7.7. LOW POWER ENHANCED DATA RATE 8PSK MODULATION

7.7.1. 20 dB AND 99% BANDWIDTH

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

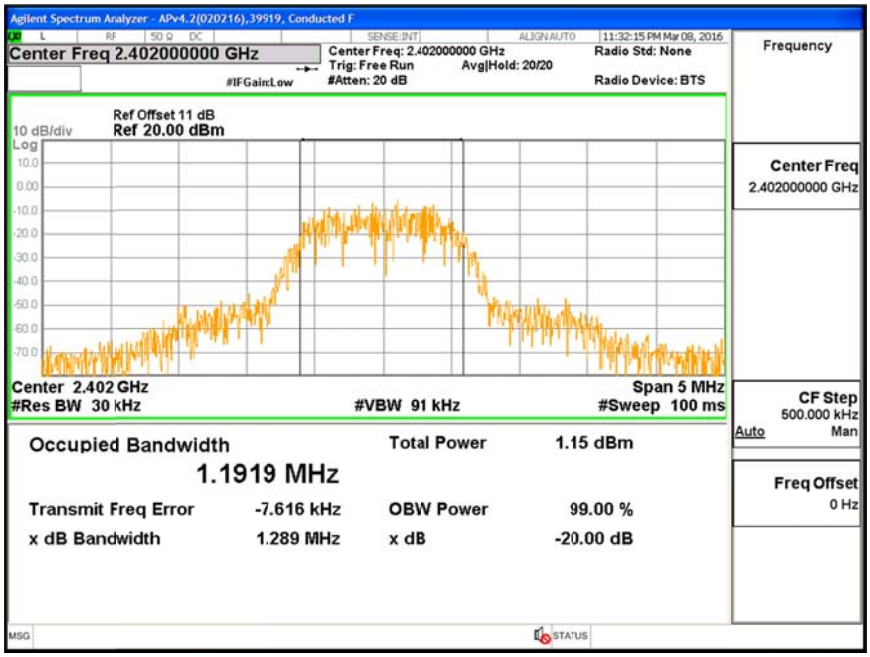
The transmitter output is connected to a spectrum analyzer. The RBW is set to ≥ 1% of the 20 dB bandwidth. The VBW is set to ≥ RBW. The sweep time is coupled.

RESULTS

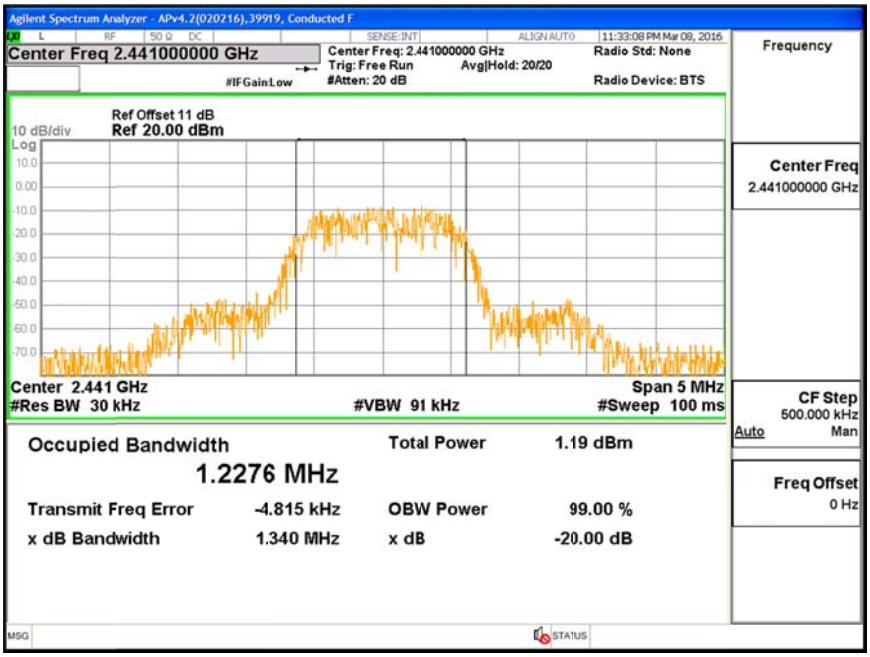
Channel	Frequency (MHz)	20 dB Bandwidth (KHz)	99% Bandwidth (KHz)
Low	2402	1.289	1.1919
Middle	2441	1.340	1.2276
High	2480	1.329	1.2075

20 dB AND 99% BANDWIDTH

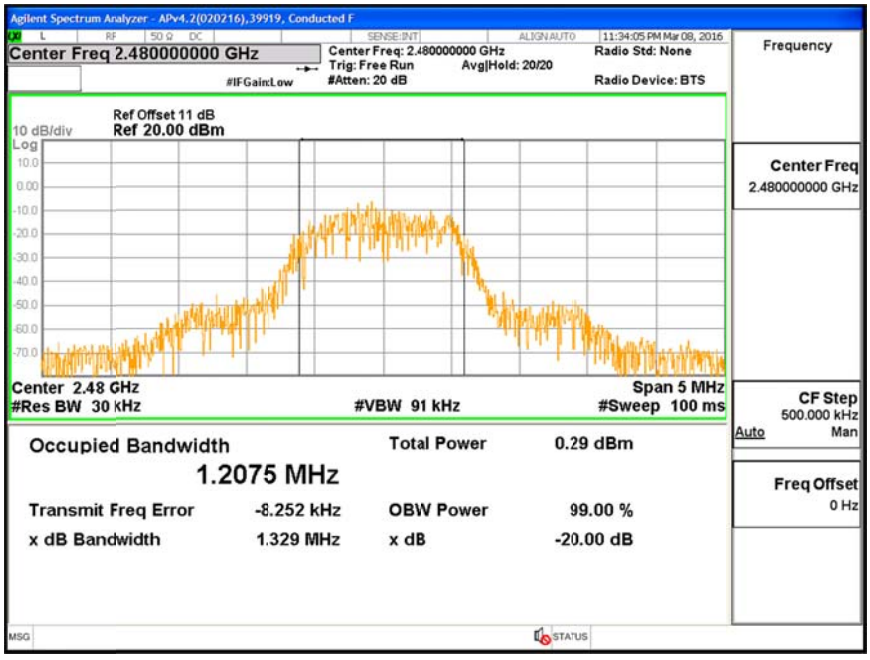
BANDWIDTH LOW CH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



7.7.2. HOPPING FREQUENCY SEPARATION

LIMIT

FCC §15.247 (a) (1)

IC RSS-247 (5.1) (2)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hoping channel, whichever is greater.

Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

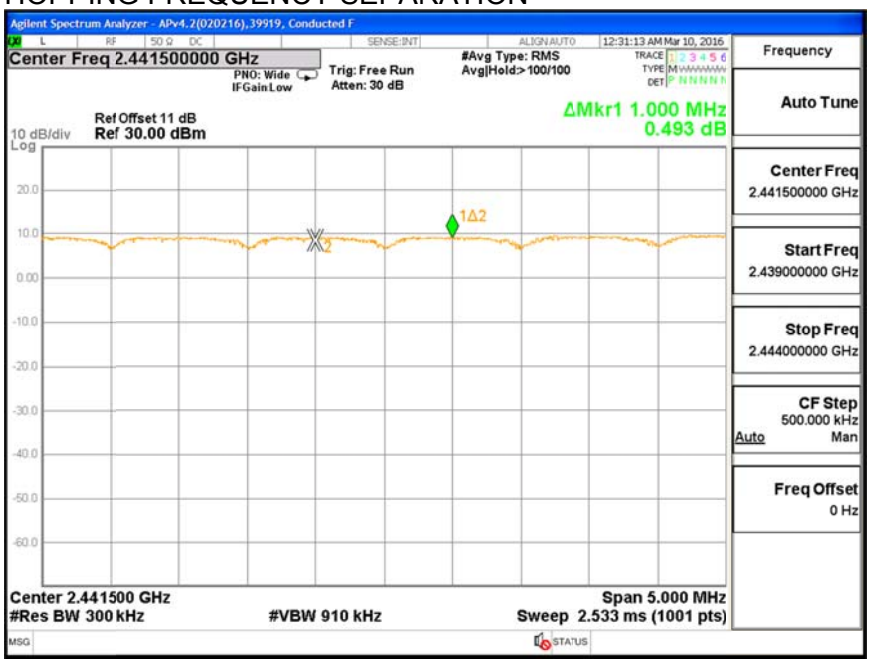
TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The RBW is set to 300 kHz and the VBW is set to 910 kHz. The sweep time is coupled.

RESULTS

HOPPING FREQUENCY SEPARATION

HOPPING FREQUENCY SEPARATION



7.7.3. NUMBER OF HOPPING CHANNELS

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-247 (5.1) (4)

Frequency hopping systems in the 2400 – 2483.5 MHz band shall use at least 15 non-overlapping channels.

TEST PROCEDURE

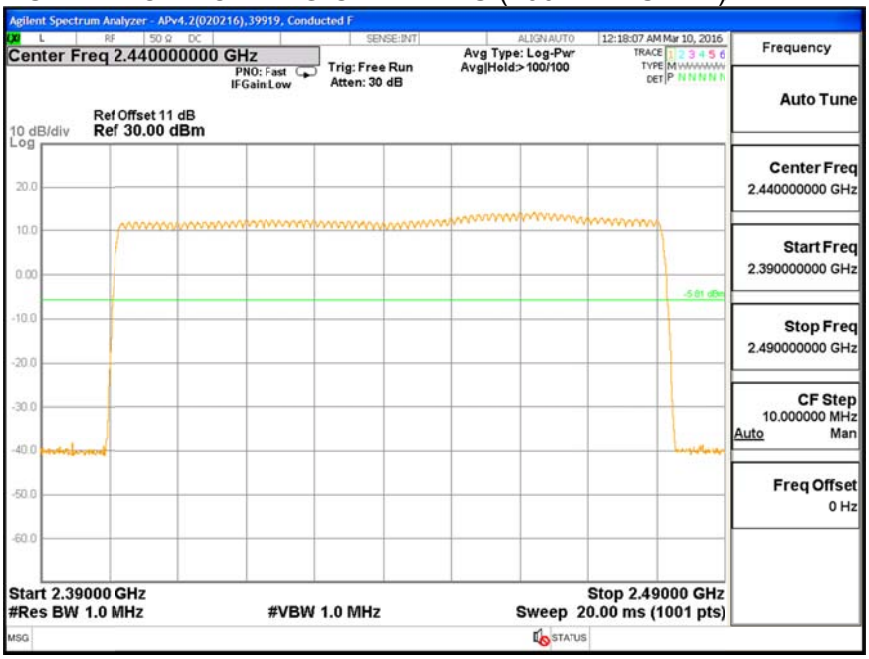
The transmitter output is connected to a spectrum analyzer. The span is set to cover the entire authorized band, in either a single sweep or in multiple contiguous sweeps. The RBW is set to a maximum of 1 % of the span. The analyzer is set to Max Hold.

RESULTS

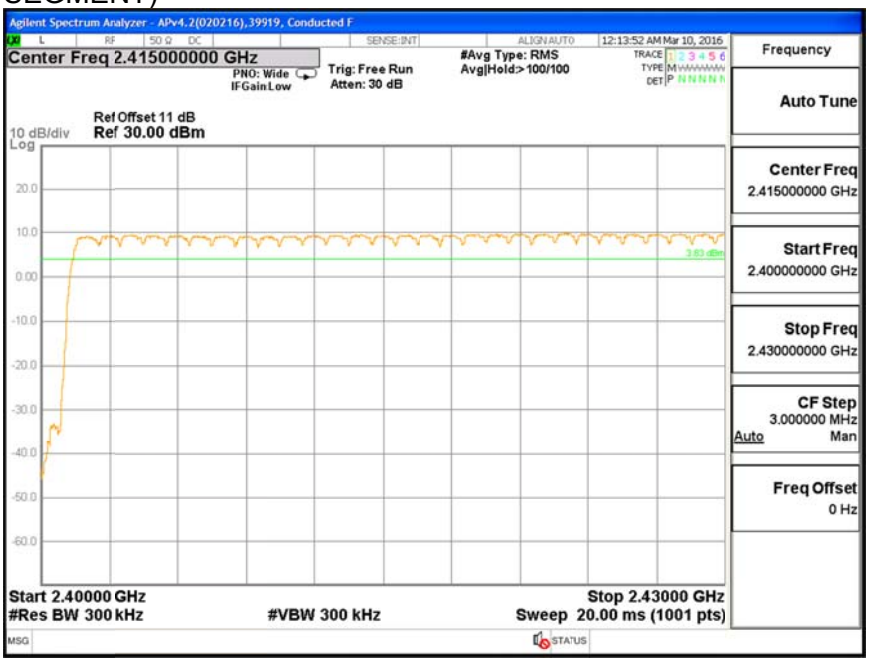
Normal Mode: 79 Channels observed.

NUMBER OF HOPPING CHANNELS

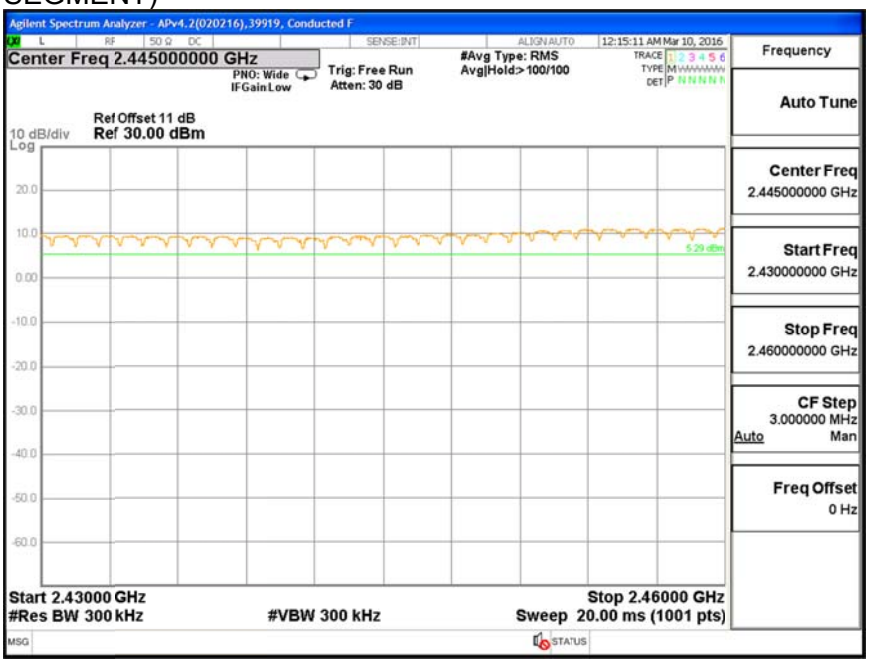
NUMBER OF HOPPING CHANNELS (100 MHZ SPAN)



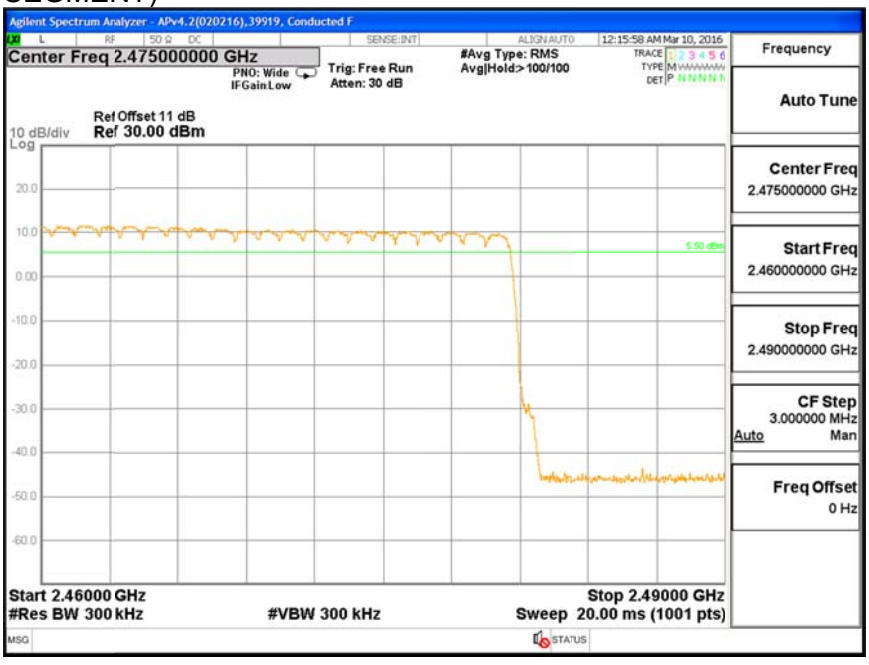
NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, FIRST SEGMENT)



NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, SECOND SEGMENT)



NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, THIRD SEGMENT)



7.7.4. AVERAGE TIME OF OCCUPANCY

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-247 (5.1) (4)

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The span is set to 0 Hz, centered on a single, selected hopping channel. The width of a single pulse is measured in a fast scan. The number of pulses is measured in a 3.16 second scan, to enable resolution of each occurrence.

The average time of occupancy in the specified 31.6 second period (79 channels * 0.4 s) is equal to 10 * (# of pulses in 3.16 s) * pulse width.

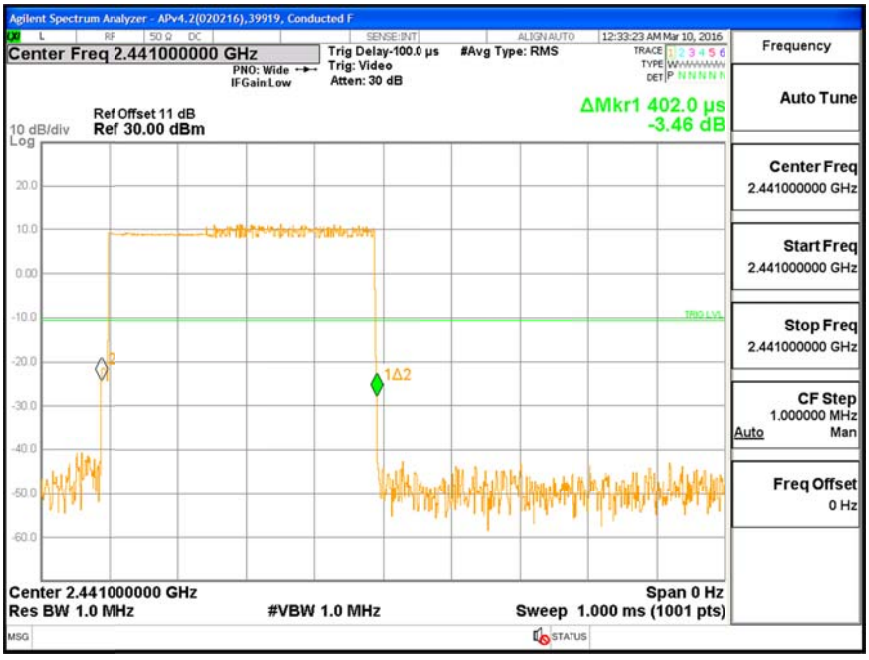
RESULTS

8PSK (EDR) Mode

DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of (sec)	Limit (sec)	Margin (sec)
3DH1	0.402	32	0.129	0.4	-0.271
3DH3	1.650	18	0.297	0.4	-0.103
3DH5	2.900	13	0.377	0.4	-0.023

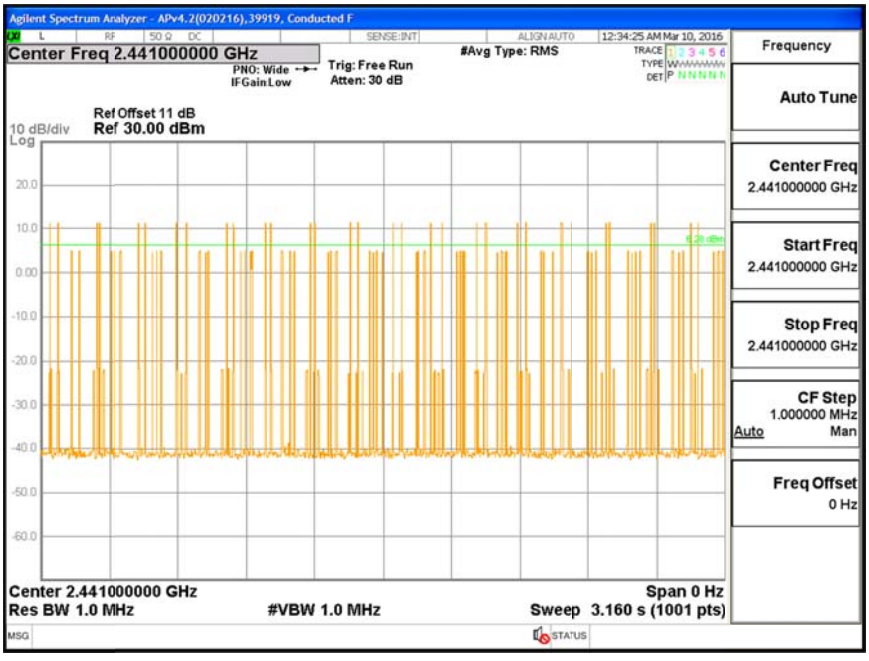
PULSE WIDTH - 3DH1

PULSE WIDTH – 3DH1



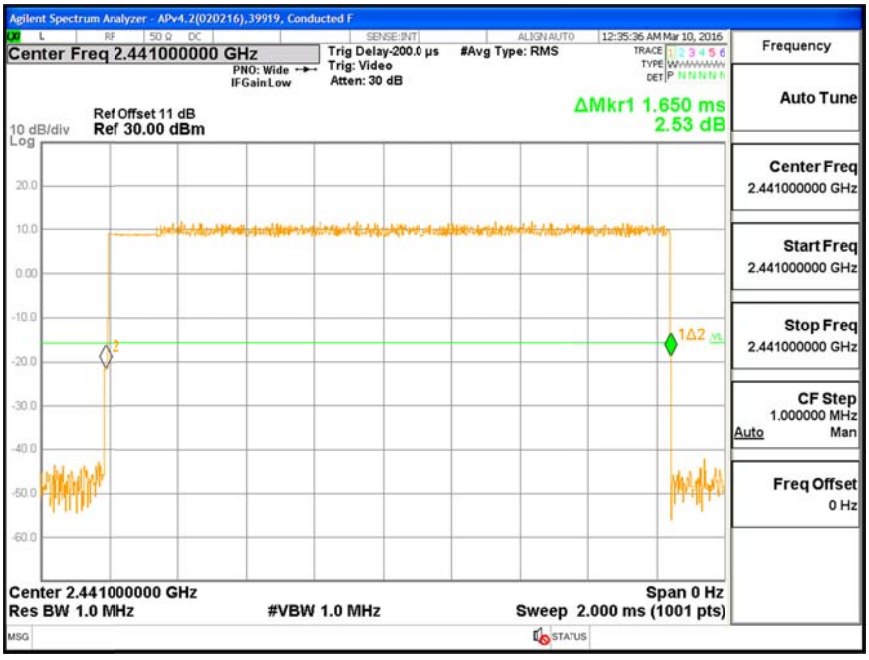
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – 3DH1

