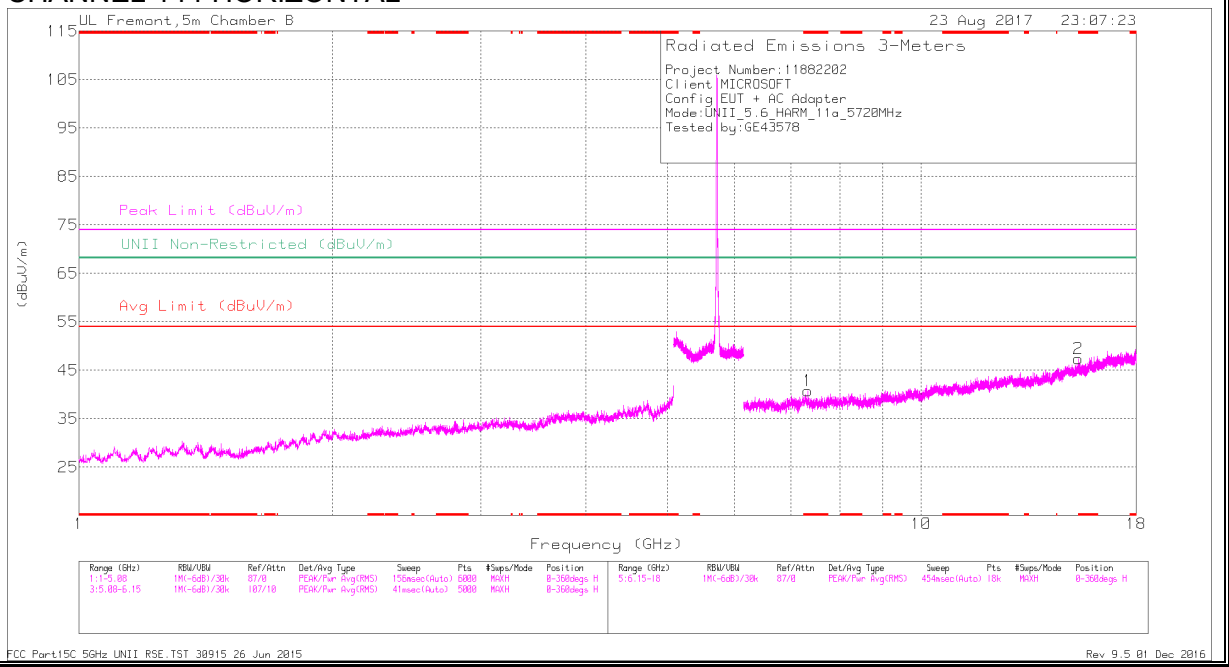
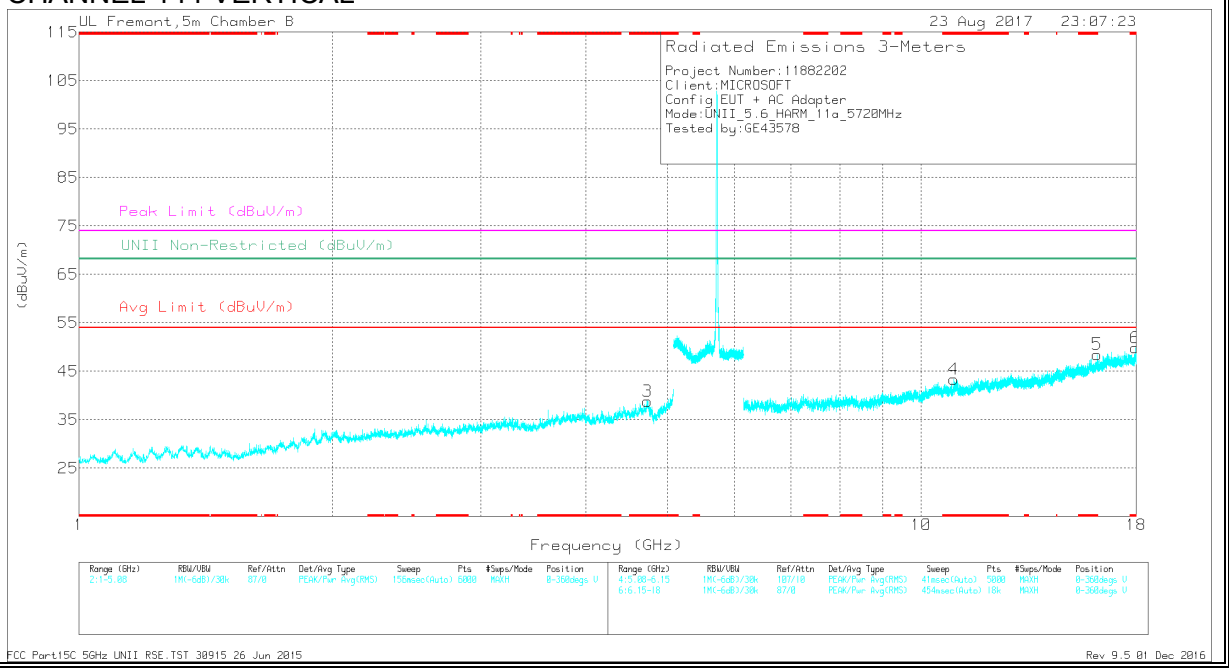
CHANNEL 144 HORIZONTAL



CHANNEL 144 VERTICAL



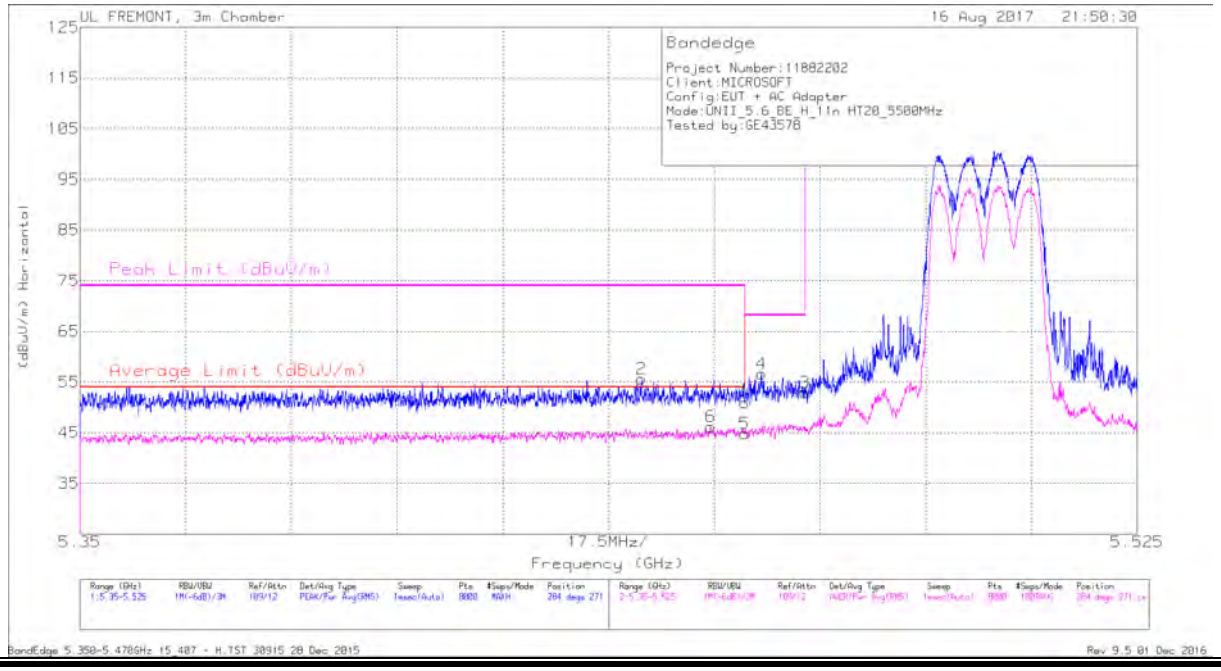
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 4.73	40.48	PK-U	34.2	-29	0	45.68	-	-	74	-28.32	-	-	357	102	V
	* 4.729	28.15	ADR	34.2	-29	0	33.35	54	-20.65	-	-	-	-	357	102	V
1	* 7.33	36.17	PK-U	35.9	-26.5	0	45.57	-	-	74	-28.43	-	-	65	102	H
	* 7.329	24.52	ADR	35.9	-26.5	0	33.92	54	-20.08	-	-	-	-	65	102	H
2	* 15.356	33.09	PK-U	40.6	-20.6	0	53.09	-	-	74	-20.91	-	-	171	102	H
	* 15.358	20.5	ADR	40.6	-20.6	0	40.5	54	-13.5	-	-	-	-	171	102	H
4	* 10.923	33.68	PK-U	37.7	-22.7	0	48.68	-	-	74	-25.32	-	-	301	199	V
	* 10.923	21.89	ADR	37.7	-22.7	0	36.89	54	-17.11	-	-	-	-	301	199	V
5	* 16.174	31.67	PK-U	41.3	-19.2	0	53.77	-	-	74	-20.23	-	-	24	104	V
	* 16.172	19.92	ADR	41.3	-19.1	0	42.12	54	-11.88	-	-	-	-	24	104	V
6	* 17.967	32.07	PK-U	41.6	-17.8	0	55.87	-	-	74	-18.13	-	-	251	104	V
	* 17.968	19.86	ADR	41.6	-17.7	0	43.76	54	-10.24	-	-	-	-	251	104	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

10.1.10. 11n HT20 2TX MODE IN THE 5.6GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

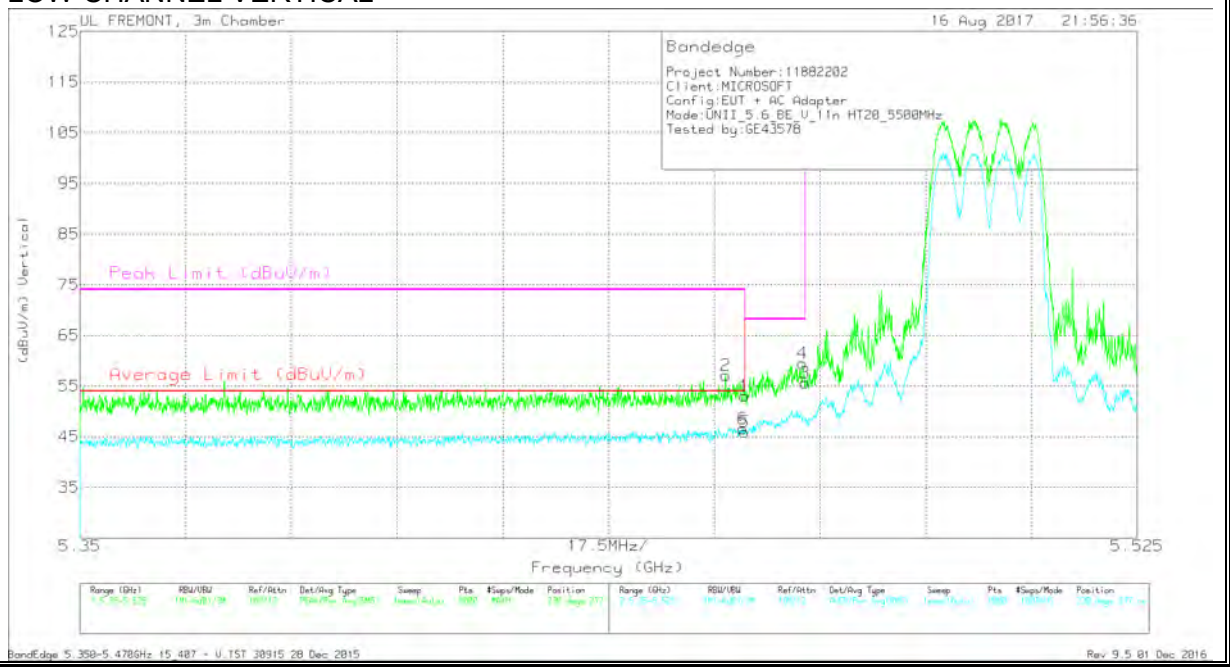
LOW CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.443	40.09	Pk	34.4	-18.9	0	55.59	-	-	74	-18.41	284	271	H
6	5.454	30.58	RMS	34.5	-18.9	0	46.18	54	-7.82	-	-	284	271	H
1	5.46	35.34	Pk	34.5	-18.9	0	50.94	-	-	74	-23.06	284	271	H
5	5.46	29.21	RMS	34.5	-18.9	0	44.81	54	-9.19	-	-	284	271	H
4	5.463	40.88	Pk	34.5	-18.8	0	56.58	-	-	68.2	-11.62	284	271	H
3	5.47	37.29	Pk	34.5	-18.9	0	52.89	-	-	68.2	-15.31	284	271	H

Pk - Peak detector
RMS - RMS detection

LOW CHANNEL VERTICAL

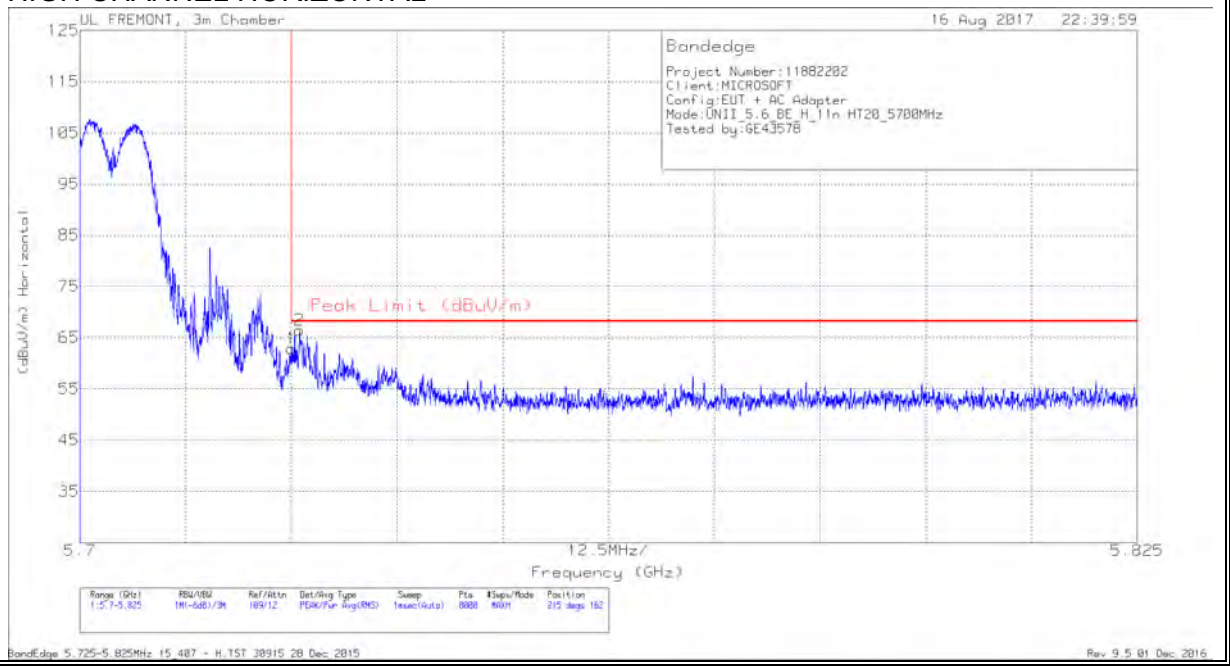


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.457	41.38	Pk	34.5	-18.8	0	57.08	-	-	74	-16.92	230	277	V
1	5.46	37.48	Pk	34.5	-18.9	0	53.08	-	-	74	-20.92	230	277	V
5	5.46	30.34	RMS	34.5	-18.9	0	45.94	54	-8.06	-	-	230	277	V
6	5.46	30.96	RMS	34.5	-18.9	0	46.56	54	-7.44	-	-	230	277	V
3	5.47	39.99	Pk	34.5	-18.9	0	55.59	-	-	68.2	-12.61	230	277	V
4	5.47	43.91	Pk	34.5	-18.9	0	59.51	-	-	68.2	-8.69	230	277	V

Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

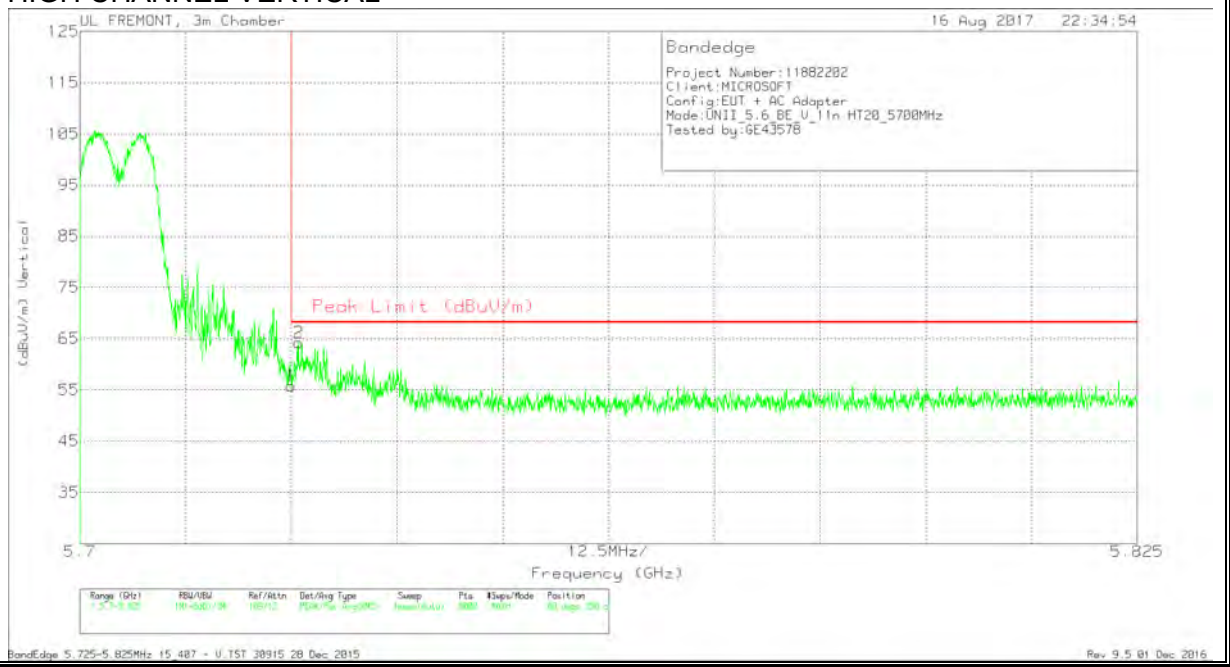
HIGH CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	47.09	Pk	34.7	-18.9	62.89	68.2	-5.31	215	162	H
2	5.726	50.6	Pk	34.7	-18.9	66.4	68.2	-1.8	215	162	H

Pk - Peak detector

HIGH CHANNEL VERTICAL

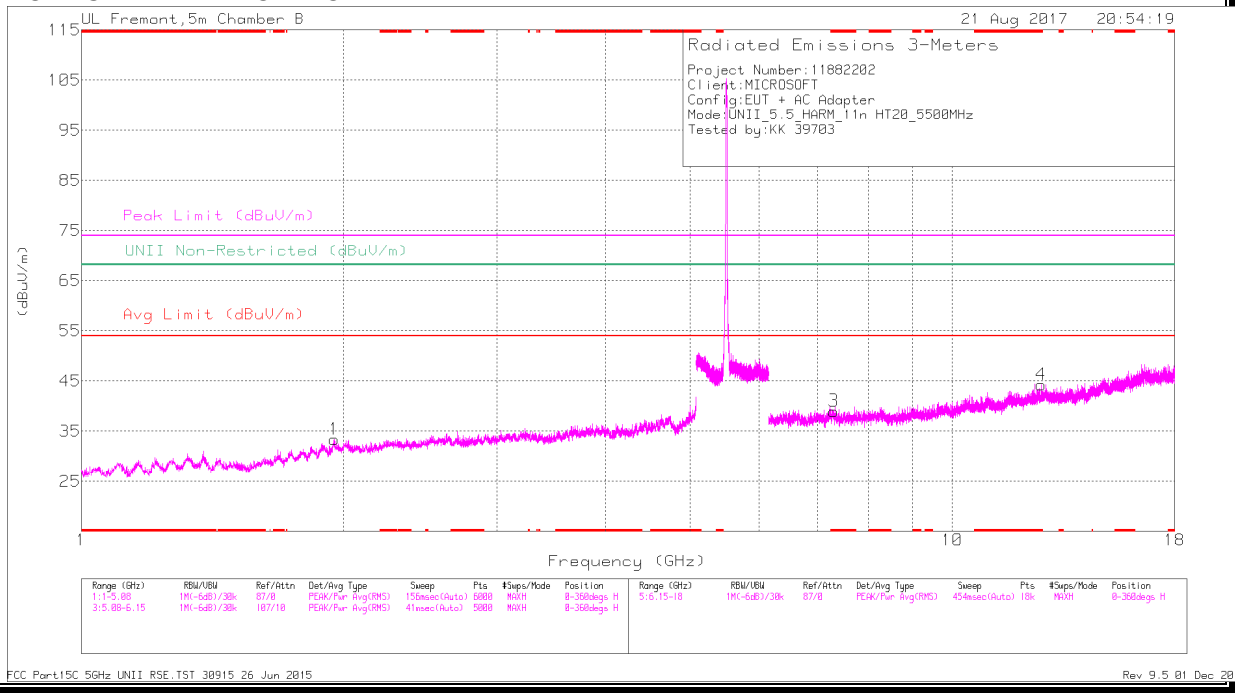


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	39.92	Pk	34.7	-18.9	55.72	68.2	-12.48	60	250	V
2	5.726	48.4	Pk	34.7	-18.9	64.2	68.2	-4	60	250	V

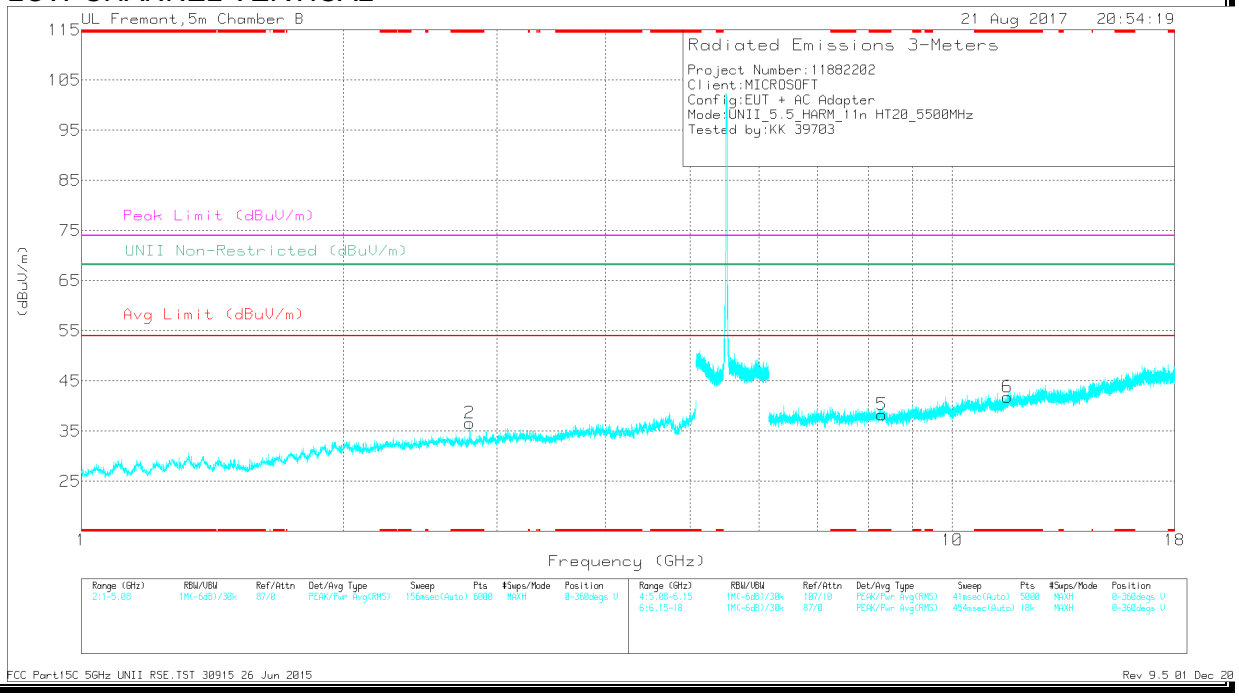
Pk - Peak detector

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



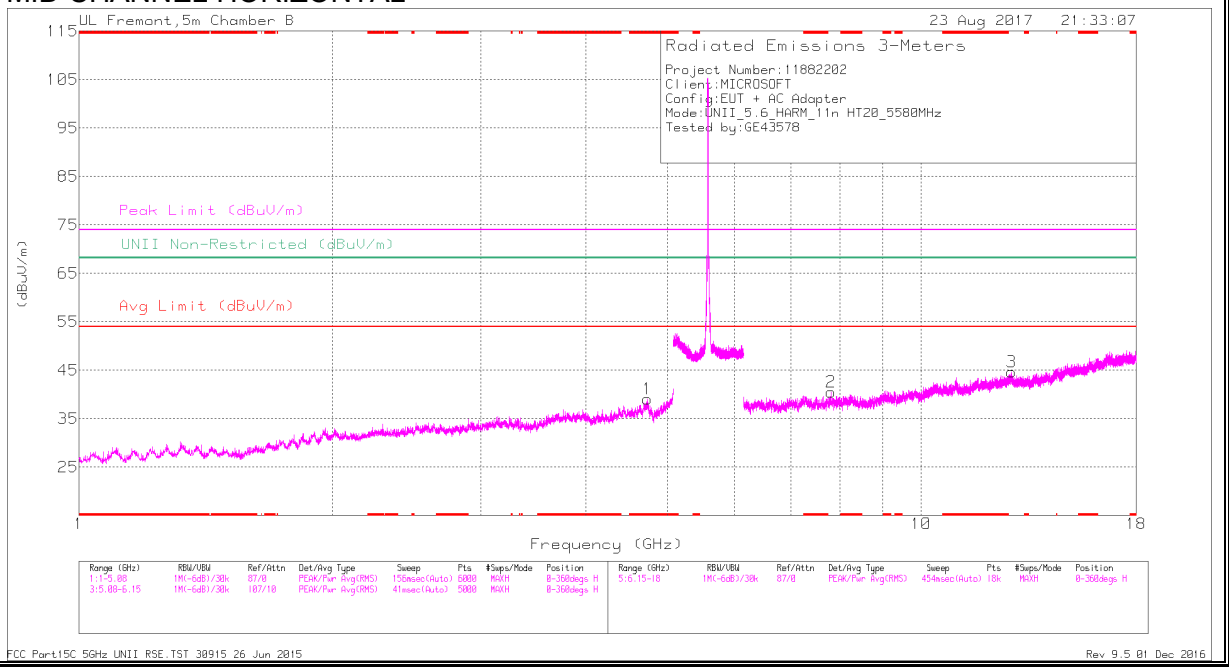
LOW CHANNEL VERTICAL



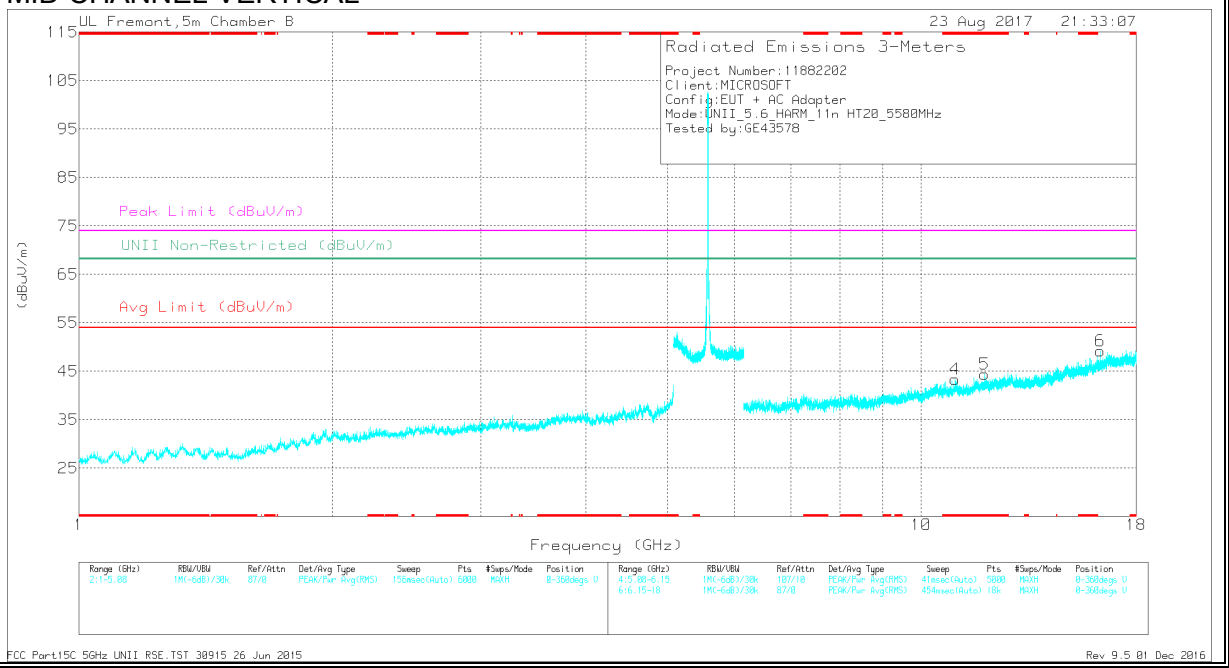
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.79	41.98	PK-U	32.4	-32.1	0	42.28	-	-	74	-31.72	-	-	274	200	V
	* 2.79	27.99	ADR	32.4	-32.1	0	28.29	54	-25.71	-	-	-	-	274	200	V
3	* 7.312	35.72	PK-U	35.9	-26	0	45.62	-	-	74	-28.38	-	-	332	200	H
	* 7.313	23.46	ADR	35.9	-26.2	0	33.16	54	-20.84	-	-	-	-	332	200	H
4	* 12.648	32.58	PK-U	39.3	-22.5	0	49.38	-	-	74	-24.62	-	-	320	104	H
	* 12.649	20.54	ADR	39.3	-22.6	0	37.24	54	-16.76	-	-	-	-	320	104	H
5	* 8.298	35.06	PK-U	36.1	-26	0	45.16	-	-	74	-28.84	-	-	359	104	V
	* 8.3	22.72	ADR	36.1	-26	0	32.82	54	-21.18	-	-	-	-	359	104	V
6	* 11.573	32.37	PK-U	38.2	-22	0	48.57	-	-	74	-25.43	-	-	157	104	V
	* 11.573	19.88	ADR	38.2	-22	0	36.08	54	-17.92	-	-	-	-	157	104	V
1	1.952	40.71	PK-U	31.1	-32	0	39.81	-	-	-	-	68.2	-28.39	104	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

MID CHANNEL HORIZONTAL



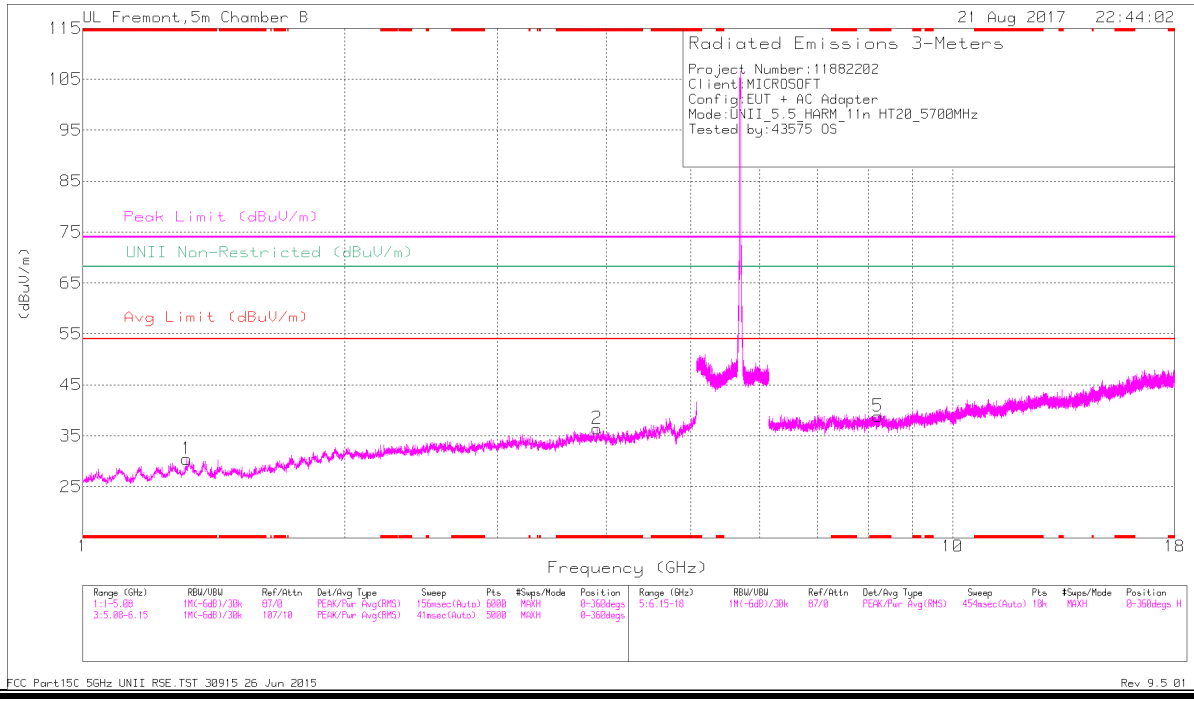
MID CHANNEL VERTICAL



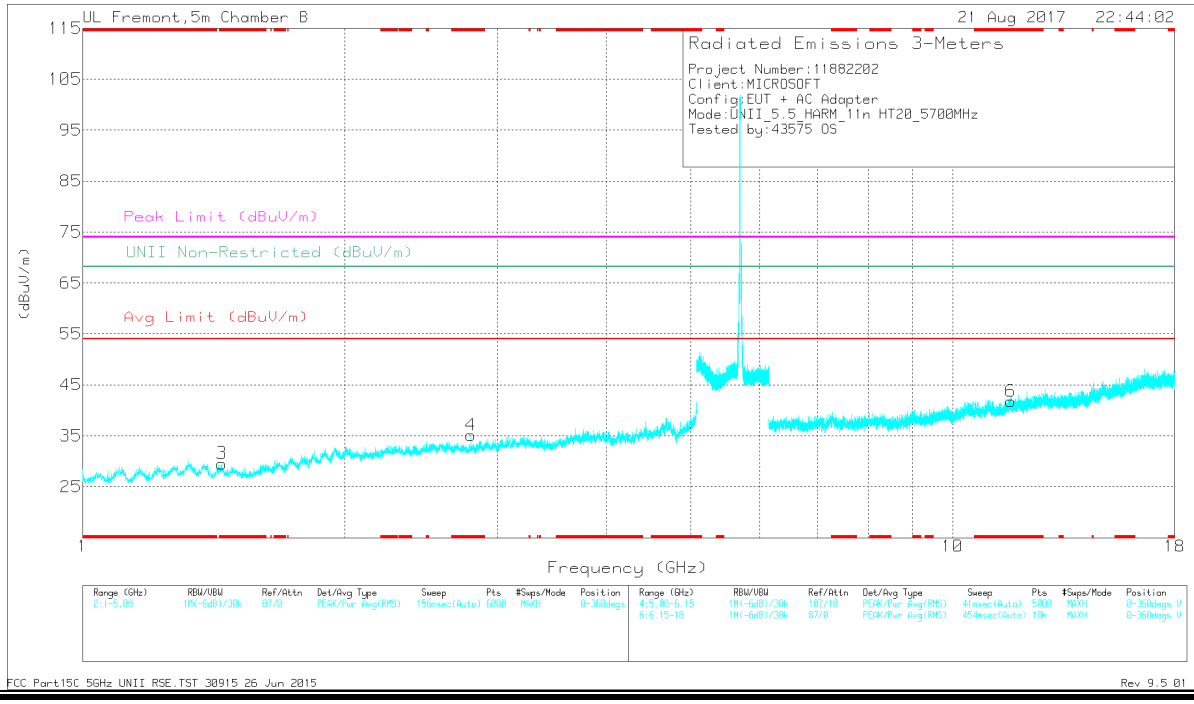
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.731	39.98	PK-U	34.2	-29	0	45.18	-	-	74	-28.82	-	-	17	101	H
	* 4.731	28.07	ADR	34.2	-29	0	33.27	54	-20.73	-	-	-	-	17	101	H
4	* 10.966	34.56	PK-U	37.7	-22.4	0	49.86	-	-	74	-24.14	-	-	43	104	V
	* 10.966	21.47	ADR	37.7	-22.4	0	36.77	54	-17.23	-	-	-	-	43	104	V
5	* 11.89	33.23	PK-U	38.7	-22.5	0	49.43	-	-	74	-24.57	-	-	345	104	V
	* 11.892	21.23	ADR	38.7	-22.5	0	37.43	54	-16.57	-	-	-	-	345	104	V
2	7.809	35.81	PK-U	36	-26.1	0	45.71	-	-	-	-	68.2	-22.49	161	199	H
3	12.81	32.89	PK-U	39.4	-21.9	0	50.39	-	-	-	-	68.2	-17.81	226	199	H
6	16.324	32.02	PK-U	41.3	-20.5	0	52.82	-	-	-	-	68.2	-15.38	65	104	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS

