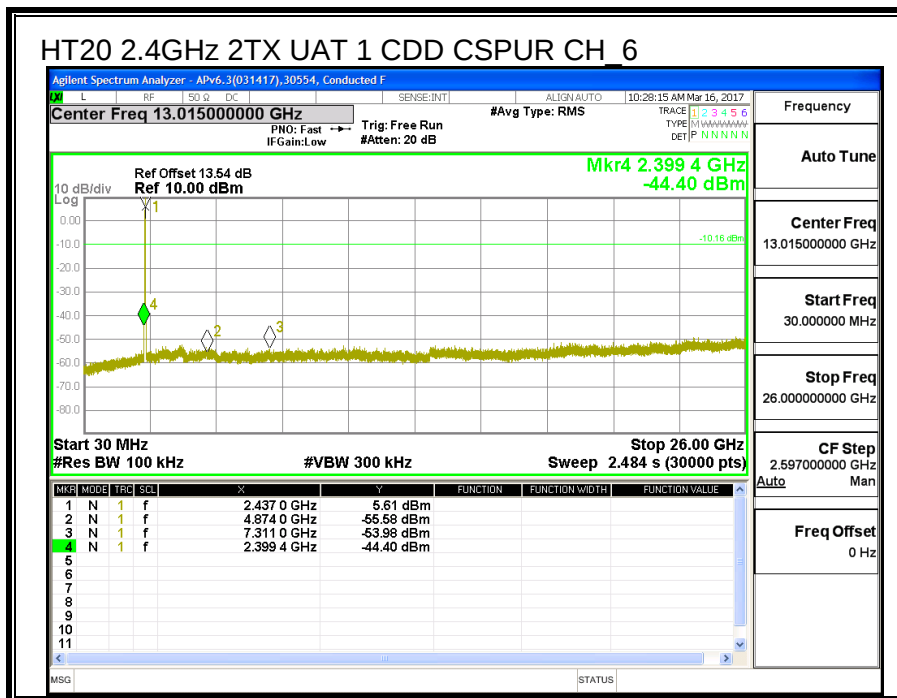


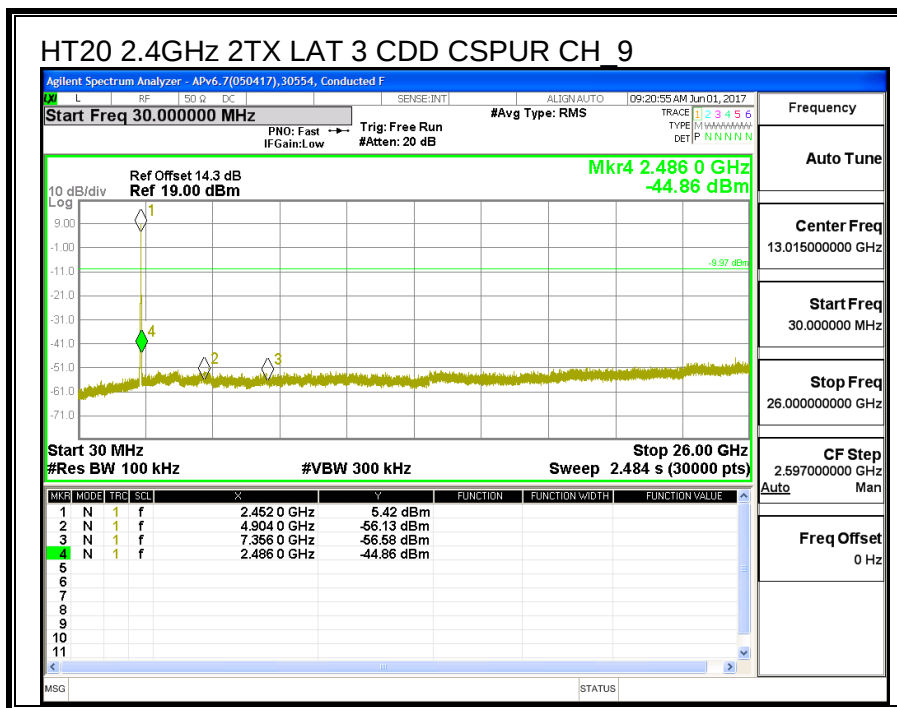
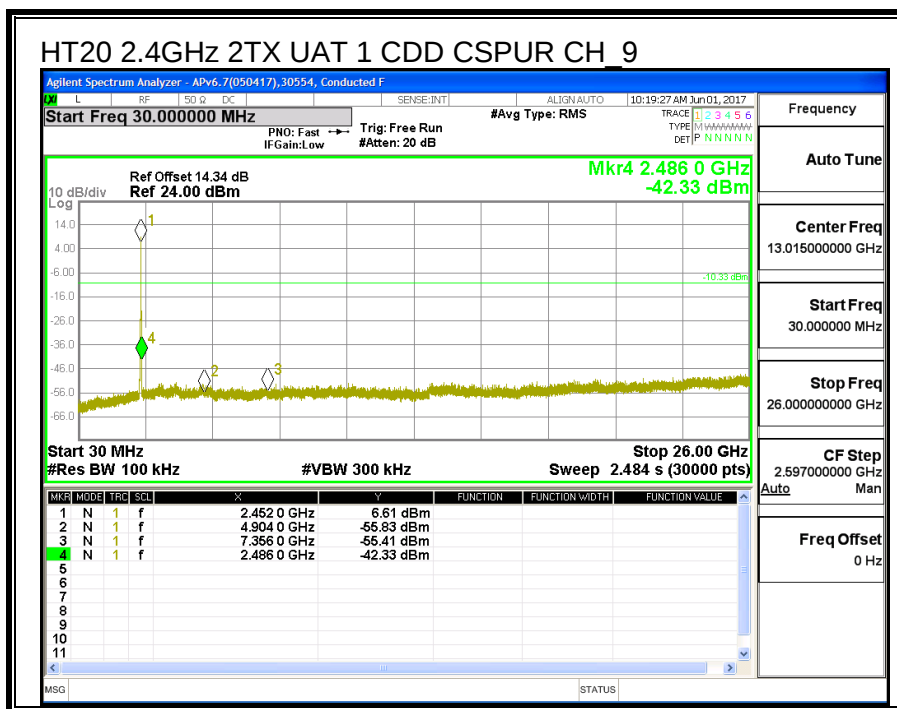


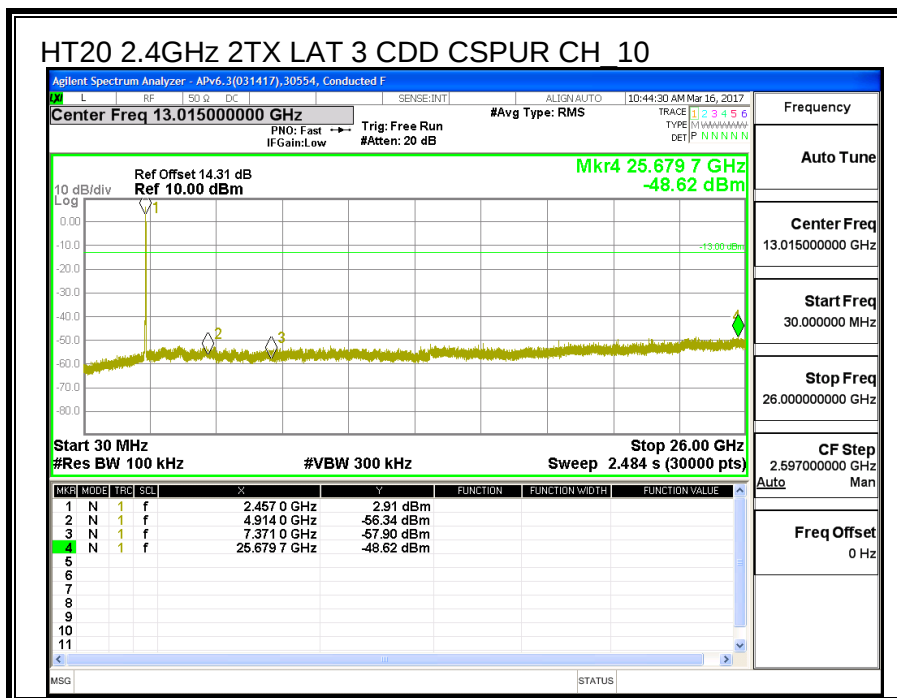
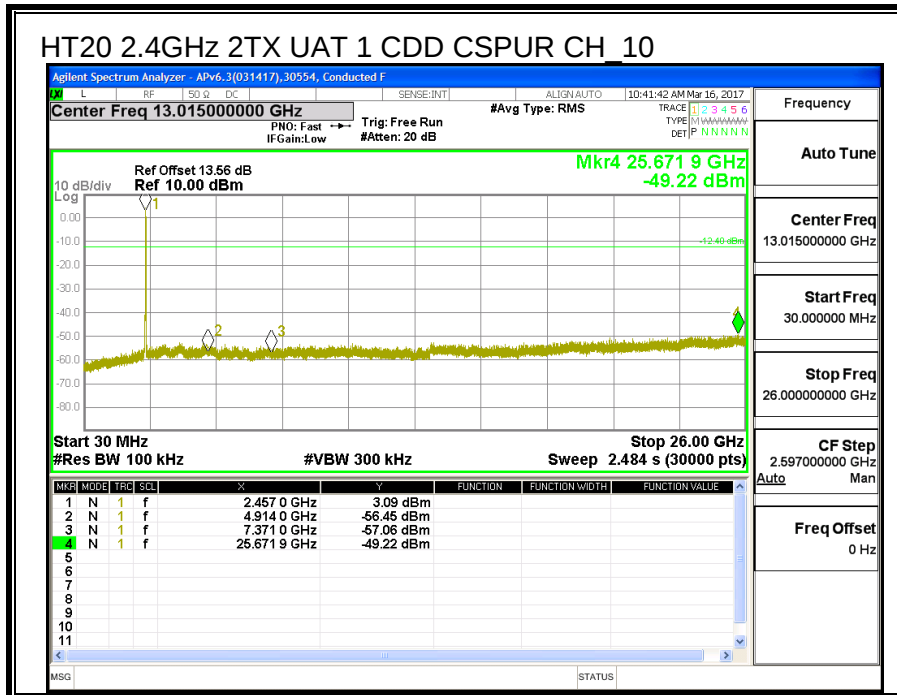