NUMBER OF PULSES – 3DH1



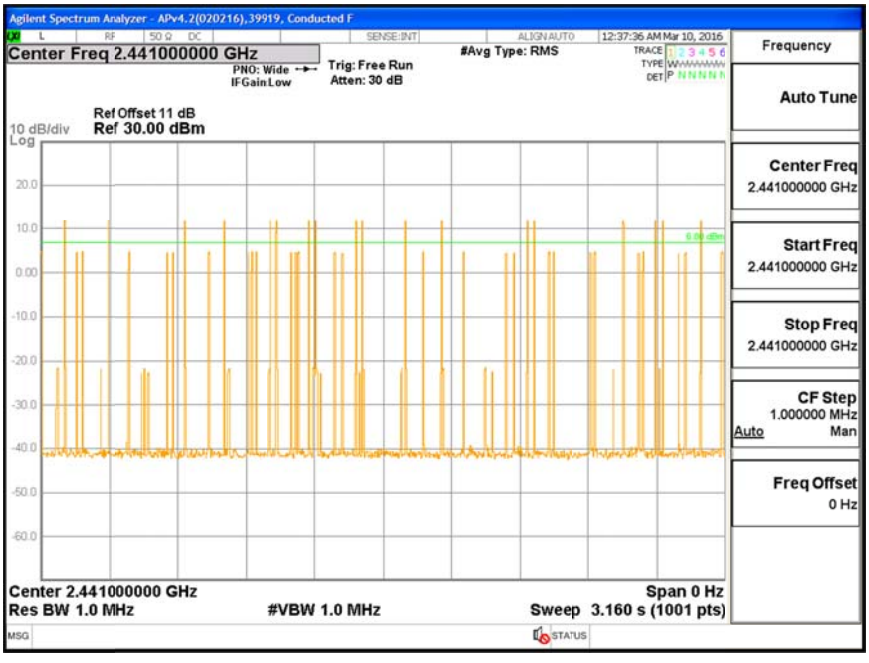
PULSE WIDTH – 3DH3

PULSE WIDTH – 3DH3



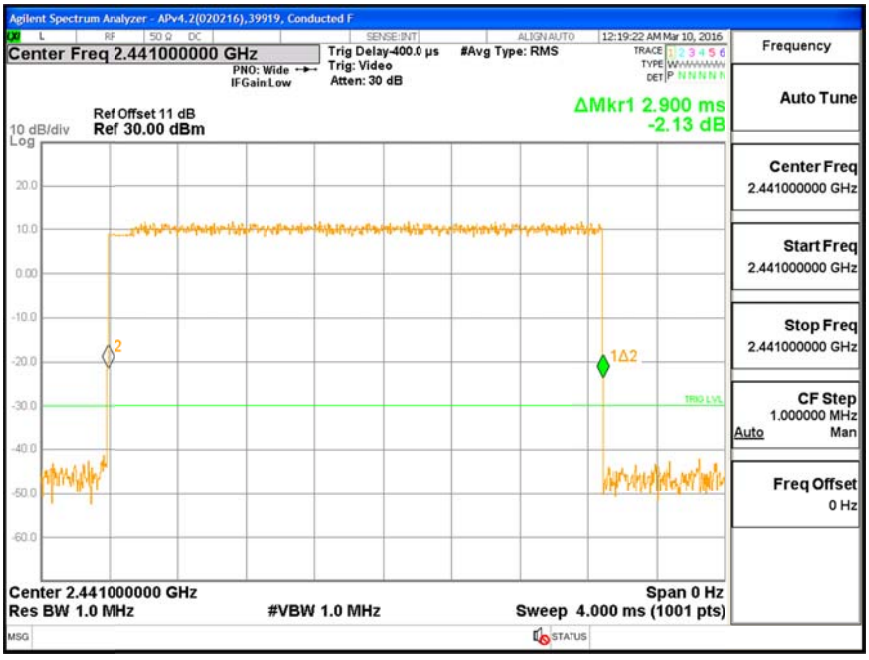
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – 3DH3

NUMBER OF PULSES – 3DH3



PULSE WIDTH – 3DH5

PULSE WIDTH – 3DH5



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – 3DH5

NUMBER OF PULSES – 3DH5

7.7.5. OUTPUT POWER

LIMIT

§15.247 (b) (1)

RSS-247 (5.4) (2)

The maximum antenna gain is less than 6 dBi, therefore the limit is 30 dBm.

Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

TEST PROCEDURE

The transmitter output is connected to a wideband peak and average power meter.

RESULTS

ID:	30606	Date:	7/11/16

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	9.26	21	-11.71
Middle	2441	9.38	21	-11.59
High	2480	9.41	21	-11.56

7.7.6. AVERAGE POWER

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

ID:	30606	Date:	7/11/16

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	7.38
Middle	2441	7.49
High	2480	7.50

7.7.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-247 (5.5)

Limit = -20 dBc

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

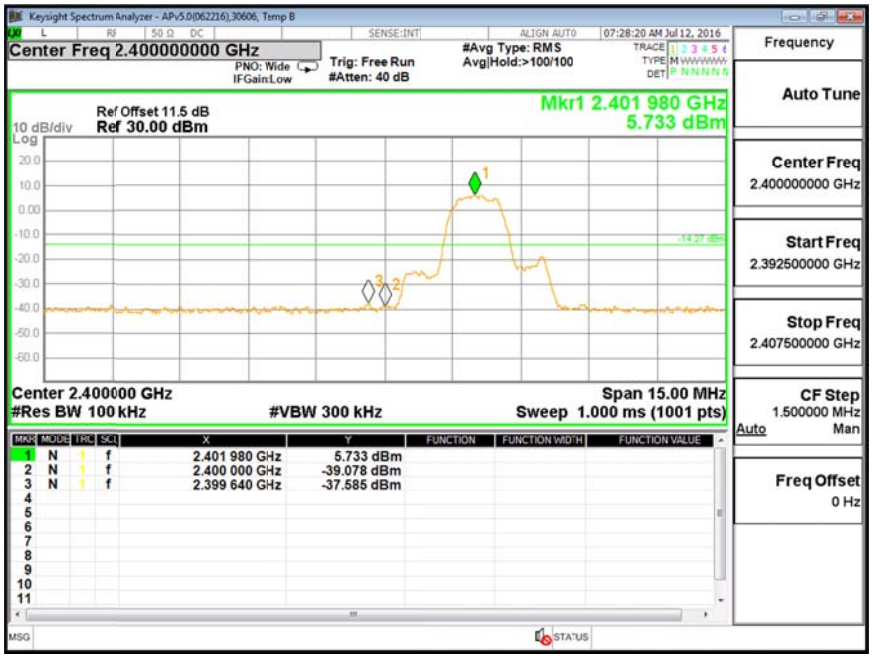
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

The bandedges at 2.4 and 2.4835 GHz are investigated with the transmitter set to the normal hopping mode.

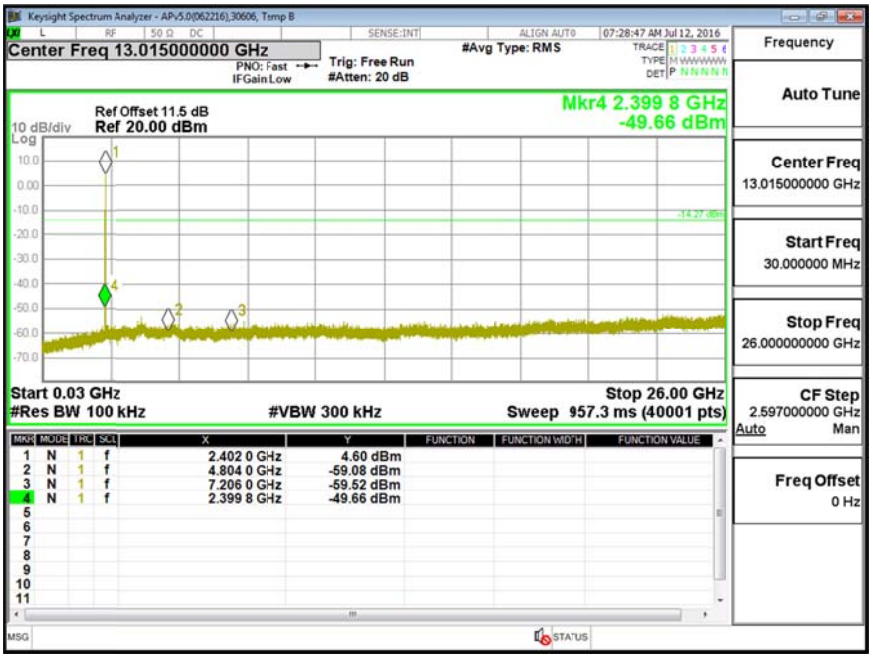
RESULTS

SPURIOUS EMISSIONS, LOW CHANNEL

LOW CHANNEL BANDEDGE

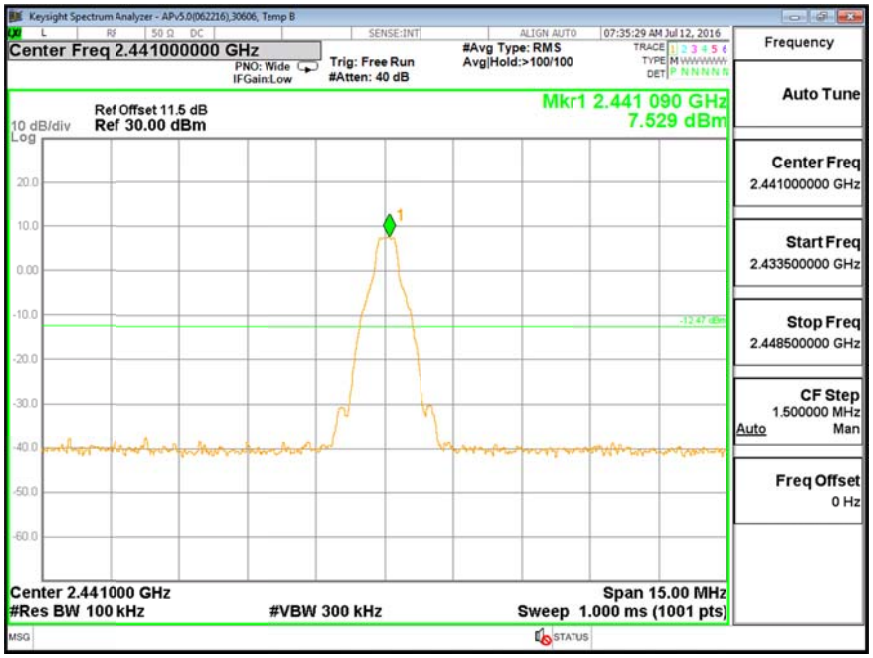


LOW CHANNEL SPURIOUS

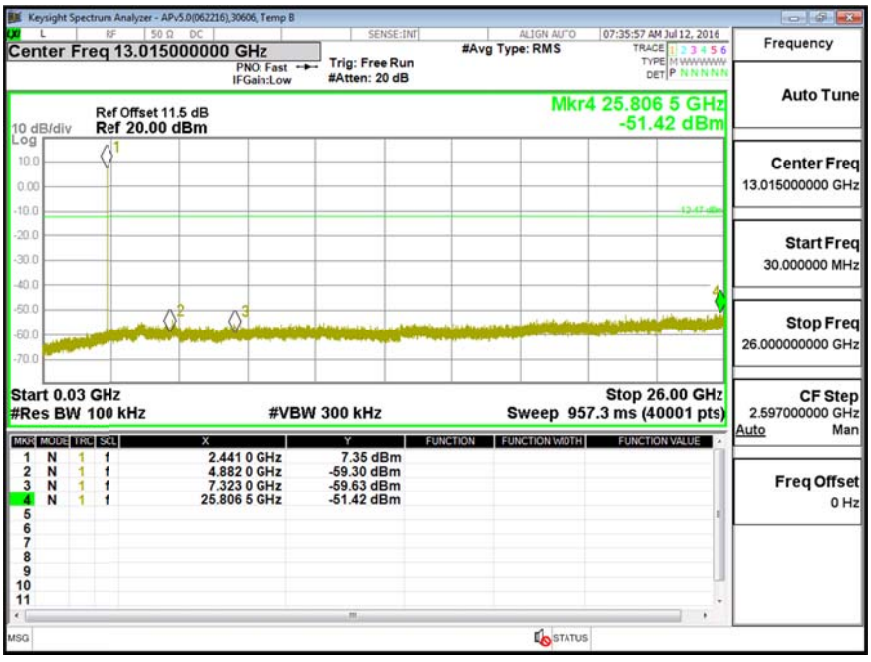


SPURIOUS EMISSIONS, MID CHANNEL

MID CHANNEL

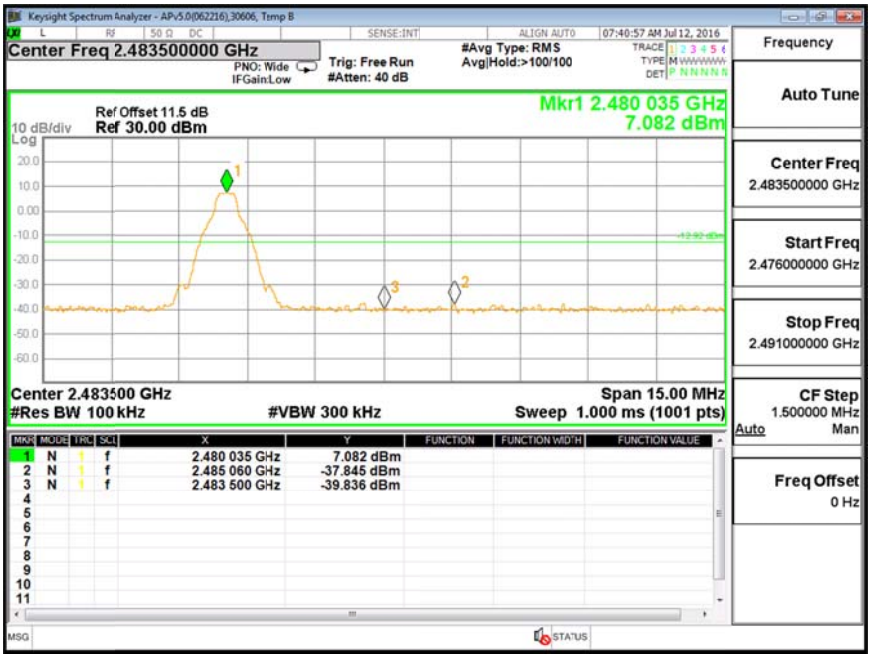


MID CHANNEL SPURIOUS

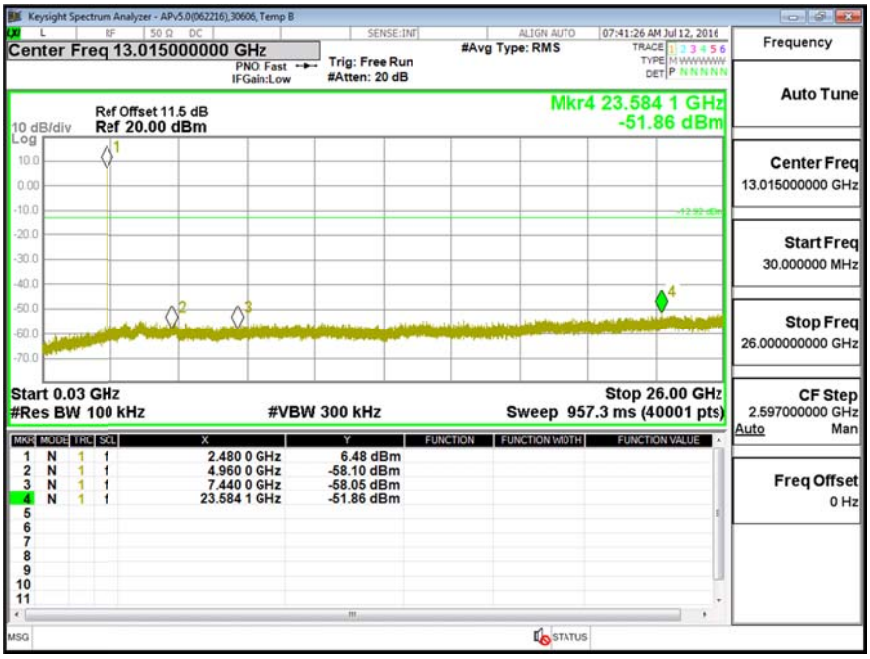


SPURIOUS EMISSIONS, HIGH CHANNEL

HIGH CHANNEL BANDEDGE

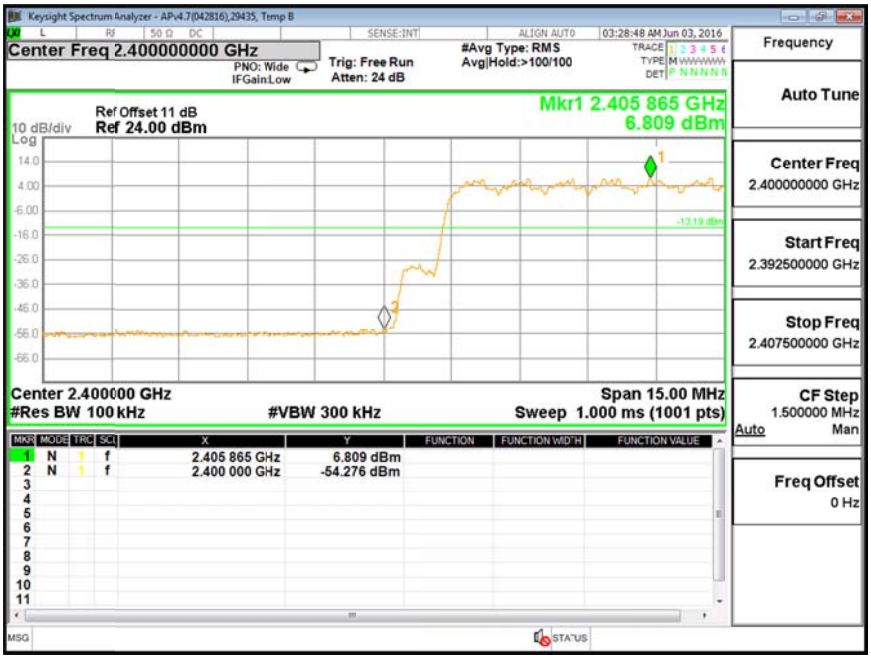


HIGH CHANNEL SPURIOUS

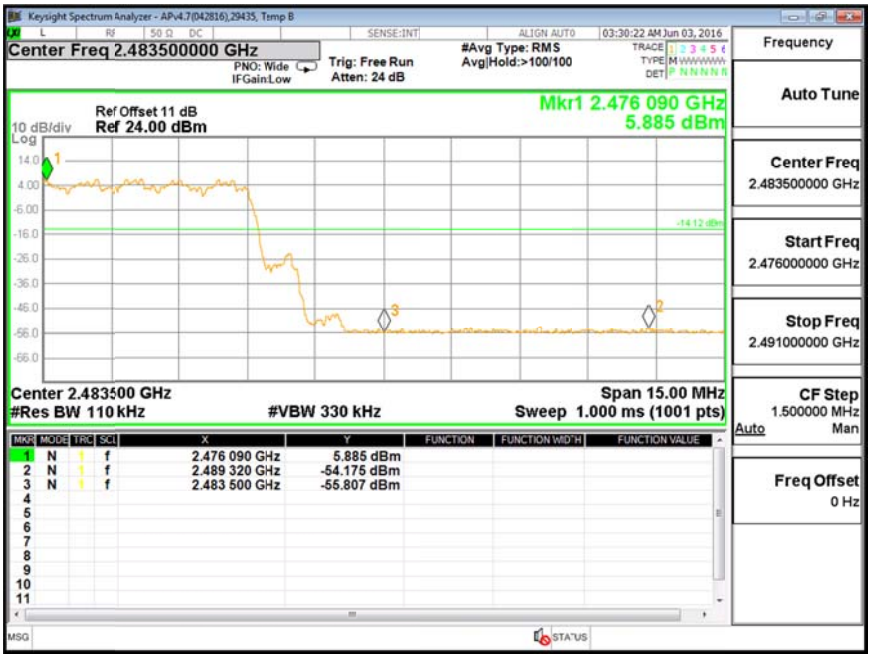


SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON

LOW BANDEDGE WITH HOPPING ON



HIGH BANDEDGE WITH HOPPING ON



8. RADIATED TEST RESULTS

8.1. 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 scans above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T (10 Hz) video bandwidth with peak detector 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.

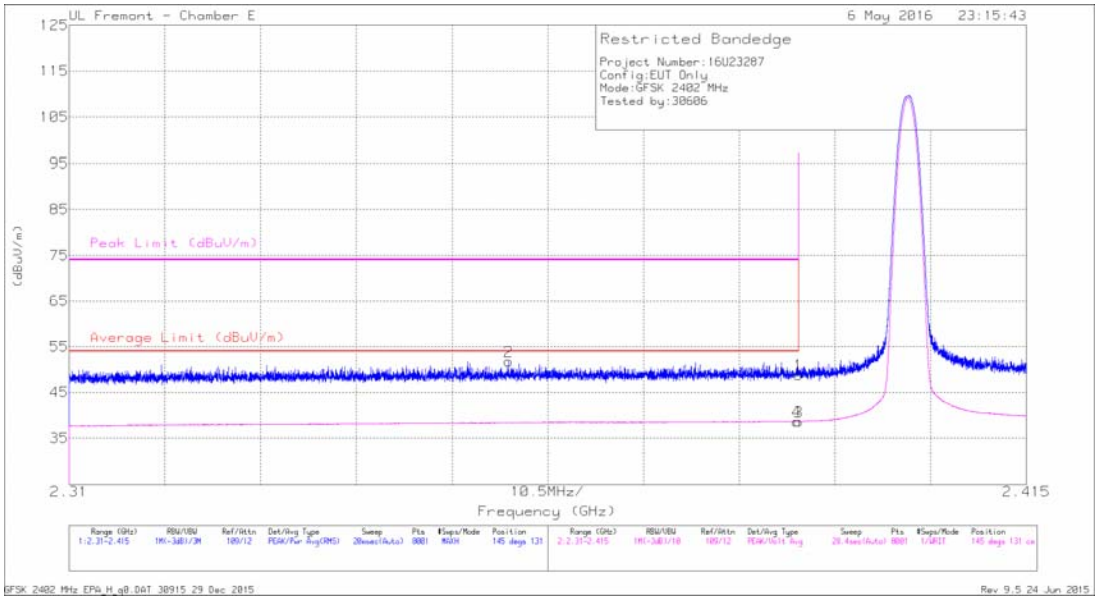
RESULTS

8.2. TRANSMITTER ABOVE 1 GHz

8.2.1. HIGH POWER BASIC DATA RATE GFSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

LOW CHANNEL HORIZONTAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/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	36.66	Pk	32.1	-19.9	48.86	-	-	74	-25.14	145	131	H
2	* 2.358	39.84	Pk	31.9	-20	51.74	-	-	74	-22.26	145	131	H
3	* 2.39	26.44	VA1T	32.1	-19.9	38.64	54	-15.36	-	-	145	131	H
4	* 2.39	26.48	VA1T	32.1	-19.9	38.68	54	-15.32	-	-	145	131	H

