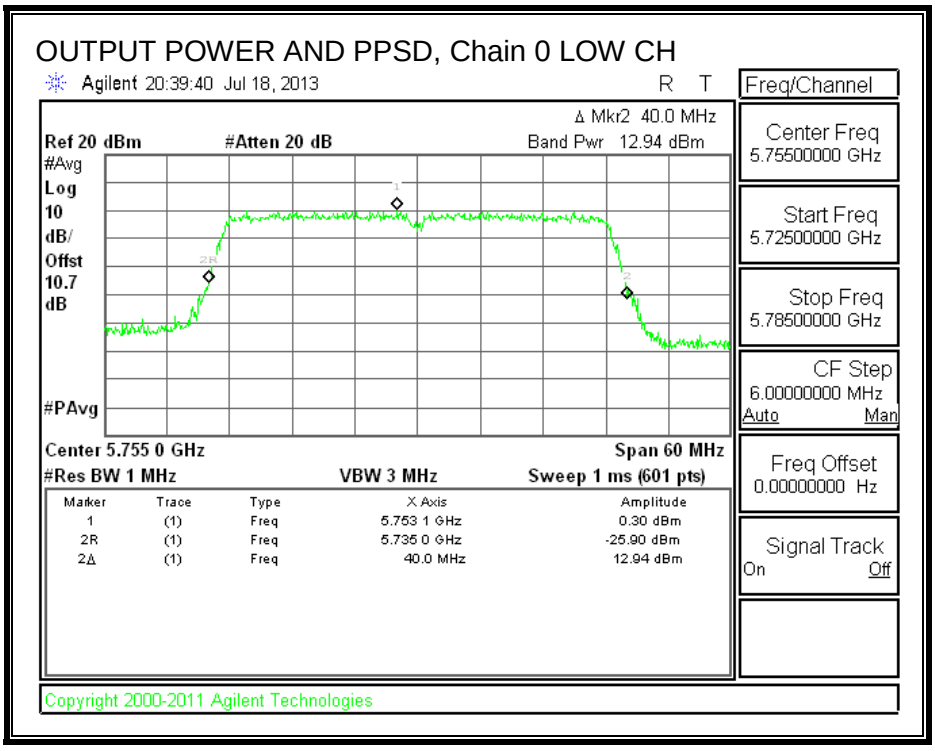
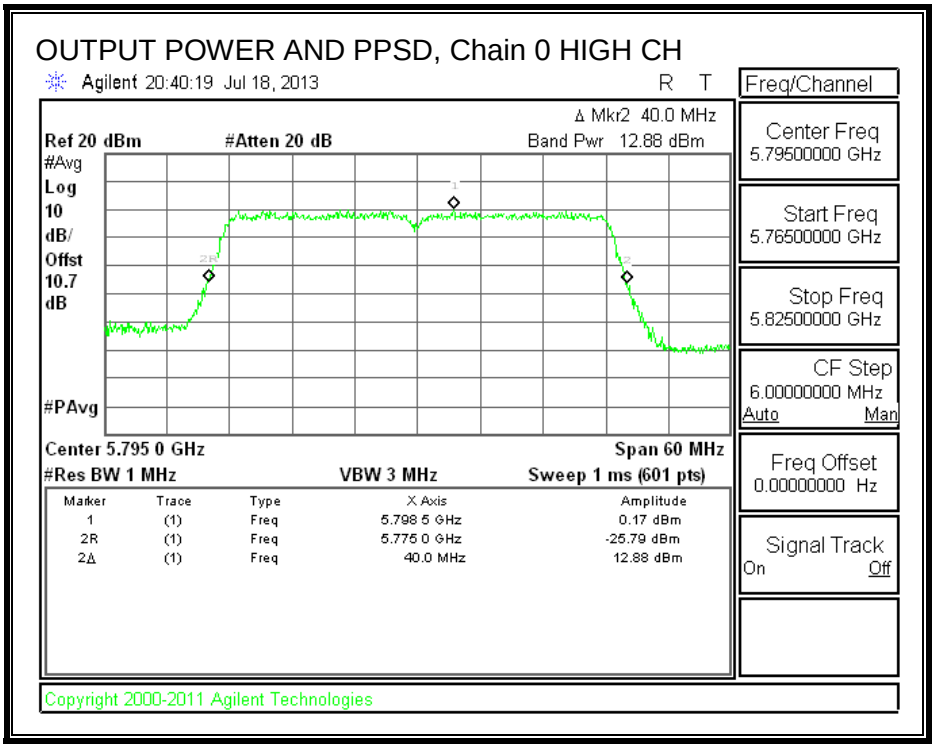
OUTPUT POWER AND PPSD, Chain 0





9.3. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

9.3.1. Test Methodology

FCC KDB 644545 D02(Alternative Guidance for 802 11ac V01) was followed to test 5.8GHz DTS band under UNII band.

9.3.2. 26 dB BANDWIDTH

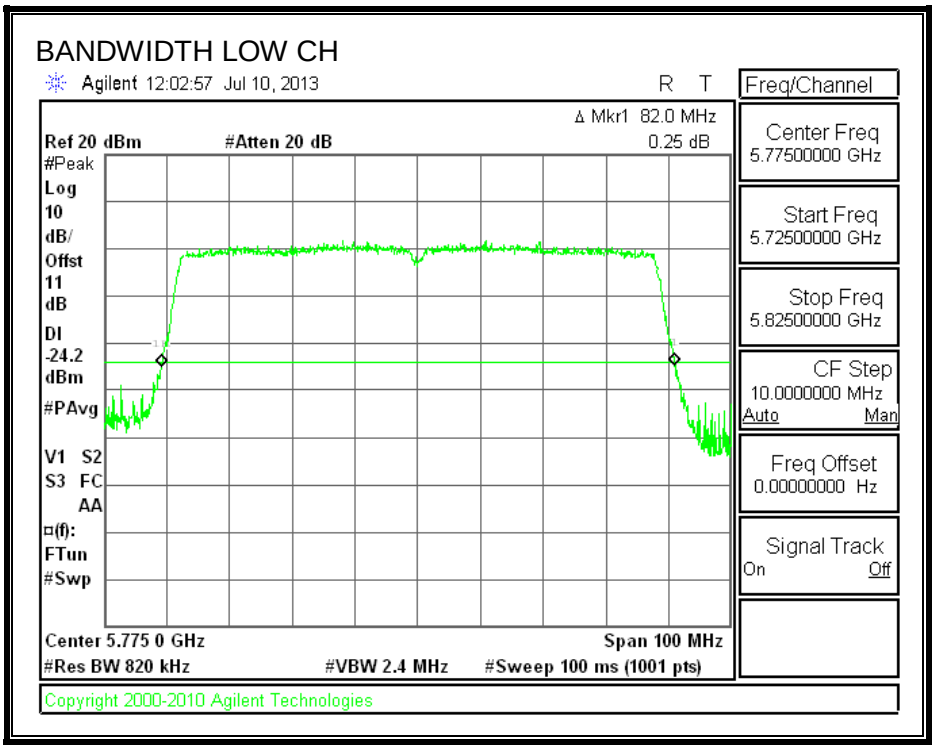
LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)
Low	5775	82.0

26 dB BANDWIDTH



9.3.1. 99% BANDWIDTH

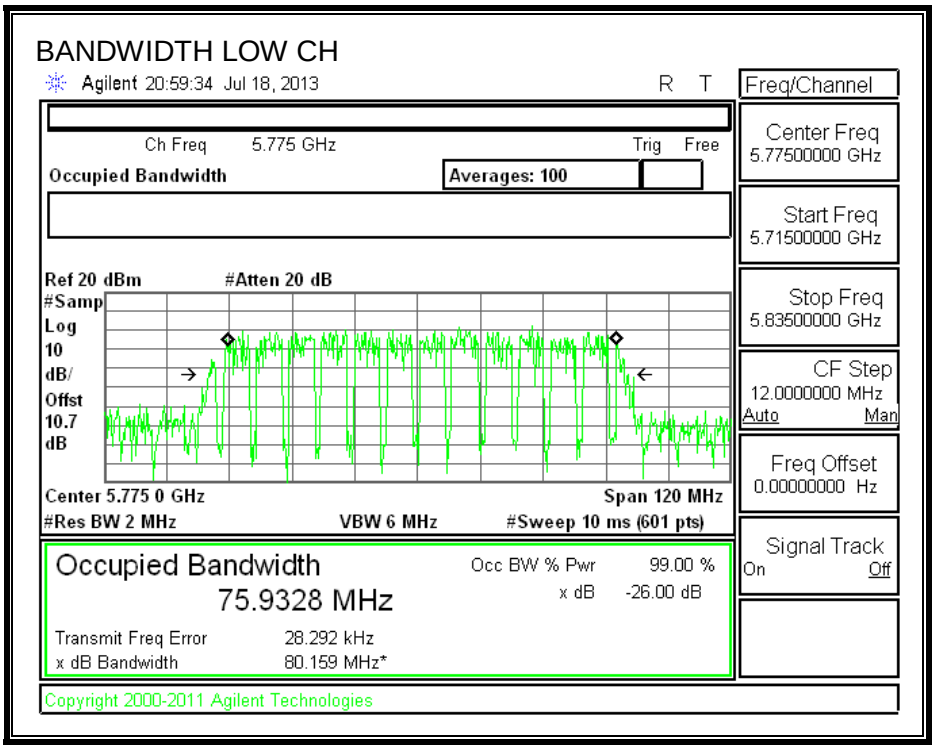
LIMITS

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5775	75.933

99% BANDWIDTH



9.3.1. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

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

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	5775	8.5

9.3.1. OUTPUT POWER AND PPSD

LIMITS

FCC §15.407 (a) (3)

For the band 5.725-5.825 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1 W or 17 dBm + 10 log B, where B is the 26-dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 17 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain up to 23 dBi without any corresponding reduction in the transmitter peak output power or peak power spectral density. For fixed, point-to-point U-NII transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in peak transmitter power and peak power spectral density for each 1 dB of antenna gain in excess of 23 dBi would be required. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

IC RSS-210 A9.2 (1)

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain (dBi)
Low	5775	82.0	73.6	-1.00

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PPSD Limit (dBm)	IC PSD Limit (dBm)	PPSD Limit (dBm)
Low	5775	30.00	30.00	36.00	30.00	17.00	17.00	17.00

Duty Cycle CF (dB)	0.21	Included in Calculations of Corr'd Power & PPSD

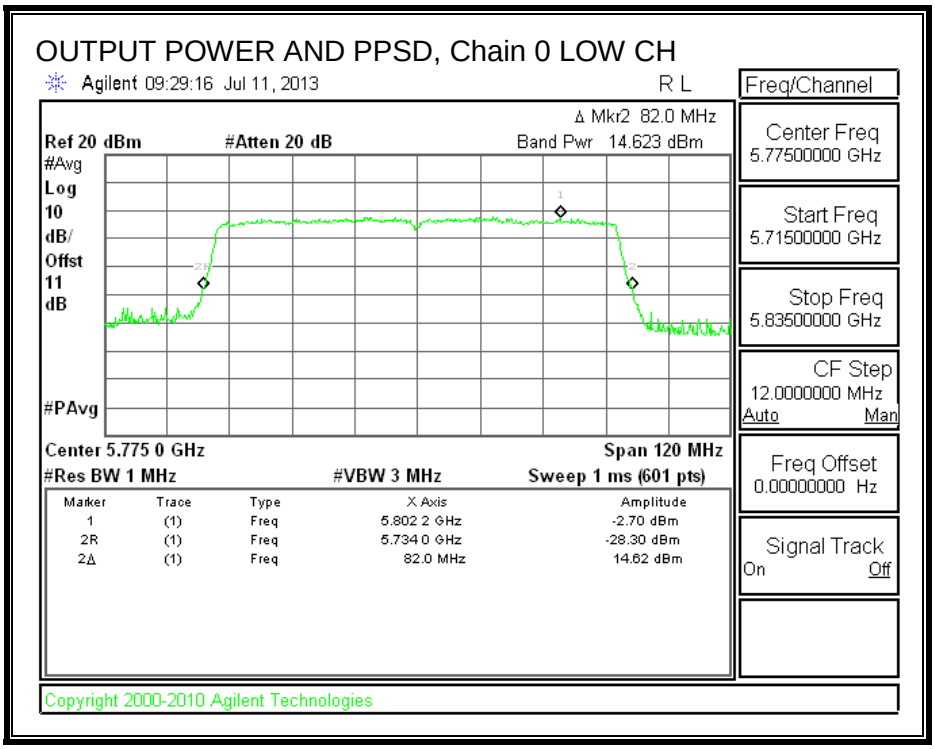
Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5775	14.62	14.83	30.00	-15.17

PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PPSD (dBm)	Total Corr'd PPSD (dBm)	PPSD Limit (dBm)	PPSD Margin (dB)
Low	5775	-2.70	-2.49	17.00	-19.49

OUTPUT POWER AND PPSD, Chain 0



9.3.1. PEAK EXCURSION

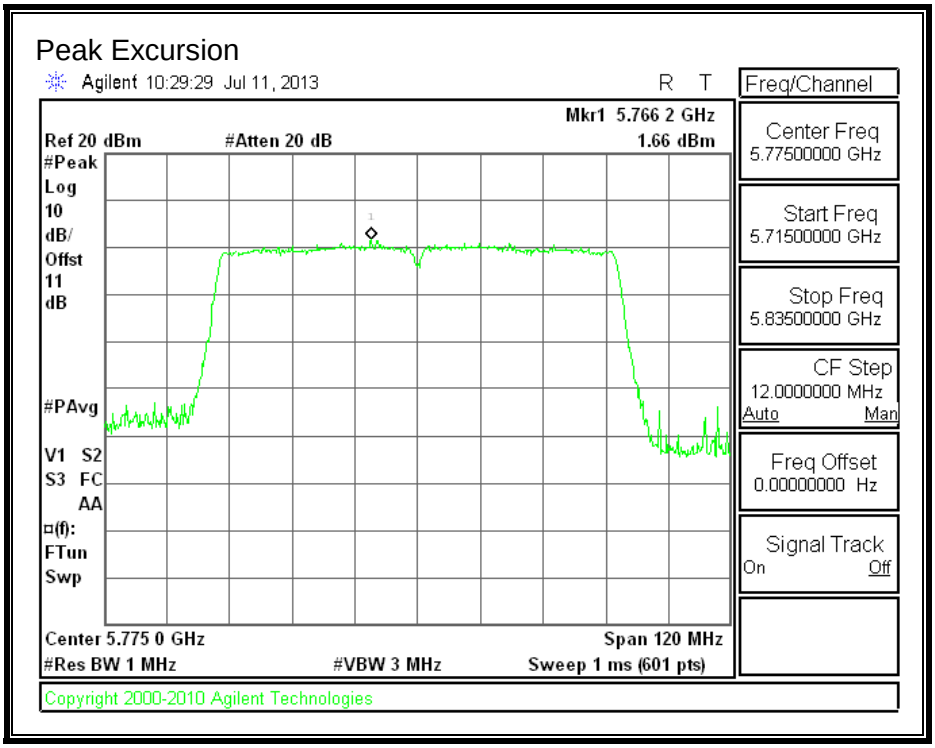
LIMITS

FCC §15.407 (a) (6)

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

RESULTS

Channel	Frequency (MHz)	PK Level (dBm)	PSD (dBm)	DCCF (dB)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Mid	5775	1.660	-2.49	0.22	3.93	13	-9.07

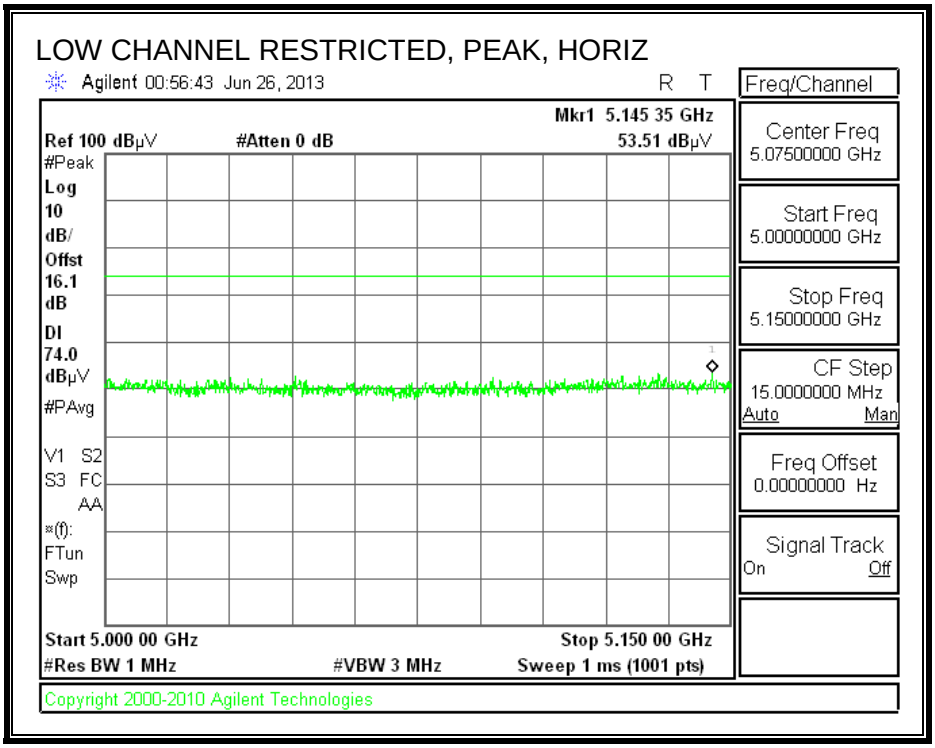


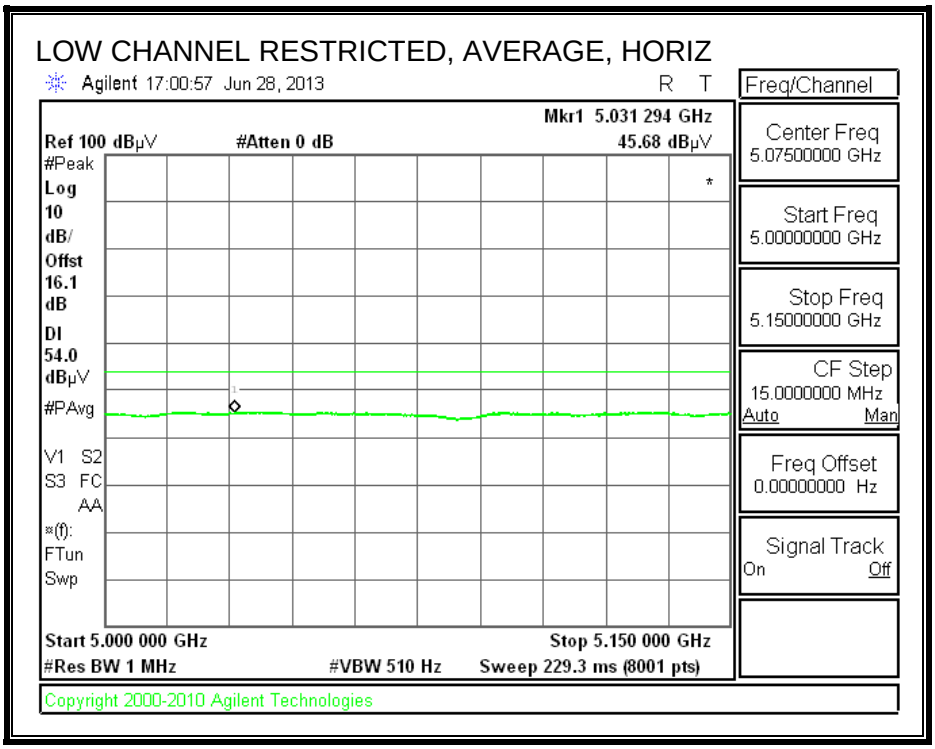
10. TRANSMITTER ABOVE 1 GHz

10.1. 5.2 GHz

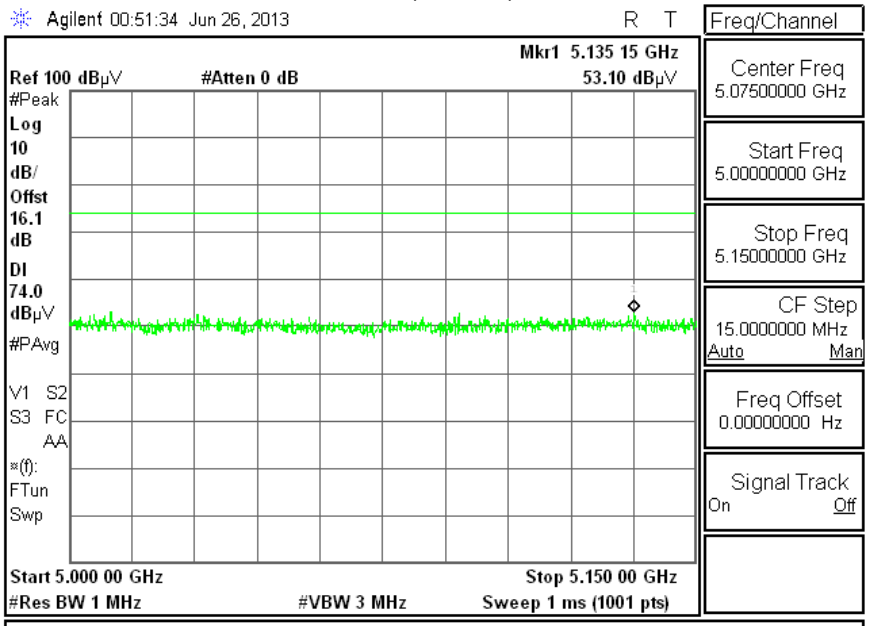
10.1.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