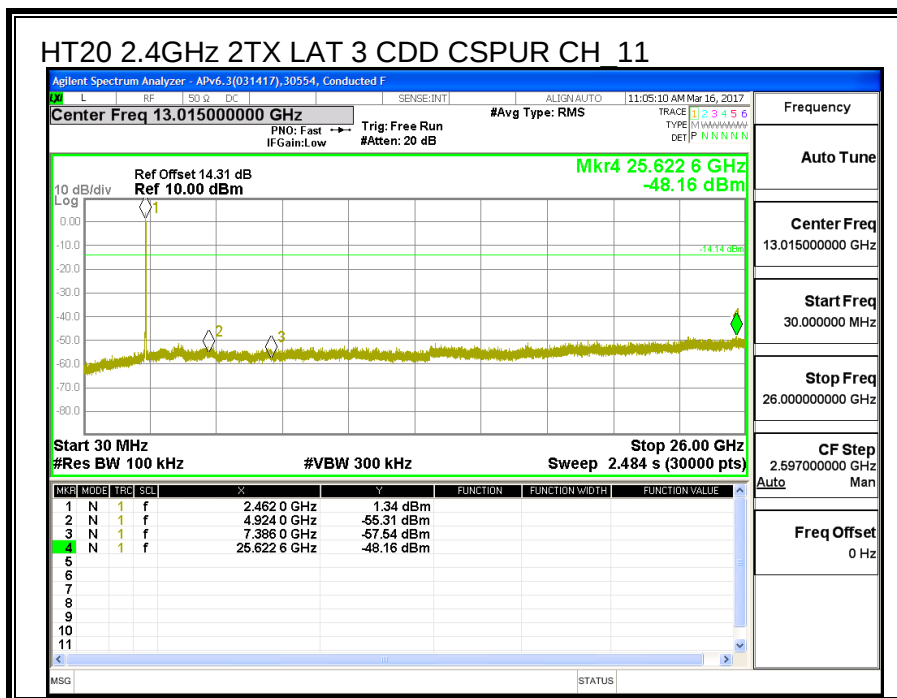
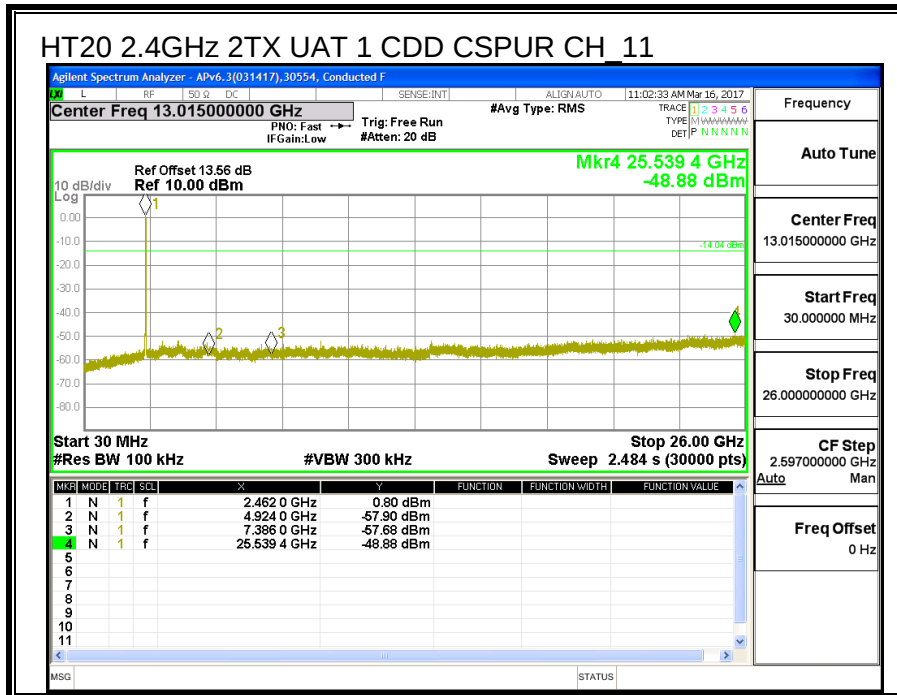


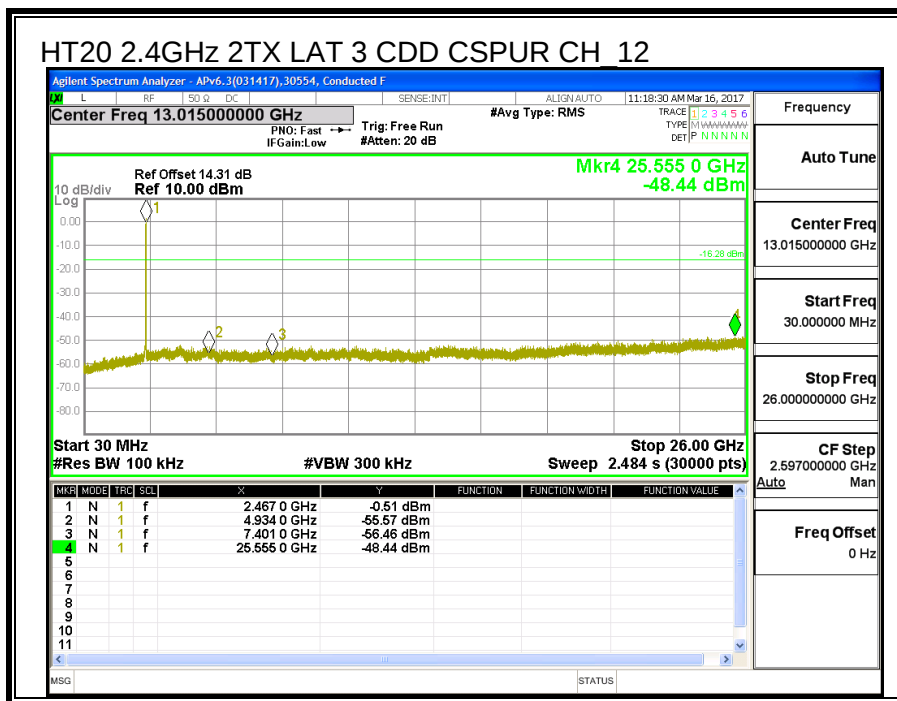
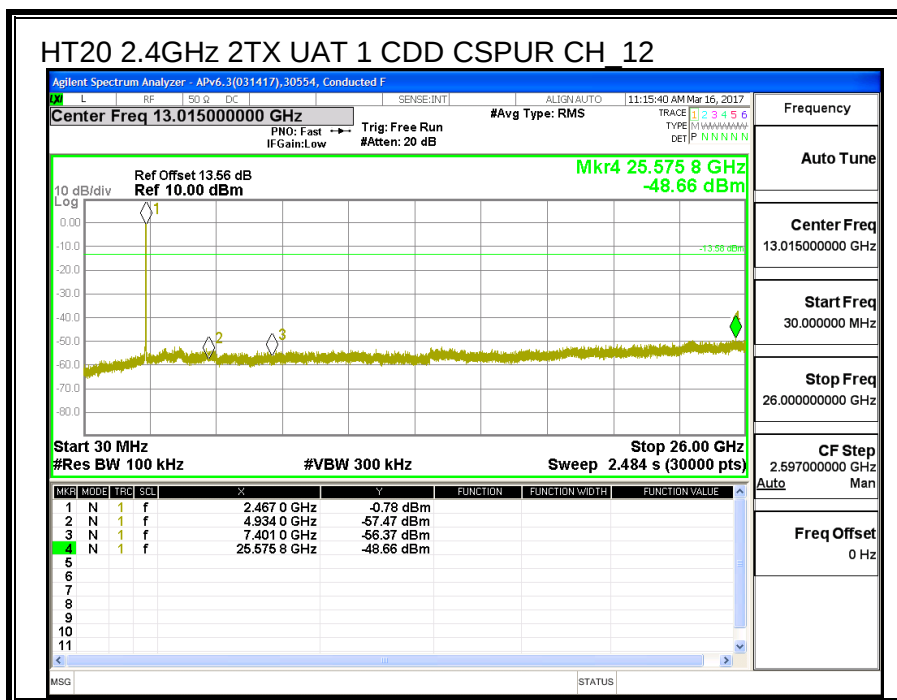