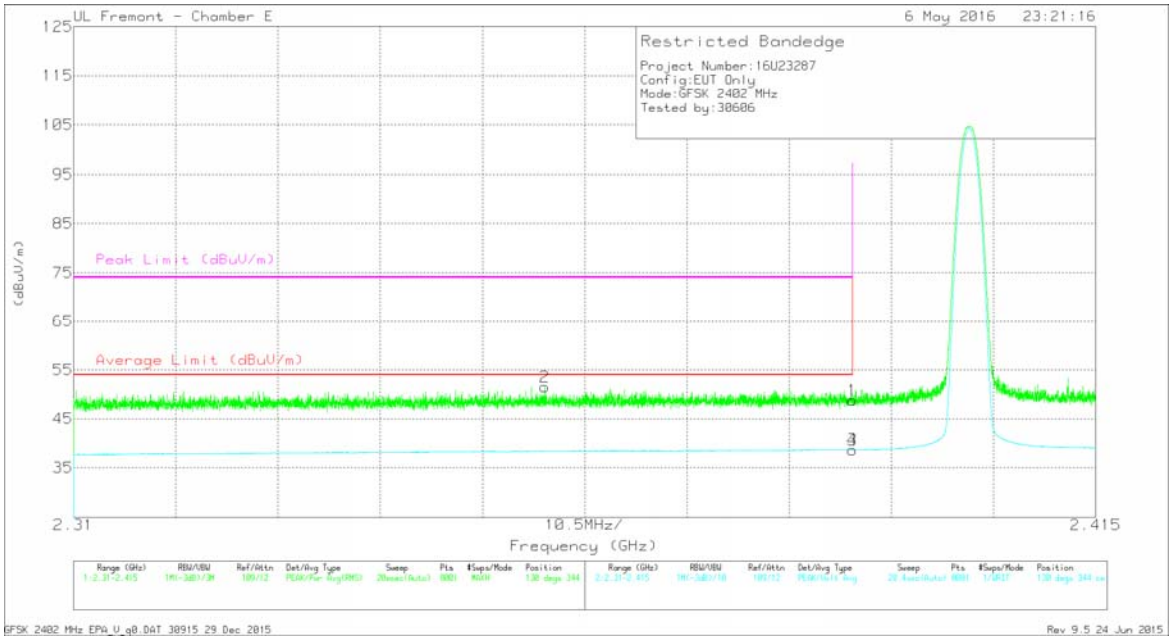
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

LOW CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/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	36.6	Pk	32.1	-19.9	48.8	-	-	74	-25.2	130	344	V
2	* 2.358	39.62	Pk	31.9	-20	51.52	-	-	74	-22.48	130	344	V
3	* 2.39	26.48	VA1T	32.1	-19.9	38.68	54	-15.32	-	-	130	344	V
4	* 2.39	26.48	VA1T	32.1	-19.9	38.68	54	-15.32	-	-	130	344	V

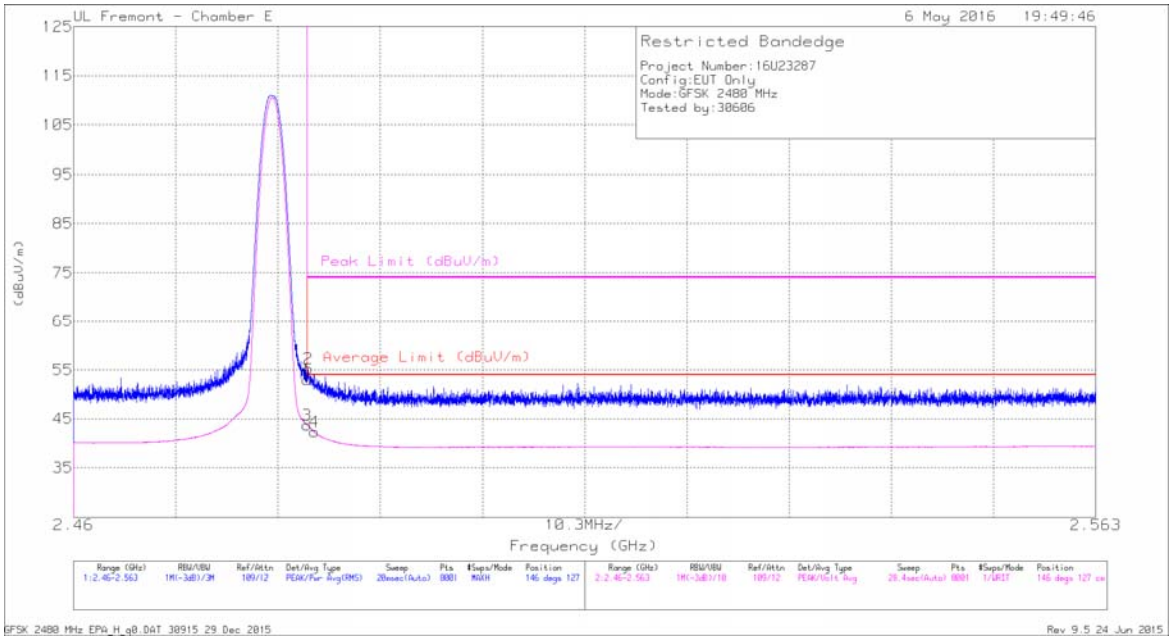
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

HIGH CHANNEL HORIZONTAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/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	40.73	Pk	32.3	-20	53.03	-	-	74	-20.97	146	127	H
2	* 2.484	42.99	Pk	32.3	-20	55.29	-	-	74	-18.71	146	127	H
3	* 2.484	31.46	VA1T	32.3	-20	43.76	54	-10.24	-	-	146	127	H
4	* 2.484	30	VA1T	32.3	-20	42.3	54	-11.7	-	-	146	127	H

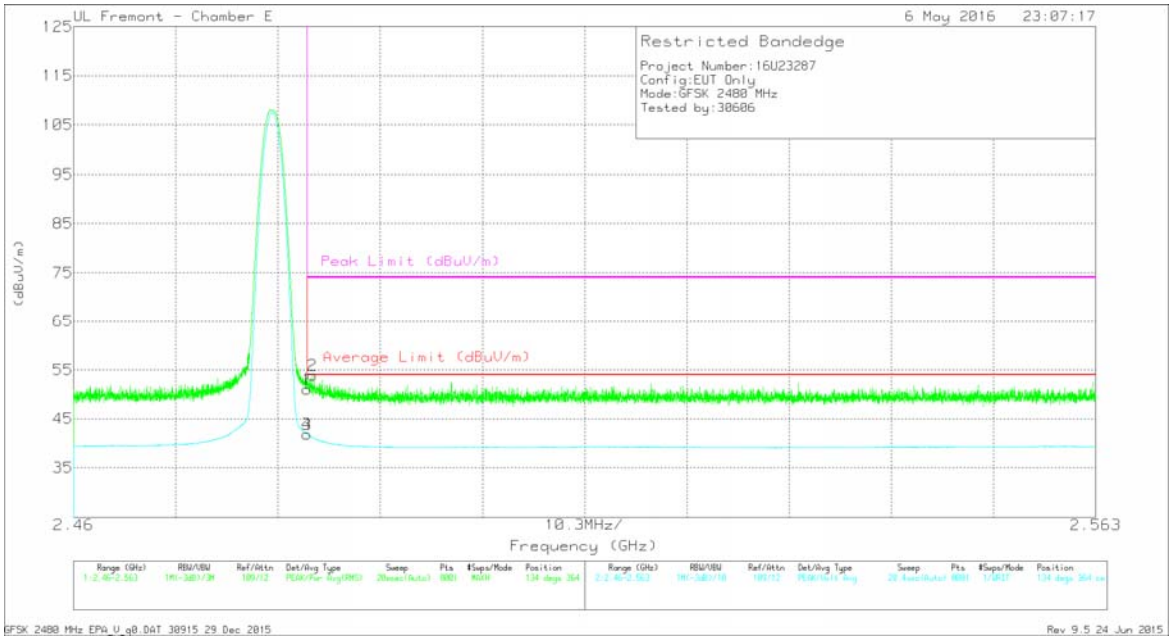
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

HIGH CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/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	38.72	Pk	32.3	-20	51.02	-	-	74	-22.98	134	364	V
2	* 2.484	41.59	Pk	32.3	-20	53.89	-	-	74	-20.11	134	364	V
3	* 2.484	29.58	VA1T	32.3	-20	41.88	54	-12.12	-	-	134	364	V
4	* 2.484	29.55	VA1T	32.3	-20	41.85	54	-12.15	-	-	134	364	V

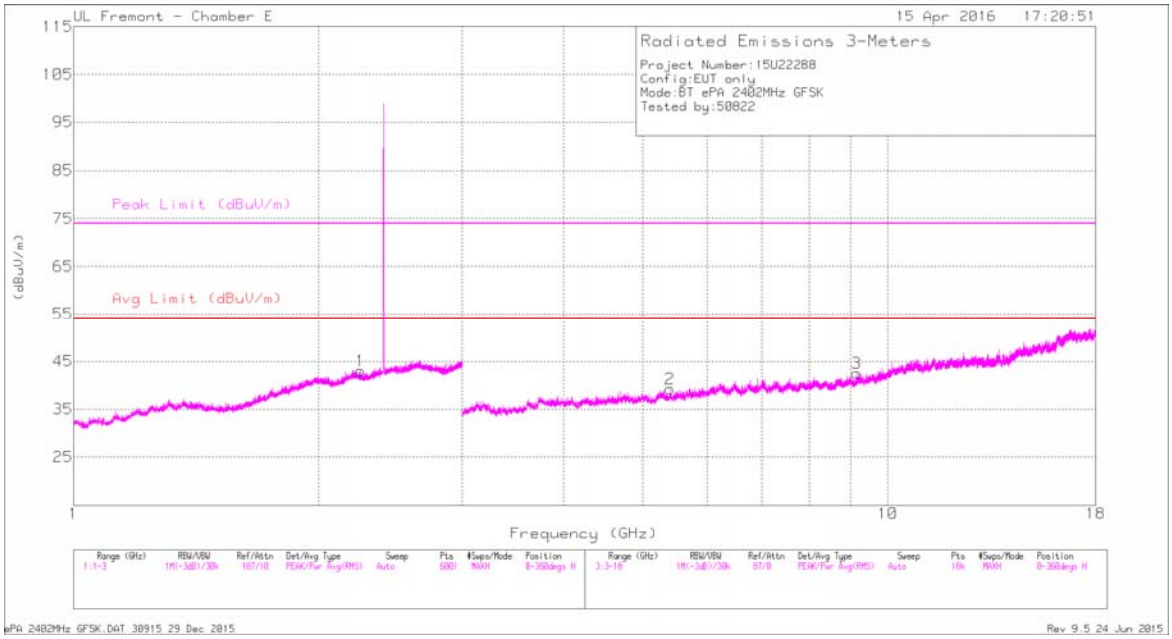
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

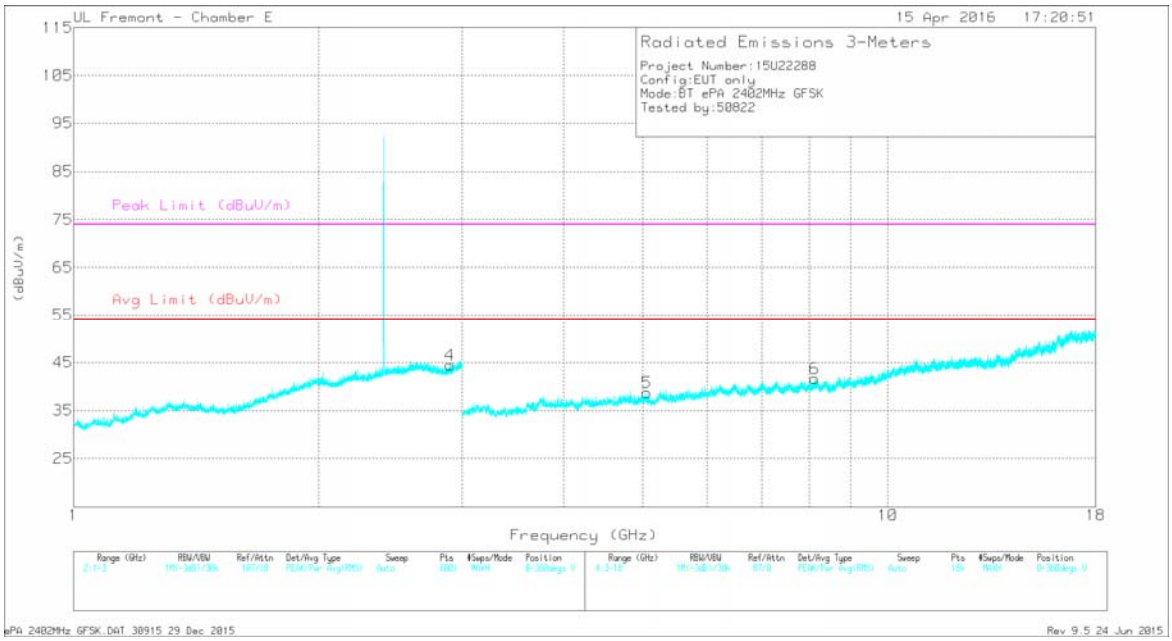
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL PLOT



LOW CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/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	* 2.251	37.22	PK2	31.6	-20.1	48.72	-	-	74	-25.28	207	266	H
	* 2.251	24.2	VA1T	31.6	-20	35.8	54	-18.2	-	-	207	266	H
4	* 2.898	38.02	PK2	31.9	-19.4	50.52	-	-	74	-23.48	54	213	V
	* 2.9	24.88	VA1T	31.9	-19.4	37.38	54	-16.62	-	-	54	213	V
2	* 5.402	40.49	PK2	34.4	-29.2	45.69	-	-	74	-28.31	135	165	H
	* 5.402	27.5	VA1T	34.4	-29.2	32.7	54	-21.3	-	-	135	165	H
3	* 9.16	37.74	PK2	36.2	-25.9	48.04	-	-	74	-25.96	63	231	H
	* 9.157	25.24	VA1T	36.2	-26	35.44	54	-18.56	-	-	63	231	H
5	* 5.059	41.3	PK2	34	-29.9	45.4	-	-	74	-28.6	0	318	V
	* 5.056	28.32	VA1T	34	-29.9	32.42	54	-21.58	-	-	0	318	V
6	* 8.138	38.41	PK2	35.7	-25.5	48.61	-	-	74	-25.39	246	289	V
	* 8.138	25.16	VA1T	35.7	-25.5	35.36	54	-18.64	-	-	246	289	V

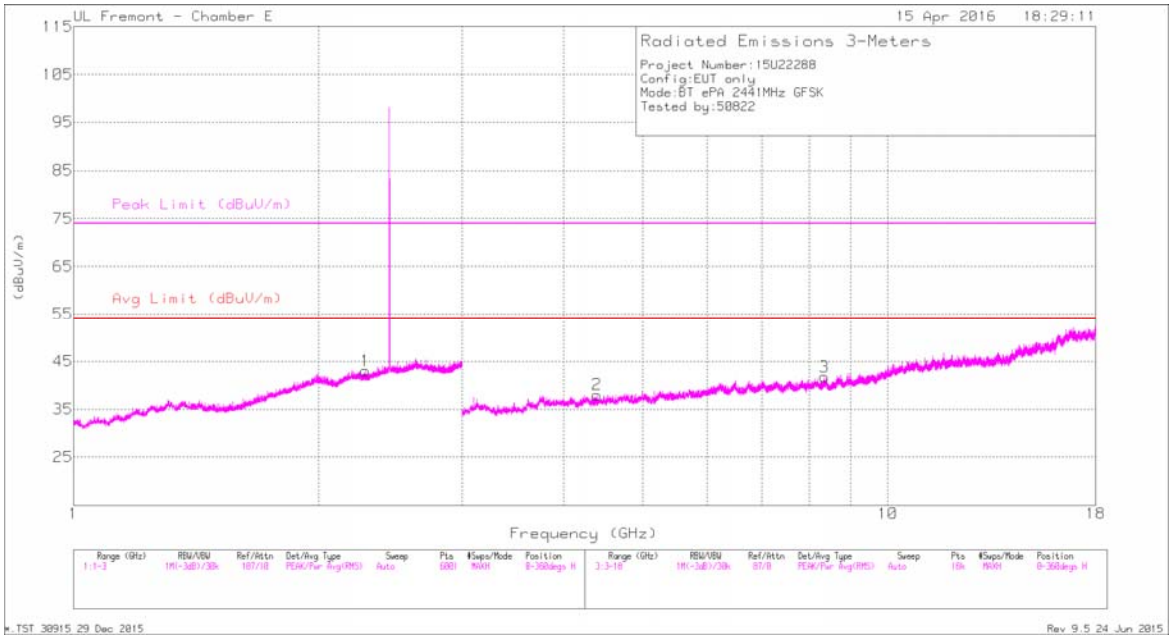
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

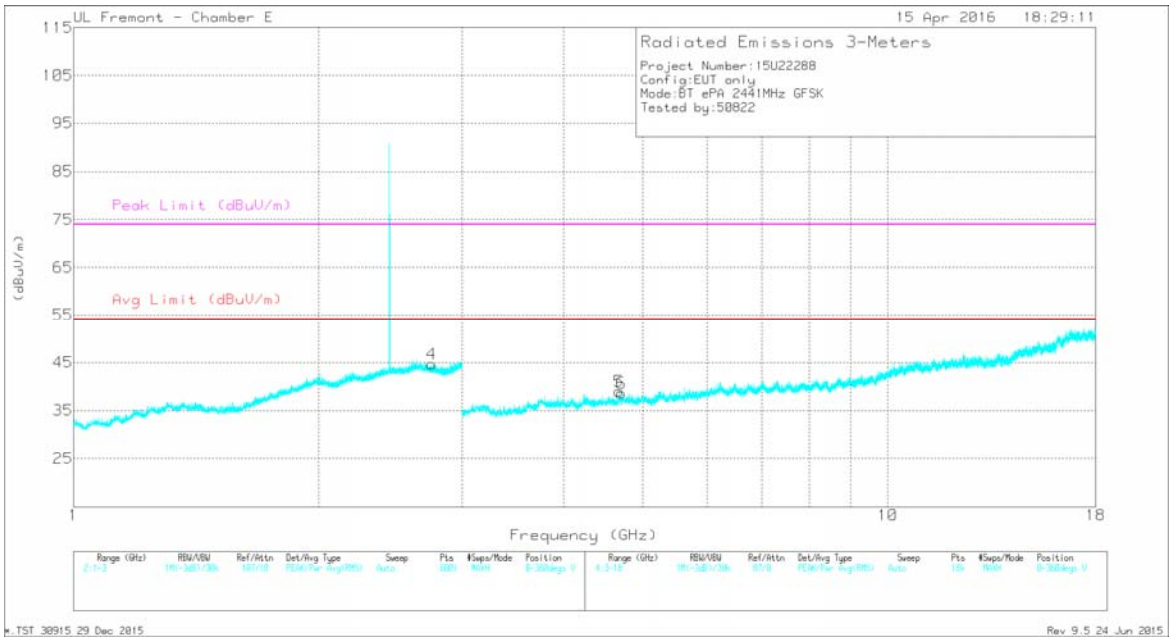
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

MID CHANNEL HORIZONTAL PLOT



MID CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/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	* 2.282	37.61	PK2	31.5	-20.1	49.01	-	-	74	-24.99	16	105	H
	* 2.283	24.35	VA1T	31.5	-20.1	35.75	54	-18.25	-	-	16	105	H
4	* 2.754	38.55	PK2	32.5	-19.9	51.15	-	-	74	-22.85	330	119	V
	* 2.752	24.94	VA1T	32.5	-19.9	37.54	54	-16.46	-	-	330	119	V
2	* 4.39	42.9	PK2	33.7	-30.6	46	-	-	74	-28	28	253	H
	* 4.389	28.5	VA1T	33.7	-30.6	31.6	54	-22.4	-	-	28	253	H
3	* 8.363	38.75	PK2	35.7	-26.1	48.35	-	-	74	-25.65	356	173	H
	* 8.363	25.87	VA1T	35.7	-26.1	35.47	54	-18.53	-	-	356	173	H
5	* 4.672	41.71	PK2	33.9	-30.1	45.51	-	-	74	-28.49	115	305	V
	* 4.671	28.12	VA1T	33.9	-30.1	31.92	54	-22.08	-	-	115	305	V
6	* 4.708	41.25	PK2	34	-29.4	45.85	-	-	74	-28.15	335	181	V
	* 4.709	28.34	VA1T	34	-29.4	32.94	54	-21.06	-	-	335	181	V

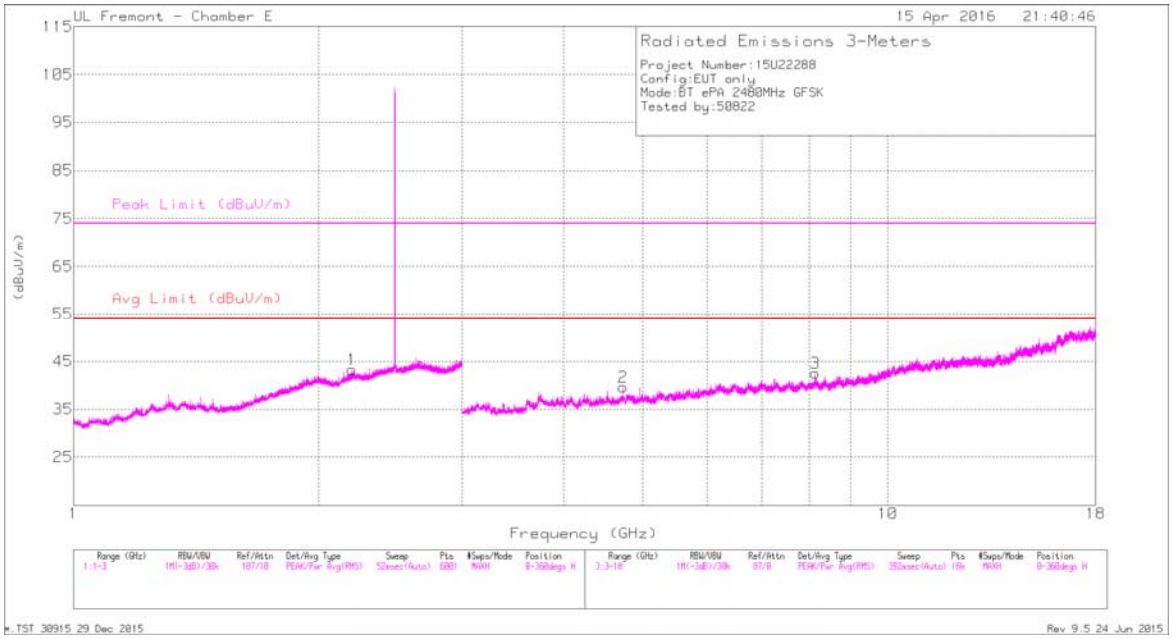
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

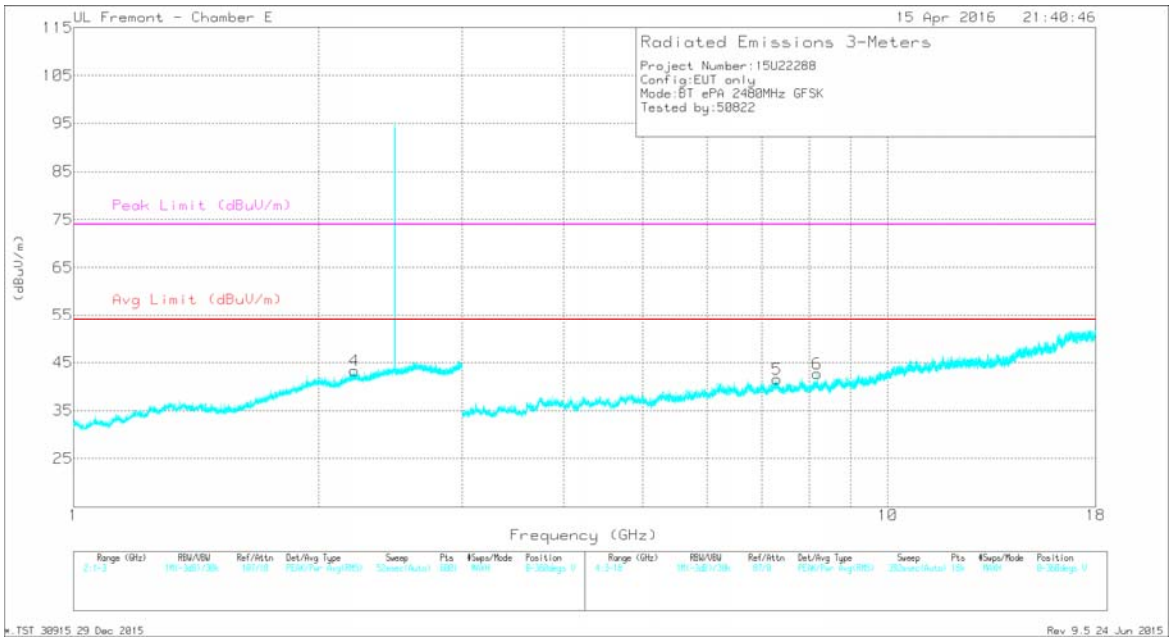
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

