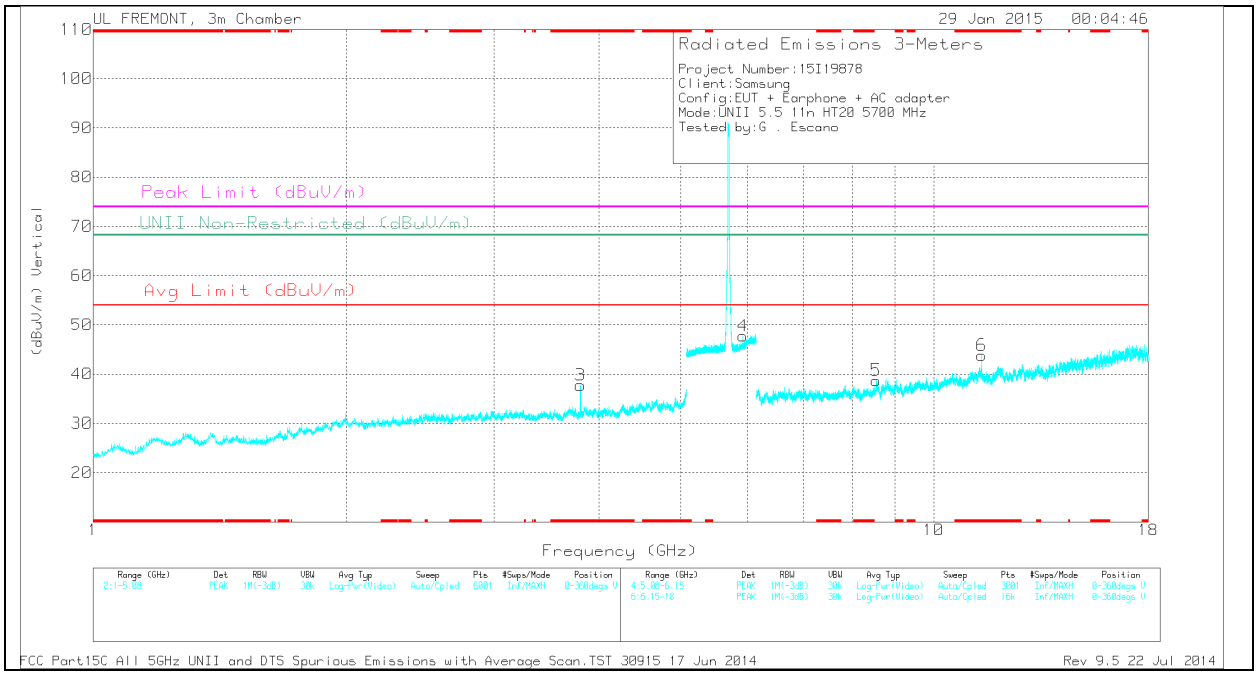
HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	* 3.8	36.24	PK	33.1	-31.6	0	37.74	-	-	74	-36.26	-	-	0-360	200	V
6	* 11.399	31.61	PK	38.2	-26	0	43.81	-	-	74	-30.19	-	-	0-360	200	V
4	5.932	33.62	PK	35.1	-21	0	47.72	-	-	-	-	68.2	-20.48	0-360	200	V
5	8.547	28.91	PK	35.8	-26	0	38.71	-	-	-	-	68.2	-29.49	0-360	100	V
1	8.812	29.25	PK	35.9	-25.6	0	39.55	-	-	-	-	68.2	-28.65	0-360	200	H
2	10.306	27.83	PK	37.1	-24.7	0	40.23	-	-	-	-	68.2	-27.97	0-360	100	H

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fl tr/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
* 3.8	43.91	PK1	33.1	-31.6	0	45.41	-	-	74	-28.59	-	-	358	293	V
* 3.8	36.11	AD1	33.1	-31.6	.33	37.93	54	-16.07	-	-	-	-	358	293	V
* 11.399	40.87	PK1	38.2	-26	0	53.07	-	-	74	-20.93	-	-	306	200	V
* 11.4	28.58	AD1	38.2	-26	.33	41.1	54	-12.9	-	-	-	-	306	200	V
5.932	42.07	PK1	35.1	-21	0	56.17	-	-	-	-	68.2	-12.03	42	397	V

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

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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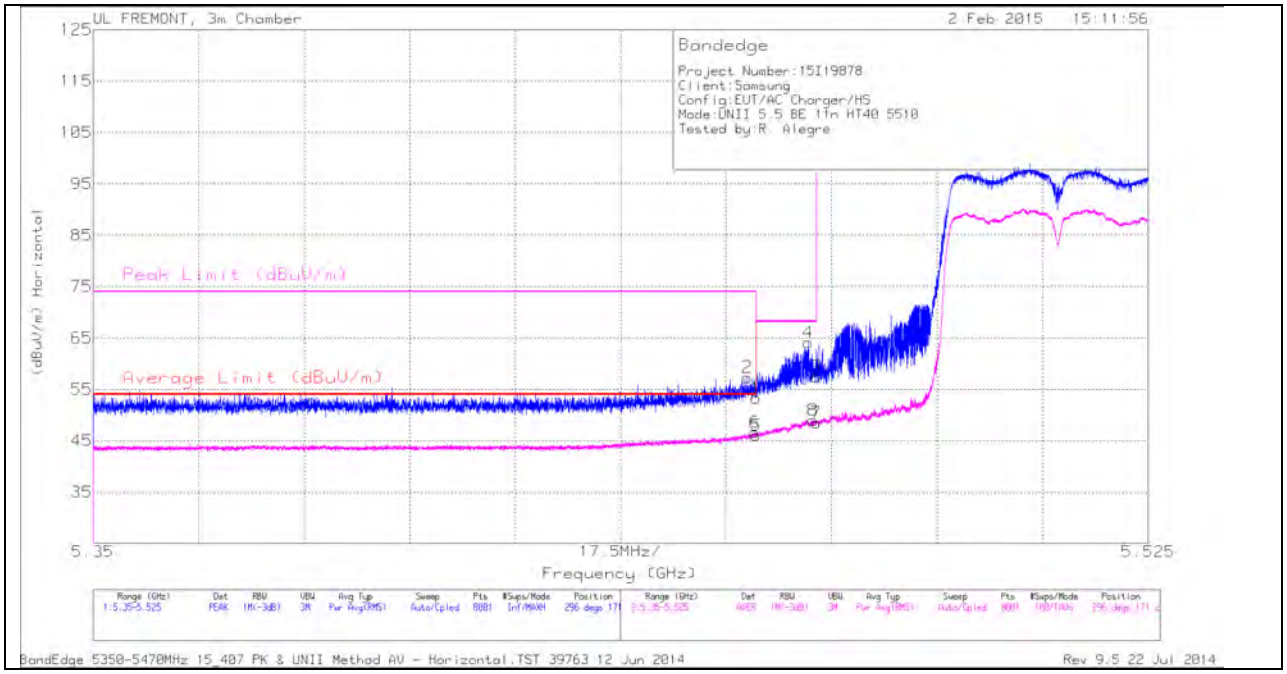
11.3.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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	5.458	44.11	PK	34.6	-21.4	0	57.31	-	-	74	-16.69	296	171	H
1	5.46	40.13	PK	34.6	-21.4	0	53.33	-	-	74	-20.67	296	171	H
5	5.46	32.2	RMS	34.6	-21.4	.63	46.03	54	-7.97	-	-	296	171	H
6	5.46	32.83	RMS	34.6	-21.4	.63	46.66	54	-7.34	-	-	296	171	H
4	5.469	50.84	PK	34.6	-21.3	0	64.14	-	-	68.2	-4.06	296	171	H
8	5.469	35.06	RMS	34.6	-21.3	.63	48.99	-	-	-	-	296	171	H
3	5.47	44.13	PK	34.6	-21.3	0	57.43	-	-	68.2	-10.77	296	171	H
7	5.47	34.53	RMS	34.6	-21.3	.63	48.46	-	-	-	-	296	171	H

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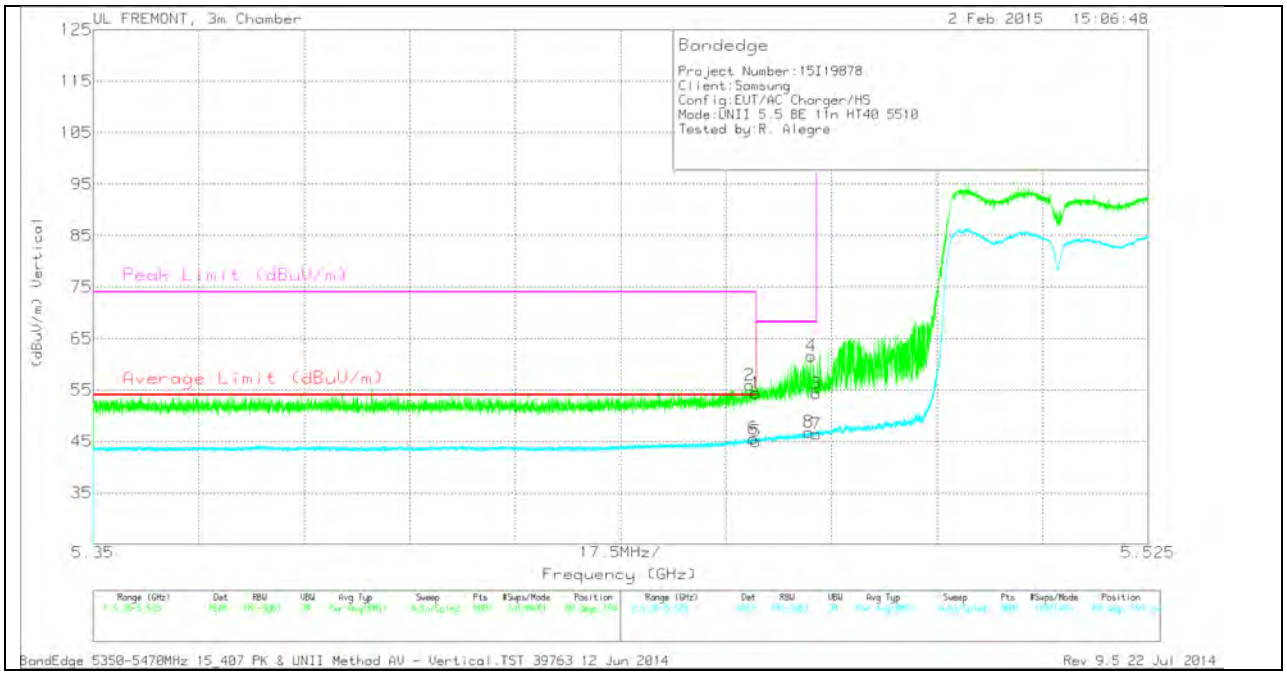
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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	5.459	42.75	PK	34.6	-21.4	0	55.95	-	-	74	-18.05	68	194	V
1	5.46	41.24	PK	34.6	-21.4	0	54.44	-	-	74	-19.56	68	194	V
5	5.46	31.19	RMS	34.6	-21.4	.63	45.02	54	-8.98	-	-	68	194	V
6	5.46	31.76	RMS	34.6	-21.4	.63	45.59	54	-8.41	-	-	68	194	V
4	5.469	48.3	PK	34.6	-21.3	0	61.6	-	-	68.2	-6.6	68	194	V
8	5.469	32.9	RMS	34.6	-21.3	.63	46.83	-	-	-	-	68	194	V
3	5.47	41.06	PK	34.6	-21.3	0	54.36	-	-	68.2	-13.84	68	194	V
7	5.47	32.49	RMS	34.6	-21.3	.63	46.42	-	-	-	-	68	194	V

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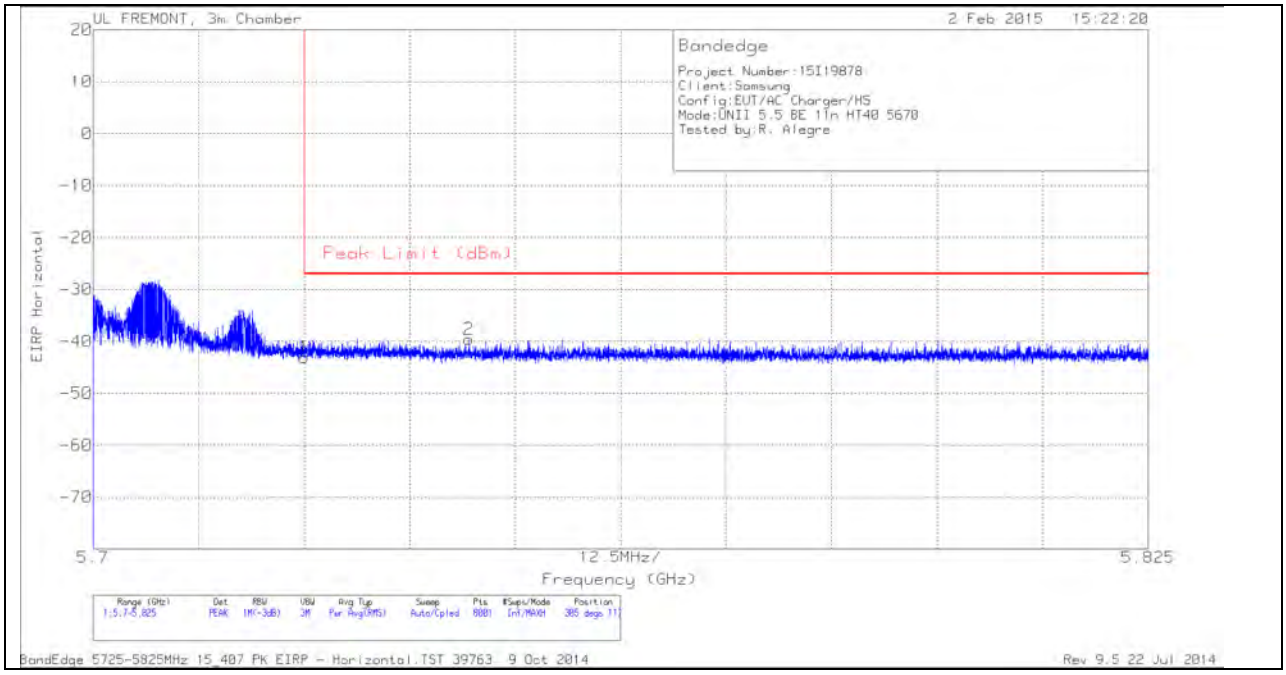
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	-68.57	PK	34.8	-21.1	11.8	0	-43.07	-27	-16.07	305	117	H
2	5.745	-65.08	PK	34.8	-21.1	11.8	0	-39.58	-27	-12.58	305	117	H

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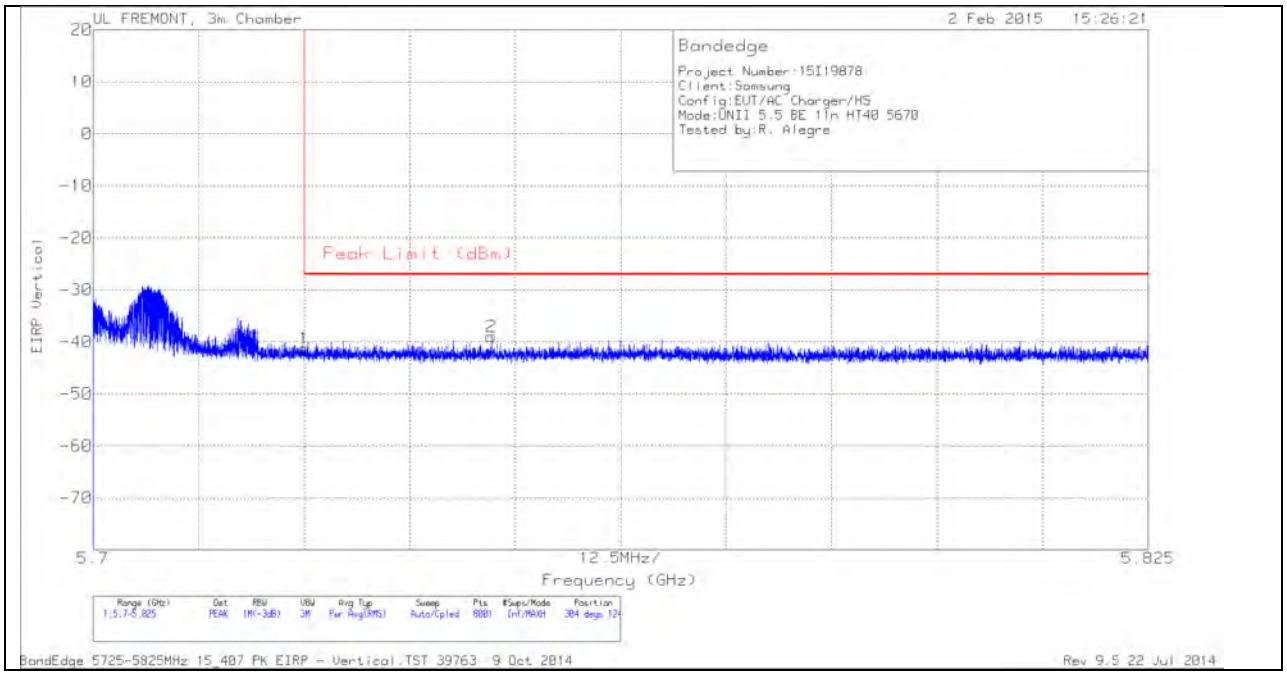
VERTICAL PEAK PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	-66.8	PK	34.8	-21.1	11.8	0	-41.3	-27	-14.3	304	124	V
2	5.747	-64.39	PK	34.8	-21.2	11.8	0	-38.99	-27	-11.99	304	124	V

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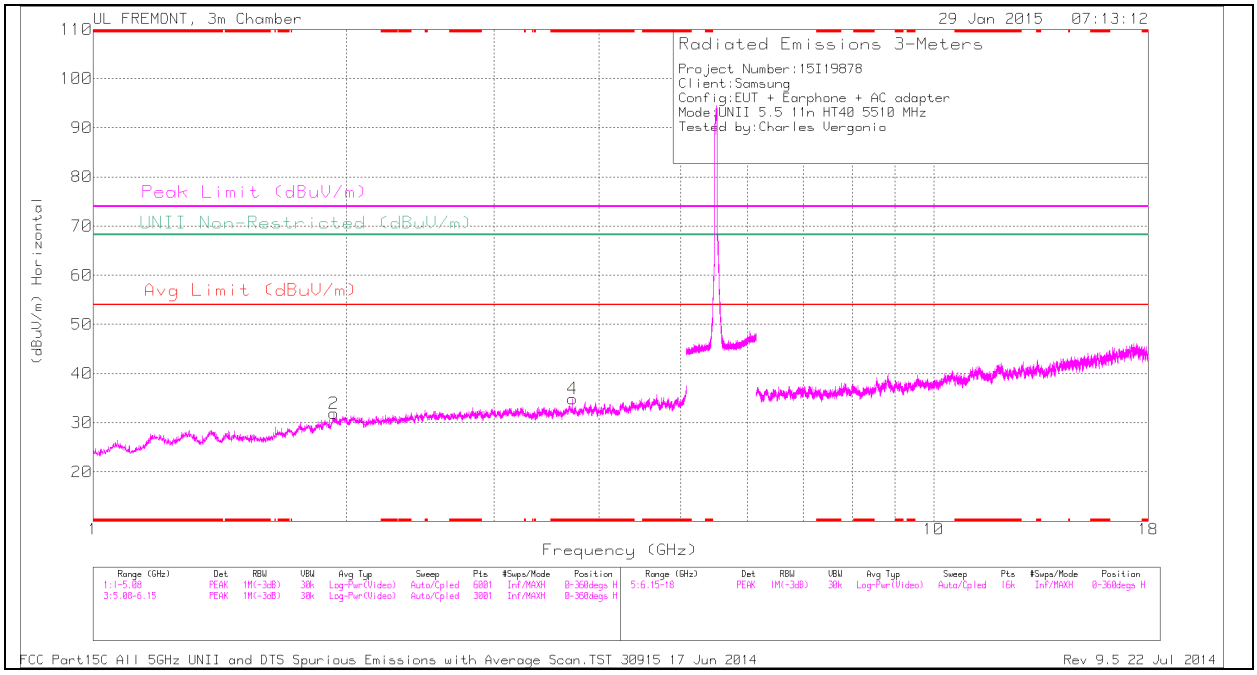
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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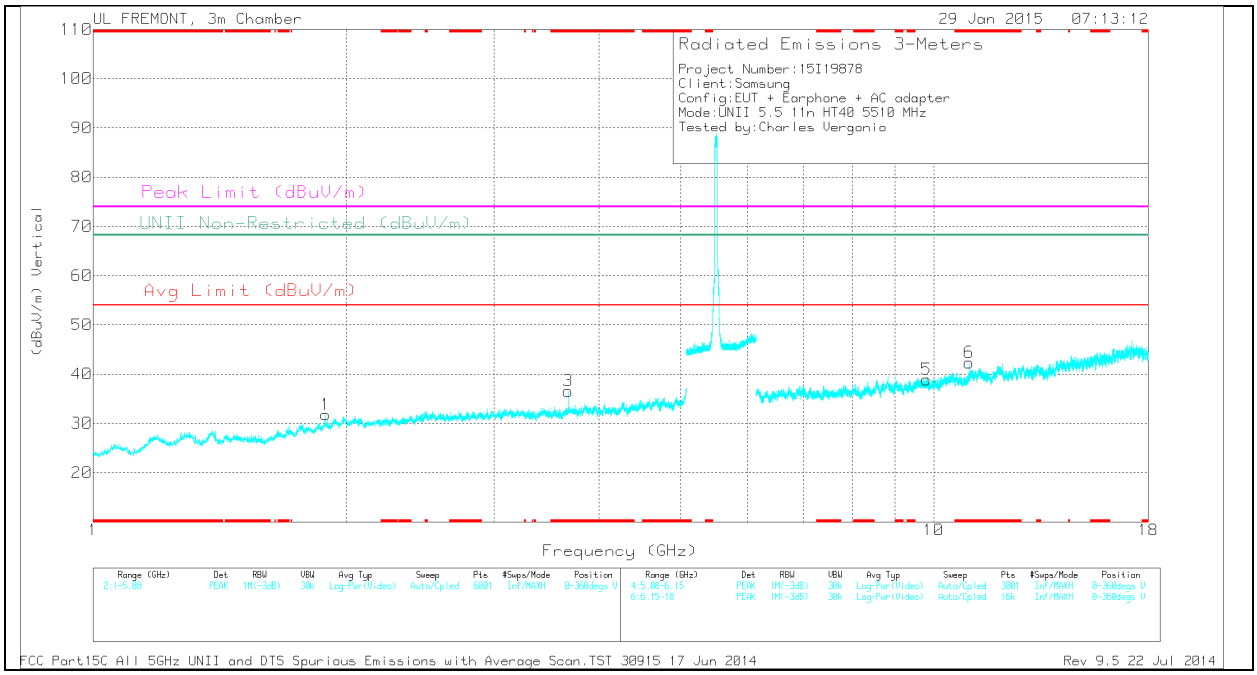
LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	* 3.72	32.98	PK	33	-31.1	0	34.88	-	-	74	-39.12	-	-	0-360	100	H
3	* 3.674	34.18	PK	33	-30.6	0	36.58	-	-	74	-37.42	-	-	0-360	200	V
6	* 11.02	29.93	PK	37.9	-25.5	0	42.33	-	-	74	-31.67	-	-	0-360	200	V
1	1.891	33.75	PK	31	-33	0	31.75	-	-	-	-	68.2	-36.45	0-360	200	V
2	1.933	33.1	PK	31.2	-32.4	0	31.9	-	-	-	-	68.2	-36.3	0-360	100	H
5	9.806	27.3	PK	36.9	-25.3	0	38.9	-	-	-	-	68.2	-29.3	0-360	100	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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
* 11.02	37.95	PK1	37.9	-25.5	0	50.35	-	-	74	-23.65	-	-	3	197	V
* 11.02	27.96	AD1	37.9	-25.5	.63	41	54	-13	-	-	-	-	3	197	V