HIGH CHANNEL HORIZONTAL



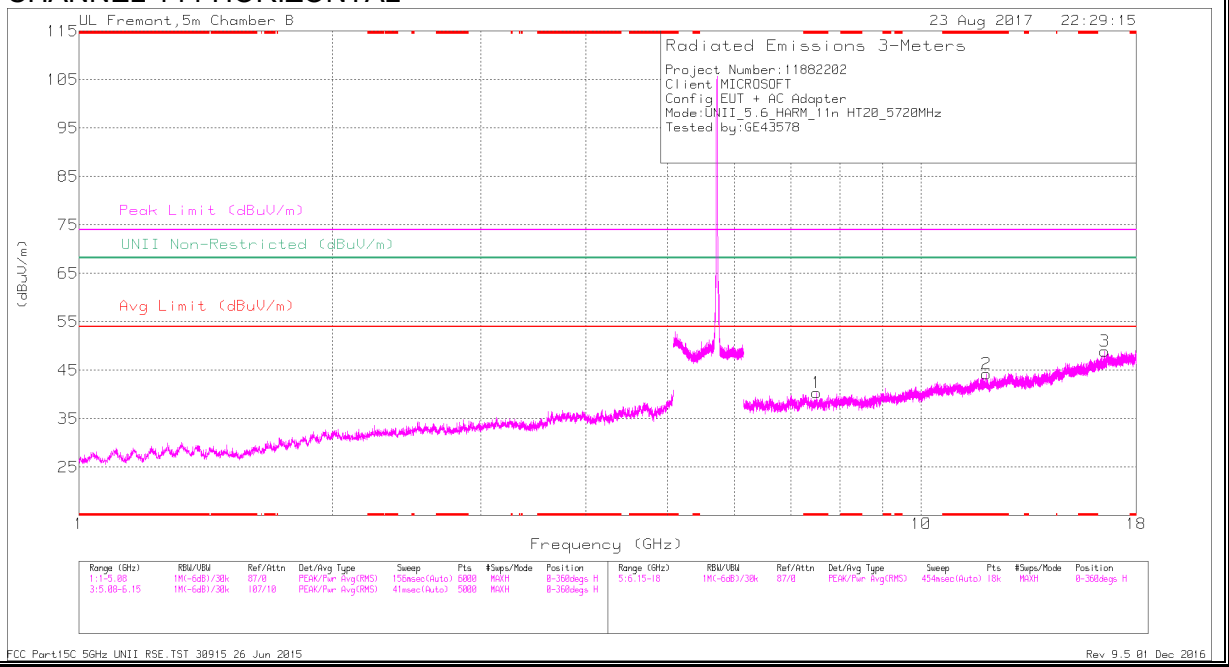
HIGH CHANNEL VERTICAL



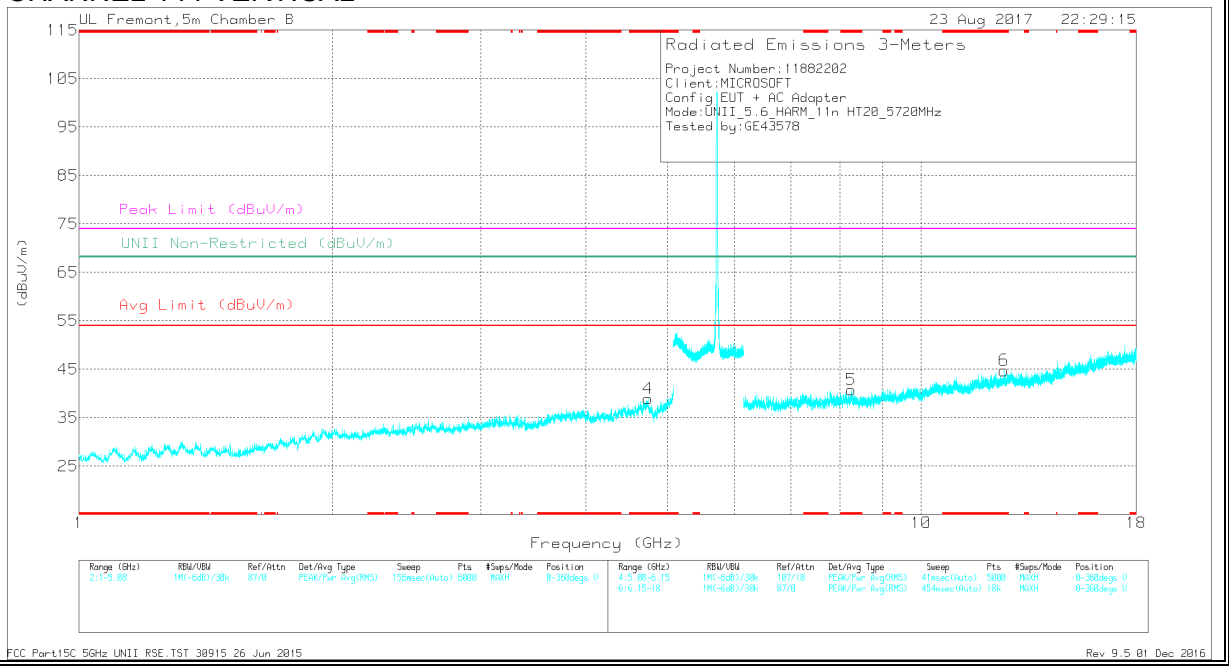
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.316	41.16	PK-U	28.9	-33.8	0	36.26	-	-	74	-37.74	-	-	67	348	H
	* 1.319	29.13	ADR	28.9	-33.8	0	24.23	54	-29.77	-	-	-	-	67	348	H
2	* 3.904	39.51	PK-U	33.5	-30.2	0	42.81	-	-	74	-31.19	-	-	283	385	H
	* 3.903	27.19	ADR	33.5	-30.2	0	30.49	54	-23.51	-	-	-	-	283	385	H
3	* 1.444	40.37	PK-U	28.3	-33.3	0	35.37	-	-	74	-38.63	-	-	245	366	V
	* 1.443	29.03	ADR	28.3	-33.4	0	23.93	54	-30.07	-	-	-	-	245	366	V
4	* 2.797	45.21	PK-U	32.4	-31.9	0	45.71	-	-	74	-28.29	-	-	265	250	V
	* 2.797	28.05	ADR	32.4	-31.9	0	28.55	54	-25.45	-	-	-	-	265	250	V
5	* 8.212	35.49	PK-U	36	-26.5	0	44.99	-	-	74	-29.01	-	-	214	275	H
	* 8.211	23.03	ADR	36	-26.5	0	32.53	54	-21.47	-	-	-	-	214	275	H
6	* 11.66	32.51	PK-U	38.3	-22	0	48.81	-	-	74	-25.19	-	-	212	246	V
	* 11.661	19.47	ADR	38.3	-22.1	0	35.67	54	-18.33	-	-	-	-	212	246	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

CHANNEL 144 HORIZONTAL



CHANNEL 144 VERTICAL



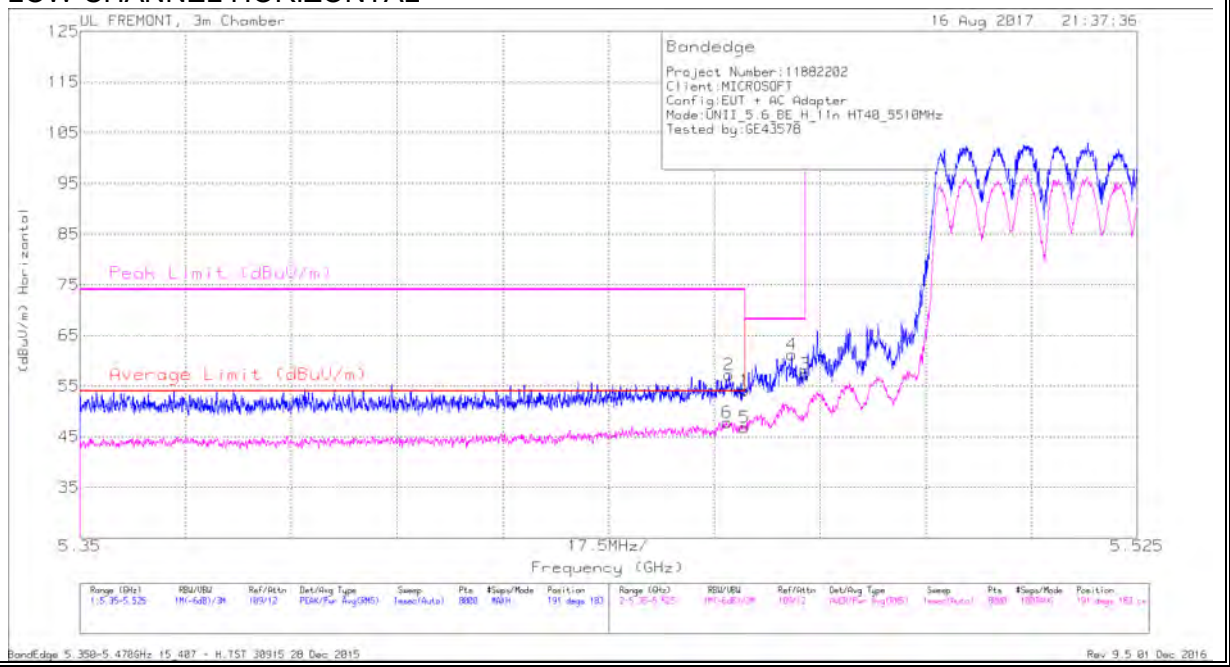
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 4.741	39.68	PK-U	34.2	-28.9	0	44.98	-	-	74	-29.02	-	-	8	102	V
	* 4.74	27.97	ADR	34.2	-28.9	0	33.27	54	-20.73	-	-	-	-	8	102	V
1	* 7.514	36.89	PK-U	36	-26.4	0	46.49	-	-	74	-27.51	-	-	331	102	H
	* 7.515	24.36	ADR	36	-26.4	0	33.96	54	-20.04	-	-	-	-	331	102	H
2	* 11.948	32.9	PK-U	38.7	-22.1	0	49.5	-	-	74	-24.5	-	-	25	199	H
	* 11.948	20.92	ADR	38.7	-22.1	0	37.52	54	-16.48	-	-	-	-	25	199	H
5	* 8.264	36.55	PK-U	36.1	-25.6	0	47.05	-	-	74	-26.95	-	-	205	104	V
	* 8.264	24.69	ADR	36.1	-25.6	0	35.19	54	-18.81	-	-	-	-	205	104	V
6	* 12.542	33	PK-U	39.2	-22.1	0	50.1	-	-	74	-23.9	-	-	164	104	V
	* 12.542	21.06	ADR	39.2	-22.1	0	38.16	54	-15.84	-	-	-	-	164	104	V
3	16.51	31	PK-U	41.8	-19.6	0	53.2	-	-	-	-	68.2	-15	172	199	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

10.1.11. 11n HT40 2TX MODE IN THE 5.6GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

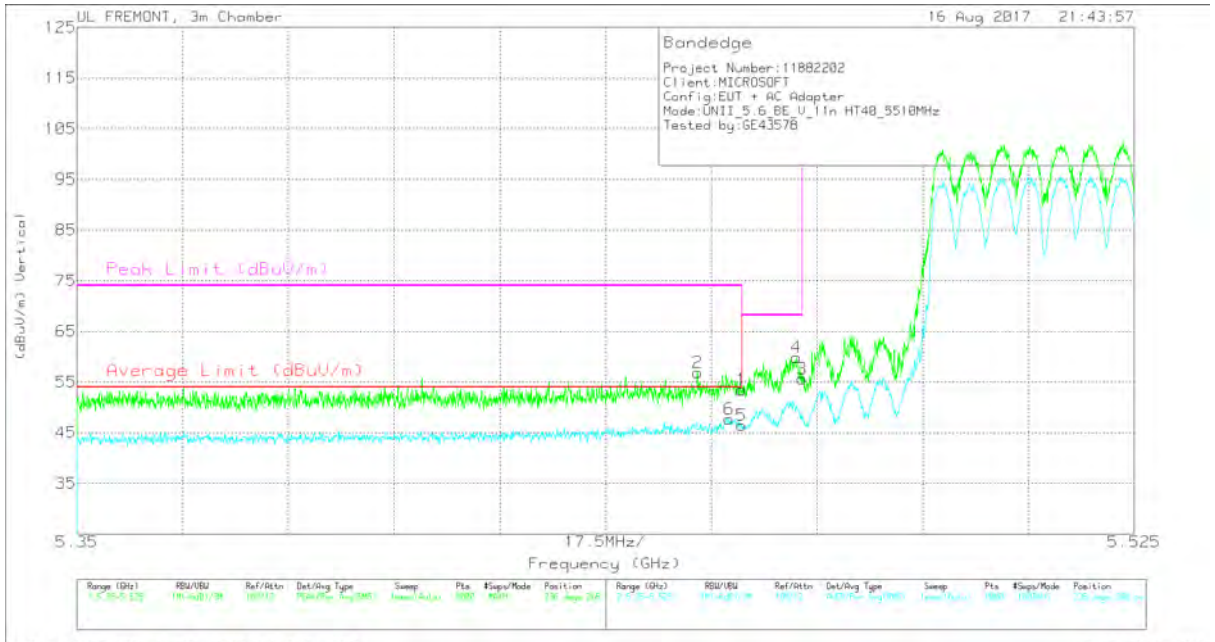
LOW CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.457	41.57	Pk	34.5	-18.8	0	57.27	-	-	74	-16.73	191	183	H
6	5.457	32.15	RMS	34.5	-18.8	0	47.85	54	-6.15	-	-	191	183	H
1	5.46	38.5	Pk	34.5	-18.9	0	54.1	-	-	74	-19.9	191	183	H
5	5.46	31.22	RMS	34.5	-18.9	0	46.82	54	-7.18	-	-	191	183	H
4	5.468	45.55	Pk	34.5	-18.8	0	61.25	-	-	68.2	-6.95	191	183	H
3	5.47	41.76	Pk	34.5	-18.9	0	57.36	-	-	68.2	-10.84	191	183	H

Pk - Peak detector
RMS - RMS detection

LOW CHANNEL VERTICAL

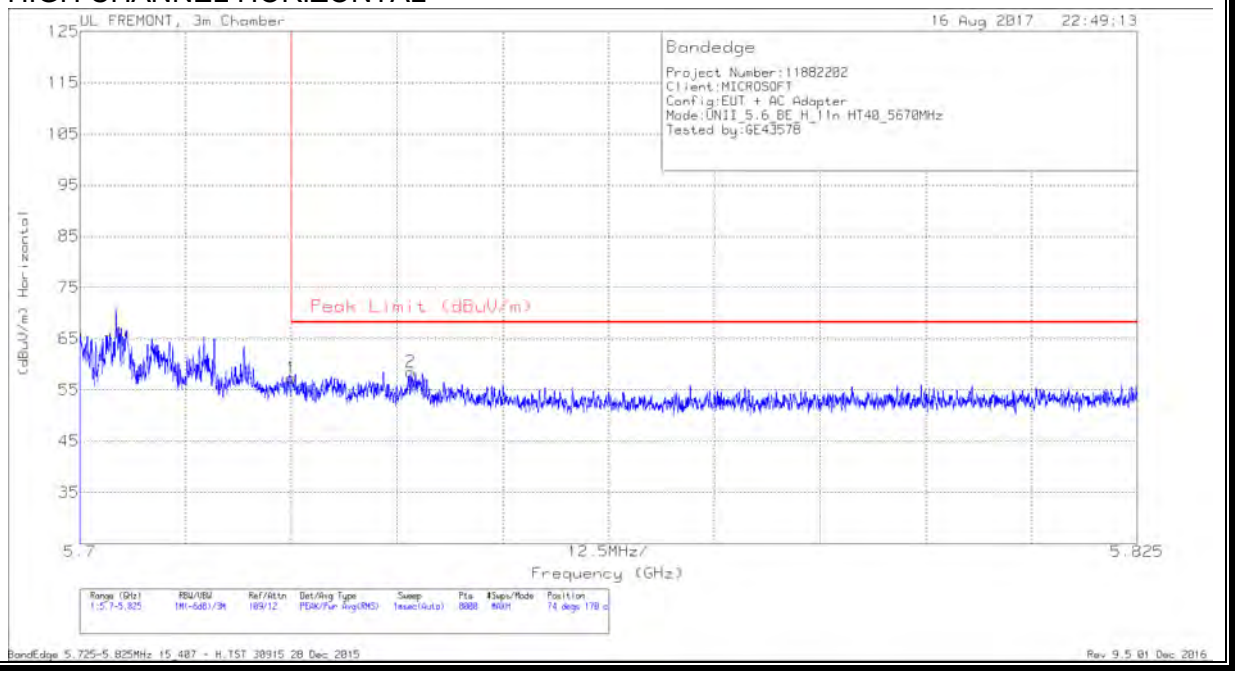


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.453	41.3	Pk	34.5	-18.9	0	56.9	-	-	74	-17.1	236	268	V
6	5.458	31.99	RMS	34.5	-18.8	0	47.69	54	-6.31	-	-	236	268	V
1	5.46	37.86	Pk	34.5	-18.9	0	53.46	-	-	74	-20.54	236	268	V
5	5.46	30.88	RMS	34.5	-18.9	0	46.48	54	-7.52	-	-	236	268	V
4	5.469	44.18	Pk	34.5	-18.8	0	59.88	-	-	68.2	-8.32	236	268	V
3	5.47	40.08	Pk	34.5	-18.9	0	55.68	-	-	68.2	-12.52	236	268	V

Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

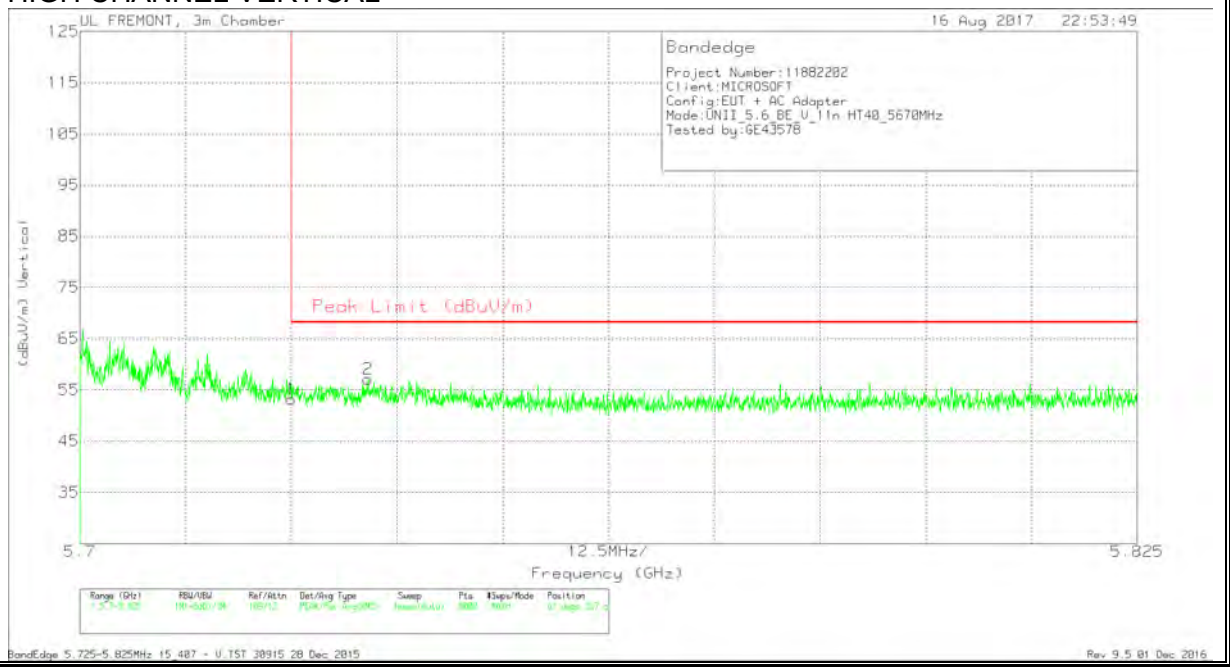
HIGH CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	41.59	Pk	34.7	-18.9	57.39	68.2	-10.81	74	170	H
2	5.739	42.63	Pk	34.7	-18.8	58.53	68.2	-9.67	74	170	H

Pk - Peak detector

HIGH CHANNEL VERTICAL

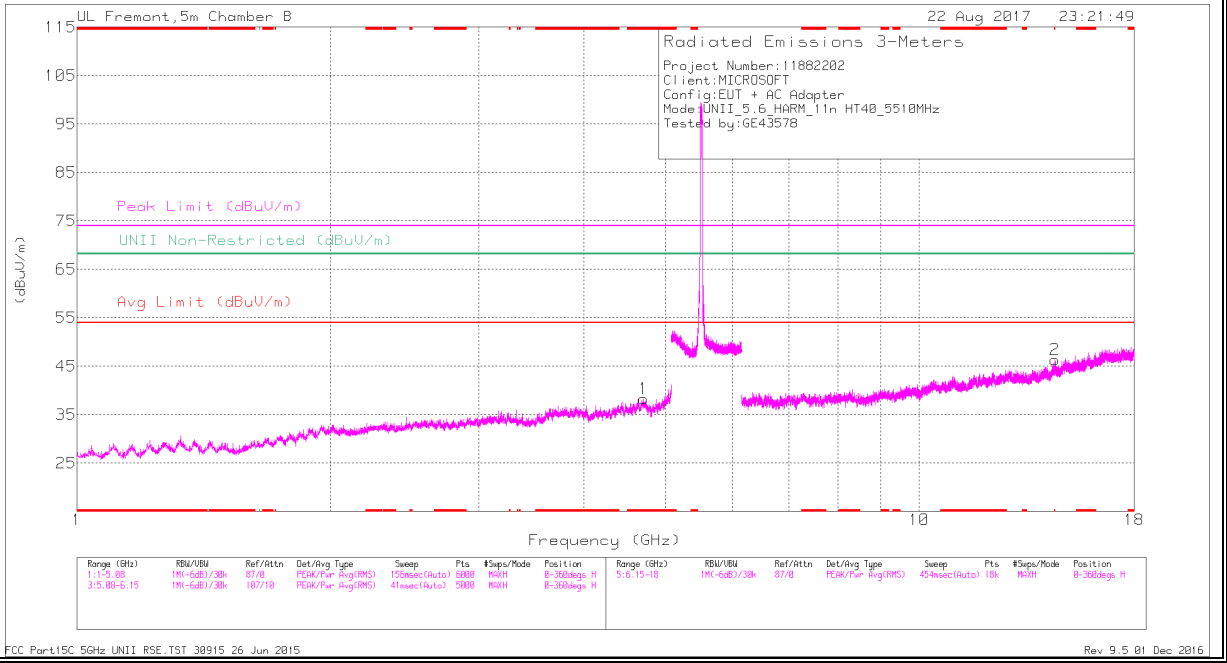


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	37.35	Pk	34.7	-18.9	53.15	68.2	-15.05	61	267	V
2	5.734	41.25	Pk	34.7	-18.8	57.15	68.2	-11.05	61	267	V

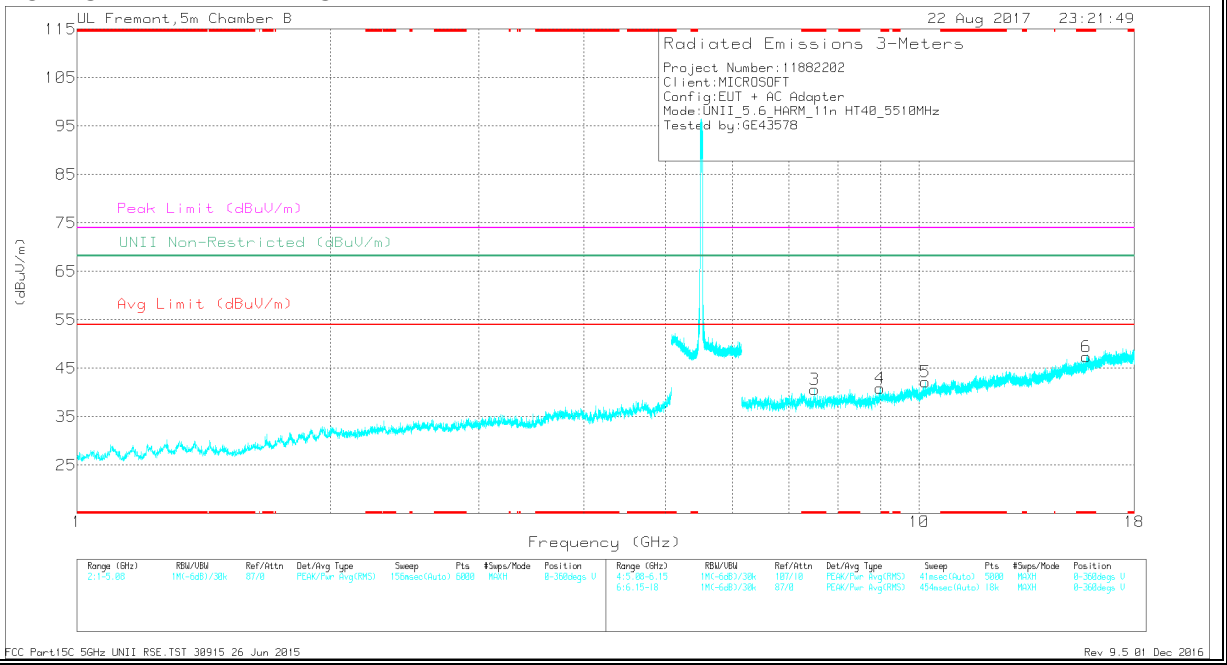
Pk - Peak detector

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



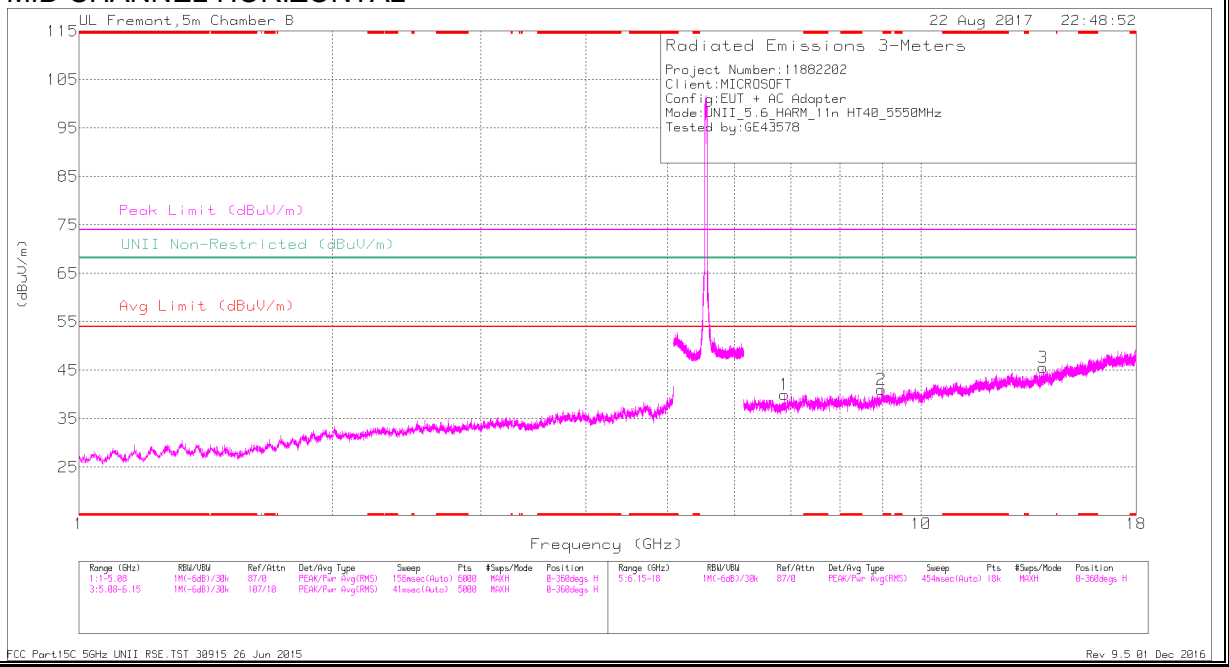
LOW CHANNEL VERTICAL



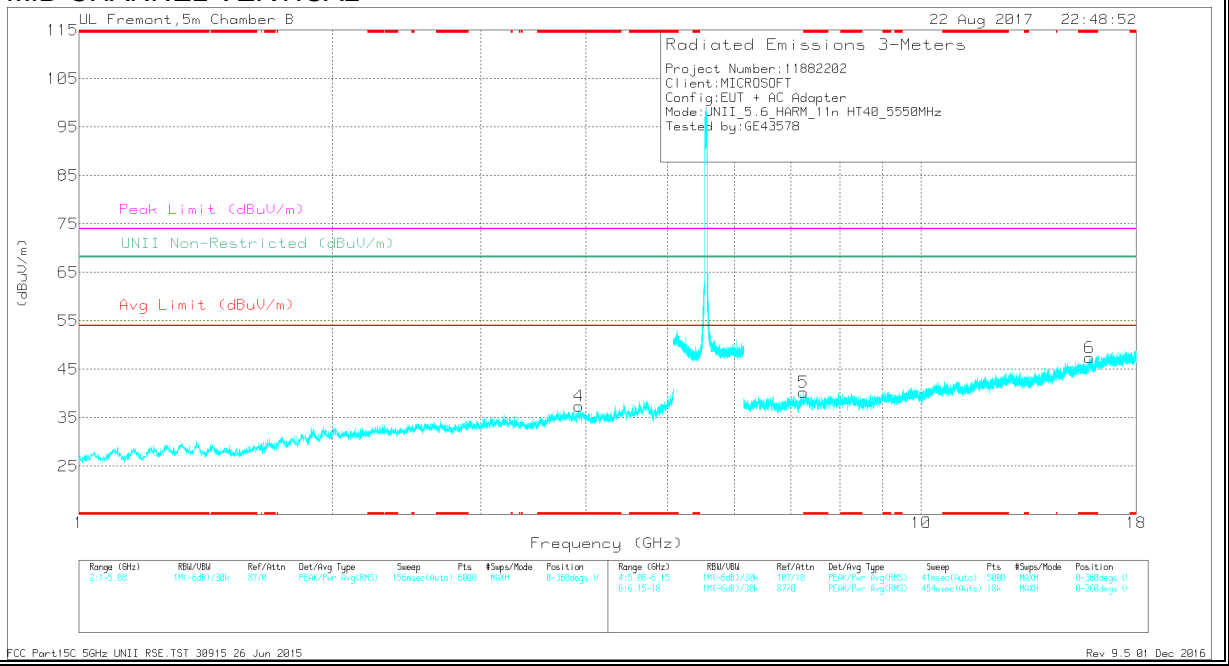
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.707	39.73	PK-U	34.2	-29.3	0	44.63	-	-	74	-29.37	-	-	285	198	H
	* 4.708	27.5	ADR	34.2	-29.2	0	32.5	54	-21.5	-	-	-	-	285	198	H
2	* 14.494	32.34	PK-U	39.9	-20.5	0	51.74	-	-	74	-22.26	-	-	199	198	H
	* 14.495	20.57	ADR	39.9	-20.5	0	39.97	54	-14.03	-	-	-	-	199	198	H
3	* 7.517	36.33	PK-U	36	-26.3	0	46.03	-	-	74	-27.97	-	-	113	104	V
	* 7.517	24.15	ADR	36	-26.3	0	33.85	54	-20.15	-	-	-	-	113	104	V
6	* 15.779	32.97	PK-U	40.9	-20.4	0	53.47	-	-	74	-20.53	-	-	88	104	V
	* 15.779	20.32	ADR	40.9	-20.4	0	40.82	54	-13.18	-	-	-	-	88	104	V
4	8.981	34.29	PK-U	36.2	-24.7	0	45.79	-	-	-	-	68.2	-22.41	72	199	V
5	10.171	33.77	PK-U	37.4	-24	0	47.17	-	-	-	-	68.2	-21.03	97	104	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

MID CHANNEL HORIZONTAL



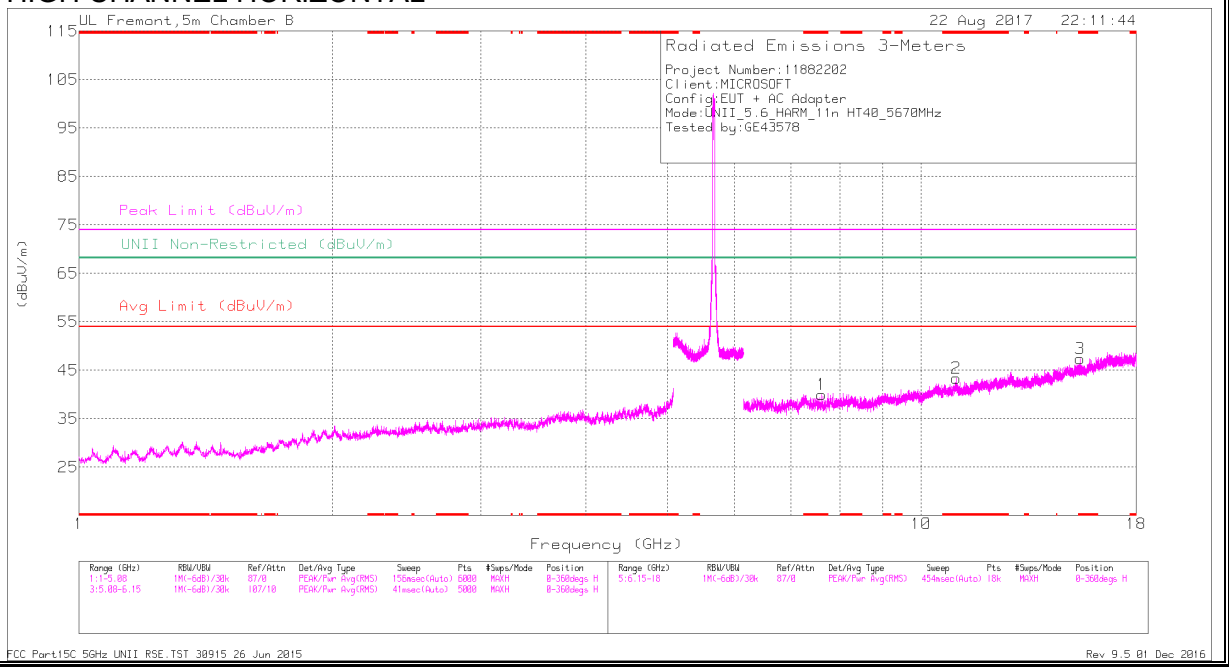
MID CHANNEL VERTICAL



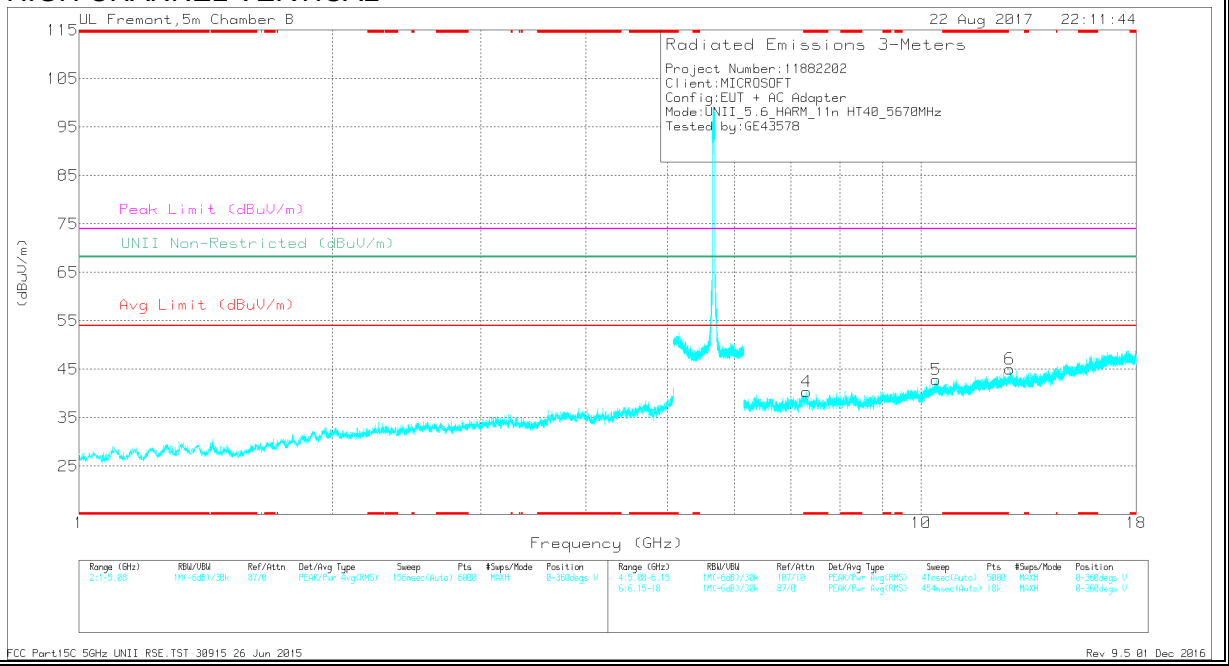
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 3.923	40.48	PK-U	33.5	-30.1	0	43.88	-	-	74	-30.12	-	-	75	200	V
	* 3.923	28.07	ADR	33.5	-30.1	0	31.47	54	-22.53	-	-	-	-	75	200	V
6	* 15.854	31.92	PK-U	41	-18.7	0	54.22	-	-	74	-19.78	-	-	64	199	V
	* 15.855	20.5	ADR	41	-18.7	0	42.8	54	-11.2	-	-	-	-	64	199	V
1	6.885	37.26	PK-U	35.8	-28.2	0	44.86	-	-	-	-	68.2	-23.34	143	200	H
5	7.242	35.54	PK-U	35.8	-25.3	0	46.04	-	-	-	-	68.2	-22.16	103	199	V
2	8.977	35.18	PK-U	36.2	-24.6	0	46.78	-	-	-	-	68.2	-21.42	294	104	H
3	13.957	32.26	PK-U	39.2	-21.3	0	50.16	-	-	-	-	68.2	-18.04	186	199	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