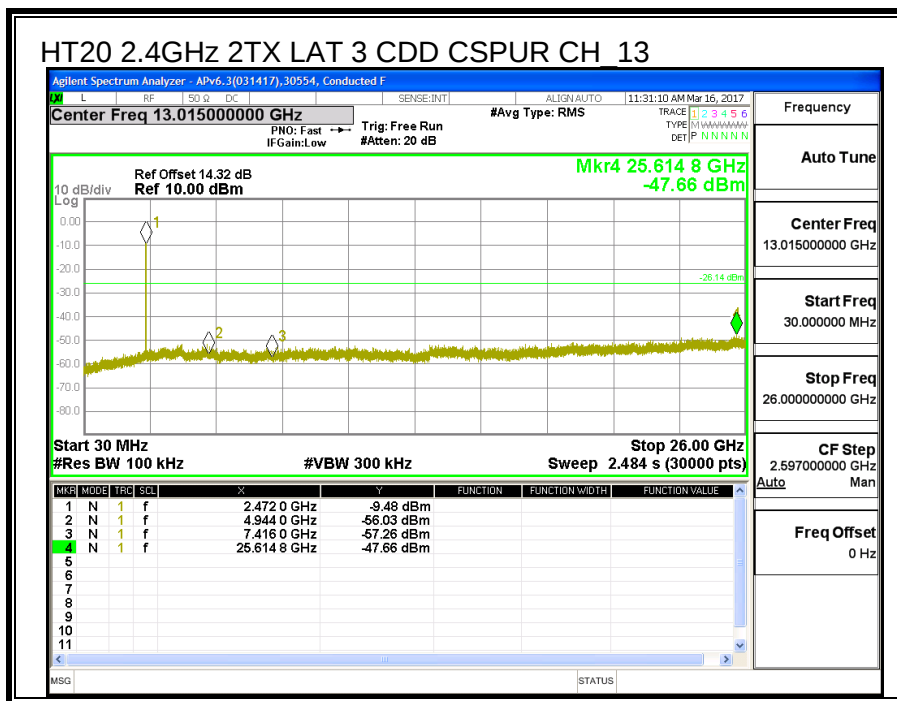
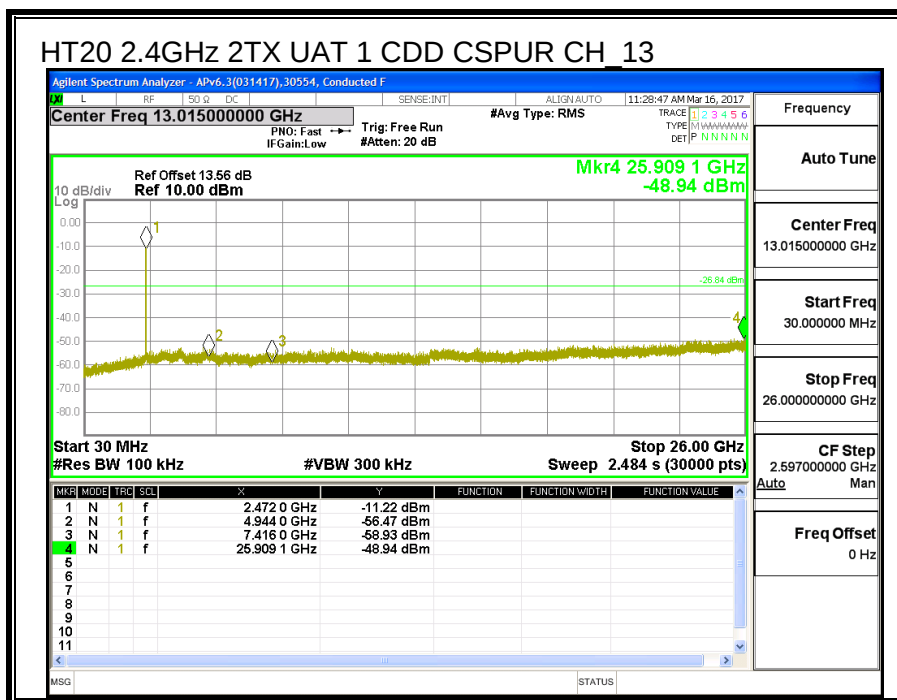












9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-GEN, Section 8.9 and 8.10.

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

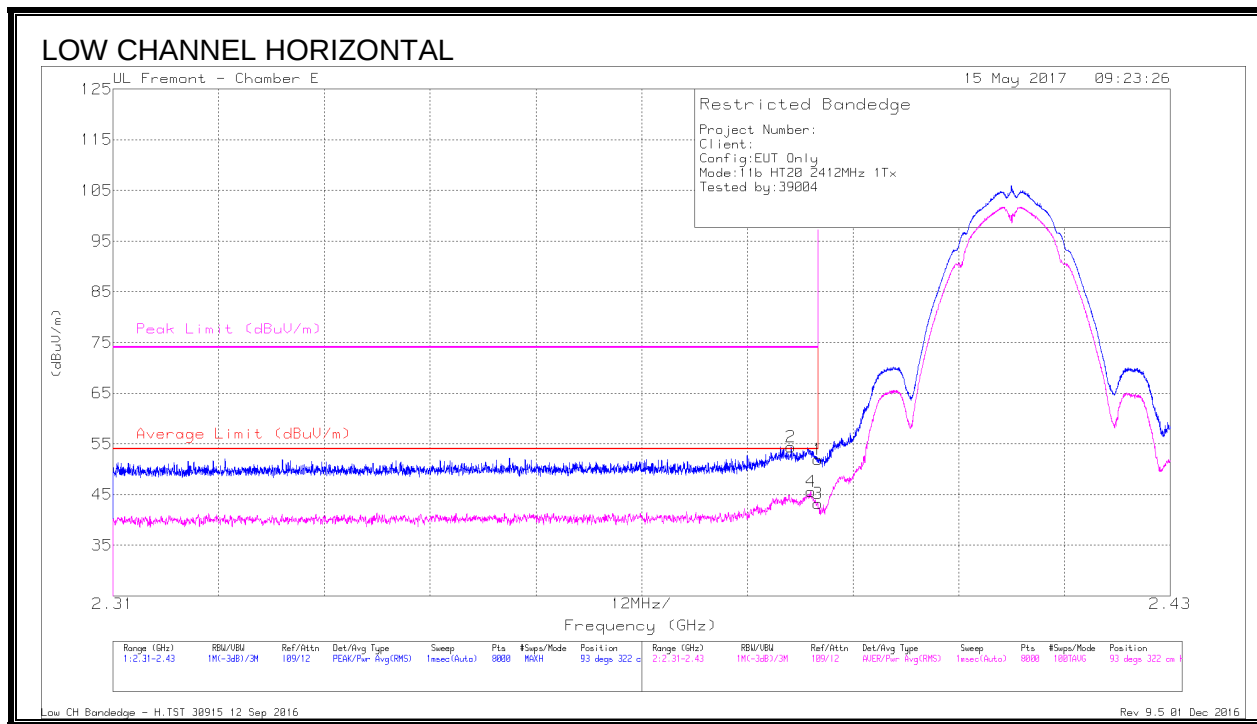
For final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions