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

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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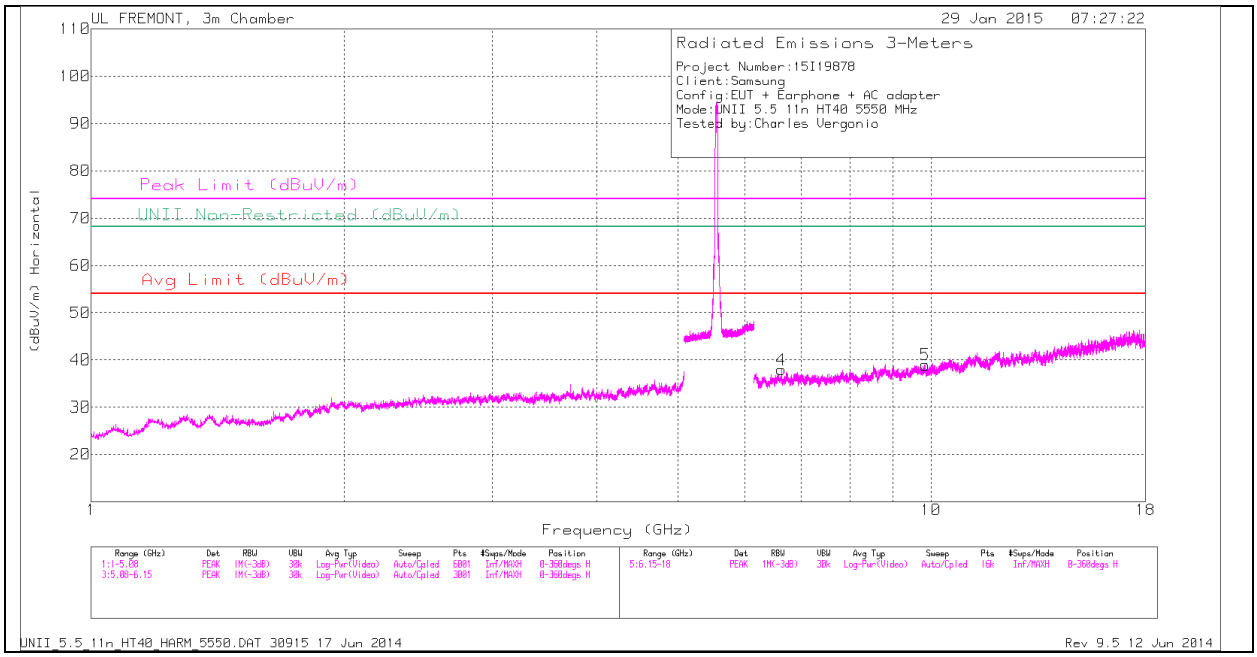
MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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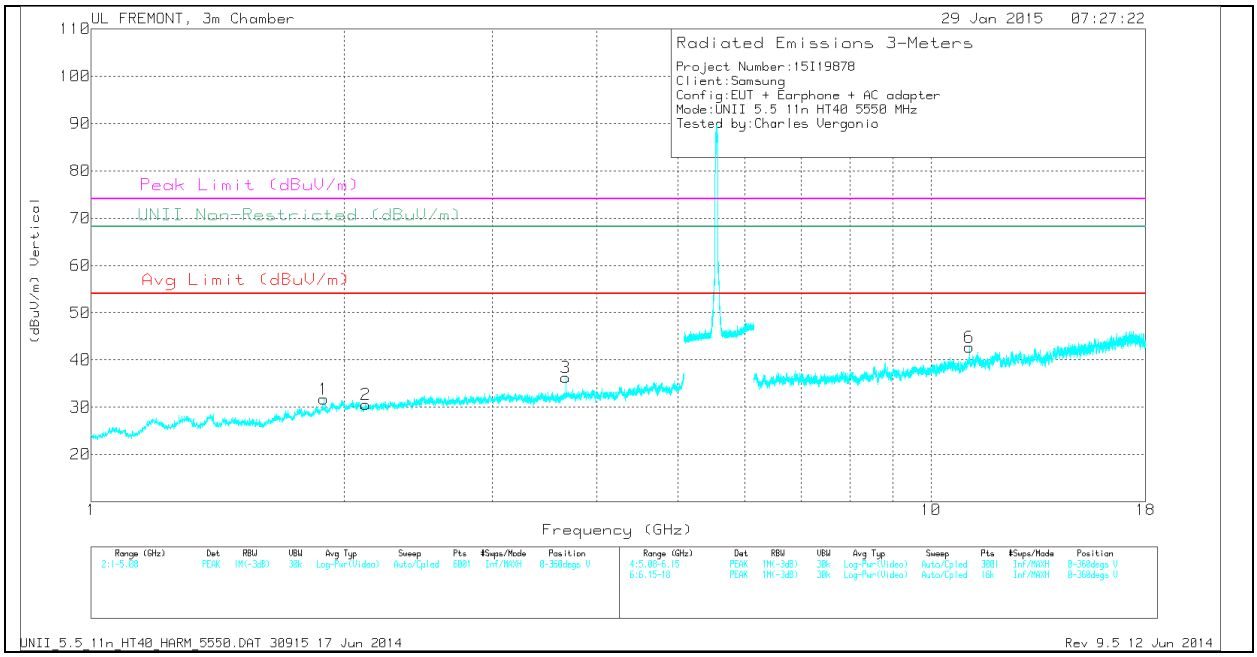
MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	1.891	33.75	PK	31	-33	0	31.75	-	-	-	-	68.2	-36.45	0-360	200	V
2	2.122	31.96	PK	31.5	-32.9	0	30.56	-	-	-	-	68.2	-37.64	0-360	200	V
3	3.673	33.87	PK	33	-30.6	0	36.27	-	-	74	-37.73	-	-	0-360	200	V
4	6.633	31.74	PK	35.6	-29.4	0	37.94	-	-	-	-	68.2	-30.26	0-360	200	H
5	9.841	27.44	PK	36.9	-25.4	0	38.94	-	-	-	-	68.2	-29.26	0-360	100	H
6	11.1	30.2	PK	37.8	-25.3	0	42.7	-	-	74	-31.3	-	-	0-360	200	V

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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
11.1	38.13	PK1	37.8	-25.3	0	50.63	-	-	74	-23.37	-	-	0	200	V
11.101	26.18	AD1	37.8	-25.3	.63	39.32	54	-14.68	-	-	-	-	0	200	V

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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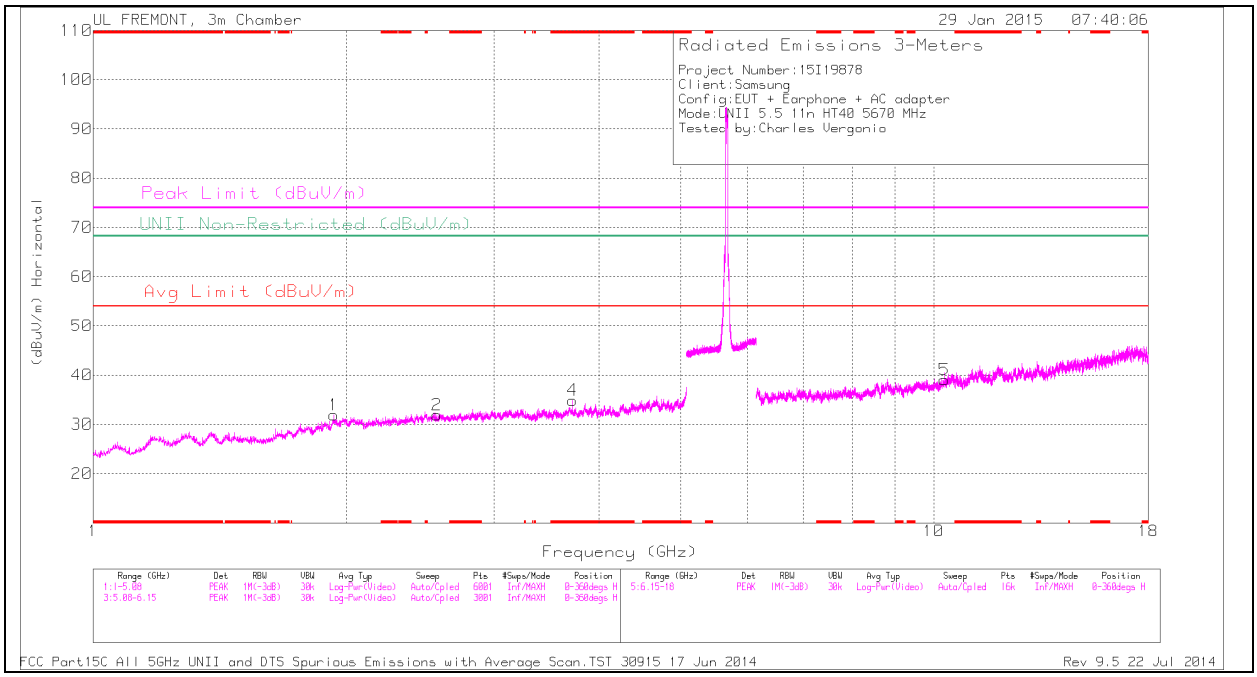
HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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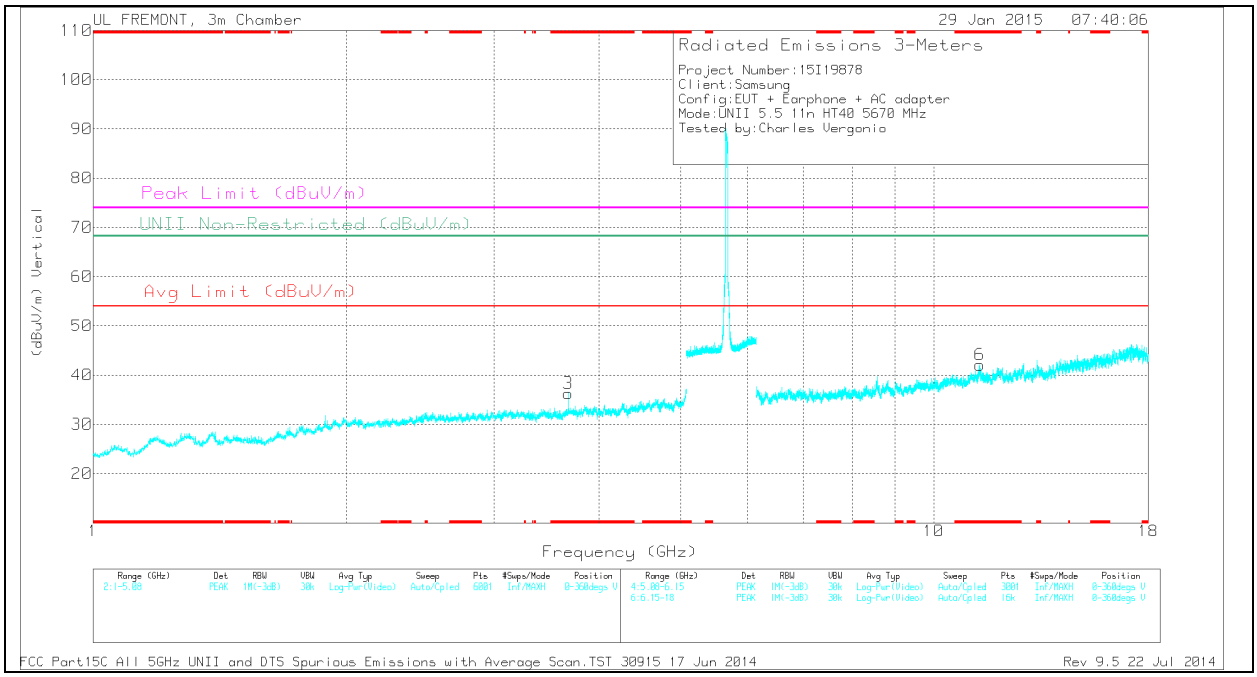
HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	* 3.72	32.98	PK	33	-31.1	0	34.88	-	-	74	-39.12	-	-	0-360	100	H
3	* 3.673	33.87	PK	33	-30.6	0	36.27	-	-	74	-37.73	-	-	0-360	200	V
6	* 11.343	29.49	PK	38.1	-25.5	0	42.09	-	-	74	-31.91	-	-	0-360	200	V
1	1.933	33.1	PK	31.2	-32.4	0	31.9	-	-	-	-	68.2	-36.3	0-360	100	H
2	2.565	31.69	PK	32.4	-32.2	0	31.89	-	-	-	-	68.2	-36.31	0-360	200	H
5	10.297	27.04	PK	37.1	-25.1	0	39.04	-	-	-	-	68.2	-29.16	0-360	200	H

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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
* 3.671	39.85	PK1	32.9	-30.6	0	42.15	-	-	74	-31.85	-	-	149	200	V
* 3.673	28.2	AD1	33	-30.6	.63	31.24	54	-22.76	-	-	-	-	149	200	V

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

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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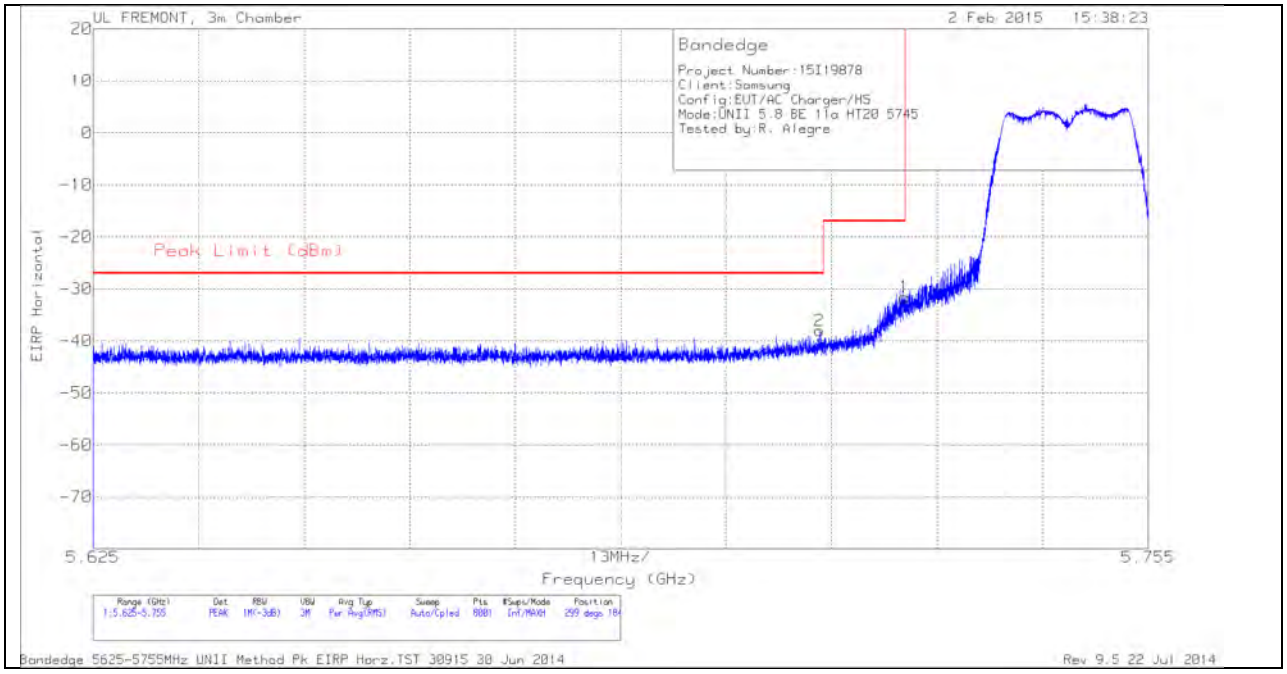
11.4. 5.8 GHz

11.4.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.8 GHz BAND

AUTHORIZED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.715	-63.56	PK	34.8	-21.1	11.8	0	-38.06	-27	-11.06	299	184	H
1	5.725	-57.08	PK	34.8	-21.1	11.8	0	-31.58	-17	-14.58	299	184	H

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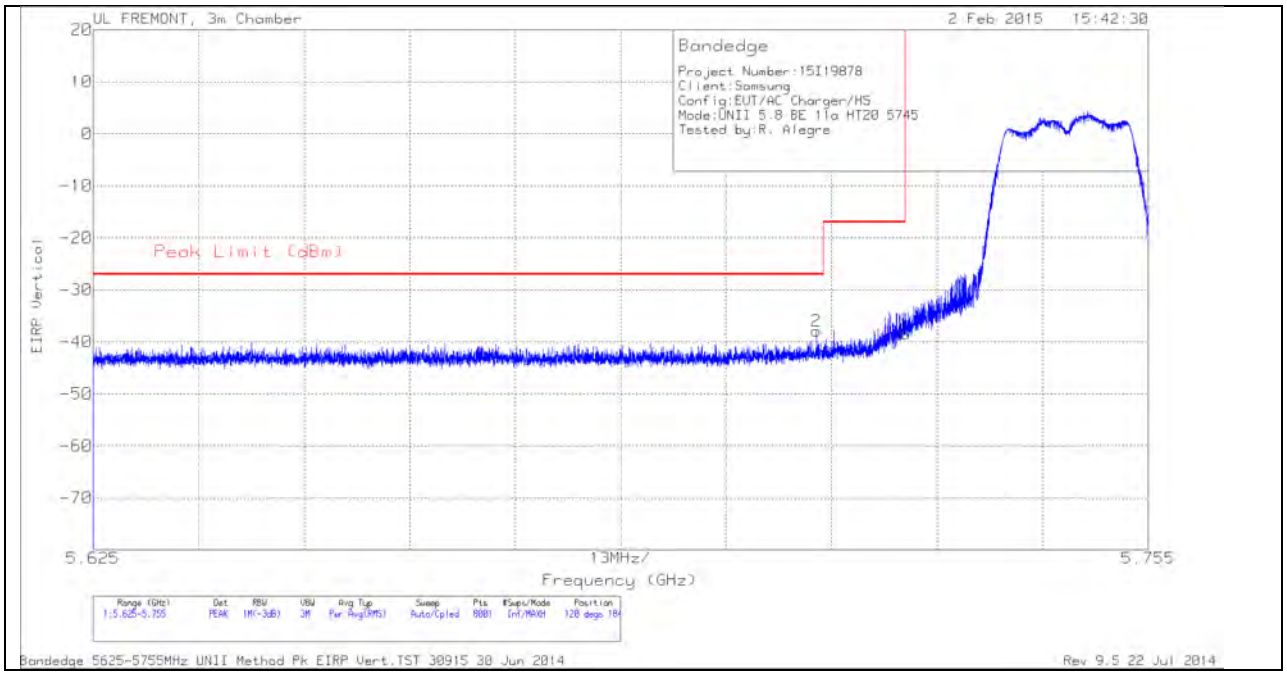
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.714	-63.52	PK	34.8	-21	11.8	0	-37.92	-27	-10.92	120	184	V
1	5.725	-64.01	PK	34.8	-21.1	11.8	0	-38.51	-17	-21.51	120	184	V