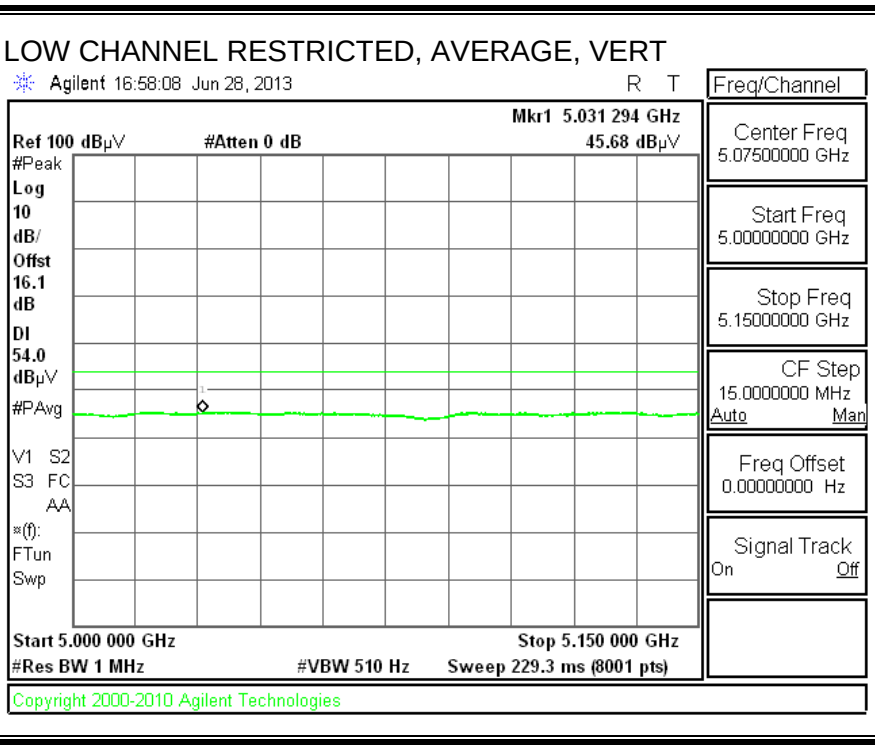




LOW CHANNEL RESTRICTED, PEAK, VERT

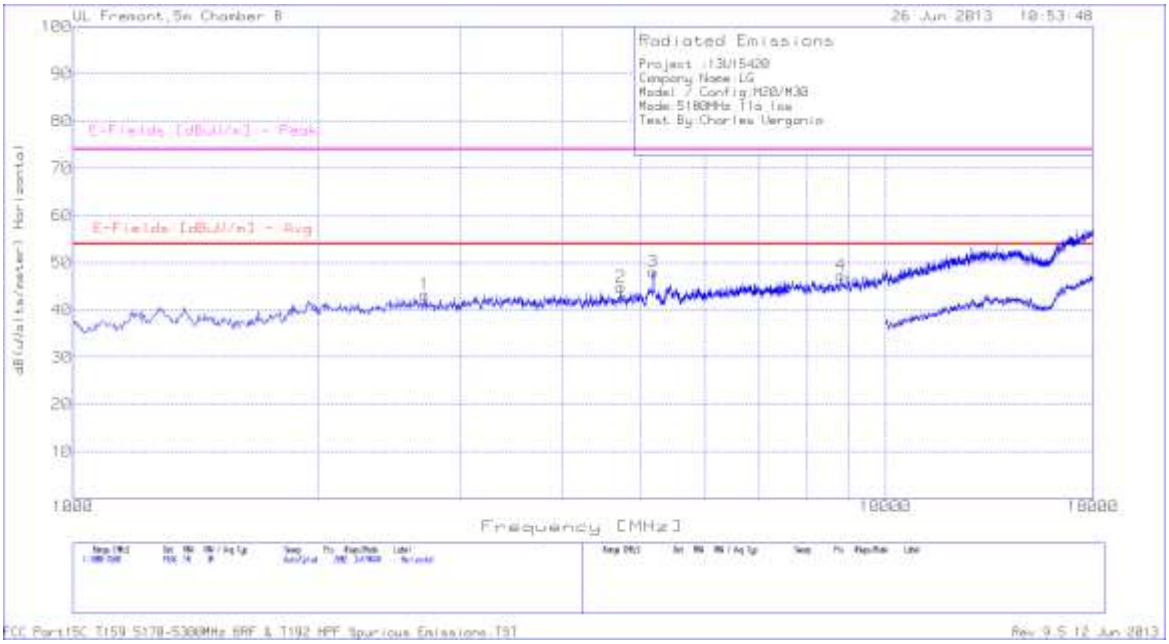


LOW CHANNEL RESTRICTED, AVERAGE, VERT

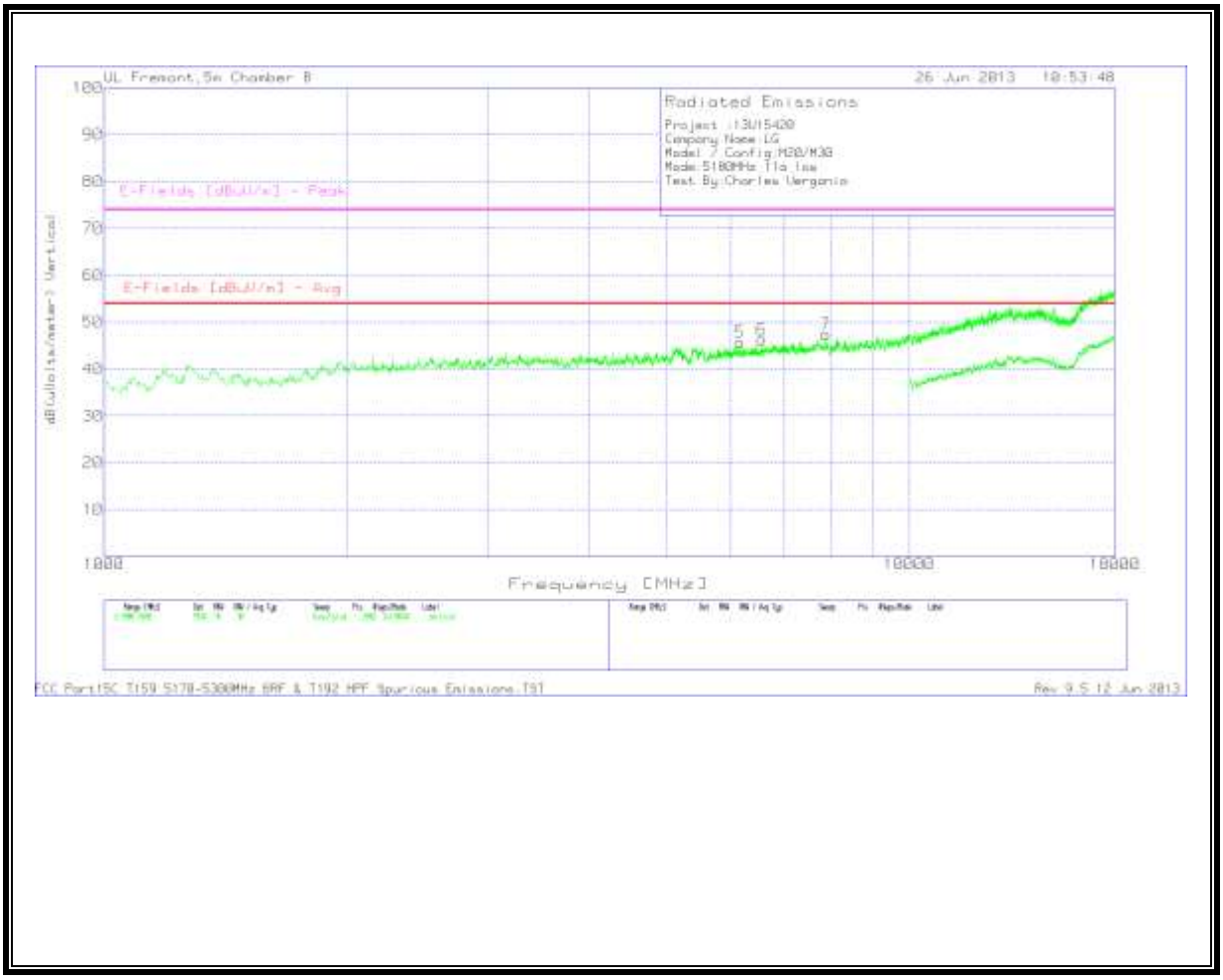


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



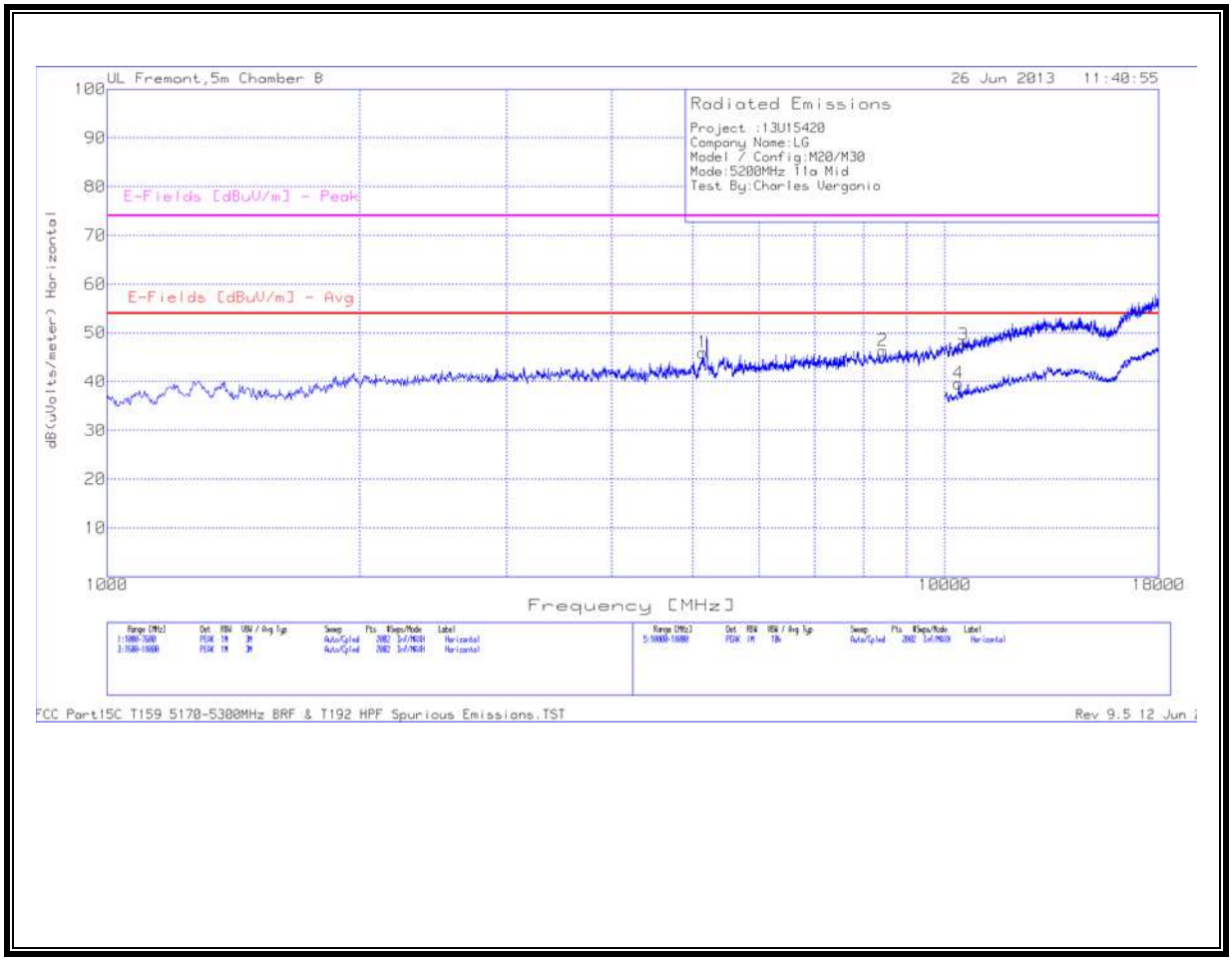
VERTICAL



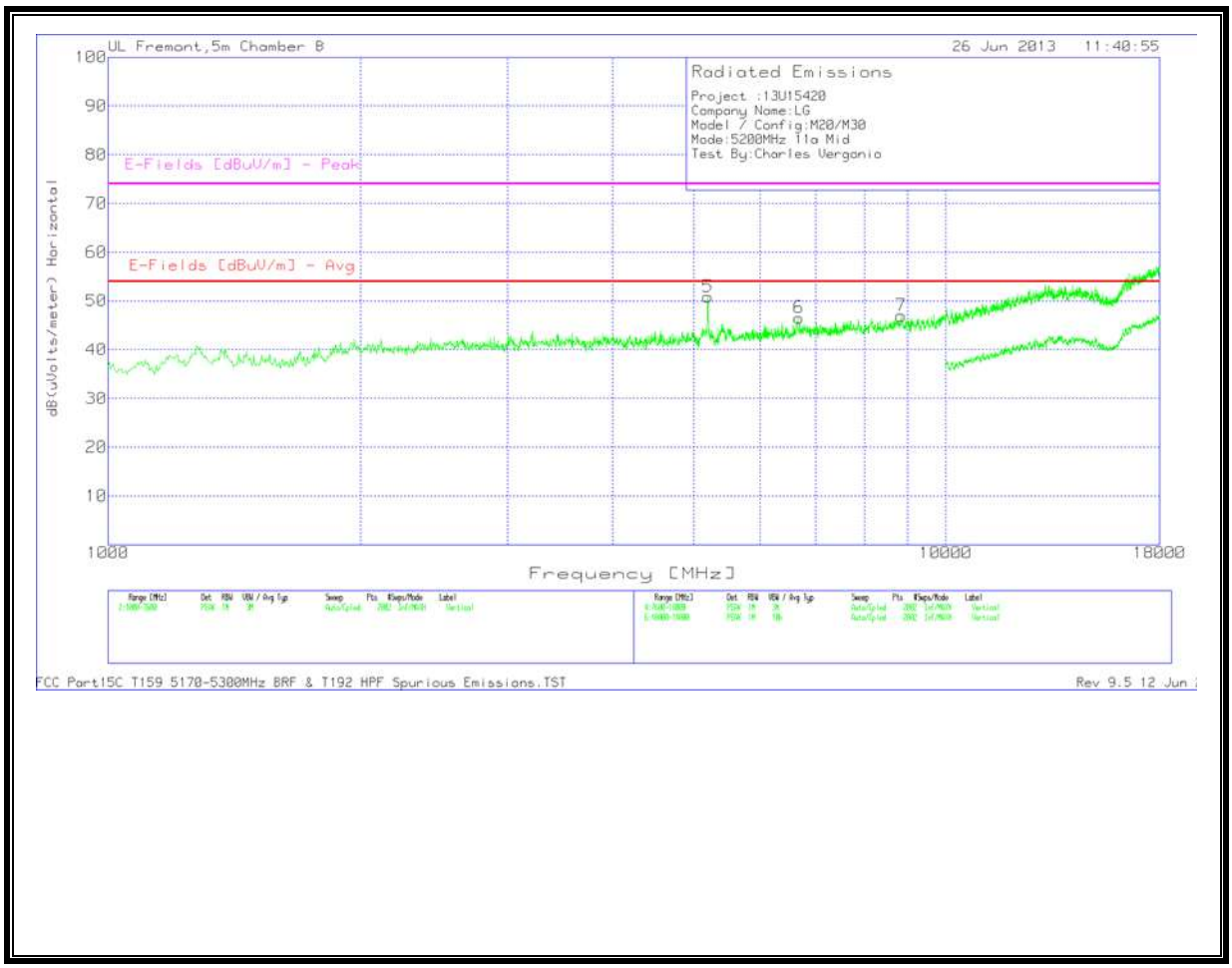
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	T119 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T159 BRF [dB]	Corrected Reading dB(uVolts/meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height (cm)	Polarity
2.709	40.6	PK	32.6	-35.1	5	0.1	43.2	54	-10.8	74	-30.8	141	H
4.724	38.55	PK	34.1	-34.9	6.9	0.1	44.75	54	-9.25	74	-29.25	200	H
5.176	40.55	PK	34.2	-34.9	7.3	0.9	48.05	54	-5.95	74	-25.95	200	H
6.159	37.05	PK	35.3	-34.9	8.1	0.1	45.65	54	-8.35	74	-28.35	100	V
6.558	37.19	PK	35.6	-35	8.4	0.1	46.29	54	-7.71	74	-27.71	200	V
8.811	36.37	PK	36	-35.2	9.8	0.3	47.27	54	-6.73	74	-26.73	200	H
7.875	36.95	PK	35.8	-35.1	9.2	0.5	47.35	54	-6.65	74	-26.65	200	V

MID CHANNEL
HORIZONTAL



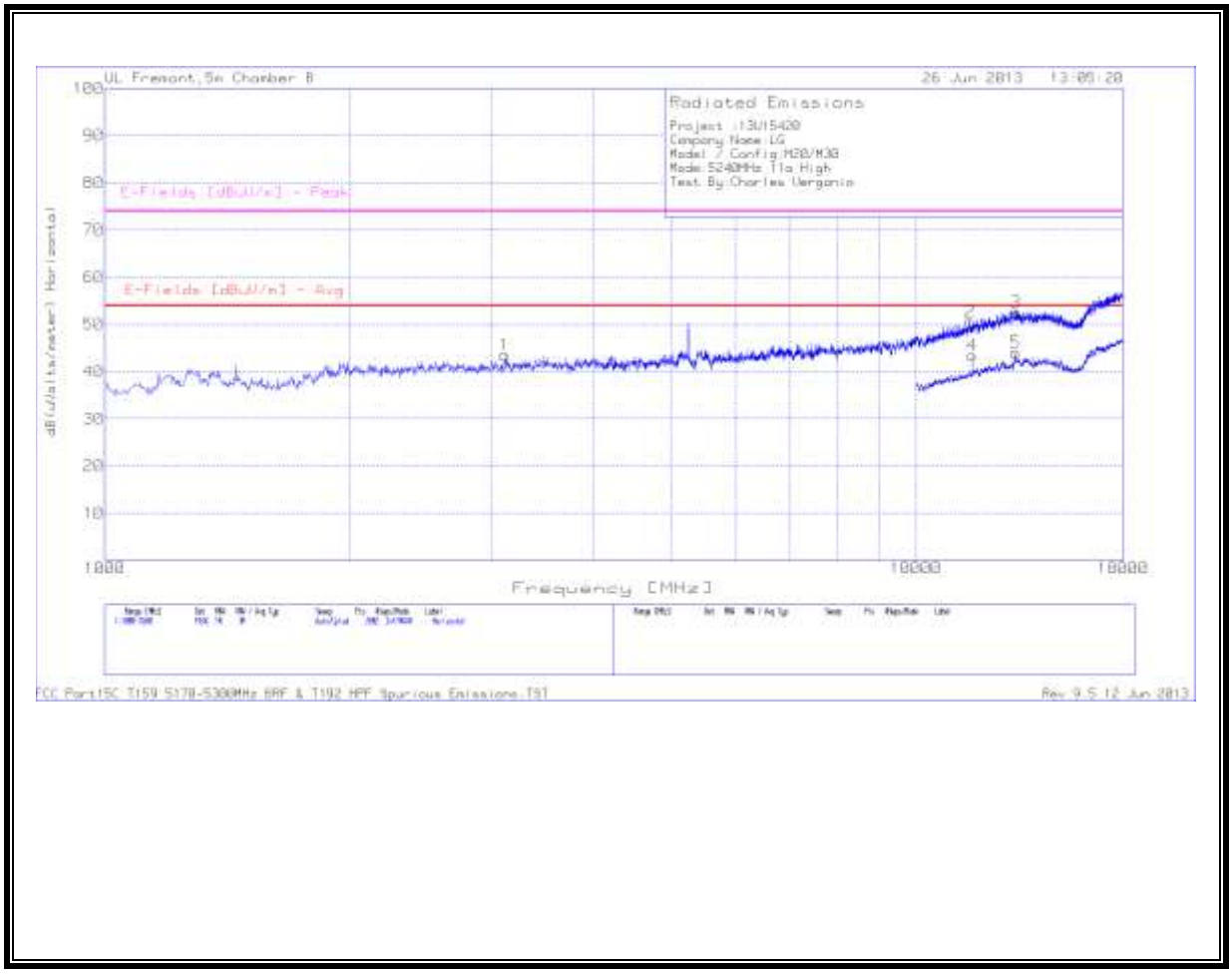
VERTICAL



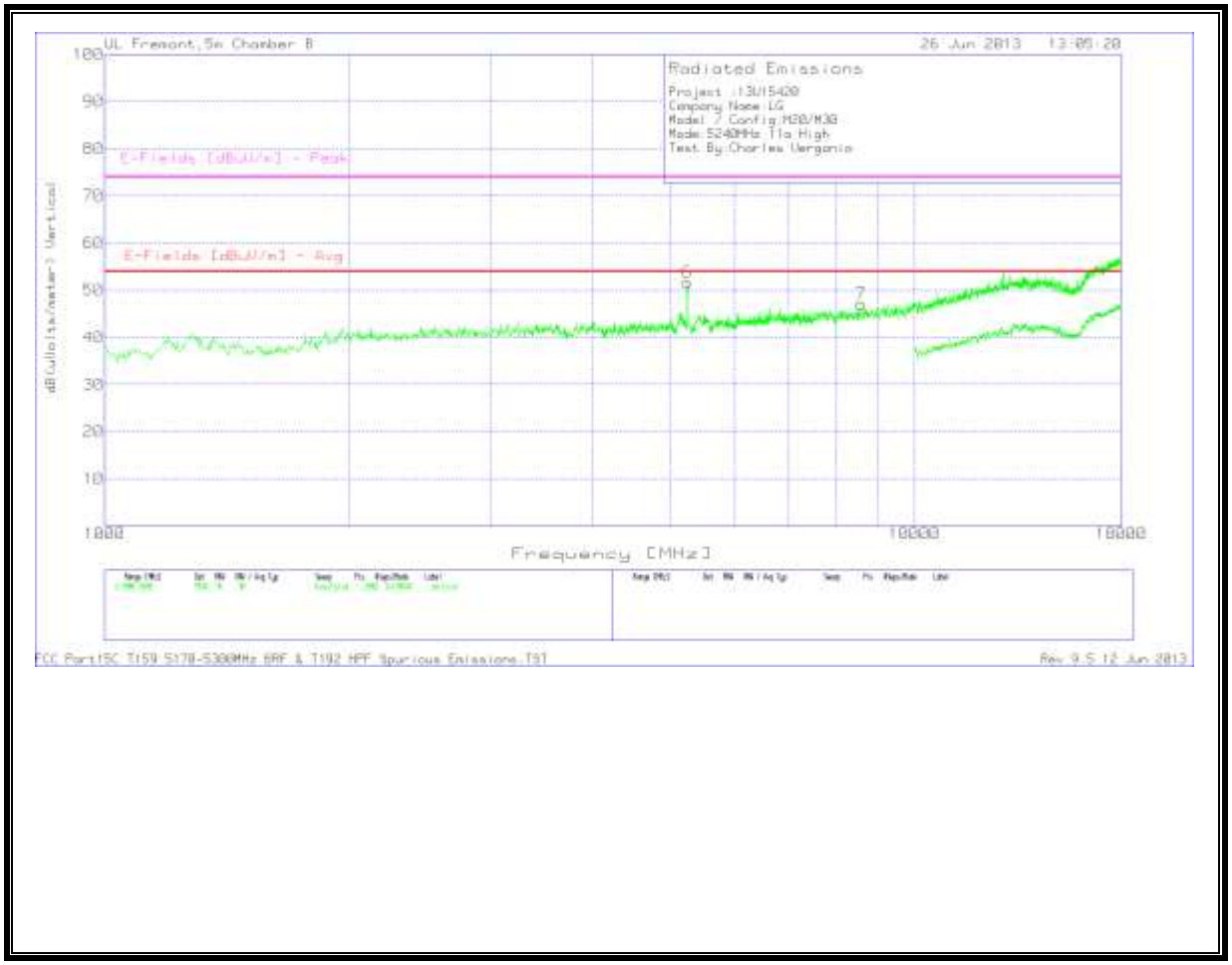
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	T119 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T159 BRF [dB]	Corrected Reading dB(uVolts /meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height (cm)	Polarity
5.143	38.44	PK	34.2	-34.9	7.3	.9	45.94	53.97	-8.03	74	-28.06	100	H
5.199	43.15	PK	34.3	-34.9	7.4	.9	50.85	53.97	-3.12	74	-23.15	200	V
6.676	37.43	PK	35.6	-35	8.4	.1	46.53	53.97	-7.44	74	-27.47	100	V
8.437	35.9	PK	35.8	-35.2	9.6	.2	46.3	53.97	-7.67	74	-27.7	100	H
10.521	33.53	PK	37.5	-34.4	10.7	.2	47.53	53.97	-6.44	74	-26.47	100	H
8.847	36.25	PK	36	-35.2	9.8	.1	46.95	53.97	-7.02	74	-27.05	100	V
10.384	25.8	PK	37.3	-34.5	10.7	.3	39.6	53.97	-14.37	74	-34.4	100	H

HIGH CHANNEL
HORIZONTAL



VERTICAL

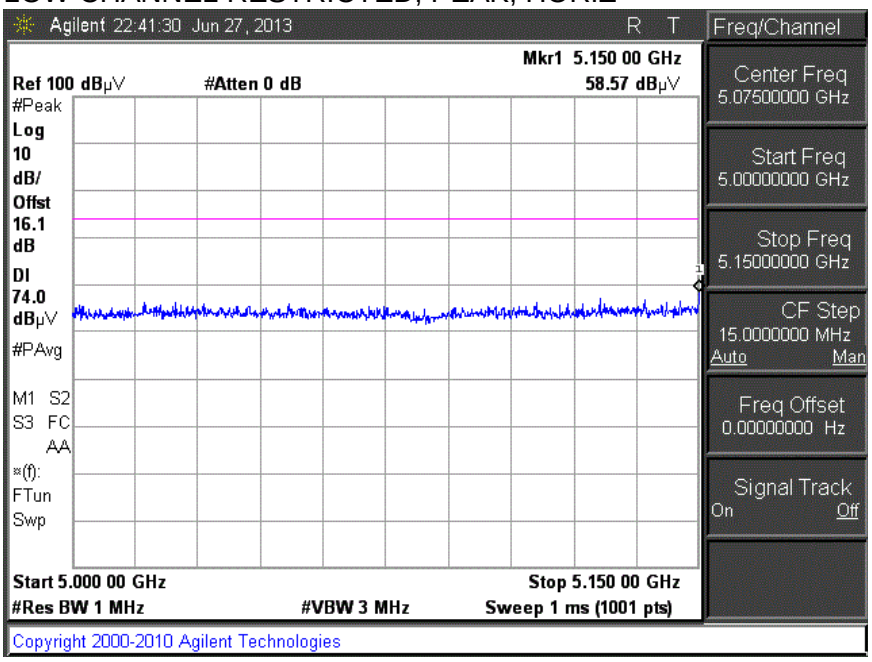


HIGH CHANNEL DATA

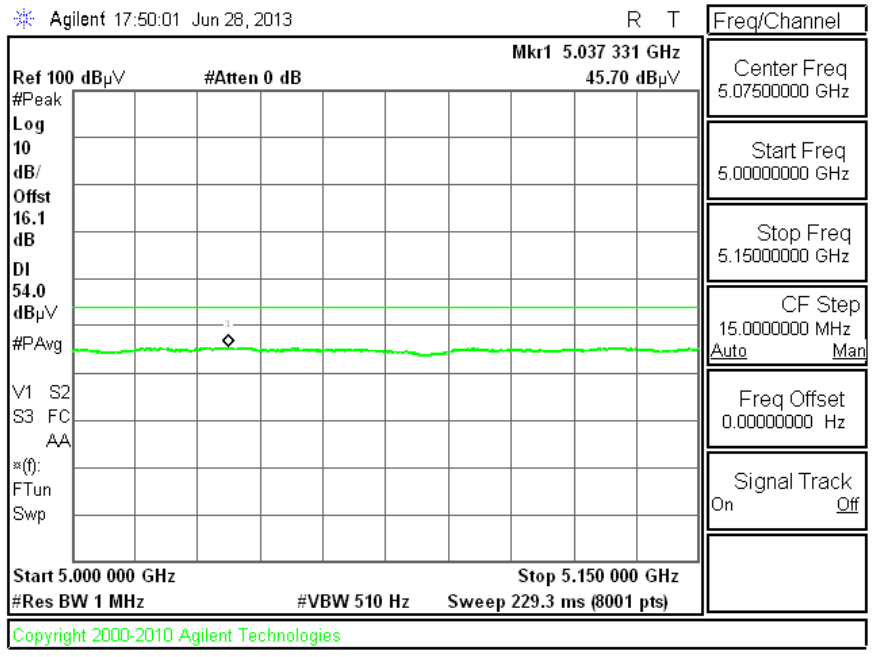
Marker No.	Test Frequency	Meter Reading (dBuV)	Detector	T119 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T159 BRF [dB]	Corrected Reading dB(uVolts /meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
Horizontal 1000 - 7600MHz														
1	3110.945	40.17	PK	33	-35.2	5.4	0.1	43.47	53.97	-10.5	74	-30.53	100	H
Vertical 1000 - 7600MHz														
6	5241.679	43.96	PK	34.3	-34.9	7.4	0.9	51.66	53.97	-2.31	74	-22.34	200	V
Horizontal 7600 - 18000MHz														
2	11659.17	33.53	PK	38.6	-33.5	11.4	0.5	50.53	53.97	-3.44	74	-23.47	200	H
3	13270.365	32.7	PK	39.1	-31.9	12.2	0.5	52.6	53.97	-1.37	74	-21.4	100	H
Vertical 7600 - 18000MHz														
7	8587.506	36.51	PK	35.8	-35.2	9.7	0.3	47.11	53.97	-6.86	74	-26.89	200	V
Horizontal 10000 - 18000MHz														
4	11735.132	26.51	PK	38.7	-33.5	11.4	0.3	43.41	53.97	-10.56	74	-30.59	100	H
5	13270.365	24.07	PK	39.1	-31.9	12.2	0.5	43.97	53.97	-10	74	-30.03	100	H