HIGH CHANNEL HORIZONTAL PLOT



HIGH CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 2.212	38.02	PK2	31.8	-20	49.82	-	-	74	-24.18	241	141	V
	* 2.214	24.24	VA1T	31.8	-20.1	35.94	54	-18.06	-	-	241	141	V
2	* 4.734	41.06	PK2	34	-29	46.06	-	-	74	-27.94	223	387	H
	* 4.734	28	VA1T	34	-29	33	54	-21	-	-	223	387	H
3	* 8.148	38.1	PK2	35.7	-25.5	48.3	-	-	74	-25.7	188	396	H
	* 8.15	25.15	VA1T	35.7	-25.5	35.35	54	-18.65	-	-	188	396	H
6	* 8.186	38.4	PK2	35.8	-26.2	48	-	-	74	-26	4	301	V
	* 8.184	25.69	VA1T	35.8	-26.2	35.29	54	-18.71	-	-	4	301	V
5	* 7.309	38.08	PK2	35.6	-26.1	47.58	-	-	74	-26.42	89	250	V
	* 7.308	25.37	VA1T	35.6	-26.1	34.87	54	-19.13	-	-	89	250	V
1	2.199	37.36	PK2	31.8	-20.1	49.06	-	-	-	-	36	280	H
	2.199	24.17	VA1T	31.8	-20.1	35.87	-	-	-	-	36	280	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

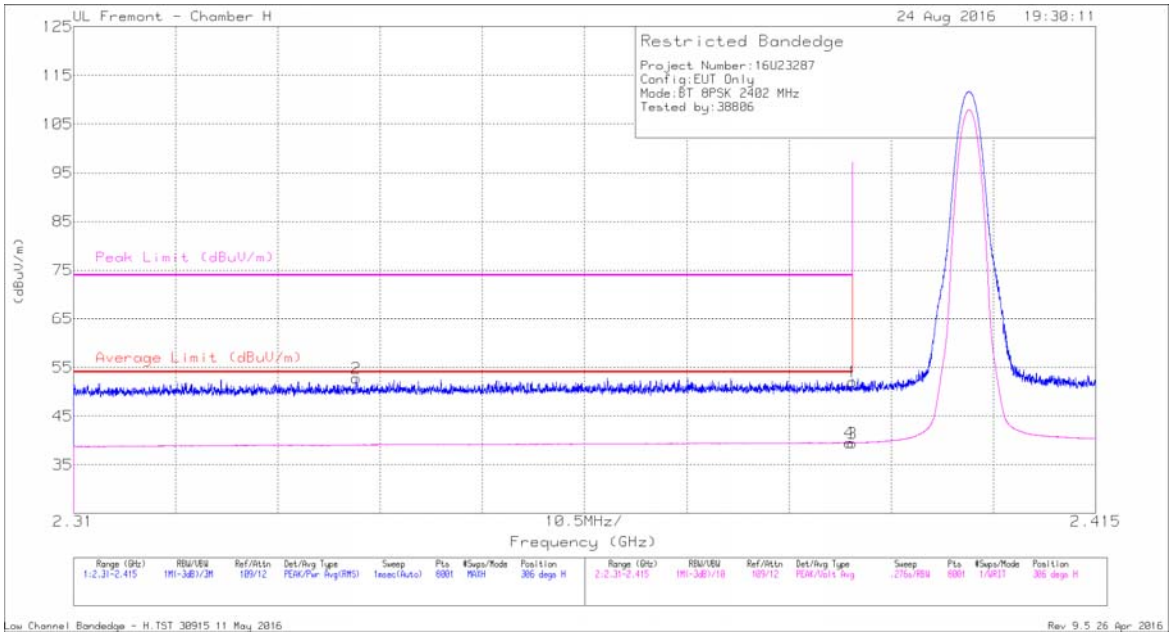
PK2 - KDB558074 Method: Maximum Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

8.2.2. HIGH POWER ENHANCED DATA RATE 8PSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

LOW CHANNEL HORIZONTAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fltr/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	39.67	Pk	31.9	-19.6	51.97	-	-	74	-22.03	306	104	H
2	* 2.339	40.81	Pk	31.7	-19.7	52.81	-	-	74	-21.19	306	104	H
3	* 2.39	27.17	VA1T	31.9	-19.6	39.47	54	-14.53	-	-	306	104	H
4	* 2.39	27.23	VA1T	31.9	-19.6	39.53	54	-14.47	-	-	306	104	H

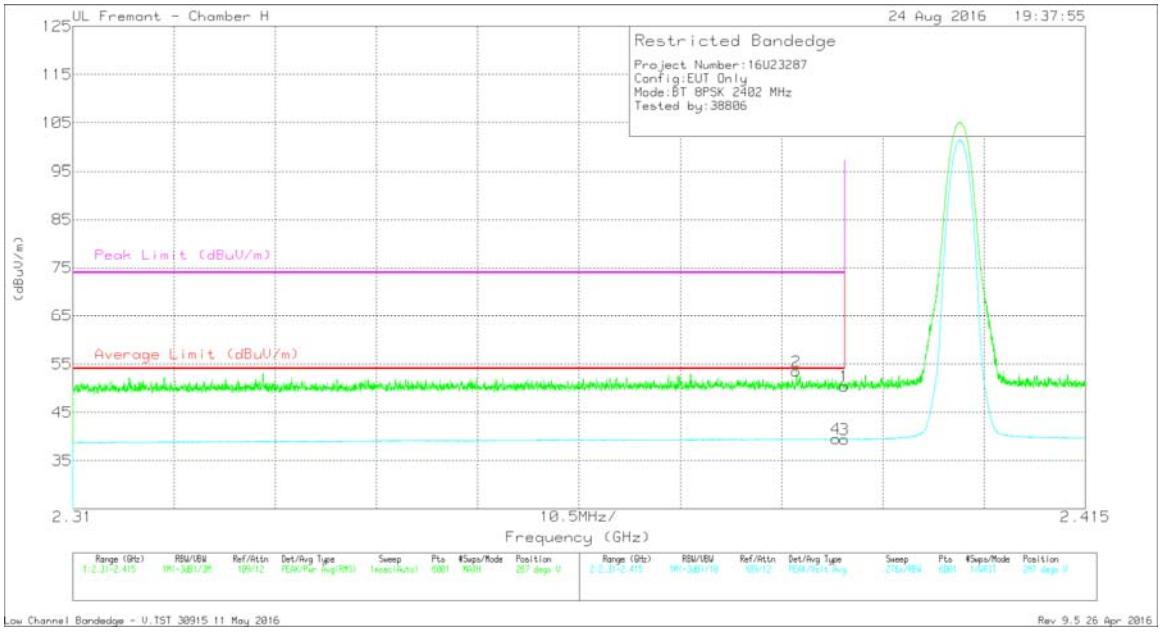
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

LOW CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fltr/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	38.15	Pk	31.9	-19.6	50.45	-	-	74	-23.55	287	391	V
2	* 2.385	41.15	Pk	31.9	-19.6	53.45	-	-	74	-20.55	287	391	V
3	* 2.39	27.15	VA1T	31.9	-19.6	39.45	54	-14.55	-	-	287	390	V
4	* 2.389	27.19	VA1T	31.9	-19.6	39.49	54	-14.51	-	-	287	390	V

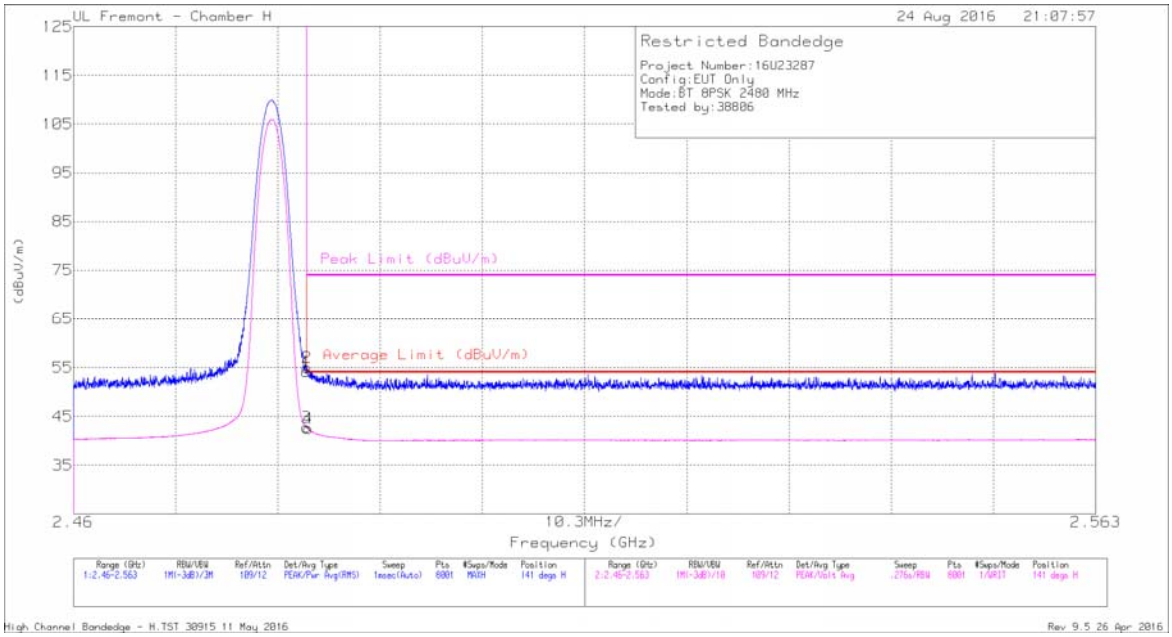
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

HIGH CHANNEL HORIZONTAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fltr/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	41.48	Pk	32.2	-19.5	54.18	-	-	74	-19.82	141	157	H
2	* 2.484	42.3	Pk	32.2	-19.5	55	-	-	74	-19	141	157	H
3	* 2.484	30.07	VA1T	32.2	-19.5	42.77	54	-11.23	-	-	141	157	H
4	* 2.484	29.78	VA1T	32.2	-19.5	42.48	54	-11.52	-	-	141	157	H

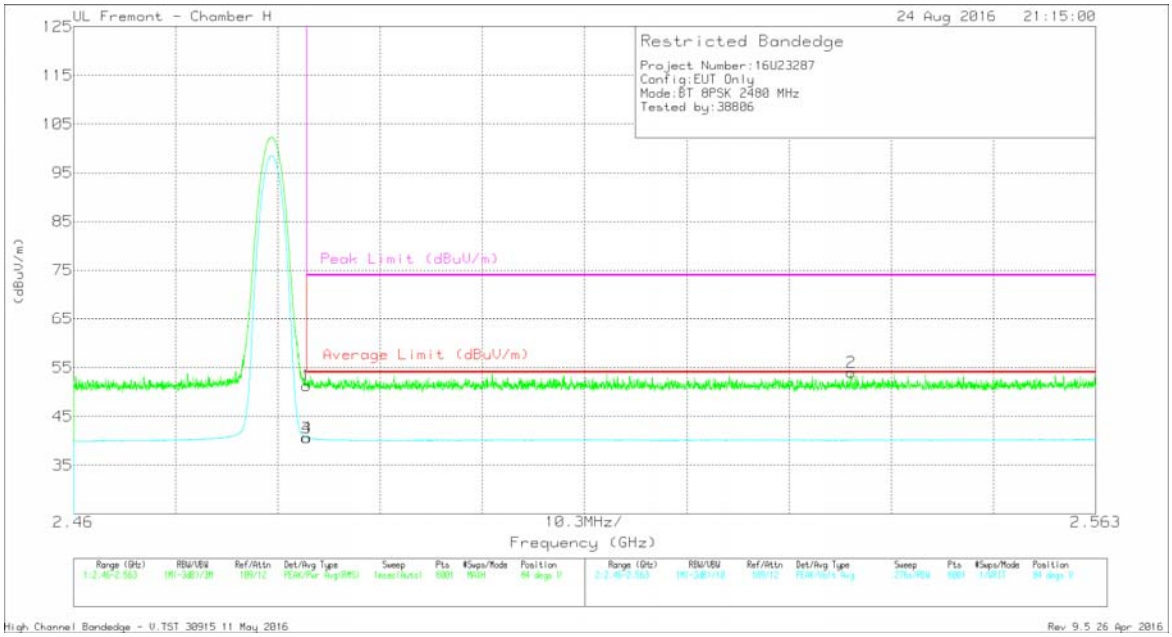
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

HIGH CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fltr/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	38.53	Pk	32.2	-19.5	51.23	-	-	74	-22.77	84	285	V
2	2.538	41.18	Pk	32.2	-19.4	53.98	-	-	74	-20.02	84	285	V
3	* 2.484	27.9	VA1T	32.2	-19.5	40.6	54	-13.4	-	-	84	285	V
4	* 2.484	27.91	VA1T	32.2	-19.5	40.61	54	-13.39	-	-	84	285	V

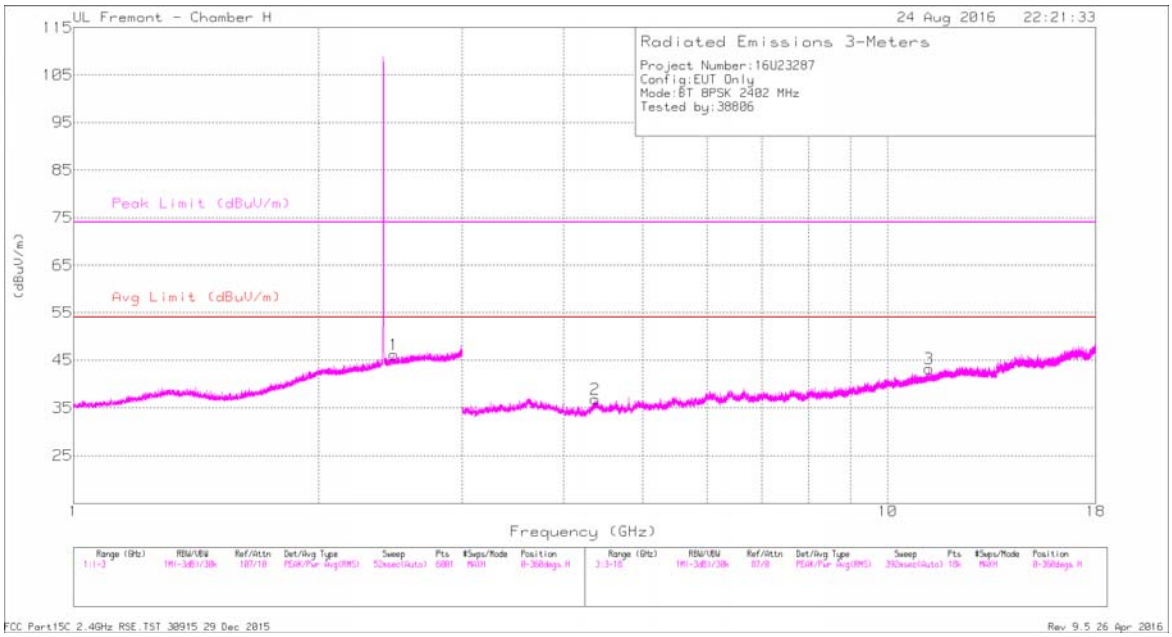
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

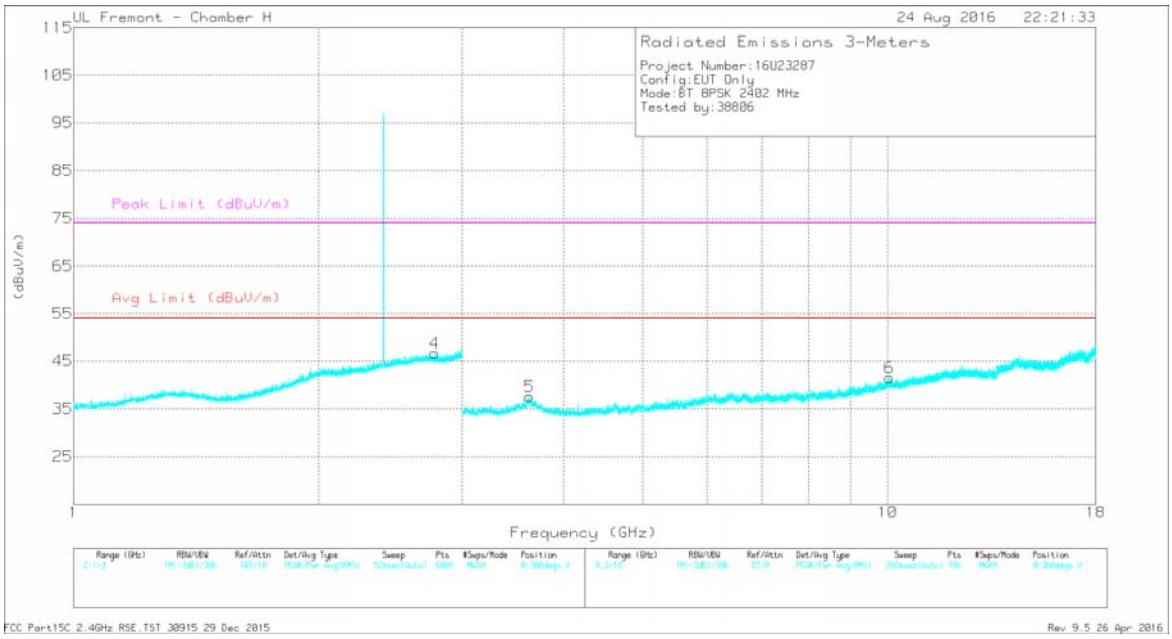
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL PLOT



LOW CHANNEL VERTICAL PLOT

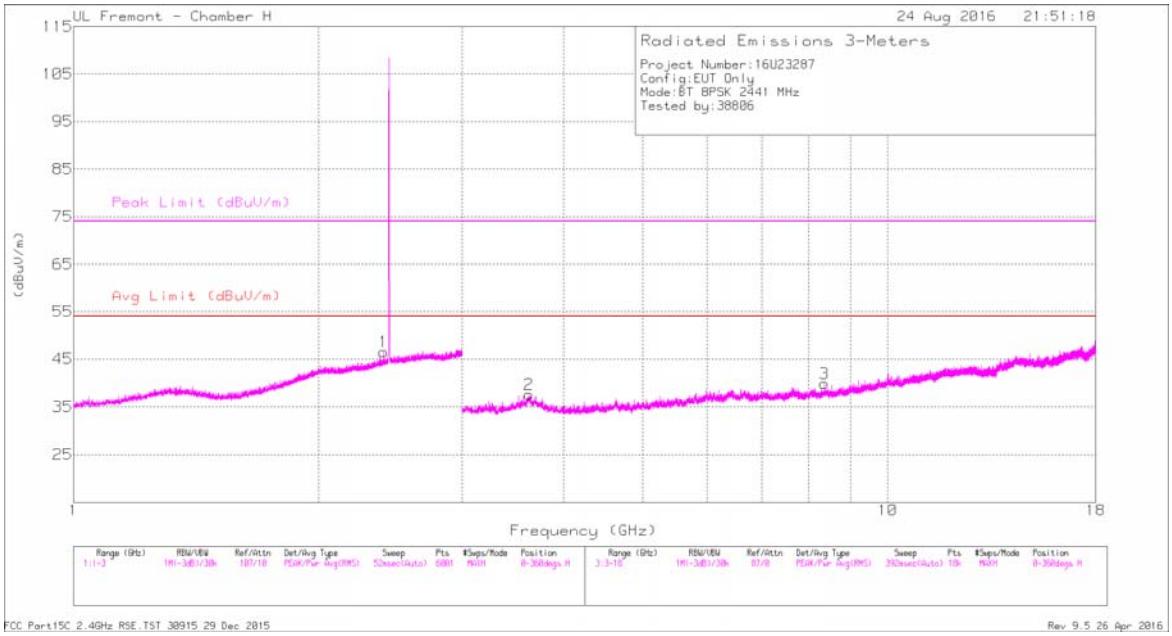


DATA

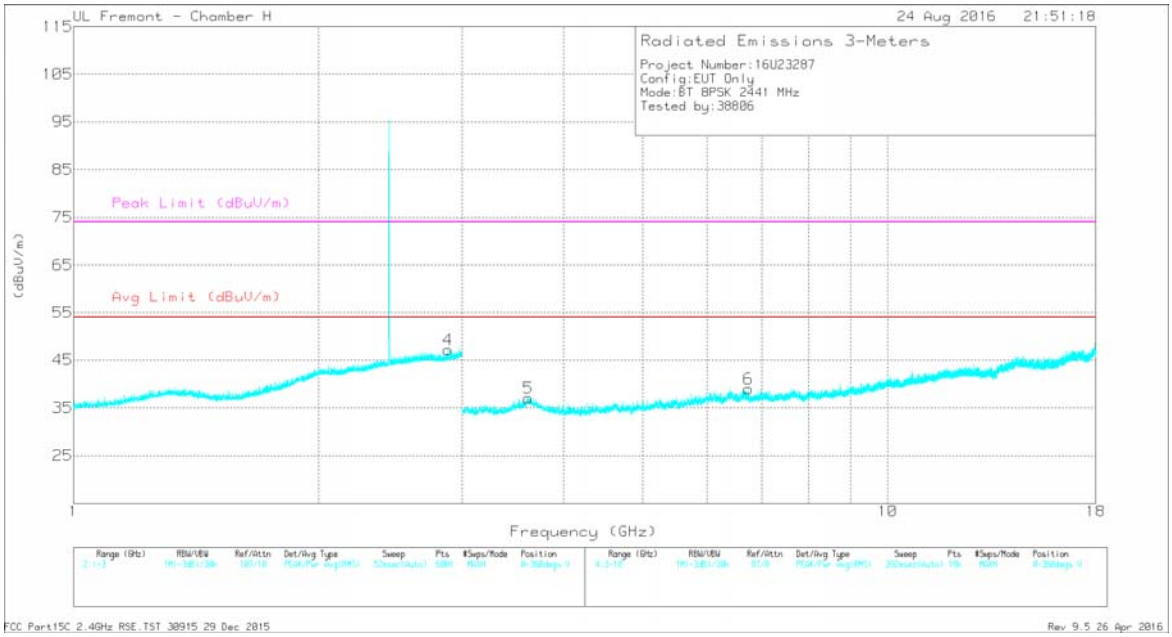
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.477	26.91	VA1T	32.2	-19.5	39.61	-	-	-	-	267	187	H
	2.478	37.76	PKFH	32.2	-19.5	50.46	-	-	-	-	267	187	H
2	* 4.37	44.61	PKFH	33.6	-34.8	43.41	-	-	74	-30.59	180	212	H
	* 4.372	33.31	VA1T	33.7	-34.8	32.21	54	-21.79	-	-	180	212	H
3	* 11.237	41.91	PKFH	38.5	-27.2	53.21	-	-	74	-20.79	172	196	H
	* 11.236	29.61	VA1T	38.5	-27.2	40.91	54	-13.09	-	-	172	196	H
4	* 2.777	37.67	PKFH	32.6	-19.3	50.97	-	-	74	-23.03	154	219	V
	* 2.777	26.28	VA1T	32.6	-19.3	39.58	54	-14.42	-	-	154	219	V
5	* 3.631	44.07	PKFH	34.9	-35.8	43.17	-	-	74	-30.83	128	346	V
	* 3.635	33.1	VA1T	34.9	-35.8	32.2	54	-21.8	-	-	128	346	V
6	10.055	41.5	PKFH	37.6	-28.6	50.5	-	-	-	-	247	271	V
	10.057	29.97	VA1T	37.6	-28.7	38.87	-	-	-	-	247	271	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