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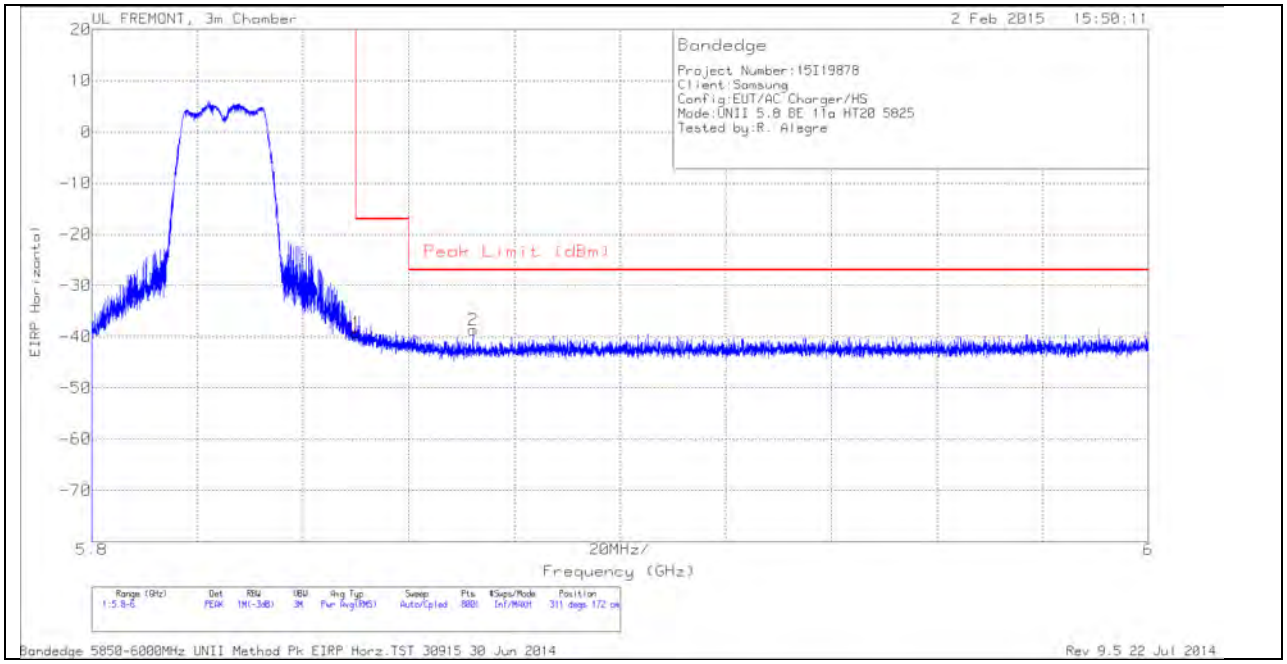
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-64.69	PK	34.9	-21.3	11.8	0	-39.29	-17	-22.29	311	172	H
2	5.872	-64.29	PK	35	-21.2	11.8	0	-38.69	-27	-11.69	311	172	H

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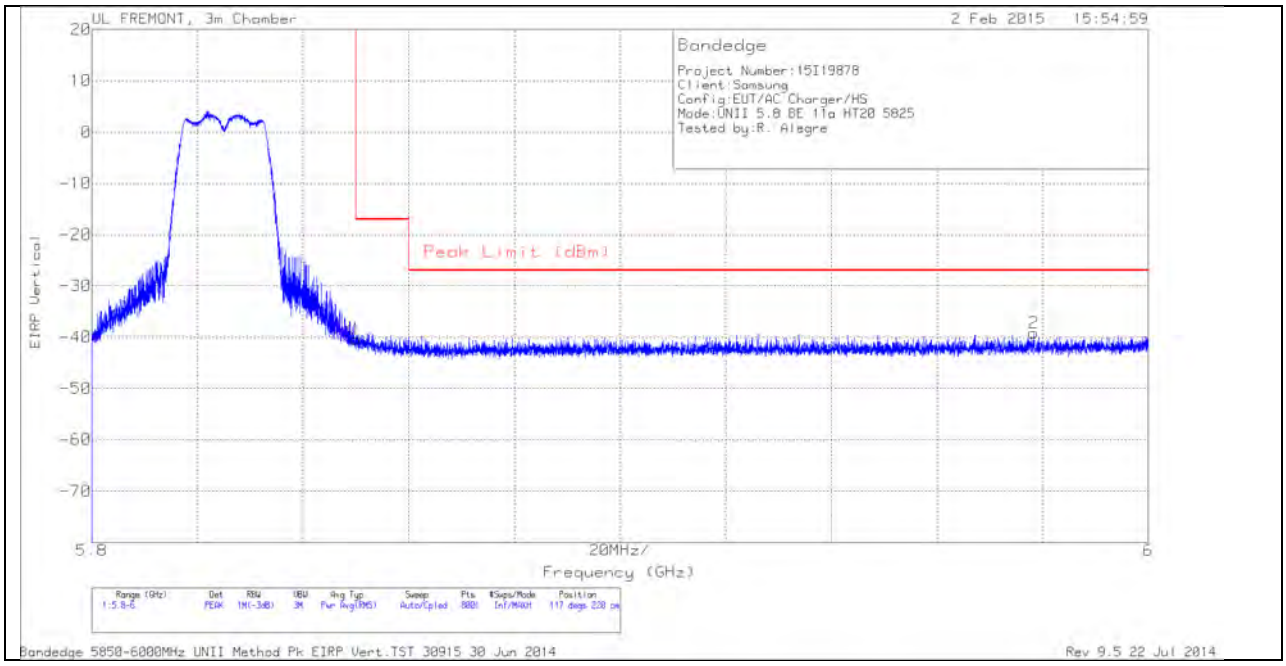
VERTICAL PEAK PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-65.78	PK	34.9	-21.3	11.8	0	-40.38	-17	-23.38	117	220	V
2	5.978	-65.29	PK	35.2	-20.9	11.8	0	-39.19	-27	-12.19	117	220	V

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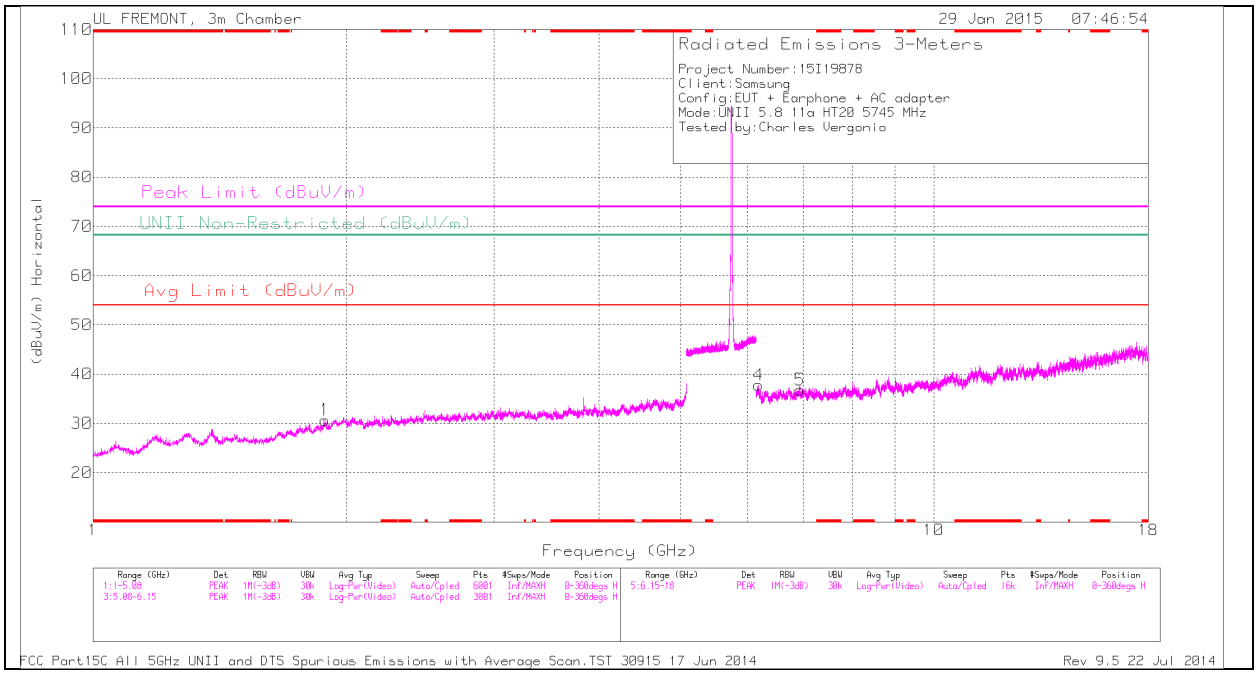
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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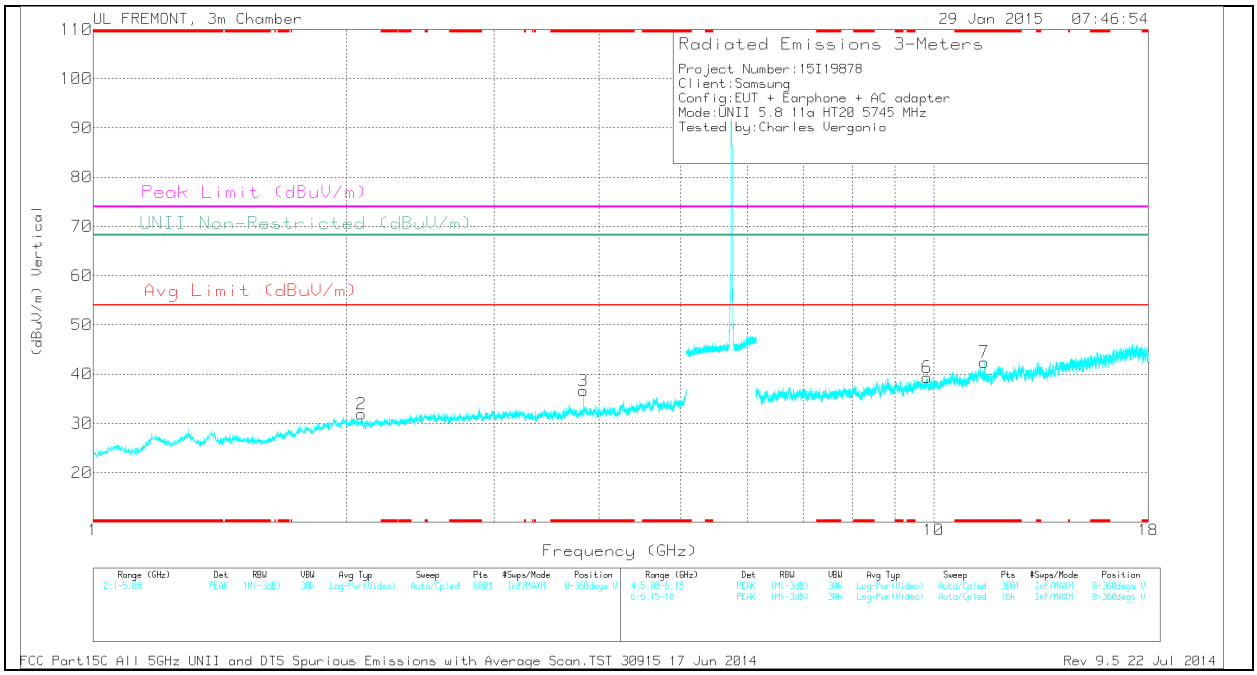
LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	* 3.83	34.71	PK	33.1	-31.2	0	36.61	-	-	74	-37.39	-	-	0-360	200	V
7	* 11.49	30.02	PK	38.4	-26	0	42.42	-	-	74	-31.58	-	-	0-360	200	V
1	1.889	32.68	PK	31	-33	0	30.68	-	-	-	-	68.2	-37.52	0-360	200	H
2	2.085	33.18	PK	31.5	-32.8	0	31.88	-	-	-	-	68.2	-36.32	0-360	200	V
4	6.187	31.77	PK	35.3	-29.3	0	37.77	-	-	-	-	68.2	-30.43	0-360	200	H
5	6.936	29.89	PK	35.6	-28.7	0	36.79	-	-	-	-	68.2	-31.41	0-360	200	H
6	9.817	27.64	PK	36.9	-25.2	0	39.34	-	-	-	-	68.2	-28.86	0-360	100	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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
* 3.83	40.35	PK1	33.1	-31.2	0	42.25	-	-	74	-31.75	-	-	0	200	V
* 3.83	29.31	AD1	33.1	-31.2	.31	31.53	54	-22.47	-	-	-	-	0	200	V

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

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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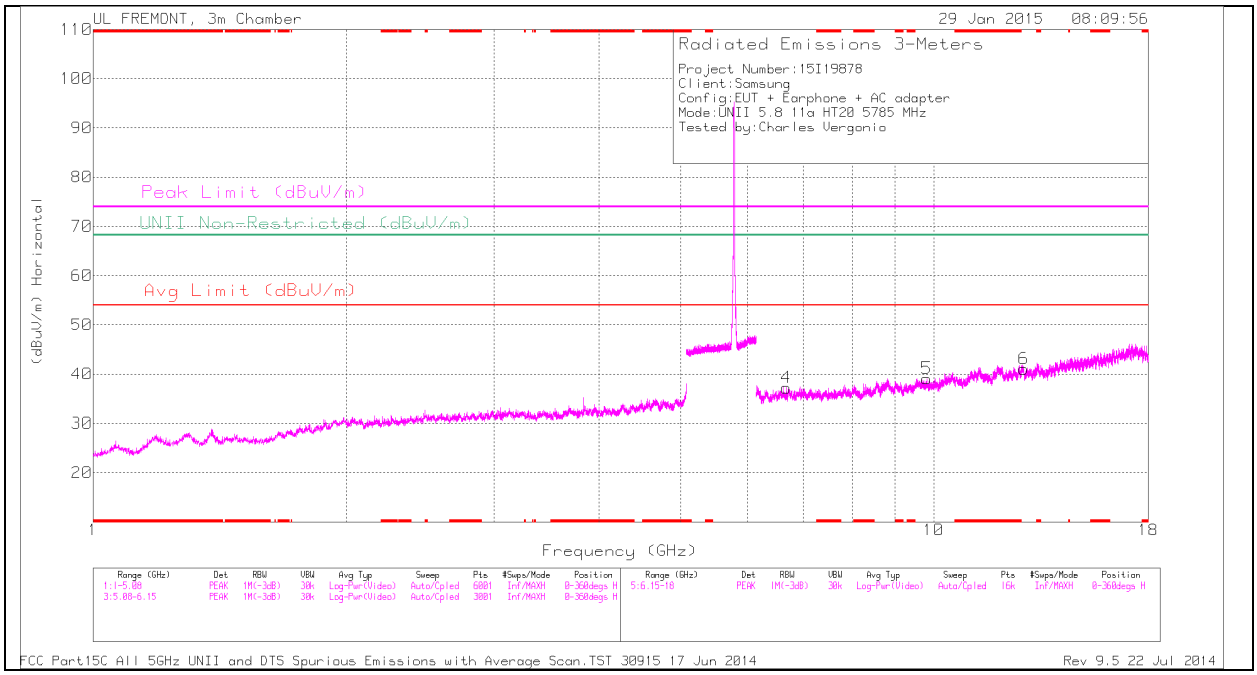
MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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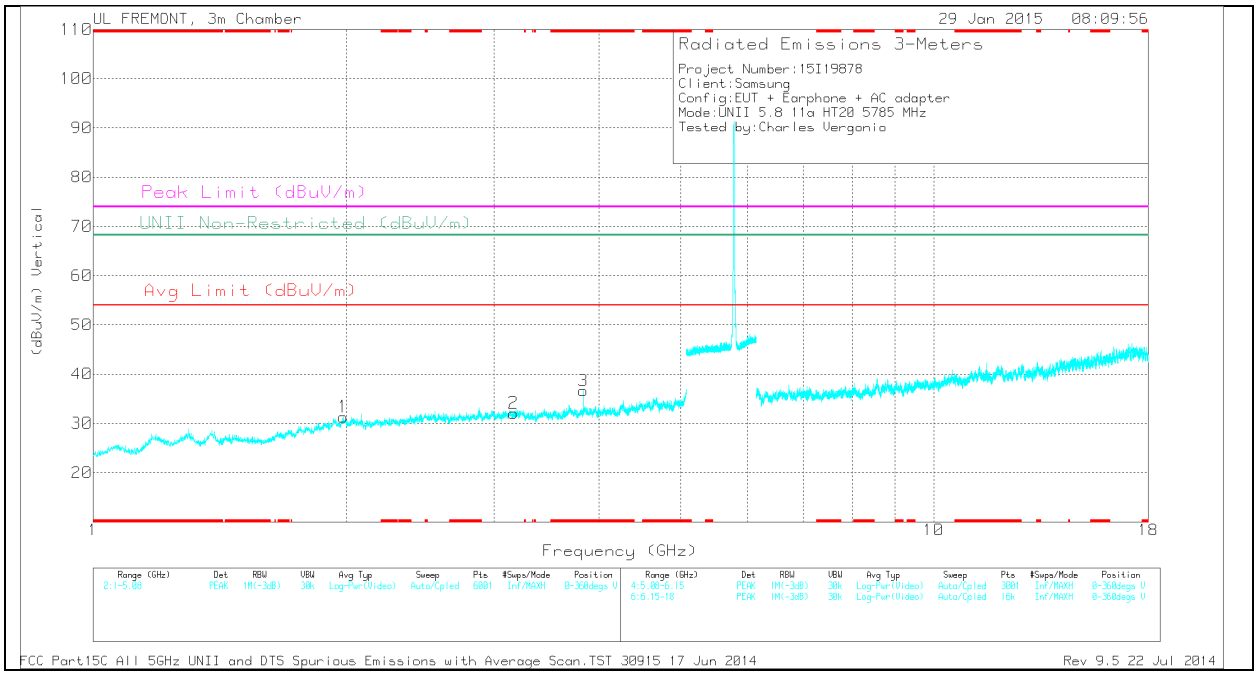
MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	* 3.83	34.71	PK	33.1	-31.2	0	36.61	-	-	74	-37.39	-	-	0-360	200	V
1	1.983	31.9	PK	31.4	-32	0	31.3	-	-	-	-	68.2	-36.9	0-360	200	V
2	3.162	30.88	PK	32.7	-31.5	0	32.08	-	-	-	-	68.2	-36.12	0-360	200	V
4	6.677	31.04	PK	35.6	-29.4	0	37.24	-	-	-	-	68.2	-30.96	0-360	200	H
5	9.811	27.38	PK	36.9	-25.2	0	39.08	-	-	-	-	68.2	-29.12	0-360	100	H
6	12.791	27.87	PK	39.1	-25.9	0	41.07	-	-	-	-	68.2	-27.13	0-360	100	H

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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
* 3.83	40.35	PK1	33.1	-31.2	0	42.25	-	-	74	-31.75	-	-	0	200	V
* 3.83	29.31	AD1	33.1	-31.2	.31	31.53	54	-22.47	-	-	-	-	0	200	V
* 3.83	40.57	PK1	33.1	-31.2	0	42.47	-	-	74	-31.53	-	-	3	200	V
* 3.83	28.8	AD1	33.1	-31.2	.31	31.02	54	-22.98	-	-	-	-	3	200	V