10.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

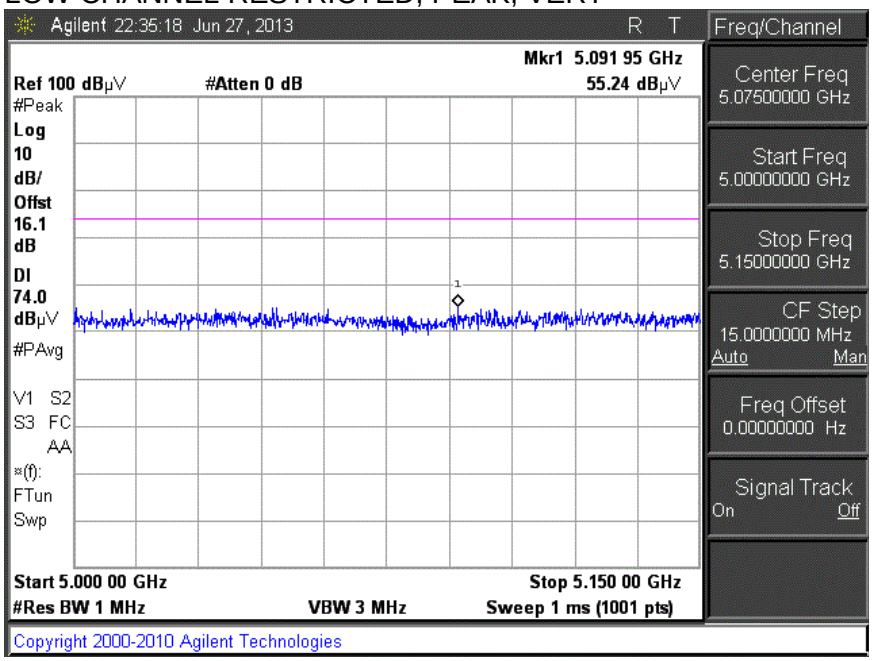
LOW CHANNEL RESTRICTED, PEAK, HORIZ



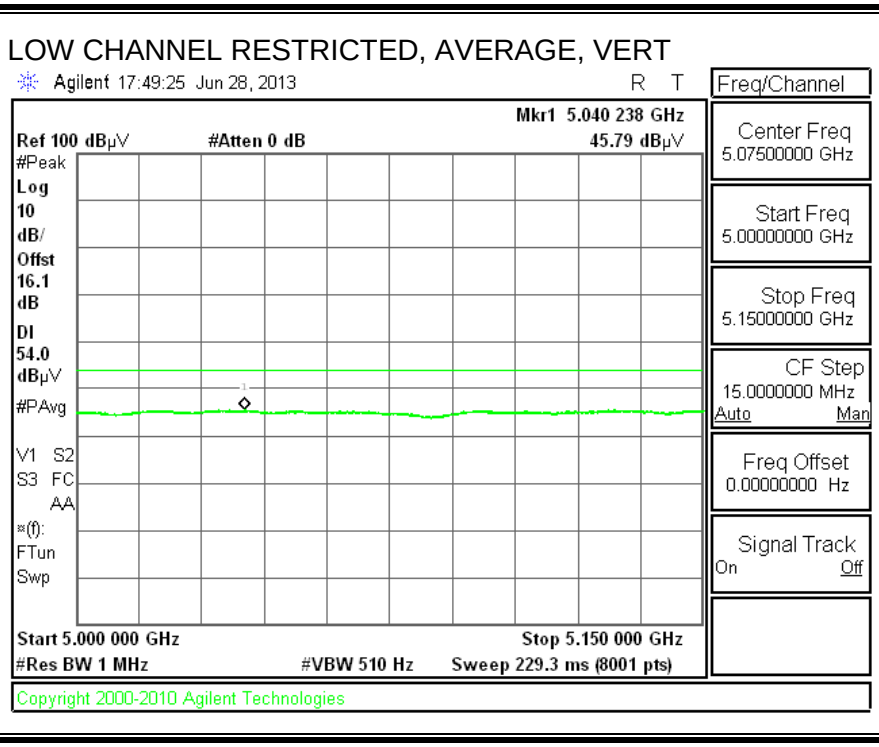
LOW CHANNEL RESTRICTED, AVERAGE, HORIZ



LOW CHANNEL RESTRICTED, PEAK, VERT

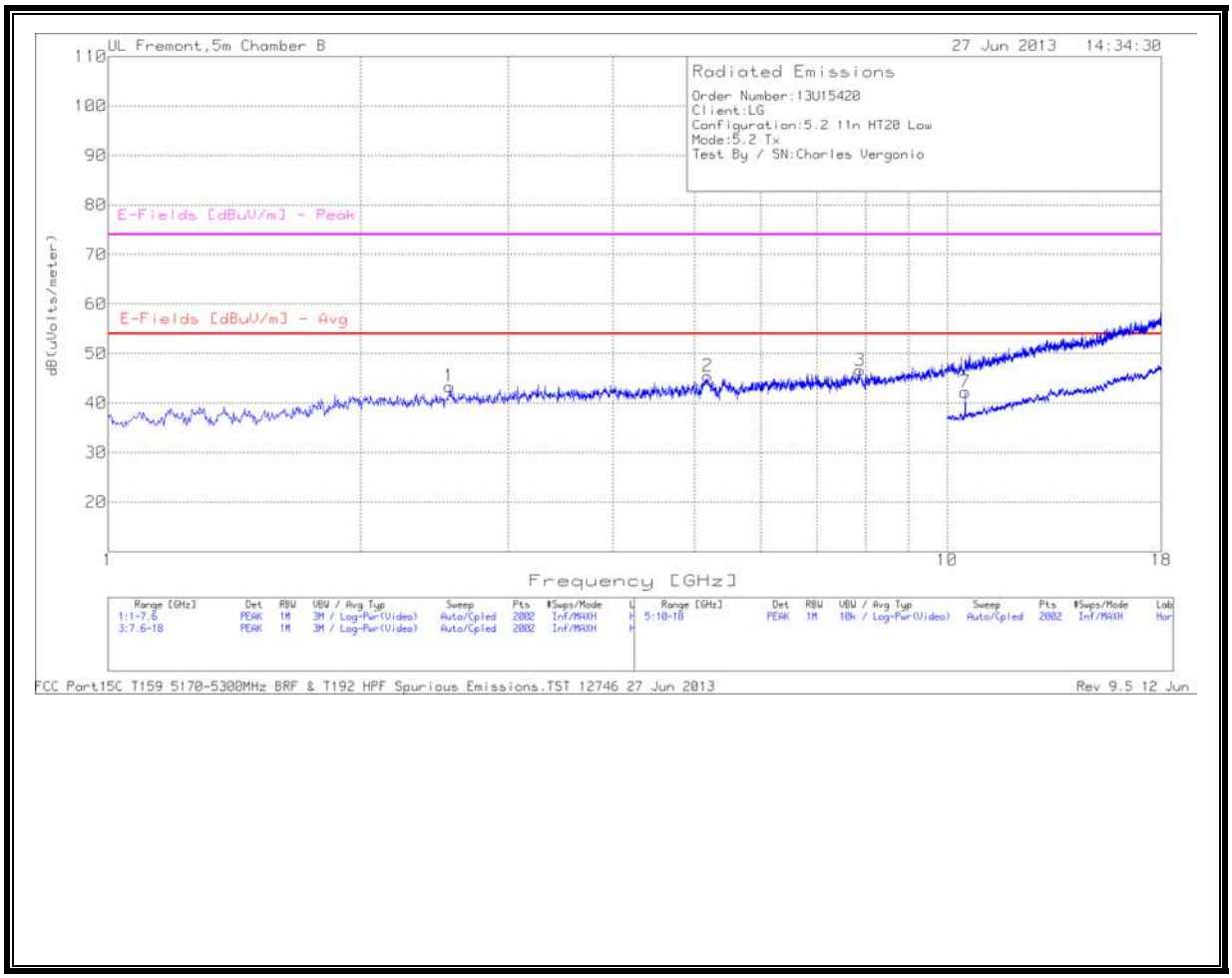


LOW CHANNEL RESTRICTED, AVERAGE, VERT

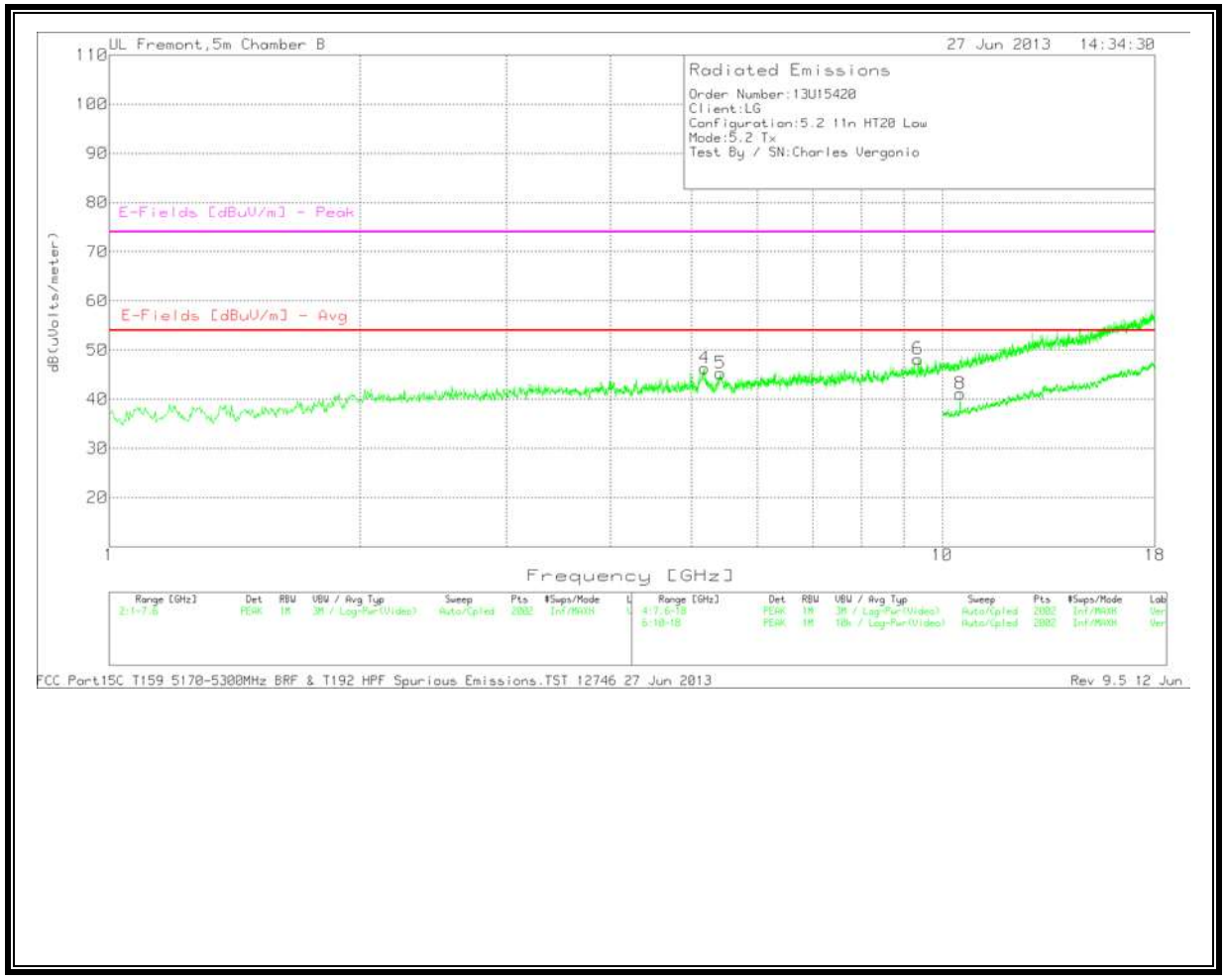


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



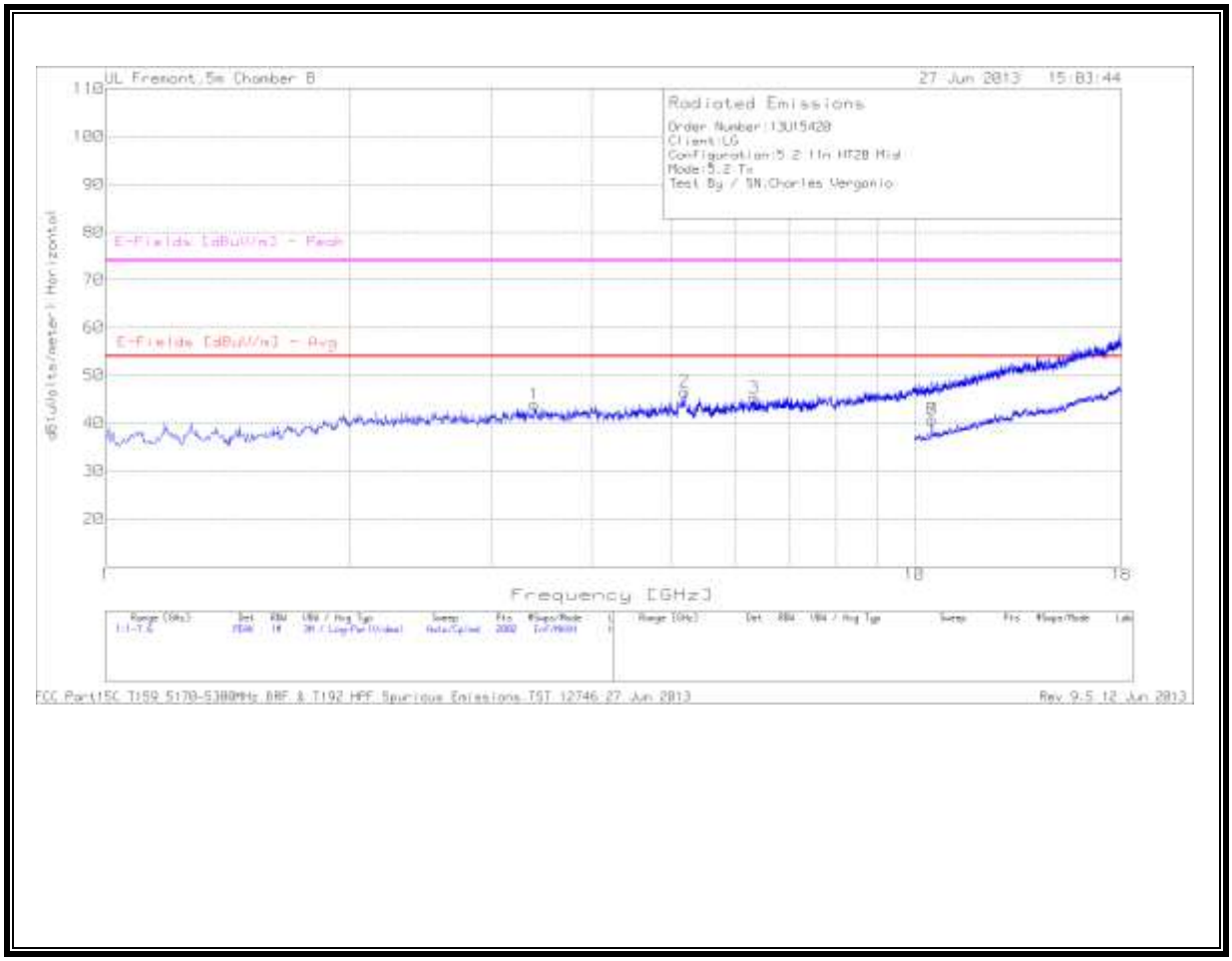
VERTICAL



LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T159 BRF [dB]	Corrected Reading dB(uVolts/meter)	E-Fields [dBuV/m] - Avg	Av Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.554	40.95	PK	32.6	-35.1	4.8	0.1	43.35	54	-10.65	74	-30.65	0-360	200	H
5.186	37.21	PK	34.8	-34.9	7.4	0.9	45.41	54	-8.59	74	-28.59	0-360	200	H
5.186	38.13	PK	34.8	-34.9	7.4	0.9	46.33	54	-7.67	74	-27.67	0-360	200	V
5.42	36.9	PK	34.9	-34.9	7.5	0.9	45.3	54	-8.7	74	-28.7	0-360	200	V
7.875	35.89	PK	36.1	-35.1	9.2	0.5	46.59	54	-7.41	74	-27.41	0-360	200	H
9.352	35.76	PK	37	-35.1	10.1	0.4	48.16	54	-5.84	74	-25.84	0-360	100	V
10.508	27.54	PK	38.2	-34.4	10.7	0.2	42.24	54	-11.76	74	-31.76	0-360	200	H
10.508	26.41	PK	38.2	-34.4	10.7	0.2	41.11	54	-12.89	74	-32.89	0-360	100	V

MID CHANNEL
HORIZONTAL

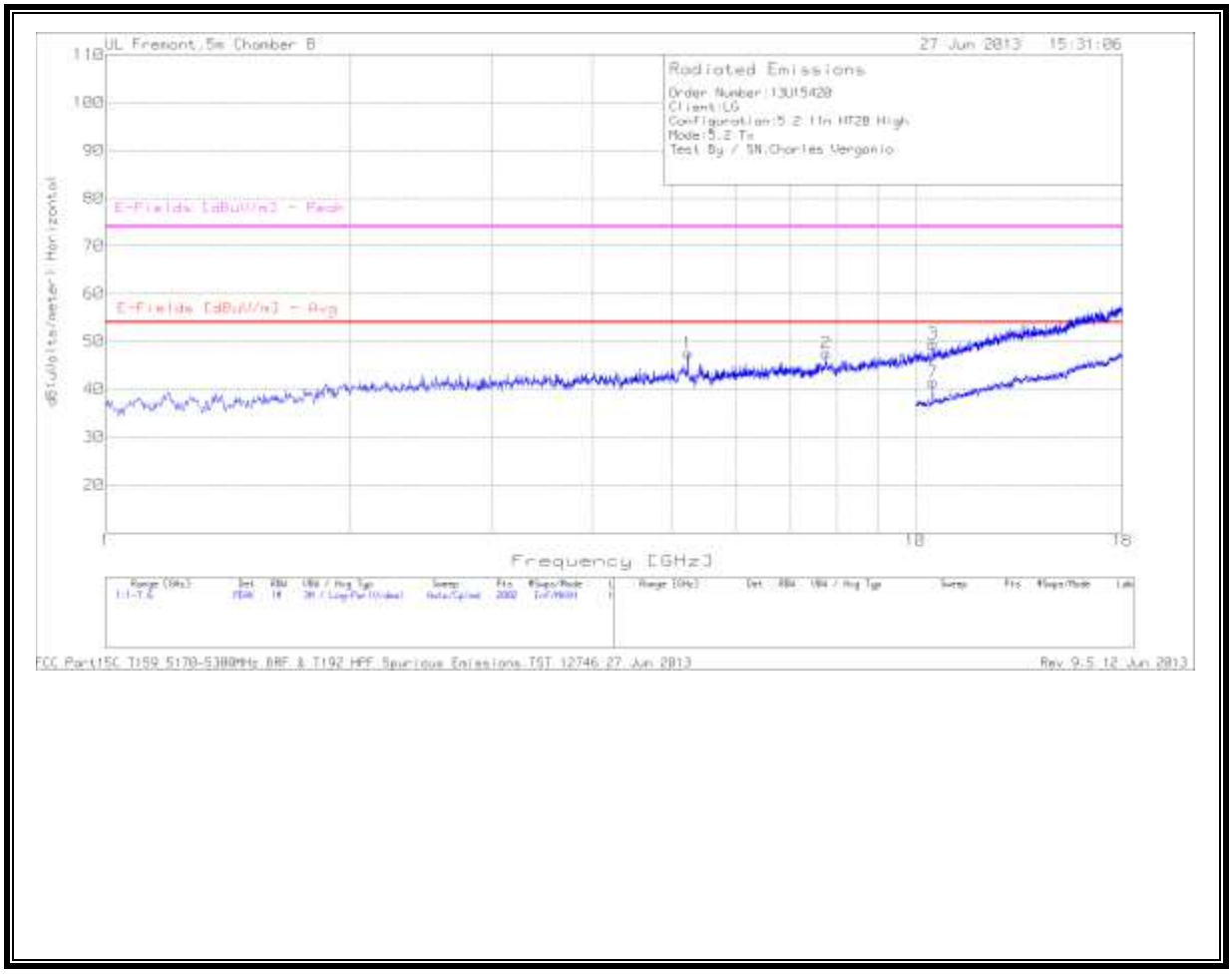


VERTICAL

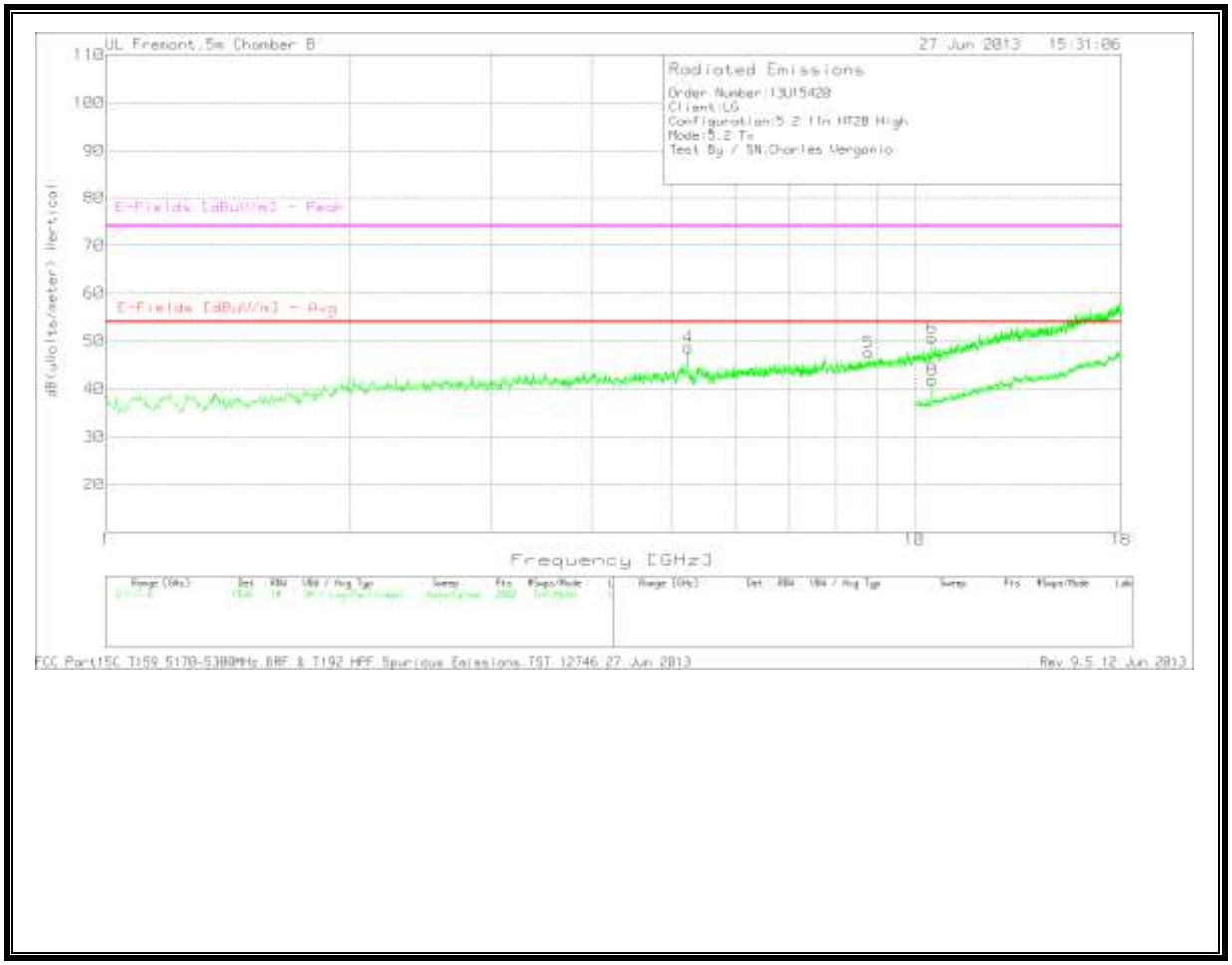
MID CHANNEL DATA

Marker No.	Test Frequency (GHz)	Meter Reading(dBuV)	Detector	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T159 BRF [dB]	Corrected Reading dB(uVolts/meter)	E-Fields [dBuV/m] - Avg	Av Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	3.3913	40.17	PK	33.2	-35.1	5.6	0	43.87	54	-10.13	74	-30.13	0-360	100	H
2	5.2021	38.35	PK	34.8	-34.9	7.4	0.9	46.55	54	-7.45	74	-27.45	0-360	200	H
3	6.3367	36.13	PK	36	-35	8.2	0	45.33	54	-8.67	74	-28.67	0-360	200	H
4	5.2021	40.2	PK	34.8	-34.9	7.4	0.9	48.4	54	-5.6	74	-25.6	0-360	200	V
5	5.7199	37.1	PK	35.2	-34.9	7.7	0.1	45.2	54	-8.8	74	-28.8	0-360	200	V
6	9.9544	34.86	PK	37.7	-34.9	10.4	0.3	48.36	54	-5.64	74	-25.64	0-360	200	V
7	10.5077	26.04	PK	38.2	-34.4	10.7	0.2	40.74	54	-13.26	74	-33.26	0-360	200	H
8	10.5077	26.04	PK	38.2	-34.4	10.7	0.2	40.74	54	-13.26	74	-33.26	0-360	200	H