HIGH CHANNEL HORIZONTAL



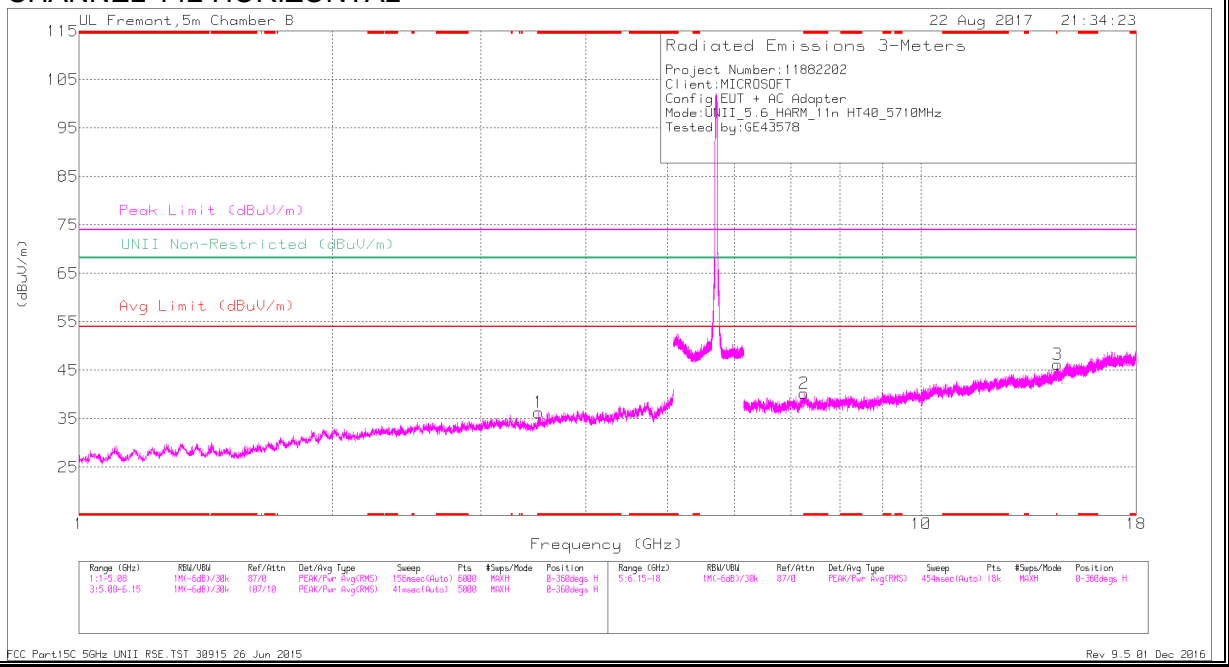
HIGH CHANNEL VERTICAL



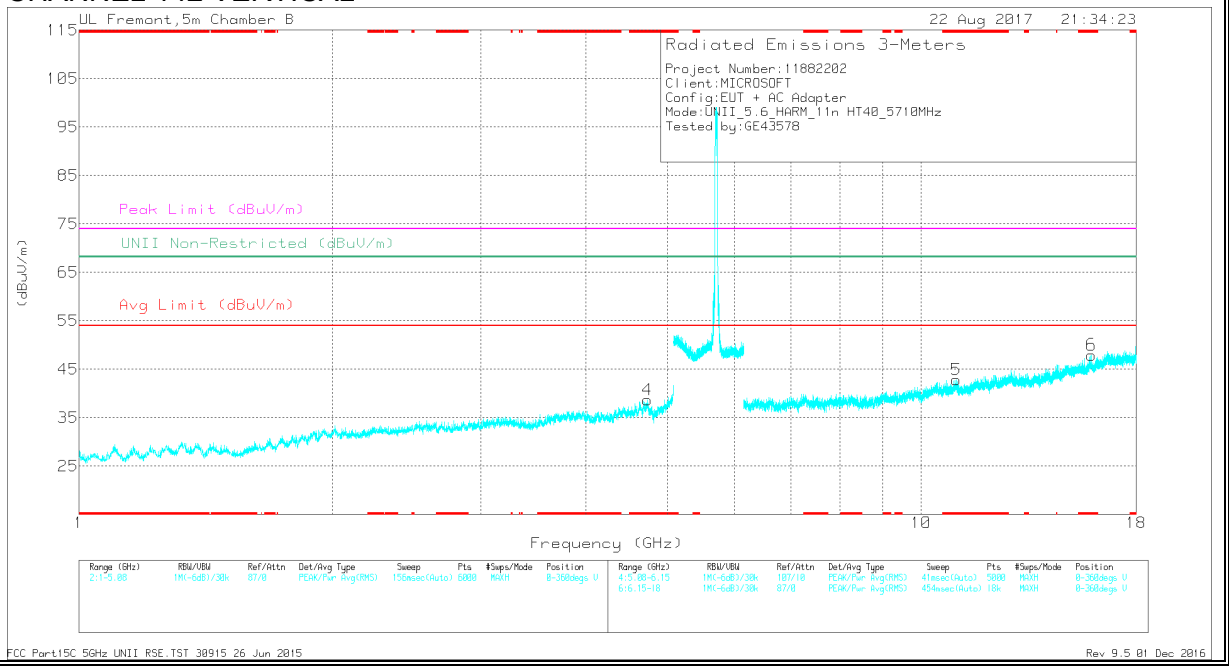
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 7.618	36.36	PK-U	36	-27.1	0	45.26	-	-	74	-28.74	-	-	271	199	H
	* 7.619	24.86	ADR	36	-27.1	0	33.76	54	-20.24	-	-	-	-	271	199	H
2	* 11.004	32.74	PK-U	37.7	-21.5	0	48.94	-	-	74	-25.06	-	-	5	104	H
	* 11.003	21.14	ADR	37.7	-21.5	0	37.34	54	-16.66	-	-	-	-	5	104	H
3	* 15.445	32.44	PK-U	40.6	-20.8	0	52.24	-	-	74	-21.76	-	-	28	104	H
	* 15.447	20.68	ADR	40.6	-20.8	0	40.48	54	-13.52	-	-	-	-	28	104	H
4	* 7.309	36.9	PK-U	35.8	-25.9	0	46.8	-	-	74	-27.2	-	-	106	104	V
	* 7.31	24.36	ADR	35.9	-25.9	0	34.36	54	-19.64	-	-	-	-	106	104	V
5	10.413	33.47	PK-U	37.5	-22.2	0	48.77	-	-	-	-	68.2	-19.43	87	104	V
6	12.747	32.51	PK-U	39.4	-22	0	49.91	-	-	-	-	68.2	-18.29	61	200	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

CHANNEL 142 HORIZONTAL



CHANNEL 142 VERTICAL



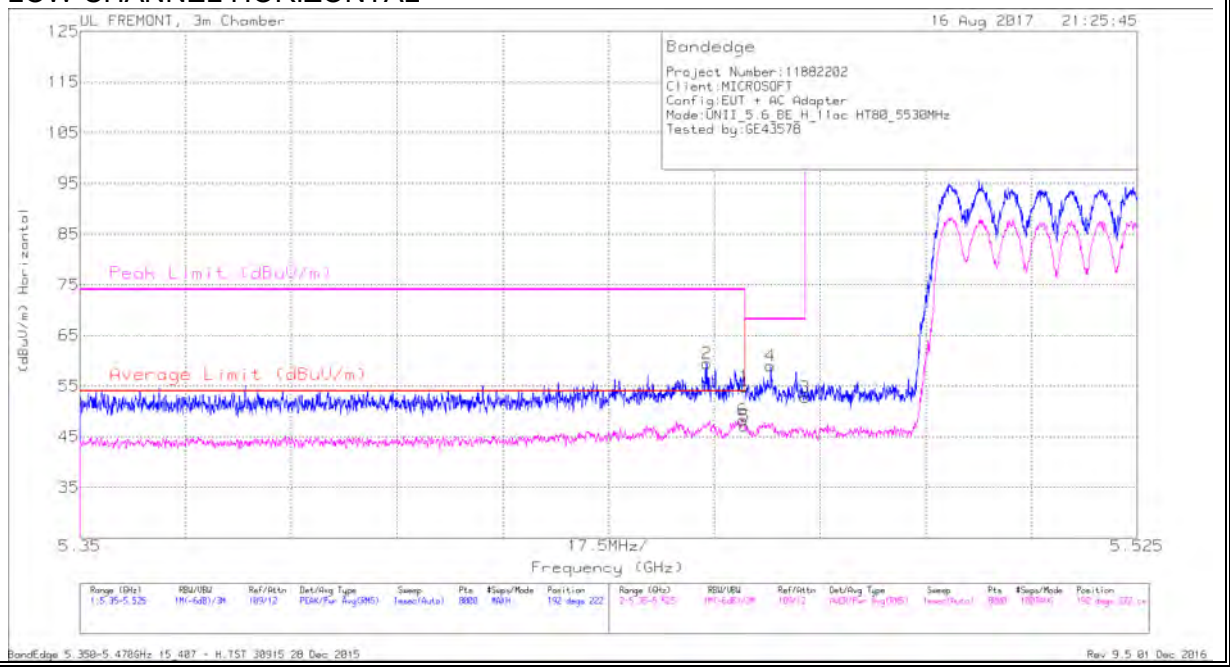
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.515	39.16	PK-U	32.9	-30.8	0	41.26	-	-	74	-32.74	-	-	102	101	H
	* 3.516	27.13	ADR	32.9	-30.8	0	29.23	54	-24.77	-	-	-	-	102	101	H
4	* 4.73	40.88	PK-U	34.2	-29	0	46.08	-	-	74	-27.92	-	-	231	200	V
	* 4.73	28.17	ADR	34.2	-29	0	33.37	54	-20.63	-	-	-	-	231	200	V
2	* 7.257	36.24	PK-U	35.8	-25.9	0	46.14	-	-	74	-27.86	-	-	60	200	H
	* 7.257	23.78	ADR	35.8	-25.9	0	33.68	54	-20.32	-	-	-	-	60	200	H
5	* 11.001	33.55	PK-U	37.7	-21.5	0	49.75	-	-	74	-24.25	-	-	60	200	V
	* 11	21.21	ADR	37.7	-21.5	0	37.41	54	-16.59	-	-	-	-	60	200	V
6	* 15.935	32.11	PK-U	41.1	-19	0	54.21	-	-	74	-19.79	-	-	94	104	V
	* 15.935	20.04	ADR	41.1	-19	0	42.14	54	-11.86	-	-	-	-	94	104	V
3	14.521	31.8	PK-U	39.9	-20.2	0	51.5	-	-	-	-	68.2	-16.7	68	200	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

10.1.12. 11ac VHT80 2TX MODE IN THE 5.6GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

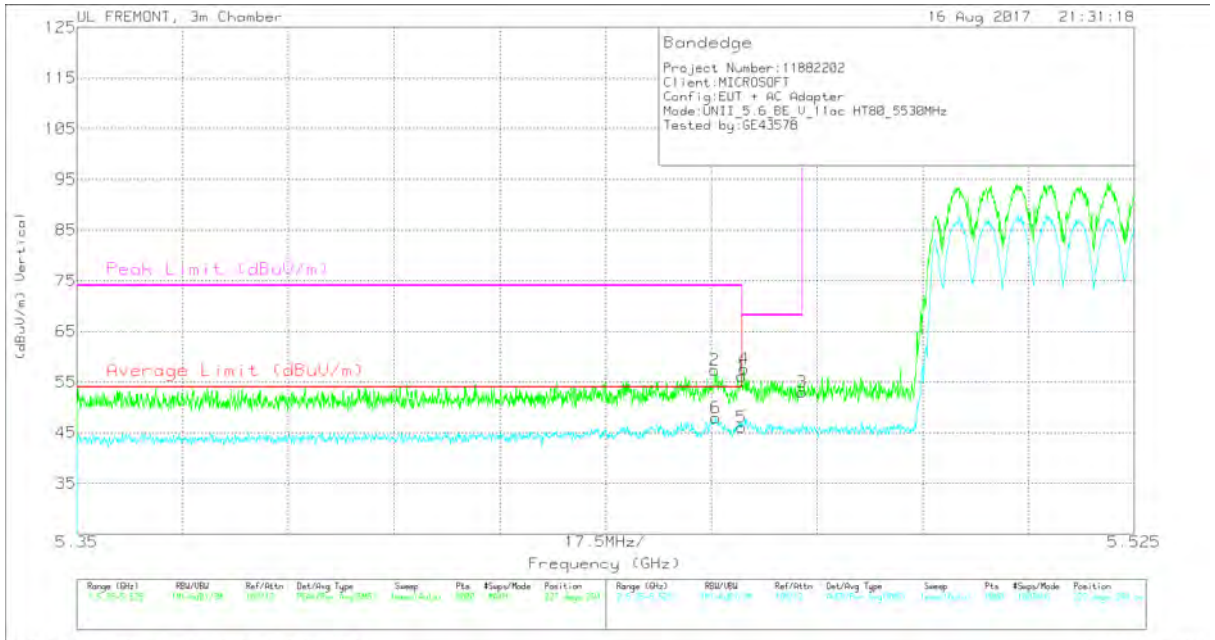
LOW CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.454	43.87	Pk	34.5	-18.9	0	59.47	-	-	74	-14.53	192	222	H
1	5.46	39.29	Pk	34.5	-18.9	0	54.89	-	-	74	-19.11	192	222	H
5	5.46	31.48	RMS	34.5	-18.9	0	47.08	54	-6.92	-	-	192	222	H
6	5.46	32.72	RMS	34.5	-18.9	0	48.32	54	-5.68	-	-	192	222	H
4	5.464	43.36	Pk	34.5	-18.9	0	58.96	-	-	68.2	-9.24	192	222	H
3	5.47	37.15	Pk	34.5	-18.9	0	52.75	-	-	68.2	-15.45	192	222	H

Pk - Peak detector
RMS - RMS detection

LOW CHANNEL VERTICAL

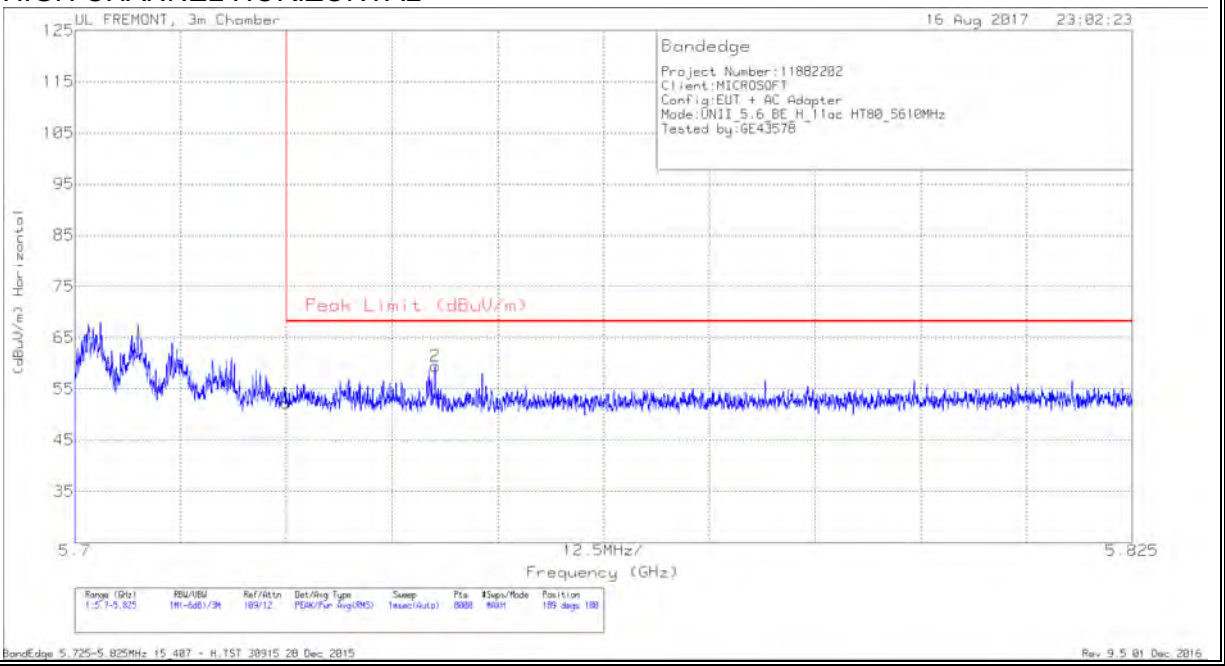


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.456	41.72	Pk	34.5	-18.8	0	57.42	-	-	74	-16.58	227	294	V
6	5.456	32.24	RMS	34.5	-18.8	0	47.94	54	-6.06	-	-	227	294	V
1	5.46	40.56	Pk	34.5	-18.9	0	56.16	-	-	74	-17.84	227	294	V
4	5.46	42.07	Pk	34.5	-18.9	0	57.67	-	-	68.2	-10.53	227	294	V
5	5.46	30.49	RMS	34.5	-18.9	0	46.09	54	-7.91	-	-	227	294	V
3	5.47	37.37	Pk	34.5	-18.9	0	52.97	-	-	68.2	-15.23	227	294	V

Pk - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL)

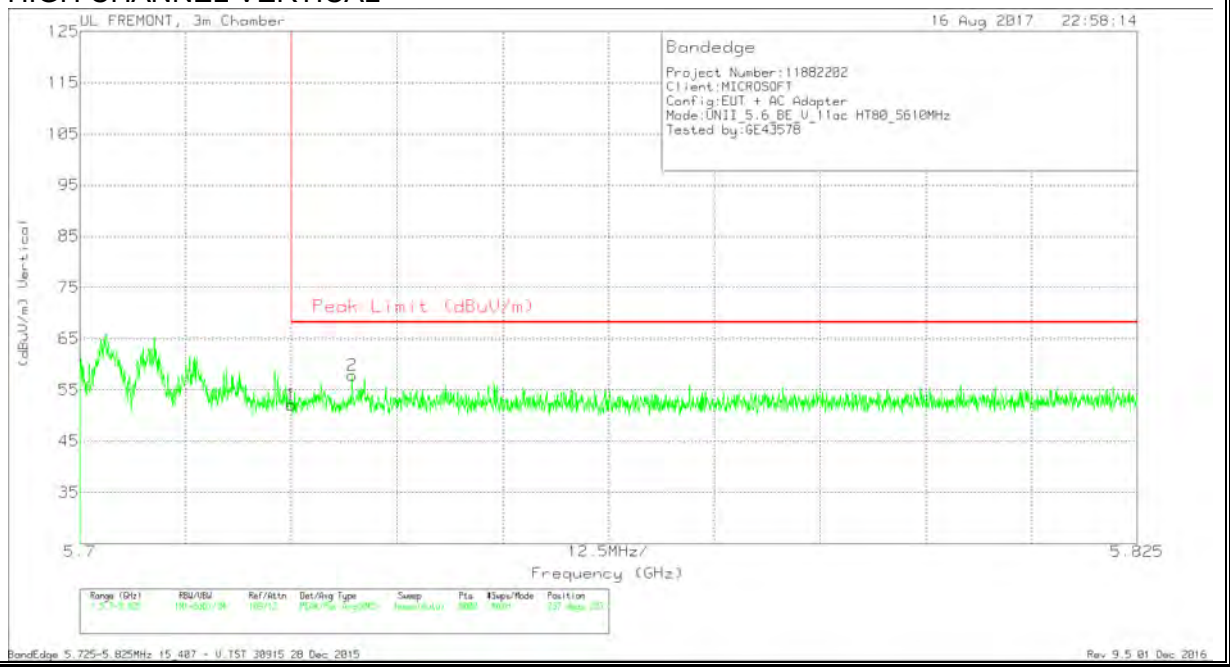
HIGH CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	36.42	Pk	34.7	-18.9	52.22	68.2	-15.98	189	180	H
2	5.743	43.6	Pk	34.7	-18.8	59.5	68.2	-8.7	189	180	H

Pk - Peak detector

HIGH CHANNEL VERTICAL

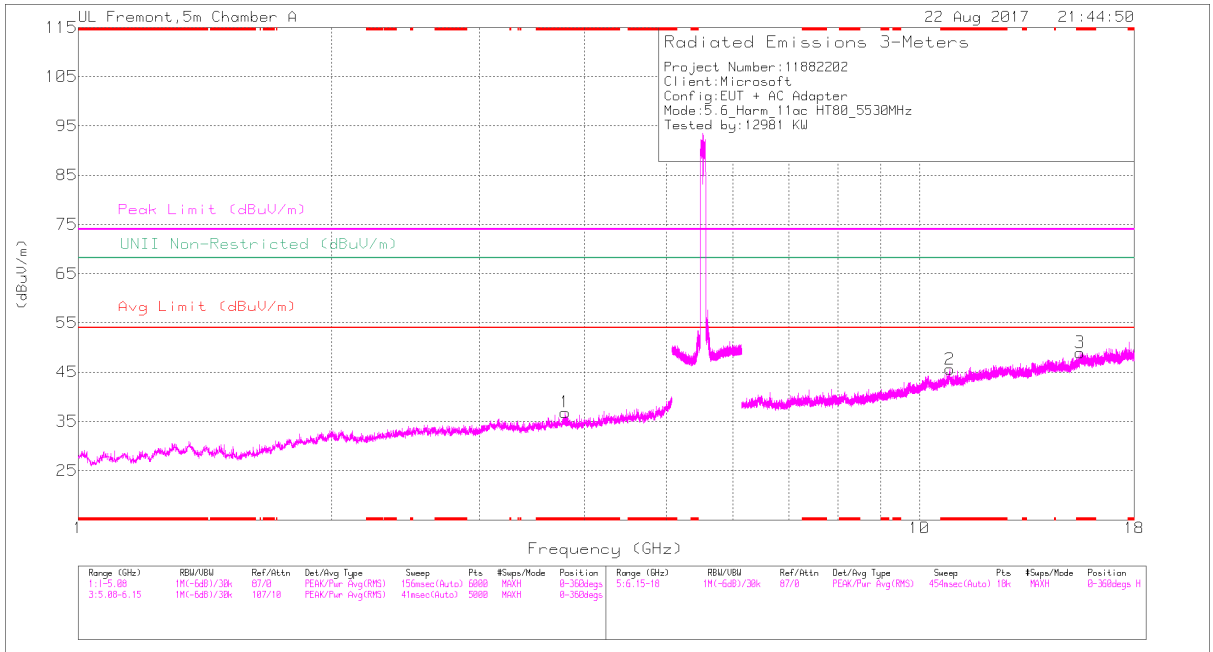


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	36.33	Pk	34.7	-18.9	52.13	68.2	-16.07	237	283	V
2	5.732	42.01	Pk	34.7	-18.8	57.91	68.2	-10.29	237	283	V

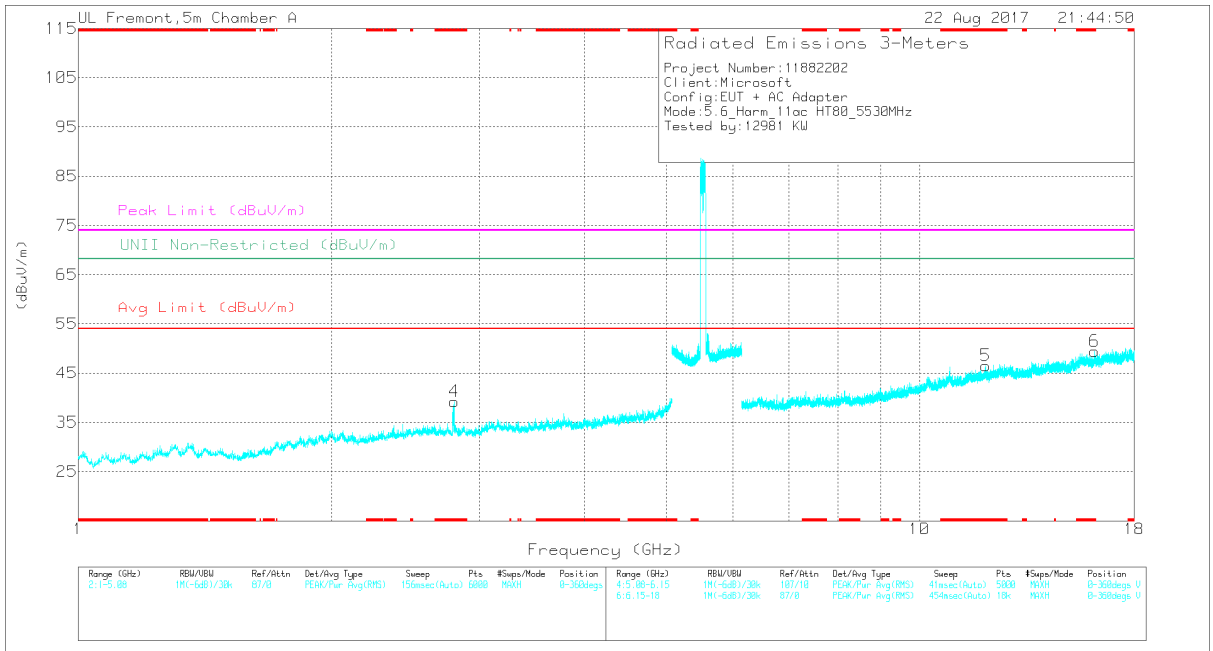
Pk - Peak detector

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



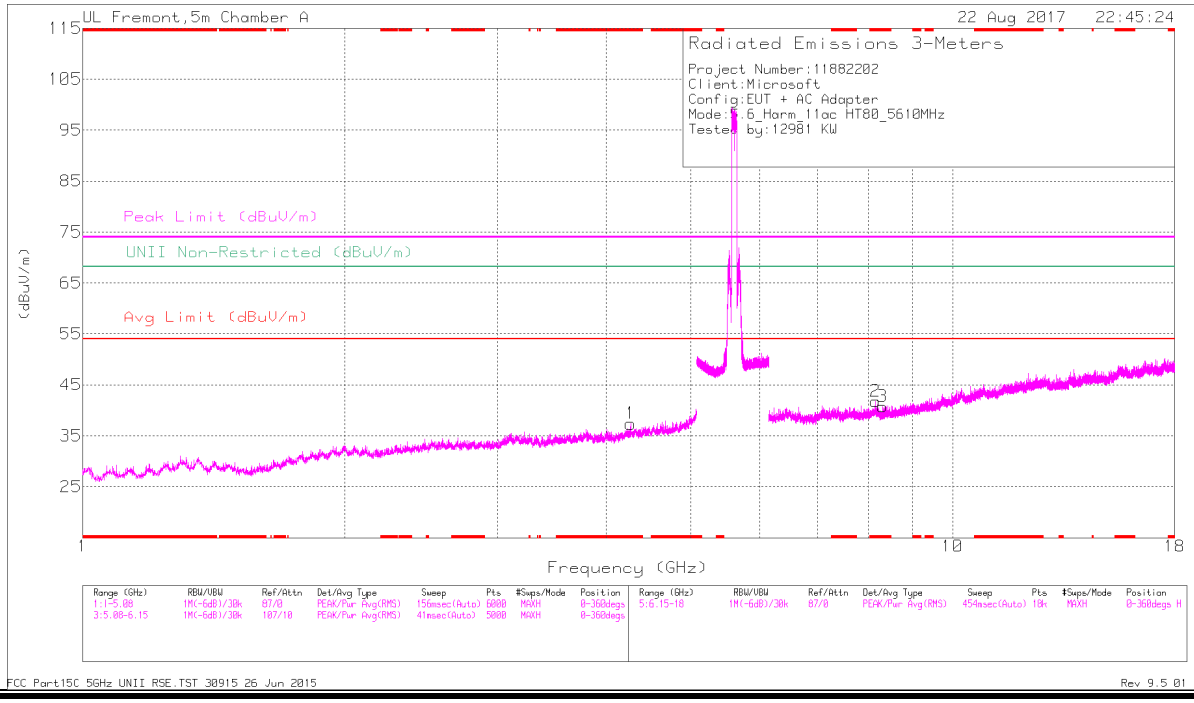
LOW CHANNEL VERTICAL



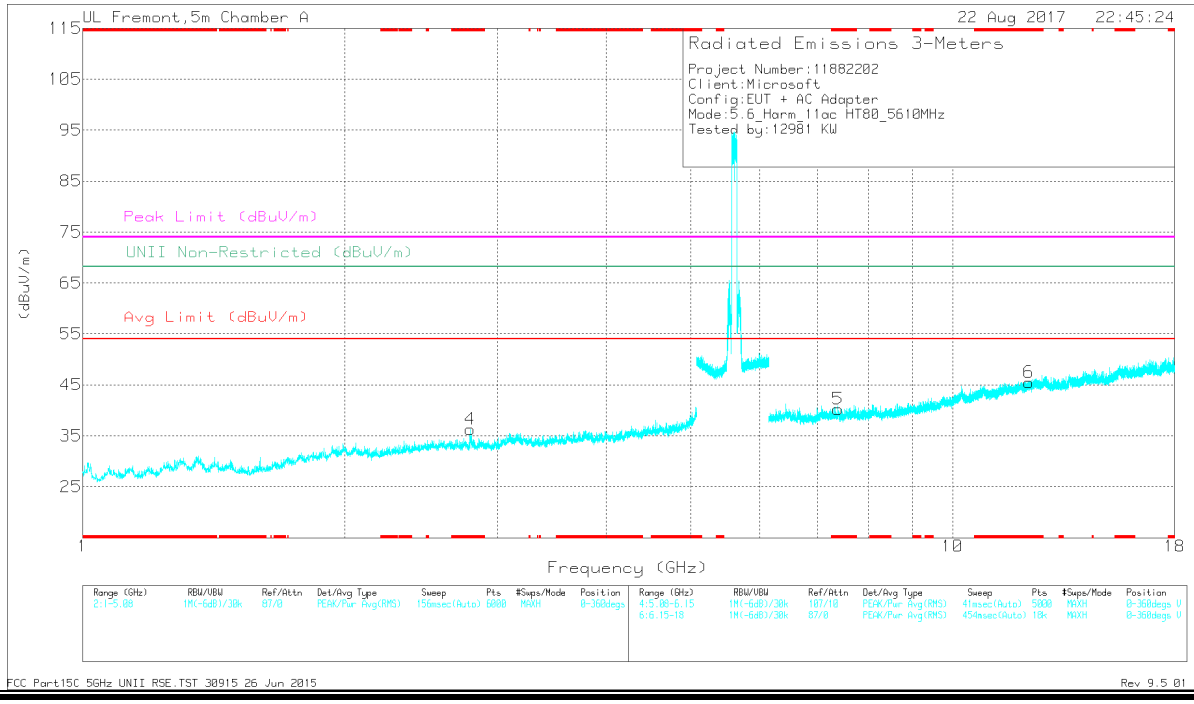
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.794	37.6	PK-U	33.2	-28.9	0	41.9	-	-	74	-32.1	-	-	282	199	H
	* 3.792	25.97	ADR	33.2	-28.9	0	30.27	54	-23.73	-	-	-	-	282	199	H
4	* 2.798	43	PK-U	32.2	-30.8	0	44.4	-	-	74	-29.6	-	-	245	199	V
	* 2.8	27.23	ADR	32.2	-30.8	0	28.63	54	-25.37	-	-	-	-	245	199	V
2	* 10.867	31.75	PK-U	37.9	-18.9	0	50.75	-	-	74	-23.25	-	-	333	102	H
	* 10.866	20.41	ADR	37.9	-18.9	0	39.41	54	-14.59	-	-	-	-	333	102	H
3	* 15.521	32.37	PK-U	40	-17.2	0	55.17	-	-	74	-18.83	-	-	25	102	H
	* 15.518	20.66	ADR	40	-17.2	0	43.46	54	-10.54	-	-	-	-	25	102	H
5	* 11.994	32.43	PK-U	38.9	-19.2	0	52.13	-	-	74	-21.87	-	-	93	102	V
	* 11.995	20.46	ADR	38.9	-19.2	0	40.16	54	-13.84	-	-	-	-	93	102	V
6	* 16.153	32.28	PK-U	40.6	-18.6	0	54.28	-	-	74	-19.72	-	-	360	200	V
	* 16.153	21.24	ADR	40.6	-18.6	0	43.24	54	-10.76	-	-	-	-	360	200	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

HIGH CHANNEL HORIZONTAL



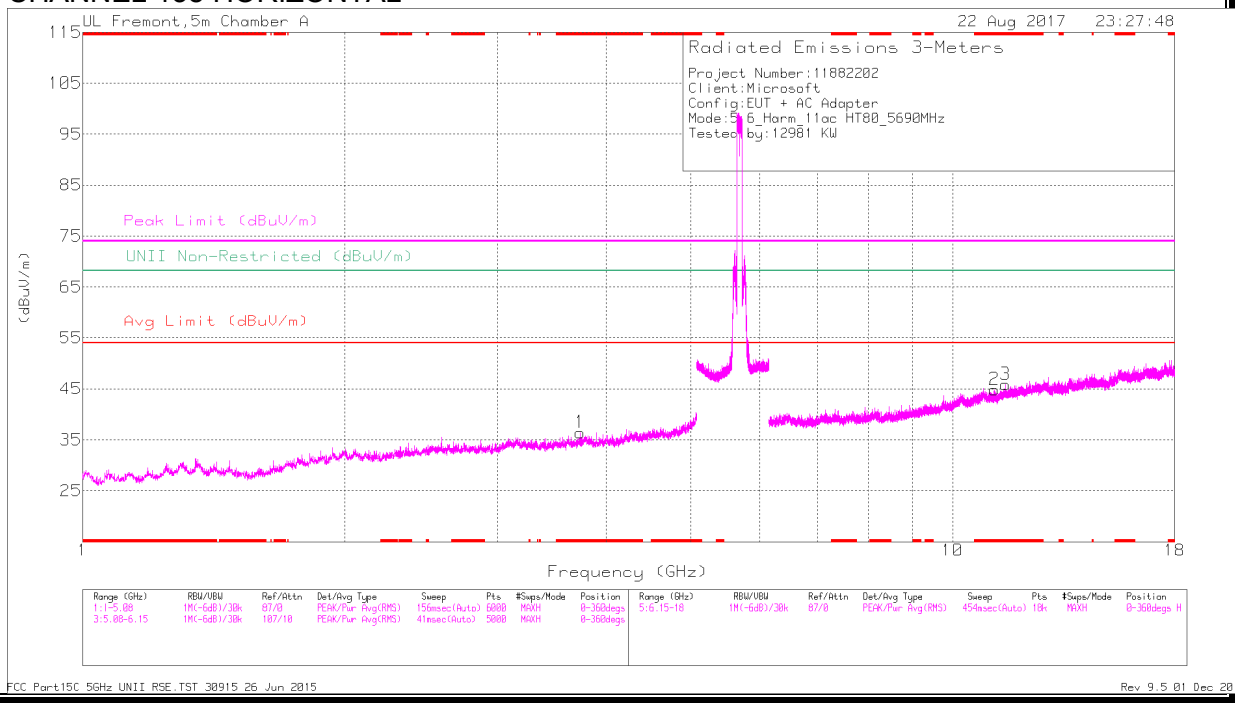
HIGH CHANNEL VERTICAL



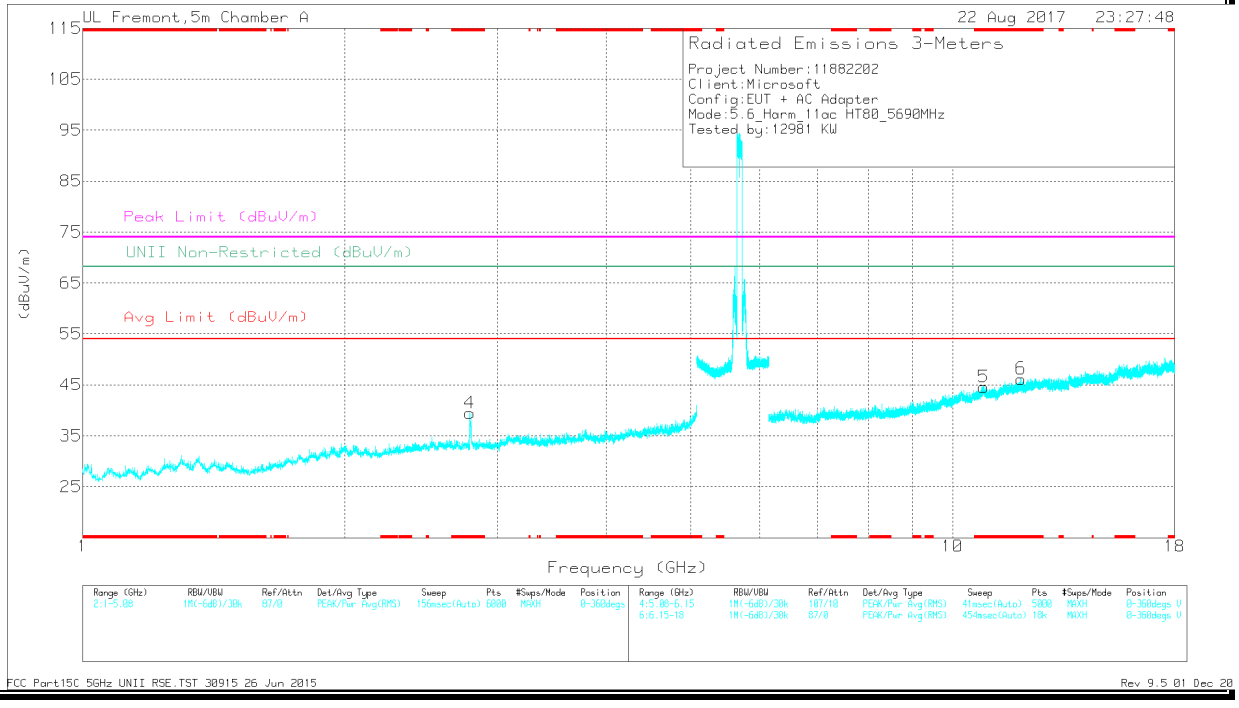
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.263	37.54	PK-U	33.5	-27.9	0	43.14	-	-	74	-30.86	-	-	5	100	H
	* 4.265	25.72	ADR	33.5	-27.9	0	31.32	54	-22.68	-	-	-	-	5	100	H
4	* 2.789	42.99	PK-U	32.2	-30.9	0	44.29	-	-	74	-29.71	-	-	311	200	V
	* 2.791	27.27	ADR	32.2	-30.9	0	28.57	54	-25.43	-	-	-	-	311	200	V
2	* 8.155	33.38	PK-U	35.8	-22.3	0	46.88	-	-	74	-27.12	-	-	13	102	H
	* 8.157	21.74	ADR	35.8	-22.3	0	35.24	54	-18.76	-	-	-	-	13	102	H
3	* 8.317	33.81	PK-U	35.8	-23.4	0	46.21	-	-	74	-27.79	-	-	36	102	H
	* 8.314	21.95	ADR	35.8	-23.4	0	34.35	54	-19.65	-	-	-	-	36	102	H
5	* 7.383	32.97	PK-U	35.6	-22.6	0	45.97	-	-	74	-28.03	-	-	100	200	V
	* 7.385	21.73	ADR	35.6	-22.7	0	34.63	54	-19.37	-	-	-	-	100	200	V
6	* 12.237	33.22	PK-U	39	-19.4	0	52.82	-	-	74	-21.18	-	-	3	102	V
	* 12.234	20.56	ADR	39	-19.4	0	40.16	54	-13.84	-	-	-	-	3	102	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