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

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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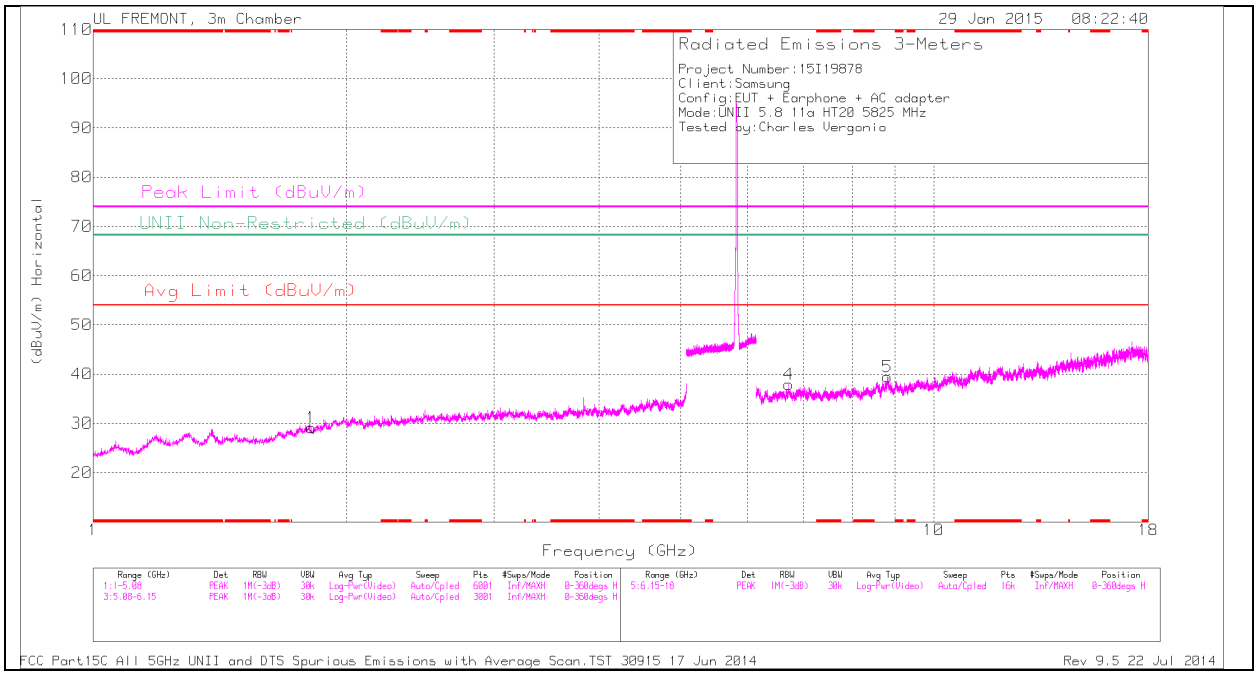
HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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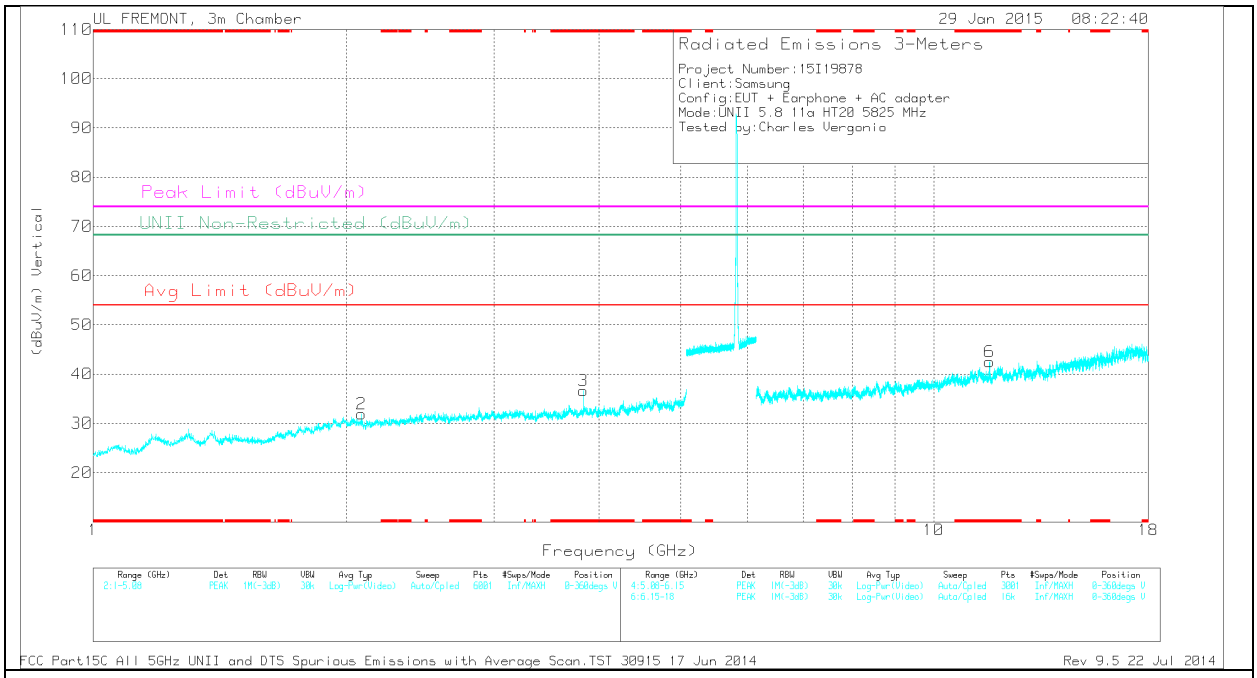
HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	* 3.83	34.71	PK	33.1	-31.2	0	36.61	-	-	74	-37.39	-	-	0-360	200	V
6	* 11.653	30.01	PK	38.7	-26.2	0	42.51	-	-	74	-31.49	-	-	0-360	200	V
1	1.819	31.79	PK	30.4	-33.1	0	29.09	-	-	-	-	68.2	-39.11	0-360	200	H
2	2.085	33.18	PK	31.5	-32.8	0	31.88	-	-	-	-	68.2	-36.32	0-360	200	V
4	6.727	31.38	PK	35.6	-29.1	0	37.88	-	-	-	-	68.2	-30.32	0-360	200	H
5	8.815	29.02	PK	35.9	-25.5	0	39.42	-	-	-	-	68.2	-28.78	0-360	100	H

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fl tr/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
* 3.83	40.35	PK1	33.1	-31.2	0	42.25	-	-	74	-31.75	-	-	0	200	V
* 3.83	29.31	AD1	33.1	-31.2	.31	31.53	54	-22.47	-	-	-	-	0	200	V
* 3.83	40.57	PK1	33.1	-31.2	0	42.47	-	-	74	-31.53	-	-	3	200	V
* 3.83	28.8	AD1	33.1	-31.2	.31	31.02	54	-22.98	-	-	-	-	3	200	V
* 11.653	37.32	PK1	38.7	-26.2	0	49.82	-	-	74	-24.18	-	-	0	200	V
* 11.654	26.28	AD1	38.7	-26.2	.31	39.1	54	-14.9	-	-	-	-	0	200	V

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

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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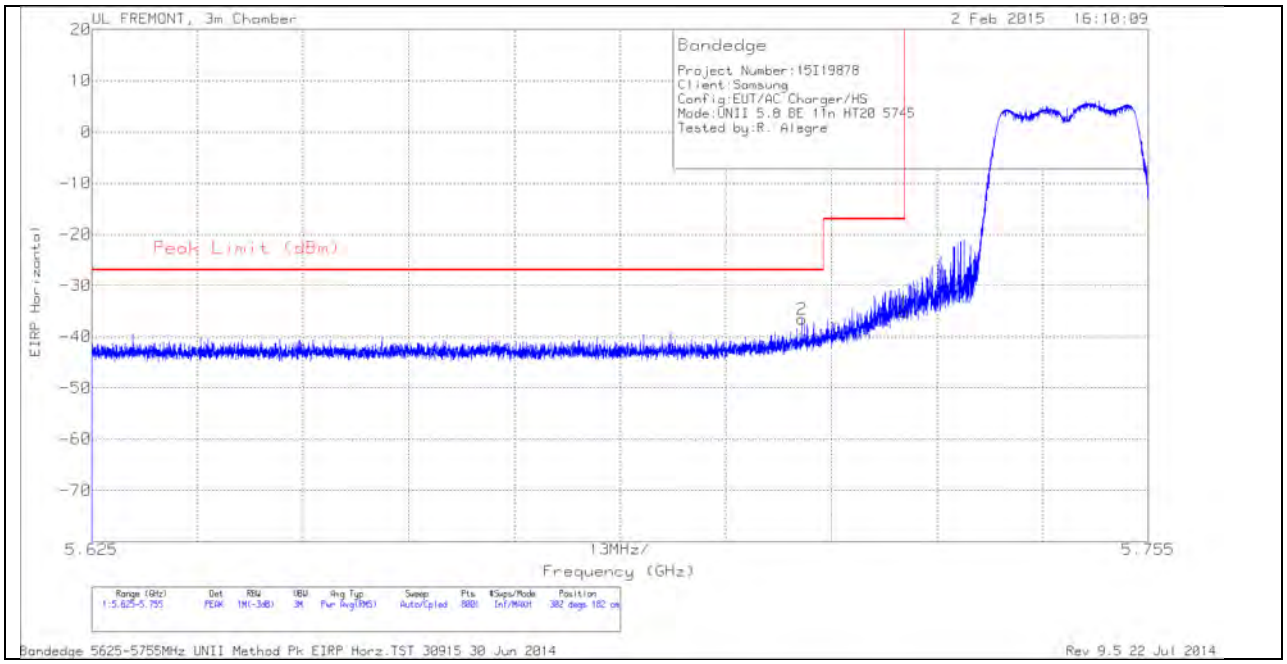
11.4.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.8 GHz BAND

AUTHORIZED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.712	-62.22	PK	34.8	-21	11.8	0	-36.62	-27	-9.62	302	182	H
1	5.725	-60.75	PK	34.8	-21.1	11.8	0	-35.25	-17	-18.25	302	182	H

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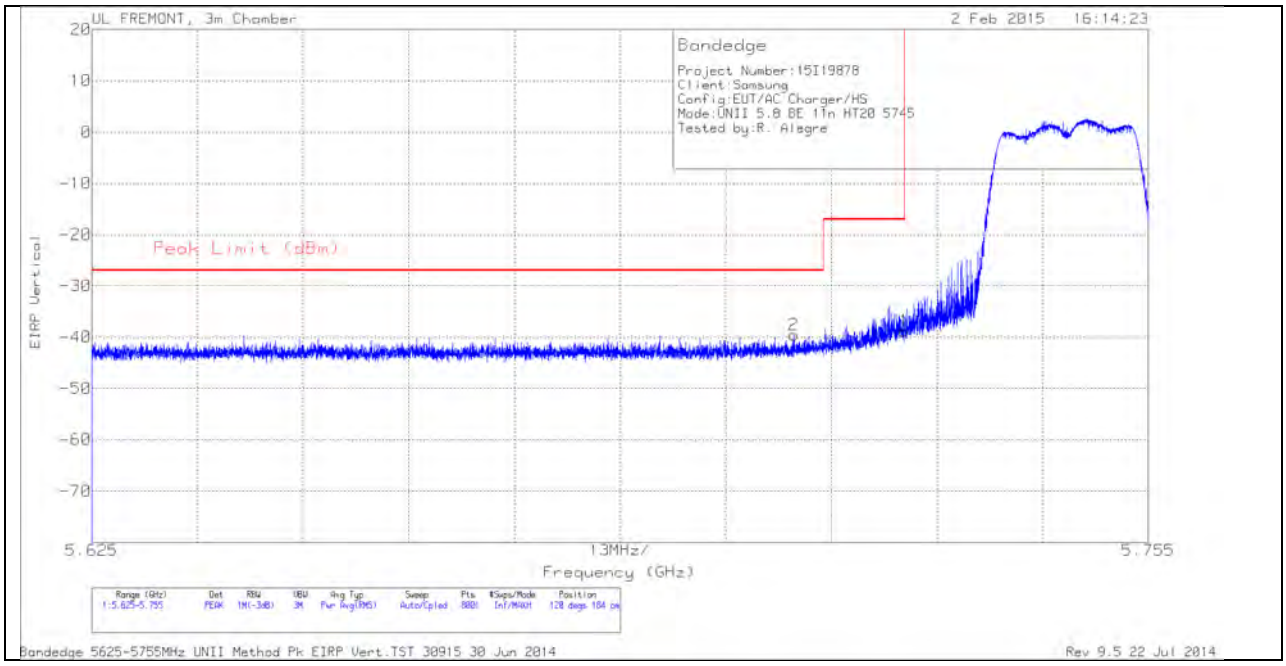
VERTICAL PEAK PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.711	-65.11	PK	34.8	-21	11.8	0	-39.51	-27	-12.51	120	184	V
1	5.725	-64.32	PK	34.8	-21.1	11.8	0	-38.82	-17	-21.82	120	184	V

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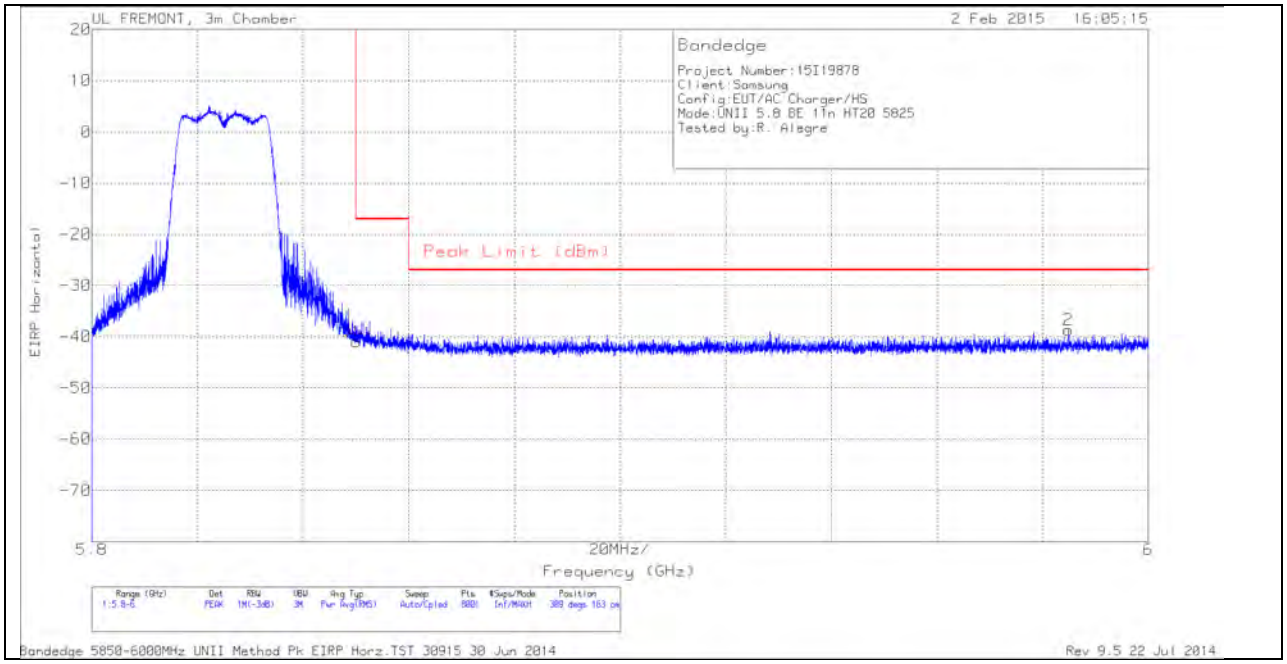
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-66.43	PK	34.9	-21.3	11.8	0	-41.03	-17	-24.03	309	163	H
2	5.985	-64.72	PK	35.2	-20.9	11.8	0	-38.62	-27	-11.62	309	163	H

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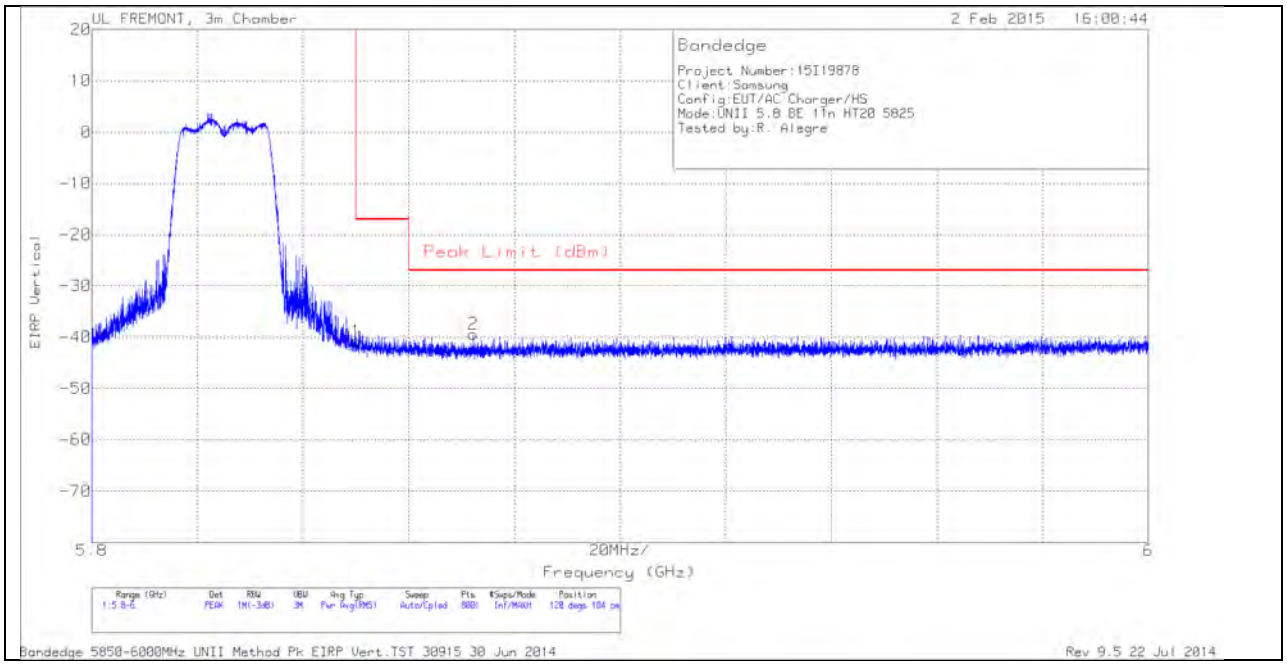
VERTICAL PEAK PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-66.2	PK	34.9	-21.3	11.8	0	-40.8	-17	-23.8	120	184	V
2	5.872	-64.95	PK	35	-21.2	11.8	0	-39.35	-27	-12.35	120	184	V

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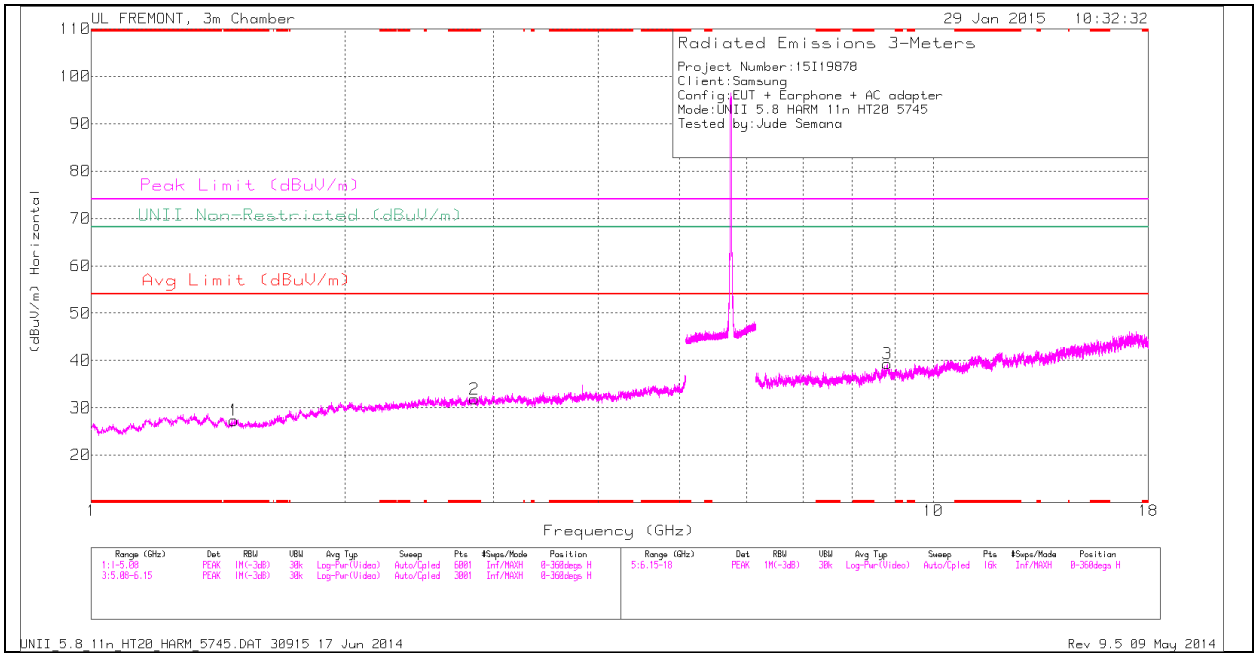
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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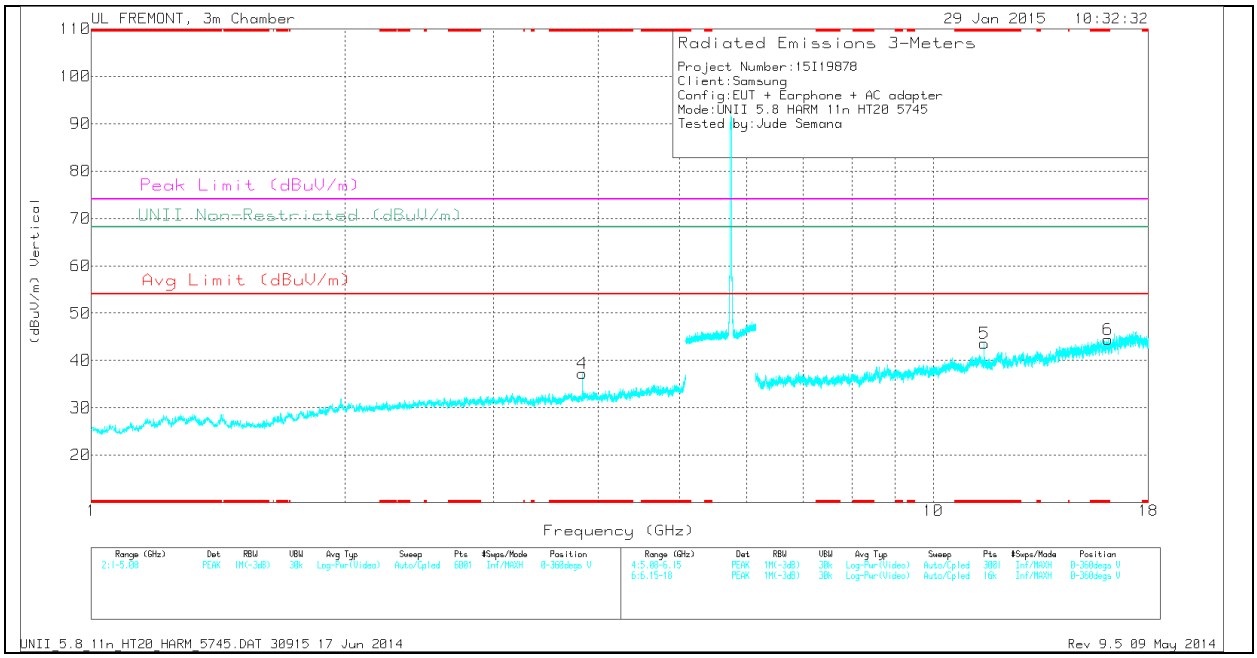
LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	* 1.477	32.04	PK	28.2	-32.9	0	27.34	-	-	74	-46.66	-	-	0-360	100	H
5	* 11.49	31.22	PK	38.4	-26	0	43.62	-	-	74	-30.38	-	-	0-360	200	V
6	* 16.123	29.24	PK	40.4	-25.2	0	44.44	-	-	74	-29.56	-	-	0-360	100	V
2	* 2.85	31.67	PK	32.6	-32.4	0	31.87	-	-	74	-42.13	-	-	0-360	100	H
4	* 3.83	35.37	PK	33.1	-31.2	0	37.27	-	-	74	-36.73	-	-	0-360	200	V
3	8.816	28.9	PK	35.9	-25.5	0	39.3	-	-	-	-	68.2	-28.9	0-360	100	H