HIGH CHANNEL
HORIZONTAL



VERTICAL

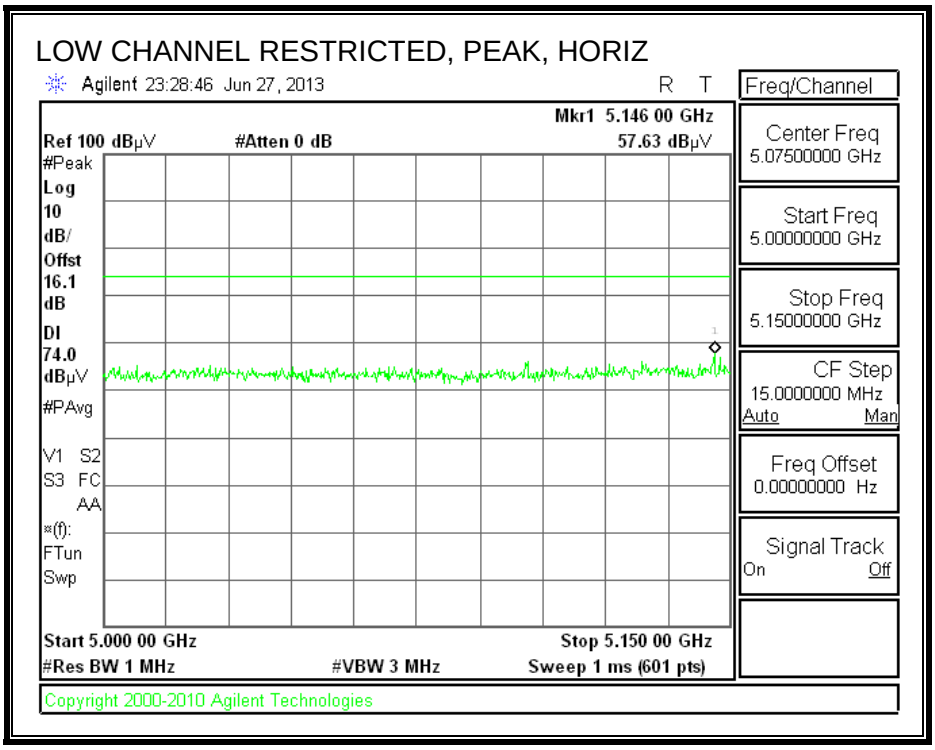


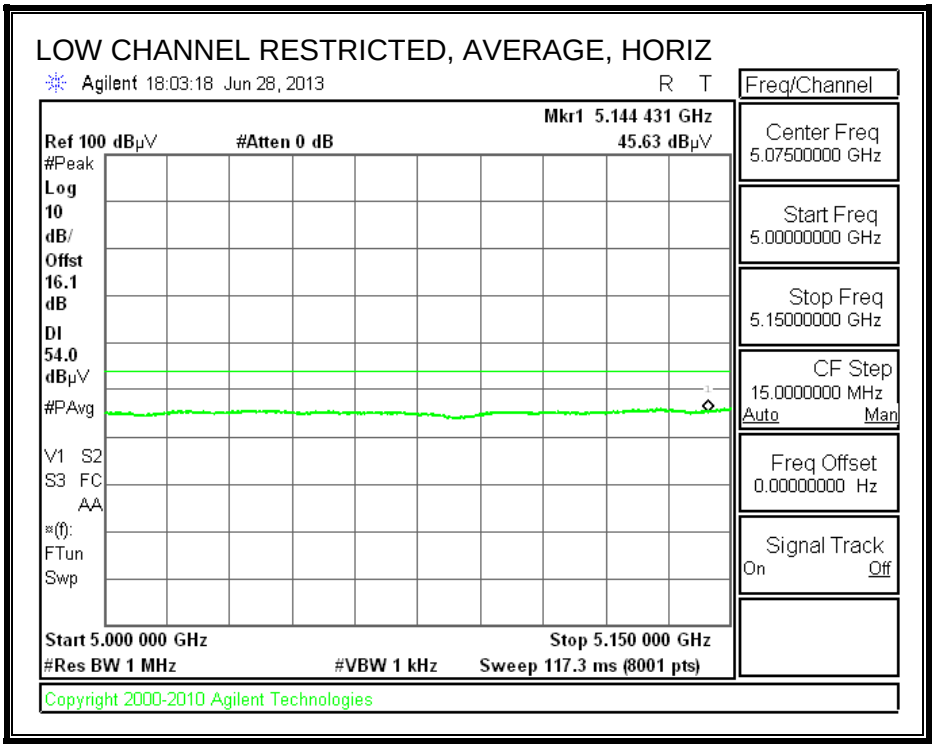
HIGH CHANNEL DATA

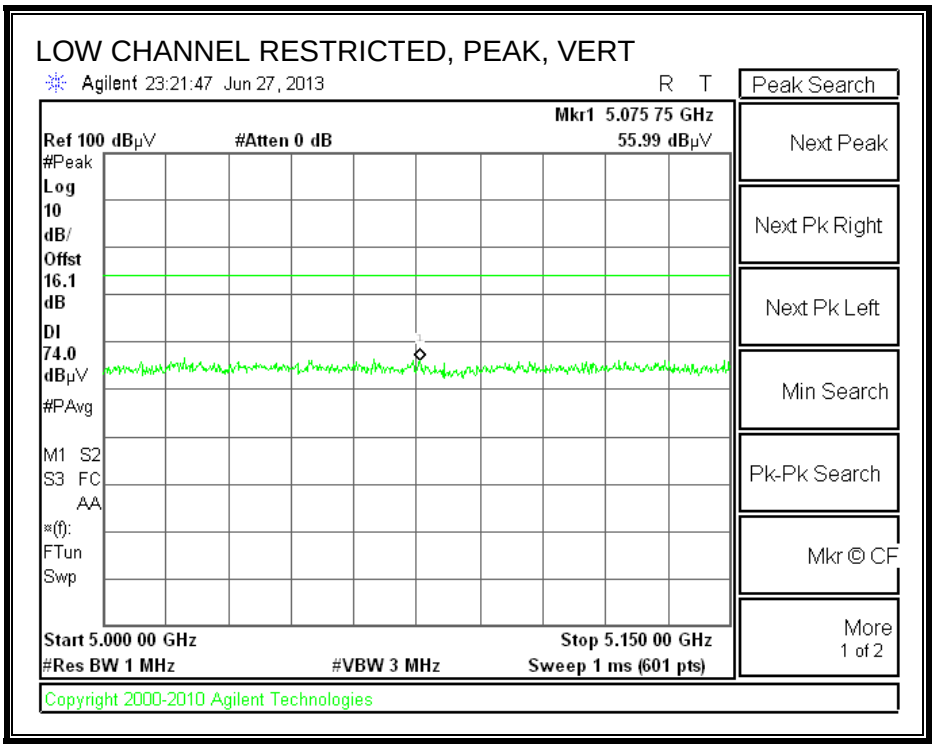
Marker No.	Test Frequency (GHz)	Meter Reading(dBuV)	Detector	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T159 BRF [dB]	Corrected Reading dB(uVolts/meter)	E-Fields [dBuV/m] - Avg	Av Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	5.2417	39.19	PK	34.9	-34.9	7.4	0.9	47.49	54	-6.51	74	-26.51	0-360	200	H
4	5.2483	40.41	PK	34.9	-34.9	7.4	0.9	48.71	54	-5.29	74	-25.29	0-360	200	V
2	7.7663	37.01	PK	36.2	-35.1	9.1	0.3	47.51	54	-6.49	74	-26.49	0-360	200	H
3	10.5053	34.79	PK	38.2	-34.4	10.7	0.2	49.49	54	-4.51	74	-24.51	0-360	200	H
5	8.7798	36.42	PK	36.4	-35.2	9.8	0.2	47.62	54	-6.38	74	-26.38	0-360	100	V
6	10.5053	36	PK	38.2	-34.4	10.7	0.2	50.7	54	-3.3	74	-23.3	0-360	100	V
7	10.5077	26.69	PK	38.2	-34.4	10.7	0.2	41.39	54	-12.61	74	-32.61	0-360	100	H
8	10.5077	27.19	PK	38.2	-34.4	10.7	0.2	41.89	54	-12.11	74	-32.11	0-360	200	V

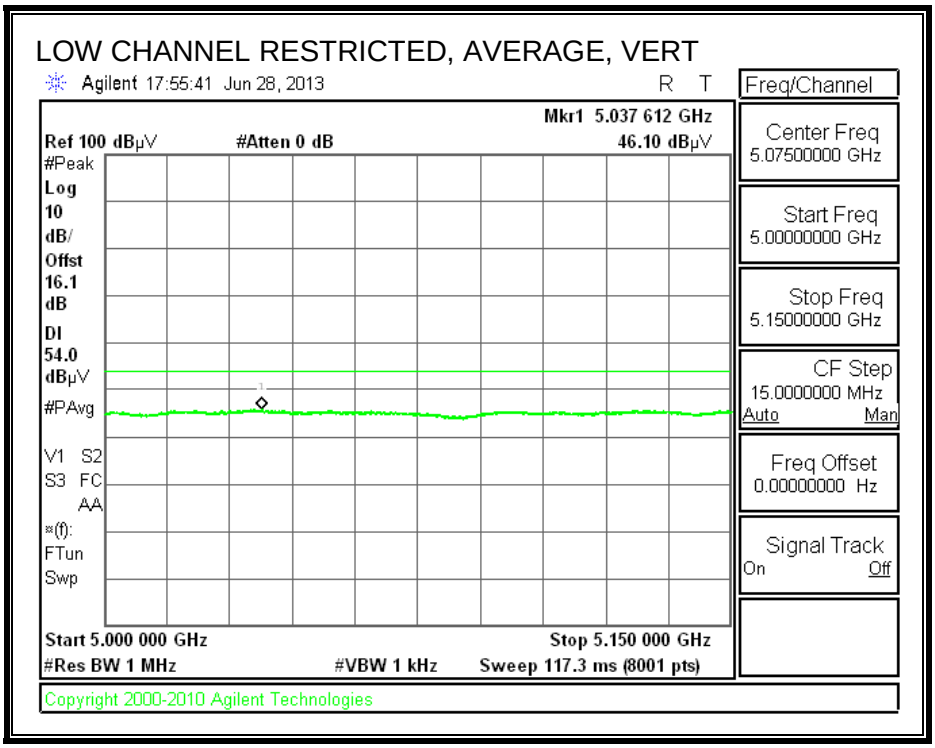
10.1.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)



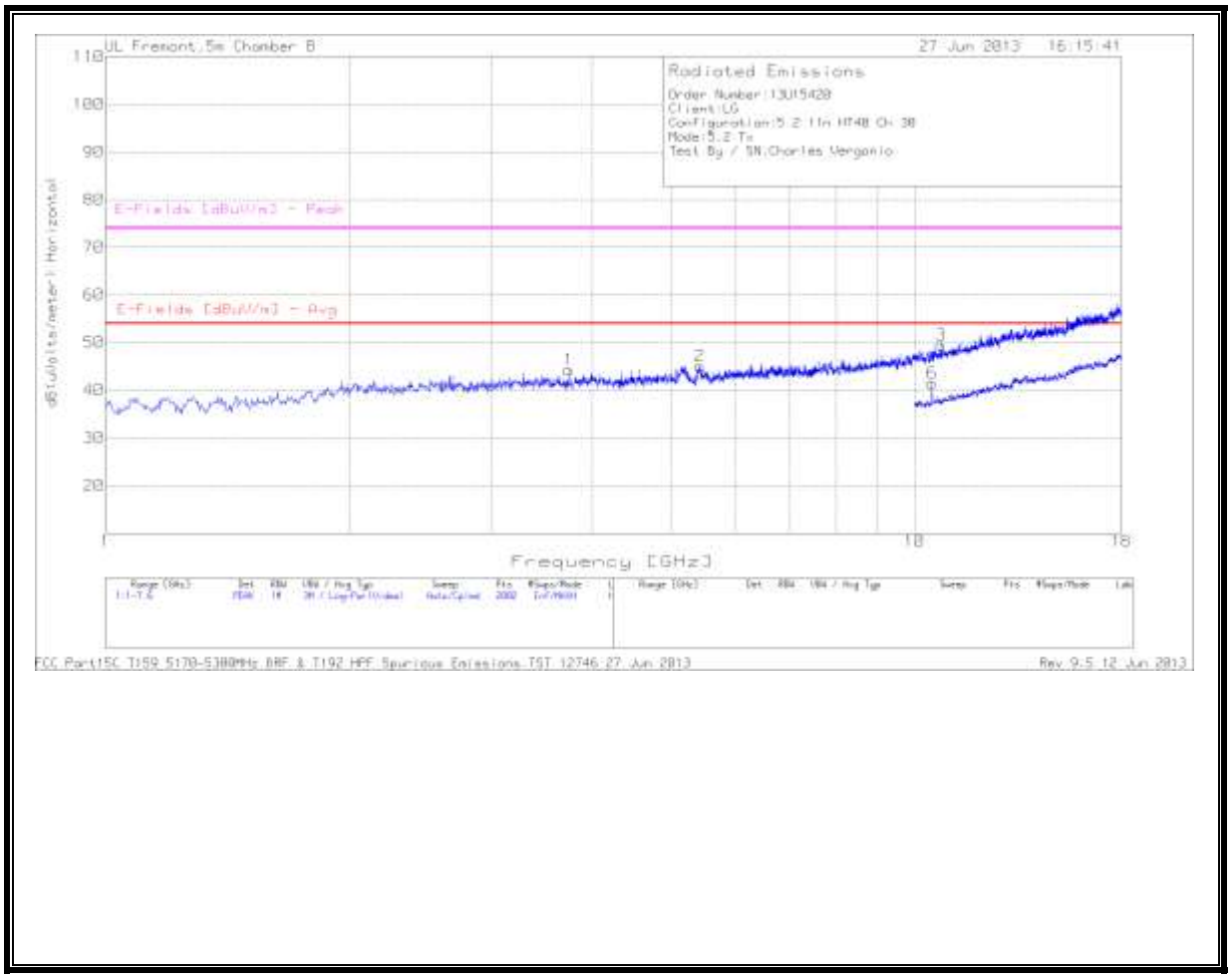




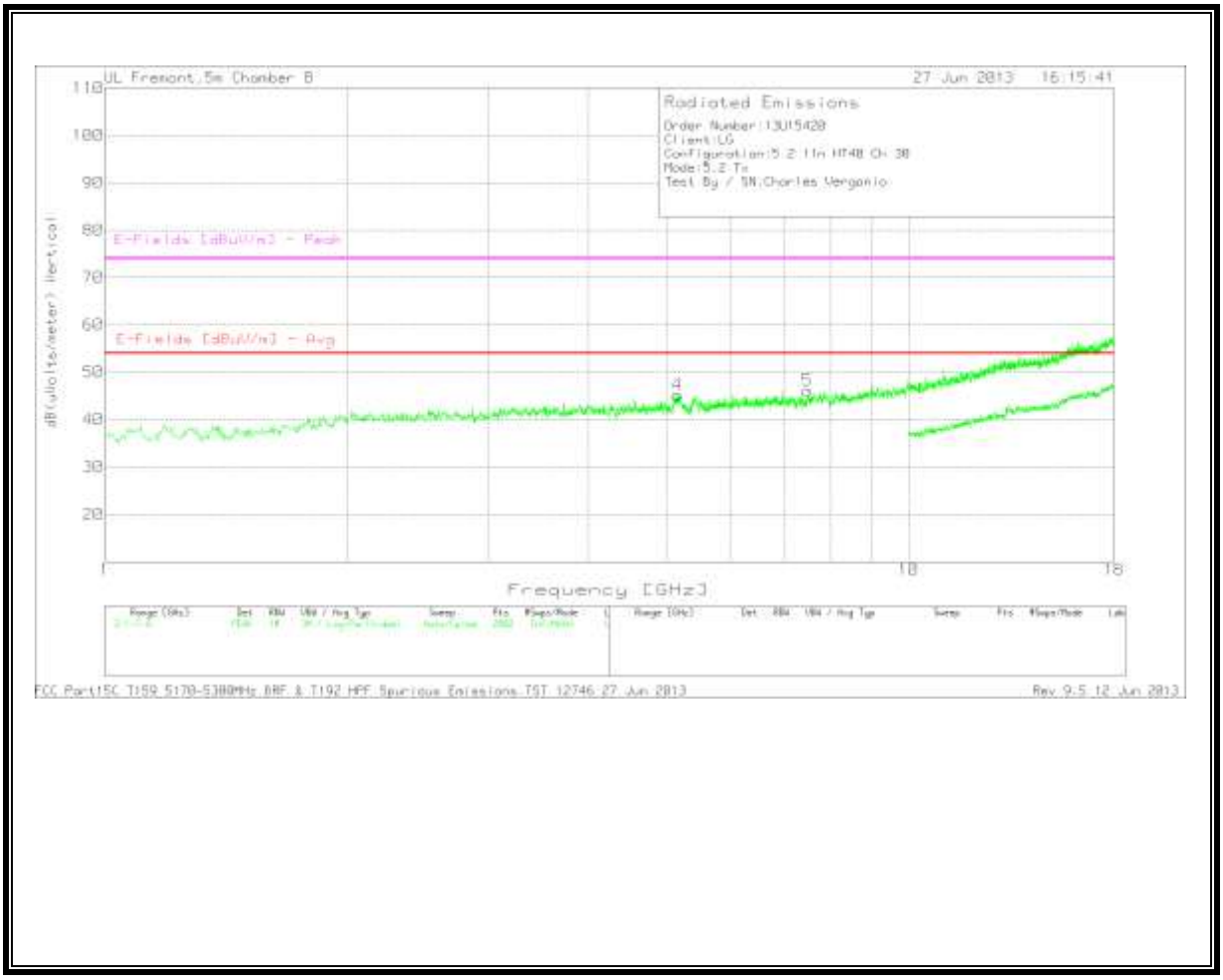


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



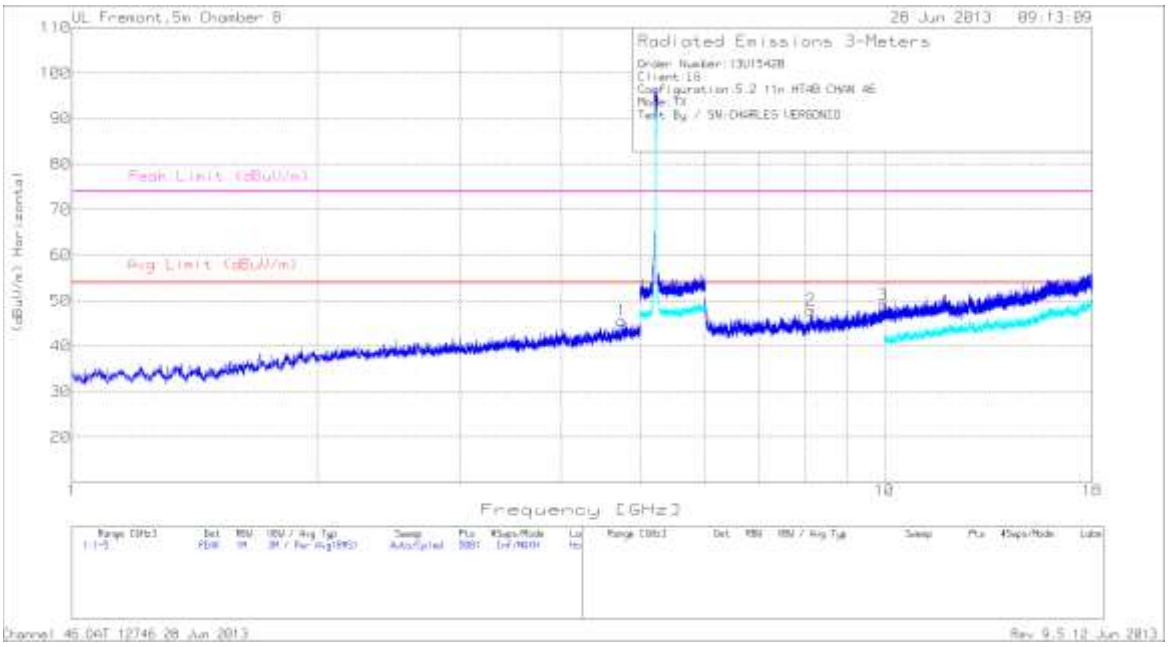
VERTICAL



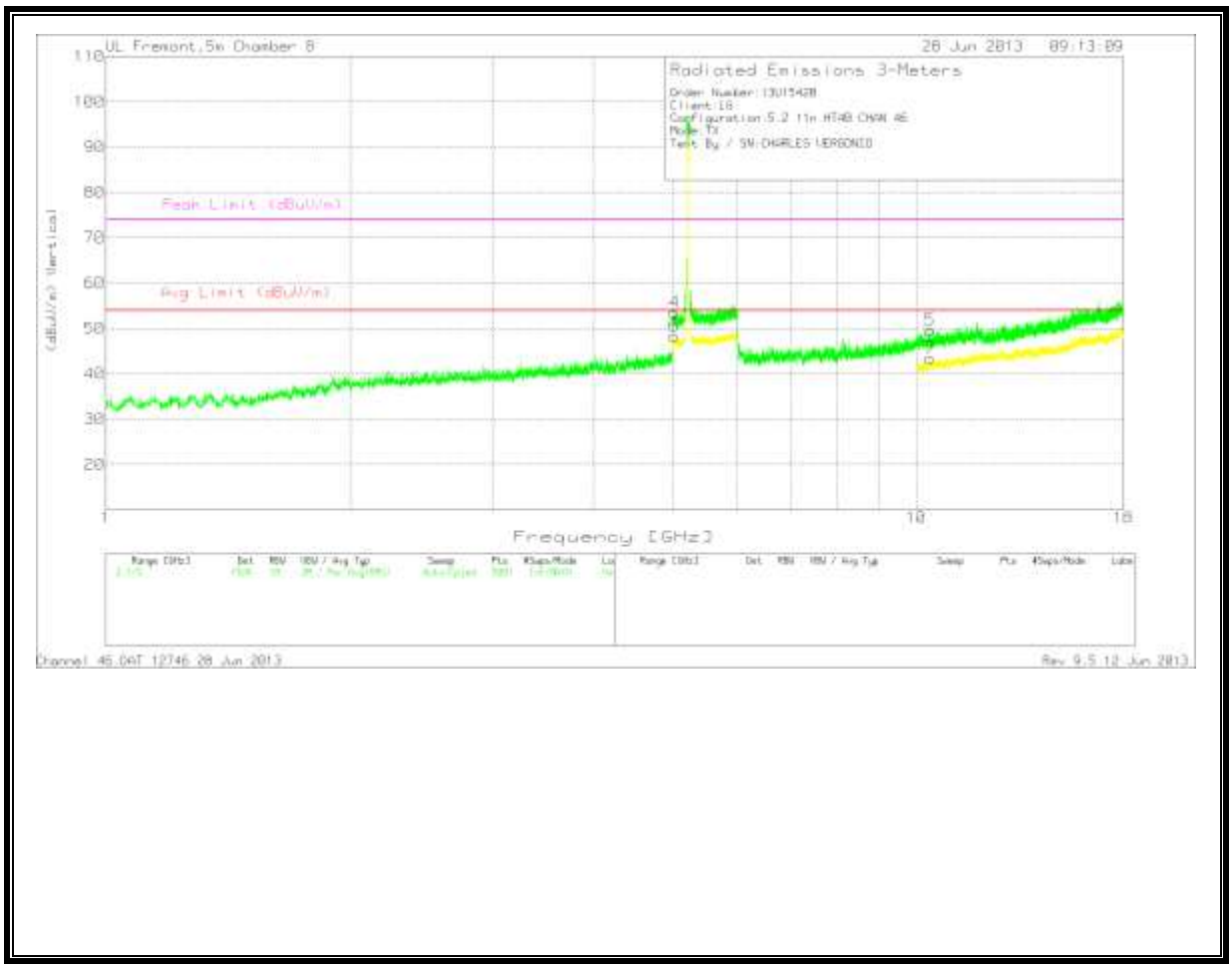
LOW CHANNEL DATA

Marker No.	Test Frequency (GHz)	Meter Reading(dBuV)	Detector	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T159 BRF [dB]	Corrected Reading dB(uVolts /meter)	E-Fields [dBuV/m] - Avg	Av Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	3.7376	39.38	PK	33.8	-34.9	6	0	44.28	54	-9.72	74	-29.72	0-360	200	H
2	5.4297	36.69	PK	34.9	-34.9	7.5	0.9	45.09	54	-8.91	74	-28.91	0-360	200	H
4	5.1526	37.12	PK	34.8	-34.9	7.3	0.9	45.22	54	-8.78	74	-28.78	0-360	100	V
5	7.4912	36.02	PK	36	-35	9	0.1	46.12	54	-7.88	74	-27.88	0-360	200	V
3	10.7912	34.2	PK	38.3	-34.1	10.9	0.2	49.5	54	-4.5	74	-24.5	0-360	200	H
6	10.5077	26.78	PK	38.2	-34.4	10.7	0.2	41.48	54	-12.52	74	-32.52	0-360	200	H