MID CHANNEL HORIZONTAL PLOT



MID CHANNEL VERTICAL PLOT

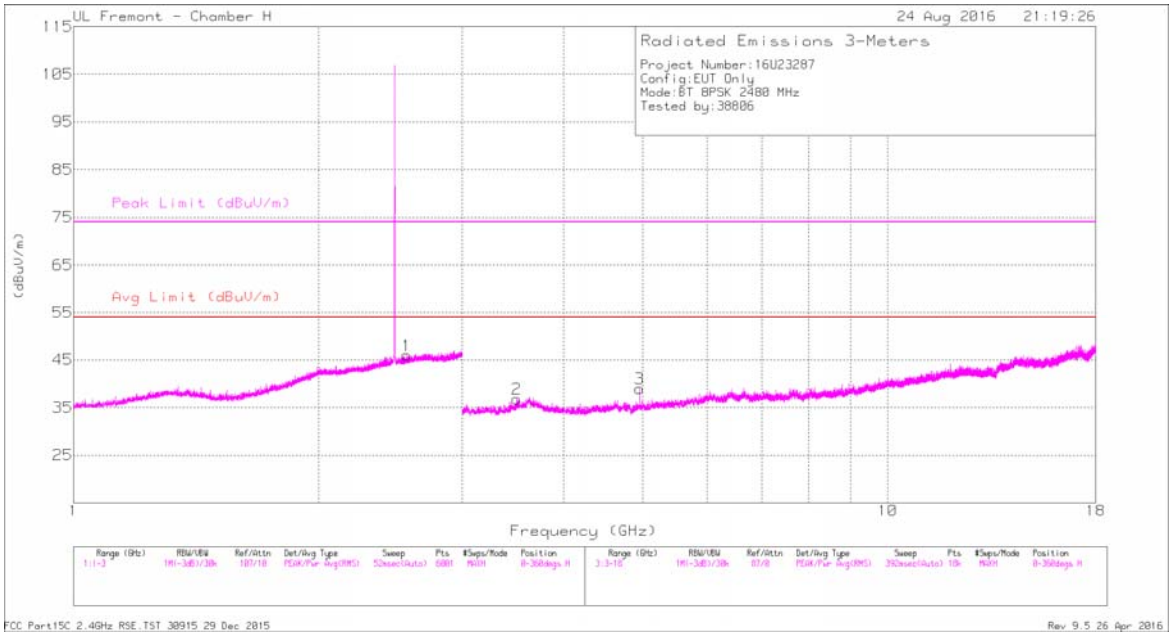


DATA

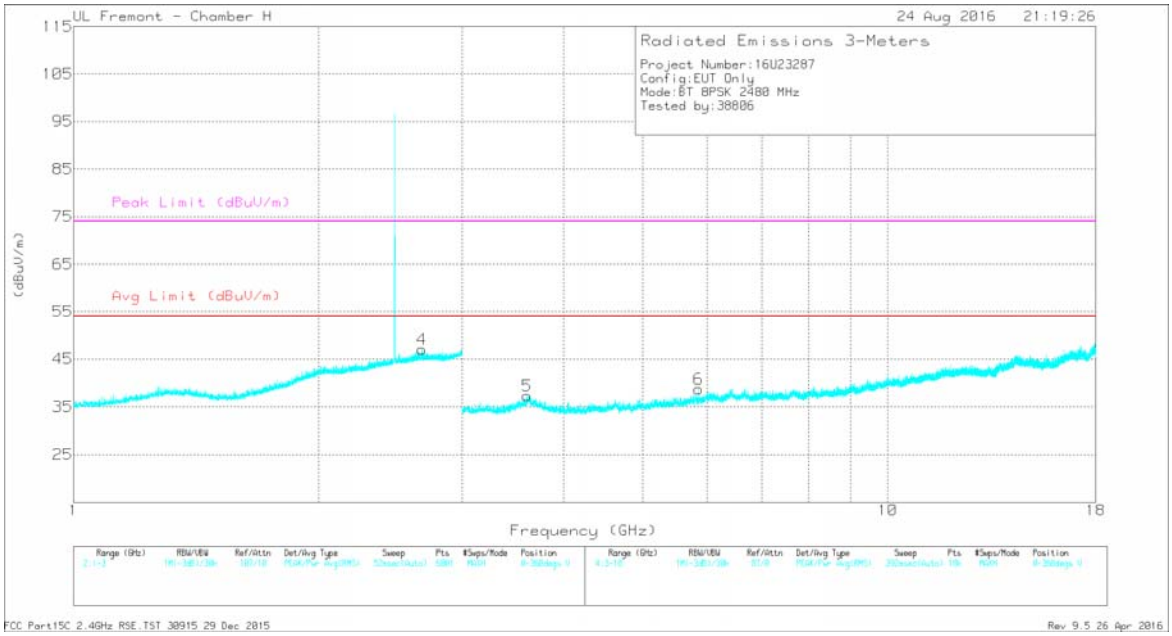
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.404	28.25	VA1T	32	-19.6	40.65	-	-	-	-	313	167	H
	2.405	38.52	PKFH	32	-19.6	50.92	-	-	-	-	313	167	H
2	* 3.624	44.3	PKFH	34.9	-35.8	43.4	-	-	74	-30.6	348	371	H
	* 3.625	33.02	VA1T	34.9	-35.8	32.12	54	-21.88	-	-	348	371	H
3	* 8.363	42.01	PKFH	35.8	-29.9	47.91	-	-	74	-26.09	302	130	H
	* 8.36	30.49	VA1T	35.8	-29.9	36.39	54	-17.61	-	-	302	130	H
4	* 2.884	37.65	PKFH	32.8	-19.2	51.25	-	-	74	-22.75	244	313	V
	* 2.883	26.07	VA1T	32.8	-19.2	39.67	54	-14.33	-	-	244	313	V
5	* 3.621	45.49	PKFH	34.9	-35.8	44.59	-	-	74	-29.41	26	349	V
	* 3.623	33.9	VA1T	34.9	-35.8	33	54	-21	-	-	26	349	V
6	6.739	30.68	VA1T	35.7	-31.4	34.98	-	-	-	-	356	255	V
	6.742	42.46	PKFH	35.7	-31.4	46.76	-	-	-	-	356	255	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HIGH CHANNEL HORIZONTAL PLOT



HIGH CHANNEL VERTICAL PLOT



DATA

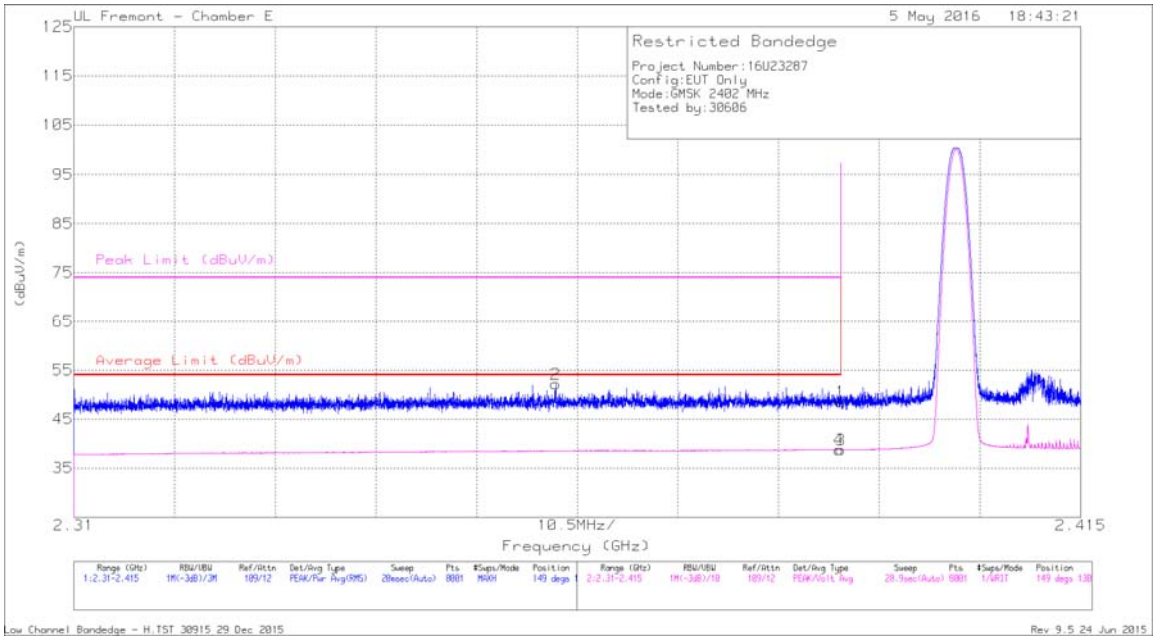
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.567	37.56	PKFH	32.2	-19.3	50.46	-	-	-	-	316	248	H
	2.567	26.28	VA1T	32.2	-19.3	39.18	-	-	-	-	316	248	H
2	* 3.501	44.17	PKFH	34.2	-36.2	42.17	-	-	74	-31.83	256	279	H
	* 3.501	33.53	VA1T	34.2	-36.2	31.53	54	-22.47	-	-	256	279	H
3	* 4.96	45.94	PKFH	34	-34.3	45.64	-	-	74	-28.36	148	111	H
	* 4.96	35.93	VA1T	34	-34.3	35.63	54	-18.37	-	-	148	111	H
4	* 2.679	38.13	PKFH	32.5	-19.2	51.43	-	-	74	-22.57	158	230	V
	* 2.678	26.41	VA1T	32.5	-19.2	39.71	54	-14.29	-	-	158	230	V
5	* 3.607	44.62	PKFH	34.9	-35.7	43.82	-	-	74	-30.18	210	297	V
	* 3.607	33.68	VA1T	34.9	-35.7	32.88	54	-21.12	-	-	210	297	V
6	5.855	44.04	PKFH	35.1	-32.6	46.54	-	-	-	-	40	370	V
	5.856	31.71	VA1T	35.1	-32.6	34.21	-	-	-	-	40	370	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

8.2.3. LOW POWER BASIC DATA RATE GFSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

LOW CHANNEL HORIZONTAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.36	40.26	Pk	31.9	-20	52.16	-	-	74	-21.84	149	130	H
1	* 2.39	36.37	Pk	32.1	-19.9	48.57	-	-	74	-25.43	149	130	H
3	* 2.39	26.5	VA1T	32.1	-19.9	38.7	54	-15.3	-	-	149	130	H
4	* 2.39	26.55	VA1T	32.1	-19.9	38.75	54	-15.25	-	-	149	130	H

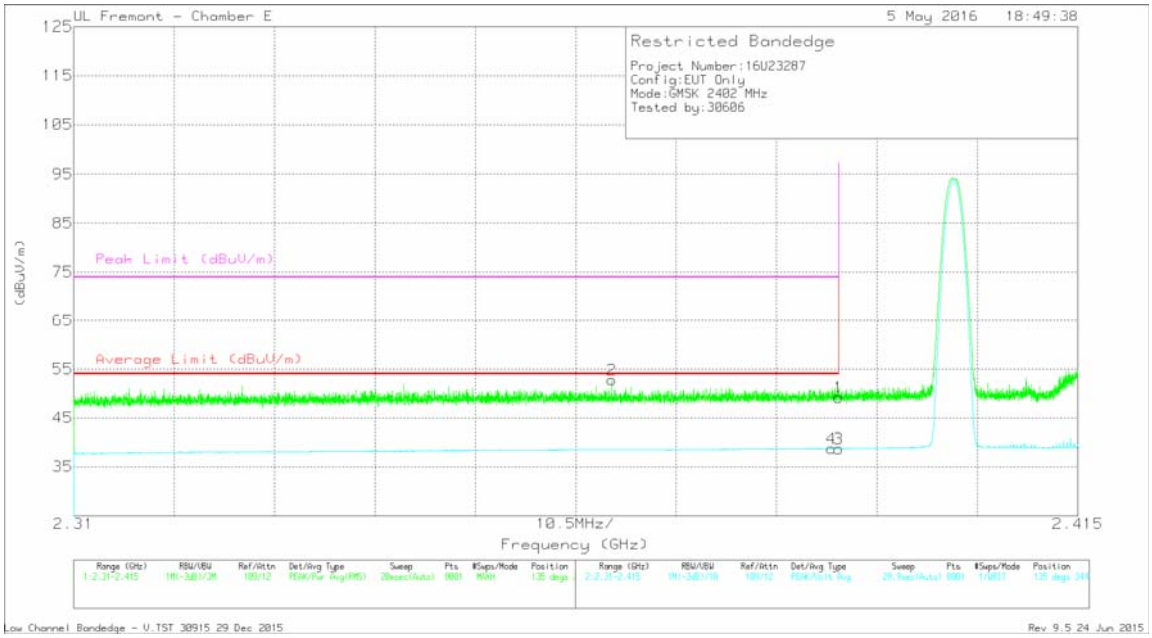
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

LOW CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/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	36.99	Pk	32.1	-19.9	49.19	-	-	74	-24.81	135	344	V
2	* 2.366	40.85	Pk	31.9	-20	52.75	-	-	74	-21.25	135	344	V
3	* 2.39	26.47	VA1T	32.1	-19.9	38.67	54	-15.33	-	-	135	344	V
4	* 2.389	26.52	VA1T	32.1	-19.9	38.72	54	-15.28	-	-	135	344	V

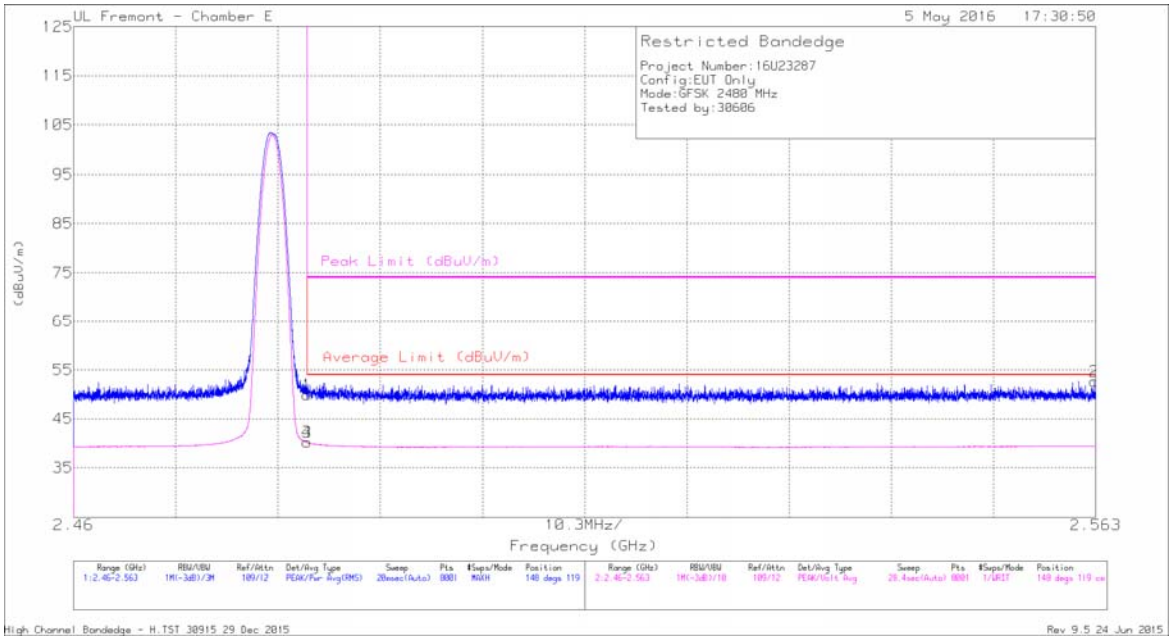
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

HIGH CHANNEL HORIZONTAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/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	37.66	Pk	32.3	-20	49.96	-	-	74	-24.04	148	119	H
3	* 2.484	27.88	VA1T	32.3	-20	40.18	54	-13.82	-	-	148	119	H
4	* 2.484	27.89	VA1T	32.3	-20	40.19	54	-13.81	-	-	148	119	H
2	2.563	40.36	Pk	32.5	-20.2	52.66	-	-	74	-21.34	148	119	H

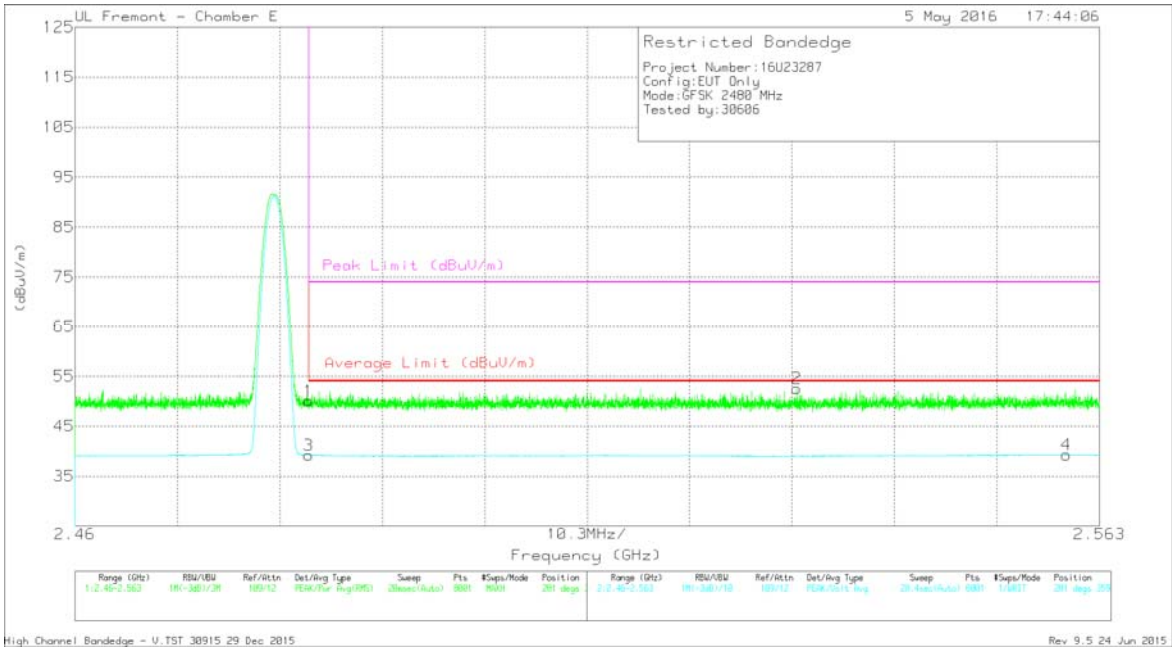
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

HIGH CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/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	37.79	Pk	32.3	-20	50.09	-	-	74	-23.91	281	359	V
3	* 2.484	26.91	VA1T	32.3	-20	39.21	54	-14.79	-	-	281	359	V
2	2.533	40.37	Pk	32.4	-20.2	52.57	-	-	74	-21.43	281	359	V
4	2.56	26.89	VA1T	32.5	-20.1	39.29	54	-14.71	-	-	281	359	V

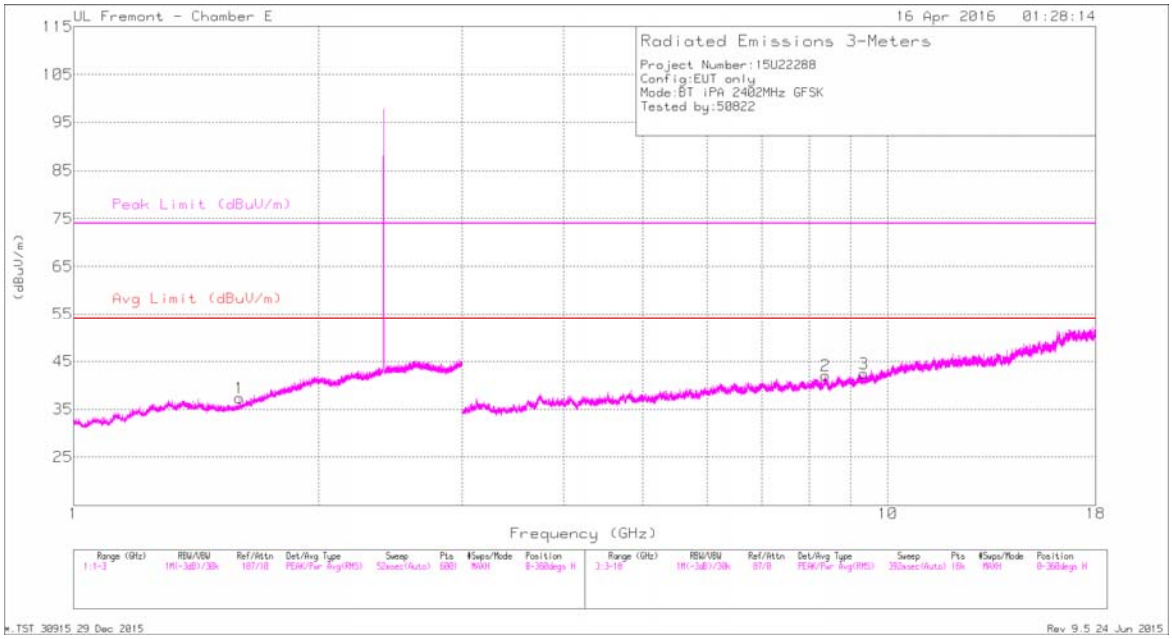
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

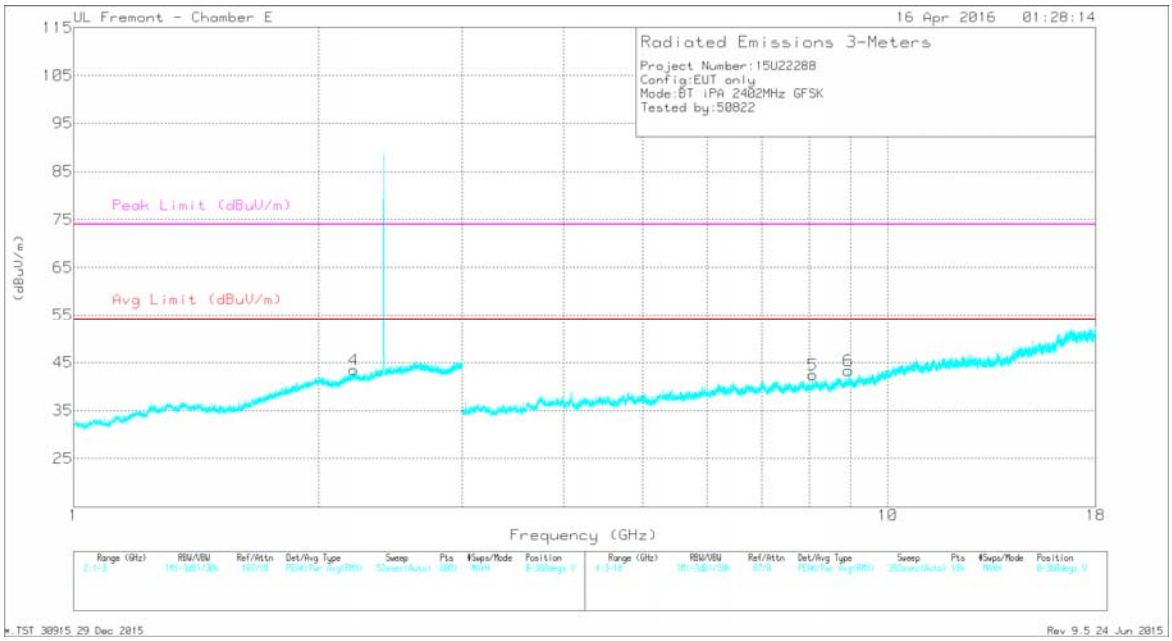
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL PLOT