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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
* 11.49	40.16	PK1	38.4	-26	0	52.56	-	-	74	-21.44	-	-	298	225	V
* 11.49	28.38	AD1	38.4	-26	.33	41.11	54	-12.89	-	-	-	-	298	225	V

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

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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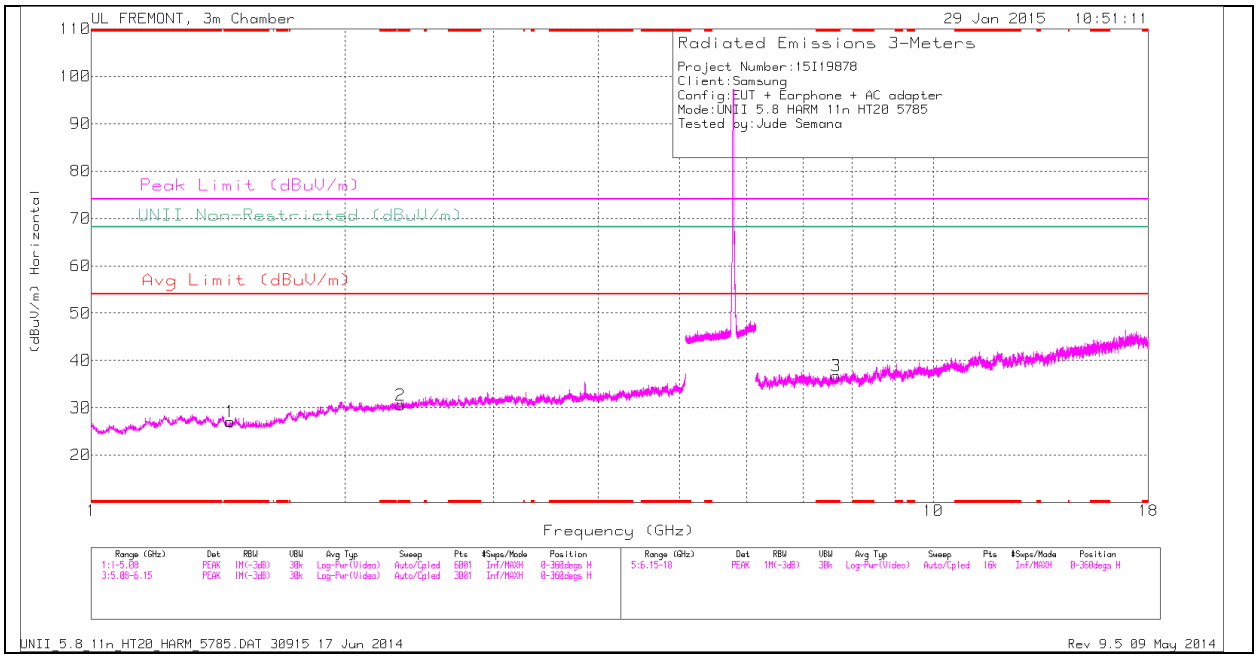
MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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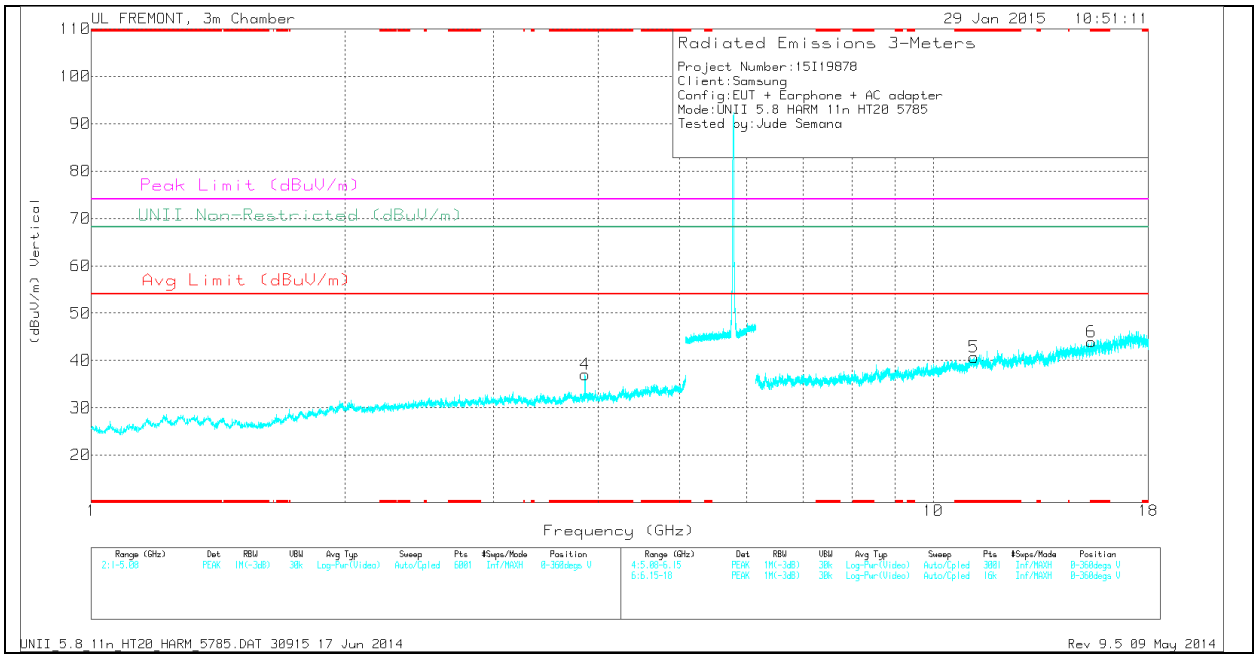
MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	* 1.461	31.64	PK	28.3	-32.8	0	27.14	-	-	74	-46.86	-	-	0-360	100	H
2	* 2.329	31.38	PK	31.7	-32.5	0	30.58	-	-	74	-43.42	-	-	0-360	200	H
4	* 3.857	34.75	PK	33.1	-30.8	0	37.05	-	-	74	-36.95	-	-	0-360	200	V
3	* 7.669	29.72	PK	35.8	-28.8	0	36.72	-	-	74	-37.28	-	-	0-360	200	H
5	* 11.179	28.59	PK	37.9	-25.8	0	40.69	-	-	74	-33.31	-	-	0-360	200	V
6	* 15.407	30.44	PK	40.1	-26.6	0	43.94	-	-	74	-30.06	-	-	0-360	100	V

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

PK - Peak detector

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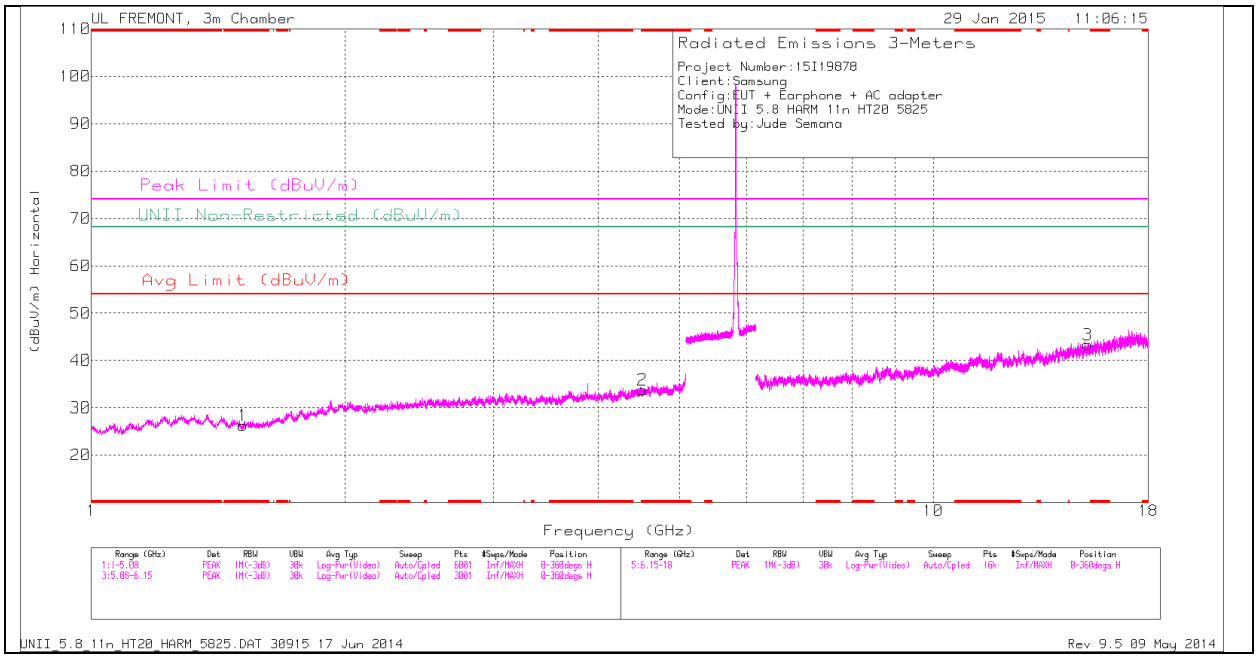
HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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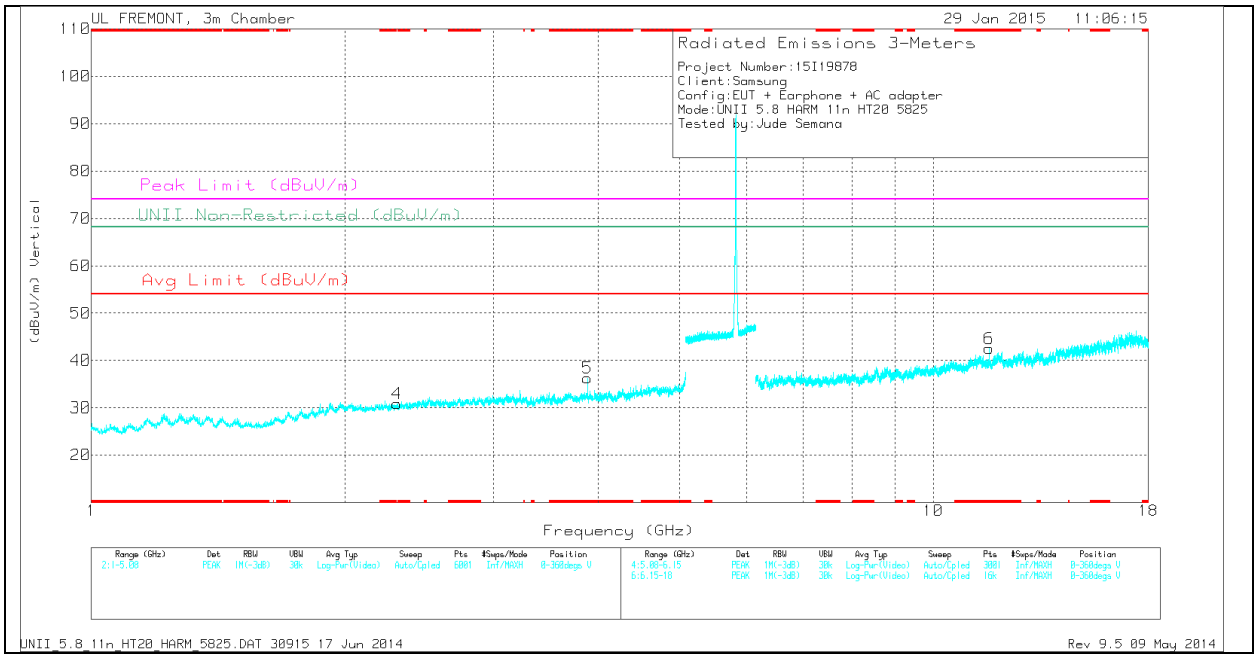
HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	* 1.513	31.33	PK	28.1	-33.1	0	26.33	-	-	74	-47.67	-	-	0-360	200	H
2	* 4.514	31.51	PK	33.8	-31.5	0	33.81	-	-	74	-40.19	-	-	0-360	200	H
5	* 3.883	33.89	PK	33.2	-30.8	0	36.29	-	-	74	-37.71	-	-	0-360	200	V
6	* 11.65	30.04	PK	38.7	-26.2	0	42.54	-	-	74	-31.46	-	-	0-360	200	V
4	2.306	31.86	PK	31.6	-32.6	0	30.86	-	-	-	-	68.2	-37.34	0-360	100	V
3	15.248	29.83	PK	39.9	-26.4	0	43.33	-	-	-	-	68.2	-24.87	0-360	200	H

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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
* 11.65	40.66	PK1	38.7	-26.2	0	53.16	-	-	74	-20.84	-	-	59	209	V
* 11.65	30.43	AD1	38.7	-26.2	.33	43.26	54	-10.74	-	-	-	-	59	209	V

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

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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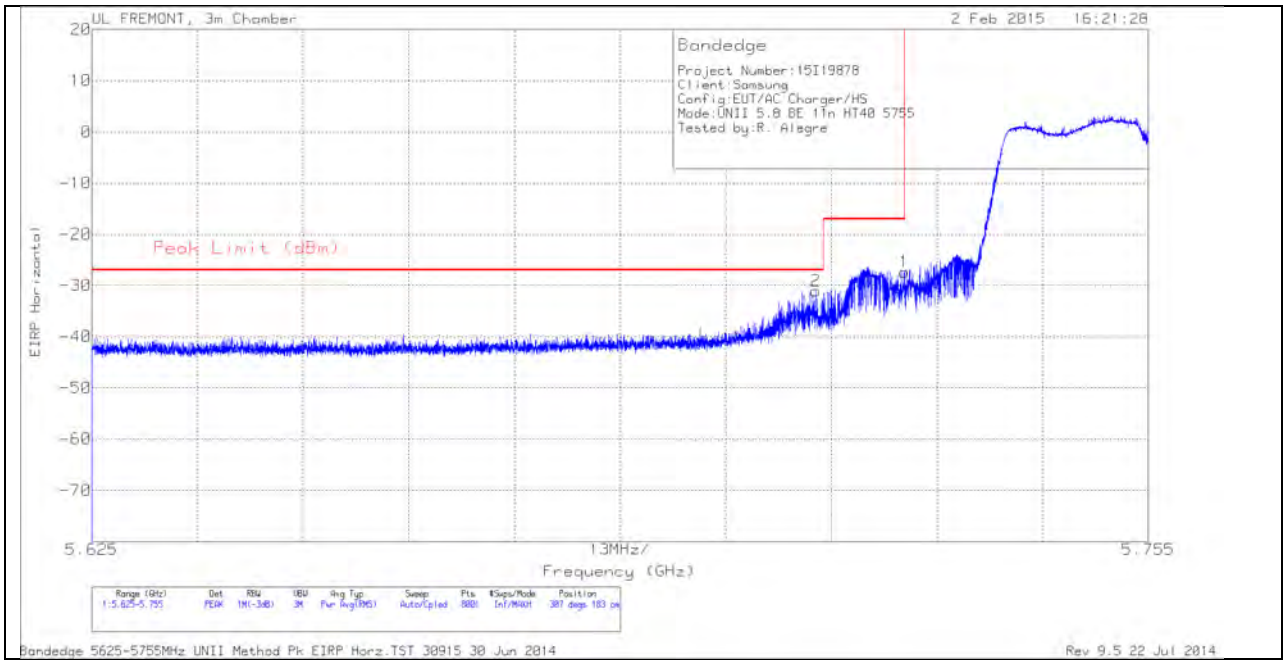
11.4.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.8 GHz BAND

AUTHORIZED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.714	-56.62	PK	34.8	-21	11.8	0	-31.02	-27	-4.02	307	183	H
1	5.725	-52.9	PK	34.8	-21.1	11.8	0	-27.4	-17	-10.4	307	183	H

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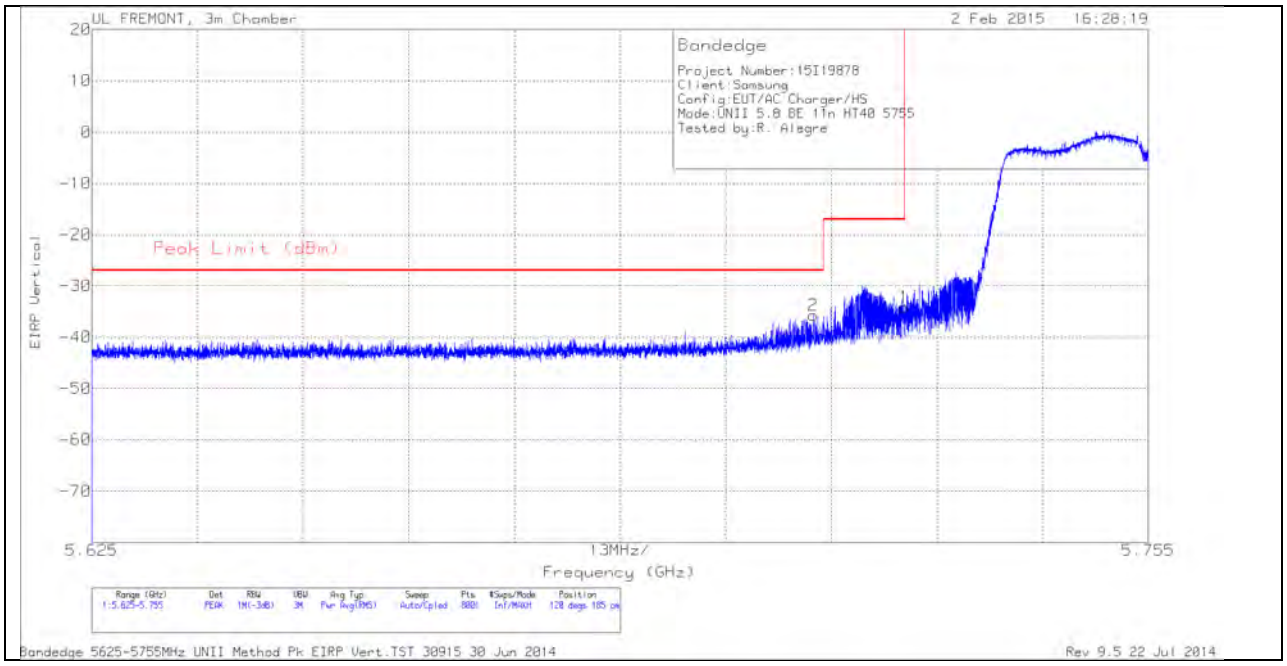
VERTICAL PEAK PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (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	5.714	-61.37	PK	34.8	-21	11.8	-35.77	-27	-8.77	120	185	V
1	5.725	-59.65	PK	34.8	-21.1	11.8	-34.15	-17	-17.15	120	185	V

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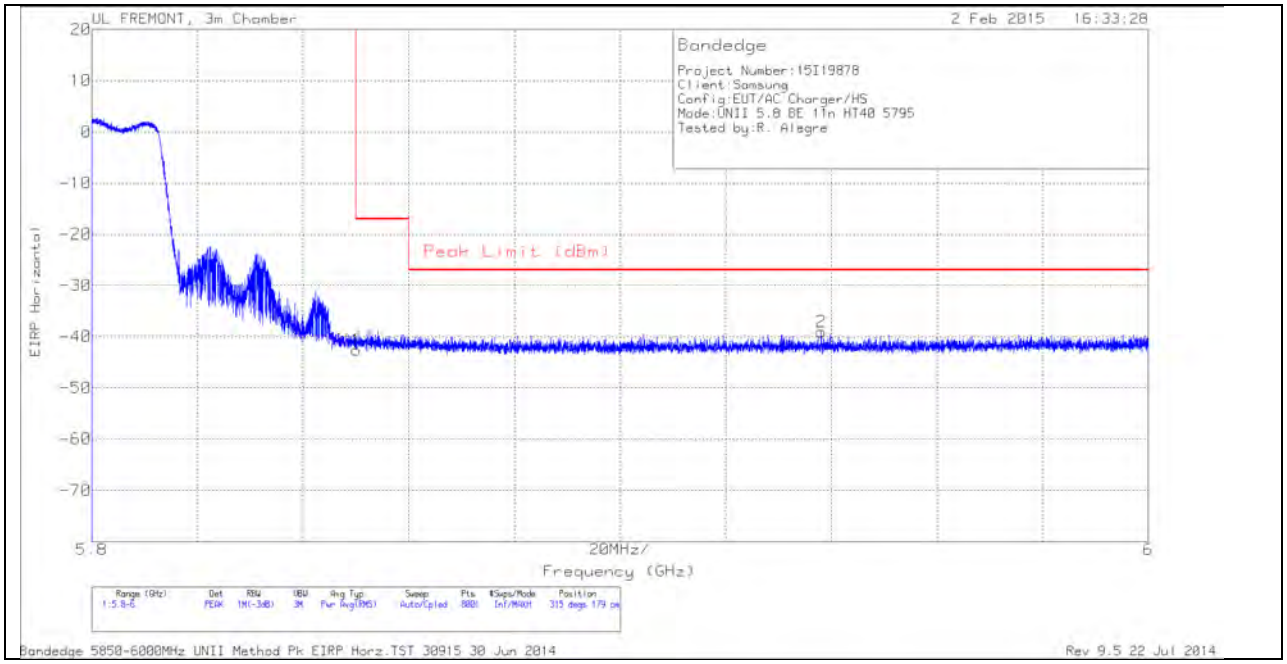
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-68	PK	34.9	-21.3	11.8	0	-42.6	-17	-25.6	315	179	H
2	5.938	-64.9	PK	35.1	-21	11.8	0	-39	-27	-12	315	179	H