MID CHANNEL
HORIZONTAL



VERTICAL

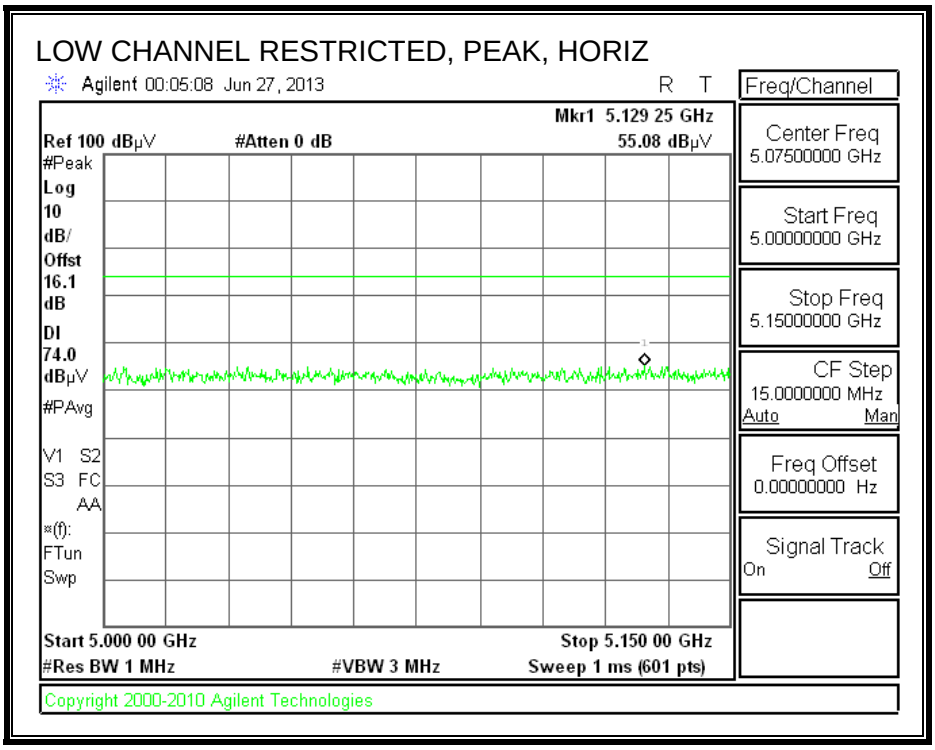


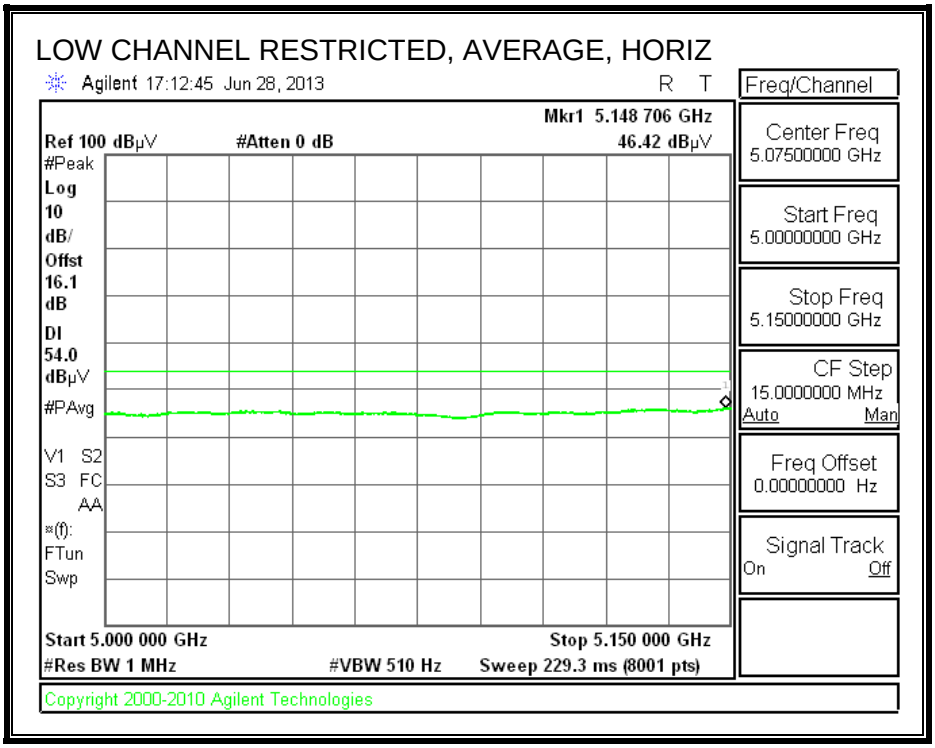
MID CHANNEL DATA

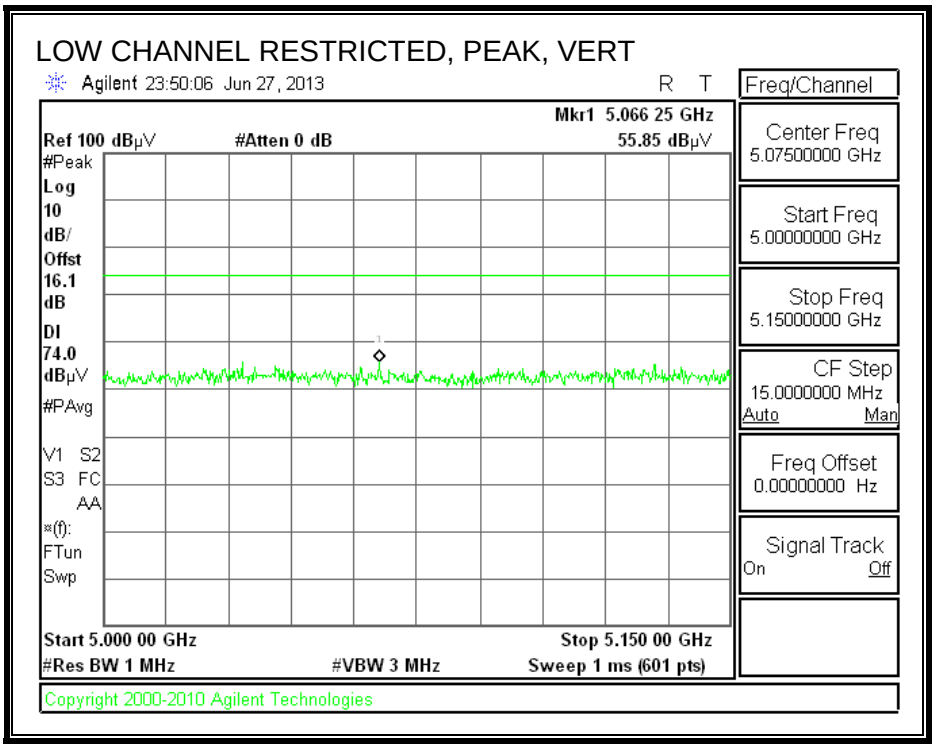
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Av Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.75	40.69	PK	34.7	-29.9	45.49	54	-8.51	74	-28.51	0-360	200	H
5.035	39.72	PK	34.6	-20.8	53.52	54	-0.48	74	-20.48	0-360	100	V
5.031	34.52	PK	34.6	-20.8	48.32	54	-5.68	74	-25.68	0-360	100	V
8.12	37.8	PK	36.1	-26.1	47.8	54	-6.2	74	-26.2	0-360	100	H
9.968	35.7	PK	37.8	-24.5	49	54	-5	74	-25	0-360	100	H
10.394	34.08	PK	38.1	-22.6	49.58	54	-4.42	74	-24.42	0-360	100	V
10.394	27.9	PK	38.1	-22.6	43.4	54	-10.6	74	-30.6	0-360	200	V

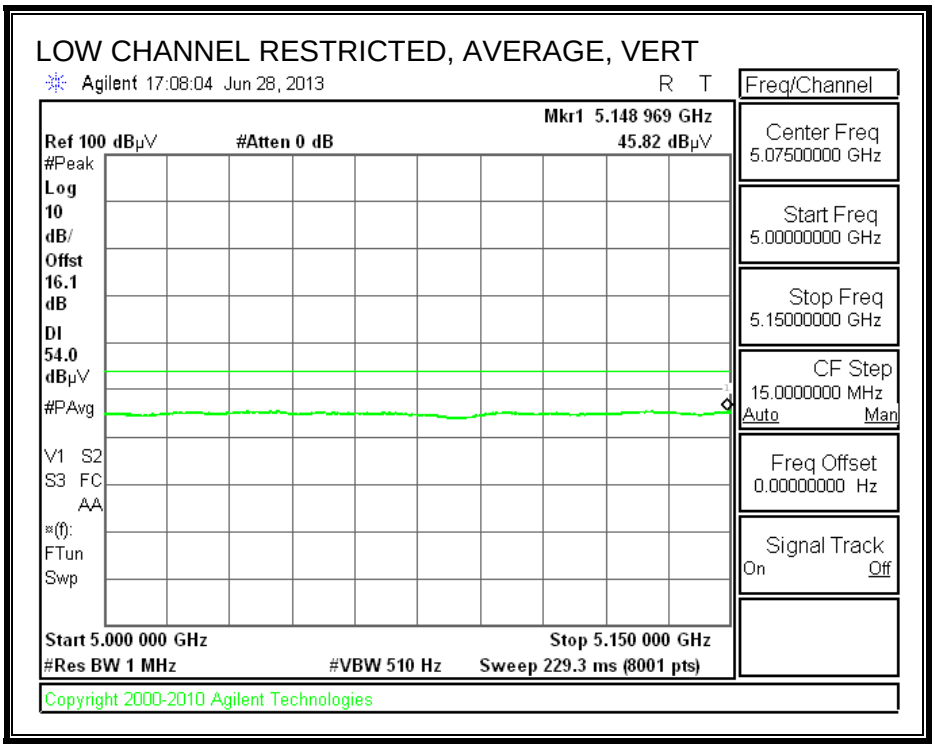
10.1.4. TX ABOVE 1 GHz 802.11ac HT20 MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)



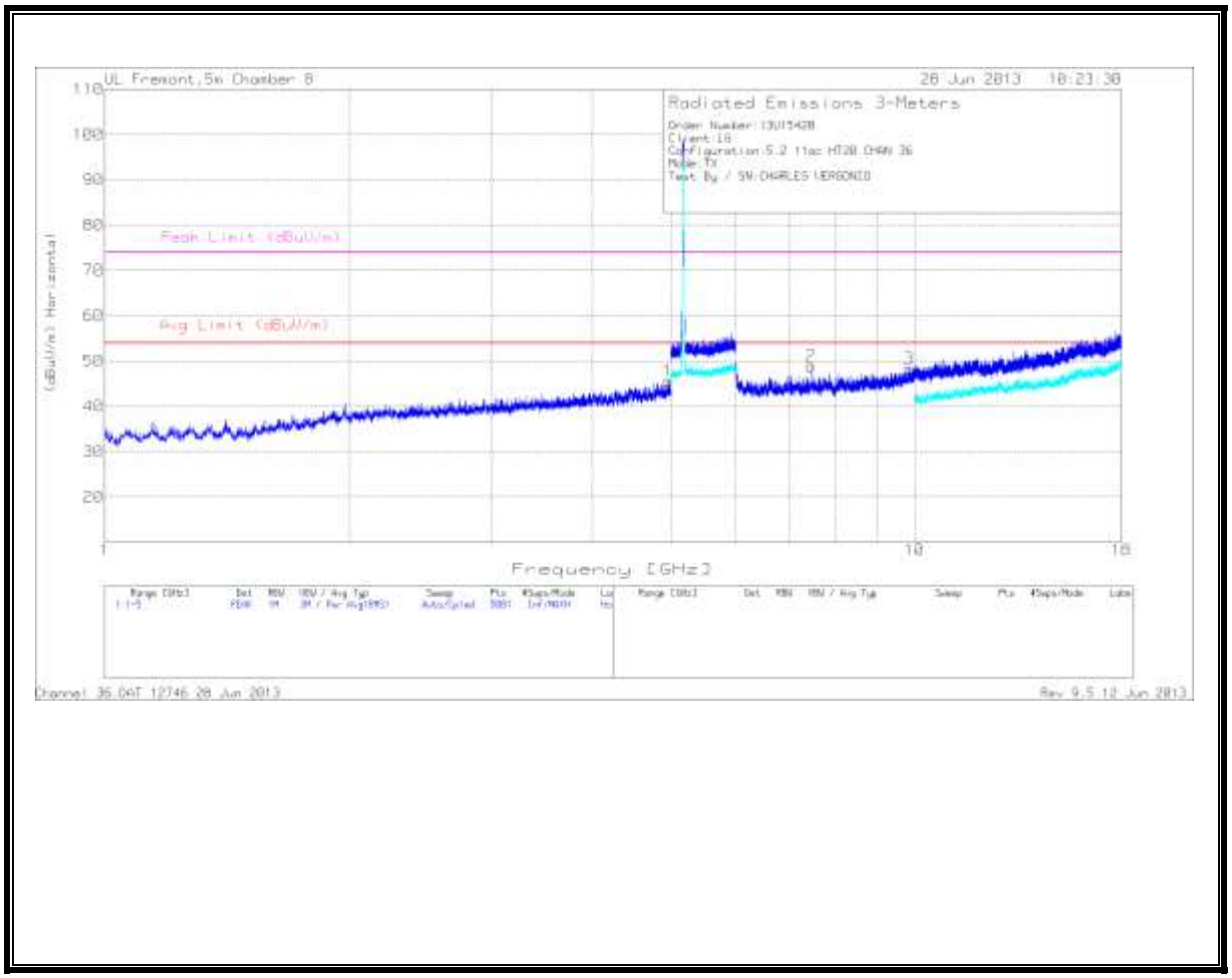




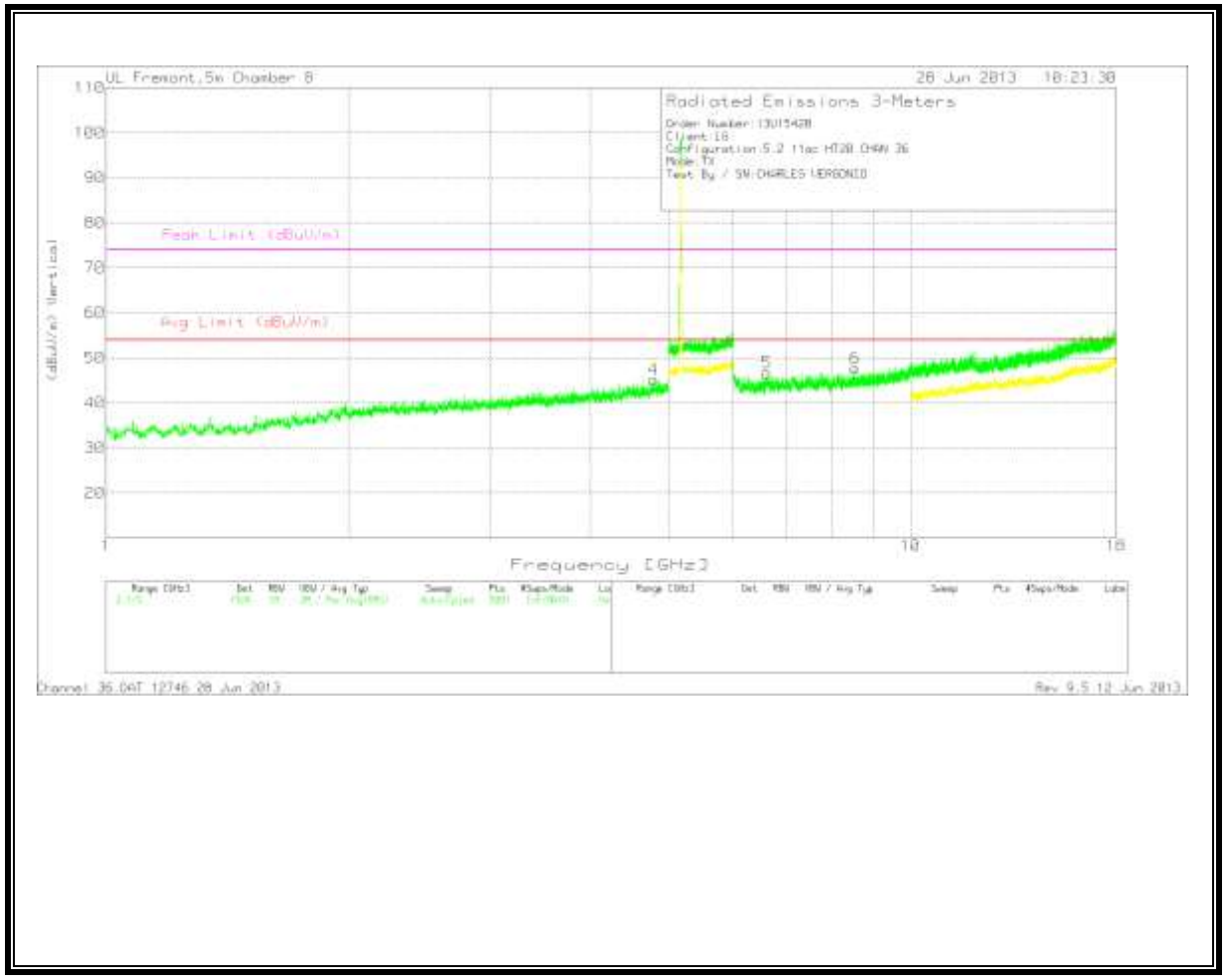


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



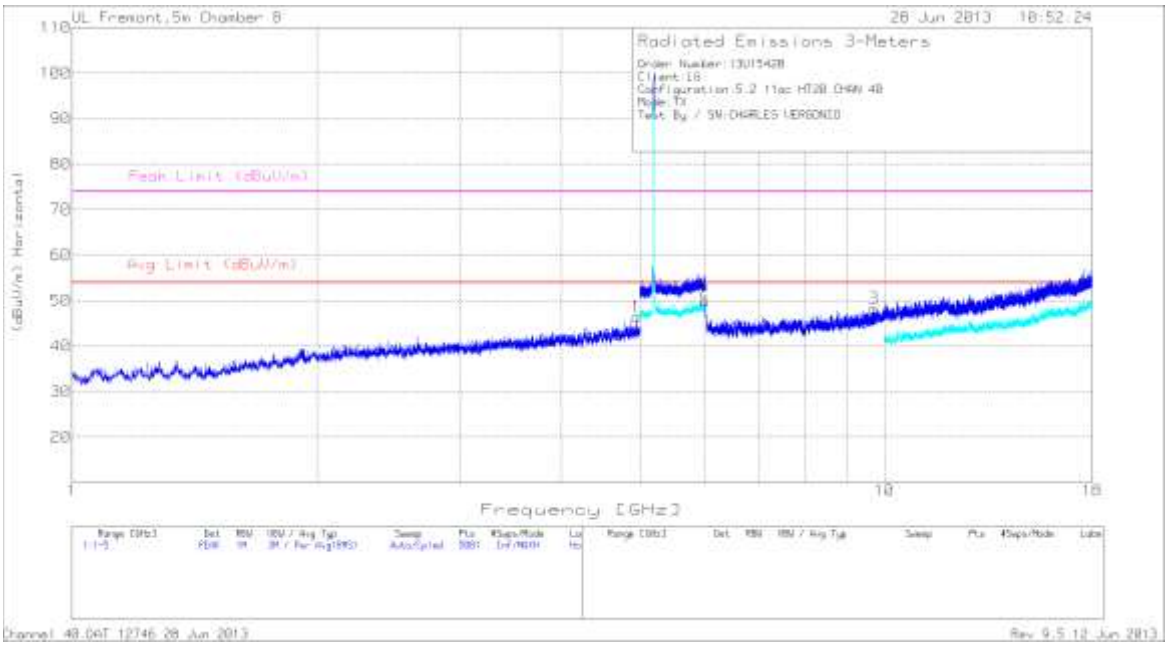
VERTICAL



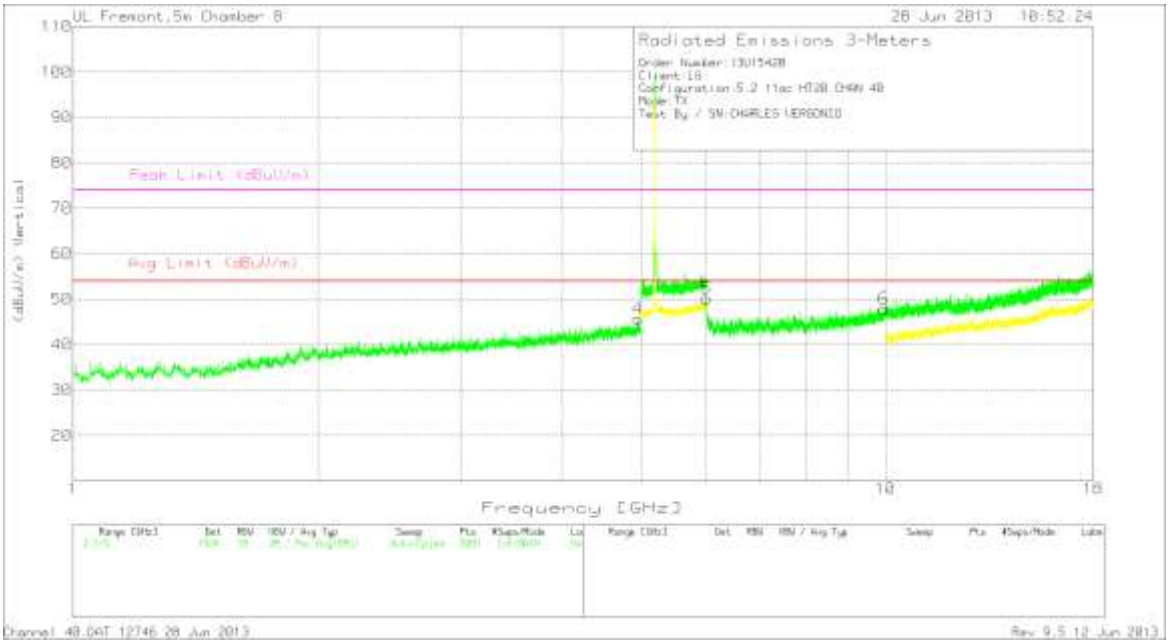
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Av Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.962	39.69	PK	34.6	-28.7	45.59	54	-8.41	74	-28.41	0-360	200	H
4.793	40.07	PK	34.7	-29.6	45.17	54	-8.83	74	-28.83	0-360	100	V
7.453	38.57	PK	36	-25.7	48.87	54	-5.13	74	-25.13	0-360	100	H
9.859	35.38	PK	37.6	-24.6	48.38	54	-5.62	74	-25.62	0-360	100	H
6.625	39.29	PK	35.8	-28.4	46.69	54	-7.31	74	-27.31	0-360	100	V
8.54	38.02	PK	36.2	-26.5	47.72	54	-6.28	74	-26.28	0-360	200	V

MID CHANNEL
HORIZONTAL



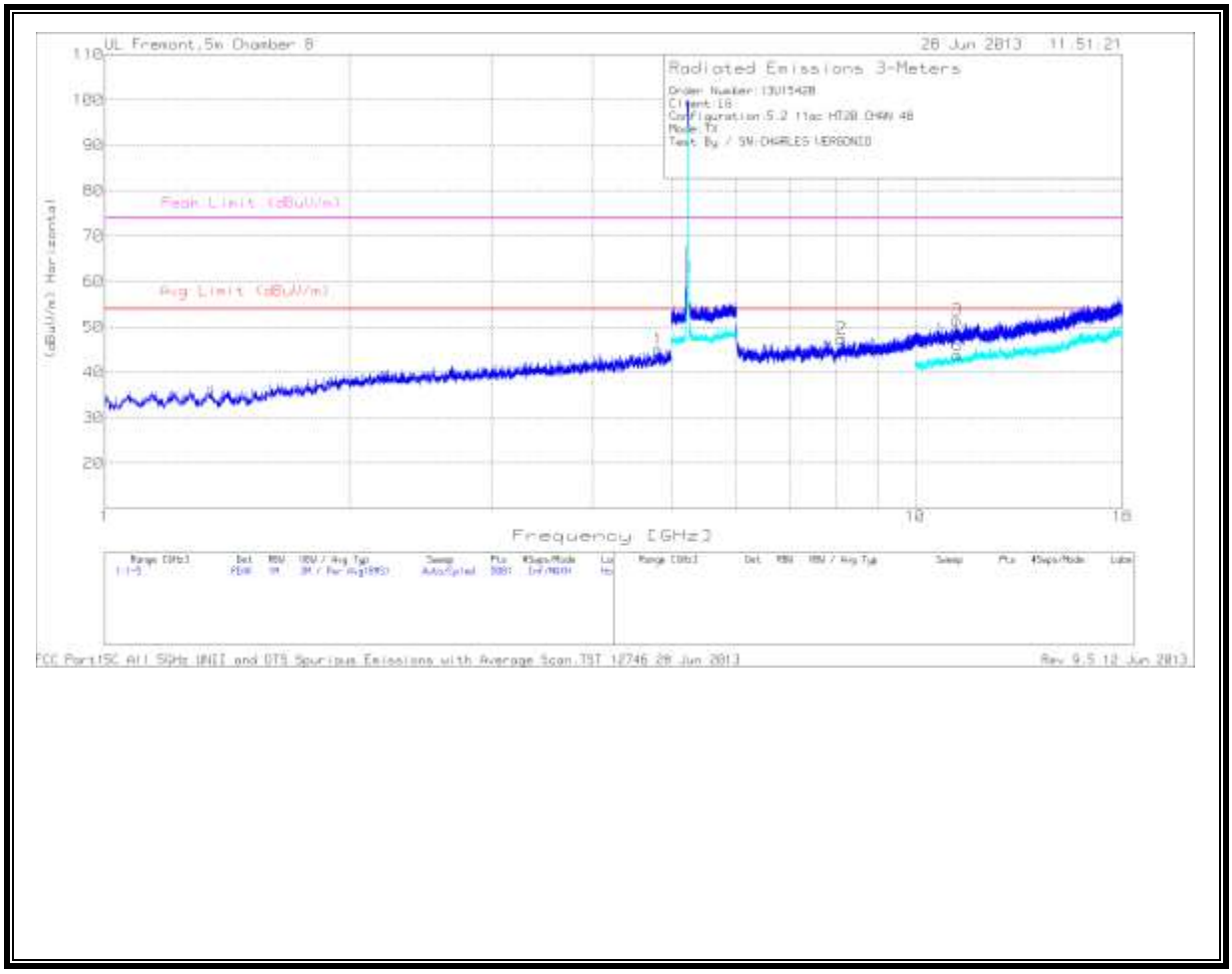
VERTICAL



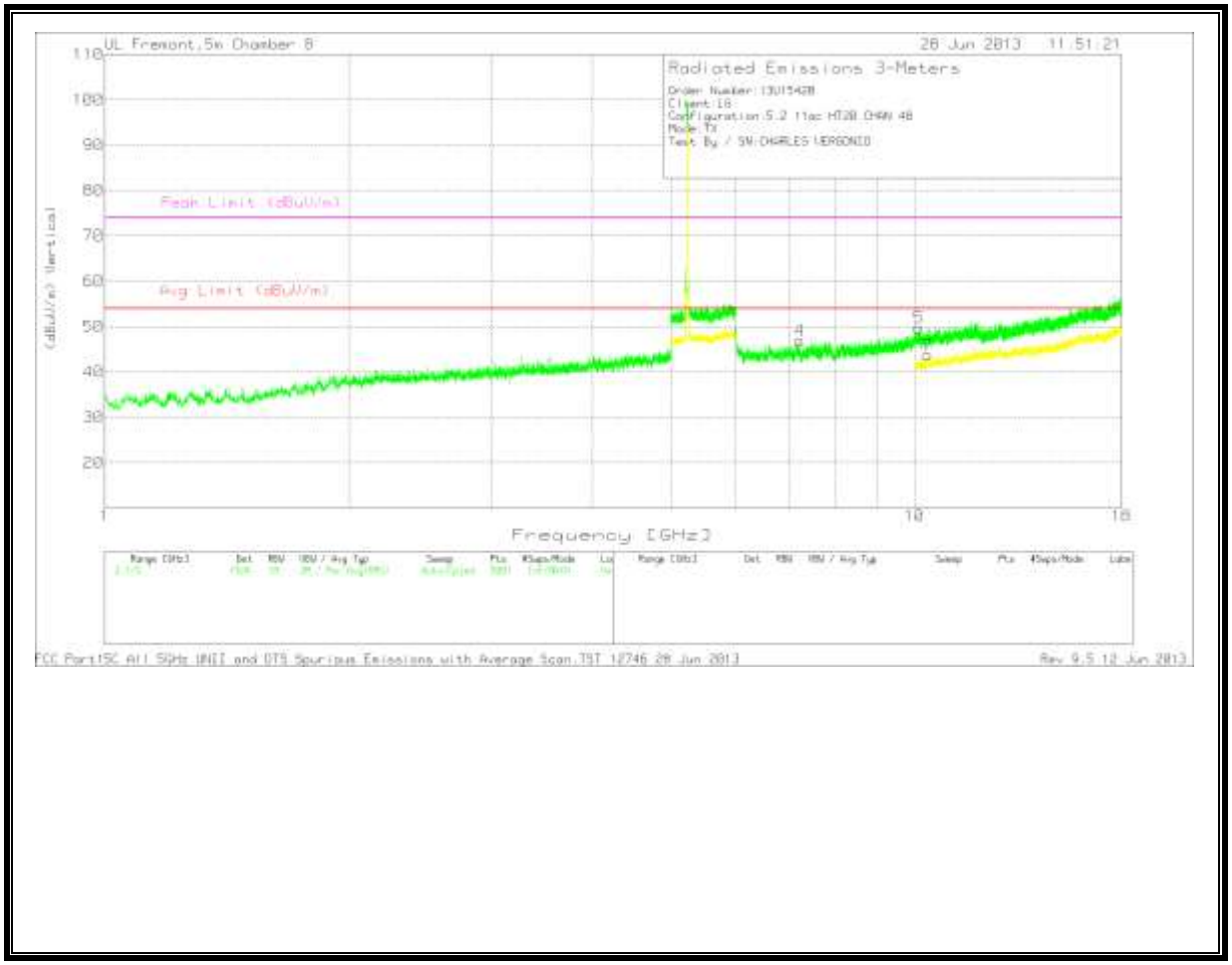
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Av Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.955	40.97	PK	34.6	-29.2	46.37	54	-7.63	74	-27.63	0-360	100	H
4.958	40.1	PK	34.6	-29	45.7	54	-8.3	74	-28.3	0-360	100	V
6.015	37.24	PK	35.9	-23.3	49.84	54	-4.16	74	-24.16	0-360	200	H
9.716	34.43	PK	37.5	-23.7	48.23	54	-5.77	74	-25.77	0-360	200	H
6.018	38.18	PK	35.9	-23.9	50.18	54	-3.82	74	-23.82	0-360	100	V
9.961	34.7	PK	37.8	-24.6	47.9	54	-6.1	74	-26.1	0-360	200	V