LOW CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/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	* 1.599	37.28	PK2	27.9	-21.4	43.78	-	-	74	-30.22	186	381	H
	* 1.601	23.58	VA1T	27.9	-21.5	29.98	54	-24.02	-	-	186	381	H
4	* 2.209	38.25	PK2	31.8	-20	50.05	-	-	74	-23.95	174	102	V
	* 2.208	24.27	VA1T	31.8	-20	36.07	54	-17.93	-	-	174	102	V
2	* 8.394	39.46	PK2	35.7	-25.4	49.76	-	-	74	-24.24	165	381	H
	* 8.393	25.48	VA1T	35.7	-25.4	35.78	54	-18.22	-	-	165	381	H
3	* 9.348	38.14	PK2	36.2	-25.8	48.54	-	-	74	-25.46	346	380	H
	* 9.348	25.3	VA1T	36.2	-25.8	35.7	54	-18.3	-	-	346	380	H
5	* 8.084	38.35	PK2	35.6	-26.2	47.75	-	-	74	-26.25	312	124	V
	* 8.084	25.48	VA1T	35.6	-26.2	34.88	54	-19.12	-	-	312	124	V
6	8.944	24.93	VA1T	36	-25.5	35.43	-	-	-	-	151	264	V
	8.947	37.43	PK2	36	-25.5	47.93	-	-	-	-	151	264	V

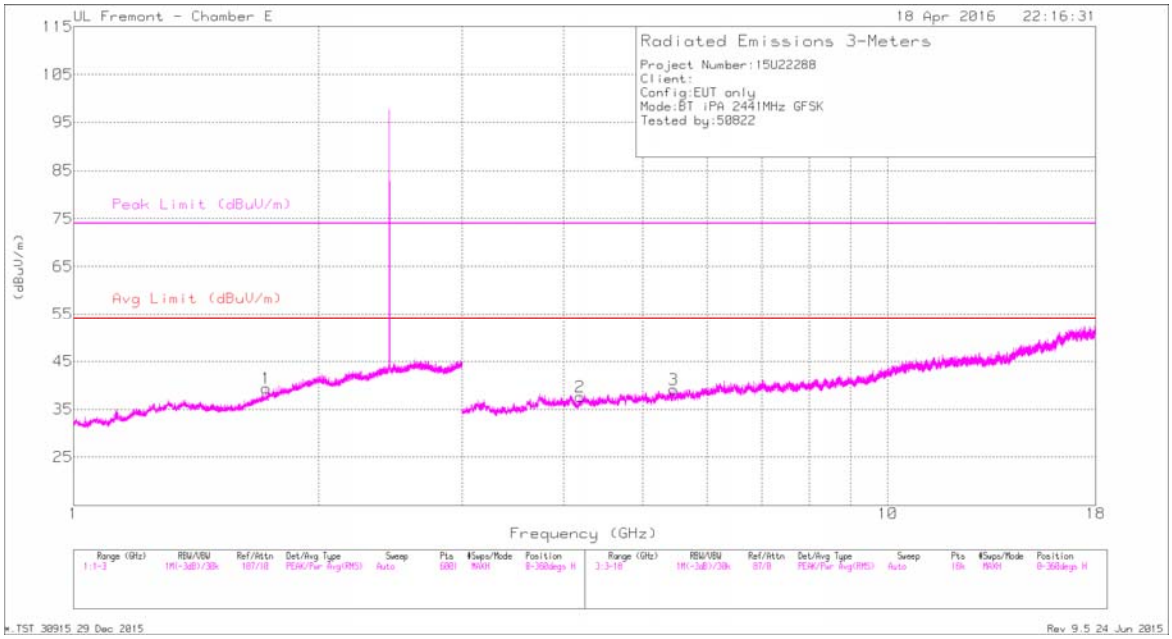
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

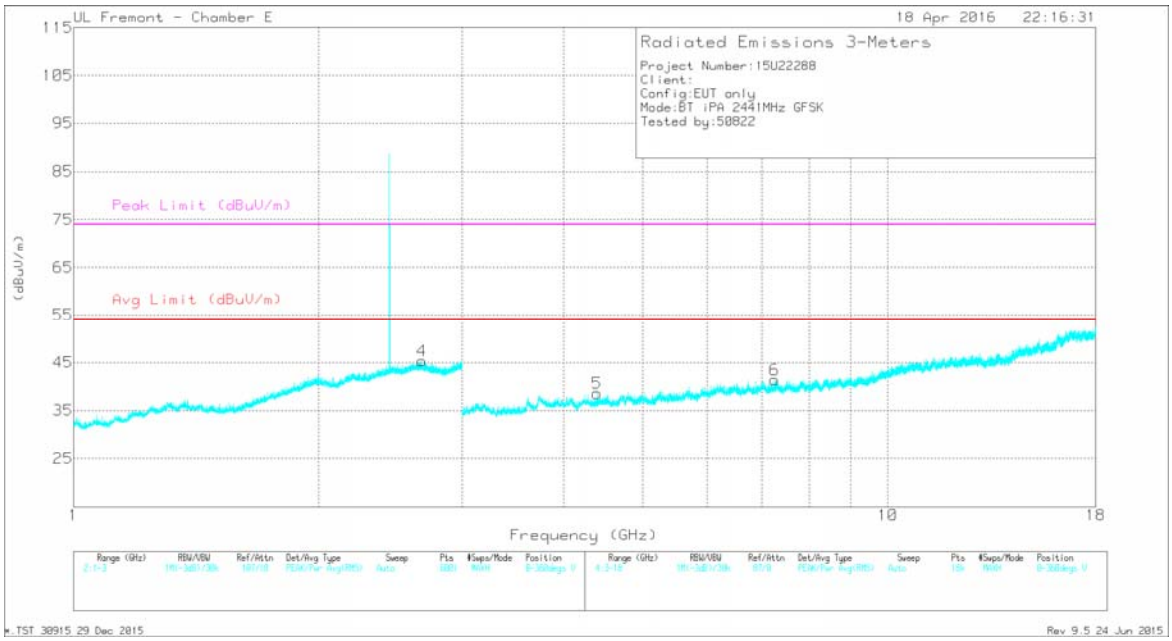
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

MID CHANNEL HORIZONTAL PLOT



MID CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 2.676	37.7	PK2	32.6	-19.7	50.6	-	-	74	-23.4	1	133	V
	* 2.676	25.03	VA1T	32.6	-19.7	37.93	54	-16.07	-	-	1	133	V
2	* 4.183	41.18	PK2	33.3	-30	44.48	-	-	74	-29.52	335	327	H
	* 4.186	28.04	VA1T	33.3	-29.9	31.44	54	-22.56	-	-	335	327	H
3	* 5.456	41.22	PK2	34.4	-30.2	45.42	-	-	74	-28.58	233	318	H
	* 5.456	28.4	VA1T	34.4	-30.2	32.6	54	-21.4	-	-	233	318	H
5	* 4.393	42.82	PK2	33.8	-30.6	46.02	-	-	74	-27.98	281	127	V
	* 4.392	28.47	VA1T	33.8	-30.6	31.67	54	-22.33	-	-	281	127	V
6	* 7.264	38.95	PK2	35.6	-26.8	47.75	-	-	74	-26.25	236	206	V
	* 7.265	26.17	VA1T	35.6	-26.8	34.97	54	-19.03	-	-	236	206	V
1	1.723	36.69	PK2	29.4	-21.1	44.99	-	-	-	-	144	242	H
	1.723	23.45	VA1T	29.4	-21.1	31.75	-	-	-	-	144	242	H

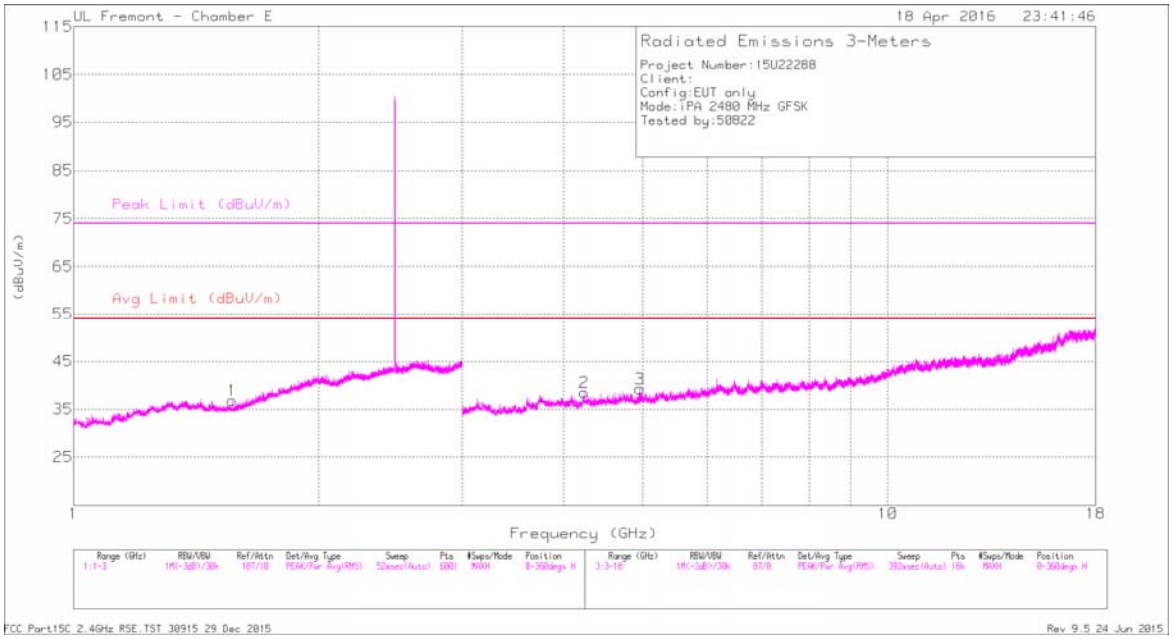
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

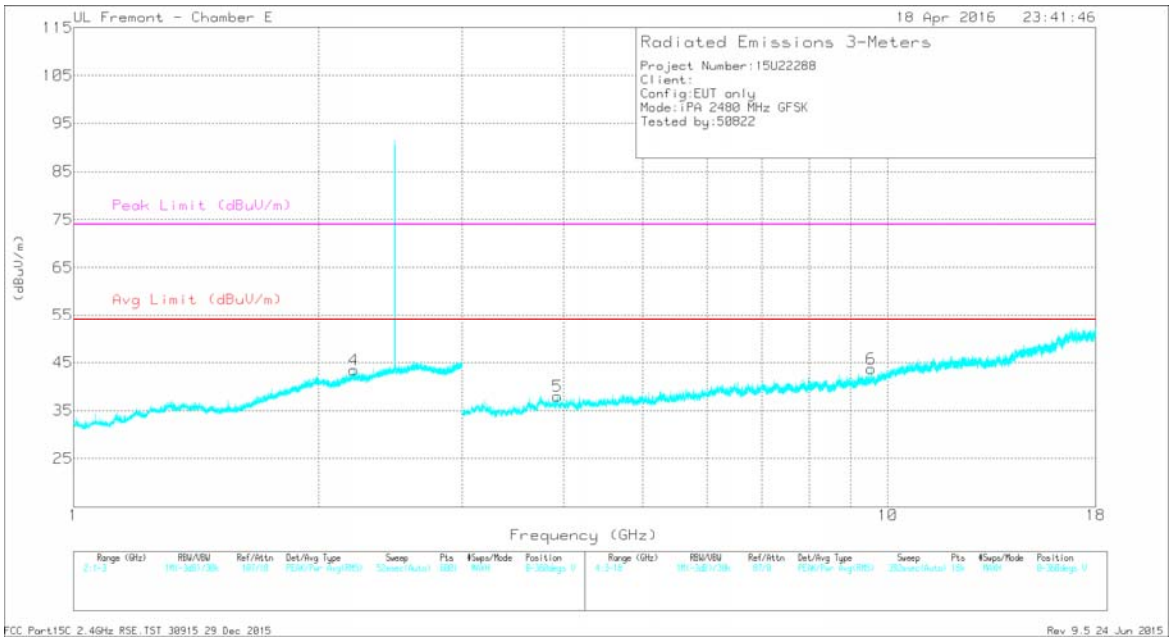
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

HIGH CHANNEL HORIZONTAL PLOT



HIGH CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/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	* 1.564	36.92	PK2	27.8	-21.5	43.22	-	-	74	-30.78	175	182	H
	* 1.565	23.38	VA1T	27.8	-21.5	29.68	54	-24.32	-	-	175	182	H
4	* 2.206	37.56	PK2	31.8	-20	49.36	-	-	74	-24.64	293	163	V
	* 2.209	24.25	VA1T	31.8	-20	36.05	54	-17.95	-	-	293	163	V
2	* 4.237	40.83	PK2	33.3	-29	45.13	-	-	74	-28.87	300	324	H
	* 4.235	27.63	VA1T	33.3	-29	31.93	54	-22.07	-	-	300	324	H
3	* 4.96	43.46	PK2	34	-30.5	46.96	-	-	74	-27.04	317	110	H
	* 4.96	32.85	VA1T	34	-30.5	36.35	54	-17.65	-	-	317	110	H
5	* 3.928	41.34	PK2	33.3	-29.7	44.94	-	-	74	-29.06	302	217	V
	* 3.928	28.4	VA1T	33.3	-29.7	32	54	-22	-	-	302	217	V
6	9.544	37.07	PK2	36.5	-24.5	49.07	-	-	-	-	360	143	V
	9.546	24.47	VA1T	36.5	-24.5	36.47	-	-	-	-	360	143	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

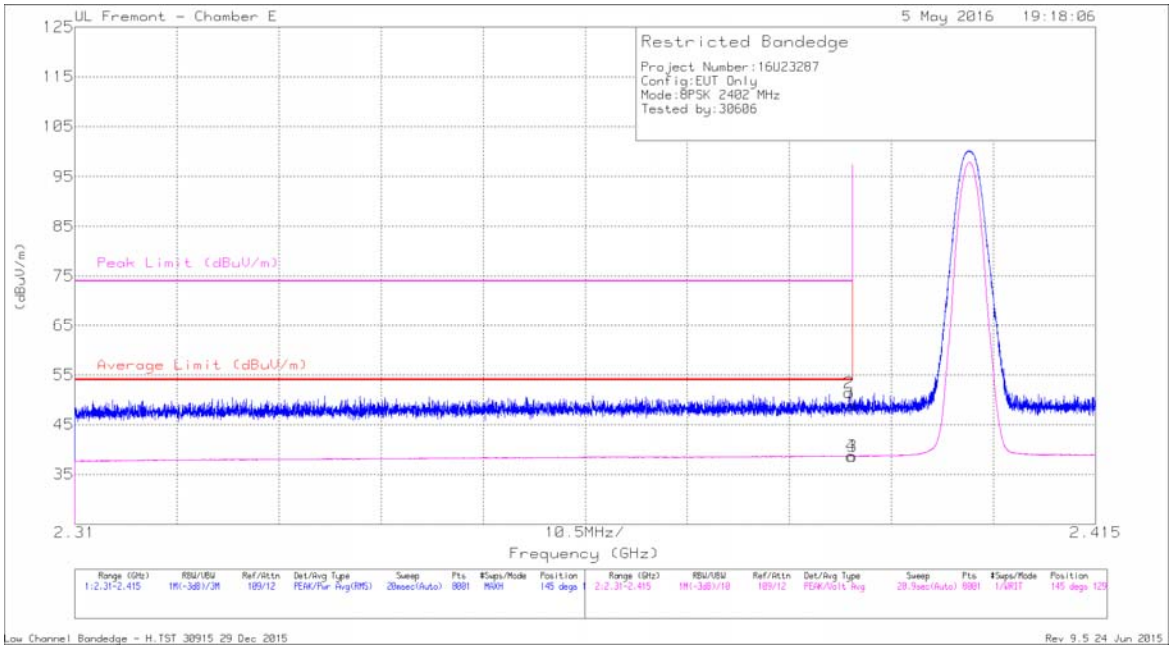
PK2 - KDB558074 Method: Maximum Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

8.2.4. LOW POWER ENHANCED DATA RATE 8PSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

LOW CHANNEL HORIZONTAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/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	36.7	Pk	32.1	-19.9	48.9	-	-	74	-25.1	145	129	H
2	* 2.39	39.23	Pk	32.1	-19.9	51.43	-	-	74	-22.57	145	129	H
3	* 2.39	26.43	VA1T	32.1	-19.9	38.63	54	-15.37	-	-	145	129	H
4	* 2.39	26.47	VA1T	32.1	-19.9	38.67	54	-15.33	-	-	145	129	H

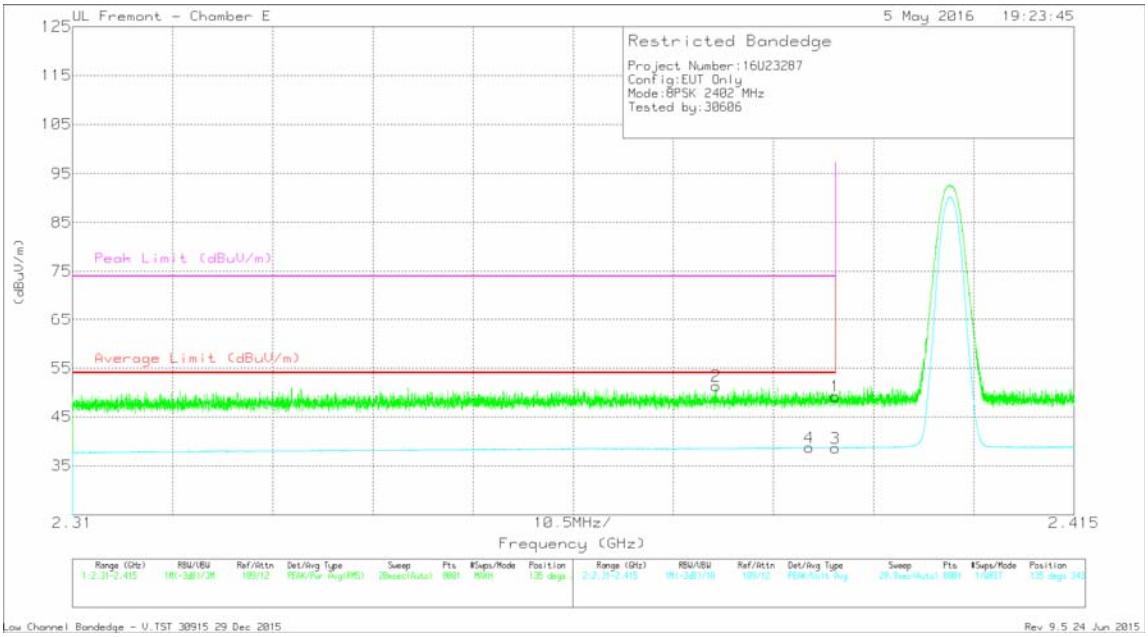
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

LOW CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/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	36.99	Pk	32.1	-19.9	49.19	-	-	74	-24.81	135	343	V
2	* 2.377	39.33	Pk	32	-20	51.33	-	-	74	-22.67	135	343	V
3	* 2.39	26.41	VA1T	32.1	-19.9	38.61	54	-15.39	-	-	135	343	V
4	* 2.387	26.5	VA1T	32.1	-19.9	38.7	54	-15.3	-	-	135	343	V

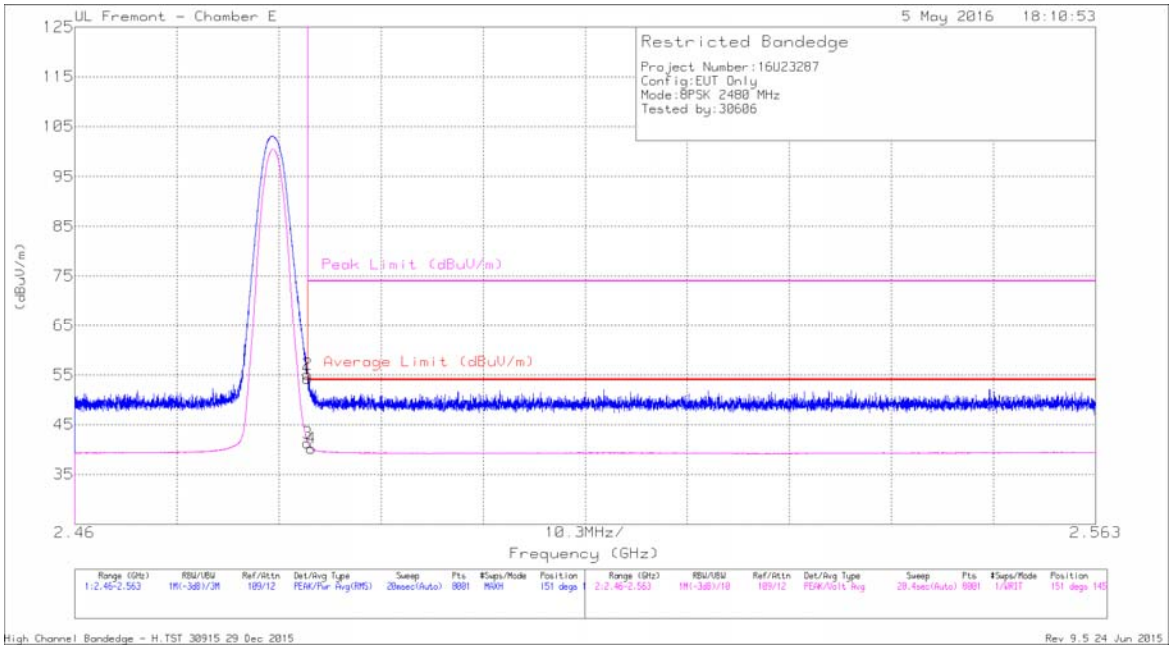
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

HIGH CHANNEL HORIZONTAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/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	41.96	Pk	32.3	-20	54.26	-	-	74	-19.74	151	145	H
2	* 2.484	42.84	Pk	32.3	-20	55.14	-	-	74	-18.86	151	145	H
3	* 2.484	29	VA1T	32.3	-20	41.3	54	-12.7	-	-	151	145	H
4	* 2.484	27.95	VA1T	32.3	-20	40.25	54	-13.75	-	-	151	145	H