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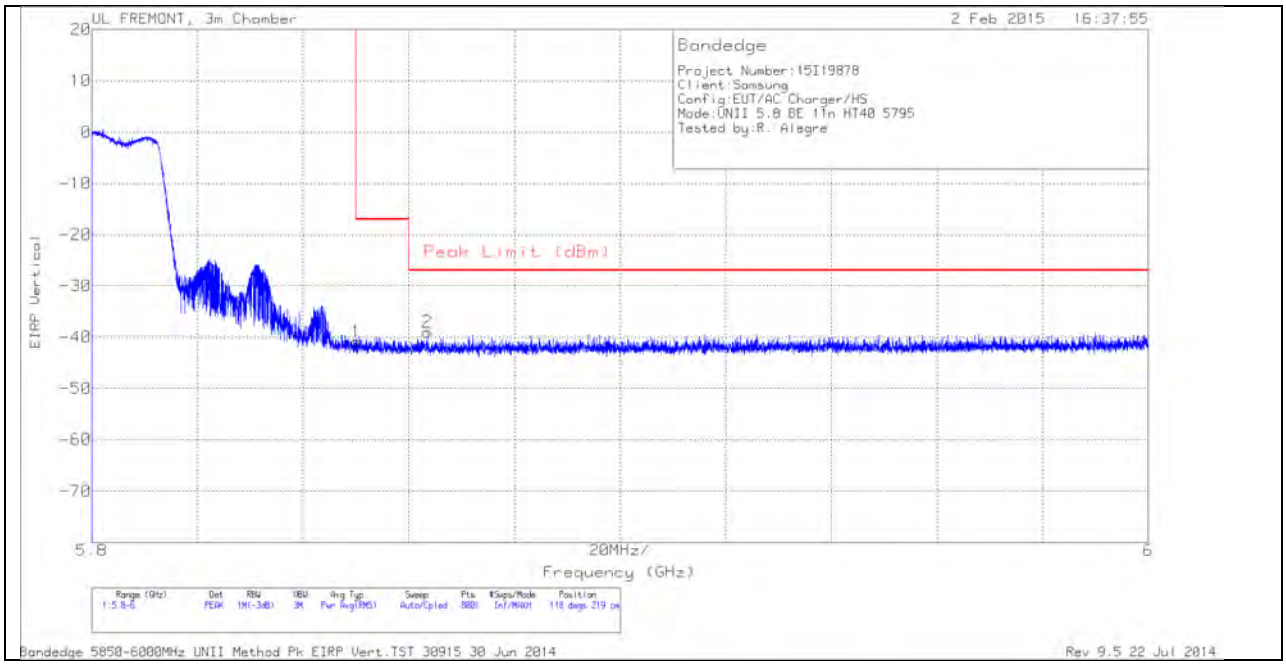
VERTICAL PEAK PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-66.3	PK	34.9	-21.3	11.8	0	-40.9	-17	-23.9	118	219	V
2	5.864	-64.38	PK	34.9	-21.3	11.8	0	-38.98	-27	-11.98	118	219	V

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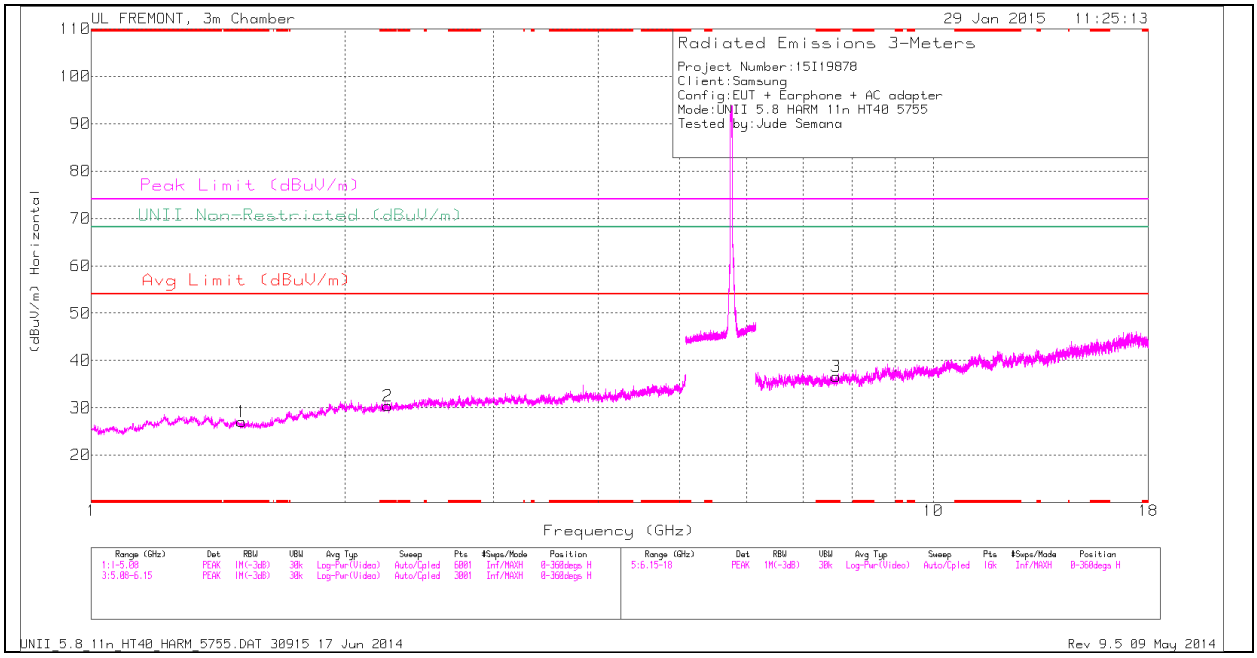
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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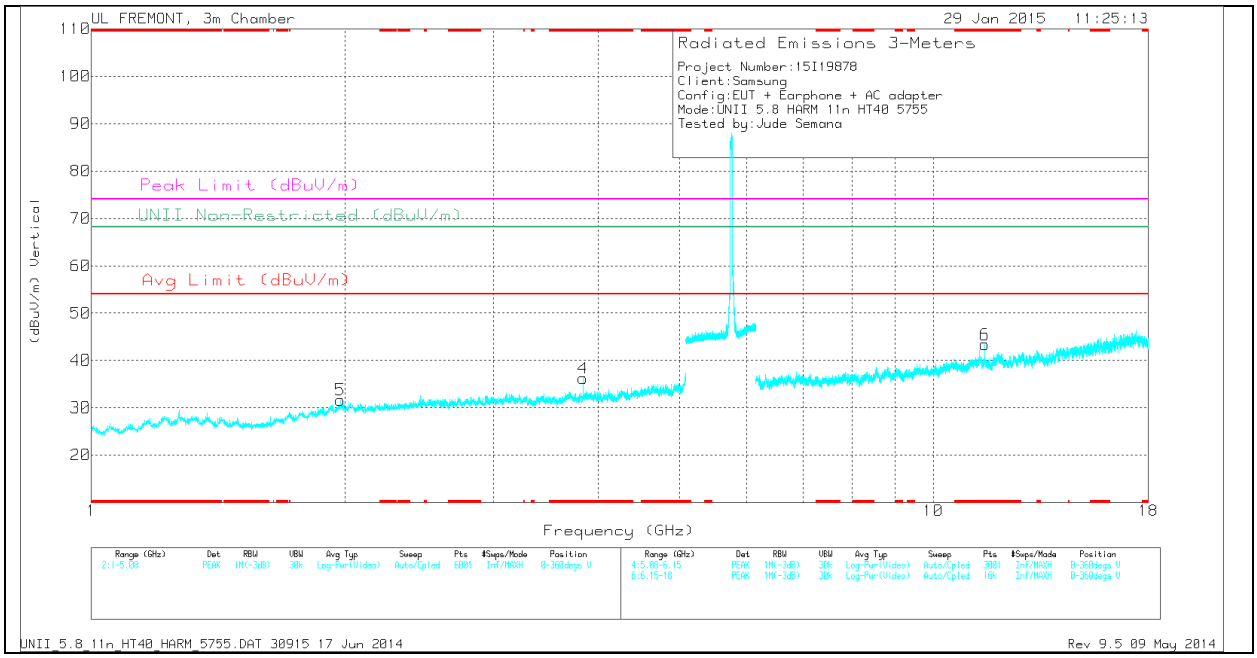
LOW CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	* 1.509	31.97	PK	28.1	-33	0	27.07	-	-	74	-46.93	-	-	0-360	200	H
2	* 2.251	31.2	PK	31.5	-32.3	0	30.4	-	-	74	-43.6	-	-	0-360	100	H
4	* 3.837	34.03	PK	33.1	-30.9	0	36.23	-	-	74	-37.77	-	-	0-360	200	V
3	* 7.669	29.61	PK	35.8	-28.8	0	36.61	-	-	74	-37.39	-	-	0-360	200	H
6	* 11.51	31.17	PK	38.4	-26.2	0	43.37	-	-	74	-30.63	-	-	0-360	200	V
5	1.976	32.43	PK	31.4	-32.2	0	31.63	-	-	-	-	68.2	-36.57	0-360	200	V

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

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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
* 11.51	40.1	PK1	38.4	-26.2	0	52.3	-	-	74	-21.7	-	-	234	238	V
* 11.51	29.72	AD1	38.4	-26.2	.63	42.55	54	-11.51	-	-	-	-	234	238	V

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

PK1 - KDB789033 Method: Peak

AD1 - KDB789033 Method: AD Primary Power Average

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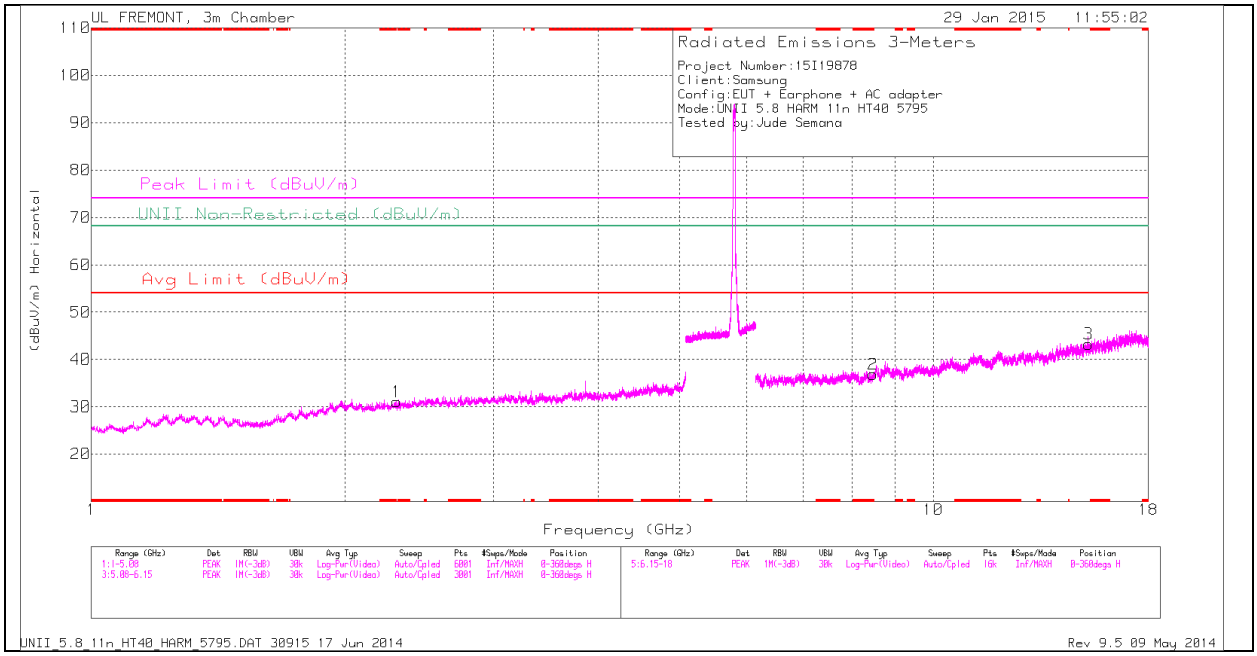
HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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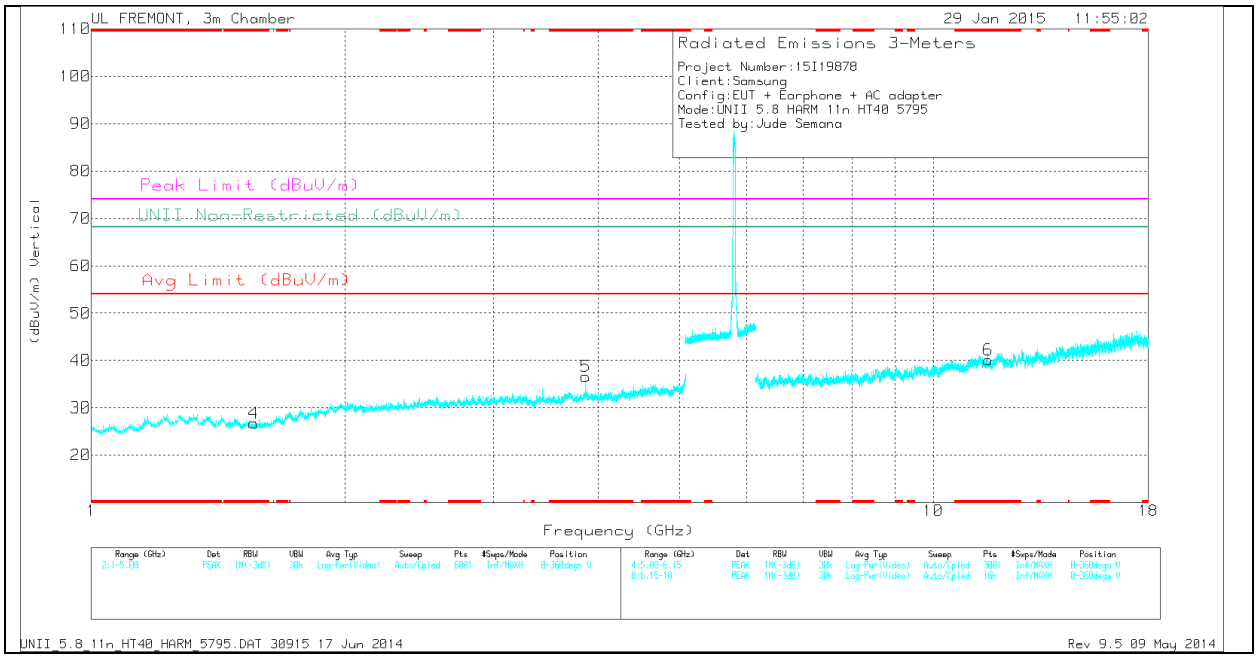
HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	* 1.56	32.14	PK	28	-33.4	0	26.74	-	-	74	-47.26	-	-	0-360	200	V
5	* 3.863	34.41	PK	33.1	-30.9	0	36.61	-	-	74	-37.39	-	-	0-360	200	V
2	* 8.475	29.16	PK	35.8	-28.1	0	36.86	-	-	74	-37.14	-	-	0-360	100	H
6	* 11.613	27.29	PK	38.6	-25.8	0	40.09	-	-	74	-33.91	-	-	0-360	200	V
1	2.303	32.1	PK	31.6	-32.6	0	31.1	-	-	-	-	68.2	-37.1	0-360	200	H
3	15.279	30.14	PK	39.9	-26.8	0	43.24	-	-	-	-	68.2	-24.96	0-360	200	H

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

PK - Peak detector

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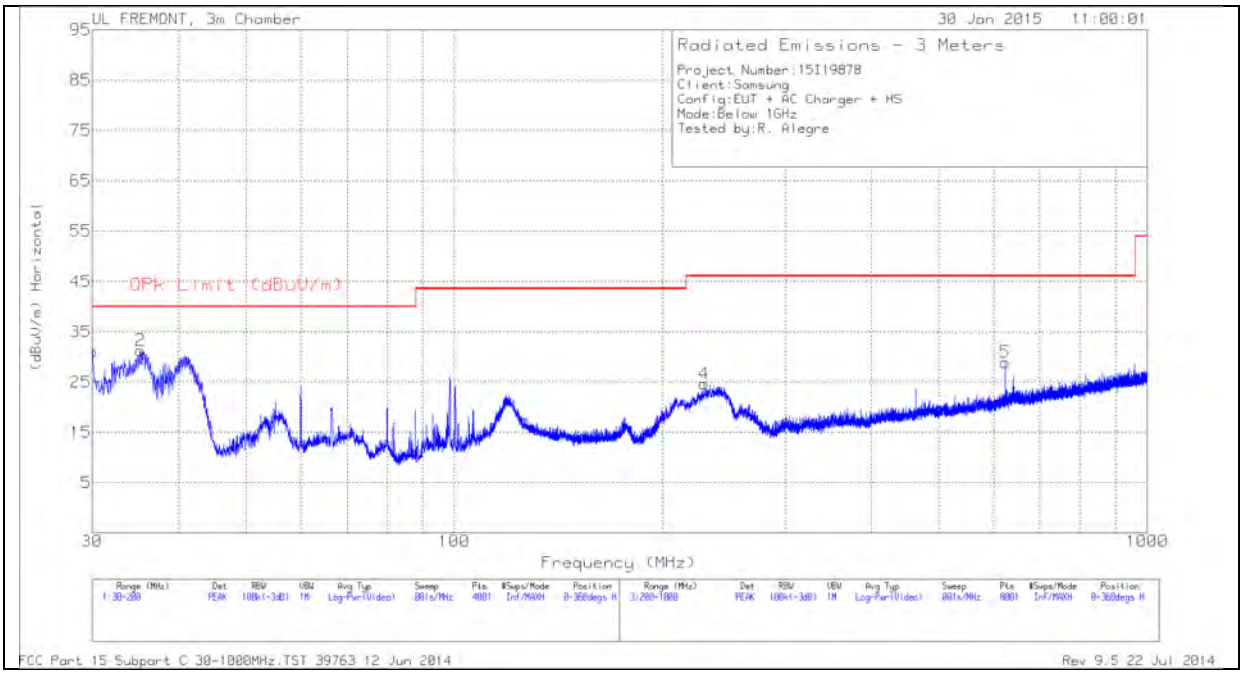
12. WORST-CASE BELOW 1 GHz (in the 5.3 GHz Band)

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



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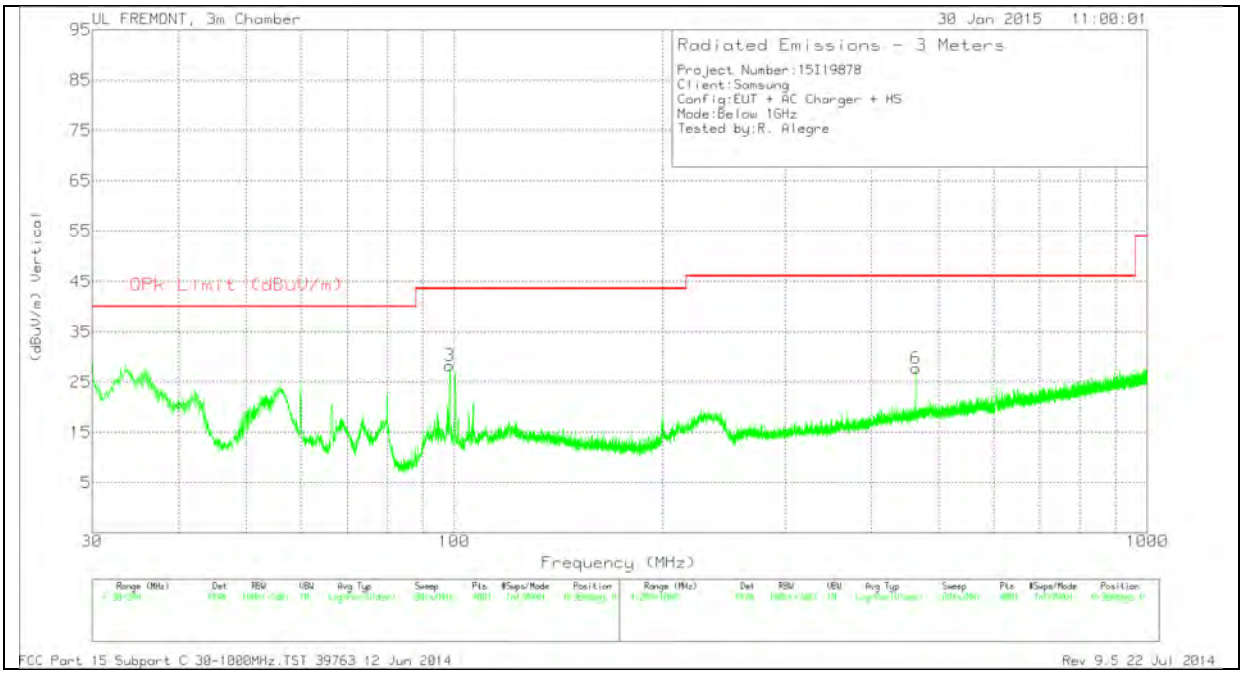
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)



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Below 1G Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.0425	37.7	PK	21	-27.5	31.2	40	-8.8	0-360	300	H
2	35.2275	41.69	PK	17.1	-27.5	31.29	40	-8.71	0-360	400	H
3	98.4675	45.59	PK	9.5	-26.8	28.29	43.52	-15.23	0-360	100	V
4	229.4	39.05	PK	11.1	-25.5	24.65	46.02	-21.37	0-360	100	H
6	463.7	36.47	PK	17.1	-25.8	27.77	46.02	-18.25	0-360	100	V
5	624	35.34	PK	19.2	-25.6	28.94	46.02	-17.08	0-360	300	H

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13. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	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 C63.4.