HIGH CHANNEL
HORIZONTAL



VERTICAL

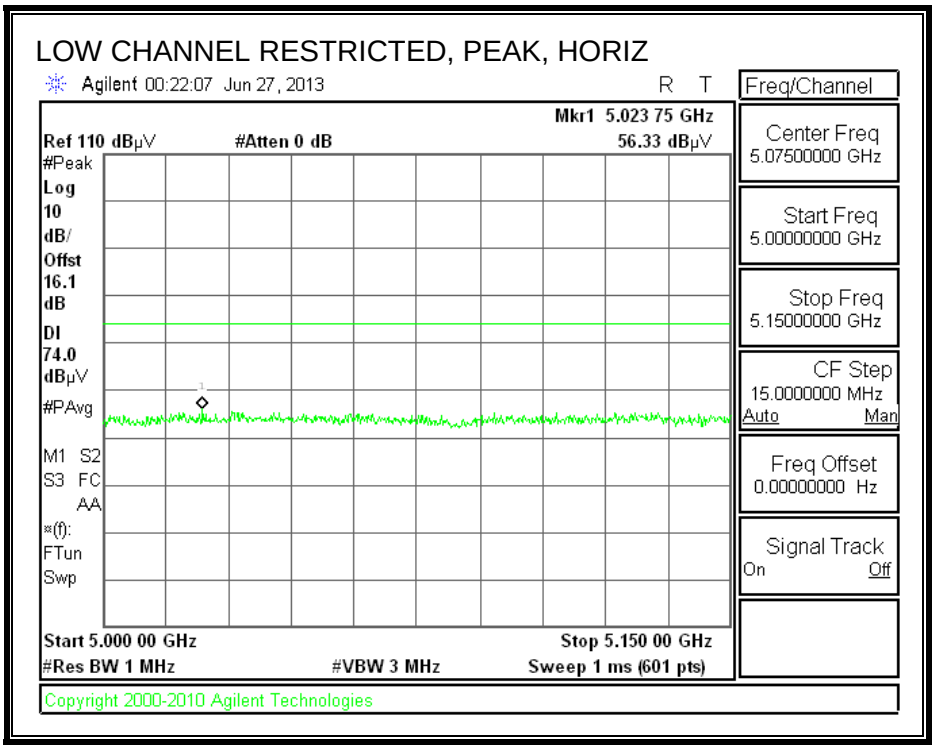


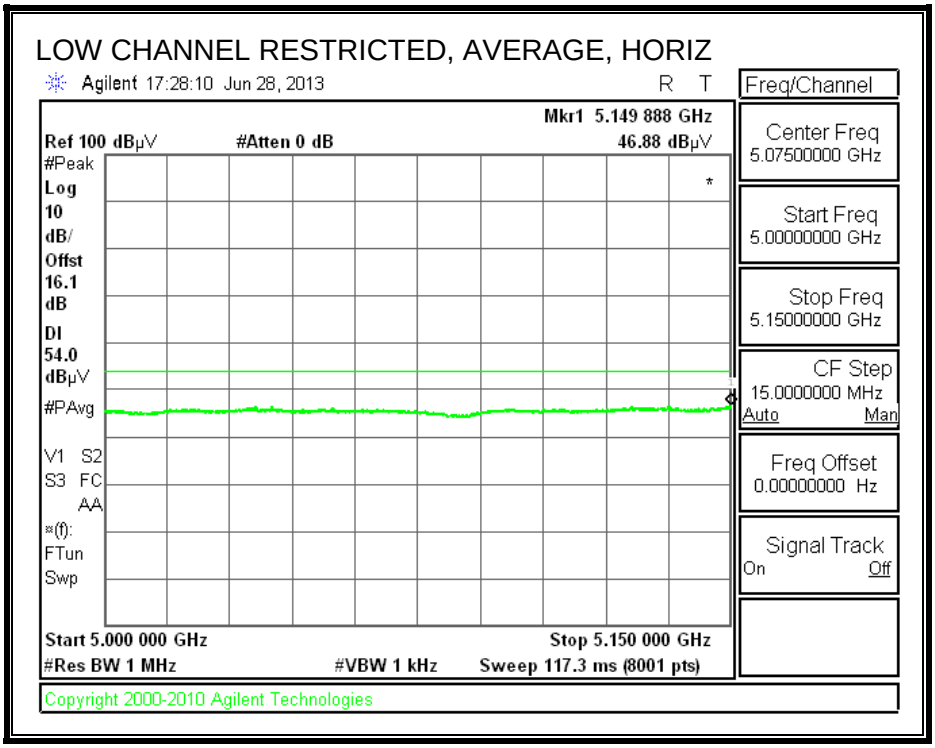
HIGH CHANNEL DATA

Marker No.	Test Frequency (GHz)	Meter Reading(dBuV)	Detector	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	4.8168	40.58	PK	34.7	-30.3	44.98	53.97	-8.99	74	-29.02	0-360	200	H
2	8.1172	37.39	PK	36.1	-26.1	47.39	53.97	-6.58	74	-26.61	0-360	200	H
3	11.248	35.2	PK	38.5	-22.2	51.5	53.97	-2.47	74	-22.5	0-360	100	H
4	7.2154	37.86	PK	35.8	-26.8	46.86	53.97	-7.11	74	-27.14	0-360	200	V
5	10.1335	36.03	PK	37.9	-24.2	49.73	53.97	-4.24	74	-24.27	0-360	200	V
6	11.27	27.32	PK	38.5	-22.1	43.72	53.97	-10.25	74	-30.28	0-360	200	H
7	10.379	28.38	PK	38.1	-22.8	43.68	53.97	-10.29	74	-30.32	0-360	200	V

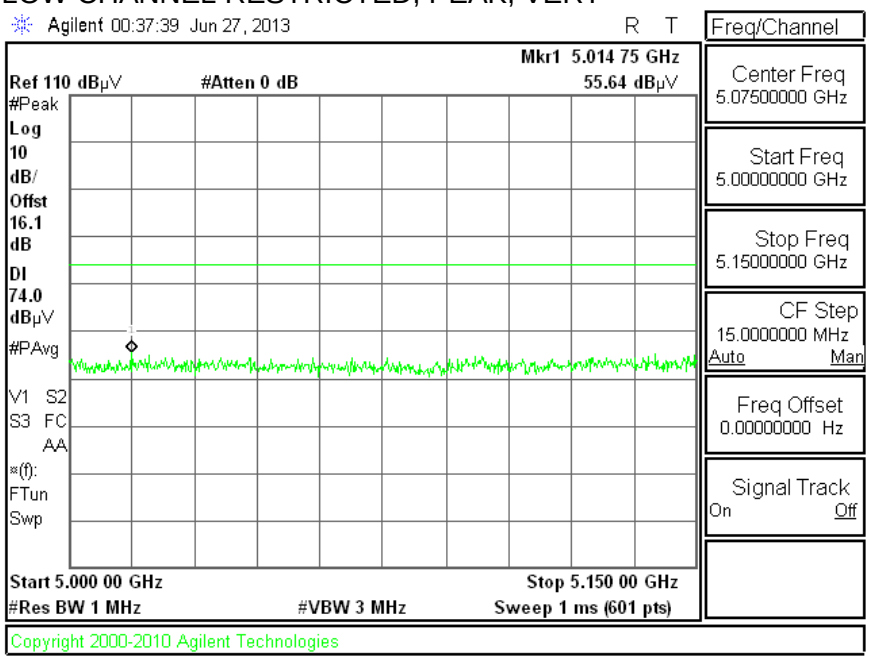
10.1.5. TX ABOVE 1 GHz 802.11ac HT40 MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

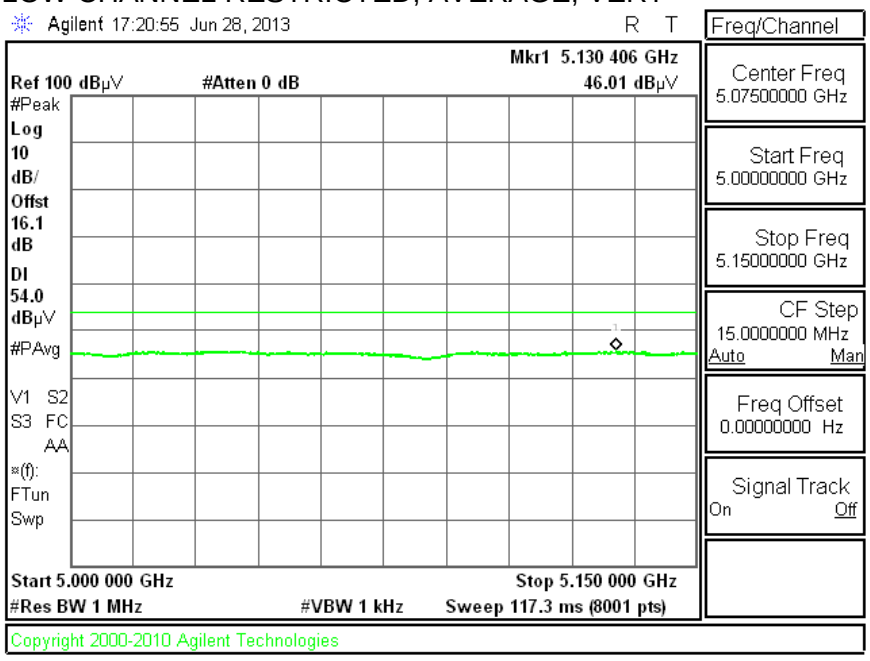




LOW CHANNEL RESTRICTED, PEAK, VERT

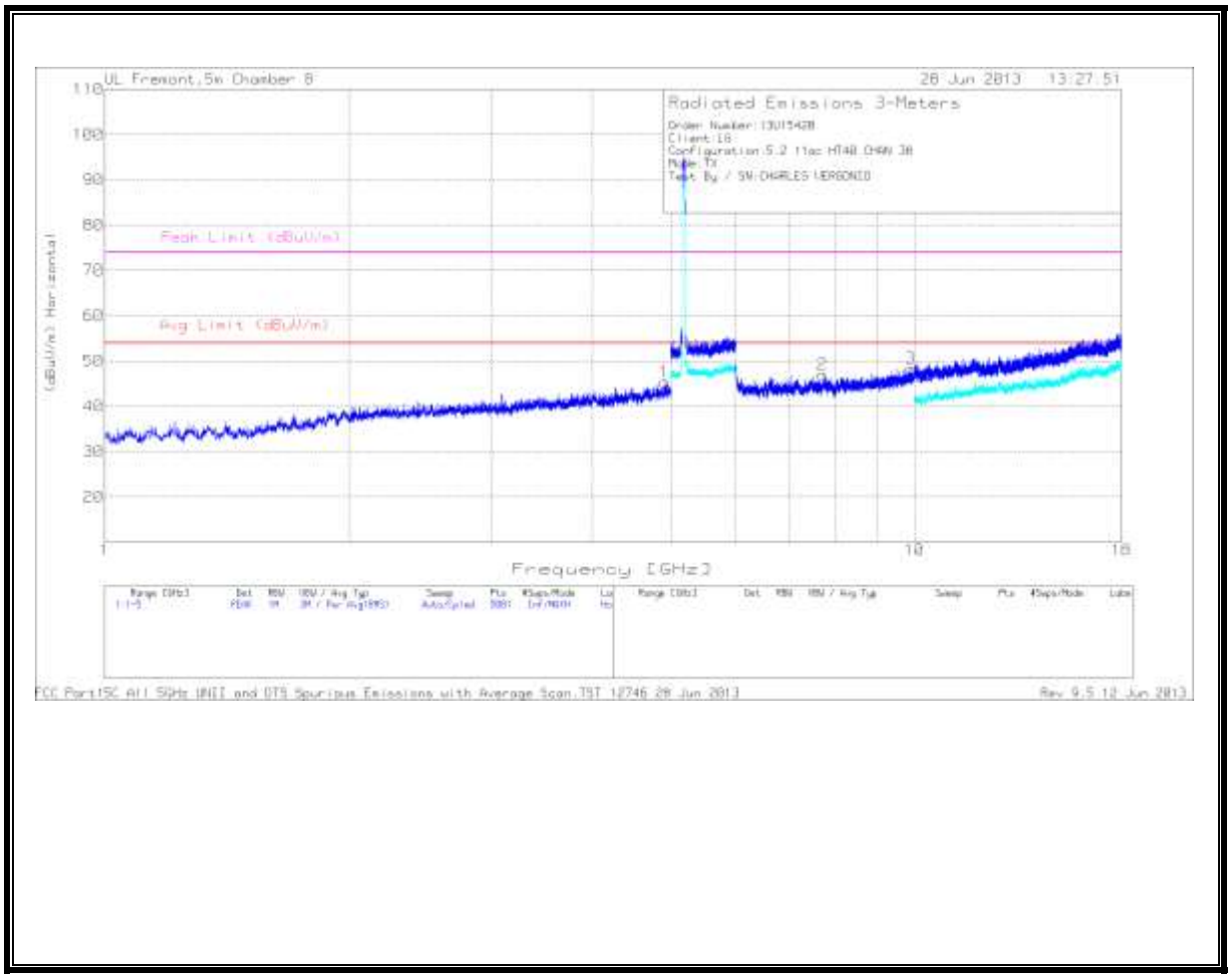


LOW CHANNEL RESTRICTED, AVERAGE, VERT

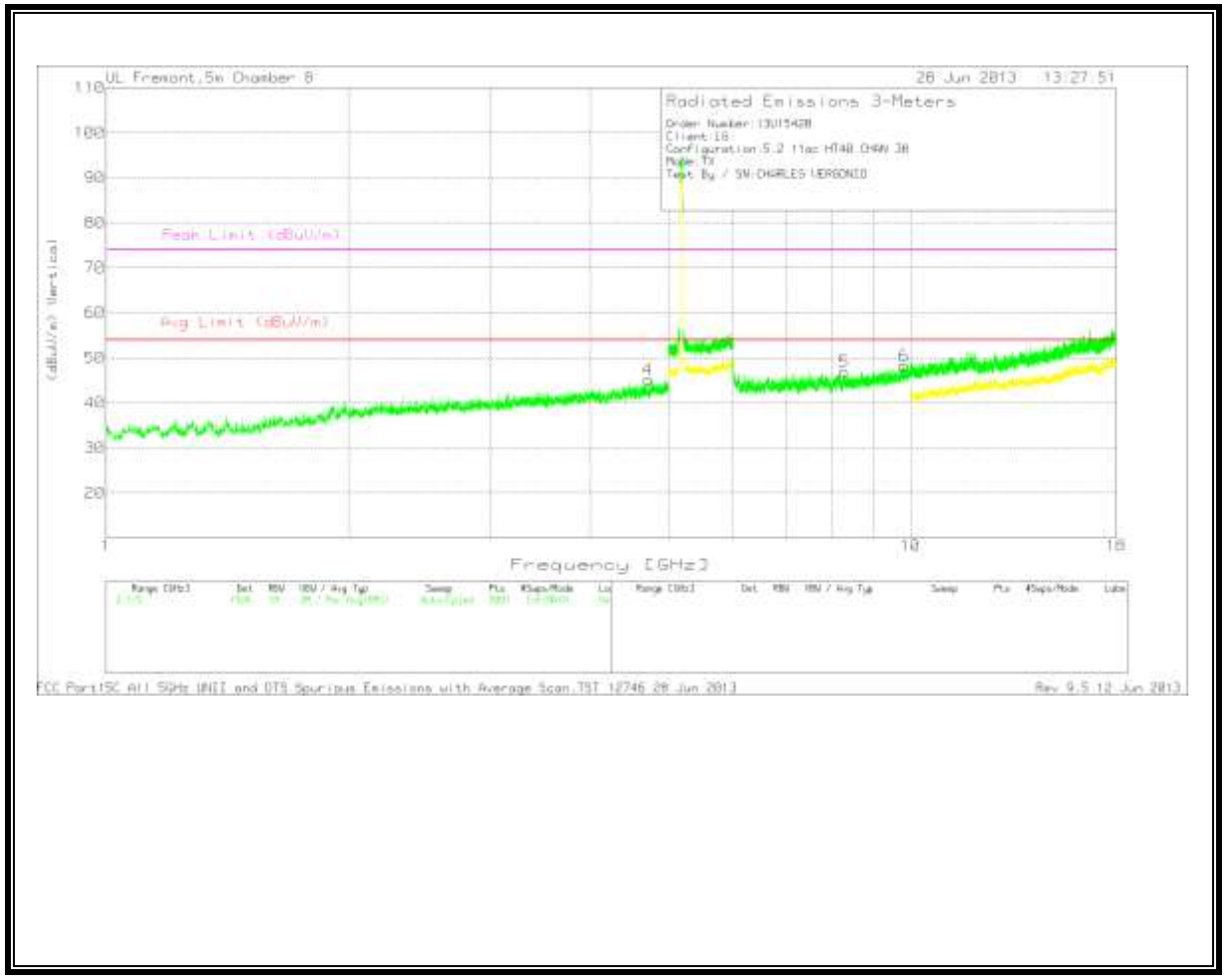


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



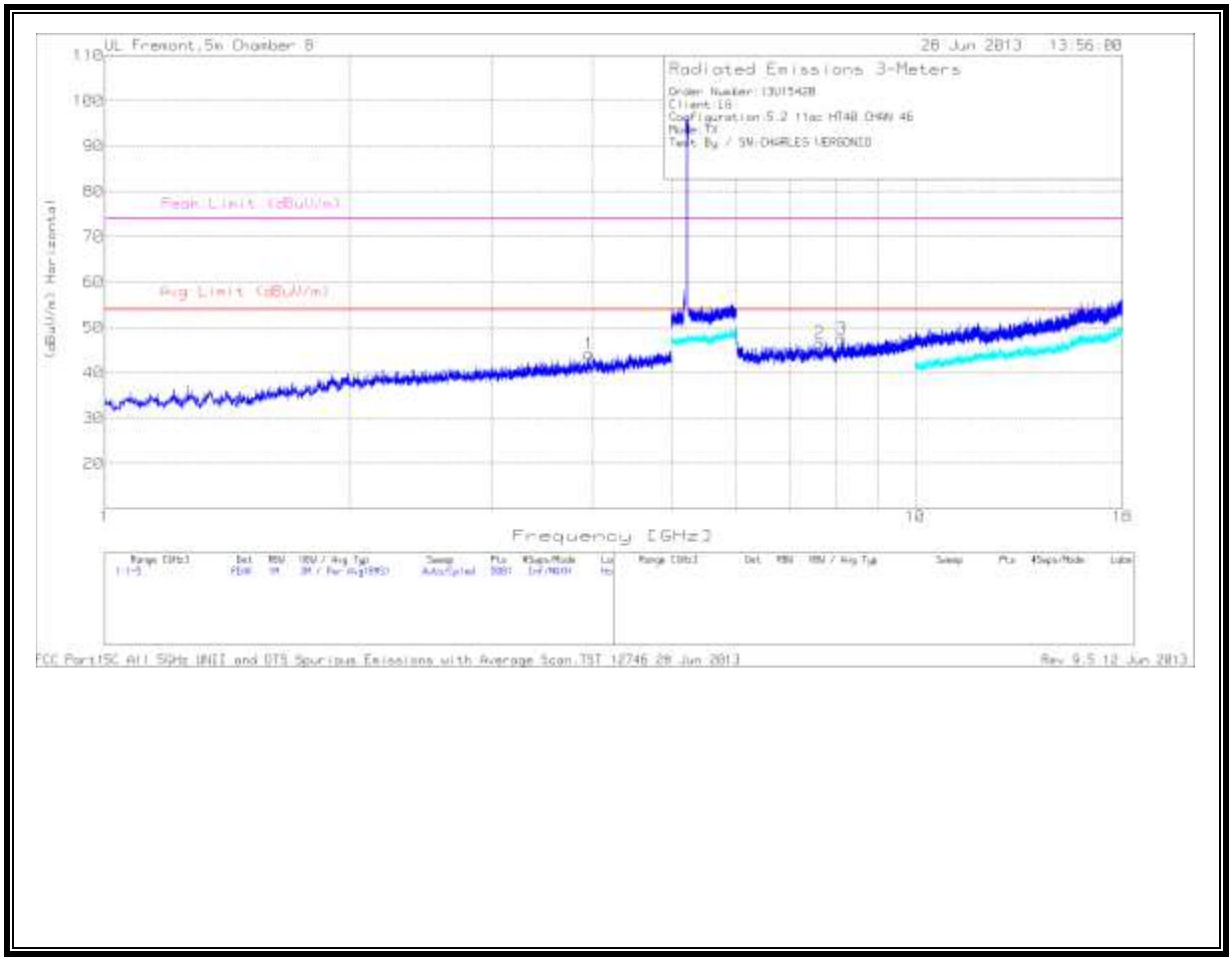
VERTICAL



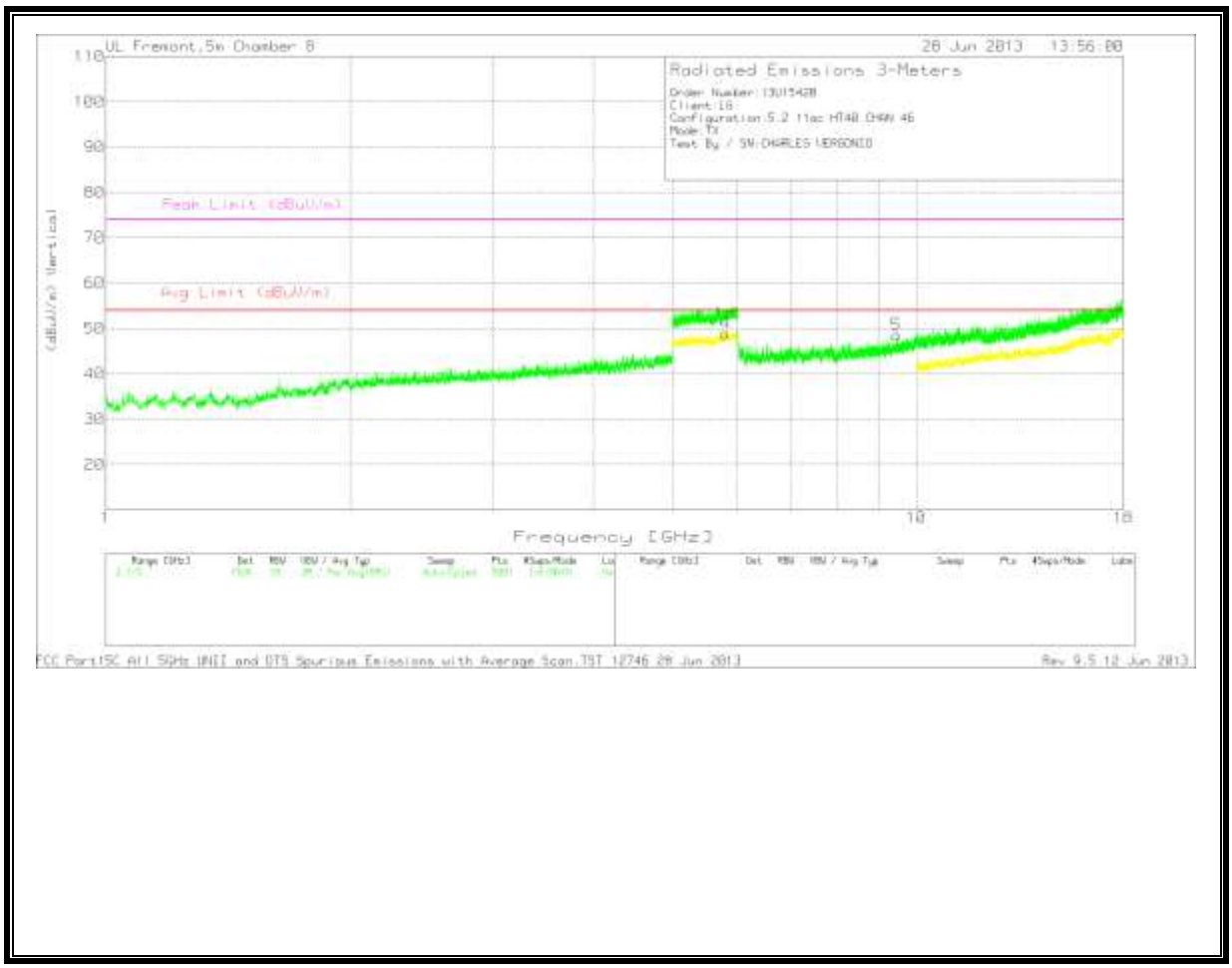
LOW CHANNEL DATA

Marker No.	Test Frequency (GHz)	Meter Reading(dBuV)	Detector	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	4.9136	41	PK	34.6	-30.2	45.4	53.97	-8.57	74	-28.6	0-360	200	H
4	4.7176	41.05	PK	34.7	-30.6	45.15	53.97	-8.82	74	-28.85	0-360	200	V
2	7.6988	38.65	PK	36.2	-27.8	47.05	53.97	-6.92	74	-26.95	0-360	100	H
3	9.9008	35.18	PK	37.7	-24.5	48.38	53.97	-5.59	74	-25.62	0-360	200	H
5	8.269	37.22	PK	36.1	-26.5	46.82	53.97	-7.15	74	-27.18	0-360	100	V
6	9.8189	35.28	PK	37.6	-24.7	48.18	53.97	-5.79	74	-25.82	0-360	100	V