9.2. TRANSMITTER ABOVE 1 GHz

9.2.1. 11b UAT 1 SISO MODE IN THE 2.4GHz BAND

AUTHORIZED BANDEDGE (LOW CHANNEL, CH 1)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.44	Pk	32.2	-19.7	51.94	-	-	74	-22.06	93	322	H
2	* 2.387	41.92	Pk	32.2	-19.7	54.42	-	-	74	-19.58	93	322	H
3	* 2.39	30.66	RMS	32.2	-19.7	43.16	54	-10.84	-	-	93	322	H
4	* 2.389	33.09	RMS	32.2	-19.7	45.59	54	-8.41	-	-	93	322	H

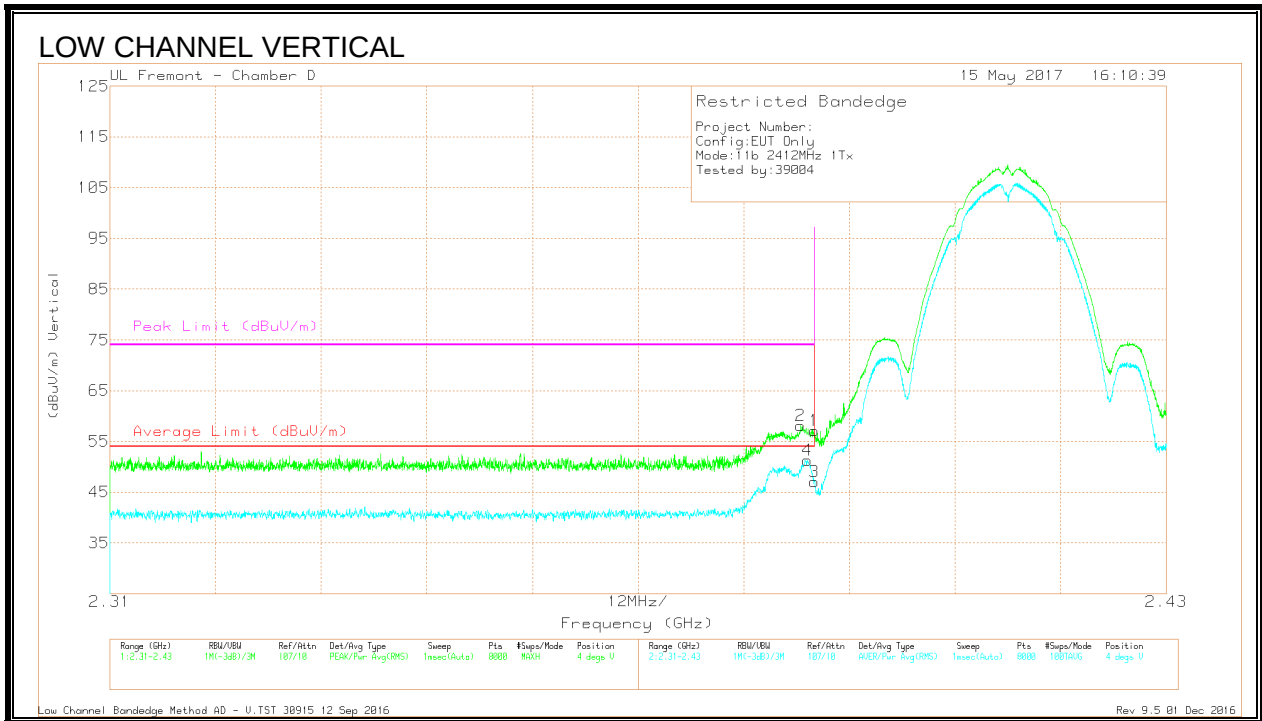
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

Low CH Bandedge - H.TST 30915 12 Sep 2016

Rev 9.5 01 Dec 2016



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	45.72	Pk	32.1	-20.7	57.12	-	-	74	-16.88	4	122	V
2	* 2.388	46.86	Pk	32.1	-20.8	58.16	-	-	74	-15.84	4	122	V
3	* 2.39	35.67	RMS	32.1	-20.7	47.07	54	-6.93	-	-	4	122	V
4	* 2.389	39.94	RMS	32.1	-20.8	51.24	54	-2.76	-	-	4	122	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

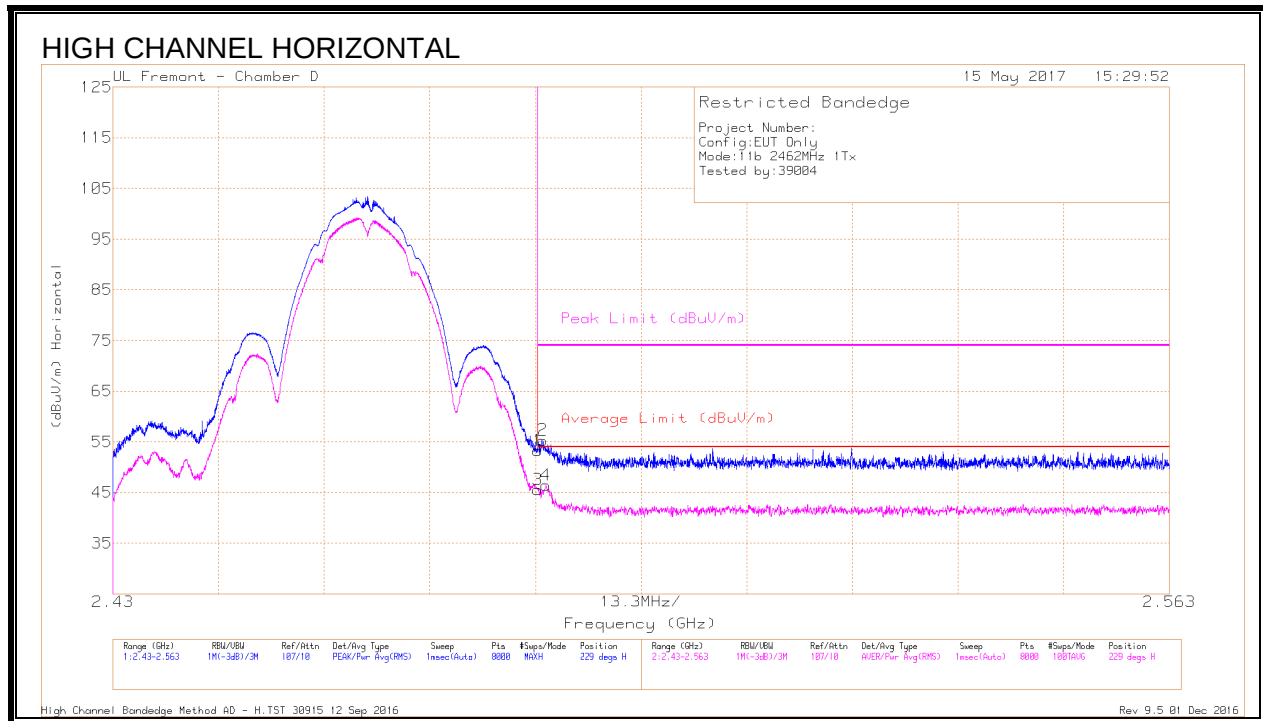
Pk - Peak detector

RMS - RMS detection

Low Channel Bandedge Method AD - V.TST 30915 12 Sep 2016

Rev 9.5 01 Dec 2016

AUTHORIZED BANDEDGE (HIGH CHANNEL, CH 11)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	41.57	Pk	32.5	-20.8	53.27	-	-	74	-20.73	229	289	H
2	* 2.484	43.62	Pk	32.5	-20.8	55.32	-	-	74	-18.68	229	289	H
3	* 2.484	33.86	RMS	32.5	-20.8	45.56	54	-8.44	-	-	229	289	H
4	* 2.485	34.74	RMS	32.5	-20.8	46.44	54	-7.56	-	-	229	289	H