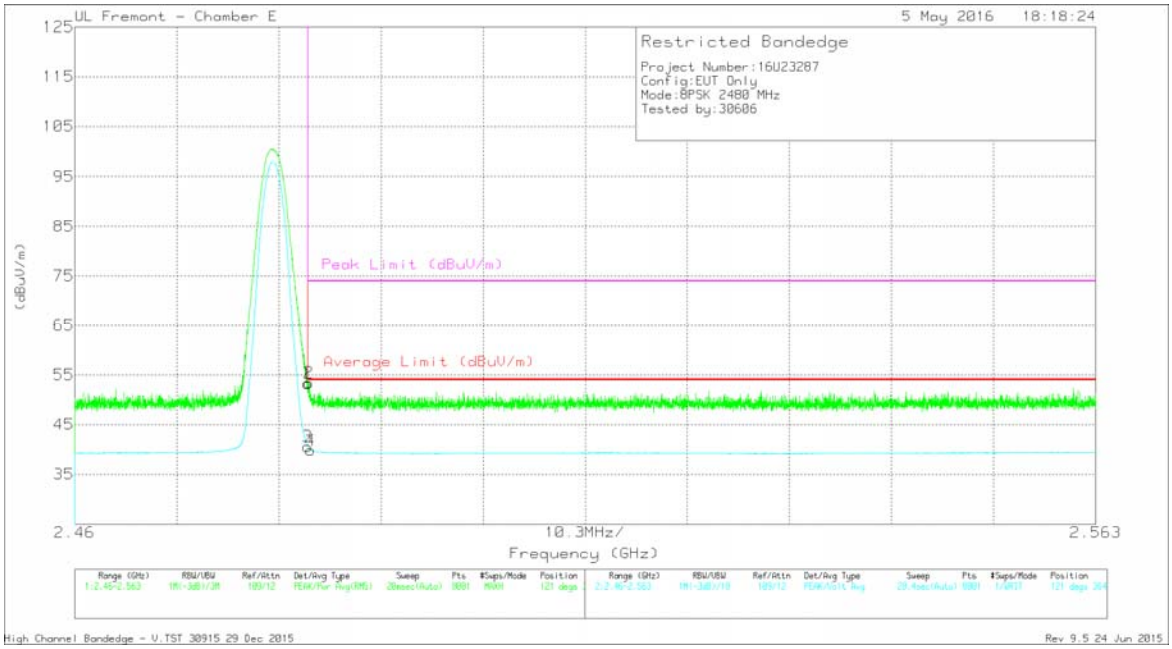
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

HIGH CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/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	40.95	Pk	32.3	-20	53.25	-	-	74	-20.75	121	364	V
2	* 2.484	41.13	Pk	32.3	-20	53.43	-	-	74	-20.57	121	364	V
3	* 2.484	28.29	VA1T	32.3	-20	40.59	54	-13.41	-	-	121	364	V
4	* 2.484	27.55	VA1T	32.3	-20	39.85	54	-14.15	-	-	121	364	V

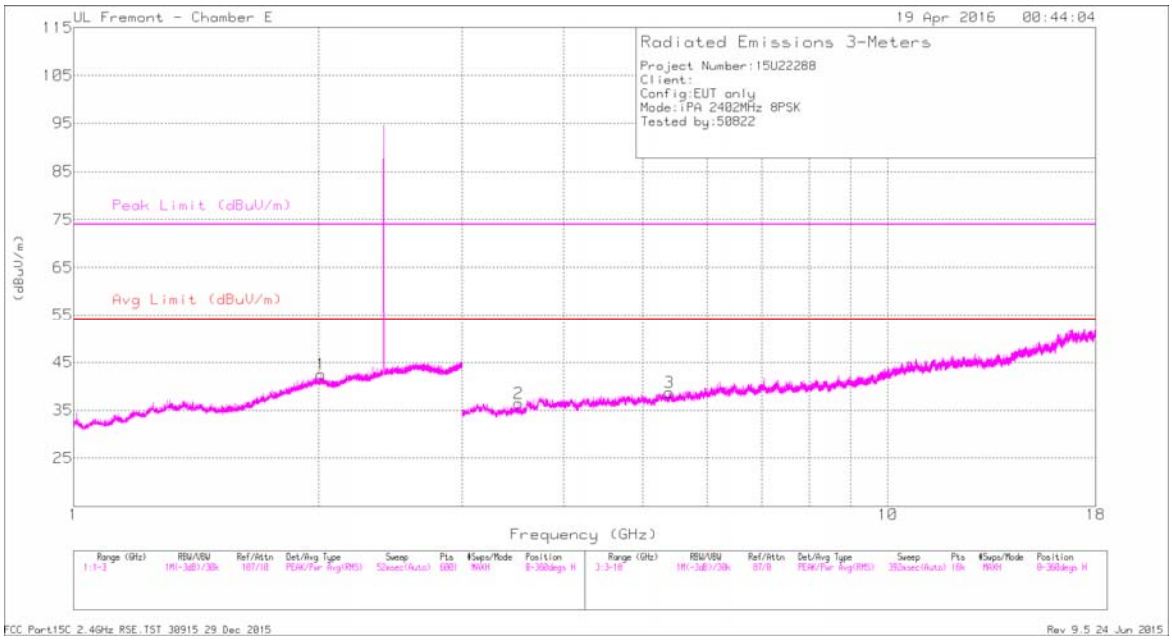
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

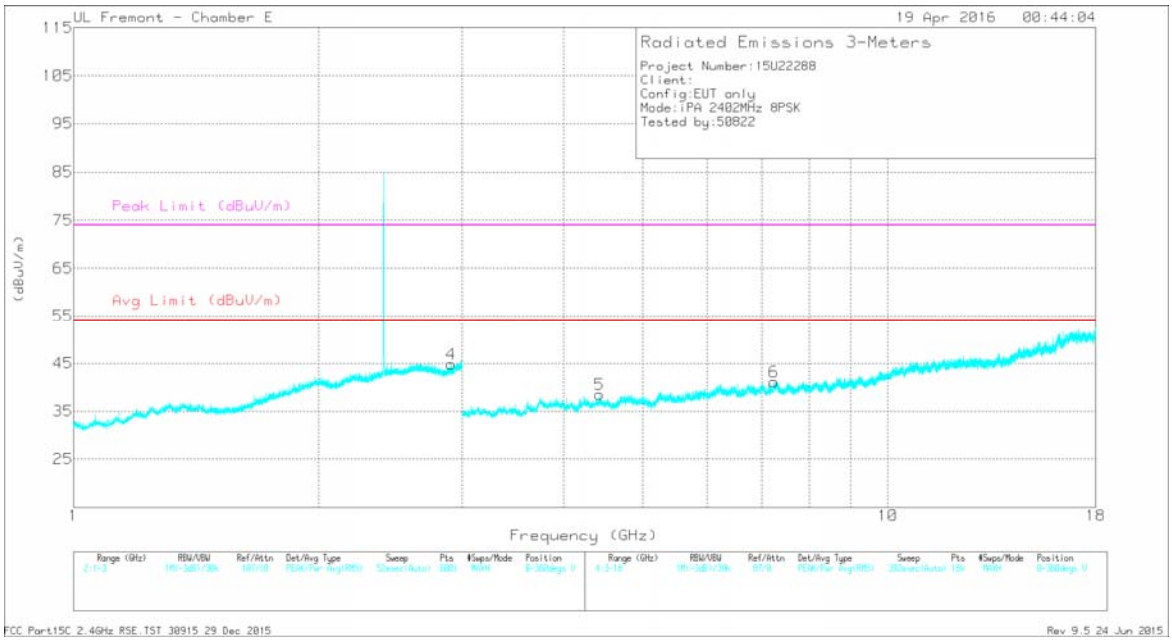
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL PLOT



LOW CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.519	41.22	PK2	32.9	-30.9	43.22	-	-	74	-30.78	11	167	H
	* 3.518	27.79	VA1T	32.9	-30.9	29.79	54	-24.21	-	-	11	167	H
3	* 5.394	40.82	PK2	34.4	-29.2	46.02	-	-	74	-27.98	148	382	H
	* 5.396	27.38	VA1T	34.4	-29.2	32.58	54	-21.42	-	-	148	382	H
1	2.014	37.24	PK2	31.8	-20.5	48.54	-	-	-	-	356	359	H
	2.015	23.92	VA1T	31.7	-20.5	35.12	-	-	-	-	356	359	H
4	2.906	38.4	PK2	31.9	-19.4	50.9	-	-	-	-	266	278	V
	2.91	24.92	VA1T	31.9	-19.5	37.32	-	-	-	-	266	278	V
5	4.427	41.21	PK2	33.8	-30.1	44.91	-	-	-	-	114	294	V
	4.427	28.22	VA1T	33.8	-30.1	31.92	-	-	-	-	114	294	V
6	7.244	26.46	VA1T	35.6	-27.4	34.66	-	-	-	-	352	111	V
	7.245	39.23	PK2	35.6	-27.3	47.53	-	-	-	-	352	111	V

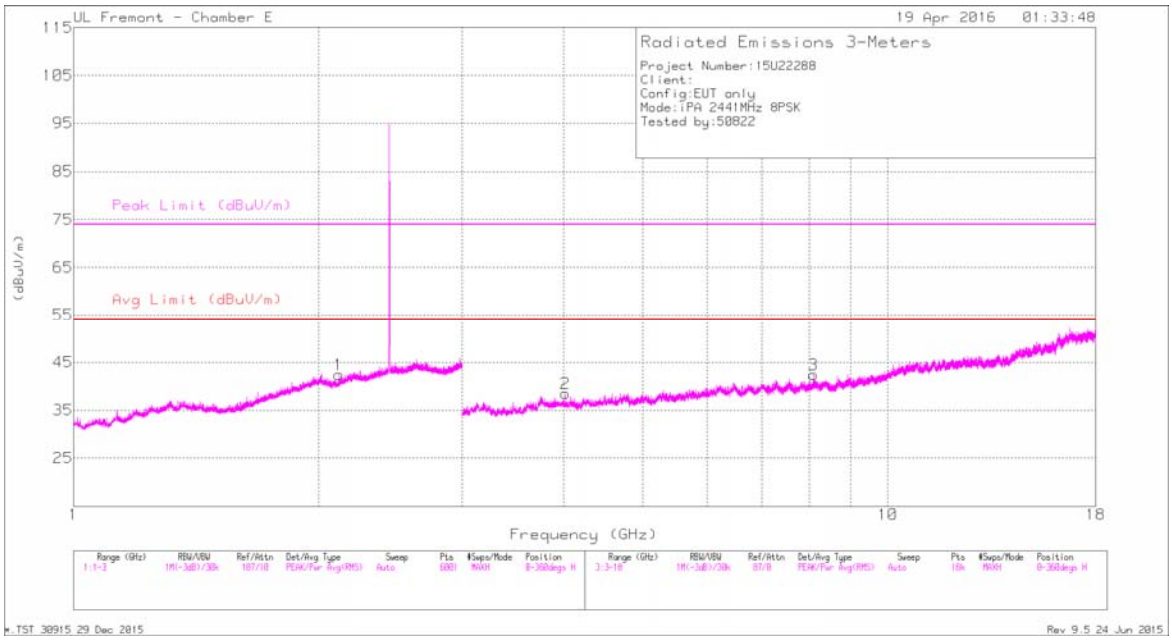
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

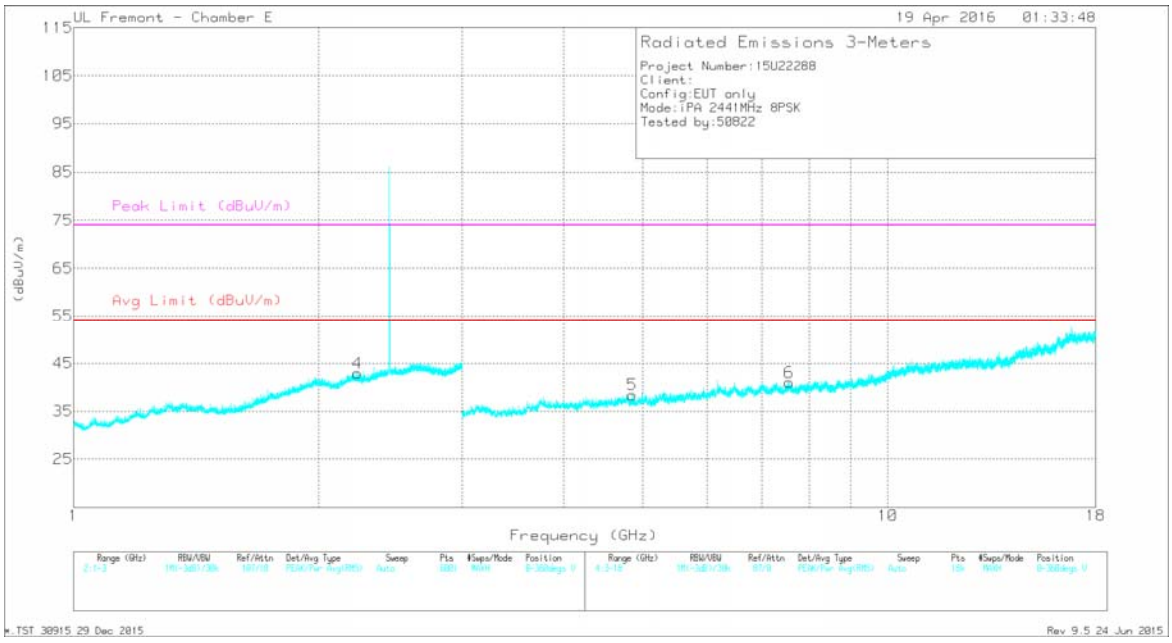
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

MID CHANNEL HORIZONTAL PLOT



MID CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 2.23	37.37	PK2	31.7	-20.1	48.97	-	-	74	-25.03	76	344	V
	* 2.23	24.24	VA1T	31.7	-20.1	35.84	54	-18.16	-	-	76	344	V
2	* 4.02	42.16	PK2	33.2	-30.3	45.06	-	-	74	-28.94	321	207	H
	* 4.021	28.8	VA1T	33.2	-30.3	31.7	54	-22.3	-	-	321	207	H
3	* 8.11	38.35	PK2	35.7	-26	48.05	-	-	74	-25.95	300	380	H
	* 8.108	25.3	VA1T	35.6	-26	34.9	54	-19.1	-	-	300	380	H
5	* 4.858	39.64	PK2	34	-30.3	43.34	-	-	74	-30.66	78	194	V
	* 4.858	26.78	VA1T	34	-30.3	30.48	54	-23.52	-	-	78	194	V
6	* 7.566	37.84	PK2	35.6	-25.7	47.74	-	-	74	-26.26	97	357	V
	* 7.564	25.03	VA1T	35.6	-25.8	34.83	54	-19.17	-	-	97	357	V
1	2.116	38.07	PK2	31	-20.6	48.47	-	-	-	-	316	103	H
	2.117	24.29	VA1T	31.1	-20.5	34.89	-	-	-	-	316	103	H

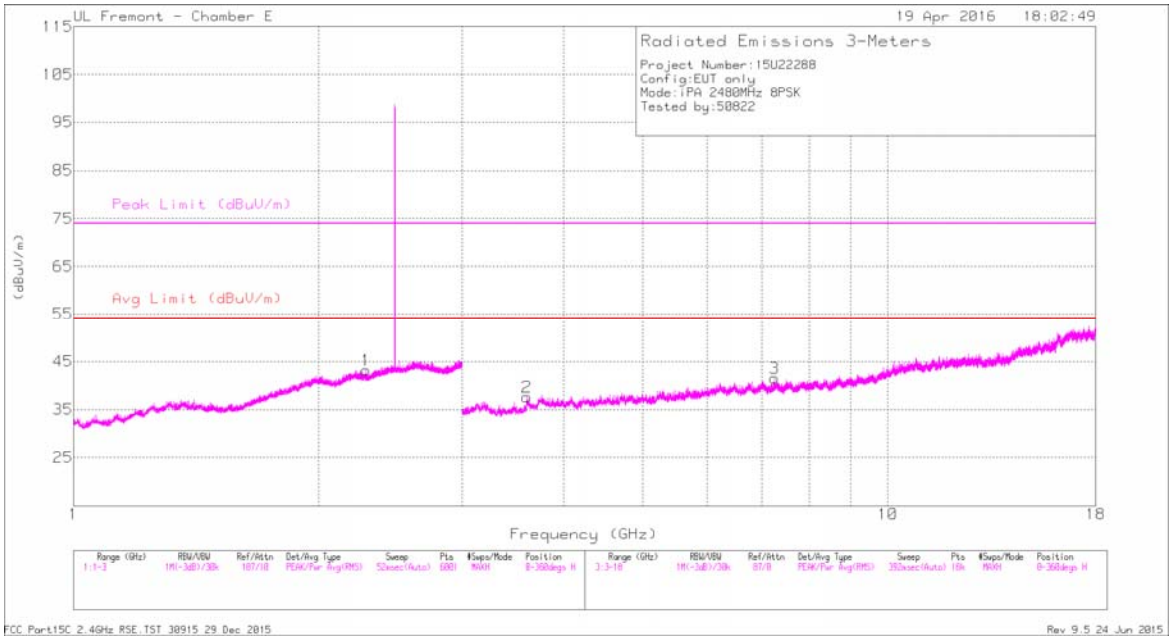
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

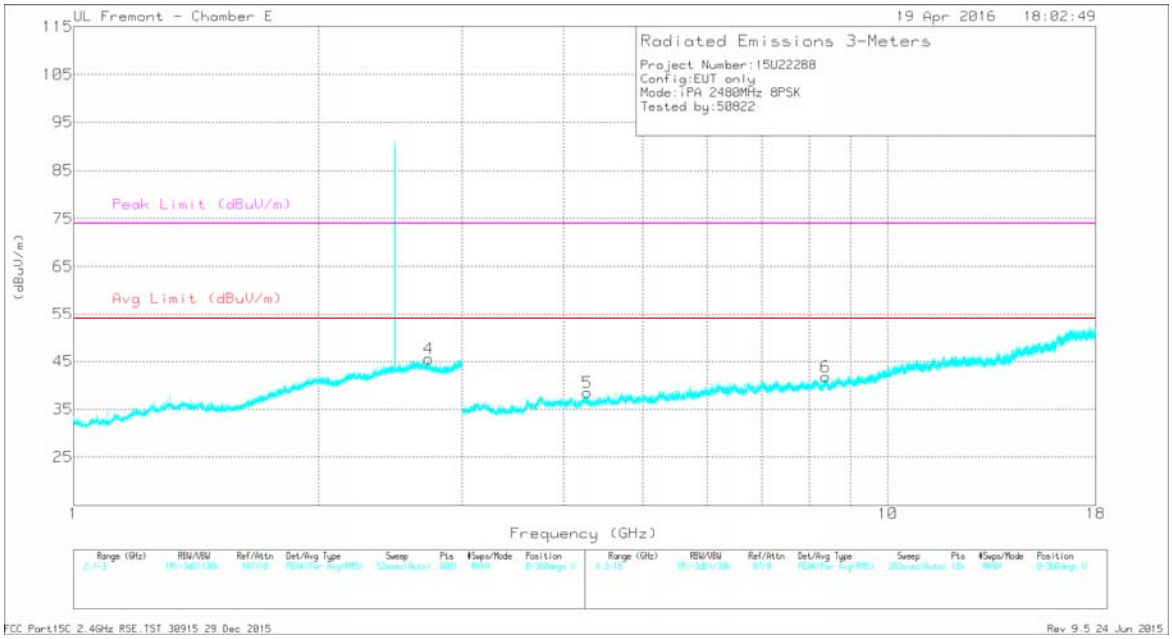
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HARMONICS AND SPURIOUS EMISSIONS

HIGH CHANNEL HORIZONTAL PLOT



HIGH CHANNEL VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/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	* 2.285	37.64	PK2	31.5	-20.1	49.04	-	-	74	-24.96	286	220	H
	* 2.288	24.35	VA1T	31.5	-20.1	35.75	54	-18.25	-	-	286	220	H
4	* 2.73	38	PK2	32.5	-19.8	50.7	-	-	74	-23.3	248	101	V
	* 2.728	24.97	VA1T	32.5	-19.8	37.67	54	-16.33	-	-	248	101	V
2	* 3.602	42.3	PK2	33	-30.7	44.6	-	-	74	-29.4	25	249	H
	* 3.602	29.06	VA1T	33	-30.7	31.36	54	-22.64	-	-	25	249	H
3	* 7.262	39.84	PK2	35.6	-26.8	48.64	-	-	74	-25.36	43	317	H
	* 7.261	26.06	VA1T	35.6	-26.8	34.86	54	-19.14	-	-	43	317	H
5	* 4.273	40.94	PK2	33.3	-29.2	45.04	-	-	74	-28.96	169	212	V
	* 4.274	27.87	VA1T	33.3	-29.2	31.97	54	-22.03	-	-	169	212	V
6	* 8.392	38.82	PK2	35.7	-25.4	49.12	-	-	74	-24.88	14	261	V
	* 8.393	25.56	VA1T	35.7	-25.4	35.86	54	-18.14	-	-	14	261	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

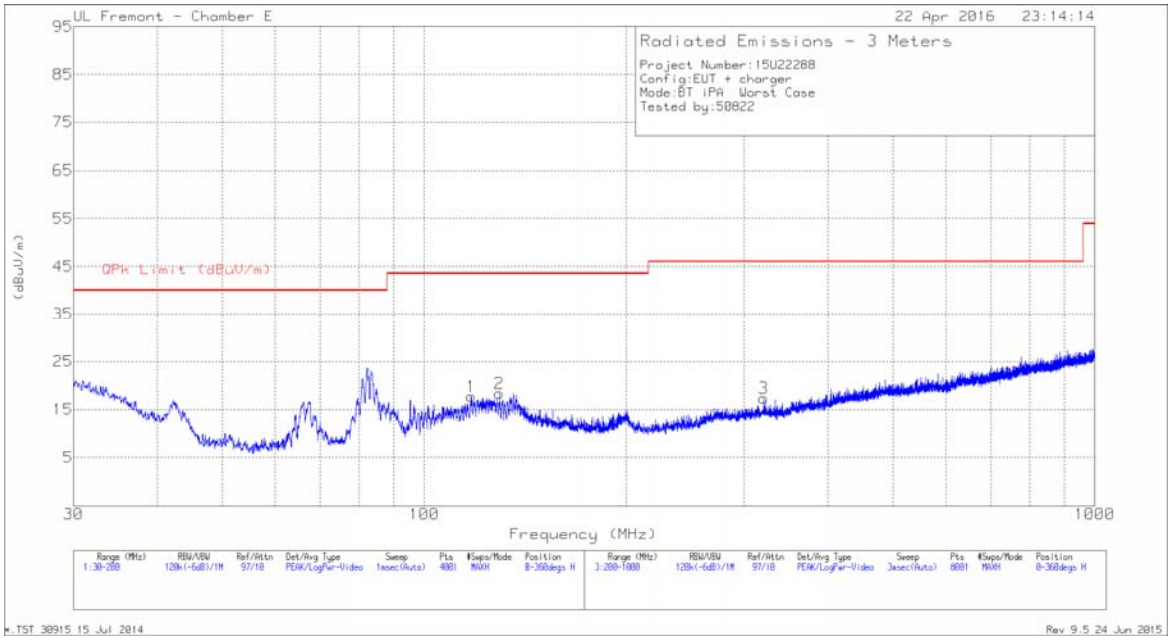
PK2 - KDB558074 Method: Maximum Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