MID CHANNEL
HORIZONTAL



VERTICAL

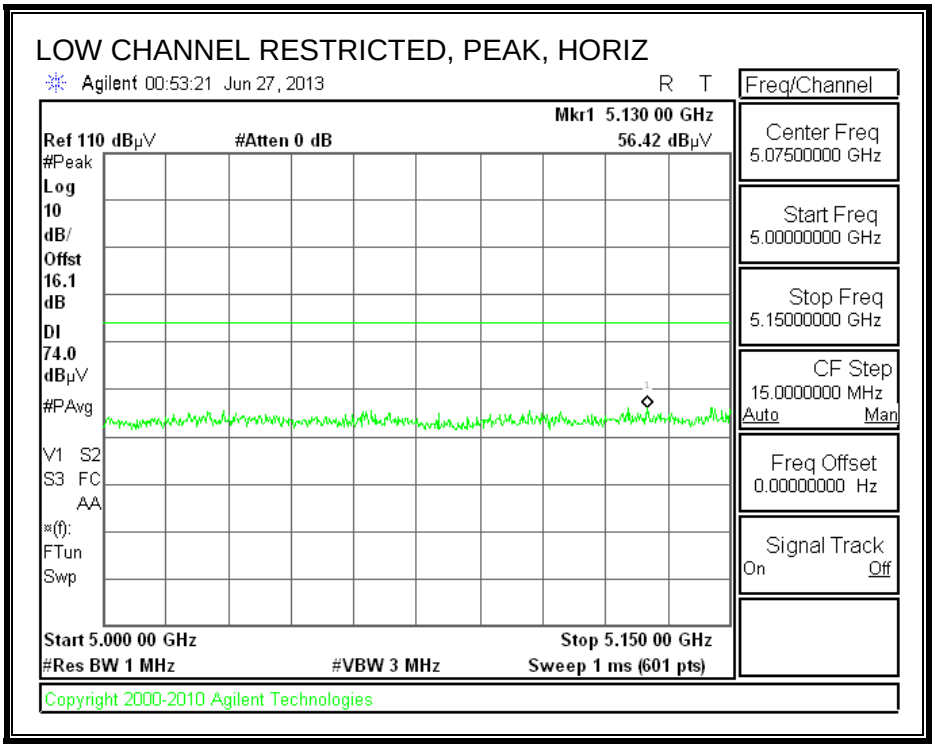


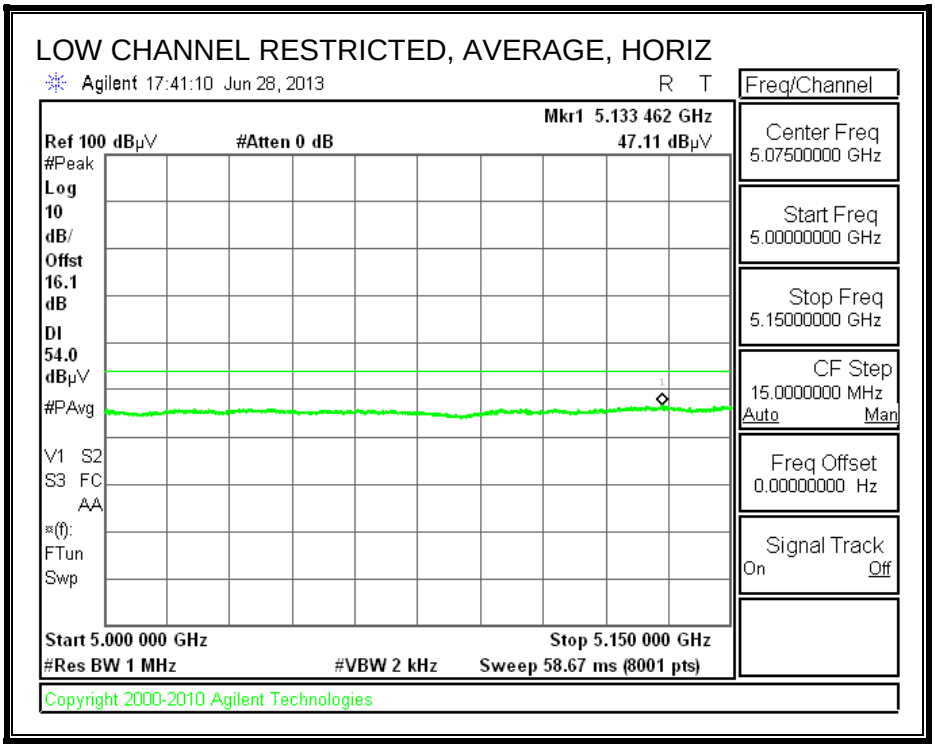
MID CHANNEL DATA

Marker No.	Test Frequency (GHz)	Meter Reading(dBuV)	Detector	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	3.9576	40.64	PK	33.9	-30.4	44.14	53.97	-9.83	74	-29.86	0-360	200	H
4	5.812	33.43	PK	35.4	-19.9	48.93	53.97	-5.04	74	-25.07	0-360	100	V
2	7.6229	38.36	PK	36.1	-27.9	46.56	53.97	-7.41	74	-27.44	0-360	200	H
3	8.1192	37.52	PK	36.1	-26.1	47.52	53.97	-6.45	74	-26.48	0-360	100	H
5	9.4624	36.25	PK	37.2	-24.9	48.55	53.97	-5.42	74	-25.45	0-360	200	V

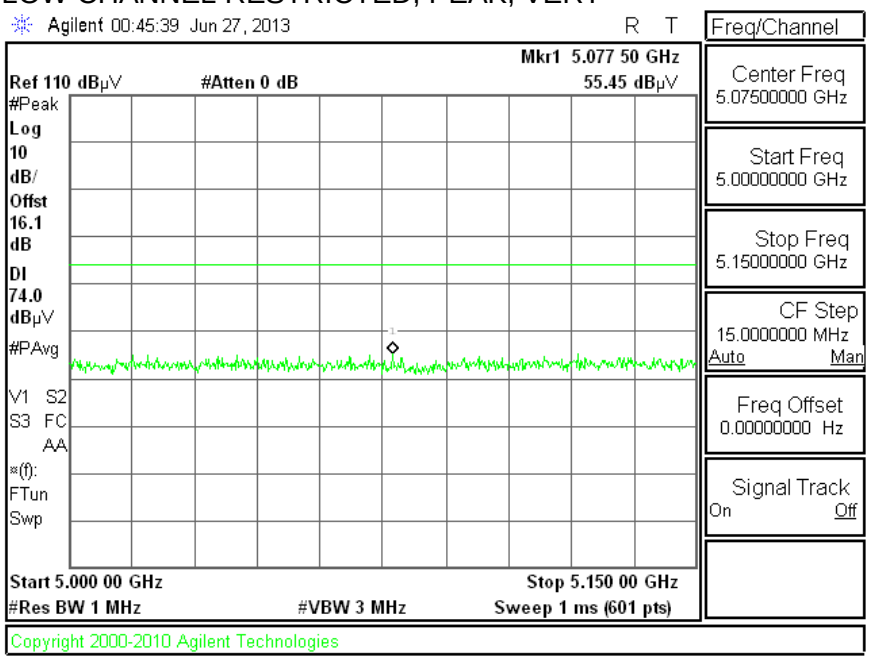
10.1.6. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

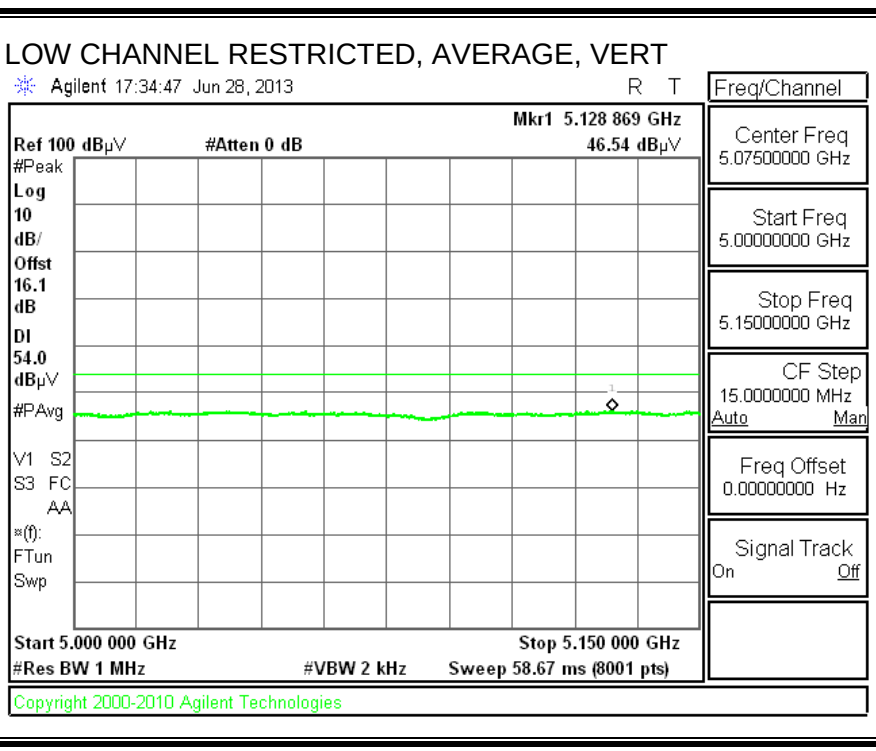




LOW CHANNEL RESTRICTED, PEAK, VERT

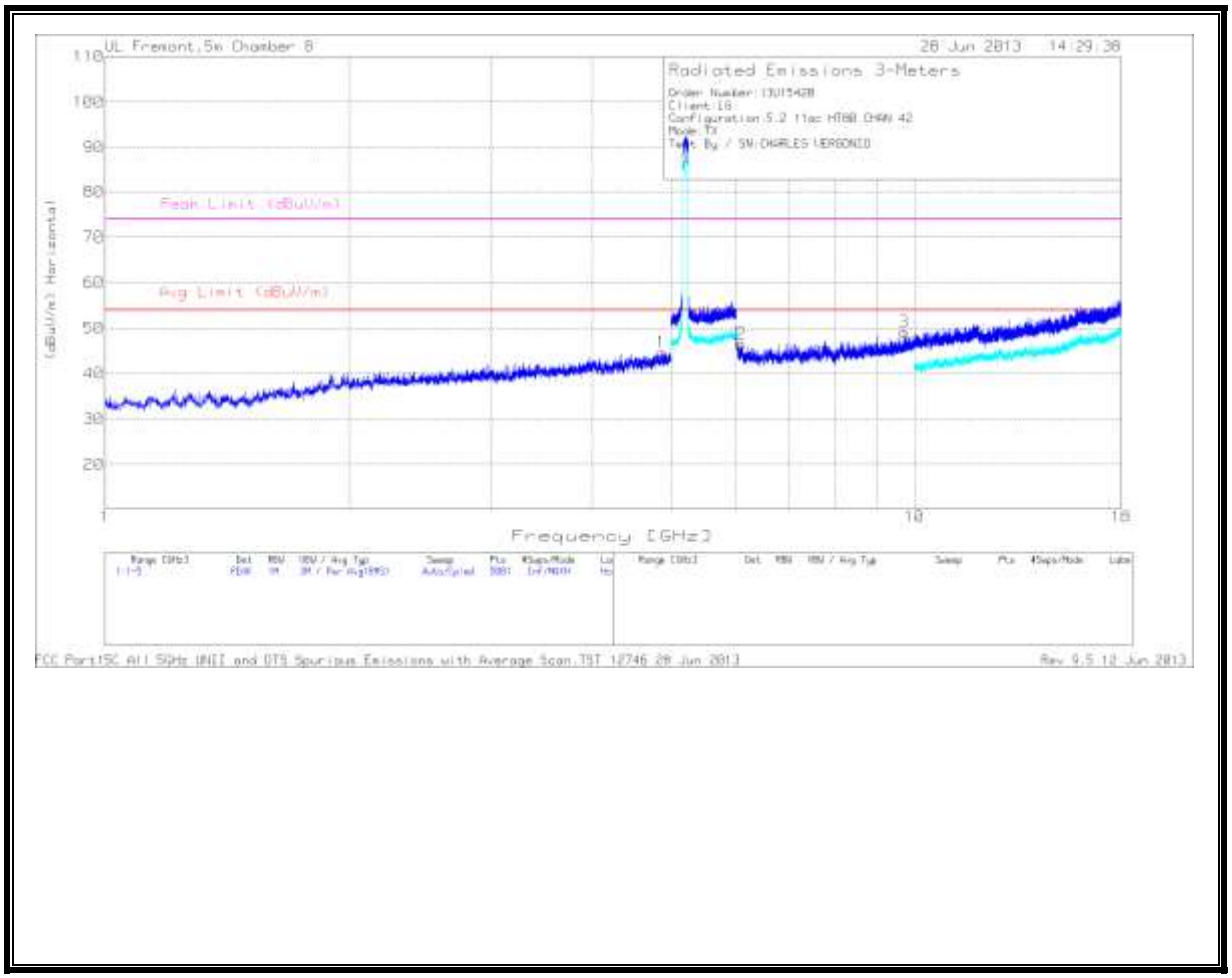


LOW CHANNEL RESTRICTED, AVERAGE, VERT

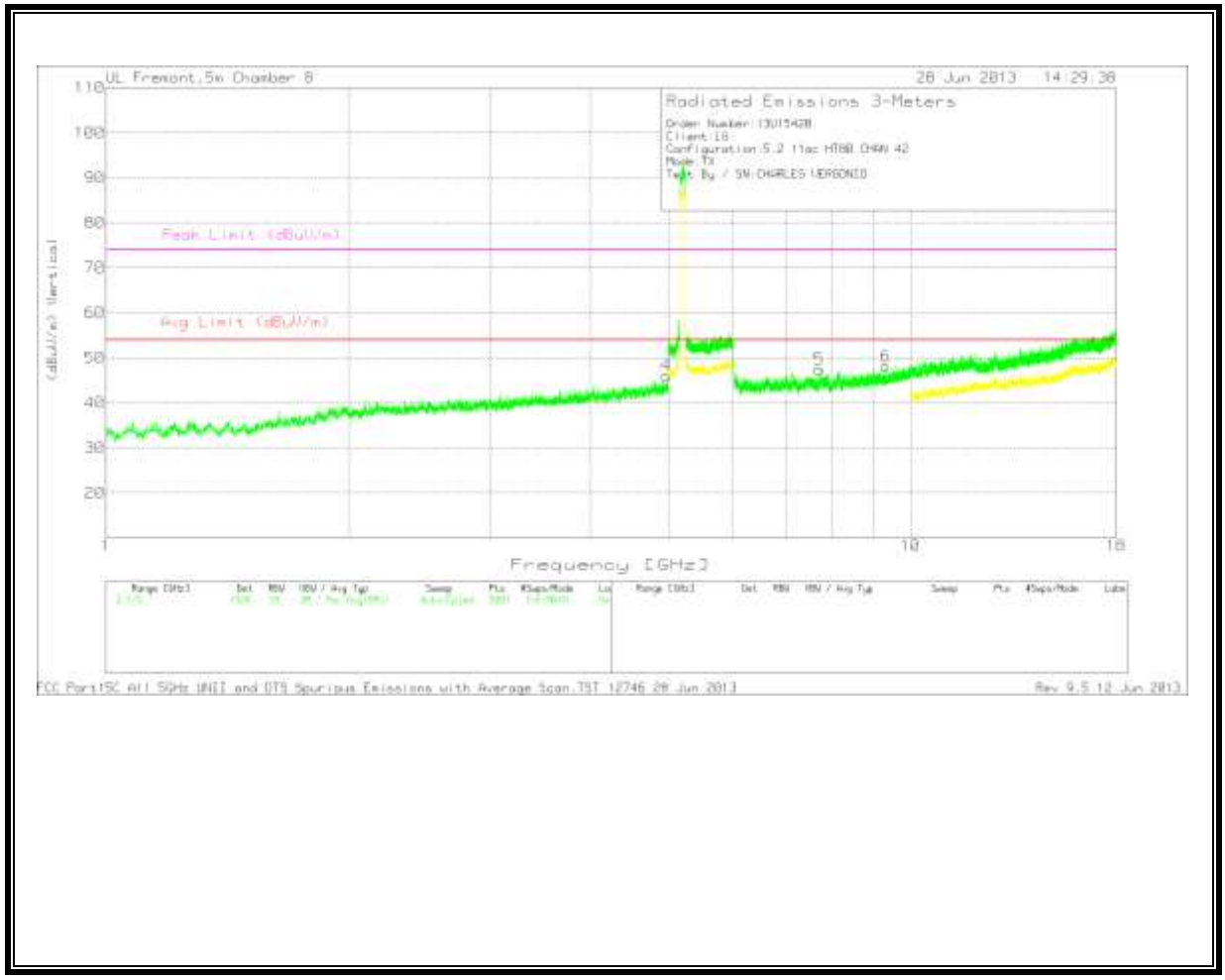


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



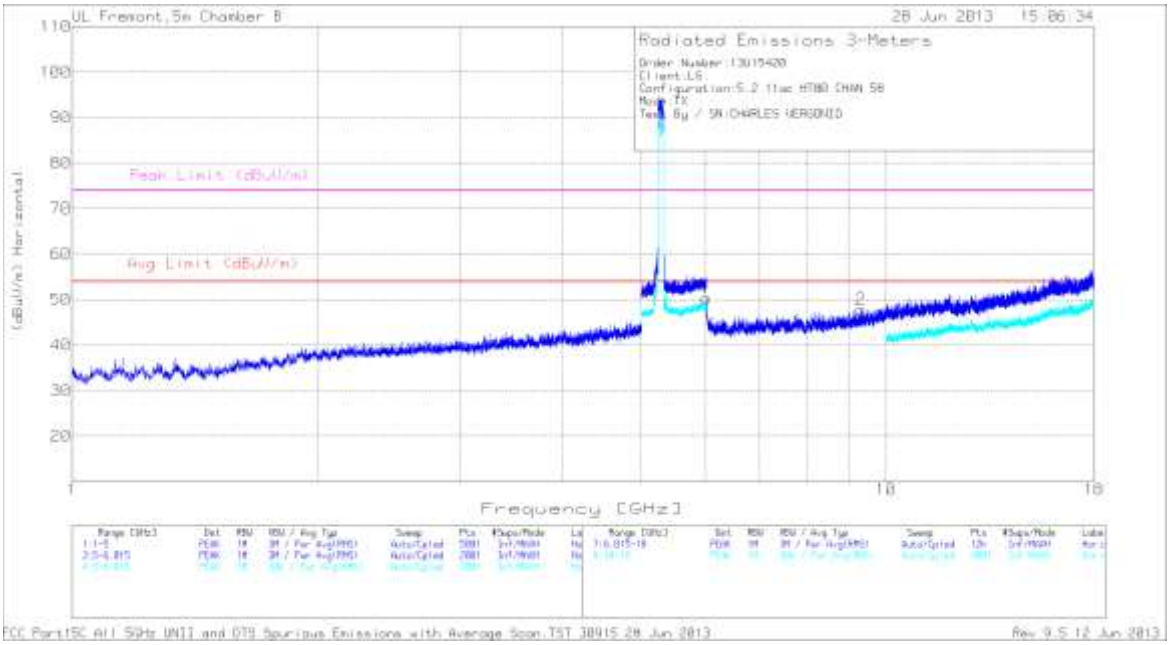
VERTICAL



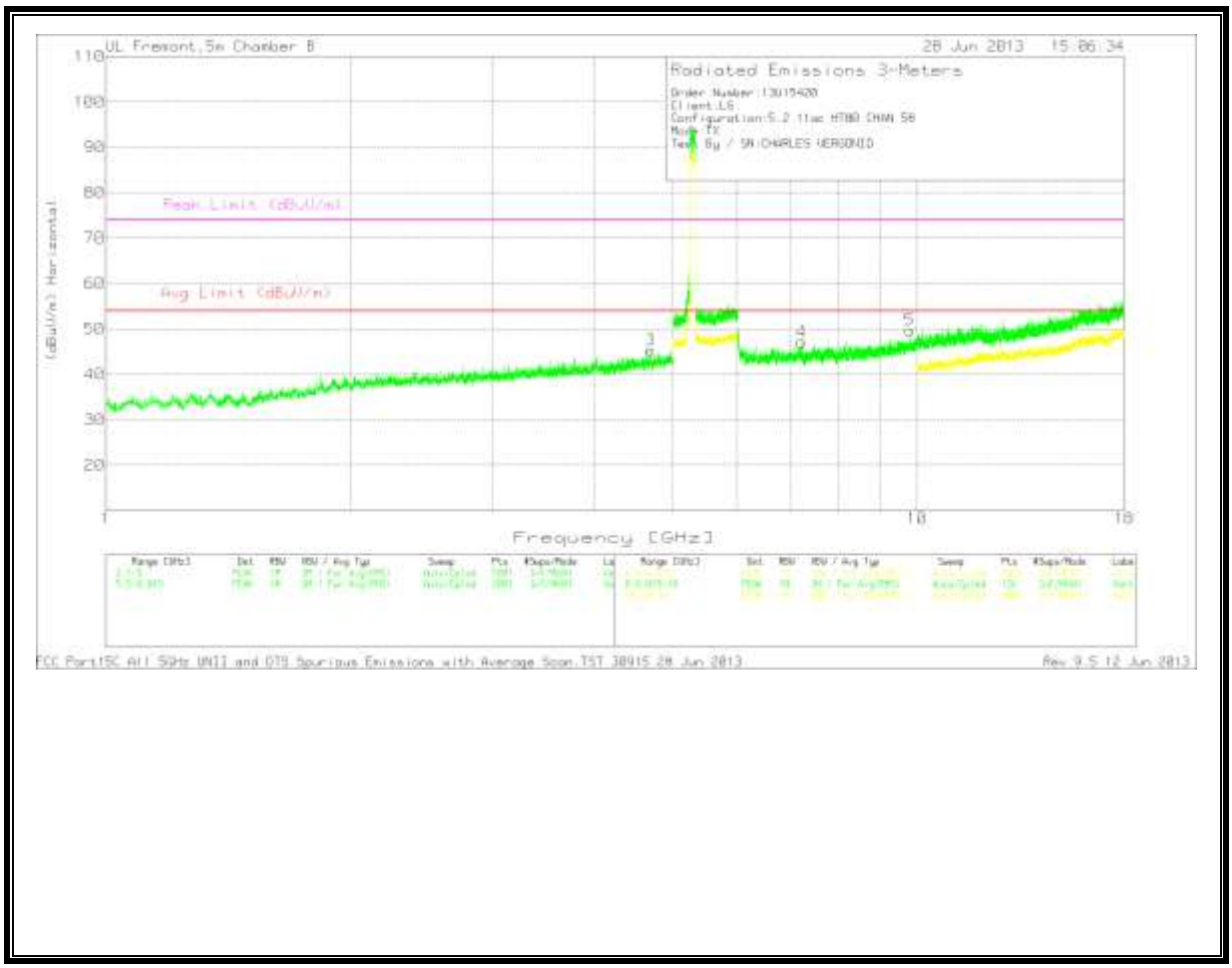
LOW CHANNEL DATA

Marker No.	Test Frequency (GHz)	Meter Reading(dBuV)	Detector	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	4.8664	40.45	PK	34.7	-30.5	44.65	53.97	-9.32	74	-29.35	0-360	100	H
4	4.9744	40.6	PK	34.6	-29.1	46.1	53.97	-7.87	74	-27.9	0-360	100	V
2	6.1029	38.4	PK	35.9	-27.9	46.4	53.97	-7.57	74	-27.6	0-360	100	H
3	9.7121	35.39	PK	37.5	-23.8	49.09	53.97	-4.88	74	-24.91	0-360	200	H
5	7.6958	39.13	PK	36.2	-27.9	47.43	53.97	-6.54	74	-26.57	0-360	200	V
6	9.3226	36.59	PK	37	-25.5	48.09	53.97	-5.88	74	-25.91	0-360	200	V