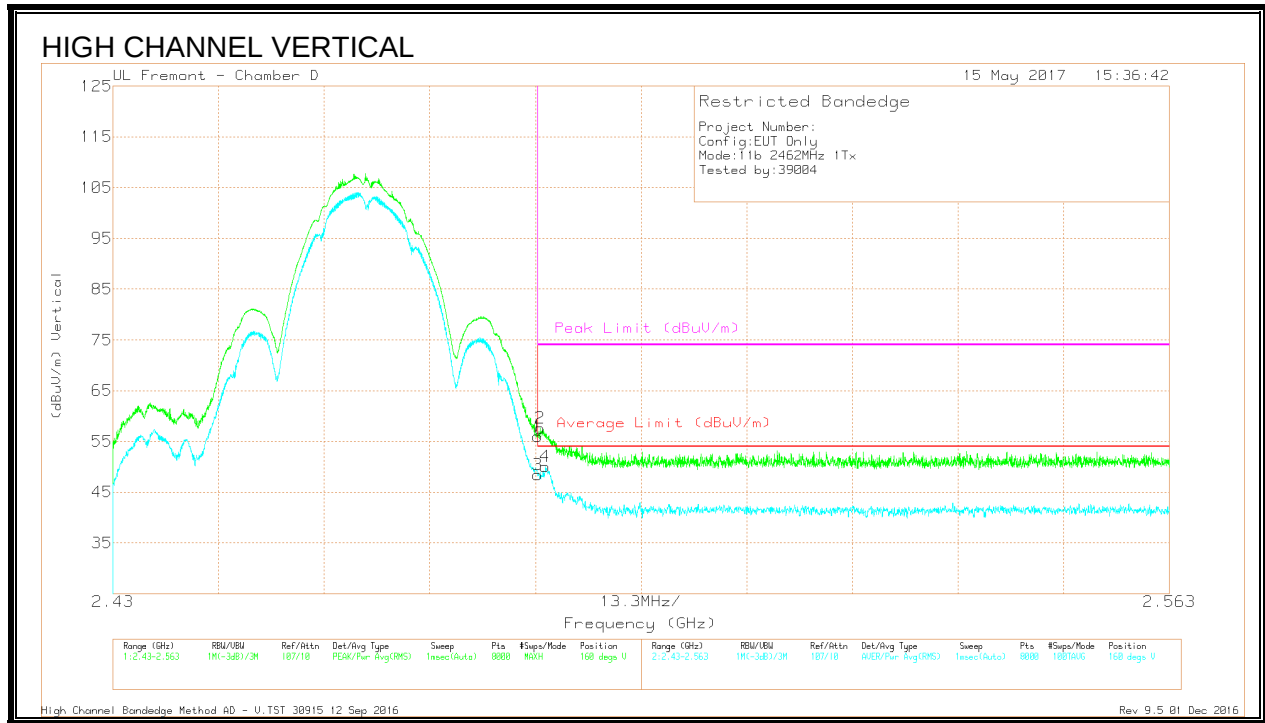
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

High Channel Bandedge Method AD - H.TST 30915 12 Sep 2016

Rev 9.5 01 Dec 2016



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	44.33	Pk	32.5	-20.8	56.03	-	-	74	-17.97	160	133	V
2	* 2.484	45.89	Pk	32.5	-20.8	57.59	-	-	74	-16.41	160	133	V
3	* 2.484	36.78	RMS	32.5	-20.8	48.48	54	-5.52	-	-	160	133	V
4	* 2.484	38.38	RMS	32.5	-20.8	50.08	54	-3.92	-	-	160	133	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

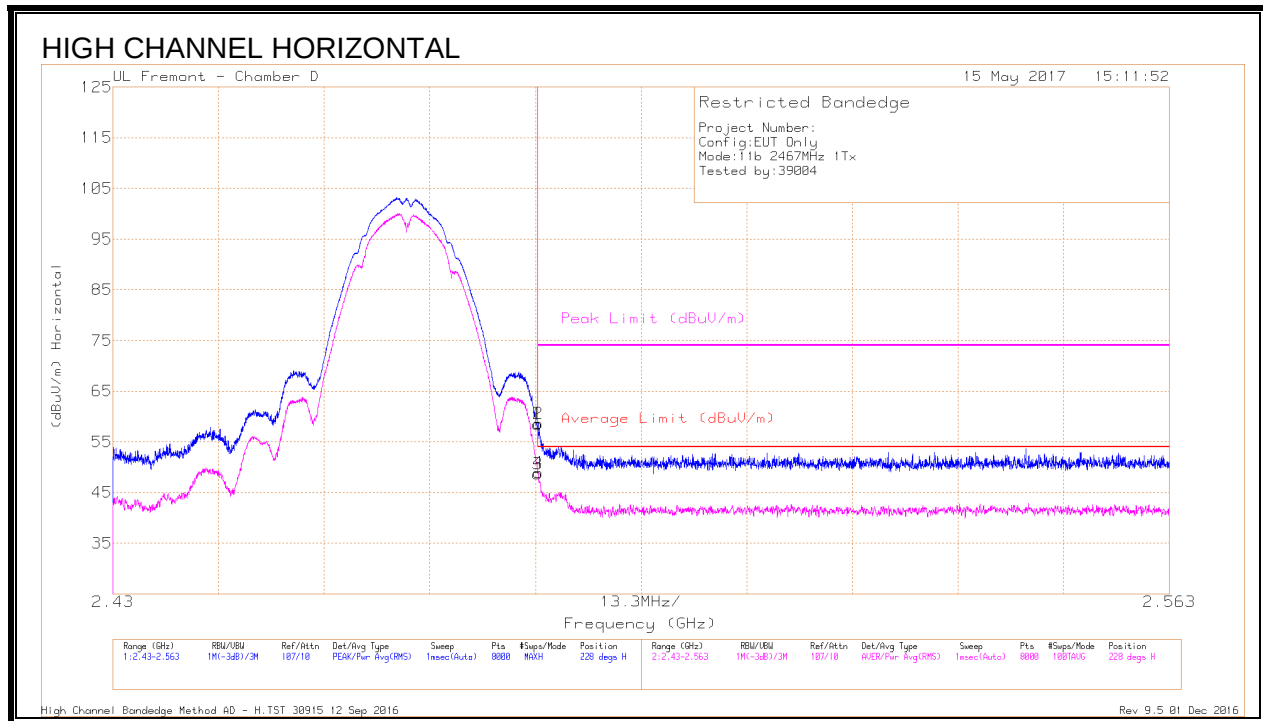
Pk - Peak detector

RMS - RMS detection

High Channel Bandedge Method AD - V.TST 30915 12 Sep 2016

Rev 9.5 01 Dec 2016

AUTHORIZED BANDEDGE (HIGH CHANNEL, CH 12)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	46.83	Pk	32.5	-20.8	58.53	-	-	74	-15.47	228	288	H
2	* 2.484	46.9	Pk	32.5	-20.8	58.6	-	-	74	-15.4	228	288	H
3	* 2.484	36.97	RMS	32.5	-20.8	48.67	54	-5.33	-	-	228	288	H
4	* 2.484	37.27	RMS	32.5	-20.8	48.97	54	-5.03	-	-	228	288	H

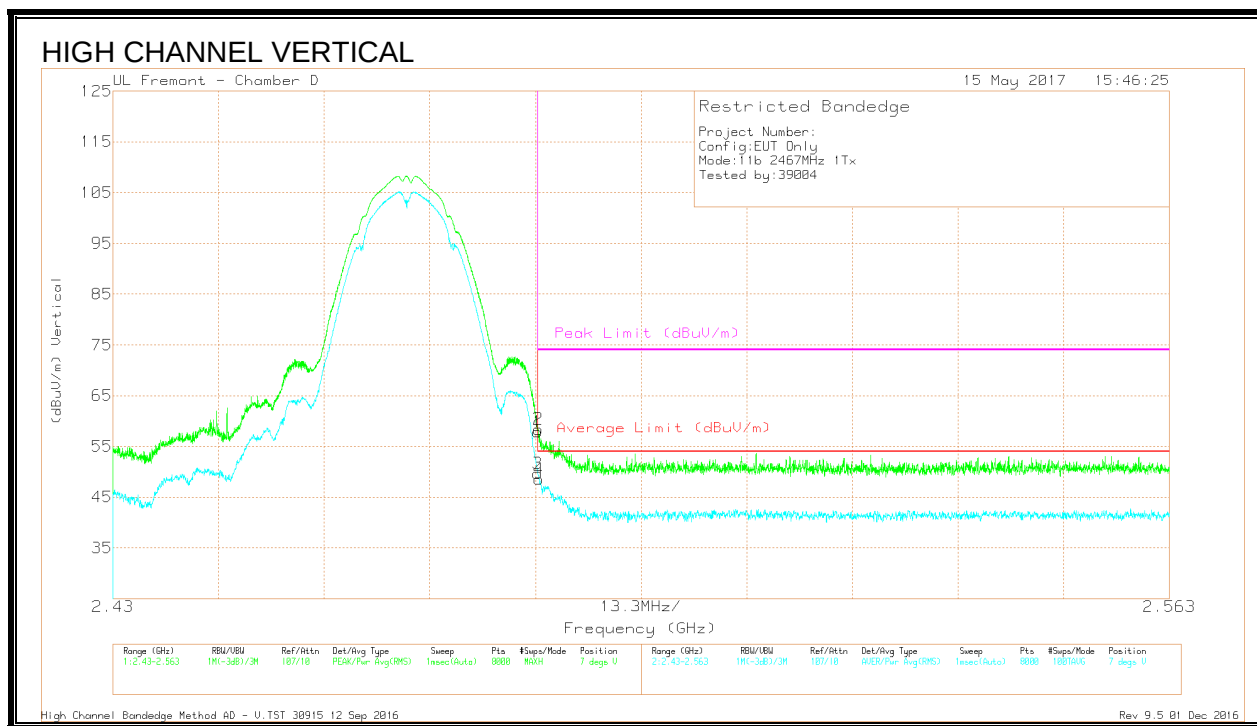
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