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

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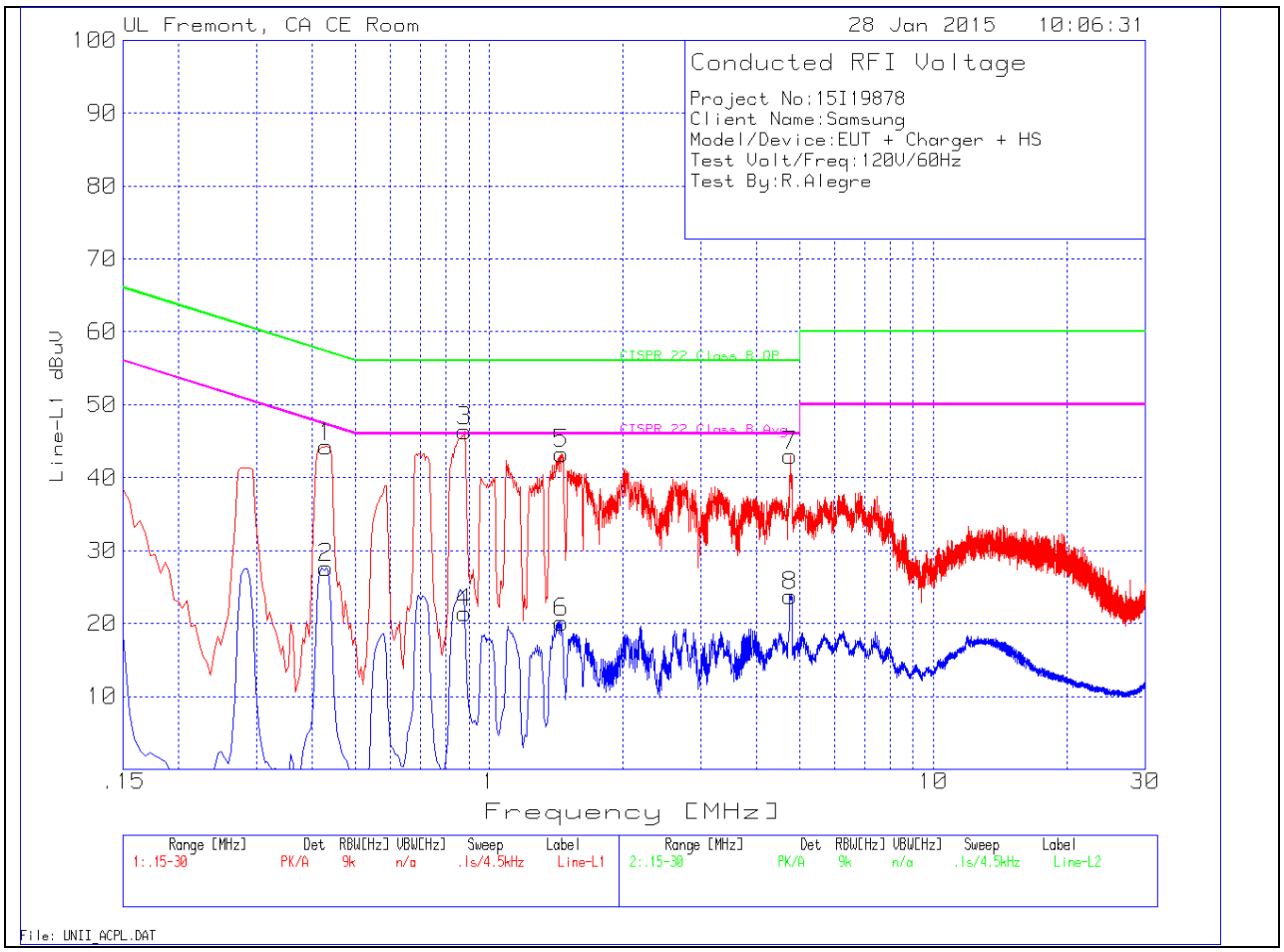
6 WORST EMISSIONS

LINE 1 PLOT



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LINE 1 RESULTS

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.429	43.84	PK	.4	0	44.24	57.3	-13.06	-	-
2	.429	27.24	Av	.4	0	27.64	-	-	47.3	-19.66
3	.879	46.04	PK	.3	0	46.34	56	-9.66	-	-
4	.879	21.12	Av	.3	0	21.42	-	-	46	-24.58
5	1.455	43.01	PK	.2	.1	43.31	56	-12.69	-	-
6	1.455	19.82	Av	.2	.1	20.12	-	-	46	-25.88
7	4.7715	42.72	PK	.2	.1	43.02	56	-12.98	-	-
8	4.7715	23.49	Av	.2	.1	23.79	-	-	46	-22.21

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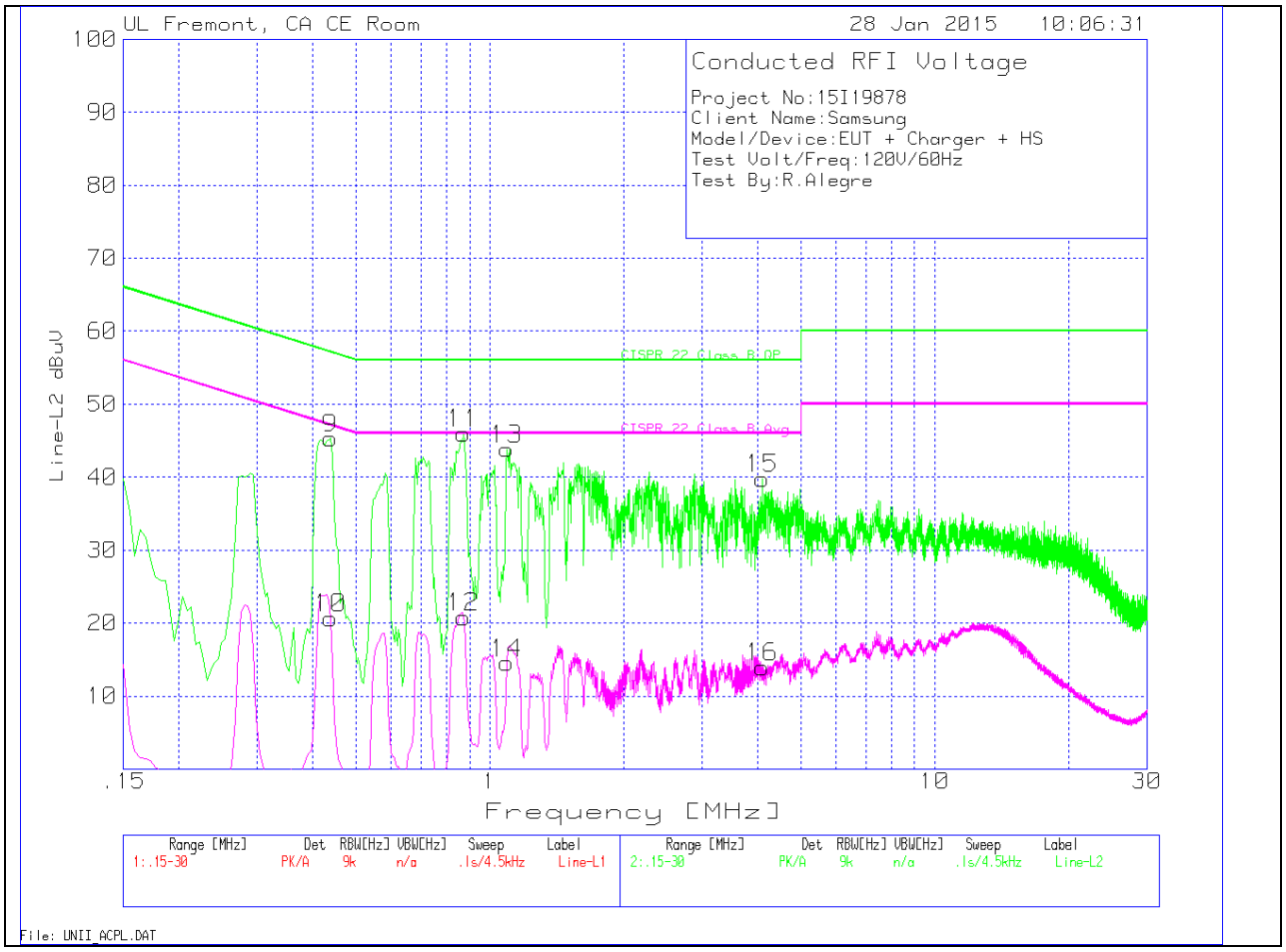
LINE 2 PLOT



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LINE 2 RESULTS

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
9	.438	44.88	PK	.4	0	45.28	57.1	-11.82	-	-
10	.438	20.24	Av	.4	0	20.64	-	-	47.1	-26.46
11	.87	45.74	PK	.3	0	46.04	56	-9.96	-	-
12	.87	20.54	Av	.3	0	20.84	-	-	46	-25.16
13	1.0905	43.55	PK	.3	0	43.85	56	-12.15	-	-
14	1.0905	14.23	Av	.3	0	14.53	-	-	46	-31.47
15	4.0965	39.48	PK	.2	.1	39.78	56	-16.22	-	-
16	4.0965	13.7	Av	.2	.1	14	-	-	46	-32

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14. DYNAMIC FREQUENCY SELECTION

14.1. OVERVIEW

14.1.1. LIMITS

INDUSTRY CANADA

IC RSS-210 is closely harmonized with FCC Part 15 DFS rules. The deviations are as follows:

RSS-210 Issue 8 A9.3

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”.

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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)

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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.		

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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)

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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.

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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: $\{(1/360) \times (19 \times 10^6\ PRI_{usec})\}$	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.

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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

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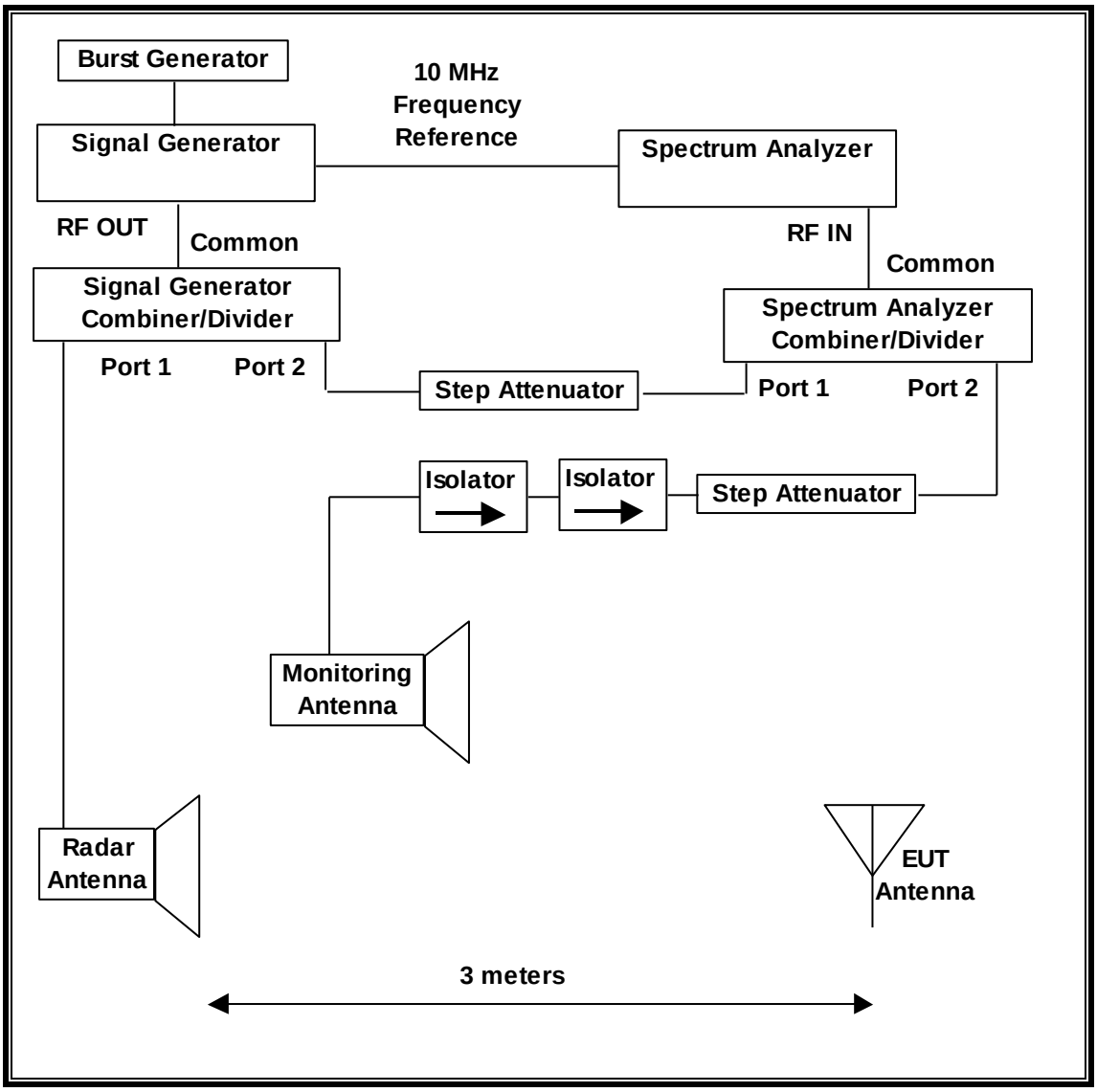
14.1.2. TEST AND MEASUREMENT SYSTEM

RADIATED METHOD SYSTEM BLOCK DIAGRAM



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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.

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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.

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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**	**Asset Number**	**Cal Due**
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01178	09/05/15
Vector Signal Generator, 20GHz	Agilent / HP	E8267C	C01066	09/03/15

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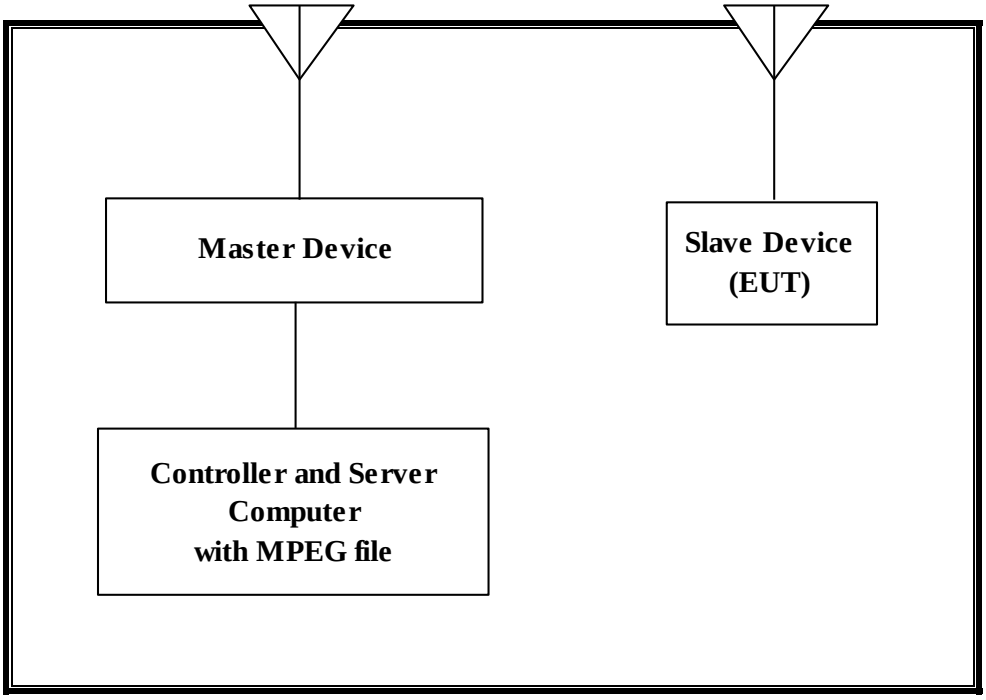
14.1.3. SETUP OF EUT

RADIATED METHOD EUT TEST SETUP



SUPPORT EQUIPMENT

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

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PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
802.11ac Access Point (Master Device 1)	Cisco	AIR-CAP3702E-A-K9	FTX181570A6	LDK102087
P.O.E. Injector (Master 1)	Phihong	POE30U-560(G)	PHI170102N2	DoC
Notebook PC (Controller/Server)	Lenovo	Type 20B7-S0A200	PF-02JN9J 14/06	DoC
AC Adapter (Controller/Server PC)	Lenovo	ADLX65NLC2A	11S45N0259Z1ZS974594A9	DoC

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14.1.4. 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 9.39 dBm EIRP in the 5250-5350 MHz band and 9.86 dBm EIRP in the

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 one transmitter/receiver chain connected to an antenna to perform radiated tests.

WLAN traffic that meets or exceeds the minimum required loading was generated by transferring a data stream from the controller/server PC to the EUT using iPerf version 2.0.5 software package.

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

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The EUT utilizes the 802.11a/n architecture. Two nominal channel bandwidths are implemented: 20 MHz and 40 MHz.

The software installed in the access point is 12.4(25d)JA1.

UNIFORM CHANNEL SPREADING

This function is not required per KDB 905462.

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

The Master Device is a Cisco Access Point, FCC ID: LDK102061. The minimum antenna gain for the Master Device is 3.5 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.

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14.2. RESULTS FOR 20 MHz BANDWIDTH

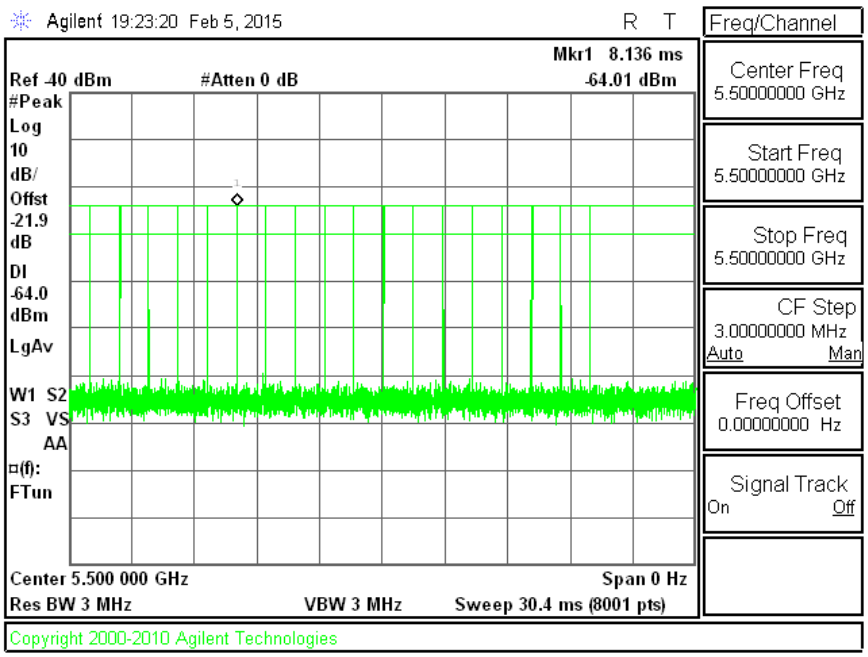
14.2.1. TEST CHANNEL

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

14.2.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM

SHORT PULSE RADAR TYPE 0 AT MASTER



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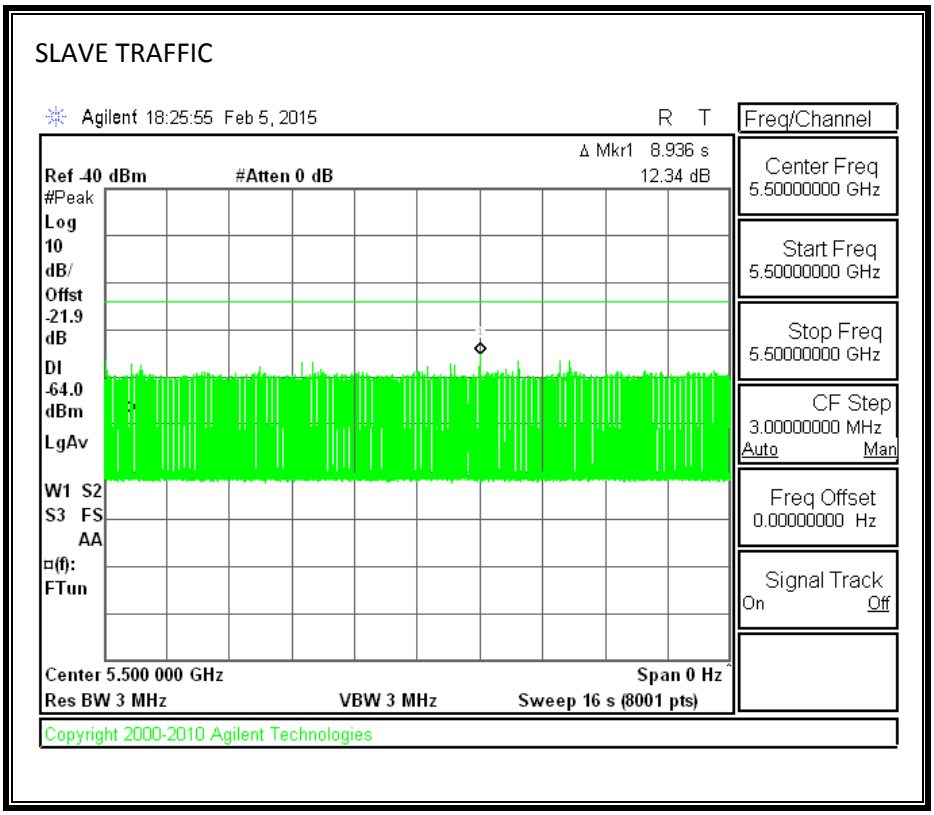
TRAFFIC



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14.2.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

14.2.4. 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).