CHANNEL 138 HORIZONTAL



CHANNEL 138 VERTICAL



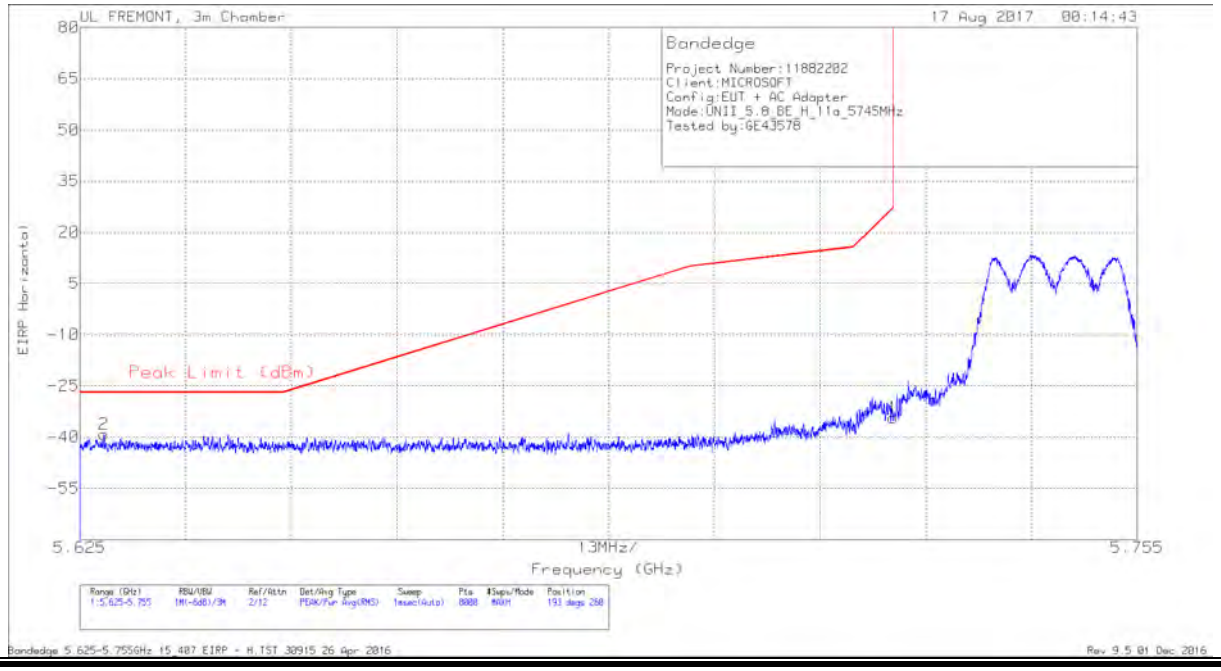
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.733	38.13	PK-U	33.1	-29.6	0	41.63	-	-	74	-32.37	-	-	354	199	H
	* 3.731	26.53	ADR	33.1	-29.6	0	30.03	54	-23.97	-	-	-	-	354	199	H
4	* 2.788	43.87	PK-U	32.2	-30.9	0	45.17	-	-	74	-28.83	-	-	339	199	V
	* 2.788	27.27	ADR	32.2	-30.9	0	28.57	54	-25.43	-	-	-	-	339	199	V
2	* 11.173	32.81	PK-U	38	-19.7	0	51.11	-	-	74	-22.89	-	-	107	102	H
	* 11.174	20.46	ADR	38	-19.7	0	38.76	54	-15.24	-	-	-	-	107	102	H
3	* 11.506	33.5	PK-U	38.3	-19.4	0	52.4	-	-	74	-21.6	-	-	126	102	H
	* 11.505	20.72	ADR	38.3	-19.4	0	39.62	54	-14.38	-	-	-	-	126	102	H
5	* 10.861	31.57	PK-U	37.9	-18.8	0	50.67	-	-	74	-23.33	-	-	38	102	V
	* 10.859	20.32	ADR	37.9	-18.8	0	39.42	54	-14.58	-	-	-	-	38	102	V
6	* 11.992	32.1	PK-U	38.9	-19.1	0	51.9	-	-	74	-22.1	-	-	94	102	V
	* 11.991	20.39	ADR	38.9	-19.1	0	40.19	54	-13.81	-	-	-	-	94	102	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

10.1.13. 11a 2TX MODE IN THE 5.8GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

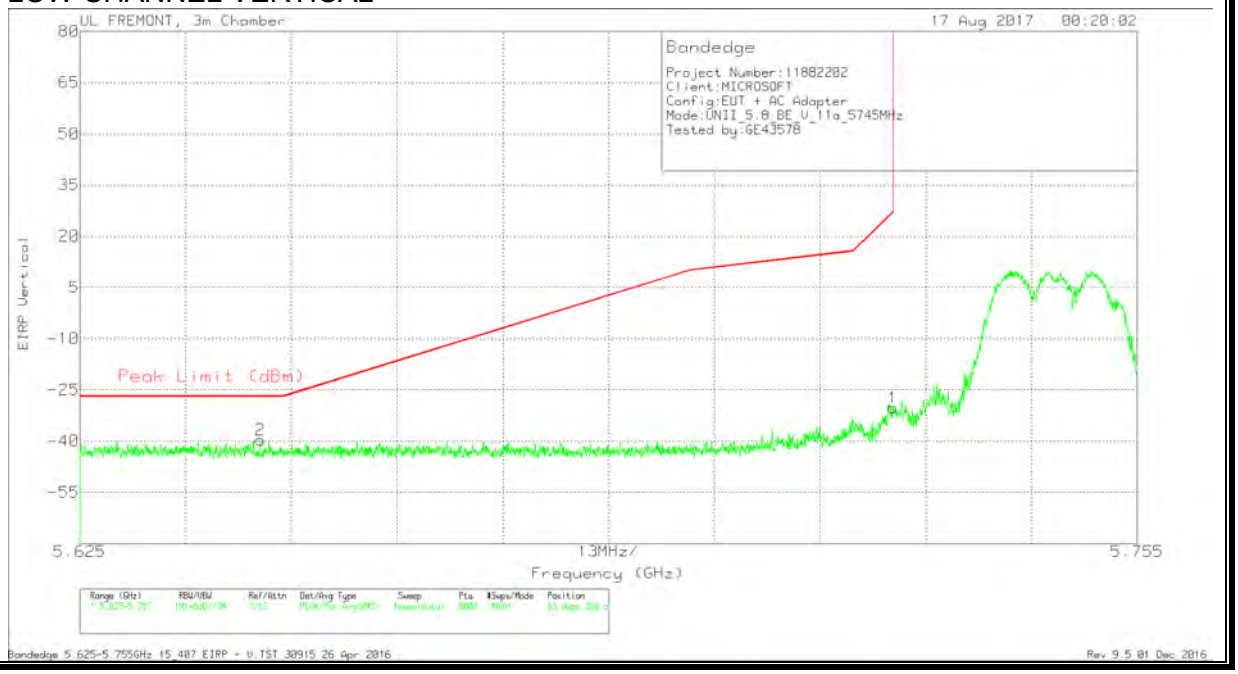
LOW CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.628	-66.67	Pk	34.6	-18.9	11.8	-39.17	-27	-12.17	193	260	H
1	5.725	-62.01	Pk	34.7	-18.9	11.8	-34.41	27	-61.41	193	260	H

Pk - Peak detector

LOW CHANNEL VERTICAL

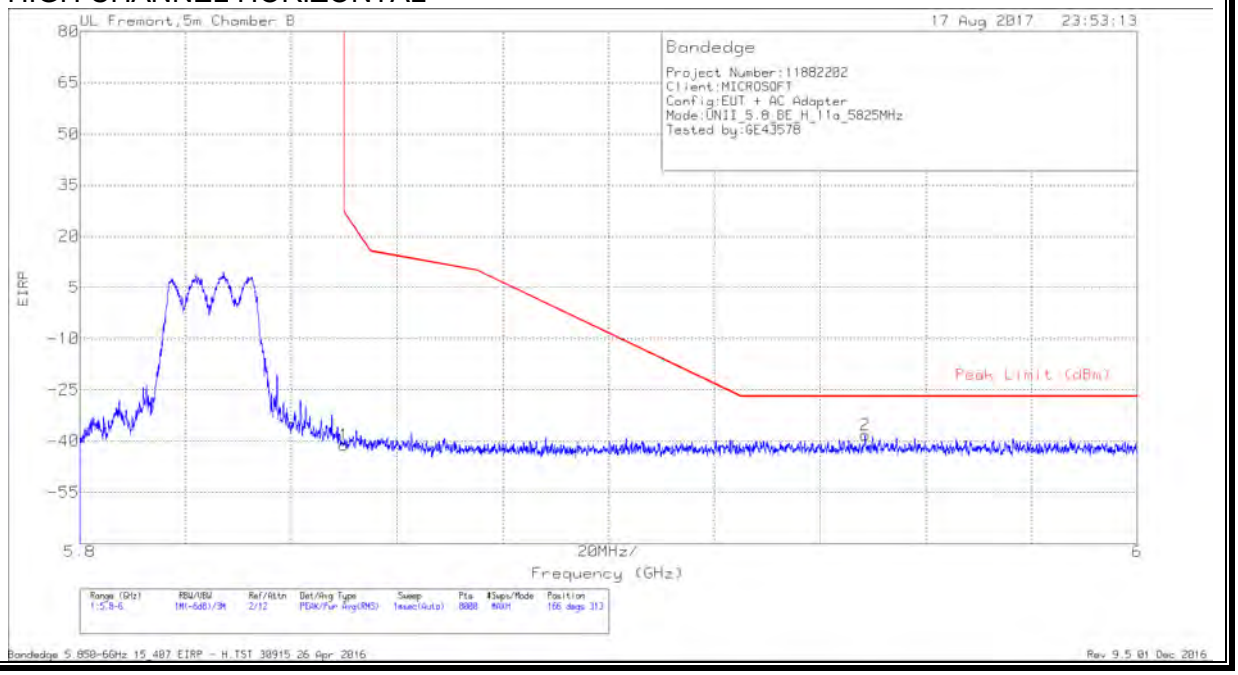


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.647	-67.05	Pk	34.6	-19	11.8	-39.65	-27	-12.65	63	260	V
1	5.725	-57.94	Pk	34.7	-18.9	11.8	-30.34	27	-57.34	63	260	V

Pk - Peak detector

AUTHORIZED BANDEDGE (HIGH CHANNEL)

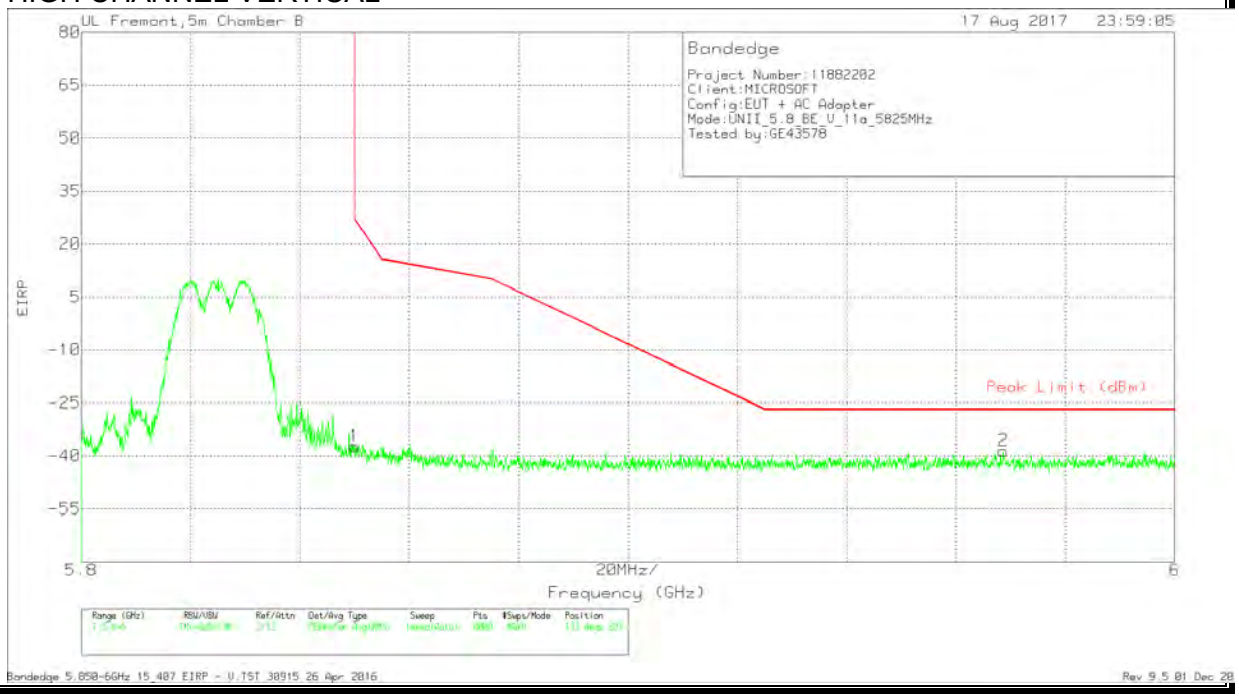
HIGH CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-68.71	Pk	35.1	-19.3	11.8	-41.11	26.99	-68.1	166	313	H
2	5.949	-66.29	Pk	35.2	-18.9	11.8	-38.19	-27	-11.19	166	313	H

Pk - Peak detector

HIGH CHANNEL VERTICAL

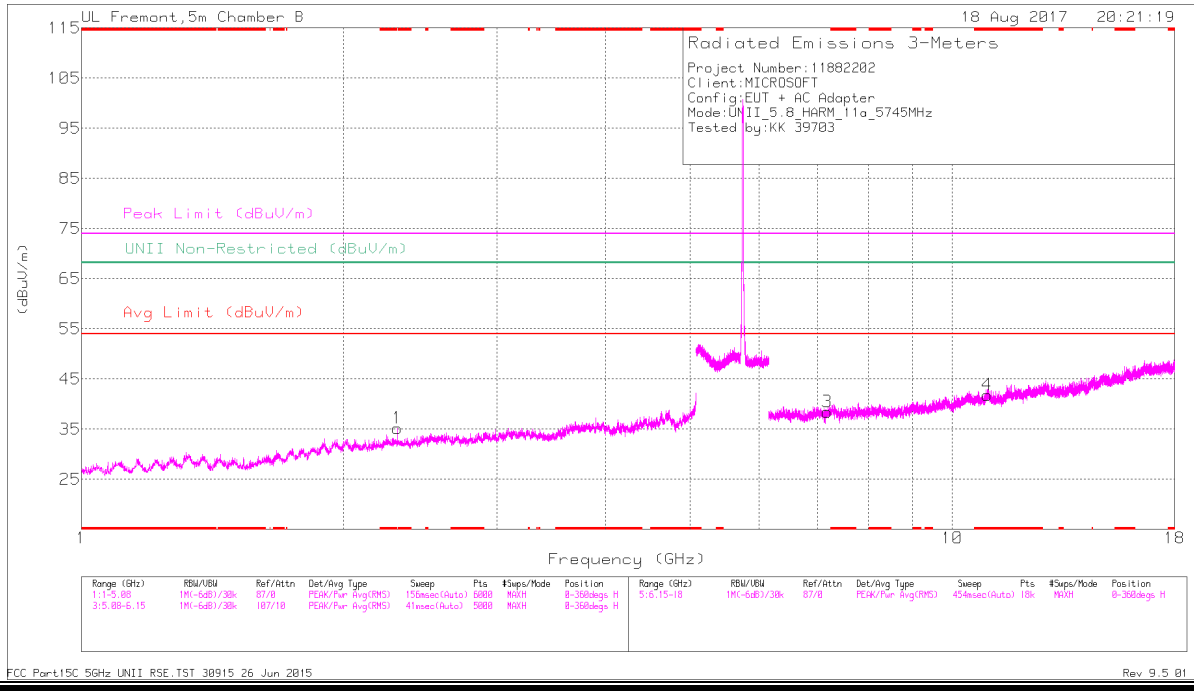


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-64.84	Pk	35.1	-19.3	11.8	-37.24	26.99	-64.23	133	287	V
2	5.969	-66.77	Pk	35.3	-19	11.8	-38.67	-27	-11.67	133	287	V

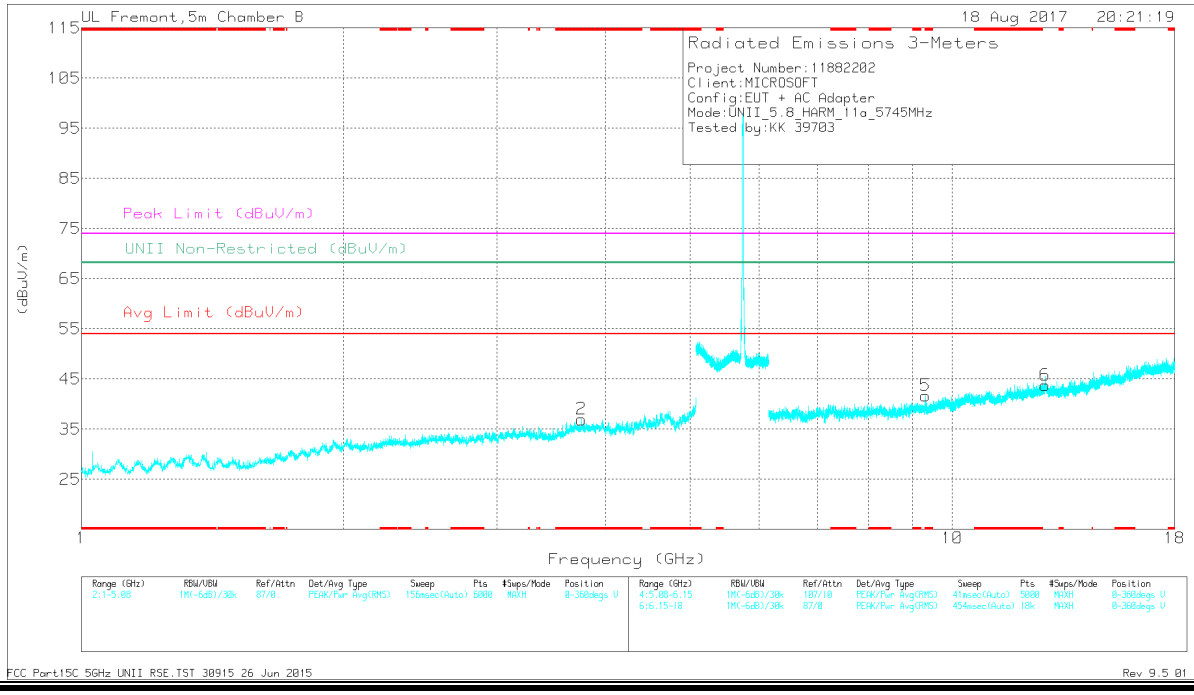
Pk - Peak detector

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



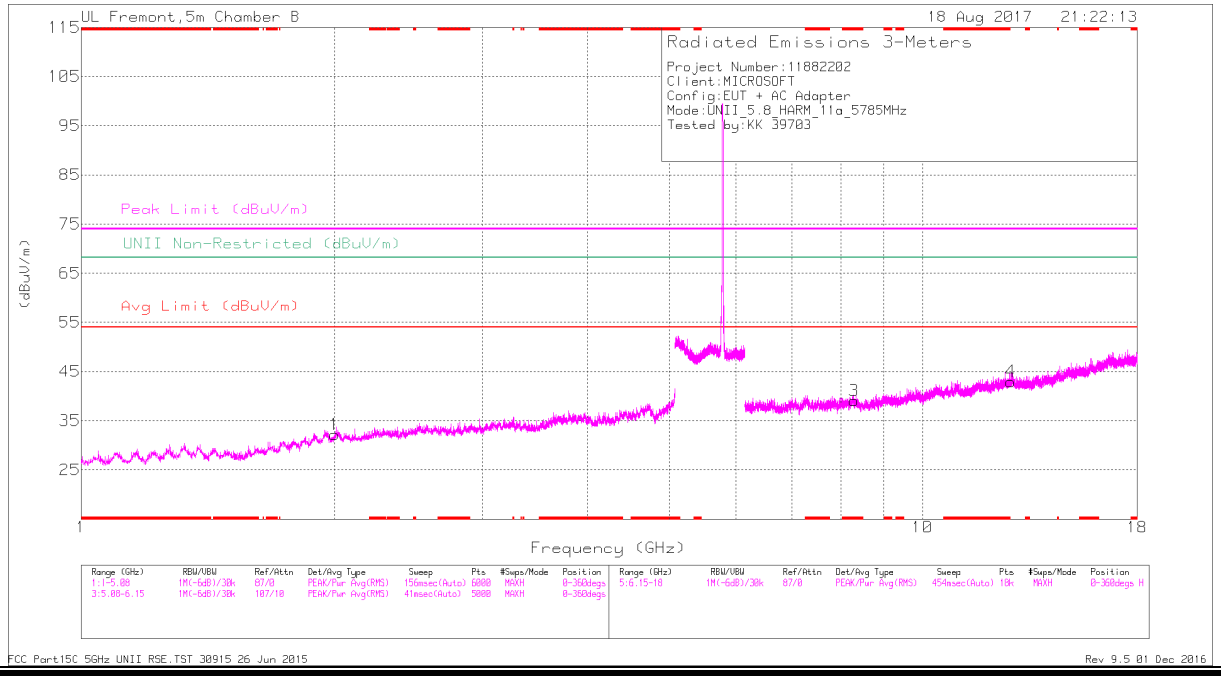
LOW CHANNEL VERTICAL



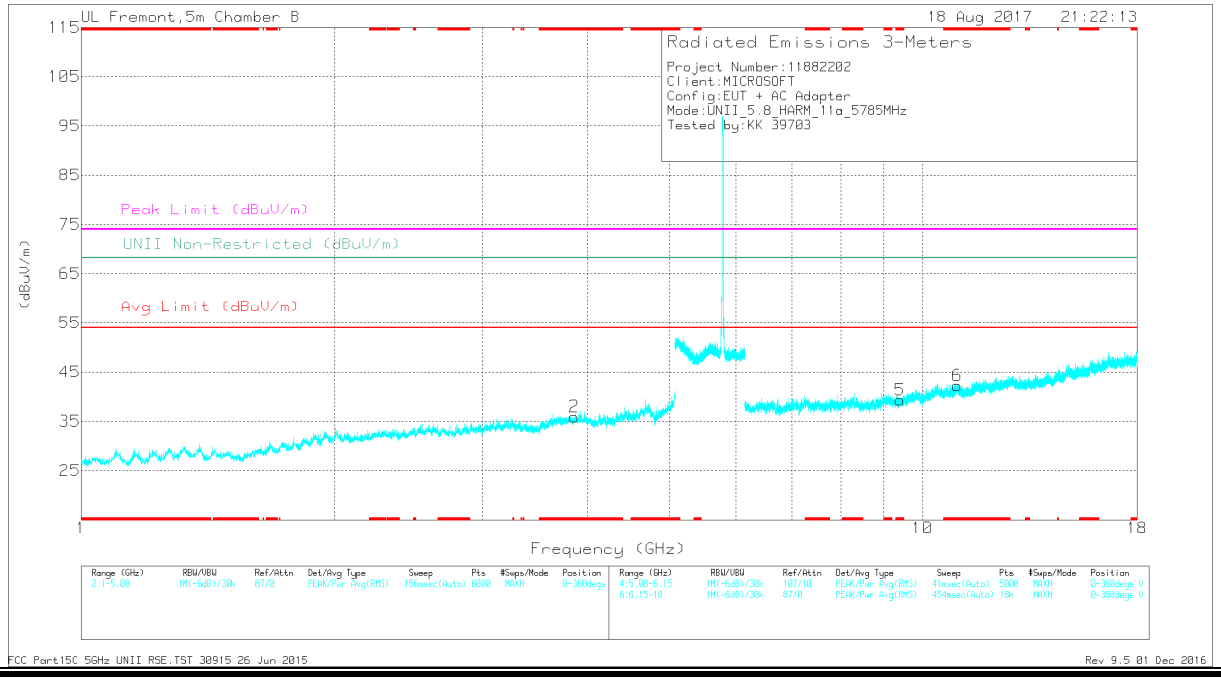
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.749	39.75	PK-U	33.4	-30.5	0	42.65	-	-	74	-31.35	-	-	270	199	V
	* 3.751	27.91	ADR	33.4	-30.5	0	30.81	54	-23.19	-	-	-	-	270	199	V
4	* 10.969	32.95	PK-U	37.7	-22.4	0	48.25	-	-	74	-25.75	-	-	61	199	H
	* 10.968	21.54	ADR	37.7	-22.4	0	36.84	54	-17.16	-	-	-	-	61	199	H
5	* 9.318	34.41	PK-U	36.5	-24.3	0	46.61	-	-	74	-27.39	-	-	139	199	V
	* 9.318	23.25	ADR	36.5	-24.3	0	35.45	54	-18.55	-	-	-	-	139	199	V
1	2.308	39.6	PK-U	31.9	-32	0	39.5	-	-	-	-	68.2	-28.7	94	199	H
3	7.187	36.63	PK-U	35.8	-26.9	0	45.53	-	-	-	-	68.2	-22.67	317	104	H
6	12.779	32.75	PK-U	39.4	-21.4	0	50.75	-	-	-	-	68.2	-17.45	264	104	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

MID CHANNEL HORIZONTAL



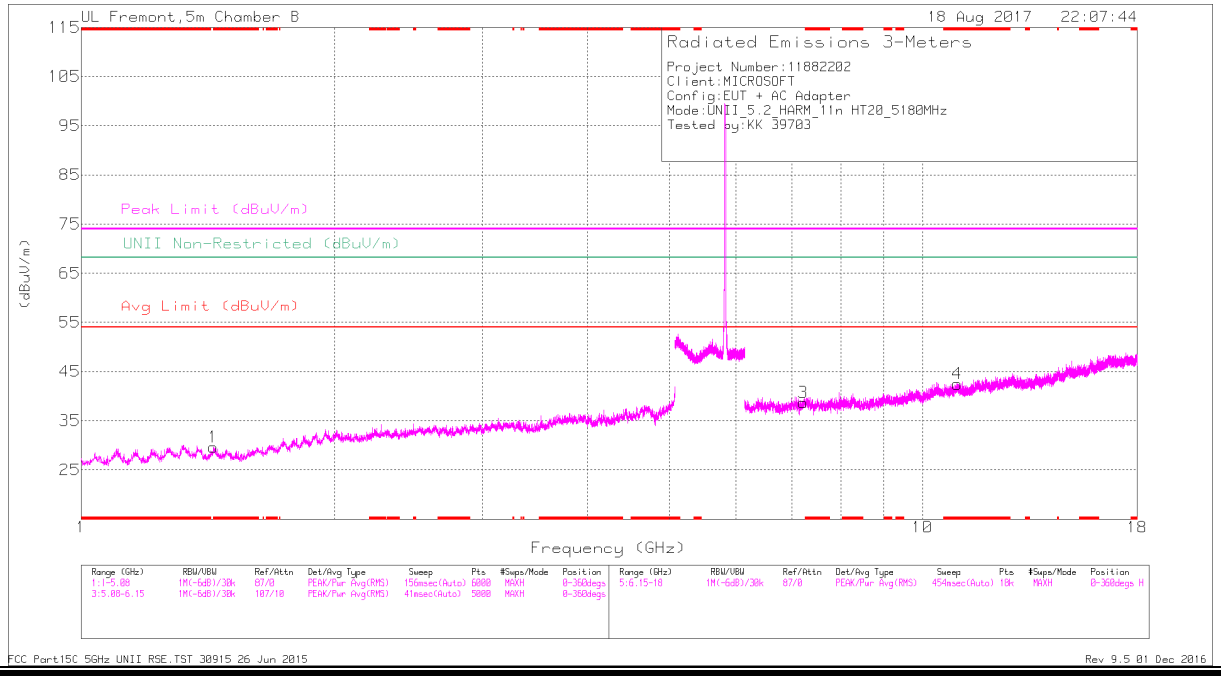
MID CHANNEL VERTICAL



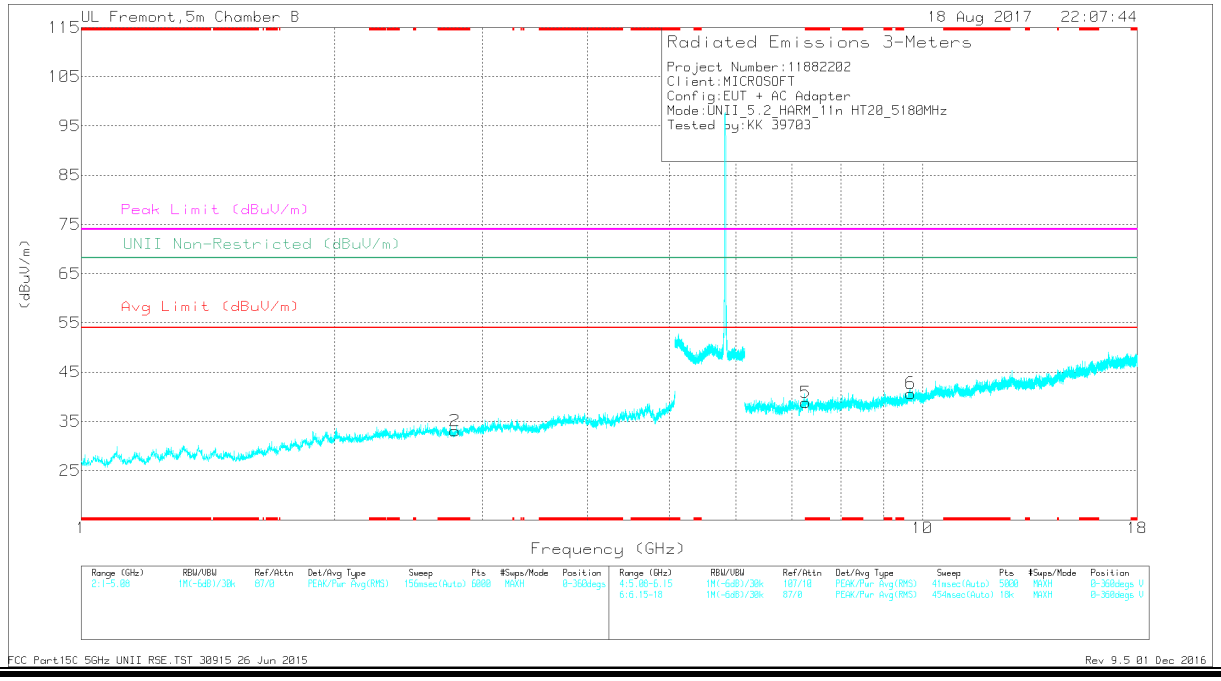
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.858	40.03	PK-U	33.5	-30.7	0	42.83	-	-	74	-31.17	-	-	165	201	V
	* 3.857	28.31	ADR	33.5	-30.8	0	31.01	54	-22.99	-	-	-	-	165	201	V
3	* 8.291	35.67	PK-U	36.1	-25.9	0	45.87	-	-	74	-28.13	-	-	165	104	H
	* 8.292	25.02	ADR	36.1	-25.9	0	35.22	54	-18.78	-	-	-	-	165	104	H
5	* 9.407	34.13	PK-U	36.6	-24.7	0	46.03	-	-	74	-27.97	-	-	197	104	V
	* 9.406	23.46	ADR	36.6	-24.8	0	35.26	54	-18.74	-	-	-	-	197	104	V
6	* 10.999	33.12	PK-U	37.7	-21.5	0	49.32	-	-	74	-24.68	-	-	282	199	V
	* 10.999	21.42	ADR	37.7	-21.5	0	37.62	54	-16.38	-	-	-	-	282	199	V
1	2.001	40.08	PK-U	31.3	-32.1	0	39.28	-	-	-	-	68.2	-28.92	209	101	H
4	12.73	32.43	PK-U	39.3	-22.1	0	49.63	-	-	-	-	68.2	-18.57	197	104	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



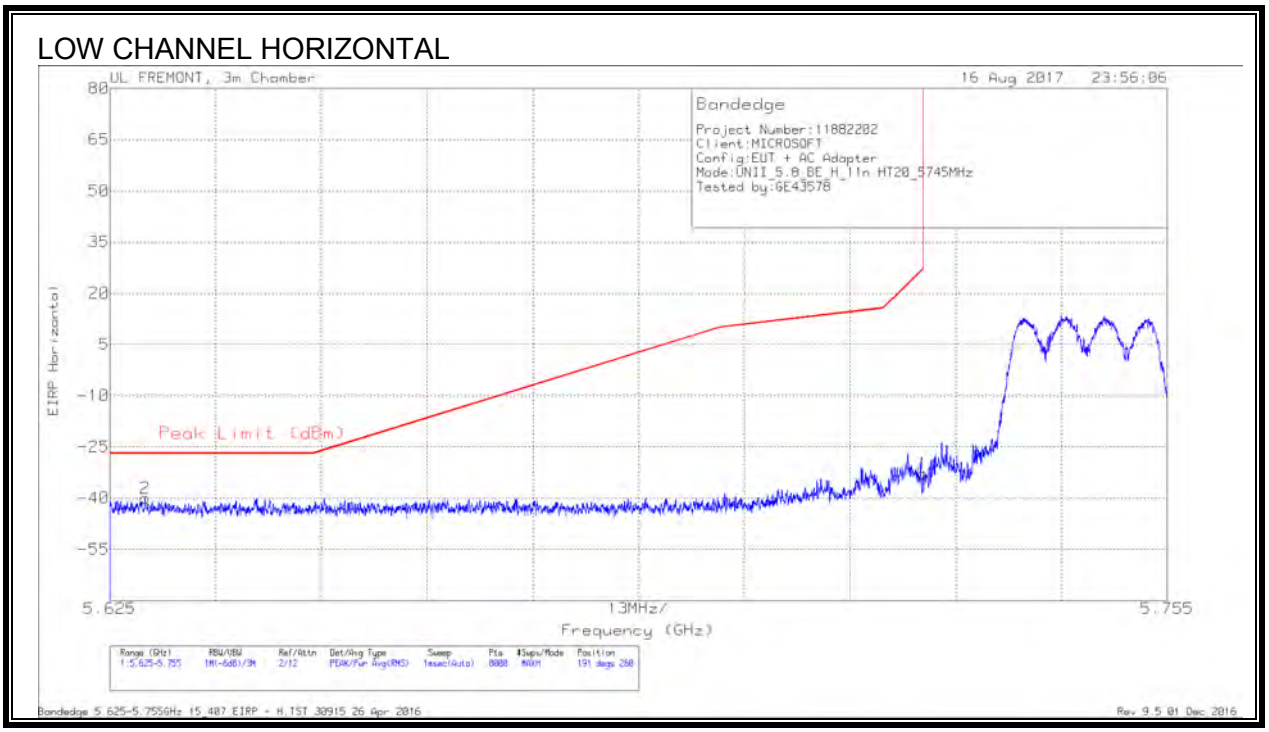
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.531	41.41	PK-U	27.9	-34.1	0	35.21	-	-	74	-38.79	-	-	360	101	H
	* 1.538	29.81	ADR	27.8	-34.1	0	23.51	54	-30.49	-	-	-	-	360	101	H
2	* 2.784	39.92	PK-U	32.4	-32.3	0	40.02	-	-	74	-33.98	-	-	170	200	V
	* 2.784	27.84	ADR	32.4	-32.3	0	27.94	54	-26.06	-	-	-	-	170	200	V
4	* 11	32.72	PK-U	37.7	-21.5	0	48.92	-	-	74	-25.08	-	-	260	104	H
	* 11.001	21.41	ADR	37.7	-21.5	0	37.61	54	-16.39	-	-	-	-	260	104	H
5	* 7.265	35.02	PK-U	35.8	-25.4	0	45.42	-	-	74	-28.58	-	-	244	104	V
	* 7.263	24.05	ADR	35.8	-25.4	0	34.45	54	-19.55	-	-	-	-	244	104	V
3	7.217	37.4	PK-U	35.8	-26.6	0	46.6	-	-	-	-	68.2	-21.6	200	200	H
6	9.685	34.33	PK-U	36.9	-24.5	0	46.73	-	-	-	-	68.2	-21.47	305	104	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