High Channel Bandedge Method AD - H.TST 30915 12 Sep 2016

Rev 9.5 01 Dec 2016



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	46.18	Pk	32.5	-20.8	57.88	-	-	74	-16.12	7	134	V
2	* 2.484	46.72	Pk	32.5	-20.8	58.42	-	-	74	-15.58	7	134	V
3	* 2.484	38	RMS	32.5	-20.8	49.7	54	-4.3	-	-	7	134	V
4	* 2.484	36.91	RMS	32.5	-20.8	48.61	54	-5.39	-	-	7	134	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

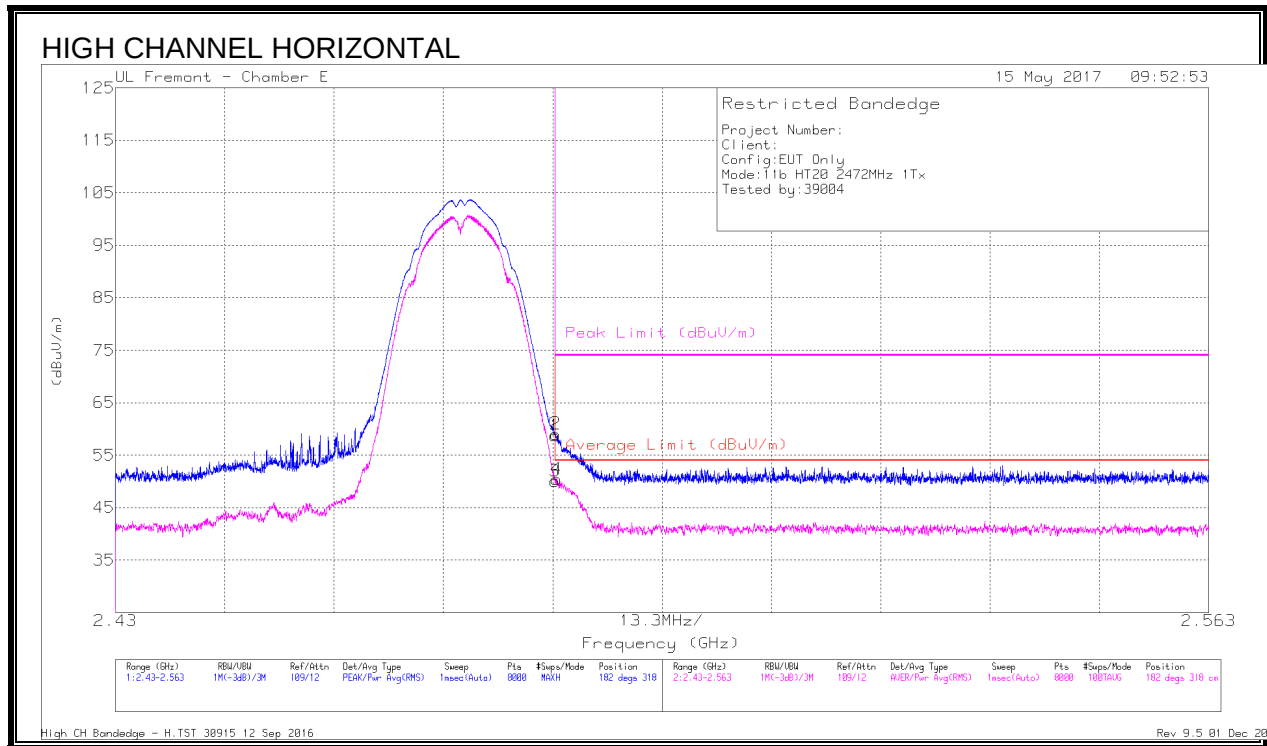
Pk - Peak detector

RMS - RMS detection

High Channel Bandedge Method AD - V.TST 30915 12 Sep 2016

Rev 9.5 01 Dec 2016

AUTHORIZED BANDEDGE (HIGH CHANNEL, CH 13)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT136 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	45.73	Pk	32.7	-19.7	58.73	-	-	74	-15.27	182	318	H
2	* 2.484	46.04	Pk	32.7	-19.7	59.04	-	-	74	-14.96	182	318	H
3	* 2.484	37.06	RMS	32.7	-19.7	50.06	54	-3.94	-	-	182	318	H
4	* 2.484	37.4	RMS	32.7	-19.7	50.4	54	-3.6	-	-	182	318	H

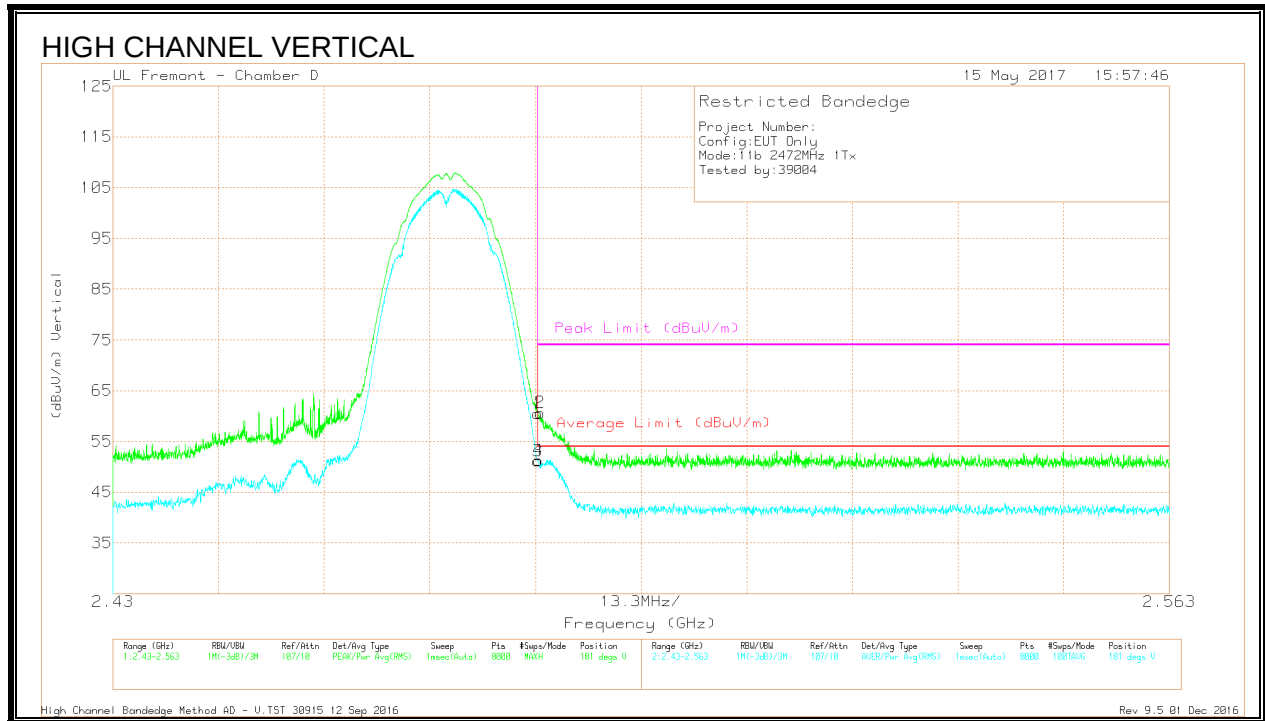
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