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RESULTS

Channel Move Time (sec)	Limit (sec)
0.082	10

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

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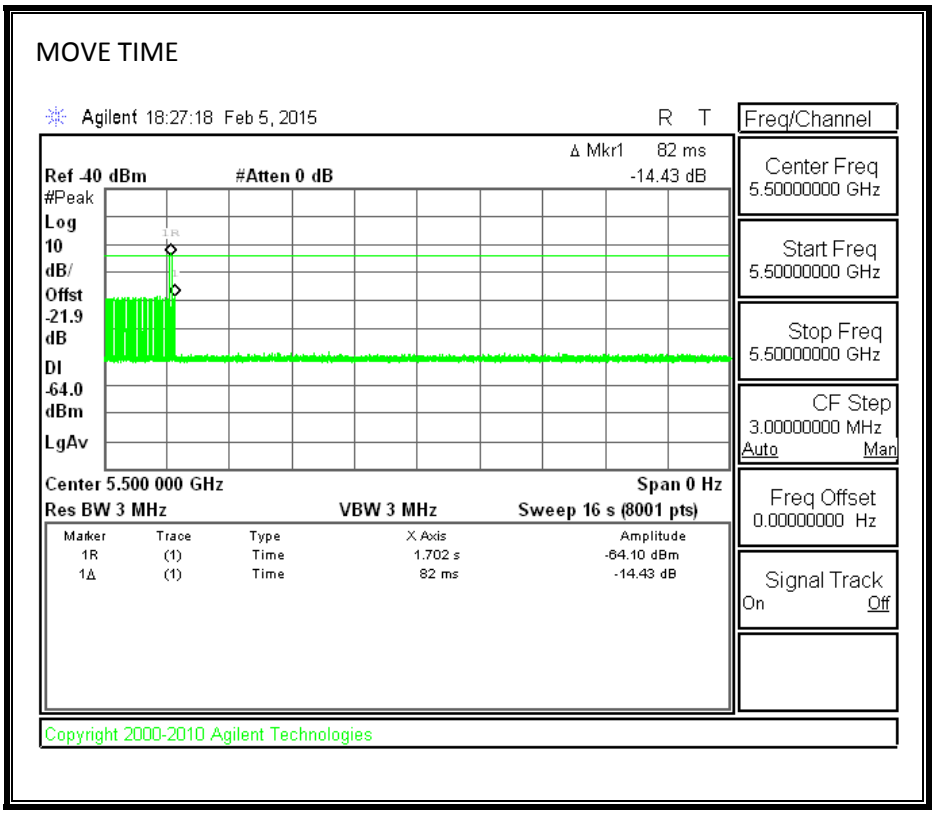
MOVE TIME



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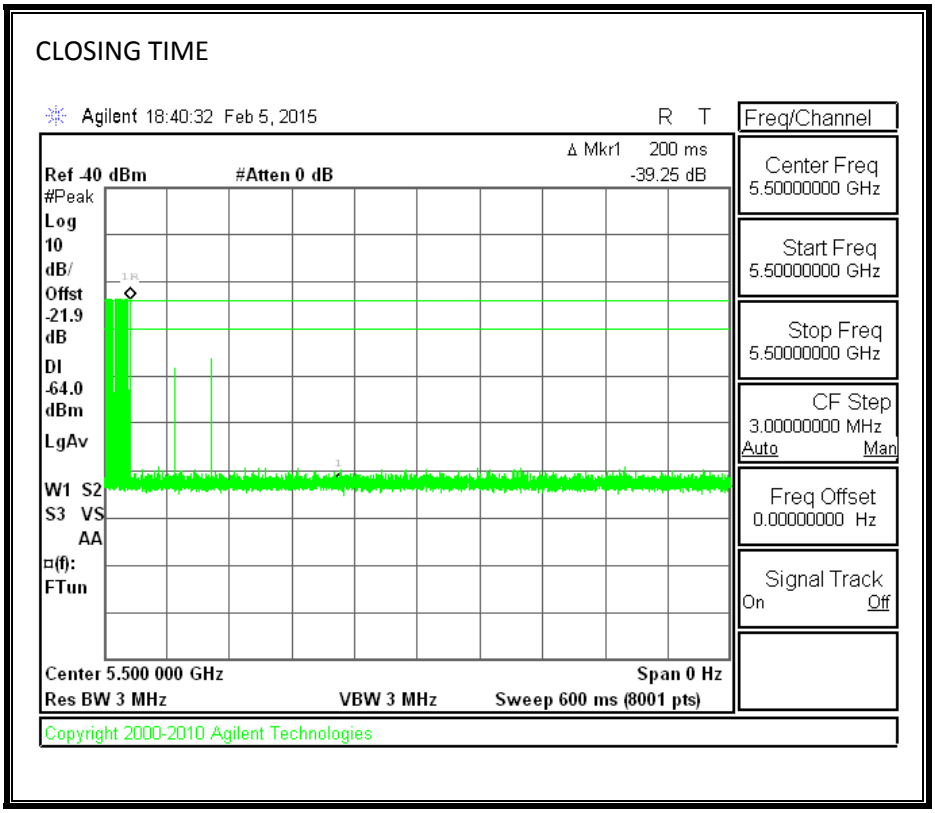
CHANNEL CLOSING TIME



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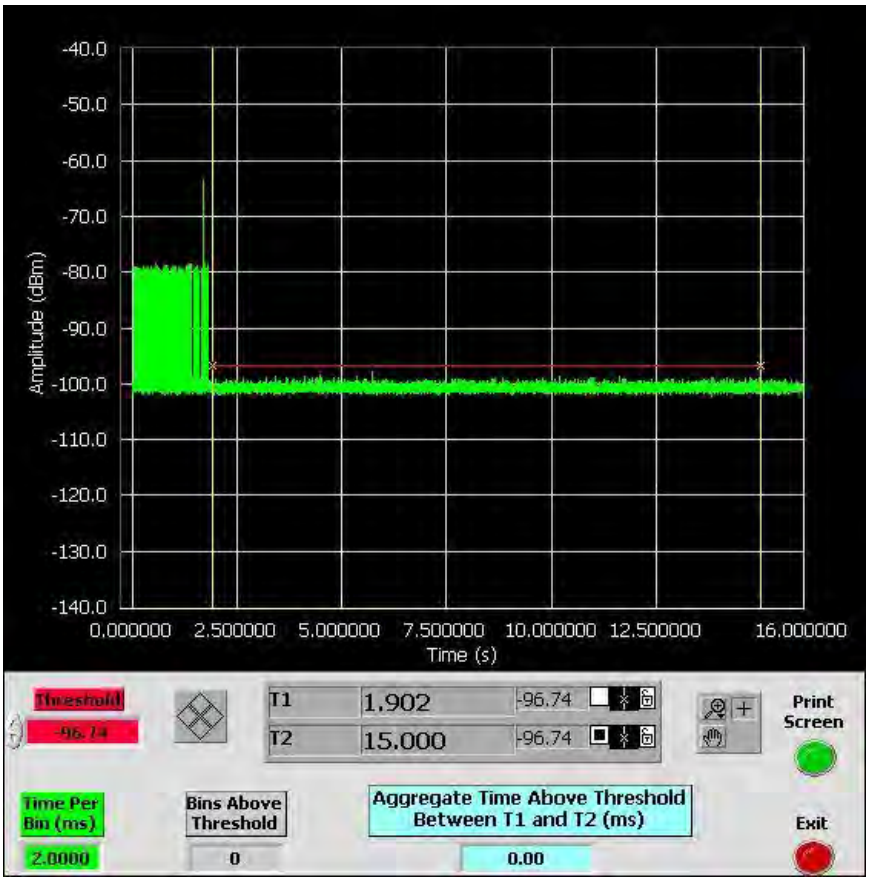
AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the aggregate monitoring period.

AGGREGATE CLOSING TIME



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14.3. RESULTS FOR 40 MHz BANDWIDTH

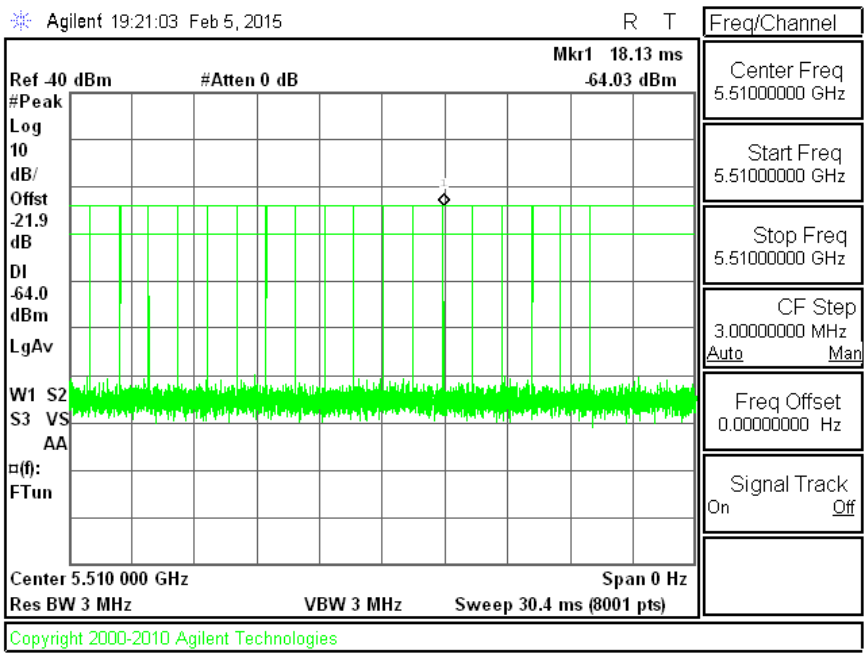
14.3.1. TEST CHANNEL

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

14.3.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM

SHORT PULSE RADAR TYPE 0 AT MASTER



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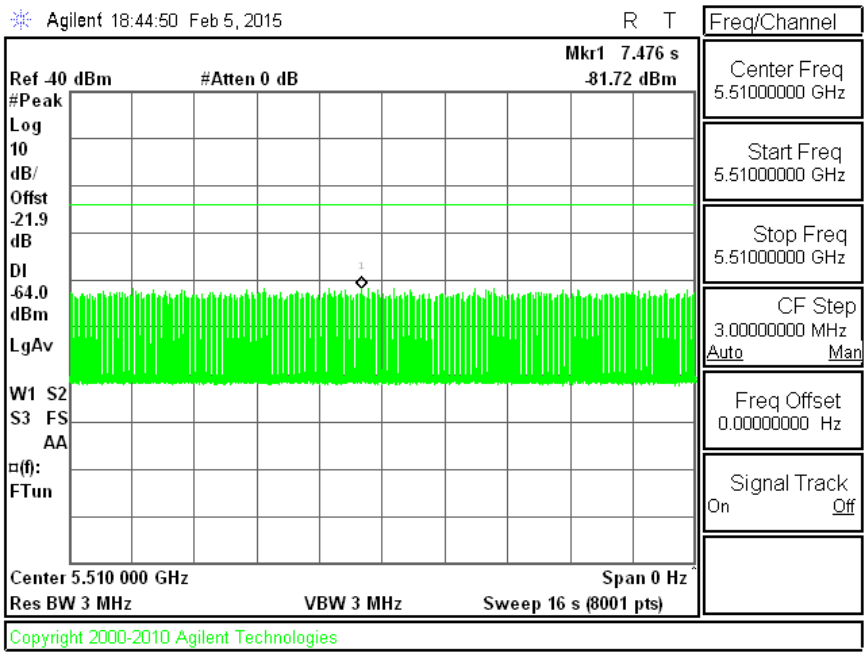
TRAFFIC

SLAVE TRAFFIC



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14.3.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

14.3.4. 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).

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RESULTS

Channel Move Time (sec)	Limit (sec)
0.016	10

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

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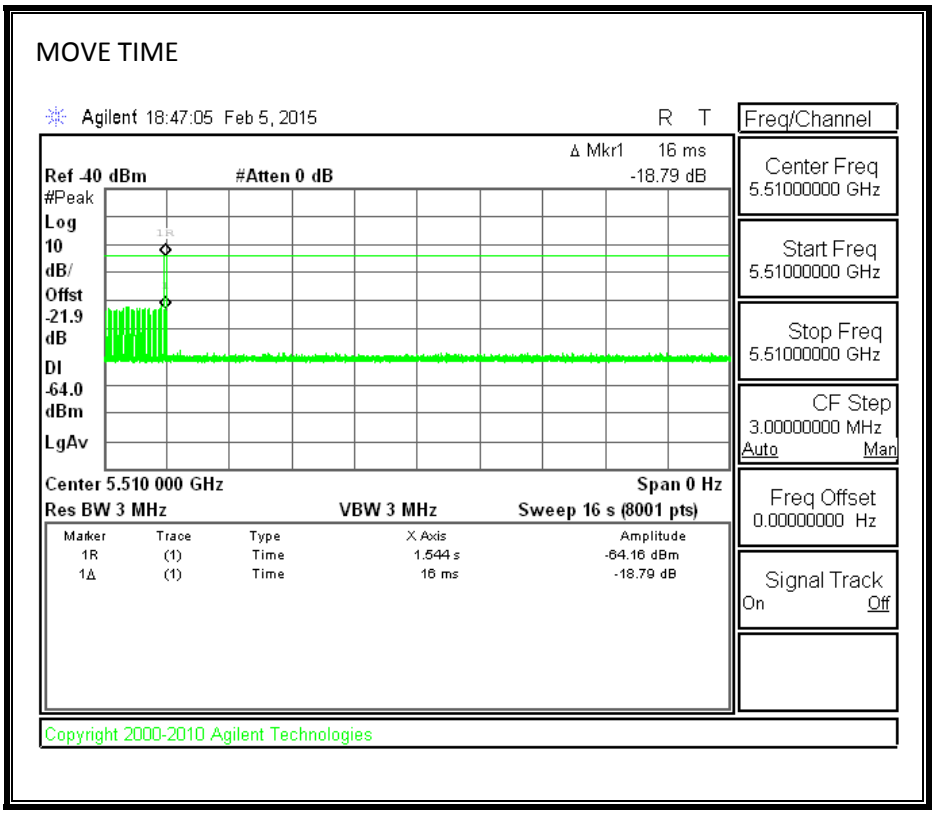
MOVE TIME



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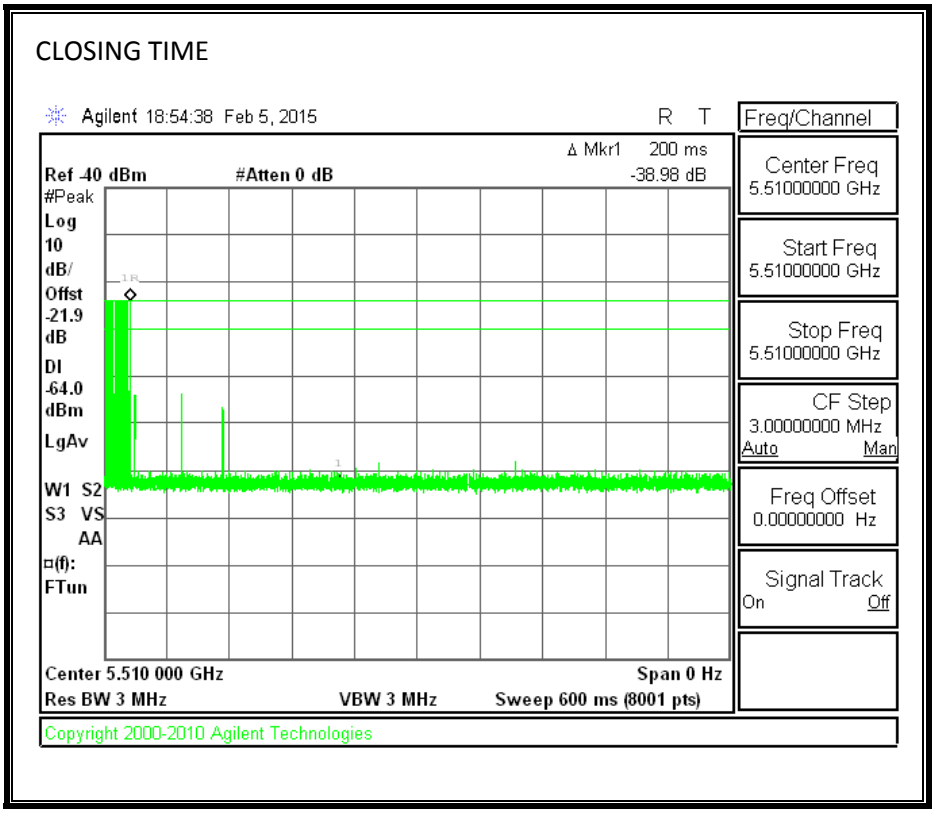
CHANNEL CLOSING TIME



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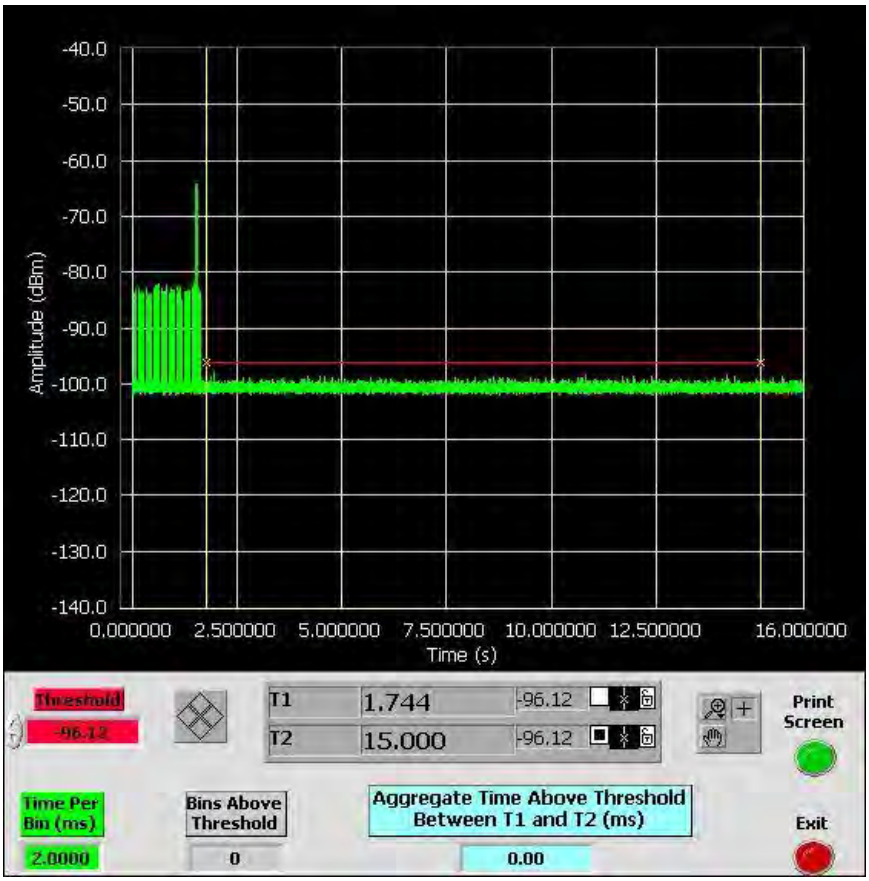
AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the aggregate monitoring period.

AGGREGATE CLOSING TIME



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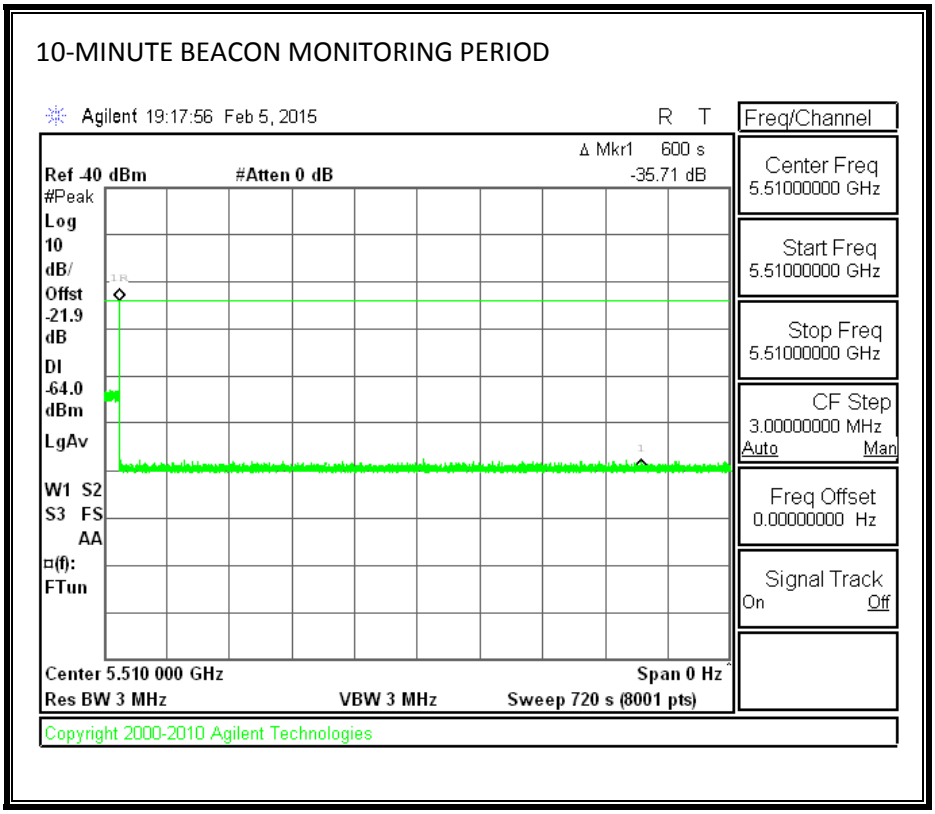
14.3.5. 10-MINUTE BEACON MONITORING PERIOD

RESULTS

No EUT transmissions were observed on the test channel during the 10-minute observation time.



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