10.1.14. 11n HT20 2TX MODE IN THE 5.8GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

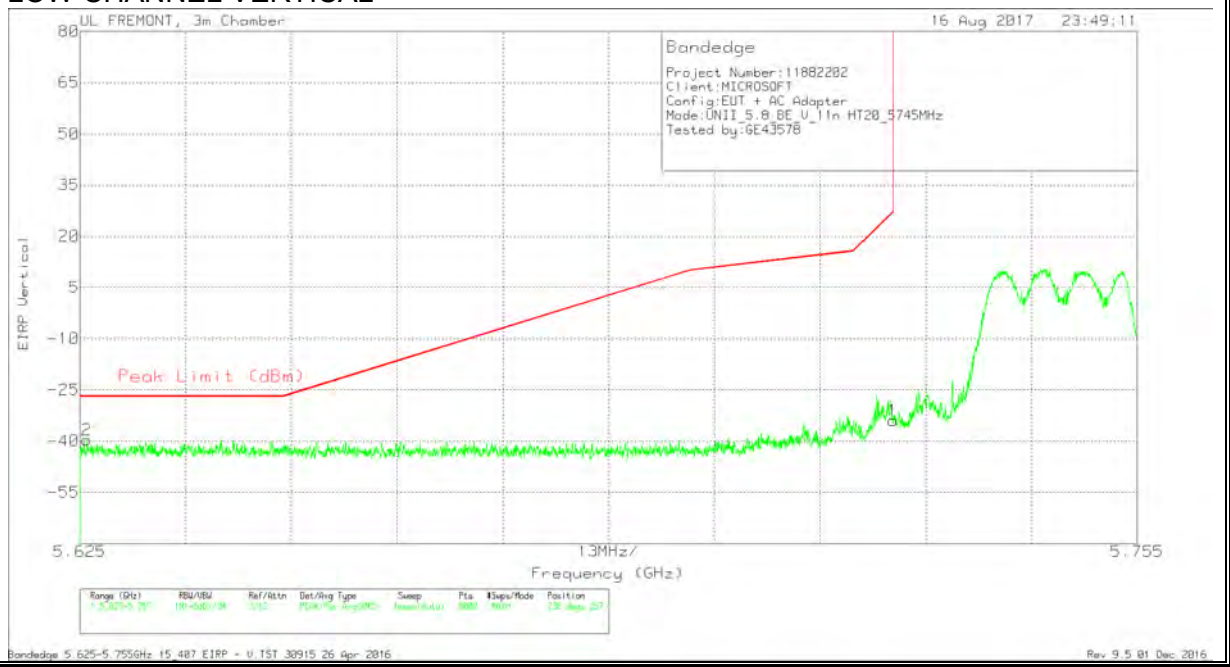
LOW CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.629	-67.53	Pk	34.6	-18.9	11.8	-40.03	-27	-13.03	191	260	H
1	5.725	-60.47	Pk	34.7	-18.9	11.8	-32.87	27	-59.87	191	260	H

Pk - Peak detector

LOW CHANNEL VERTICAL

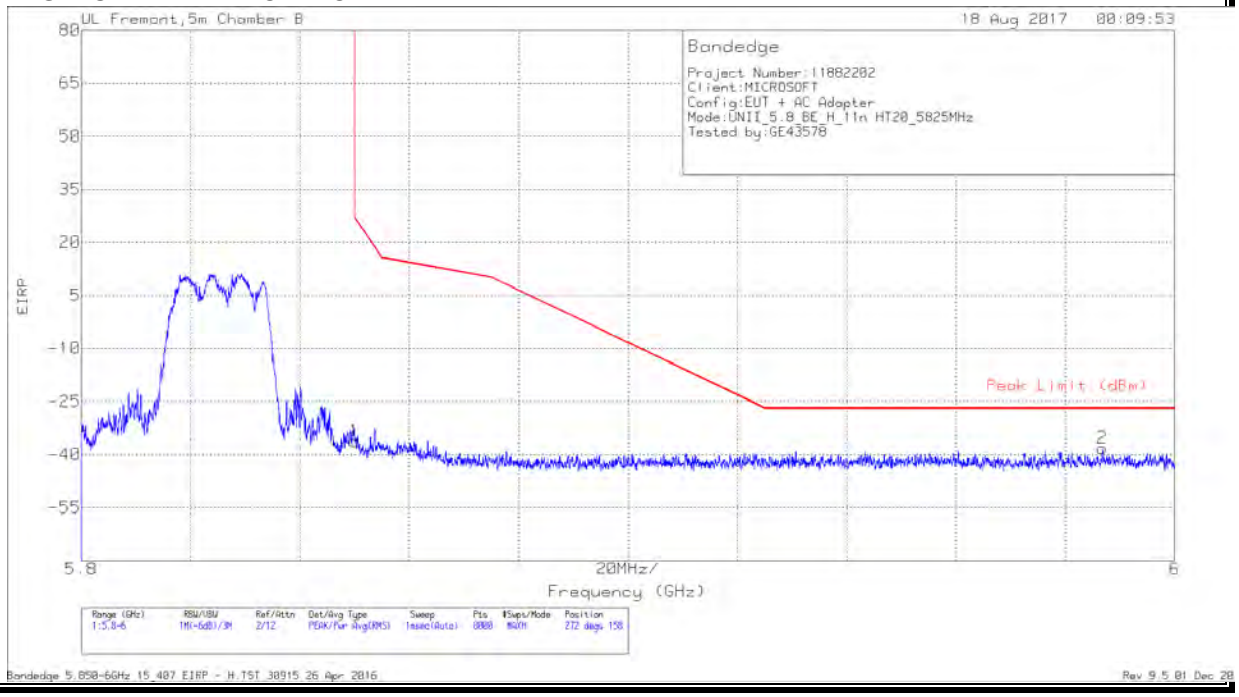


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.626	-67.04	Pk	34.6	-19	11.8	-39.64	-27	-12.64	238	267	V
1	5.725	-61.59	Pk	34.7	-18.9	11.8	-33.99	27	-60.99	238	267	V

Pk - Peak detector

AUTHORIZED BANDEDGE (HIGH CHANNEL)

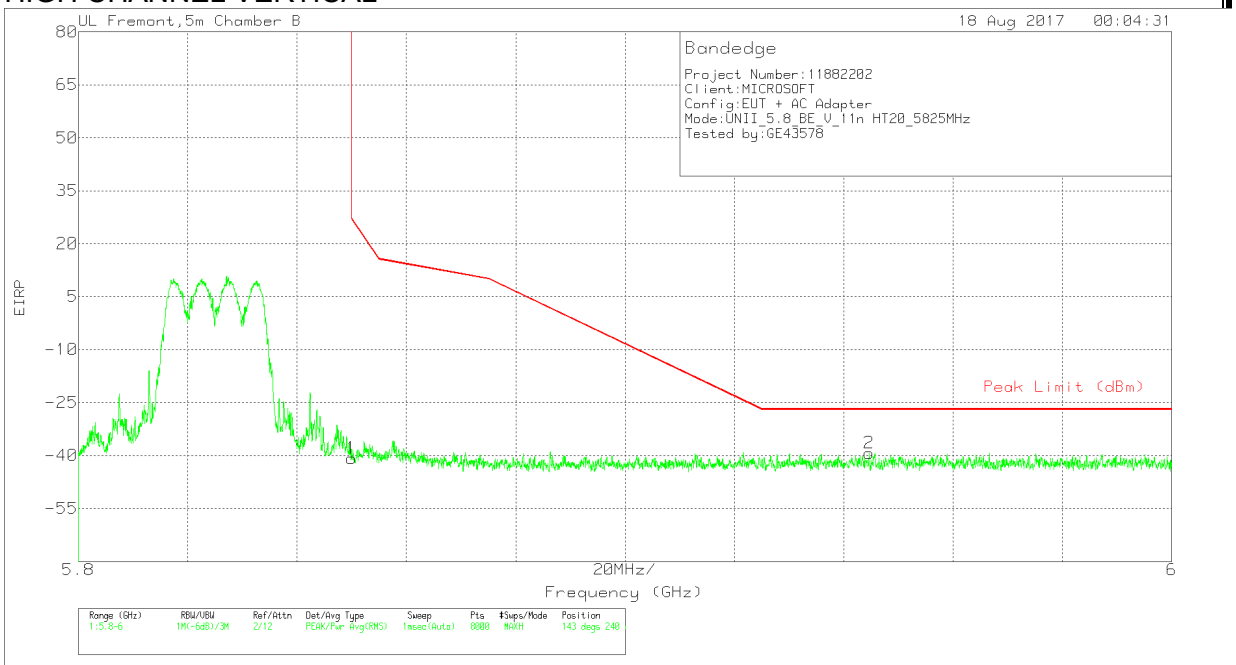
HIGH CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-63.84	Pk	35.1	-19.3	11.8	-36.24	26.99	-63.23	272	158	H
2	5.987	-66.64	Pk	35.3	-18.7	11.8	-38.24	-27	-11.24	272	158	H

Pk - Peak detector

HIGH CHANNEL VERTICAL

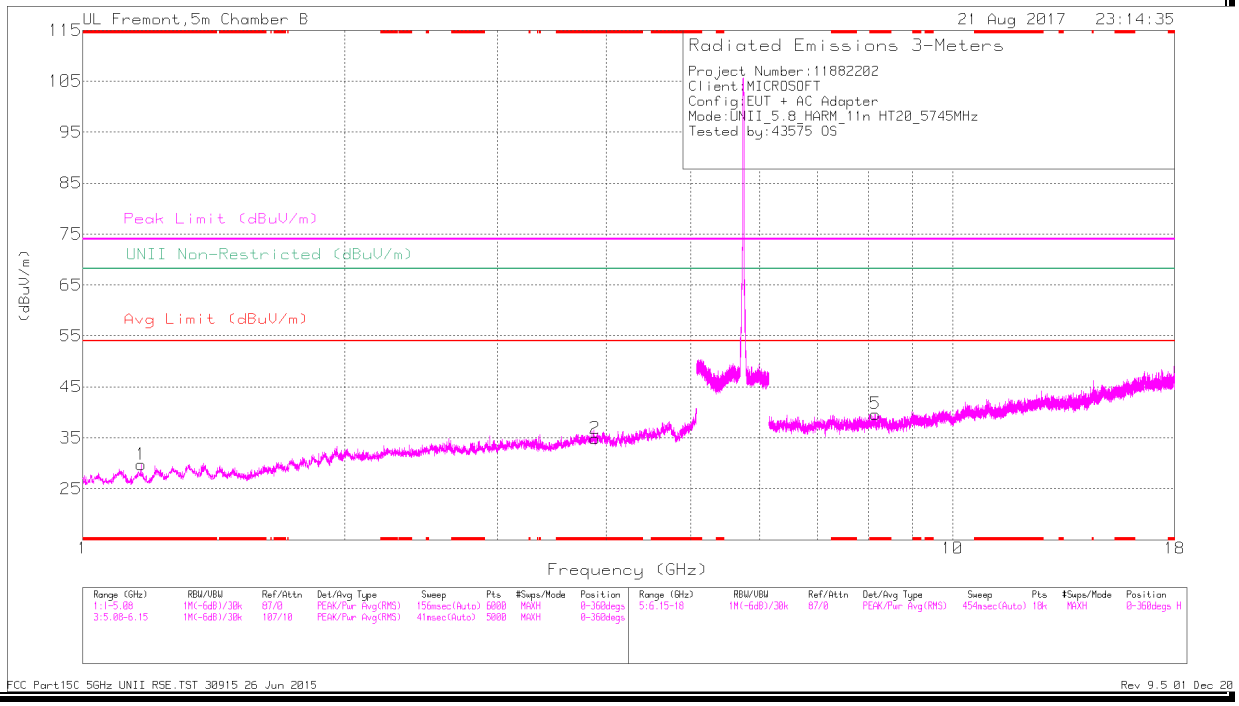


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-68.44	Pk	35.1	-19.3	11.8	-40.84	26.99	-67.83	143	240	V
2	5.945	-67.21	Pk	35.2	-19.1	11.8	-39.31	-27	-12.31	143	240	V

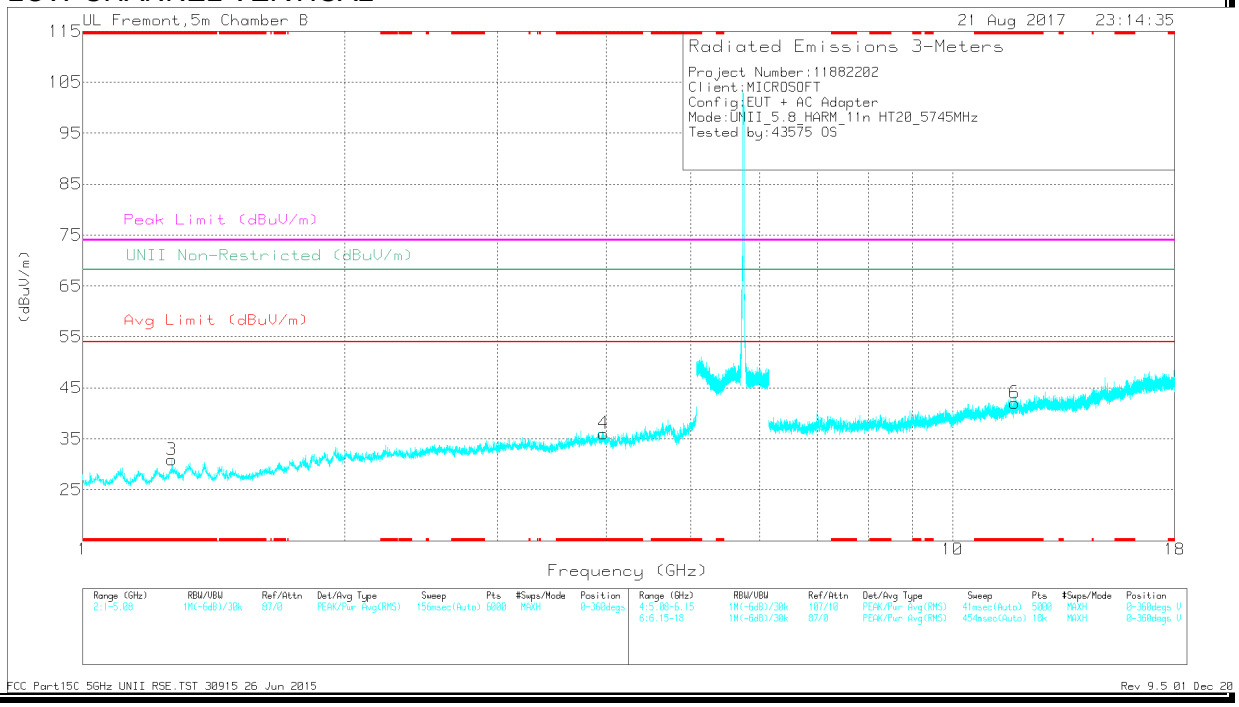
Pk - Peak detector

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



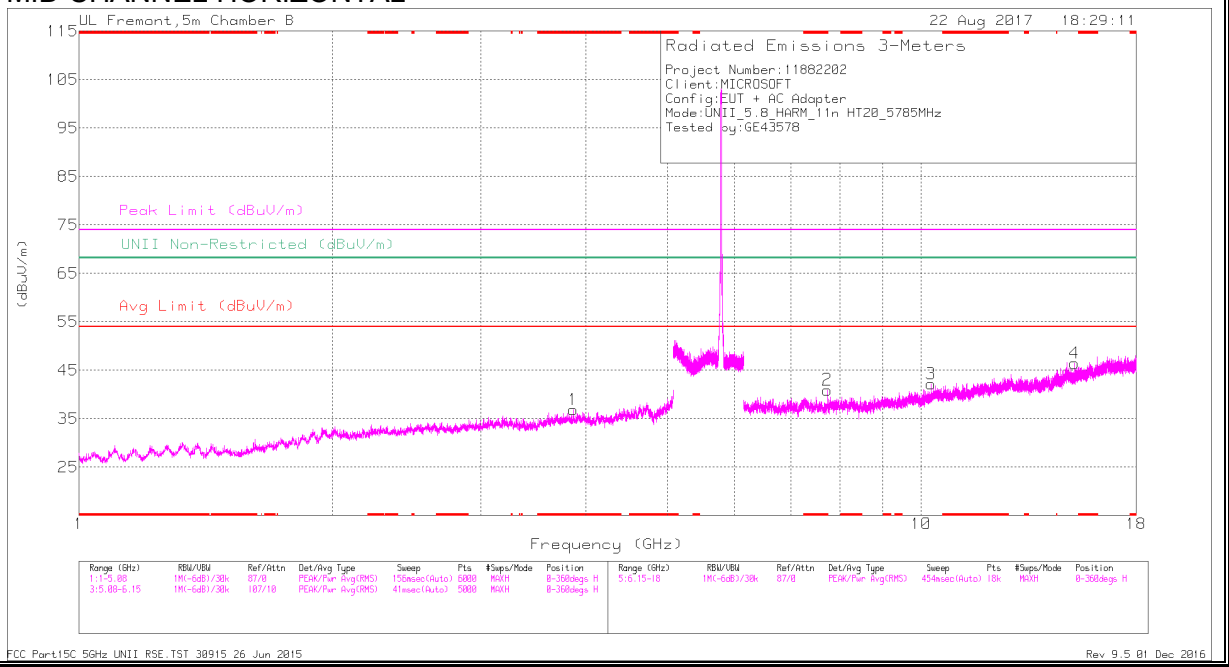
LOW CHANNEL VERTICAL



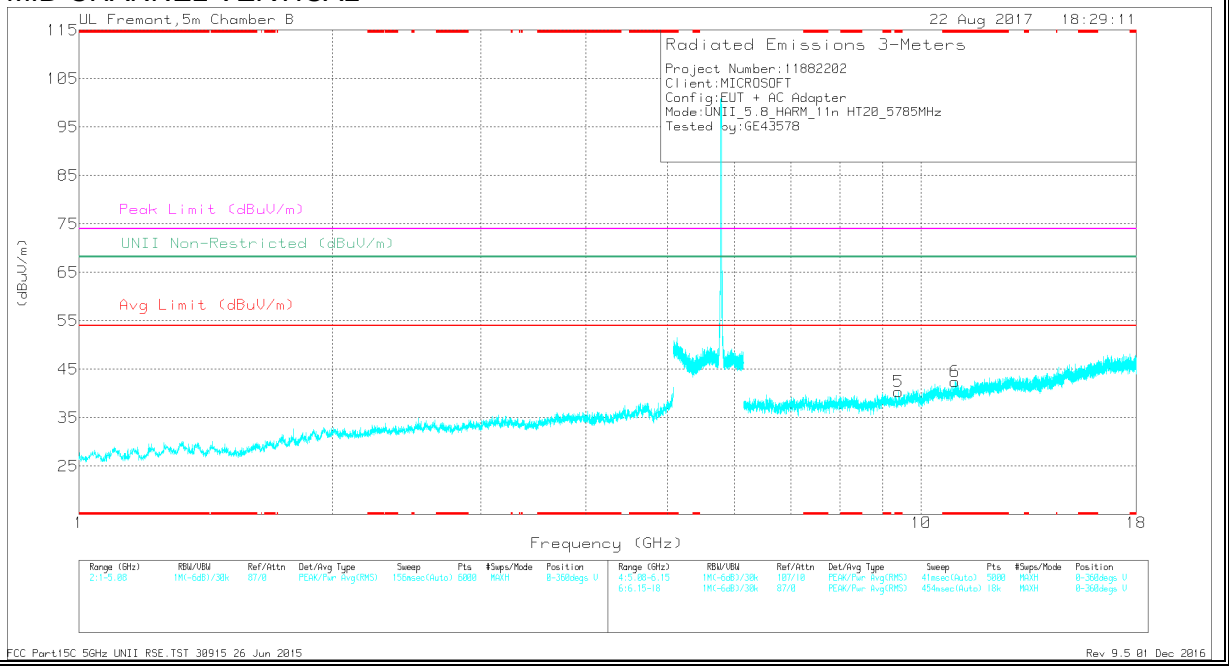
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.167	41.79	PK-U	27.7	-33.9	0	35.59	-	-	74	-38.41	-	-	131	295	H
	* 1.166	29.65	ADR	27.6	-33.9	0	23.35	54	-30.65	-	-	-	-	131	295	H
2	* 3.882	38.99	PK-U	33.5	-30.6	0	41.89	-	-	74	-32.11	-	-	91	181	H
	* 3.885	26.91	ADR	33.5	-30.6	0	29.81	54	-24.19	-	-	-	-	91	181	H
3	* 1.268	41.64	PK-U	28.8	-34.3	0	36.14	-	-	74	-37.86	-	-	1	378	V
	* 1.268	29.67	ADR	28.8	-34.3	0	24.17	54	-29.83	-	-	-	-	1	378	V
4	* 3.972	39.01	PK-U	33.5	-29.3	0	43.21	-	-	74	-30.79	-	-	314	319	V
	* 3.971	26.64	ADR	33.5	-29.3	0	30.84	54	-23.16	-	-	-	-	314	319	V
5	* 8.154	35.61	PK-U	36	-26.4	0	45.21	-	-	74	-28.79	-	-	359	367	H
	* 8.154	23.69	ADR	36	-26.4	0	33.29	54	-20.71	-	-	-	-	359	367	H
6	* 11.78	31.71	PK-U	38.6	-22.6	0	47.71	-	-	74	-26.29	-	-	356	214	V
	* 11.78	19.27	ADR	38.6	-22.6	0	35.27	54	-18.73	-	-	-	-	356	214	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

MID CHANNEL HORIZONTAL



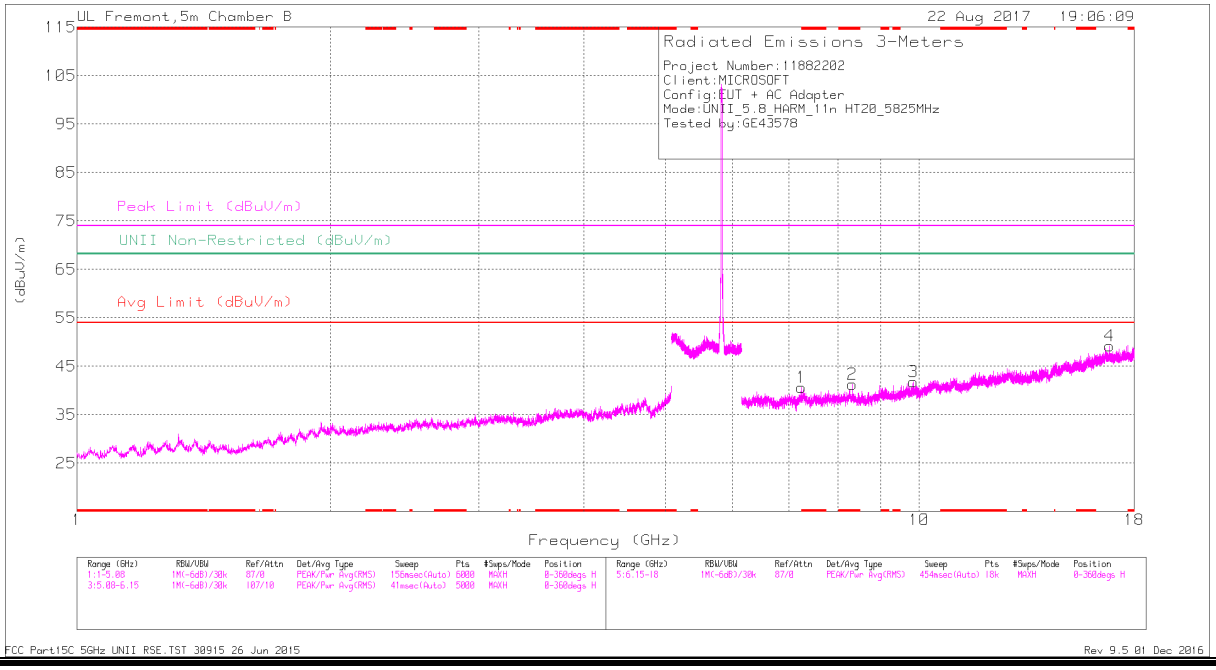
MID CHANNEL VERTICAL



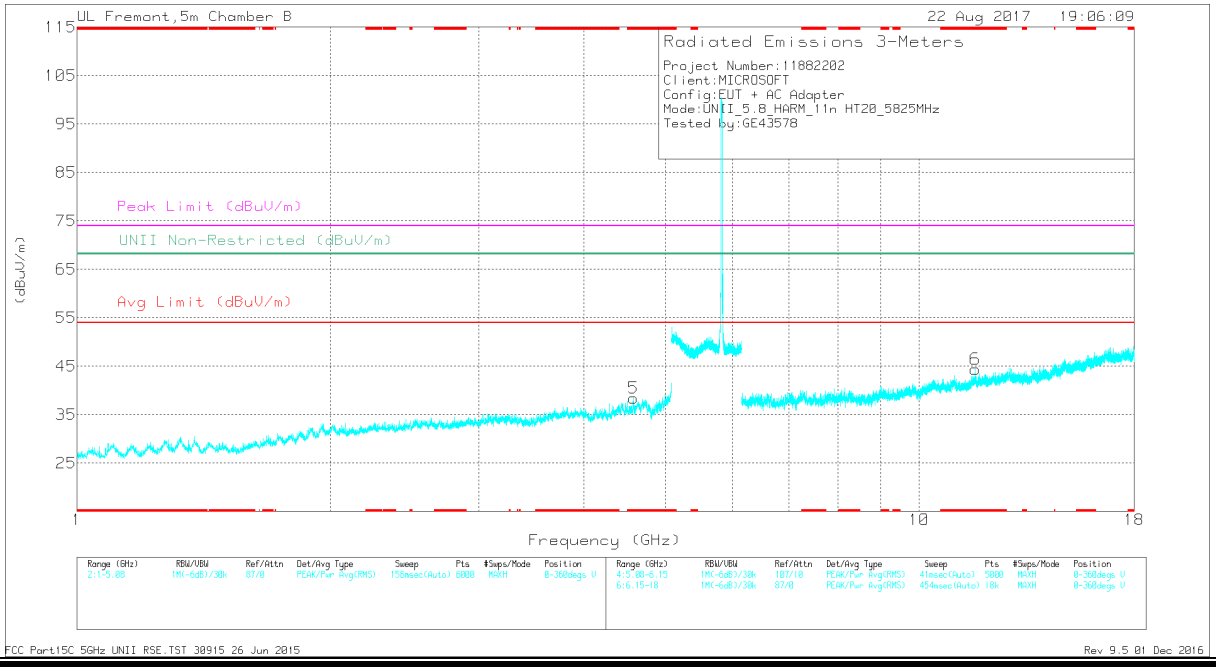
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.864	40.49	PK-U	33.5	-30.5	0	43.49	-	-	74	-30.51	-	-	253	199	H
	* 3.865	28.36	ADR	33.5	-30.5	0	31.36	54	-22.64	-	-	-	-	253	199	H
2	* 7.735	36	PK-U	36	-25.8	0	46.2	-	-	74	-27.8	-	-	158	199	H
	* 7.736	24.21	ADR	36	-25.8	0	34.41	54	-19.59	-	-	-	-	158	199	H
5	* 9.4	35	PK-U	36.5	-25.1	0	46.4	-	-	74	-27.6	-	-	298	199	V
	* 9.401	22.72	ADR	36.5	-25.1	0	34.12	54	-19.88	-	-	-	-	298	199	V
6	* 10.969	34.35	PK-U	37.7	-22.4	0	49.65	-	-	74	-24.35	-	-	77	104	V
	* 10.97	21.41	ADR	37.7	-22.4	0	36.71	54	-17.29	-	-	-	-	77	104	V
3	10.273	33.77	PK-U	37.4	-23.8	0	47.37	-	-	-	-	68.2	-20.83	150	104	H
4	15.217	31.95	PK-U	40.5	-20.3	0	52.15	-	-	-	-	68.2	-16.05	72	199	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



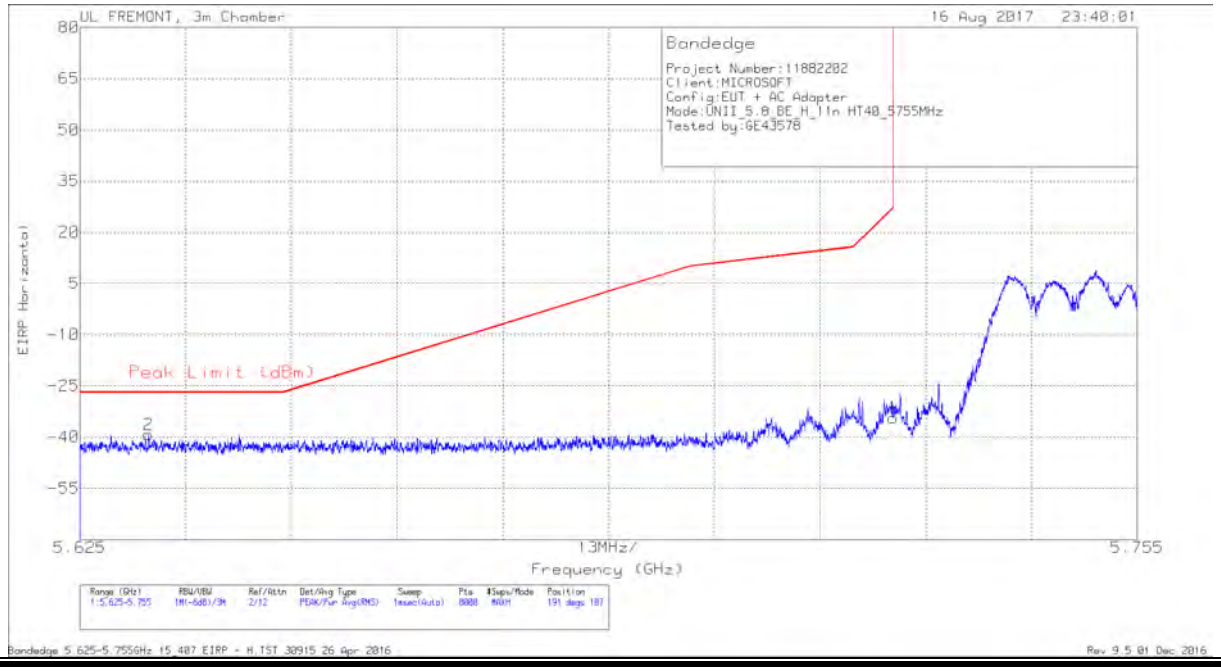
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 4.576	40.21	PK-U	34.3	-29.5	0	45.01	-	-	74	-28.99	-	-	176	101	V
	* 4.576	27.86	ADR	34.3	-29.5	0	32.66	54	-21.34	-	-	-	-	176	101	V
2	* 8.332	35.71	PK-U	36.1	-26.2	0	45.61	-	-	74	-28.39	-	-	16	104	H
	* 8.333	24.01	ADR	36.1	-26.2	0	33.91	54	-20.09	-	-	-	-	16	104	H
6	* 11.658	34.61	PK-U	38.3	-22	0	50.91	-	-	74	-23.09	-	-	213	200	V
	* 11.658	21.75	ADR	38.3	-22	0	38.05	54	-15.95	-	-	-	-	213	200	V
1	7.242	36.04	PK-U	35.8	-25.3	0	46.54	-	-	-	-	68.2	-21.66	184	199	H
3	9.838	33.79	PK-U	37	-23.3	0	47.49	-	-	-	-	68.2	-20.71	124	104	H
4	16.82	30.77	PK-U	42.3	-18.4	0	54.67	-	-	-	-	68.2	-13.53	109	104	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

10.1.15. 11n HT40 2TX MODE IN THE 5.8GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

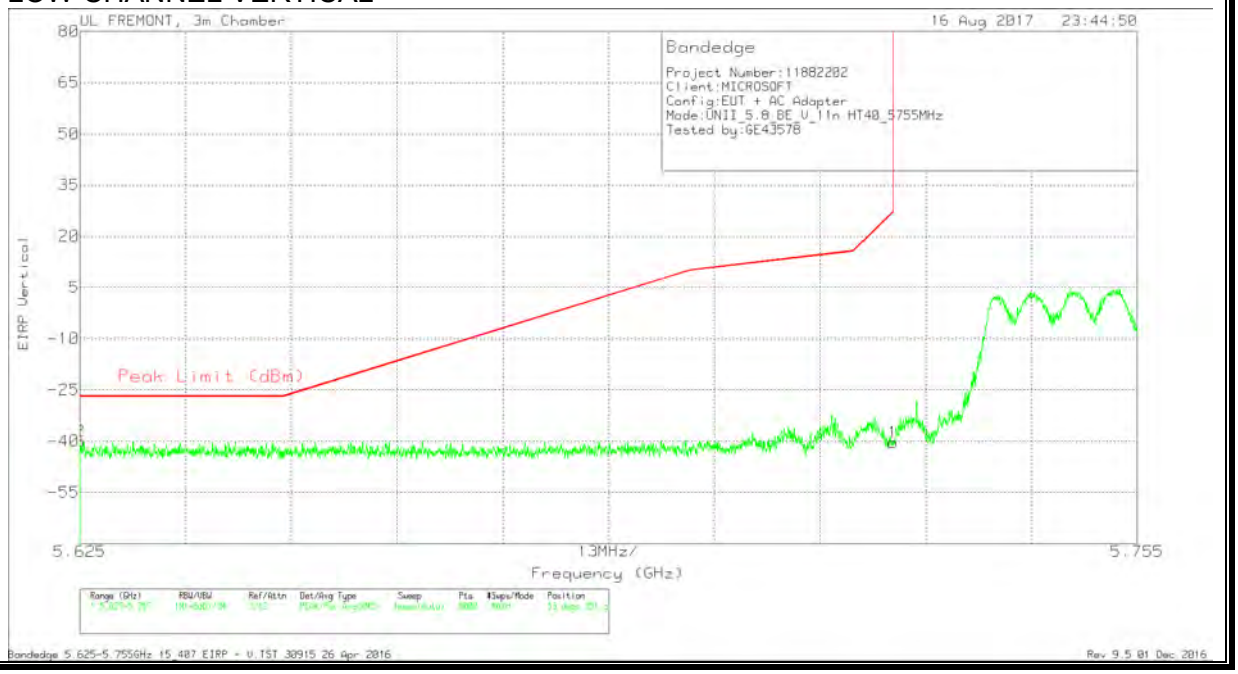
LOW CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.633	-66.9	Pk	34.6	-18.9	11.8	-39.4	-27	-12.4	191	187	H
1	5.725	-61.88	Pk	34.7	-18.9	11.8	-34.28	27	-61.28	191	187	H