8.3. WORST-CASE BELOW 1 GHz

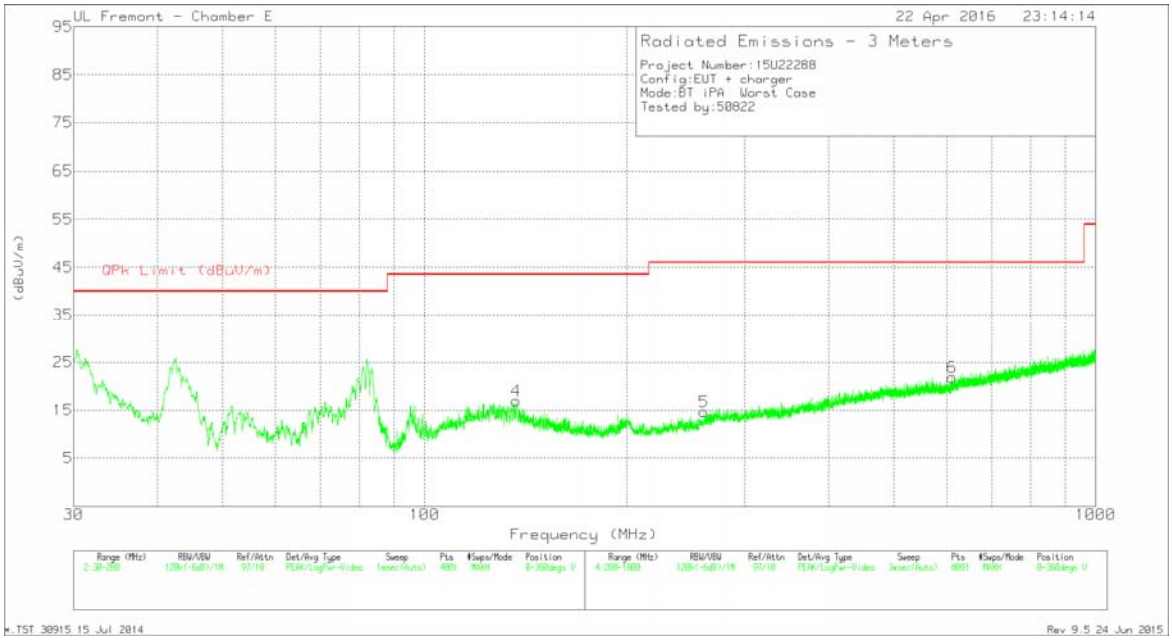
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

HORIZONTAL PLOT



SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL PLOT



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T243 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 117.5075	31.17	Pk	17.8	-31.2	17.77	43.52	-25.75	0-360	301	H
2	* 129.45	31.71	Pk	17.9	-31.2	18.41	43.52	-25.11	0-360	201	H
4	* 136.9725	30.7	Pk	17.4	-31.1	17	43.52	-26.52	0-360	100	V
5	* 260.8	28.93	Pk	16.3	-30.5	14.73	46.02	-31.29	0-360	100	V
6	* 610.8	28.36	Pk	22.8	-29.3	21.86	46.02	-24.16	0-360	301	V
3	320.8	29.61	Pk	17.9	-30.1	17.41	46.02	-28.61	0-360	100	H

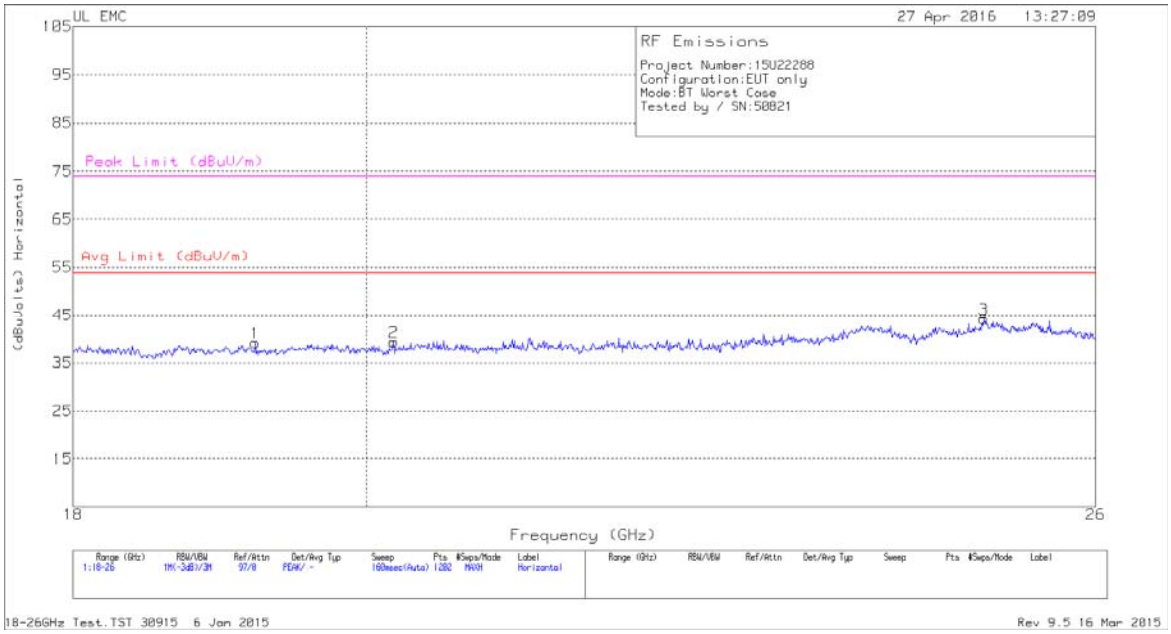
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

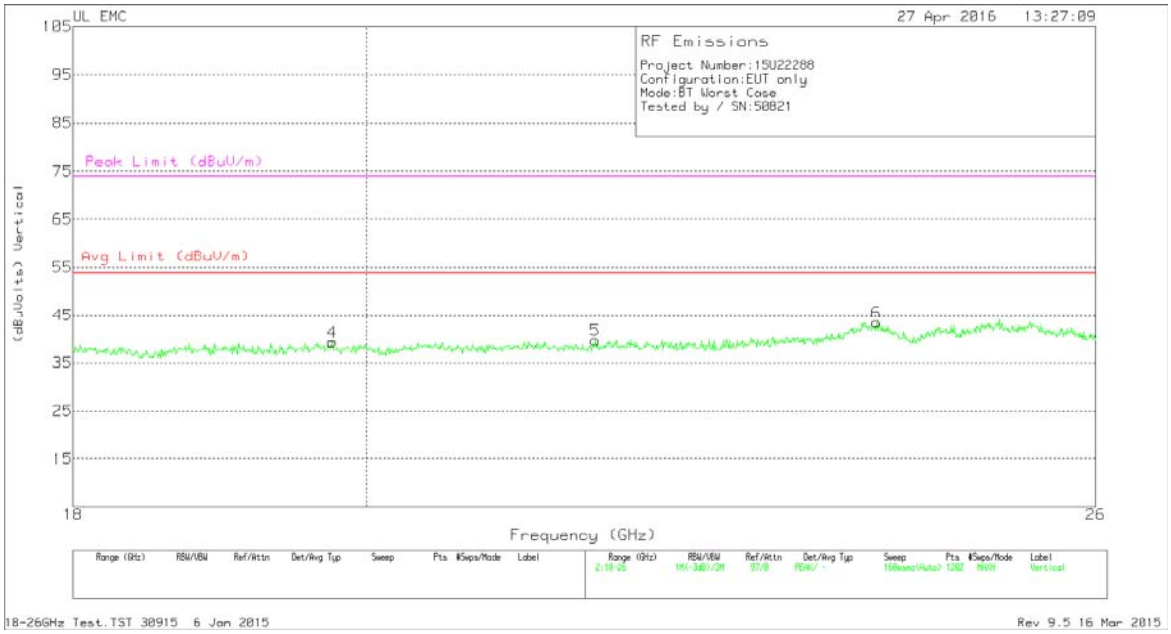
8.4. WORST-CASE ABOVE 18 GHz

SPURIOUS EMISSIONS 18 TO 26 GHz

HORIZONTAL PLOT



VERTICAL PLOT



Data

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T477 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	19.219	40.87	Pk	32.6	-24.8	-9.5	39.17	54	-14.83	74	-34.83
2	20.198	41.43	Pk	32.6	-25.2	-9.5	39.33	54	-14.67	74	-34.67
3	24.974	43.77	Pk	34.1	-24.2	-9.5	44.17	54	-9.83	74	-29.83
4	19.759	40.93	Pk	32.8	-24.9	-9.5	39.33	54	-14.67	74	-34.67
5	21.717	40.97	Pk	33	-24.8	-9.5	39.67	54	-14.33	74	-34.33
6	24.028	43.5	Pk	33.6	-24.1	-9.5	43.5	54	-10.5	74	-30.5

Pk - Peak detector

9. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

Frequency of Emission (MHz)	Conducted Limit (dBµV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

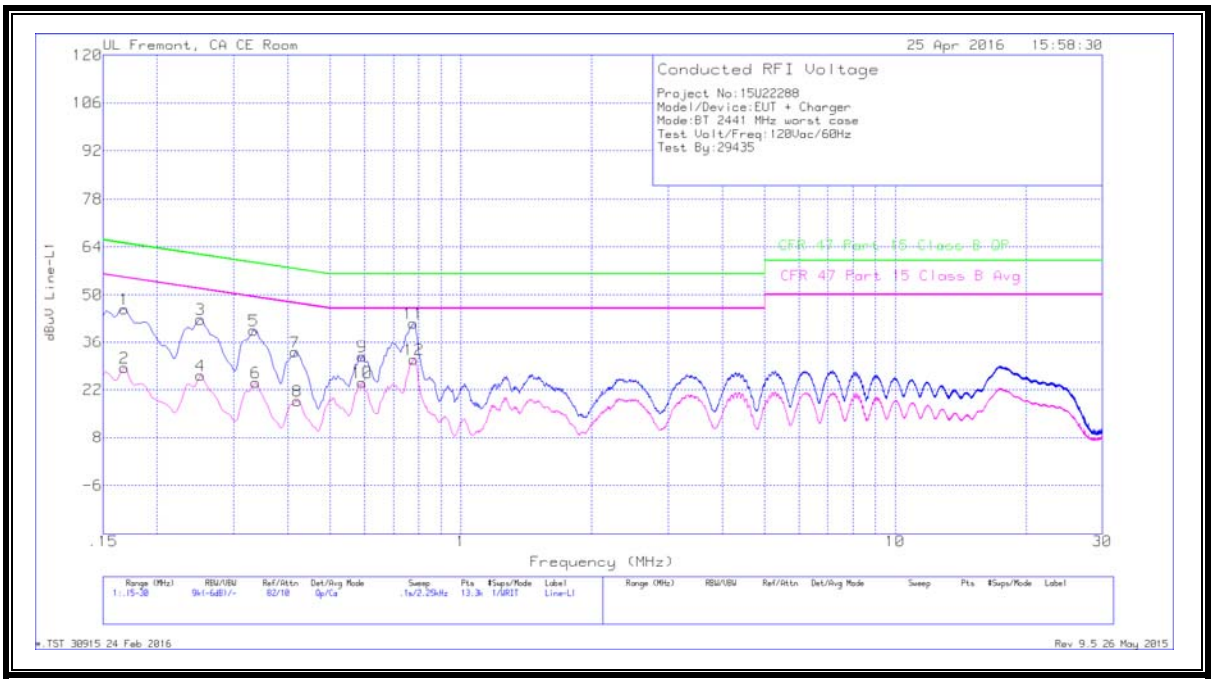
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

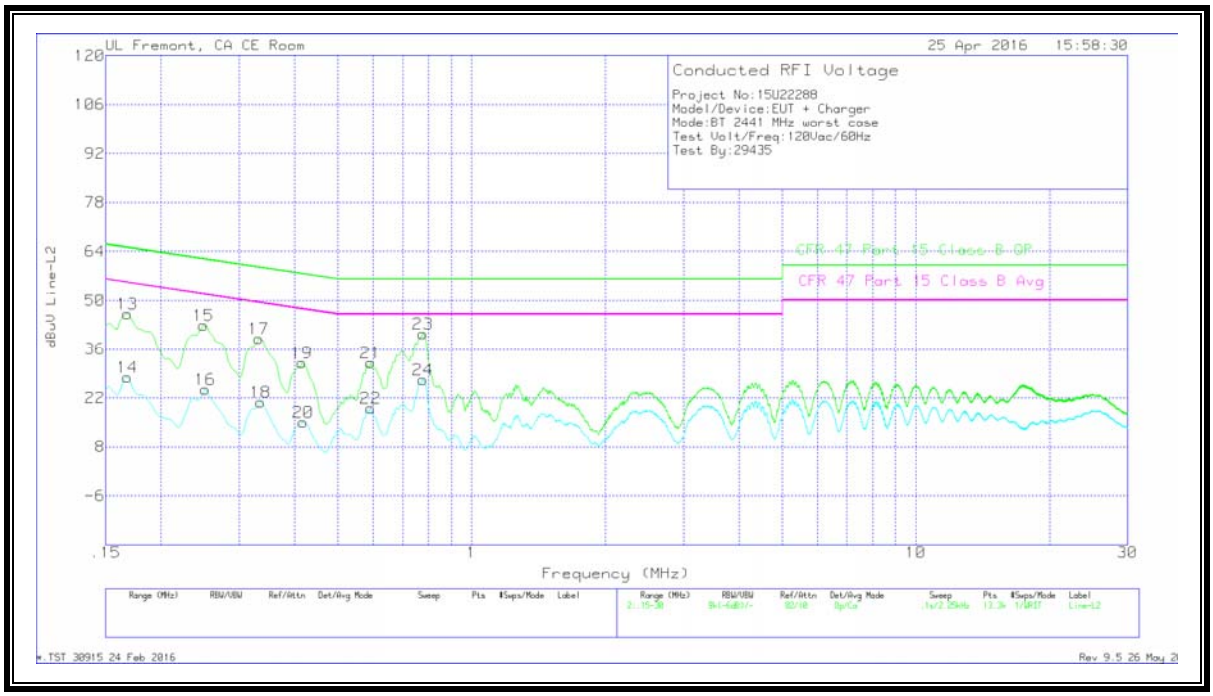
Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

9.1. EUT POWERED BY AC/DC ADAPTER VIA USB CABLE

LINE 1 RESULTS





WORST EMISSIONS

Trace Markers

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
1	.168	34.59	Qp	1.2	0	10.1	45.89	65.06	-19.17	-	-
2	.168	17.14	Ca	1.2	0	10.1	28.44	-	-	55.06	-26.62
3	.25125	31.99	Qp	.7	0	10.1	42.79	61.72	-18.93	-	-
4	.25125	15.36	Ca	.7	0	10.1	26.16	-	-	51.72	-25.56
5	.33337	28.98	Qp	.5	0	10.1	39.58	59.37	-19.79	-	-
6	.33675	13.44	Ca	.5	0	10.1	24.04	-	-	49.28	-25.24
7	.4155	22.58	Qp	.4	0	10.1	33.08	57.54	-24.46	-	-
8	.42	8.28	Ca	.4	0	10.1	18.78	-	-	47.45	-28.67
9	.59325	21.43	Qp	.3	0	10.1	31.83	56	-24.17	-	-
10	.59325	13.78	Ca	.3	0	10.1	24.18	-	-	46	-21.82
11	.77775	31.22	Qp	.3	0	10.1	41.62	56	-14.38	-	-
12	.78	20.52	Ca	.3	0	10.1	30.92	-	-	46	-15.08

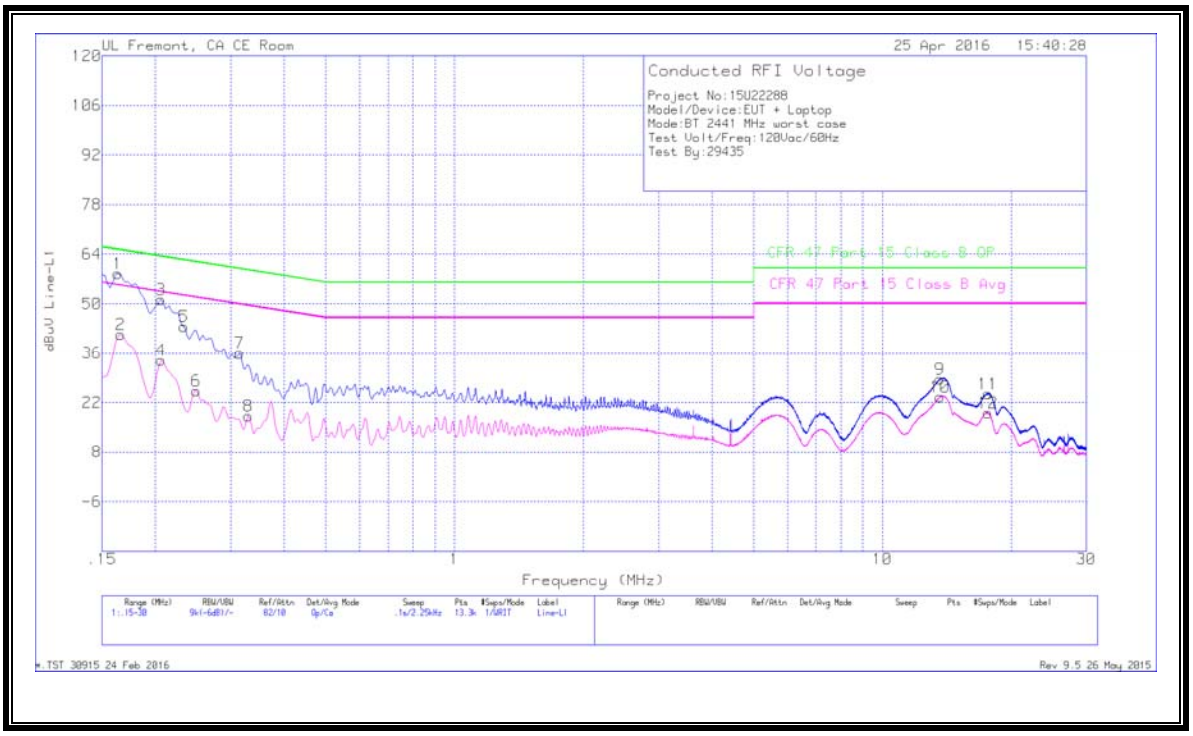
Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
13	.168	34.74	Qp	1.3	0	10.1	46.14	65.06	-18.92	-	-
14	.168	16.58	Ca	1.3	0	10.1	27.98	-	-	55.06	-27.08
15	.249	32	Qp	.7	0	10.1	42.8	61.79	-18.99	-	-
16	.25125	13.57	Ca	.7	0	10.1	24.37	-	-	51.72	-27.35
17	.33225	28.45	Qp	.5	0	10.1	39.05	59.39	-20.34	-	-
18	.3345	10.13	Ca	.5	0	10.1	20.73	-	-	49.34	-28.61
19	.4155	21.63	Qp	.4	0	10.1	32.13	57.54	-25.41	-	-
20	.41775	4.6	Ca	.4	0	10.1	15.1	-	-	47.49	-32.39
21	.59325	21.75	Qp	.3	0	10.1	32.15	56	-23.85	-	-
22	.59325	8.7	Ca	.3	0	10.1	19.1	-	-	46	-26.9
23	.77775	30.1	Qp	.3	0	10.1	40.5	56	-15.5	-	-
24	.77775	16.85	Ca	.3	0	10.1	27.25	-	-	46	-18.75

Qp - Quasi-Peak detector

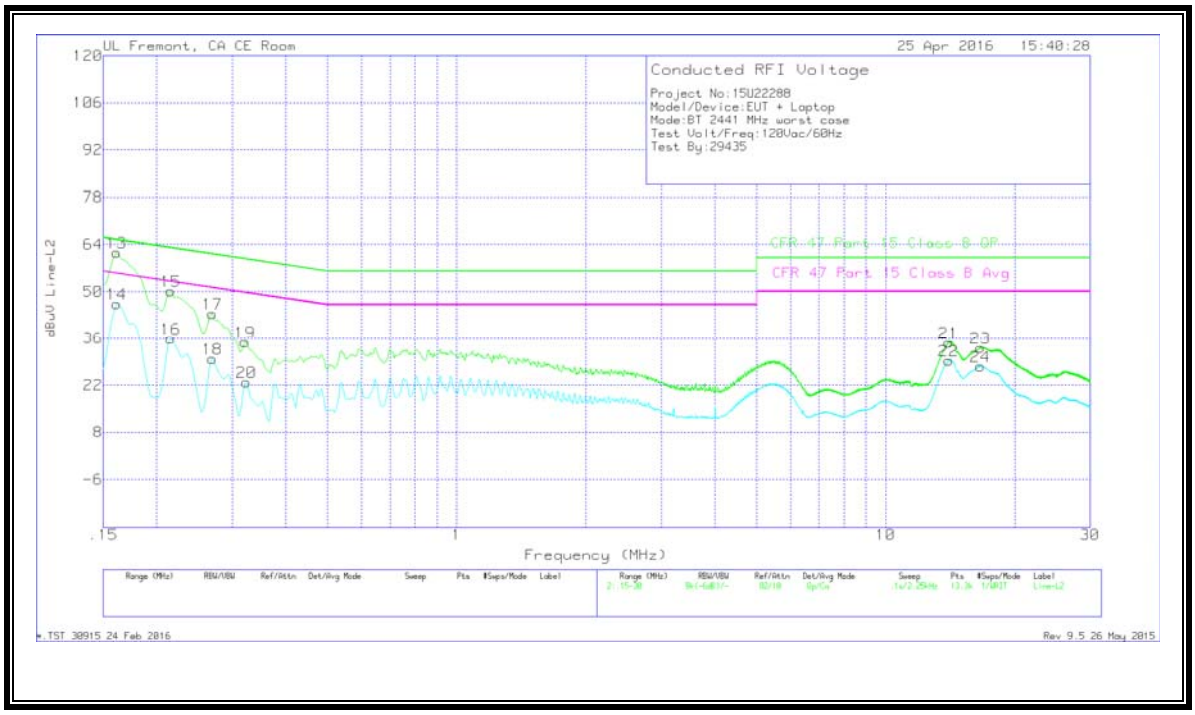
Ca - CISPR average detection

9.2. EUT POWERED BY HOST PC VIA USB CABLE

LINE 1 RESULTS



LINE 2 RESULTS



WORST EMISSIONS

Trace Markers

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
1	.1635	47.26	Qp	1.2	0	10.1	58.56	65.28	-6.72	-	-
2	.16575	30.05	Ca	1.2	0	10.1	41.35	-	-	55.17	-13.82
3	.20625	40.18	Qp	.9	0	10.1	51.18	63.35	-12.17	-	-
4	.20625	22.96	Ca	.9	0	10.1	33.96	-	-	53.35	-19.39
5	.23325	32.66	Qp	.8	0	10.1	43.56	62.33	-18.77	-	-
6	.249	14.56	Ca	.7	0	10.1	25.36	-	-	51.79	-26.43
7	.31425	25.41	Qp	.5	0	10.1	36.01	59.86	-23.85	-	-
8	.33	7.57	Ca	.5	0	10.1	18.17	-	-	49.45	-31.28
9	13.6455	18.07	Qp	.2	.2	10.2	28.67	60	-31.33	-	-
10	13.64325	13.02	Ca	.2	.2	10.2	23.62	-	-	50	-26.38
11	17.664	13.7	Qp	.3	.2	10.3	24.5	60	-35.5	-	-
12	17.6595	8.26	Ca	.3	.2	10.3	19.06	-	-	50	-30.94

Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
13	.16125	50.09	Qp	1.4	0	10.1	61.59	65.4	-3.81	-	-
14	.16125	34.77	Ca	1.4	0	10.1	46.27	-	-	55.4	-9.13
15	.21525	39.16	Qp	.9	0	10.1	50.16	63	-12.84	-	-
16	.21525	24.87	Ca	.9	0	10.1	35.87	-	-	53	-17.13
17	.26925	32.57	Qp	.7	0	10.1	43.37	61.14	-17.77	-	-
18	.26925	19.08	Ca	.7	0	10.1	29.88	-	-	51.14	-21.26
19	.321	24.26	Qp	.5	0	10.1	34.86	59.68	-24.82	-	-
20	.32325	12.25	Ca	.5	0	10.1	22.85	-	-	49.62	-26.77
21	14.02575	24.18	Qp	.2	.2	10.2	34.78	60	-25.22	-	-
22	14.02575	18.72	Ca	.2	.2	10.2	29.32	-	-	50	-20.68
23	16.64138	22.41	Qp	.3	.2	10.3	33.21	60	-26.79	-	-
24	16.629	16.84	Ca	.3	.2	10.3	27.64	-	-	50	-22.36

Qp - Quasi-Peak detector

Ca - CISPR average detection