High CH Bandedge - H.TST 30915 12 Sep 2016

Rev 9.5 01 Dec 2016



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	48.75	Pk	32.5	-20.8	60.45	-	-	74	-13.55	181	138	V
2	* 2.484	48.96	Pk	32.5	-20.8	60.66	-	-	74	-13.34	181	138	V
3	* 2.484	39.47	RMS	32.5	-20.8	51.17	54	-2.83	-	-	181	138	V
4	* 2.484	39.61	RMS	32.5	-20.8	51.31	54	-2.69	-	-	181	138	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

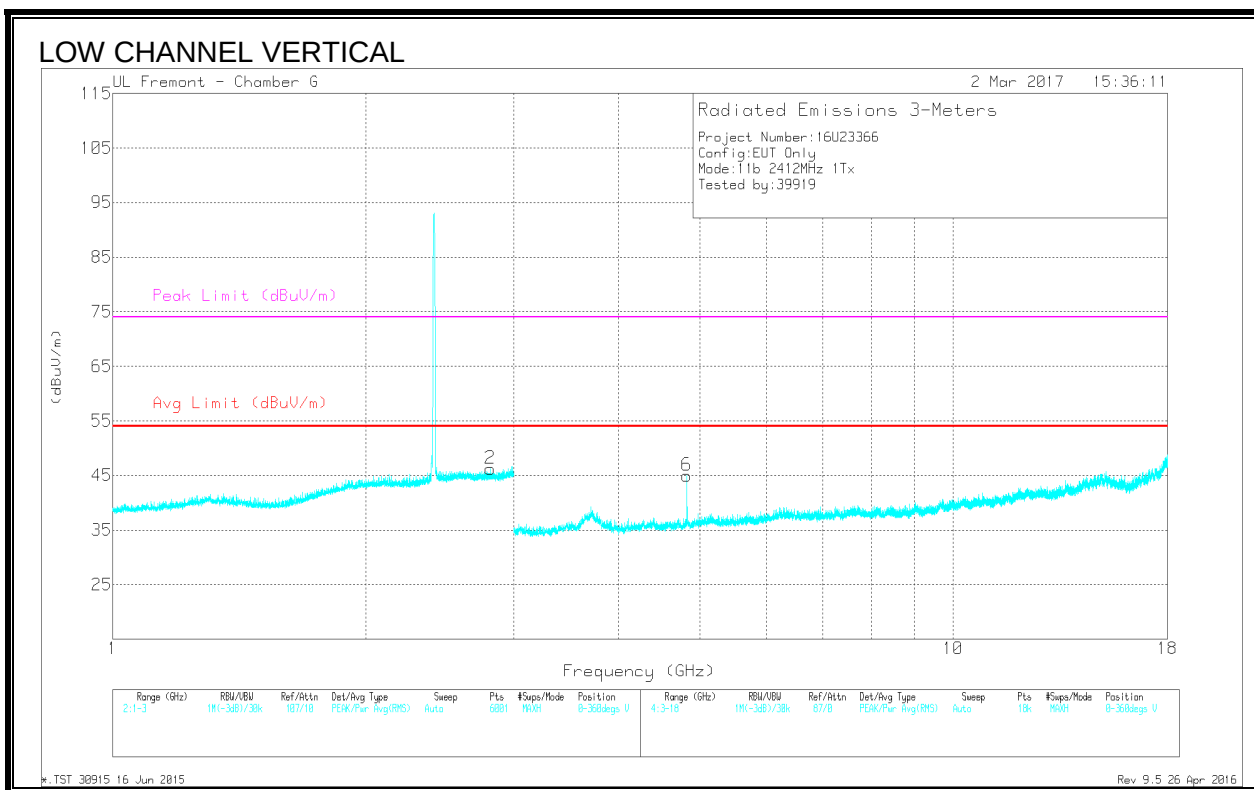
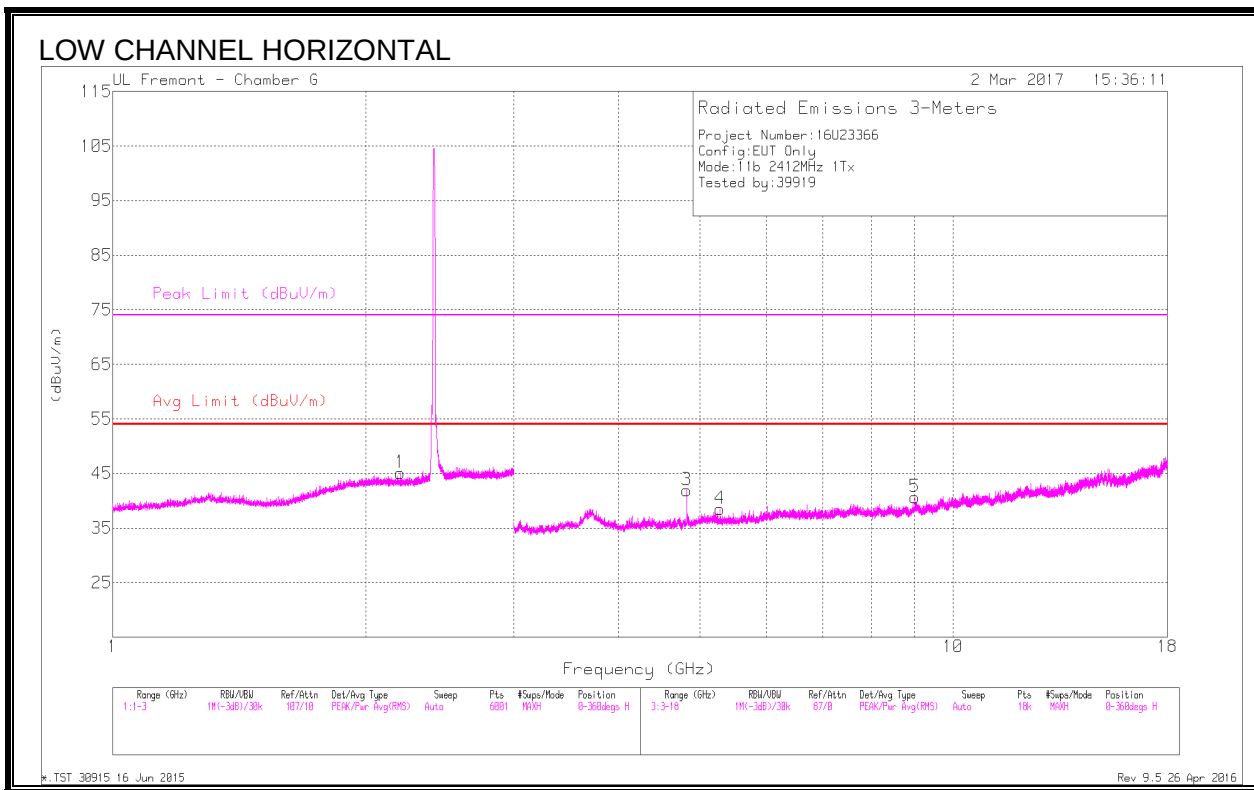
Pk - Peak detector

RMS - RMS detection

High Channel Bandedge Method AD - V.TST 30915 12 Sep 2016

Rev 9.5 01 Dec 2016

HARMONICS AND SPURIOUS EMISSIONS LOW CHANNEL, CH 1)



Marker	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.237	42.83	PK2	31.5	-24	50.33	-	-	74	-23.67	360	100	H
	* 2.285	32.94	MAv1	31.5	-23.9	40.54	54	-13.46	-	-	360	100	H
2	* 2.816	43.82	PK2	32.7	-23.6	52.92	-	-	74	-21.08	234	201	V
	* 2.814	32.27	MAv1	32.7	-23.6	41.37	54	-12.63	-	-	234	201	V
3	* 4.824	45.39	PK2	34.5	-31.9	47.99	-	-	74	-26.01	225	289	H
	* 4.824	39.91	MAv1	34.5	-31.9	42.51	54	-11.49	-	-	225	289	H
5	* 9.014	37.42	PK2	36.2	-27.7	45.92	-	-	74	-28.08	218	257	H
	* 9.015	26.99	MAv1	36.2	-27.7	35.49	54	-18.51	-	-	218	257	H
6	* 4.824	47.47	PK2	34.5	-31.9	50.07	-	-	74	-23.93	203	294	V
	* 4.824	43.77	MAv1	34.5	-31.9	46.37	54	-7.63	-	-	203	294	V
4	5.278	40.14	PK2	35.1	-31.9	43.34	-	-	-	-	355	201	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