Pk - Peak detector

LOW CHANNEL VERTICAL

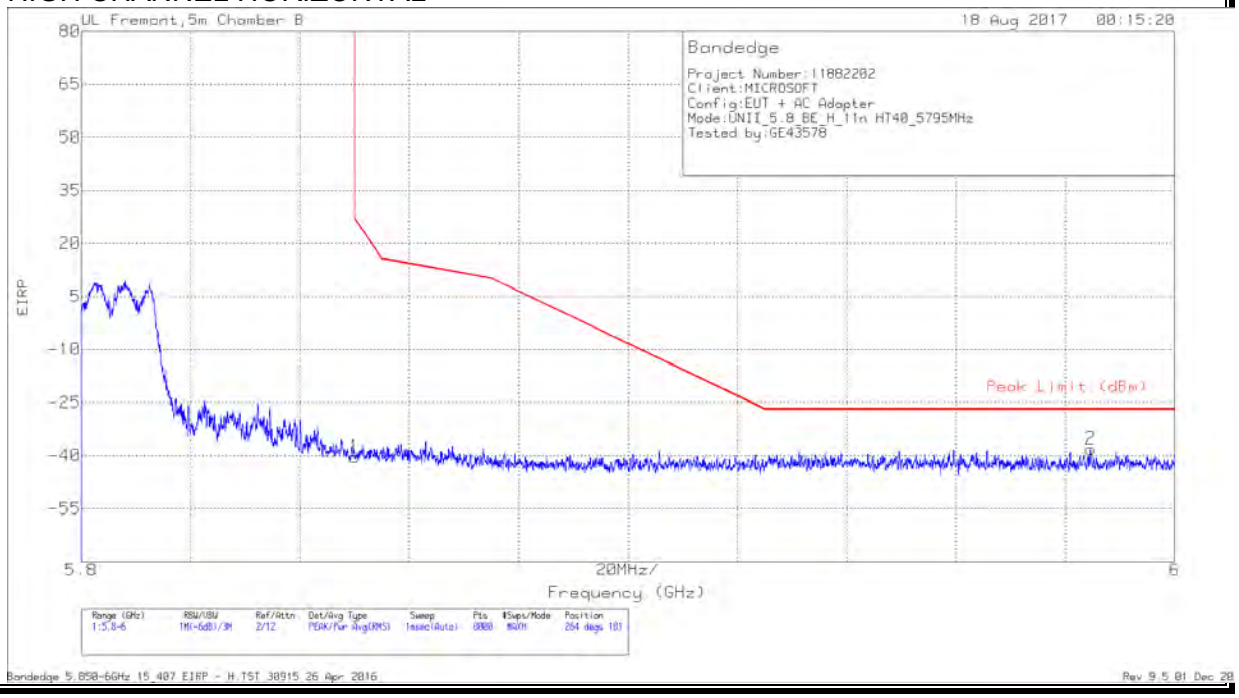


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.625	-67.4	Pk	34.6	-19	11.8	-40	-27	-13	53	251	V
1	5.725	-68.02	Pk	34.7	-18.9	11.8	-40.42	27	-67.42	53	251	V

Pk - Peak detector

AUTHORIZED BANDEDGE (HIGH CHANNEL)

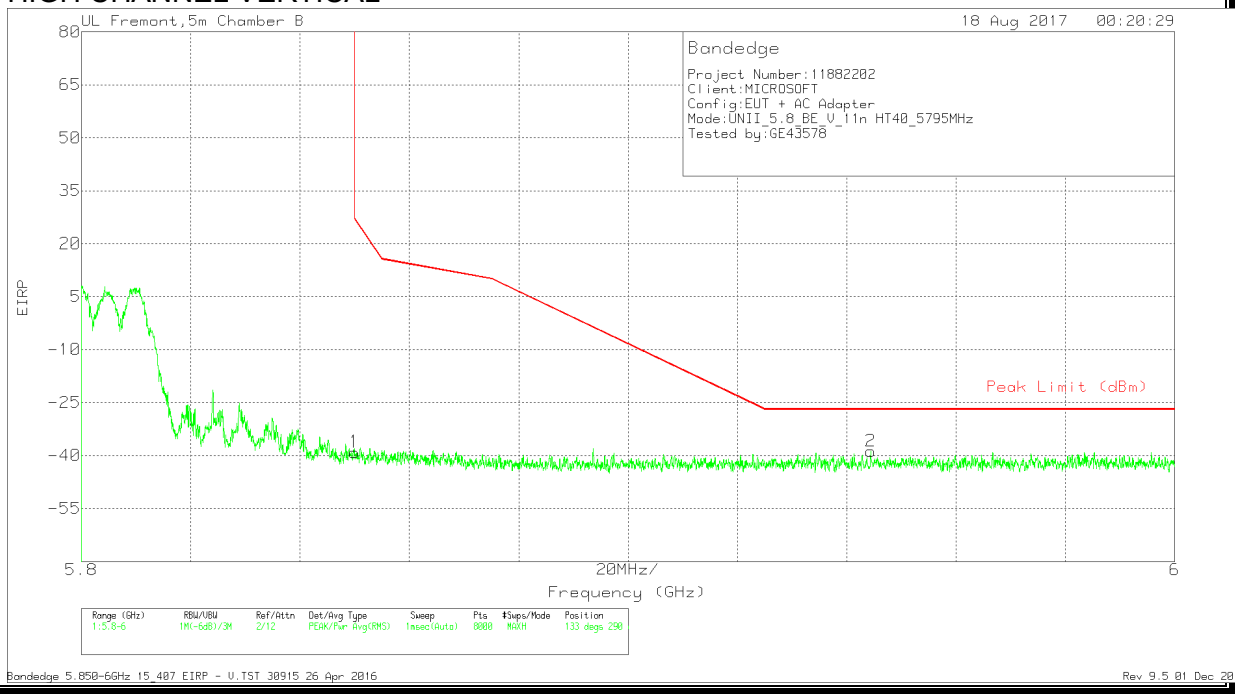
HIGH CHANNEL HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-67.94	Pk	35.1	-19.3	11.8	-40.34	26.99	-67.33	264	181	H
2	5.985	-66.43	Pk	35.3	-18.8	11.8	-38.13	-27	-11.13	264	181	H

Pk - Peak detector

HIGH CHANNEL VERTICAL

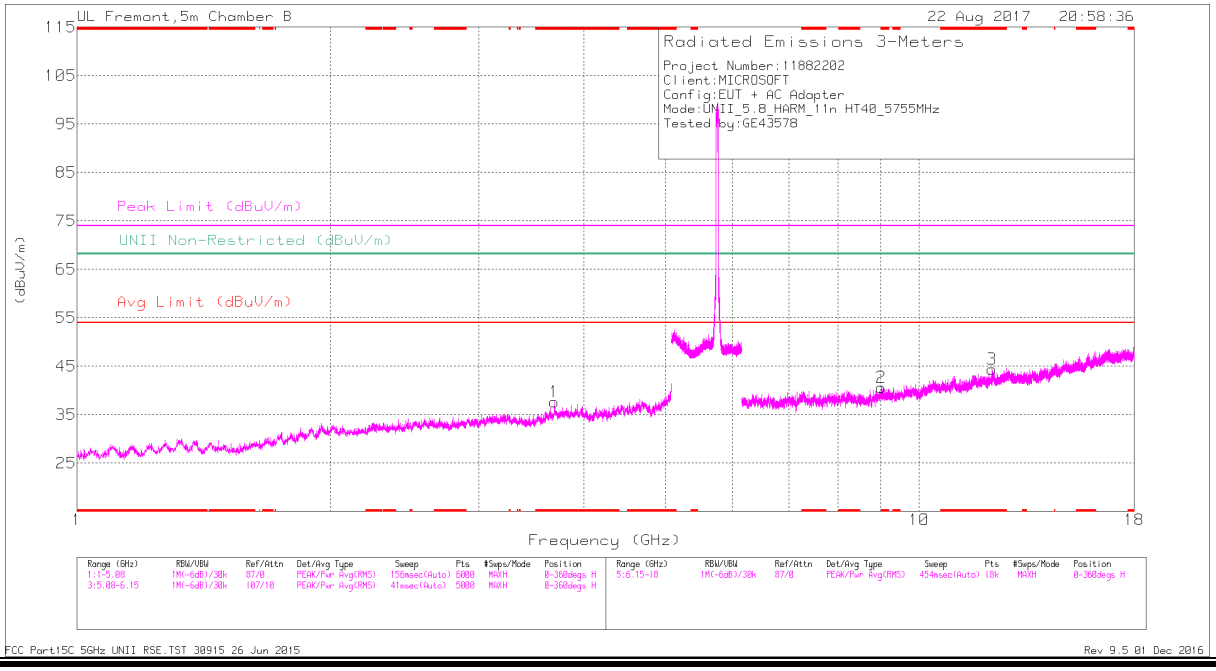


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-66.65	Pk	35.1	-19.3	11.8	-39.05	26.99	-66.04	133	290	V
2	5.944	-66.63	Pk	35.2	-19.1	11.8	-38.73	-27	-11.73	133	290	V

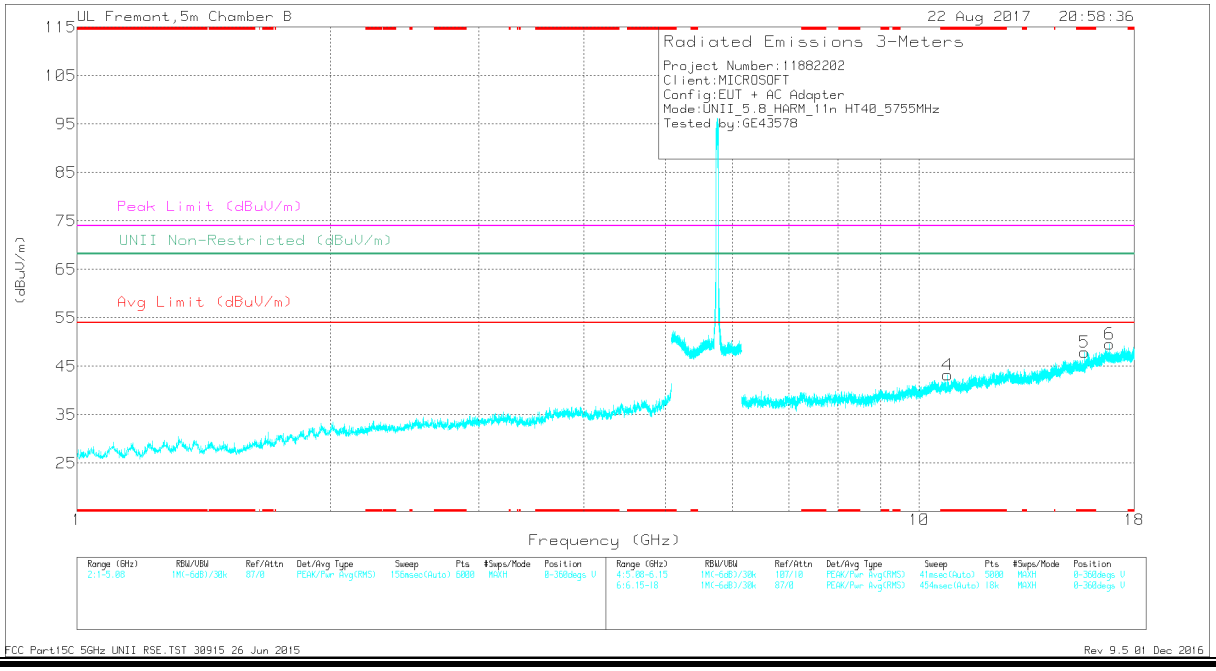
Pk - Peak detector

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



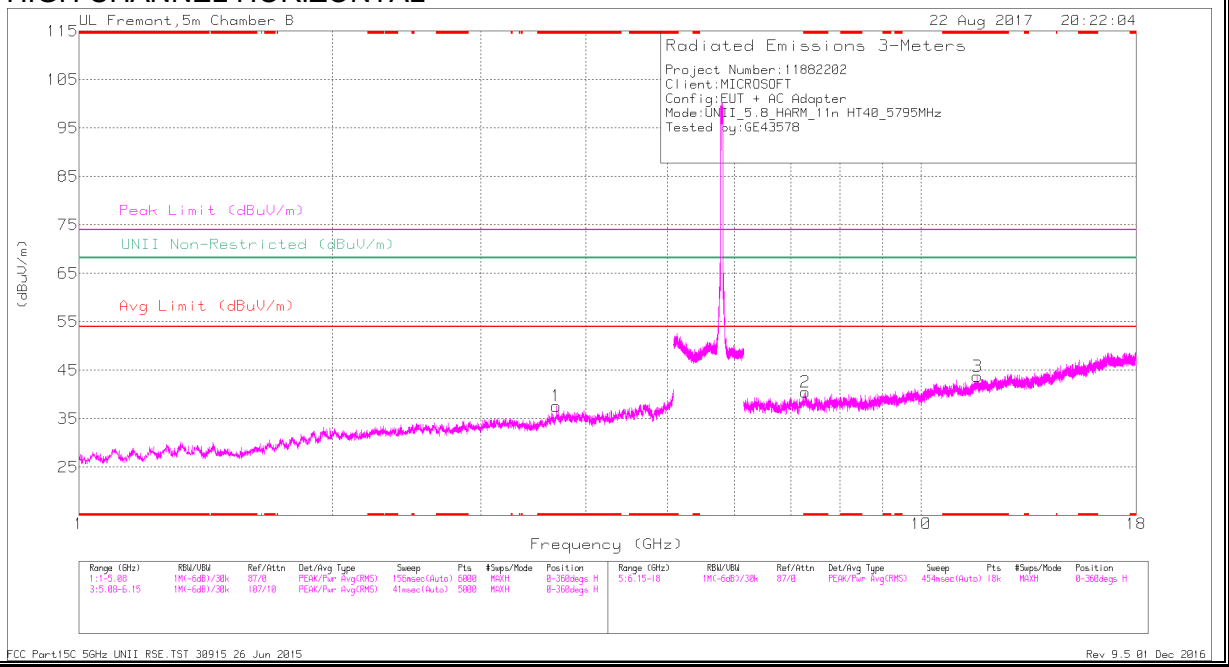
LOW CHANNEL VERTICAL



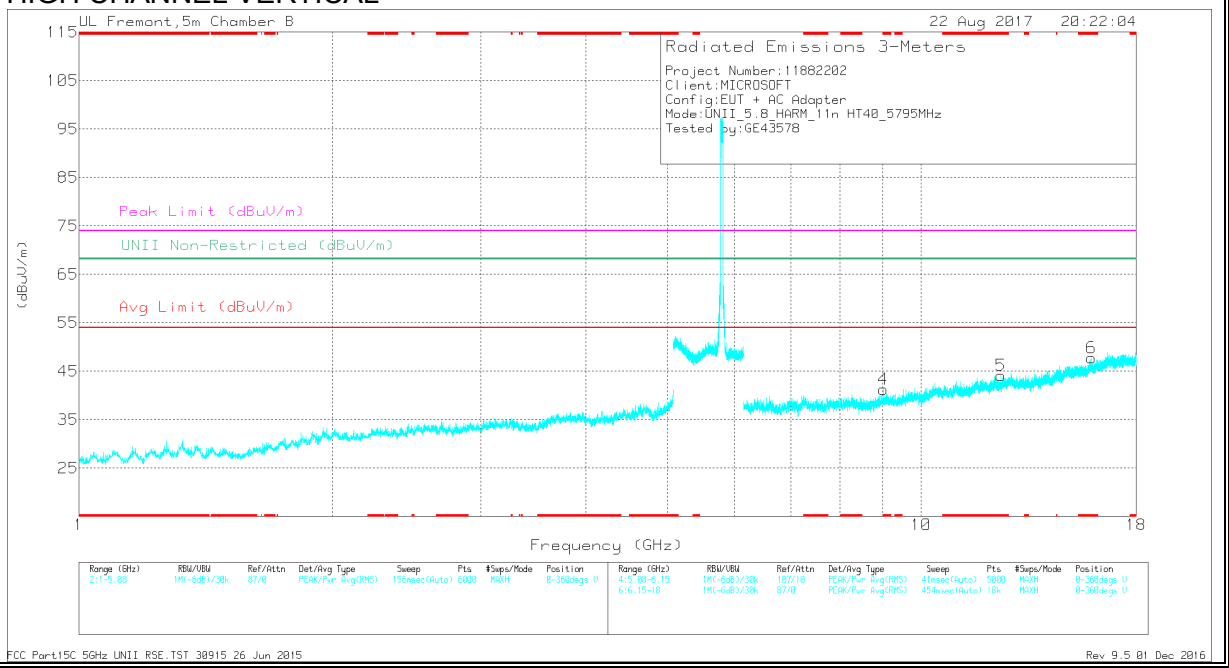
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.69	39.99	PK-U	33.2	-30.5	0	42.69	-	-	74	-31.31	-	-	28	199	H
	* 3.69	28.14	ADR	33.2	-30.6	0	30.74	54	-23.26	-	-	-	-	28	199	H
2	* 9.014	35.13	PK-U	36.2	-24.8	0	46.53	-	-	74	-27.47	-	-	52	199	H
	* 9.013	23.22	ADR	36.2	-24.7	0	34.72	54	-19.28	-	-	-	-	52	199	H
3	* 12.211	33.26	PK-U	39.1	-21.9	0	50.46	-	-	74	-23.54	-	-	102	199	H
	* 12.211	20.8	ADR	39.1	-21.9	0	38	54	-16	-	-	-	-	102	199	H
4	* 10.808	33.72	PK-U	37.7	-22.7	0	48.72	-	-	74	-25.28	-	-	121	199	V
	* 10.809	21.29	ADR	37.7	-22.7	0	36.29	54	-17.71	-	-	-	-	121	199	V
5	* 15.714	32.52	PK-U	40.8	-21.2	0	52.12	-	-	74	-21.88	-	-	243	104	V
	* 15.713	20.62	ADR	40.8	-21.2	0	40.22	54	-13.78	-	-	-	-	243	104	V
6	16.821	30.97	PK-U	42.3	-18.3	0	54.97	-	-	-	-	68.2	-13.23	0	104	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



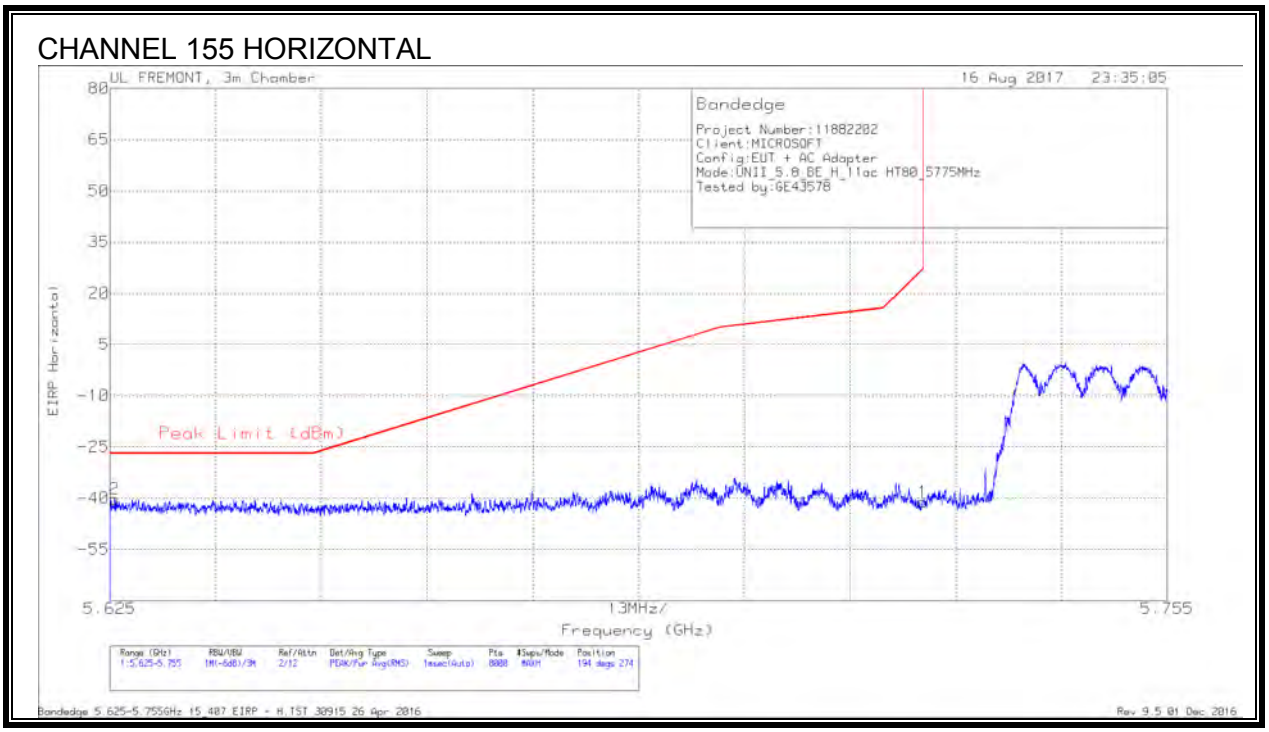
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.689	40.21	PK-U	33.2	-30.5	0	42.91	-	-	74	-31.09	-	-	155	199	H
	* 3.689	27.91	ADR	33.2	-30.5	0	30.61	54	-23.39	-	-	-	-	155	199	H
2	* 7.281	36.69	PK-U	35.8	-25.8	0	46.69	-	-	74	-27.31	-	-	128	104	H
	* 7.281	24.43	ADR	35.8	-25.8	0	34.43	54	-19.57	-	-	-	-	128	104	H
3	* 11.656	33.67	PK-U	38.3	-21.9	0	50.07	-	-	74	-23.93	-	-	245	104	H
	* 11.658	21.16	ADR	38.3	-22	0	37.46	54	-16.54	-	-	-	-	245	104	H
4	* 9.018	35.69	PK-U	36.2	-24.9	0	46.99	-	-	74	-27.01	-	-	32	200	V
	* 9.018	23.25	ADR	36.2	-24.9	0	34.55	54	-19.45	-	-	-	-	32	200	V
5	* 12.43	34.33	PK-U	39	-22.6	0	50.73	-	-	74	-23.27	-	-	198	200	V
	* 12.429	21.26	ADR	39	-22.6	0	37.66	54	-16.34	-	-	-	-	198	200	V
6	* 15.928	31.34	PK-U	41.1	-18.5	0	53.94	-	-	74	-20.06	-	-	148	200	V
	* 15.927	19.39	ADR	41.1	-18.5	0	41.99	54	-12.01	-	-	-	-	148	200	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

10.1.16. 11ac HT80 2TX MODE IN THE 5.8GHz BAND

RESTRICTED BANDEDGE (CHANNEL 155)

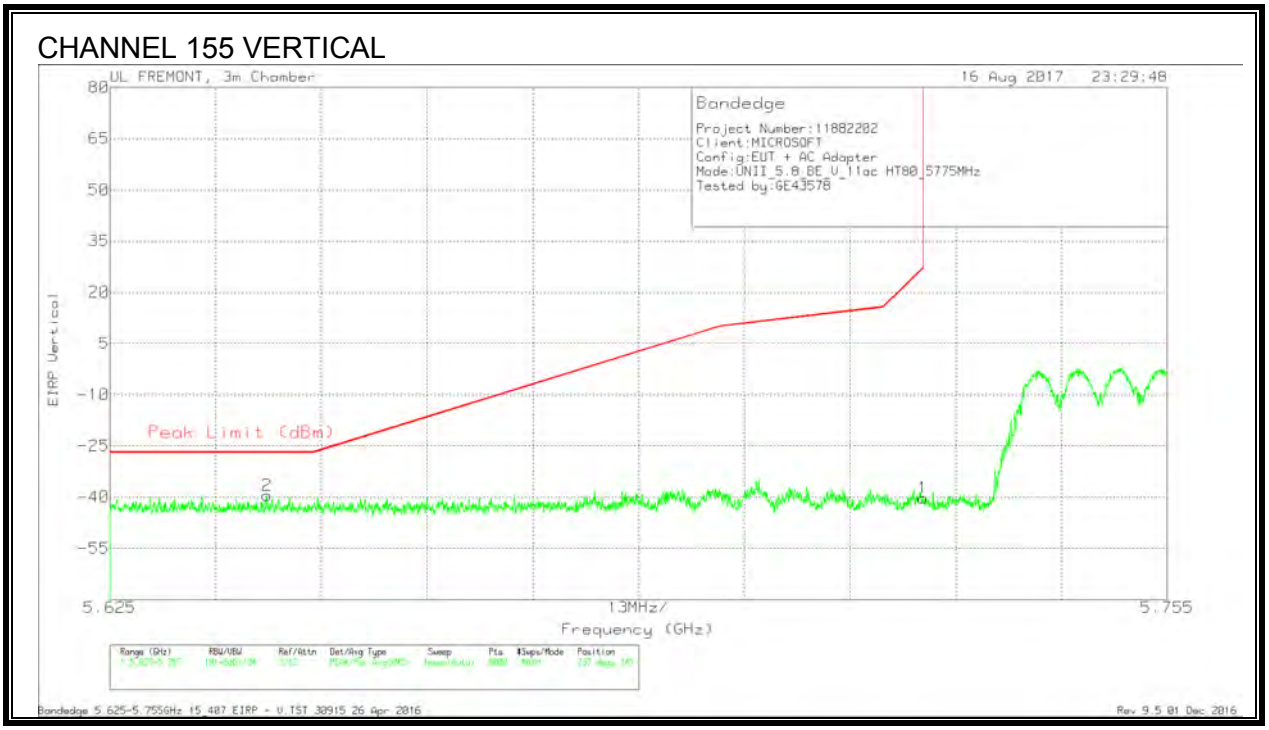
CHANNEL 155 HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.626	-67.73	Pk	34.6	-19	11.8	-40.33	-27	-13.33	194	274	H
1	5.725	-68.84	Pk	34.7	-18.9	11.8	-41.24	27	-68.24	194	274	H

Pk - Peak detector

CHANNEL 155 VERTICAL

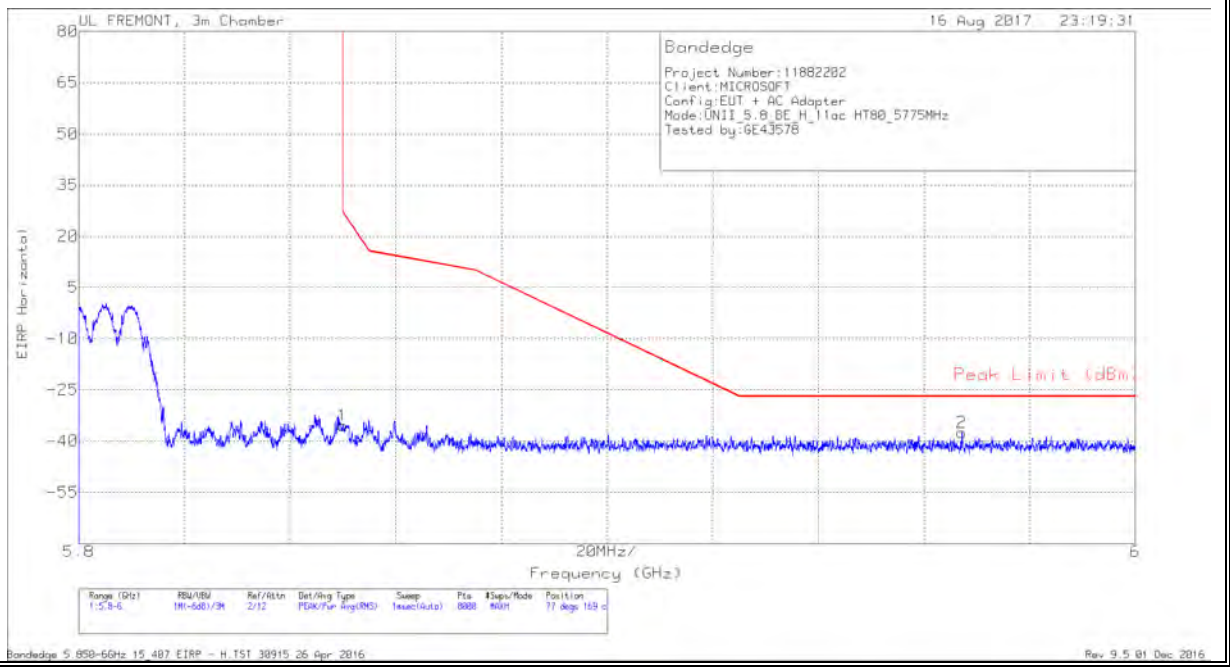


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.644	-67.08	Pk	34.6	-18.9	11.8	-39.58	-27	-12.58	237	345	V
1	5.725	-67.87	Pk	34.7	-18.9	11.8	-40.27	27	-67.27	237	345	V

Pk - Peak detector

AUTHORIZED BANDEDGE (CHANNEL 155)

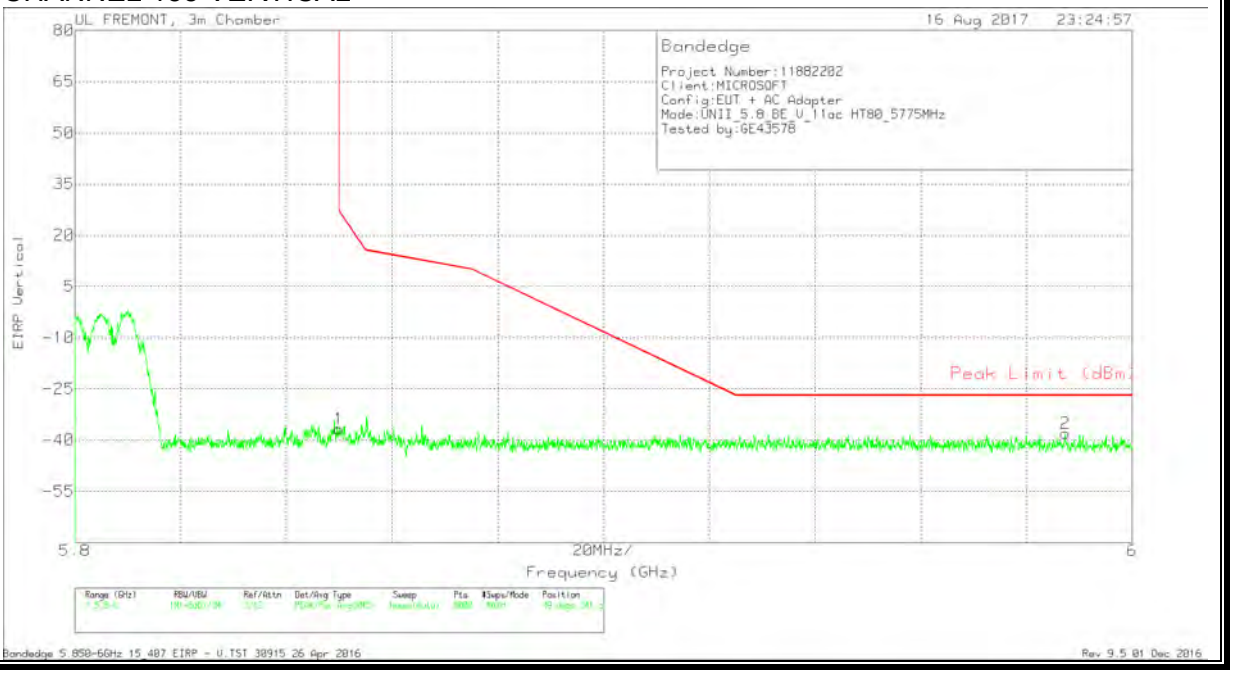
CHANNEL 155 HORIZONTAL



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-63.51	Pk	34.8	-18.6	11.8	-35.51	26.99	-62.5	77	169	H
2	5.967	-66.04	Pk	35.1	-18.3	11.8	-37.44	-27	-10.44	77	169	H

Pk - Peak detector

CHANNEL 155 VERTICAL

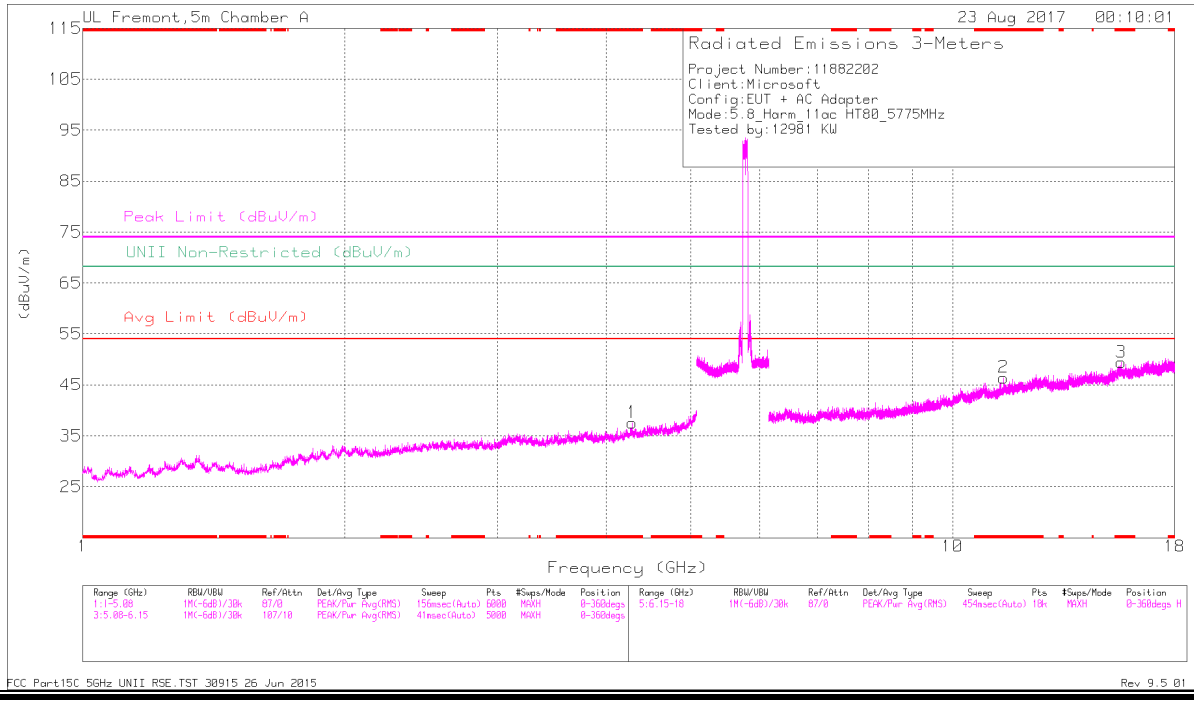


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T712 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-64.73	Pk	34.8	-18.6	11.8	-36.73	26.99	-63.72	49	241	V
2	5.987	-66.89	Pk	35.1	-18	11.8	-37.99	-27	-10.99	49	241	V

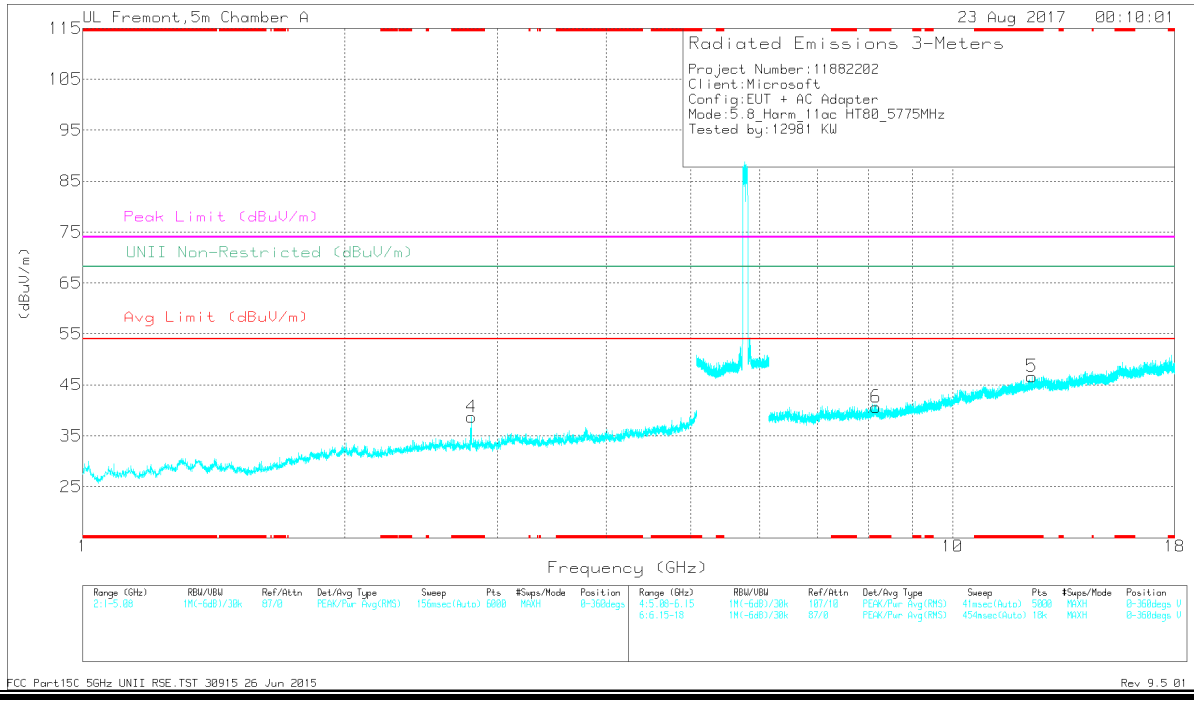
Pk - Peak detector

HARMONICS AND SPURIOUS EMISSIONS

CHANNEL 155 HORIZONTAL



CHANNEL 155 VERTICAL



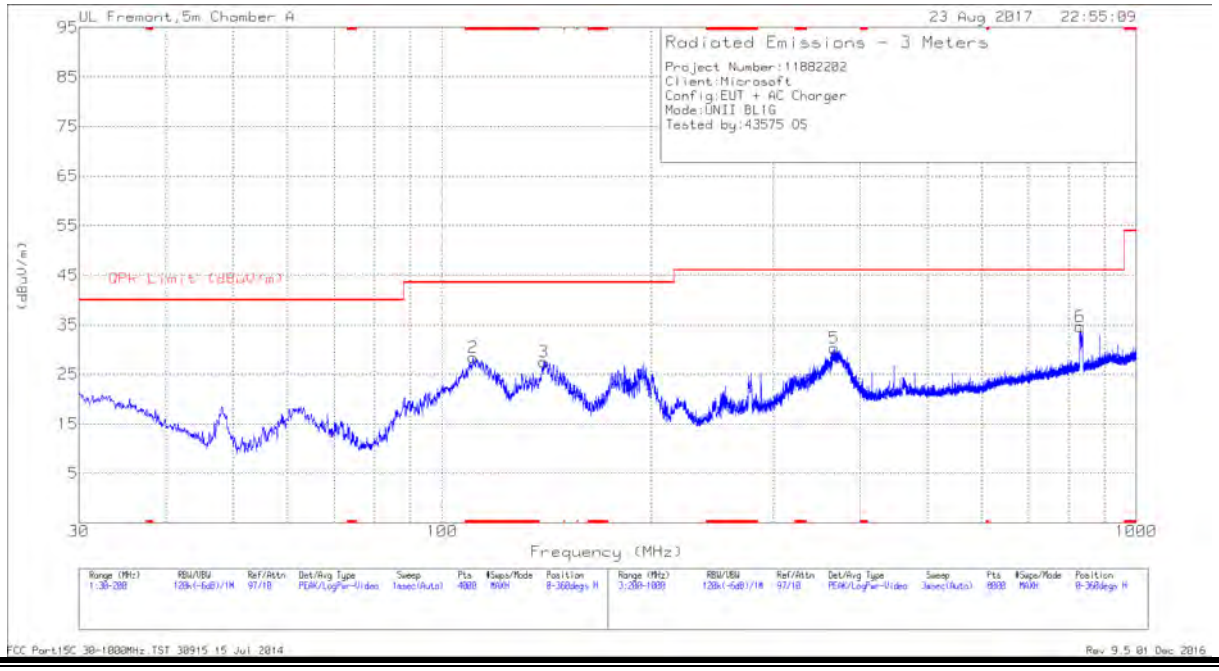
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.283	36.64	PK-U	33.6	-27.9	0	42.34	-	-	74	-31.66	-	-	347	101	H
	* 4.285	25.25	ADR	33.6	-27.9	0	30.95	54	-23.05	-	-	-	-	347	101	H
4	* 2.8	45.79	PK-U	32.2	-30.8	0	47.19	-	-	74	-26.81	-	-	304	200	V
	* 2.8	27.68	ADR	32.2	-30.8	0	29.08	54	-24.92	-	-	-	-	304	200	V
2	* 11.446	32.6	PK-U	38.2	-19.5	0	51.3	-	-	74	-22.7	-	-	335	200	H
	* 11.445	20.6	ADR	38.2	-19.5	0	39.3	54	-14.7	-	-	-	-	335	200	H
3	* 15.635	32.5	PK-U	40	-18	0	54.5	-	-	74	-19.5	-	-	53	200	H
	* 15.636	21.05	ADR	40	-18	0	43.05	54	-10.95	-	-	-	-	53	200	H
5	* 12.338	32.19	PK-U	38.9	-19.4	0	51.69	-	-	74	-22.31	-	-	110	102	V
	* 12.335	20.58	ADR	38.9	-19.4	0	40.08	54	-13.92	-	-	-	-	110	102	V
6	* 8.165	33.02	PK-U	35.8	-22.4	0	46.42	-	-	74	-27.58	-	-	36	200	V
	* 8.167	21.62	ADR	35.8	-22.5	0	34.92	54	-19.08	-	-	-	-	36	200	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

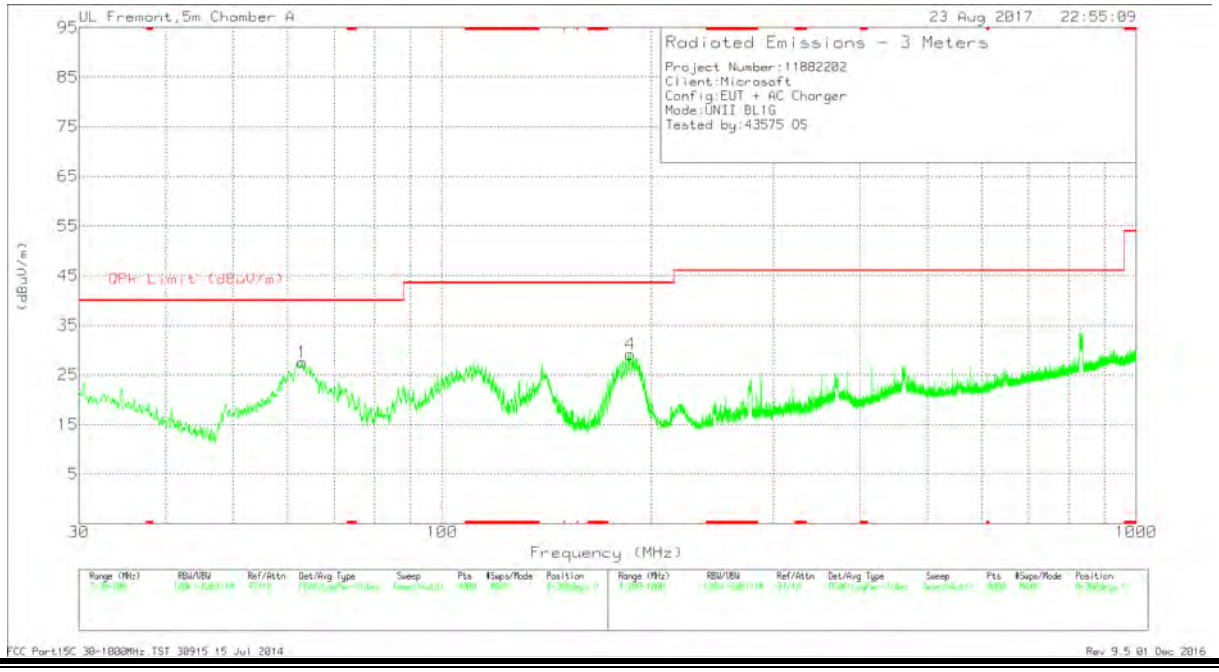
10.2. WORST-CASE BELOW 1 GHz

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

HORIZONTAL PLOT



VERTICAL PLOT



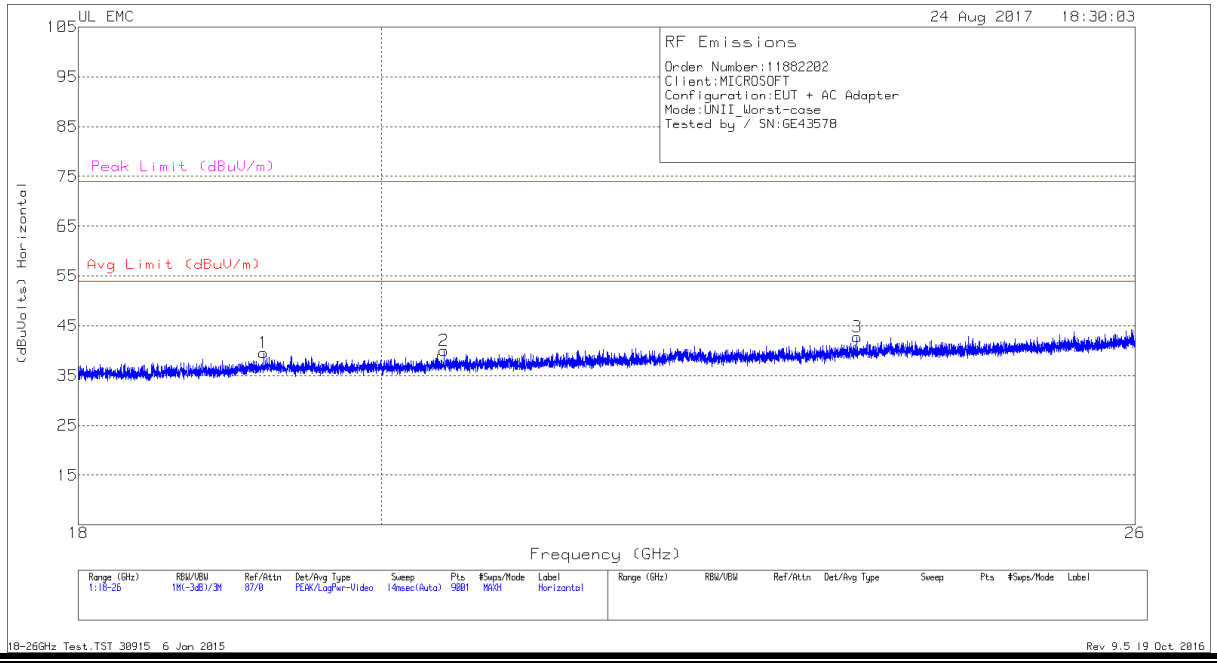
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T130 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	830.0889	31.4	Qp	25.7	-28	29.1	46.02	-16.92	251	106	H
2	* 110.8984	42.11	Pk	16.8	-30.5	28.41	43.52	-15.11	0-360	300	H
1	62.861	46.18	Pk	12.1	-30.8	27.48	40	-12.52	0-360	100	V
3	140.1035	40.46	Pk	17.3	-30.3	27.46	43.52	-16.06	0-360	200	H
4	186.6955	43.86	Pk	15.3	-30	29.16	43.52	-14.36	0-360	100	V
5	367.1217	40.67	Pk	18.8	-29.2	30.27	46.02	-15.75	0-360	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Qp - Quasi-Peak detector
Pk - Peak detector

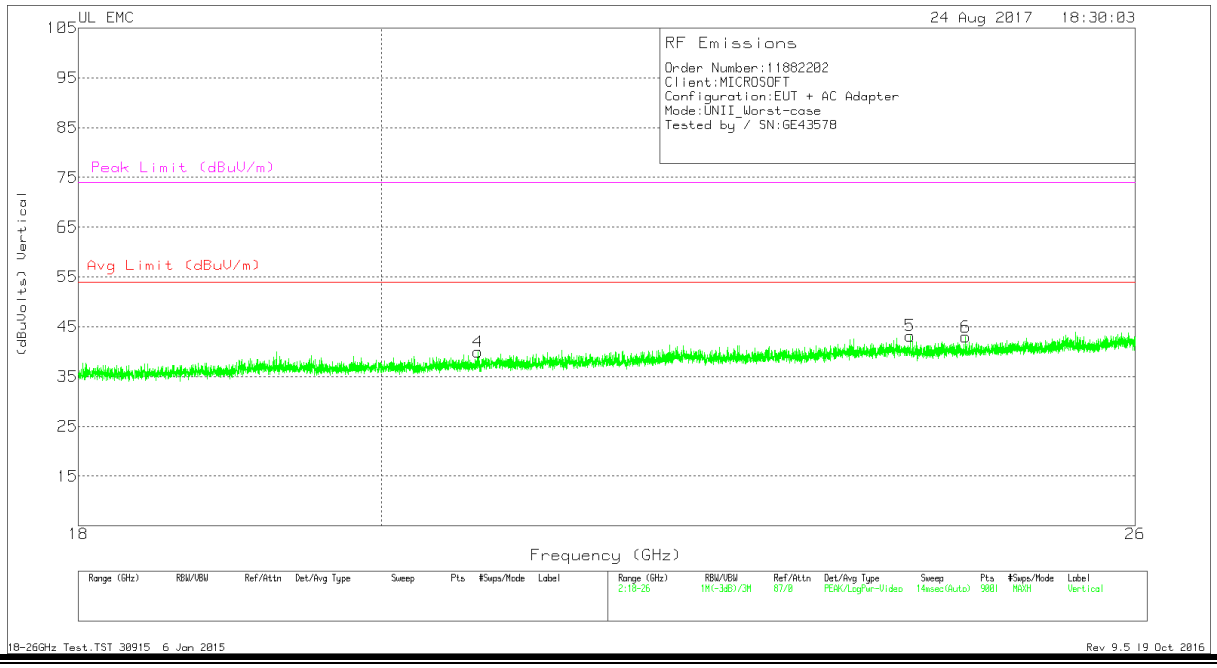
10.3. WORST-CASE 18 to 26 GHz

SPURIOUS EMISSIONS 18 TO 26 GHz (WORST-CASE CONFIGURATION)

HORIZONTAL PLOT



VERTICAL PLOT



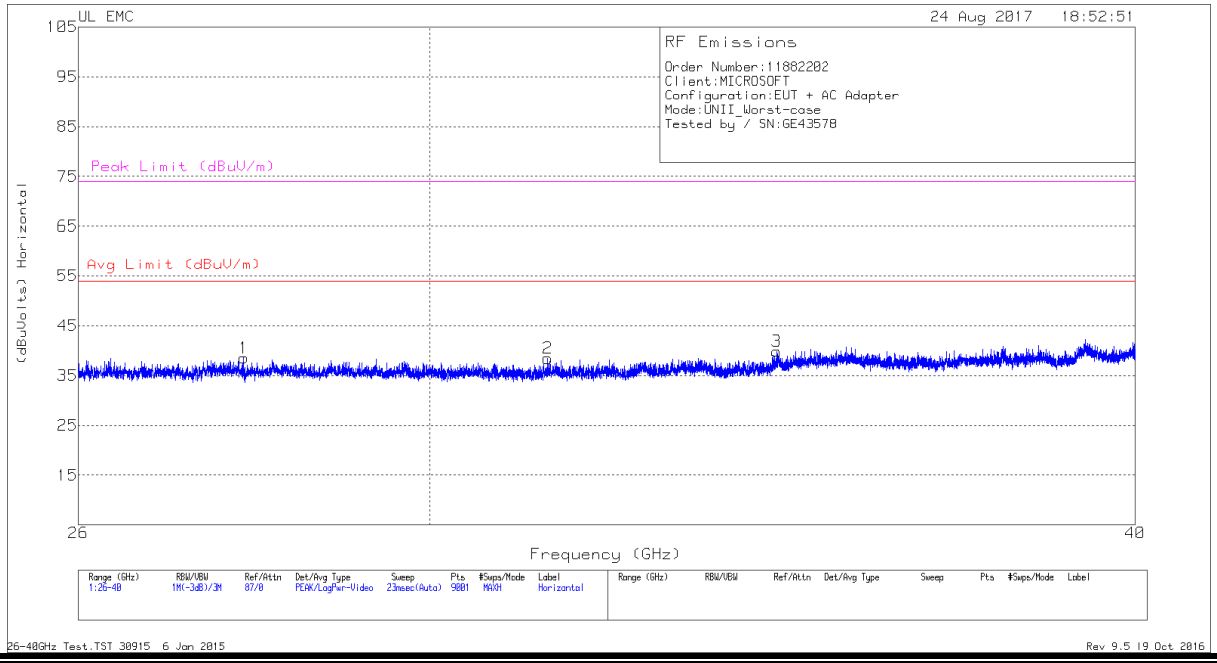
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T449 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	19.197	37.97	Pk	32.6	-21.5	-9.5	39.57	54	-14.43	74	-34.43
2	20.442	38.41	Pk	33.1	-22	-9.5	40.01	54	-13.99	74	-33.99
3	23.601	39.06	Pk	33.9	-20.7	-9.5	42.76	54	-11.24	74	-31.24
4	20.685	38.16	Pk	33	-21.7	-9.5	39.96	54	-14.04	74	-34.04
5	24.041	38.86	Pk	33.9	-20.1	-9.5	43.16	54	-10.84	74	-30.84
6	24.509	38.69	Pk	34	-20.2	-9.5	42.99	54	-11.01	74	-31.01

Pk - Peak detector

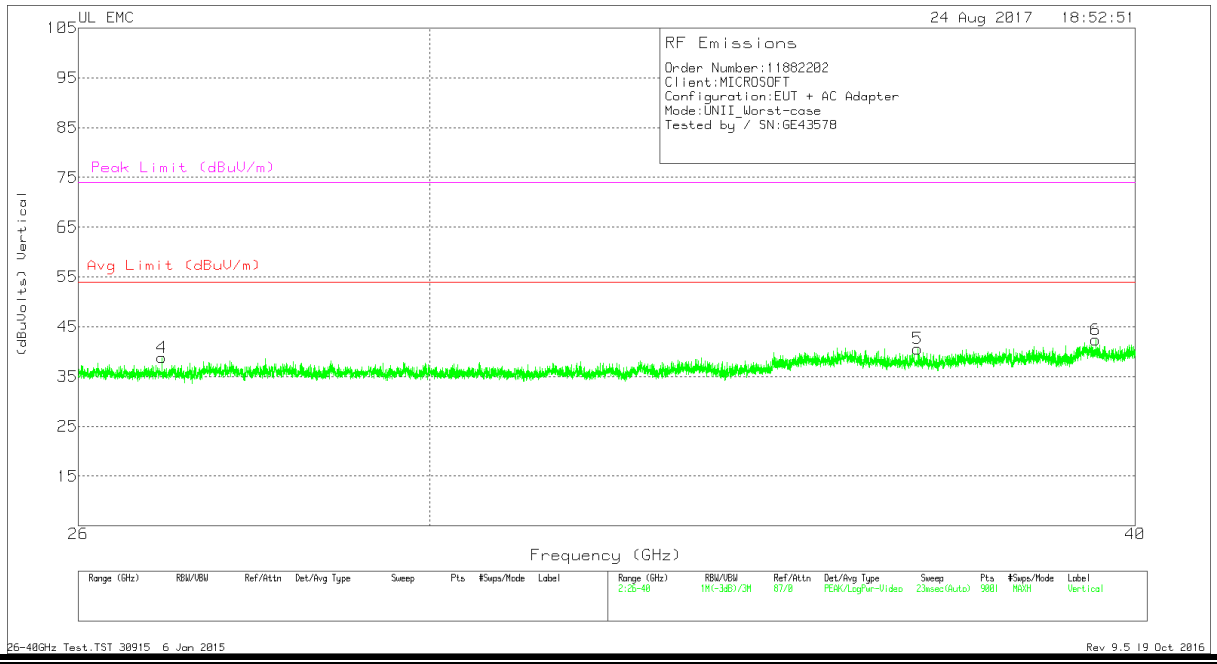
10.4. WORST-CASE 26 to 40 GHz

SPURIOUS EMISSIONS 26 TO 40 GHz (WORST-CASE CONFIGURATION)

HORIZONTAL PLOT



VERTICAL PLOT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T90 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	27.811	44.18	Pk	35.8	-31.9	-9.5	38.58	54	-15.42	74	-35.42
2	31.48	45.16	Pk	36.2	-33.4	-9.5	38.46	54	-15.54	74	-35.54
3	34.56	45.79	Pk	37.4	-33.8	-9.5	39.89	54	-14.11	74	-34.11
4	26.899	44.43	Pk	35.4	-31.5	-9.5	38.83	54	-15.17	74	-35.17
5	36.603	47.9	Pk	37.1	-34.9	-9.5	40.6	54	-13.4	74	-33.4
6	39.358	46.09	Pk	38.1	-32.3	-9.5	42.39	54	-11.61	74	-31.61

Pk - Peak detector

11. 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.

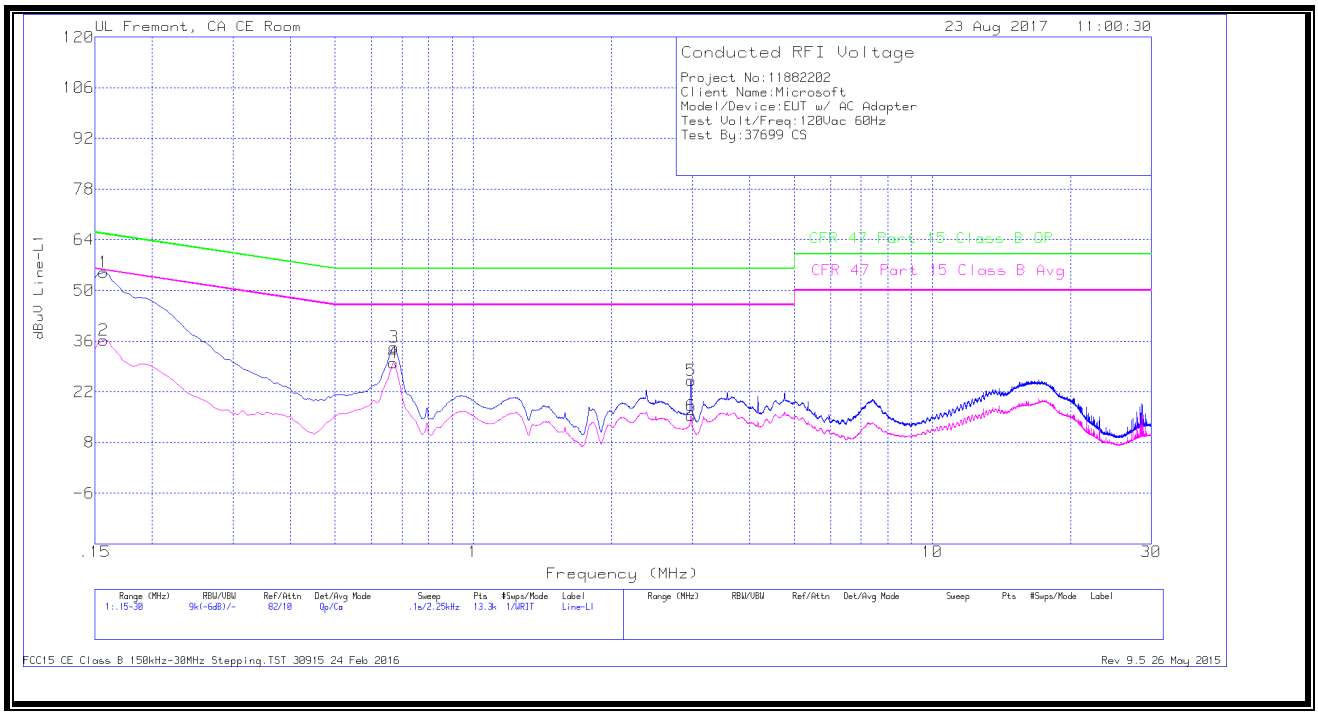
TEST PROCEDURE

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.

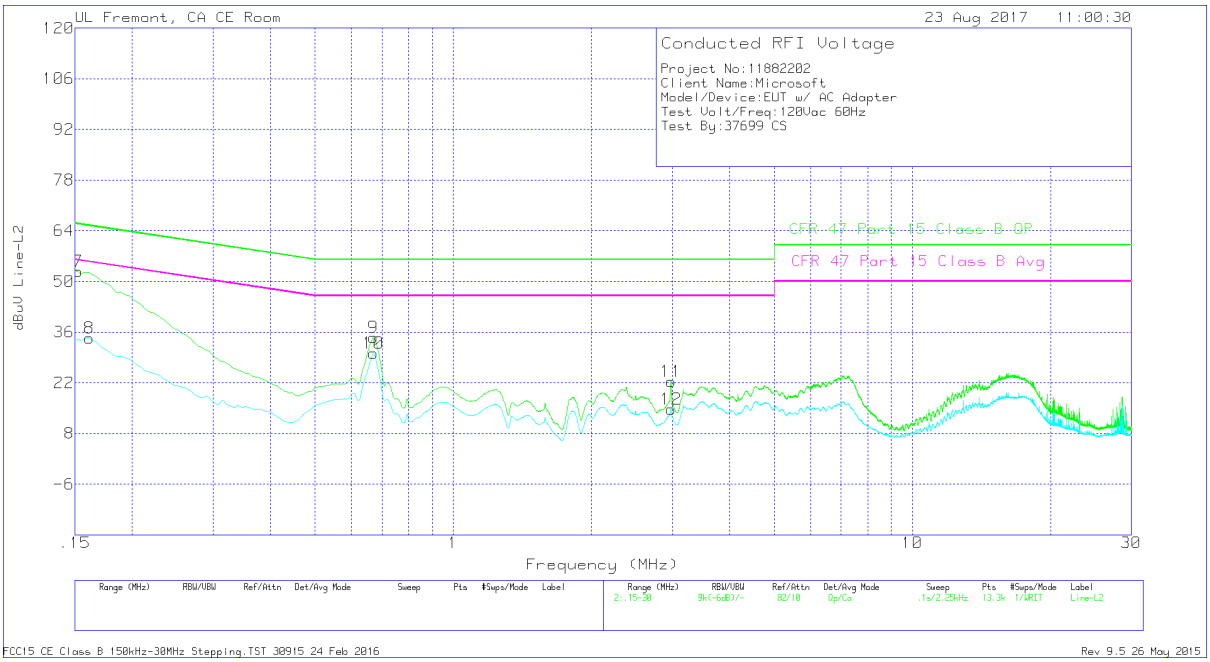
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L1	LC Cables C1&C3	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	.15675	44.73	Qp	.1	.1	10.1	55.03	65.63	-10.6	-	-
2	.15675	25.94	Ca	.1	.1	10.1	36.24	-	-	55.63	-19.39
3	.672	24.1	Qp	0	.1	10.1	34.3	56	-21.7	-	-
4	.67087	19.79	Ca	0	.1	10.1	29.99	-	-	46	-16.01
5	2.9805	14.9	Qp	0	.1	10.1	25.1	56	-30.9	-	-
6	2.9805	5.2	Ca	0	.1	10.1	15.4	-	-	46	-30.6

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L2	LC Cables C2&C3	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)
7	.15225	42.66	Qp	0	0	10.1	52.76	65.88	-13.12	-	-
8	.16125	24.11	Ca	0	.1	10.1	34.31	-	-	55.4	-21.09
9	.66975	24.29	Qp	0	.1	10.1	34.49	56	-21.51	-	-
10	.66975	19.95	Ca	0	.1	10.1	30.15	-	-	46	-15.85
11	2.9805	12.24	Qp	0	.1	10.1	22.44	56	-33.56	-	-
12	2.9805	4.49	Ca	0	.1	10.1	14.69	-	-	46	-31.31

Qp - Quasi-Peak detector
Ca - CISPR average detection

12. DYNAMIC FREQUENCY SELECTION

12.1. OVERVIEW

12.1.1. LIMITS

INDUSTRY CANADA

IC RSS-247 is closely harmonized with FCC Part 15 DFS rules. The deviations are as follows:

RSS-247 Issue 2

Note: For the band 5600–5650 MHz, no operation is permitted.

Until further notice, devices subject to this annex shall not be capable of transmitting in the band 5600–5650 MHz. This restriction is for the protection of Environment Canada weather radars operating in this band.

FCC

§15.407 (h), FCC KDB 905462 D02 “COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVICES OPERATING IN THE 5250-5350 MHz AND 5470-5725 MHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION” and KDB 905462 D03 “U-NII CLIENT DEVICES WITHOUT RADAR DETECTION CAPABILITY”.

Table 1: Applicability of DFS requirements prior to use of a channel

Requirement	Operational Mode		
	Master	Client (without radar detection)	Client (with radar detection)
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode		
	Master	Client **(without DFS)**	Client **(with DFS)**
DFS Detection Threshold	Yes	Not required	Yes
Channel Closing Transmission Time	Yes	Yes	Yes
Channel Move Time	Yes	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required	Yes

Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar DFS	Client (without DFS)
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required
Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in all 20 MHz channel blocks and a null frequency between the bonded 20 MHz channel blocks.		

Table 3: Interference Threshold values, Master or Client incorporating In-Service Monitoring

Maximum Transmit Power	Value (see notes)
E.I.R.P. ≥ 200 mill watt	-64 dBm
E.I.R.P. < 200 mill watt and power spectral density < 10 dBm/MHz	-62 dBm
E.I.R.P. < 200 mill watt that do not meet power spectral density requirement	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna
Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.
Note 3: E.I.R.P. is based on the highest antenna gain. For MIMO devices refer to KDB publication 662911 D01.

Table 4: DFS Response requirement values

Parameter	Value
Non-occupancy period	30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds (See Note 1)
Channel Closing Transmission Time	200 milliseconds + approx. 60 milliseconds over remaining 10 second period. (See Notes 1 and 2)
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. (See Note 3)

Note 1: *Channel Move Time* and the *Channel Closing Transmission Time* should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.
Note 2: The *Channel Closing Transmission Time* is comprised of 200 milliseconds starting at the beginning of the *Channel Move Time* plus any additional intermittent control signals required to facilitate a *Channel* move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.
Note 3: During the *U-NII Detection Bandwidth* detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (usec)	PRI (usec)	Pulses	Minimum Percentage of Successful Detection	Minimum Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in table 5a	Roundup: {(1/360) x (19 x 10^6 PRI_{usec})}	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 usec. With a minimum increment of 1 usec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Note 1: Short Pulse Radar Type 0 should be used for the *Detection Bandwidth* test, *Channel Move Time*, and *Channel Closing Time* tests.

Table 6 – Long Pulse Radar Test Signal

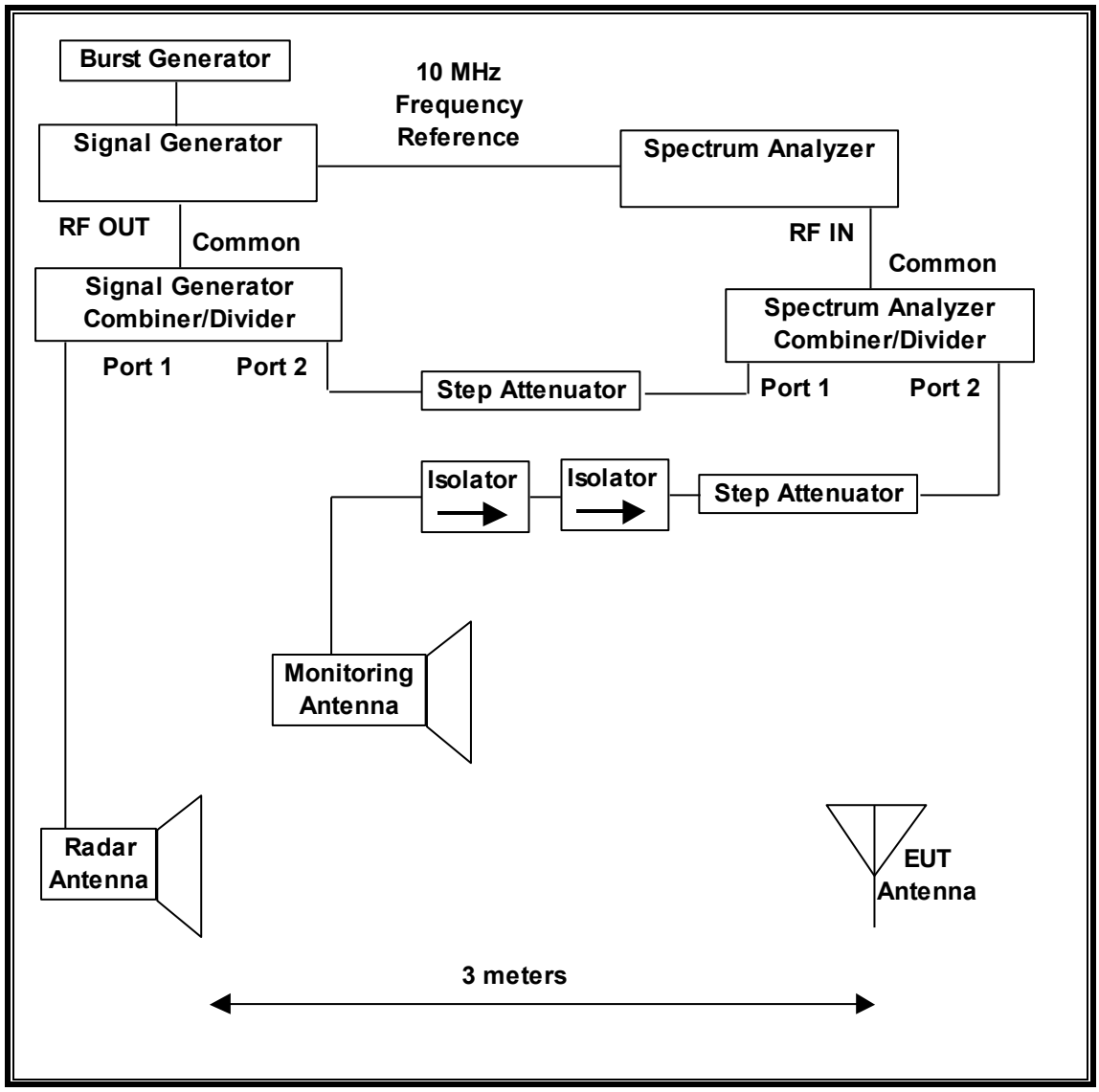
Radar Waveform Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

Table 7 – Frequency Hopping Radar Test Signal

Radar Waveform Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Trials
6	1	333	9	0.333	300	70%	30

12.1.2. TEST AND MEASUREMENT SYSTEM

RADIATED METHOD SYSTEM BLOCK DIAGRAM



SYSTEM OVERVIEW

The short pulse and long pulse signal generating system utilizes the NTIA software. The Vector Signal Generator has been validated by the NTIA. The hopping signal generating system utilizes the CCS simulated hopping method and system, which has been validated by the DoD, FCC and NTIA. The software selects waveform parameters from within the bounds of the signal type on a random basis using uniform distribution.

The short pulse types 1, 2, 3 and 4, and the long pulse type 5 parameters are randomized at run-time.

The hopping type 6 pulse parameters are fixed while the hopping sequence is based on the August 2005 NTIA Hopping Frequency List. The initial starting point randomized at run-time and each subsequent starting point is incremented by 475. Each frequency in the 100-length segment is compared to the boundaries of the EUT Detection Bandwidth and the software creates a hopping burst pattern in accordance with Section 7.4.1.3 Method #2 Simulated Frequency Hopping Radar Waveform Generating Subsystem of KDB 905462 D02. The frequency of the signal generator is incremented in 1 MHz steps from F_L to F_H for each successive trial. This incremental sequence is repeated as required to generate a minimum of 30 total trials and to maintain a uniform frequency distribution over the entire Detection Bandwidth.

The signal monitoring equipment consists of a spectrum analyzer. The aggregate ON time is calculated by multiplying the number of bins above a threshold during a particular observation period by the dwell time per bin, with the analyzer set to peak detection and max hold.

SYSTEM CALIBRATION

A 50-ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to a horn antenna via a coaxial cable, with the reference level offset set to (horn antenna gain – coaxial cable loss). The signal generator is set to CW mode. The amplitude of the signal generator is adjusted to yield a level of –64 dBm as measured on the spectrum analyzer.

Without changing any of the instrument settings, the spectrum analyzer is reconnected to the Common port of the Spectrum Analyzer Combiner/Divider. The Reference Level Offset of the spectrum analyzer is adjusted so that the displayed amplitude of the signal is –64 dBm.

The spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device. The interference detection threshold may be varied from the calibrated value of –64 dBm and the spectrum analyzer will still indicate the level as received by the Master Device.

ADJUSTMENT OF DISPLAYED TRAFFIC LEVEL

A link is established between the Master and Slave and the distance between the units is adjusted as needed to provide a suitable received level at the Master and Slave devices. The video test file is streamed to generate WLAN traffic. The monitoring antenna is adjusted so that the WLAN traffic level, as displayed on the spectrum analyzer, is at lower amplitude than the radar detection threshold.

TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the DFS tests documented in this report:

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**Cal Due**
Spectrum Analyzer, PXA, 3Hz to 8.4GHz	Keysight	N9030A	MY49430179	02/27/18
Signal Generator, MXG X-Series RF Vector	Agilent	N5182B	MY51350337	04/21/18

12.1.3. TEST AND MEASUREMENT SOFTWARE

The following test and measurement software was utilized for the tests documented in this report:

TEST SOFTWARE LIST		
Name	**Version**	**Test / Function**
Aggregate Time-PXA	3.0	Channel Loading and Aggregate Closing Time
PXA Read	3.0.0.9	Signal Generator Screen Capture
SGXProject.exe	1.7	Radar Waveform Generation and Download

12.1.4. TEST ROOM ENVIRONMENT

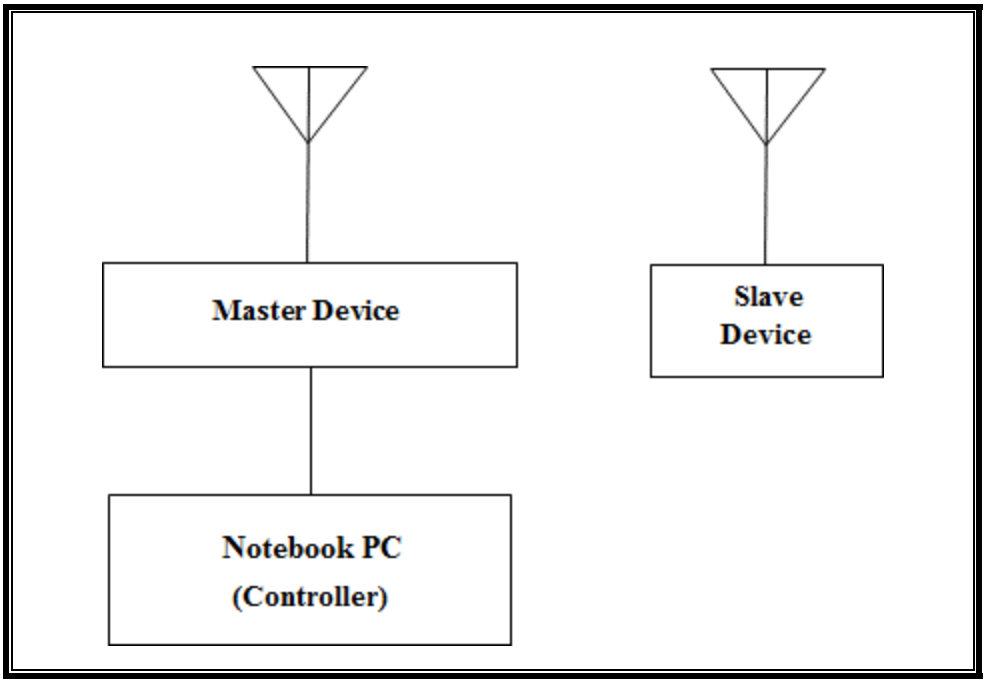
The test room temperature and humidity shall be maintained within normal temperature of 15~35 °C and normal humidity 20~75% (relative humidity).