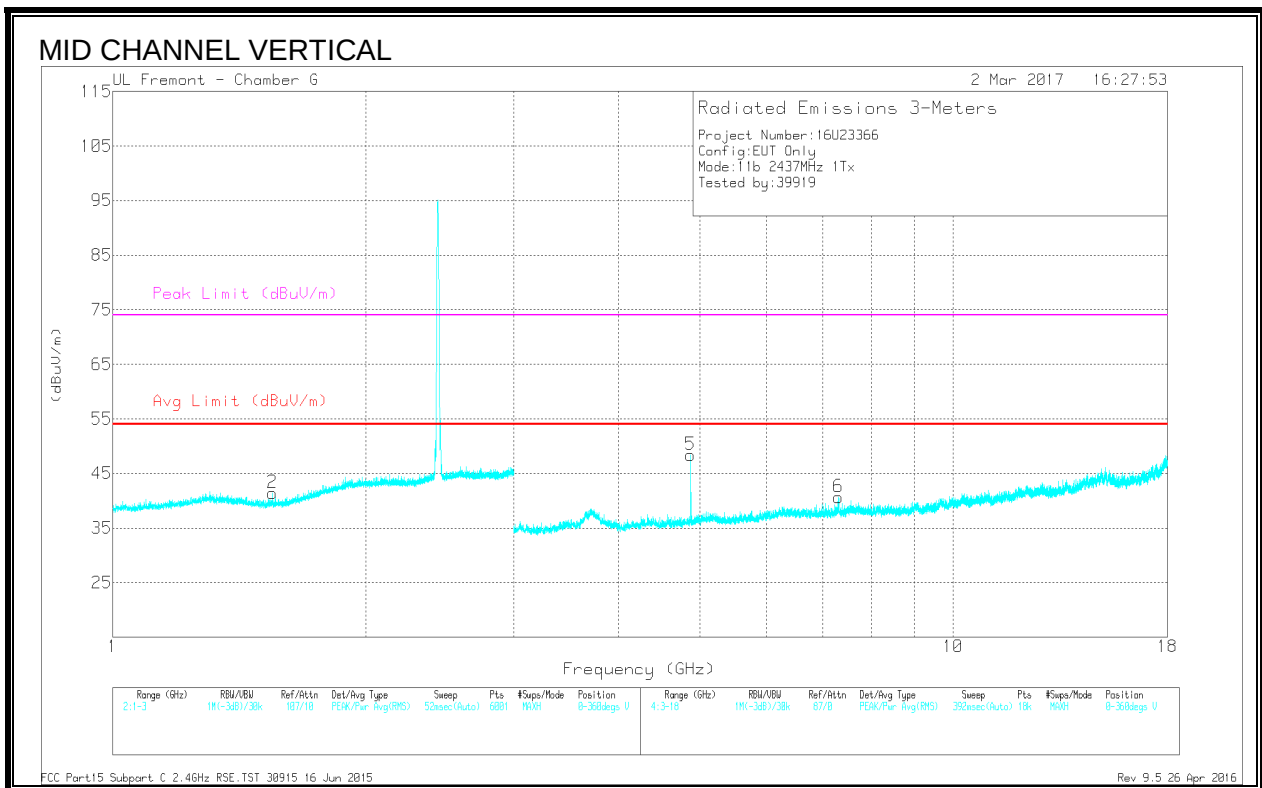
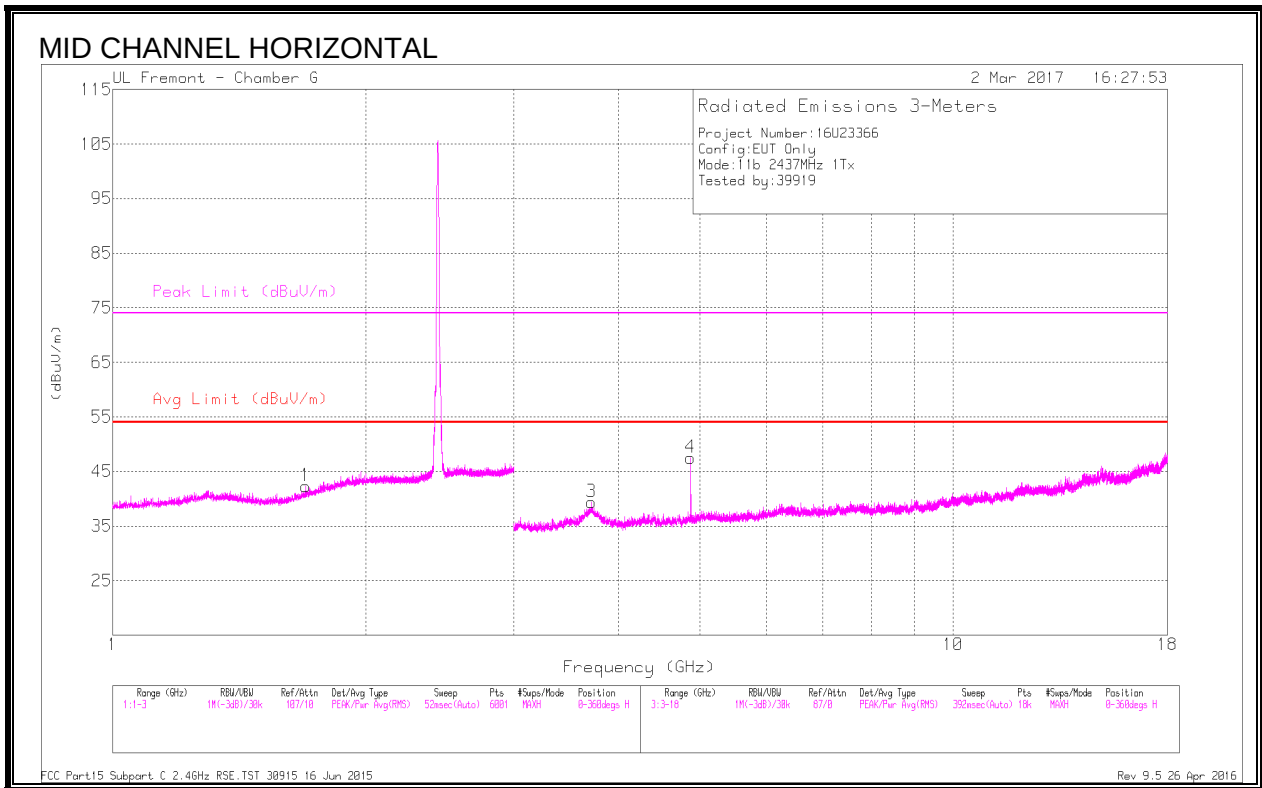
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

*.TST 30915 16 Jun 2015

Rev 9.5 26 Apr 2016

HARMONICS AND SPURIOUS EMISSIONS MID CHANNEL, CH 6)



Marker	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.698	43.7	PK2	29.2	-24.3	48.6	-	-	74	-25.4	360	202	H
	* 1.699	33	MAv1	29.2	-24.3	37.9	54	-16.1	-	-	360	202	H
2	* 1.55	44.22	PK2	28.1	-24.5	47.82	-	-	74	-26.18	295	100	V
	* 1.549	32.55	MAv1	28.1	-24.5	36.15	54	-17.85	-	-	295	100	V
3	* 3.714	40.56	PK2	34.2	-30.7	44.06	-	-	74	-29.94	228	202	H
	* 3.713	29.5	MAv1	34.2	-30.7	33	54	-21	-	-	228	202	H
4	* 4.874	48.01	PK2	34.5	-31.8	50.71	-	-	74	-23.29	228	131	H
	* 4.874	44.44	MAv1	34.5	-31.8	47.14	54	-6.86	-	-	228	131	H
5	* 4.874	49.76	PK2	34.5	-31.8	52.46	-	-	74	-21.54	196	282	V
	* 4.874	46.77	MAv1	34.5	-31.8	49.47	54	-4.53	-	-	196	282	V
6	* 7.31	41.57	PK2	35.8	-29.7	47.67	-	-	74	-26.33	202	266	V
	* 7.312	32.58	MAv1	35.8	-29.7	38.68	54	-15.32	-	-	202	266	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

FCC Part15 Subpart C 2.4GHz RSE.TST 30915 16 Jun 2015

Rev 9.5 26 Apr 2016