ENVIRONMENT CONDITION

Parameter	Value
Temperature	26.6 °C
Humidity	36 %

12.1.5. SETUP OF EUT

RADIATED METHOD EUT TEST SETUP



SUPPORT EQUIPMENT

The following support equipment was utilized for the DFS tests documented in this report:

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter (EUT)	Microsoft	1798	0C130R0260Y75	DoC
802.11ac Dual Band Wireless Access Point (Master Device0	Cisco	AIR-CAP3702E-A-K9	FTX181570A6	LDK102087
P.O.E. Injector (Master)	Phihong	POE30U-560(G)	PHI170102N2	DoC
Notebook PC (Controller)	Lenovo	Type 4236-B92	PB-HEX04 12/05	DoC
AC Adapter (Controller PC)	Lenovo	42T4418	11S42T4418Z1ZGWG08R 90M	DoC

12.1.6. DESCRIPTION OF EUT

For FCC the EUT operates over the 5250-5350 MHz and 5470-5725 MHz ranges.

For IC the EUT operates over the 5250-5350 MHz and 5470-5725 MHz ranges, excluding the 5600-5650 MHz range.

The EUT is a Slave Device without Radar Detection.

The highest power level within these bands is 21.02 dBm EIRP in the 5250-5350 MHz band and 20.67 dBm EIRP in the 5470-5725 MHz band.

The only antenna assembly utilized with the EUT has a gain of 3.63 & 5.38 dBi in the 5250-5350 MHz band and 3.77 & 4.89 dBi in the 5470-5725 MHz band.

Two integrated antennas are utilized to meet the diversity and MIMO operational requirements.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is –64 dBm. After correction for procedural adjustments, the required radiated threshold at the antenna port is –64 + 1 = -63 dBm.

The calibrated radiated DFS Detection Threshold level is set to –64 dBm. The tested level is lower than the required level hence it provides a margin to the limit.

The EUT uses two transmitter/receiver chains, each connected to an antenna to perform radiated tests.

The Slave device associated with the EUT during these tests does not have radar detection capability.

WLAN traffic that meets or exceeds the minimum required loading was generated by transferring a data stream from the Master Device to the Slave Device using iPerf version 2.0.5 software package.

TPC is not required since the maximum EIRP is less than 500 mW (27 dBm).

The EUT utilizes the 802.11ac architecture. Three nominal channel bandwidths are implemented: 20 MHz, 40 MHz and 80 MHz.

The software installed in the EUT is windows 10 Pro, version 1703, OS Build 15063.483.

The software installed in the access point is version: AP3G2-K9W7-M Version 15.2(4)JB4.

UNIFORM CHANNEL SPREADING

This is requirement not applicable to Slave Devices.

OVERVIEW OF MASTER DEVICE WITH RESPECT TO §15.407 (h) REQUIREMENTS

The Master Device is a Cisco Access Point, FCC ID: LDK102087. The minimum antenna gain for the Master Device is 6 dBi.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is –64 dBm. After correction for procedural adjustments, the required radiated threshold at the antenna port is –64 + 1 = -63 dBm.

The calibrated radiated DFS Detection Threshold level is set to –64 dBm. The tested level is lower than the required level hence it provides a margin to the limit.

12.2. RESULTS FOR 20 MHz BANDWIDTH

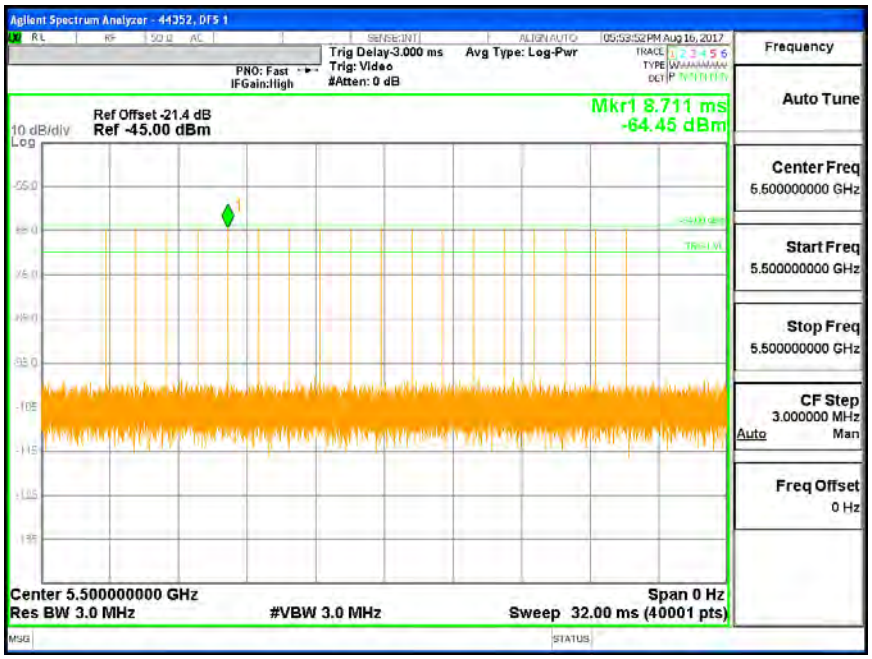
12.2.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5500 MHz.

12.2.2. RADAR WAVEFORM AND TRAFFIC

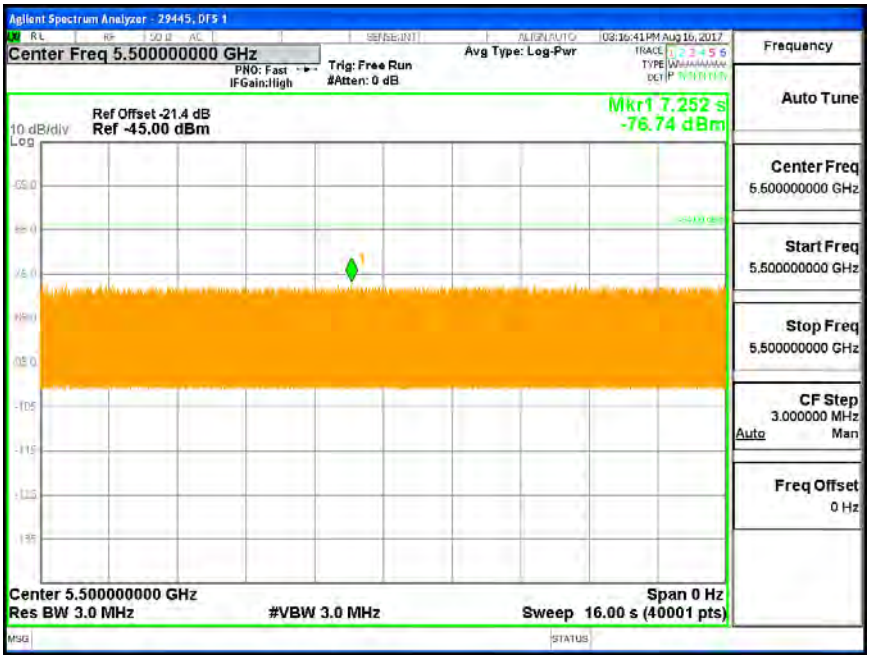
RADAR WAVEFORM

SHORT PULSE RADAR TYPE 0 AT MASTER

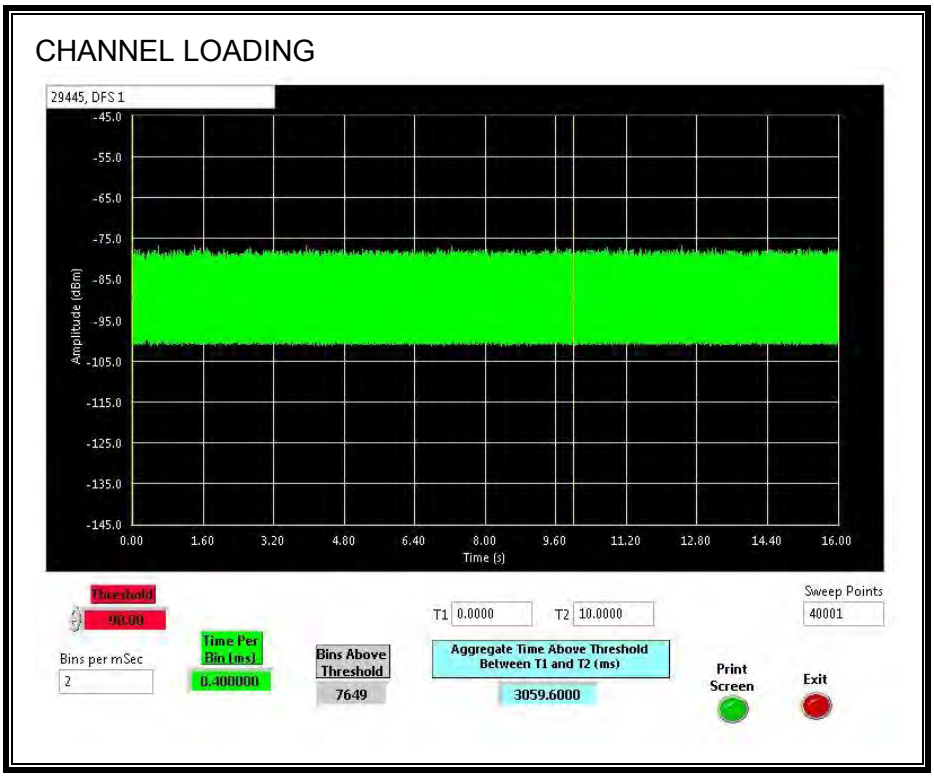


TRAFFIC

SLAVE TRAFFIC



CHANNEL LOADING



The level of traffic loading on the channel by the EUT is 30.59%.

12.2.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

12.2.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time =
(Number of analyzer bins showing transmission) * (dwell time per bin)

The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

Channel Move Time (sec)	Limit (sec)
0.042	10

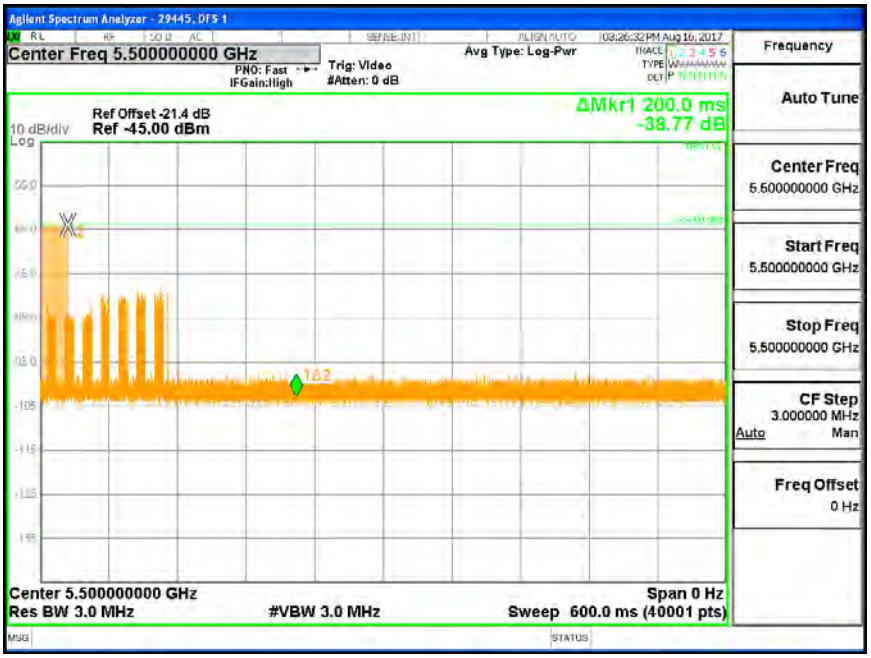
Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
0.0	60

MOVE TIME

MOVE TIME

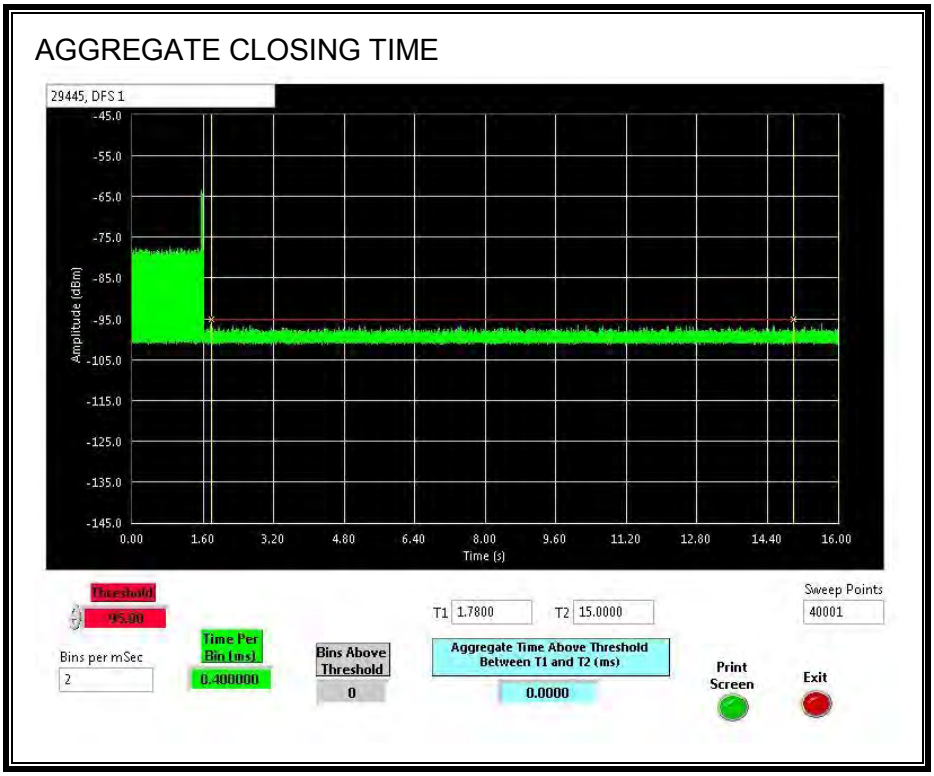
CHANNEL CLOSING TIME

CLOSING TIME



AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the aggregate monitoring period.



12.3. RESULTS FOR 40 MHz BANDWIDTH

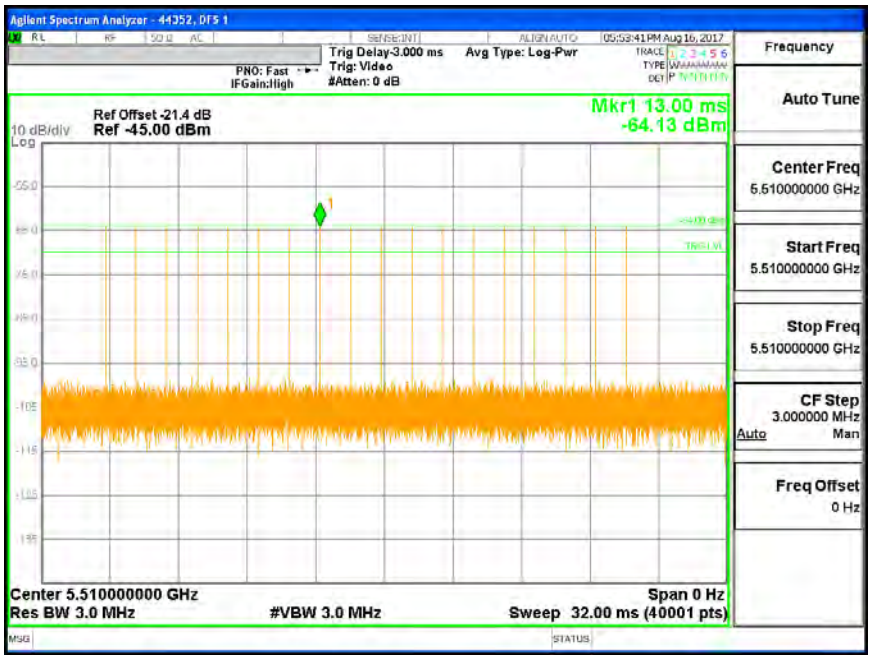
12.3.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5510 MHz.

12.3.2. RADAR WAVEFORM AND TRAFFIC

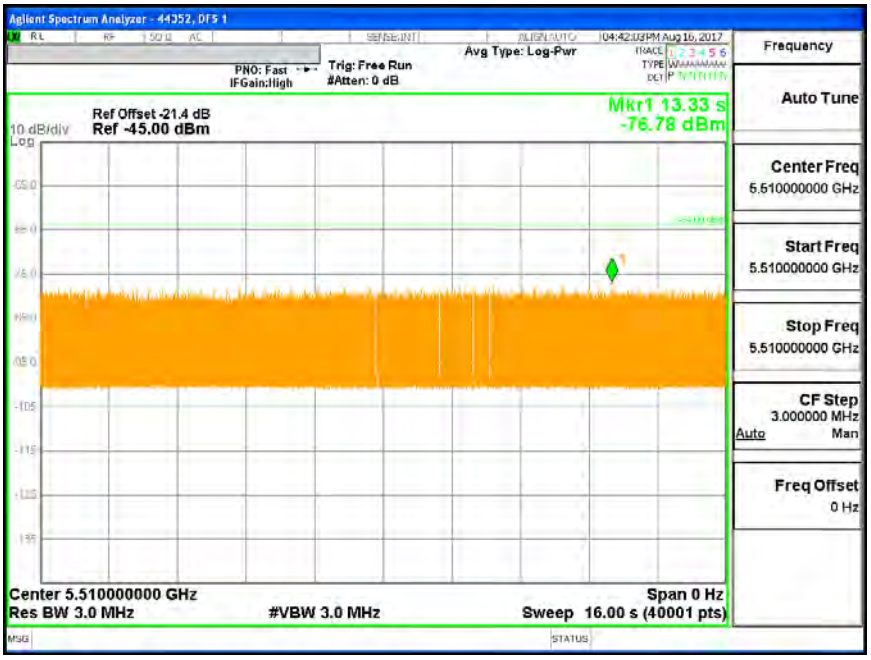
RADAR WAVEFORM

SHORT PULSE RADAR TYPE 0 AT MASTER

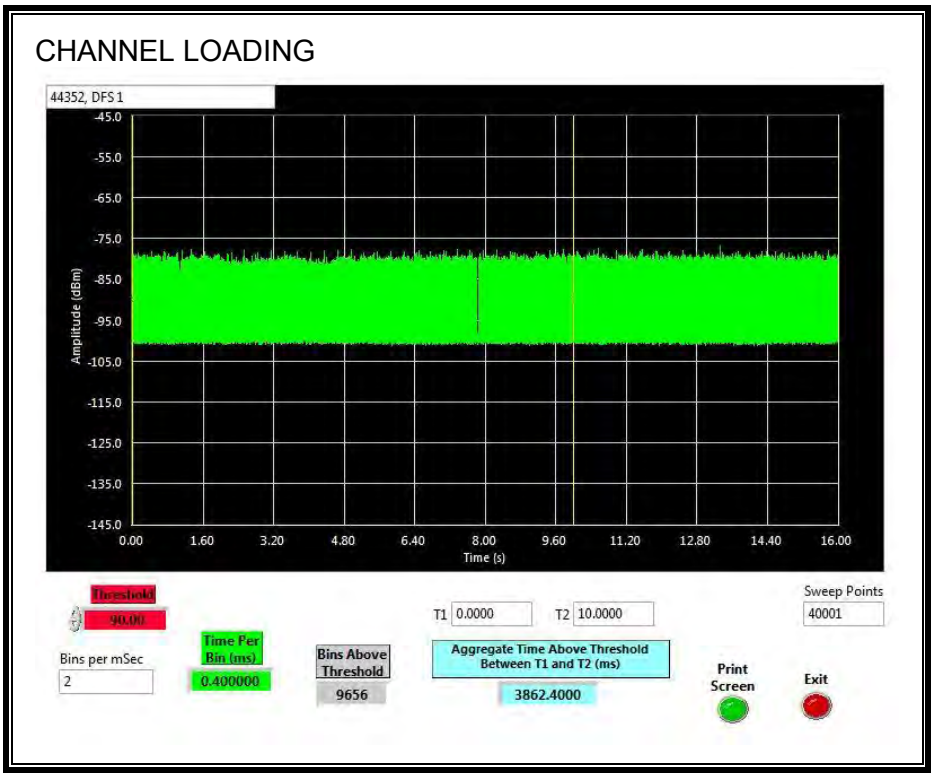


TRAFFIC

SLAVE TRAFFIC



CHANNEL LOADING



The level of traffic loading on the channel by the EUT is 38.624%.

12.3.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

12.3.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time =
(Number of analyzer bins showing transmission) * (dwell time per bin)

The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

Channel Move Time (sec)	Limit (sec)
0.049	10

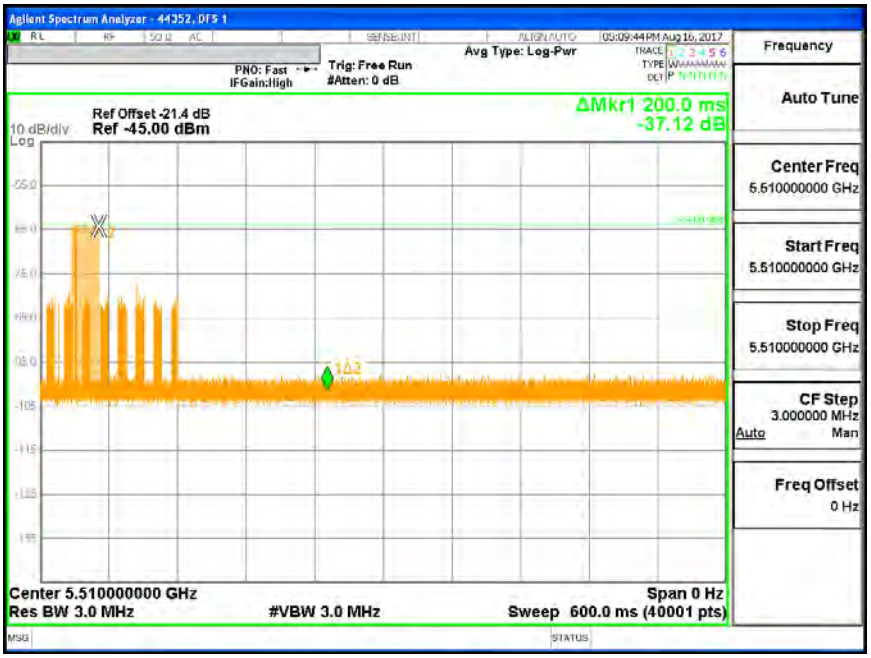
Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
0.0	60

MOVE TIME

MOVE TIME

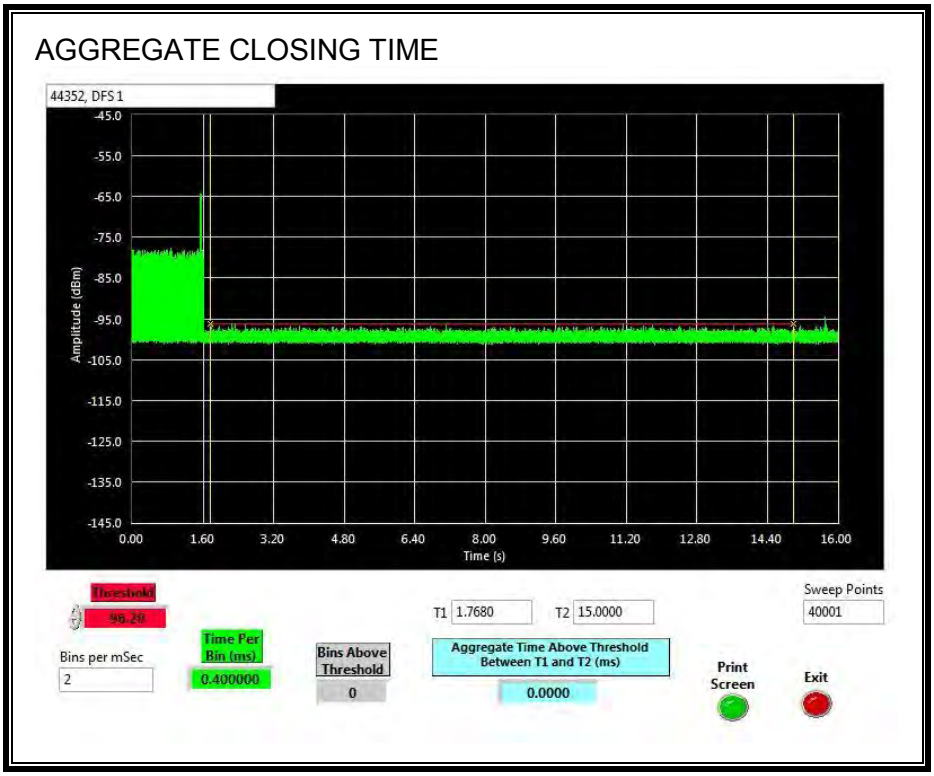
CHANNEL CLOSING TIME

CLOSING TIME



AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the aggregate monitoring period.



12.4. RESULTS FOR 80 MHz BANDWIDTH

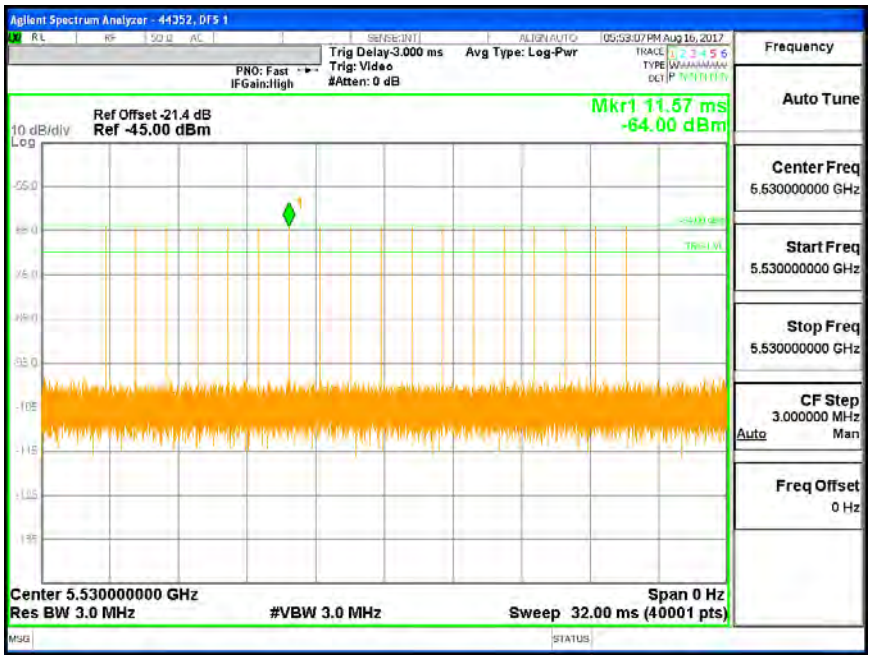
12.4.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5530 MHz.

12.4.2. RADAR WAVEFORM AND TRAFFIC

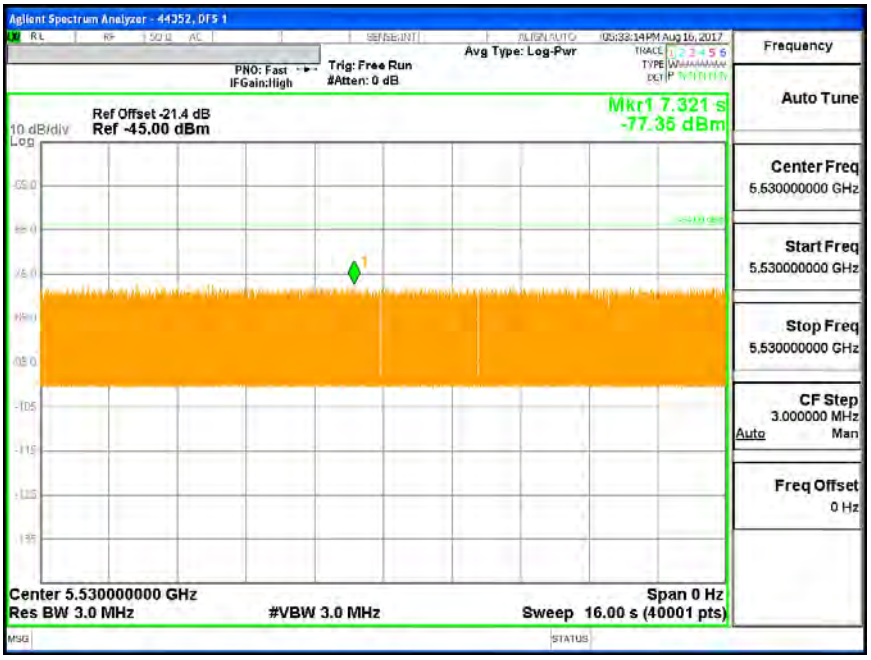
RADAR WAVEFORM

SHORT PULSE RADAR TYPE 0 AT MASTER

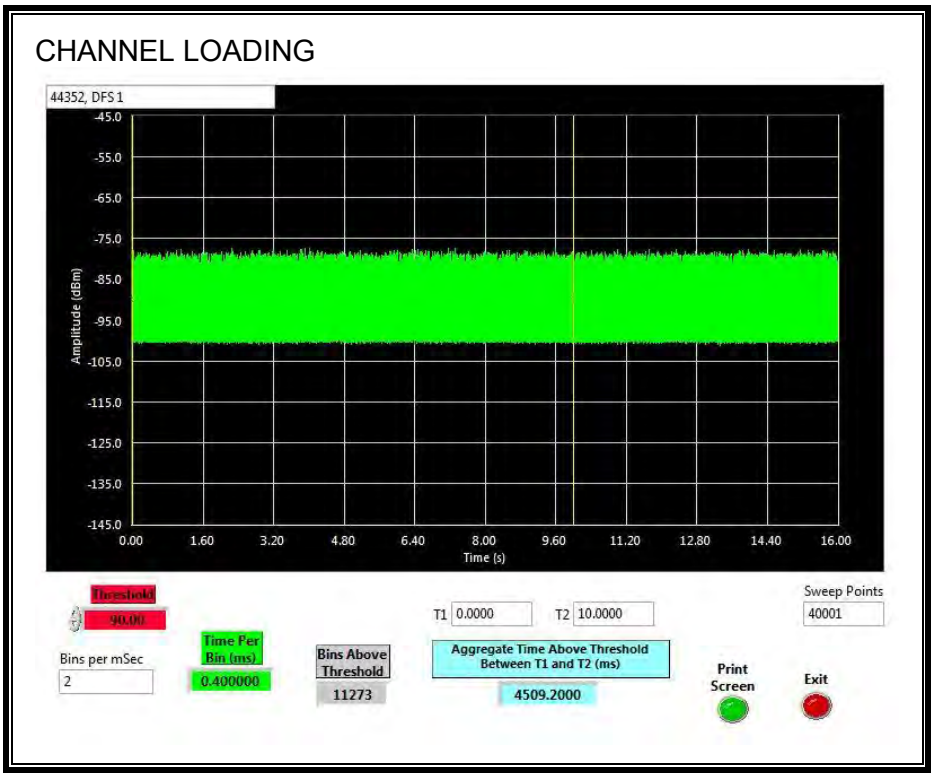


TRAFFIC

SLAVE TRAFFIC



CHANNEL LOADING



The level of traffic loading on the channel by the EUT is 45.092%.

12.4.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

12.4.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time =
(Number of analyzer bins showing transmission) * (dwell time per bin)

The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

Channel Move Time (sec)	Limit (sec)
0.066	10

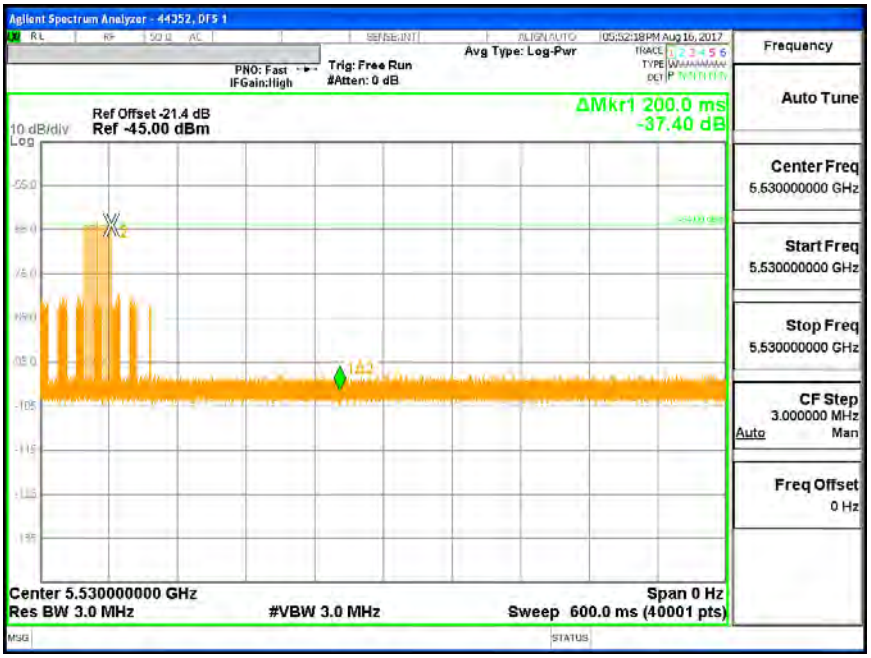
Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
0.0	60

MOVE TIME

MOVE TIME

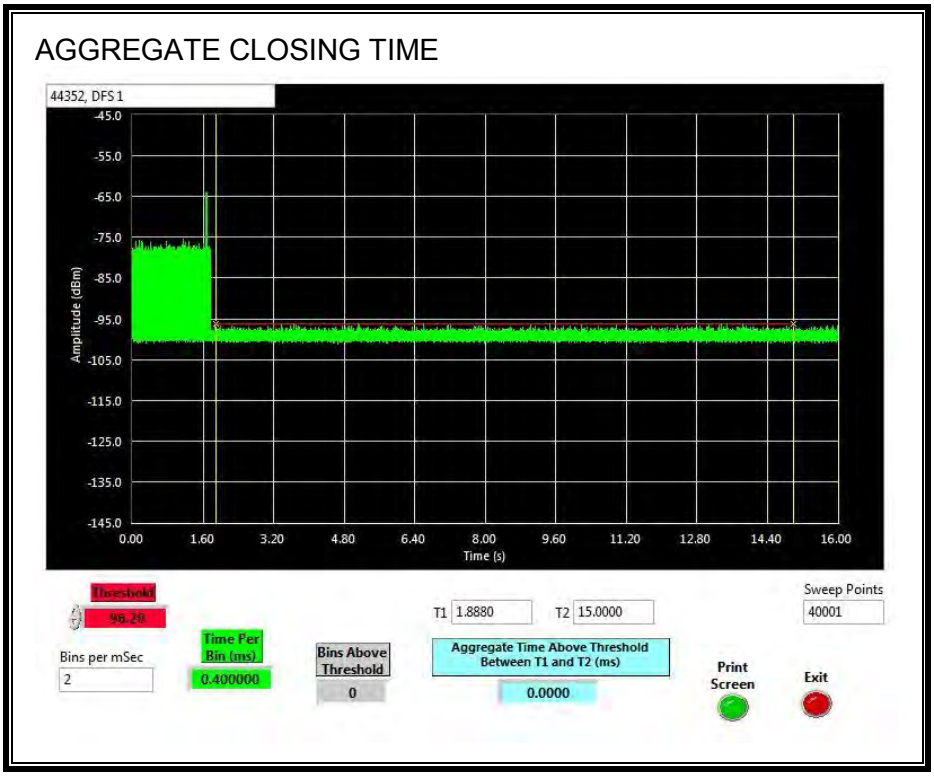
CHANNEL CLOSING TIME

CLOSING TIME



AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

Only intermittent transmissions are observed during the aggregate monitoring period.



12.4.5. 30-MINUTE NON-OCCUPANCY PERIOD

RESULTS

No EUT transmissions were observed on the test channel during the 30-minute observation time.

30-MINUTE NON-OCCUPANCY