HIGH CHANNEL
HORIZONTAL



VERTICAL



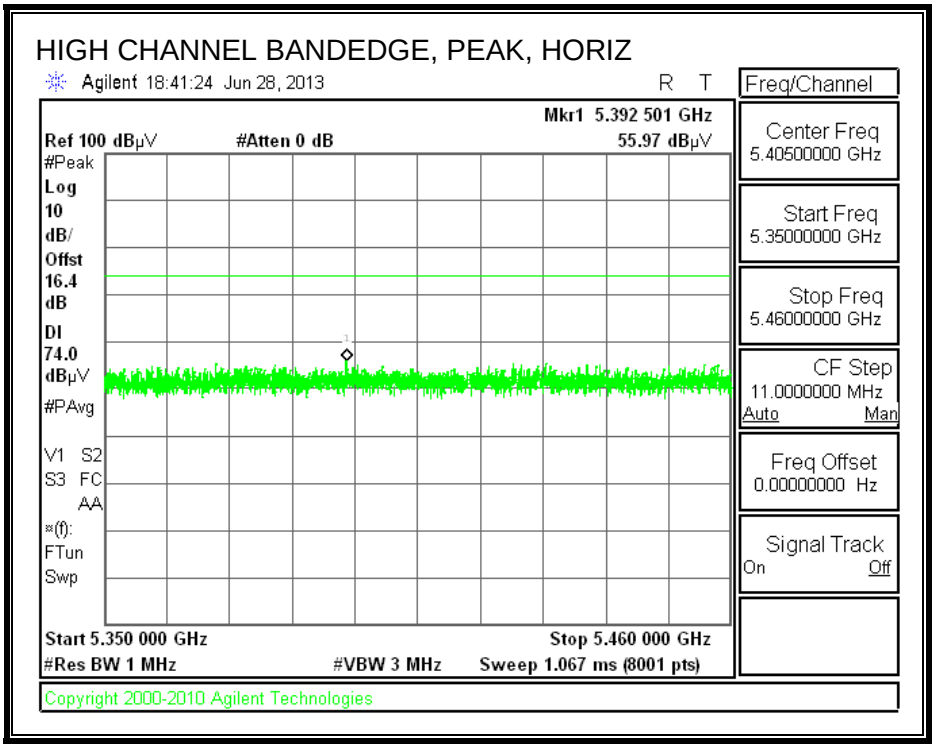
HIGH CHANNEL DATA

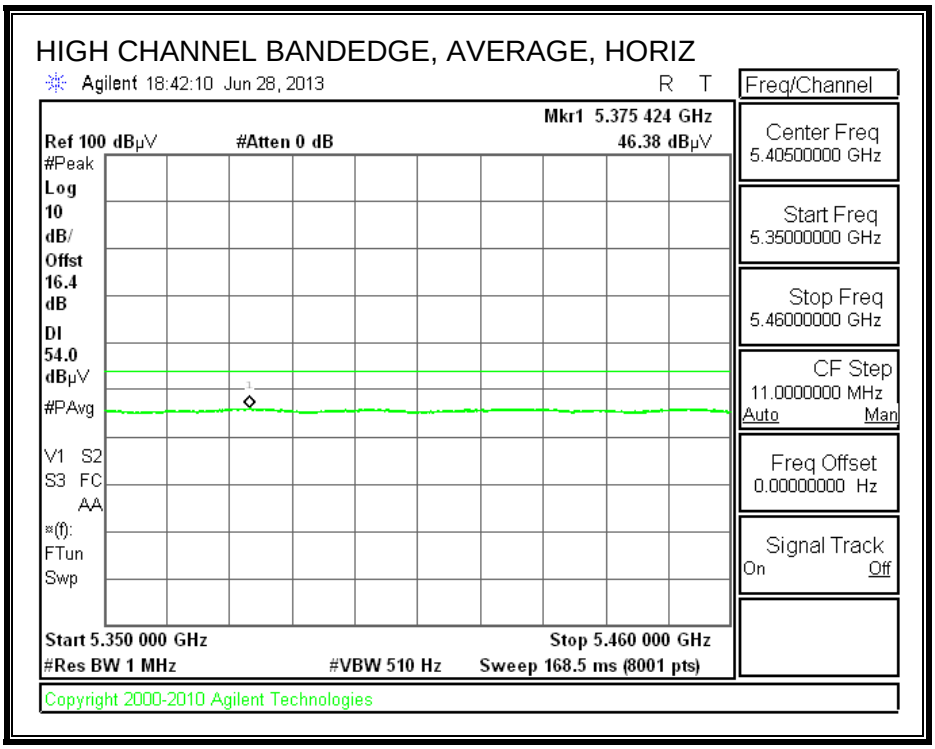
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl /Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.694	40.61	PK	34.7	-30	45.31	53.97	-8.66	74	-28.69	0-360	200	V
6.016	37.93	PK	35.9	-23.5	50.33	53.97	-3.64	74	-23.67	0-360	200	H
9.316	36.41	PK	37	-25.6	47.81	53.97	-6.16	74	-26.19	0-360	200	H
7.207	38.81	PK	35.8	-27.5	47.11	53.97	-6.86	74	-26.89	0-360	200	V
9.8	36.32	PK	37.6	-24.2	49.72	53.97	-4.25	74	-24.28	0-360	100	V

10.2. 5.3 GHz

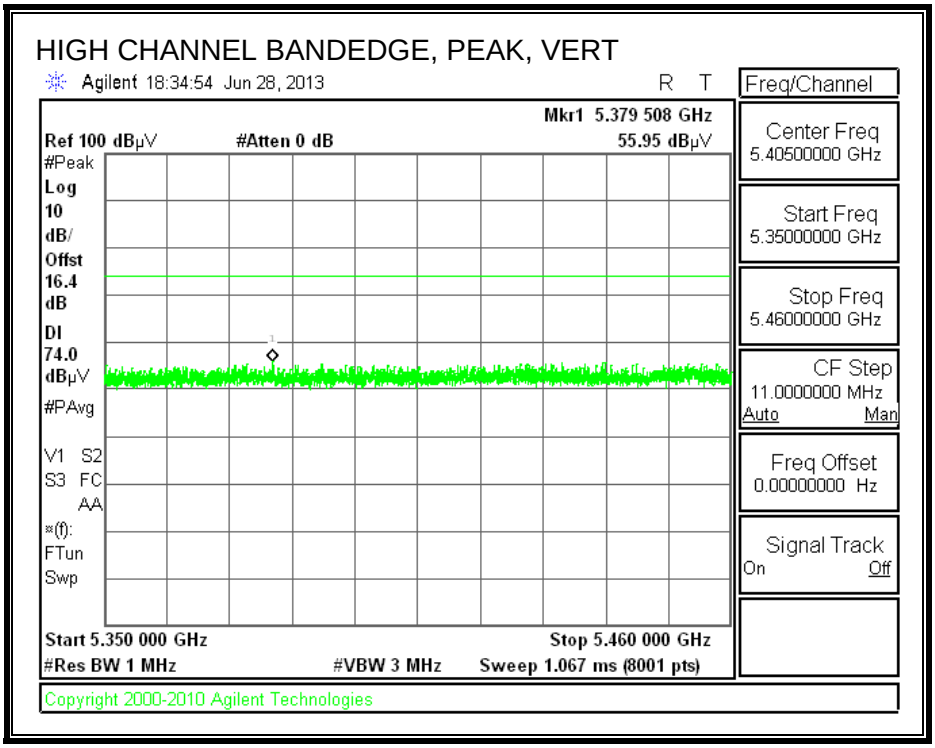
10.2.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND

AUTHORIZED BANDEDGE (HIGH CHANNEL)

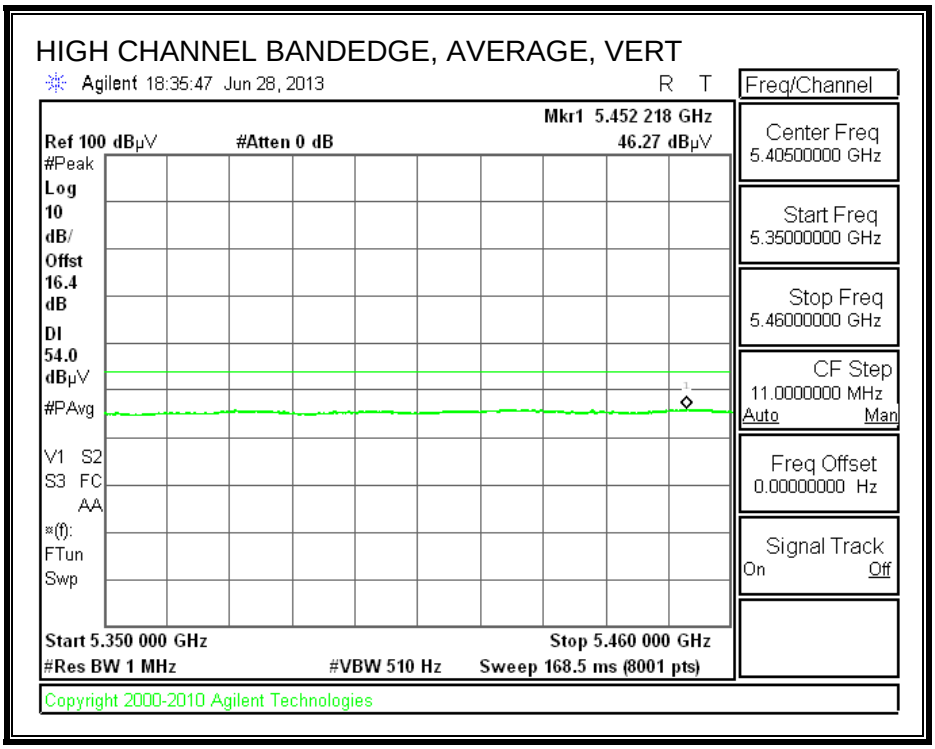




HIGH CHANNEL BANDEDGE, PEAK, VERT

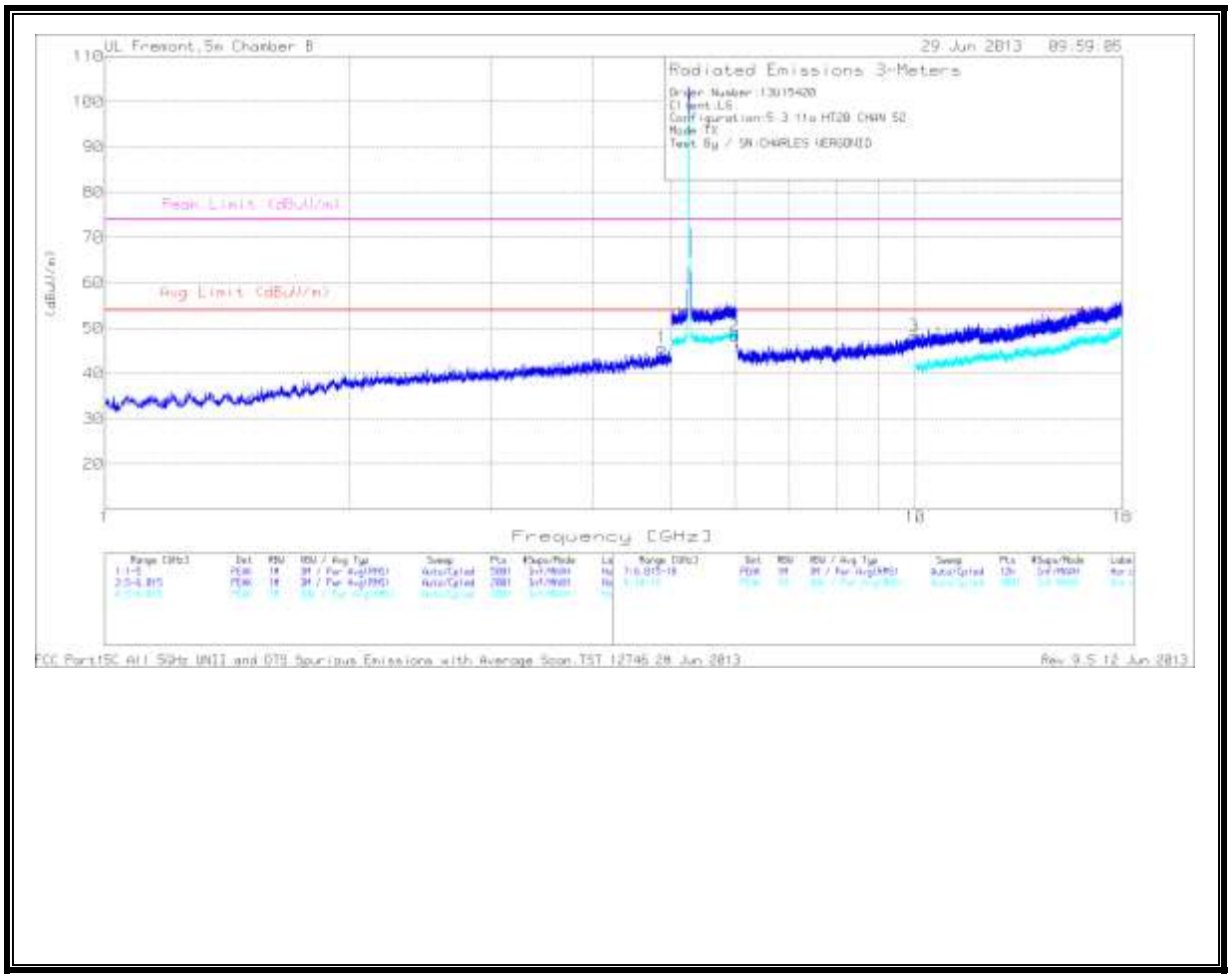


HIGH CHANNEL BANDEDGE, AVERAGE, VERT

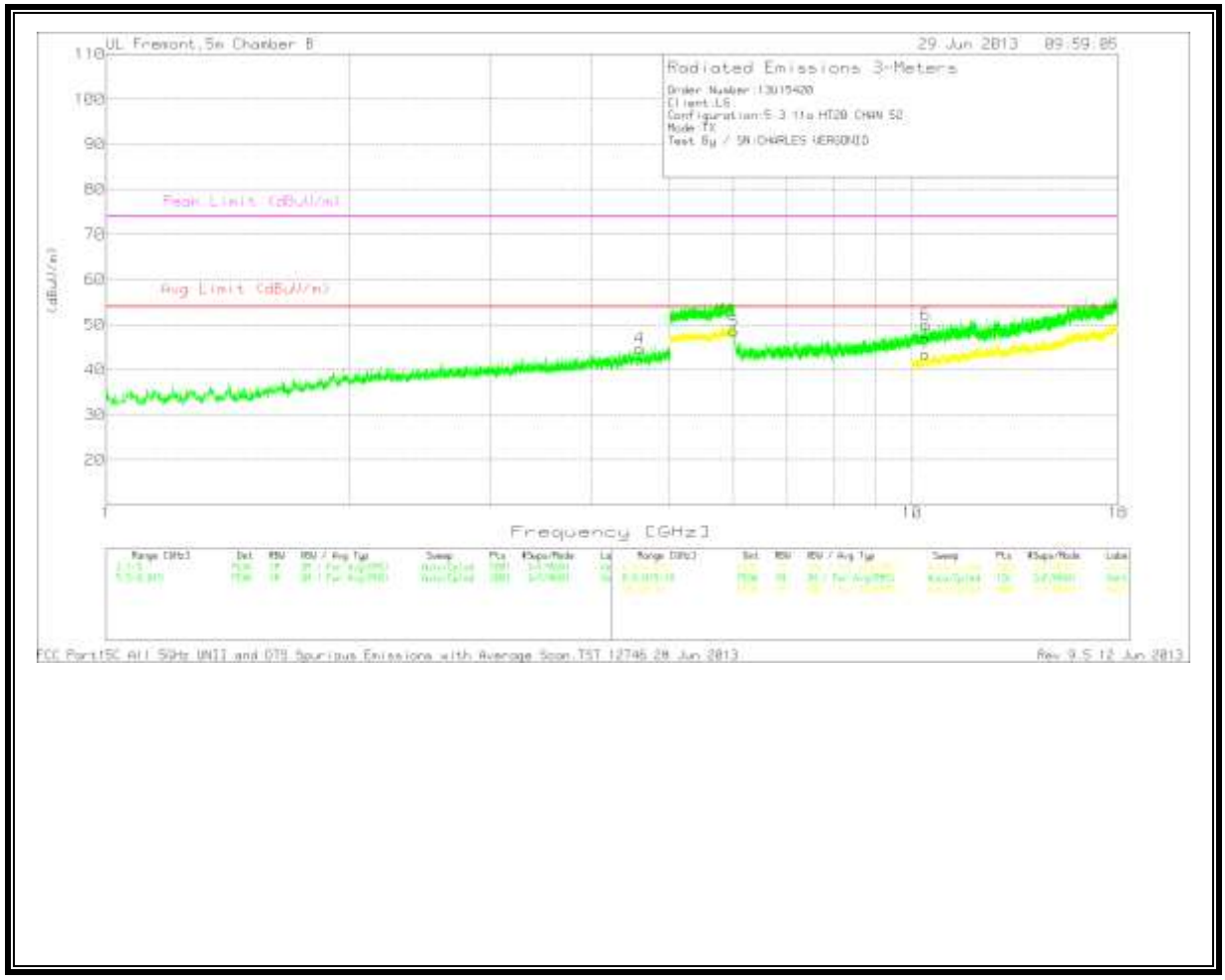


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



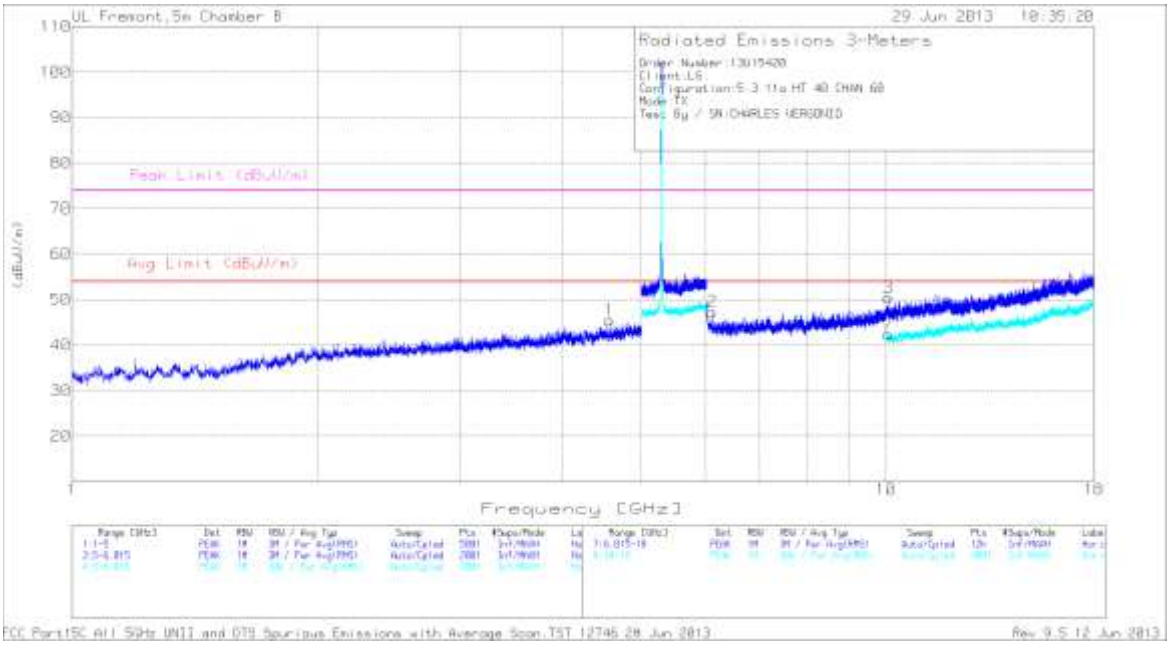
VERTICAL



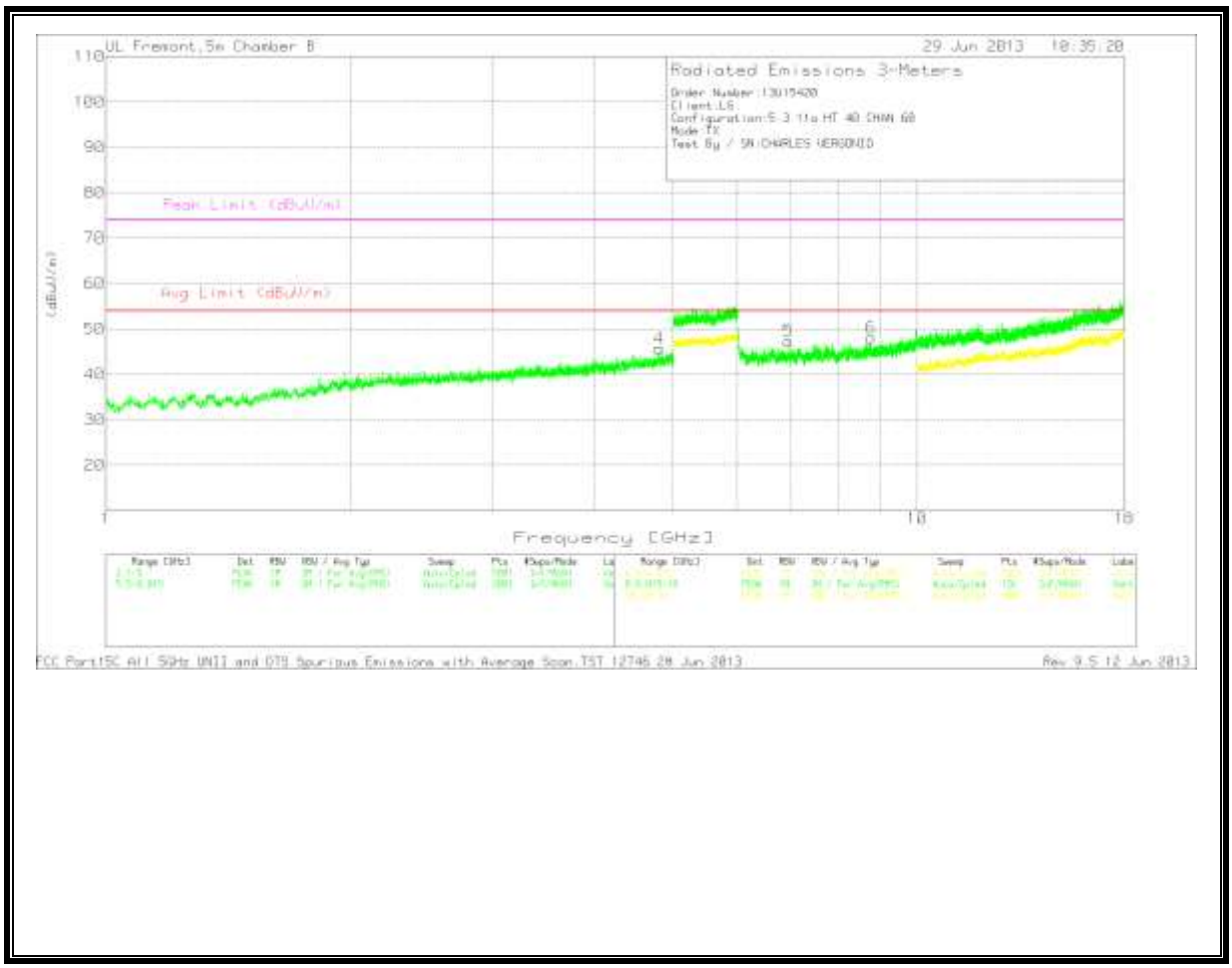
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.866	41.51	PK	34.7	-30.5	45.71	53.97	-8.26	74	-28.29	0-360	200	H
4.594	40.53	PK	34.6	-30.4	44.73	53.97	-9.24	74	-29.27	0-360	200	V
5.992	32.24	PK	35.9	-19.8	48.34	53.97	-5.63	74	-25.66	0-360	200	H
6.012	32.4	PK	35.9	-19.8	48.5	53.97	-5.47	74	-25.5	0-360	200	V
9.963	35.03	PK	37.8	-24.6	48.23	53.97	-5.74	74	-25.77	0-360	200	H
10.396	34.41	PK	38.1	-22.6	49.91	53.97	-4.06	74	-24.09	0-360	200	V
10.388	27.96	PK	38.1	-22.6	43.46	53.97	-10.51	74	-30.54	0-360	100	V

MID CHANNEL
HORIZONTAL



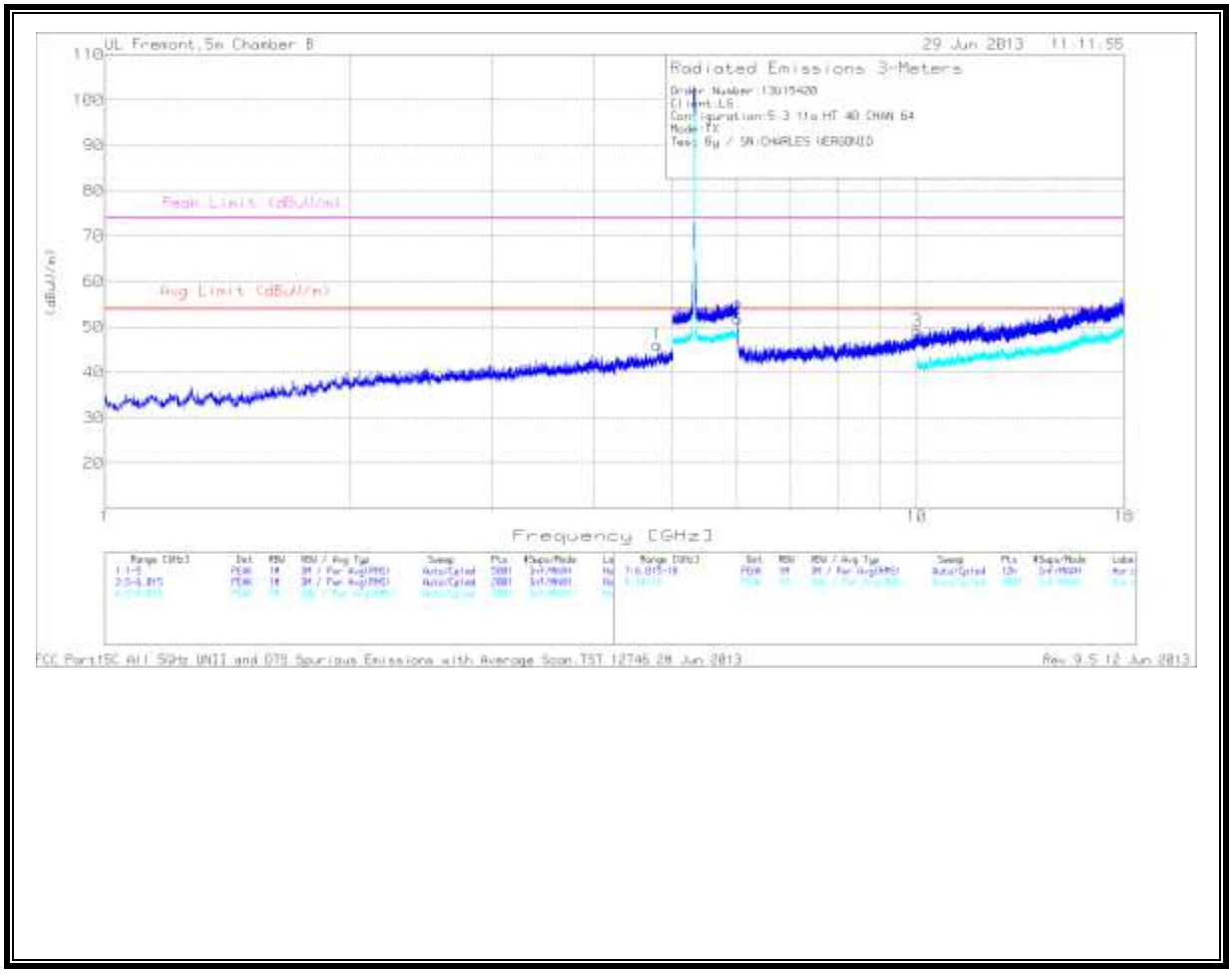
VERTICAL



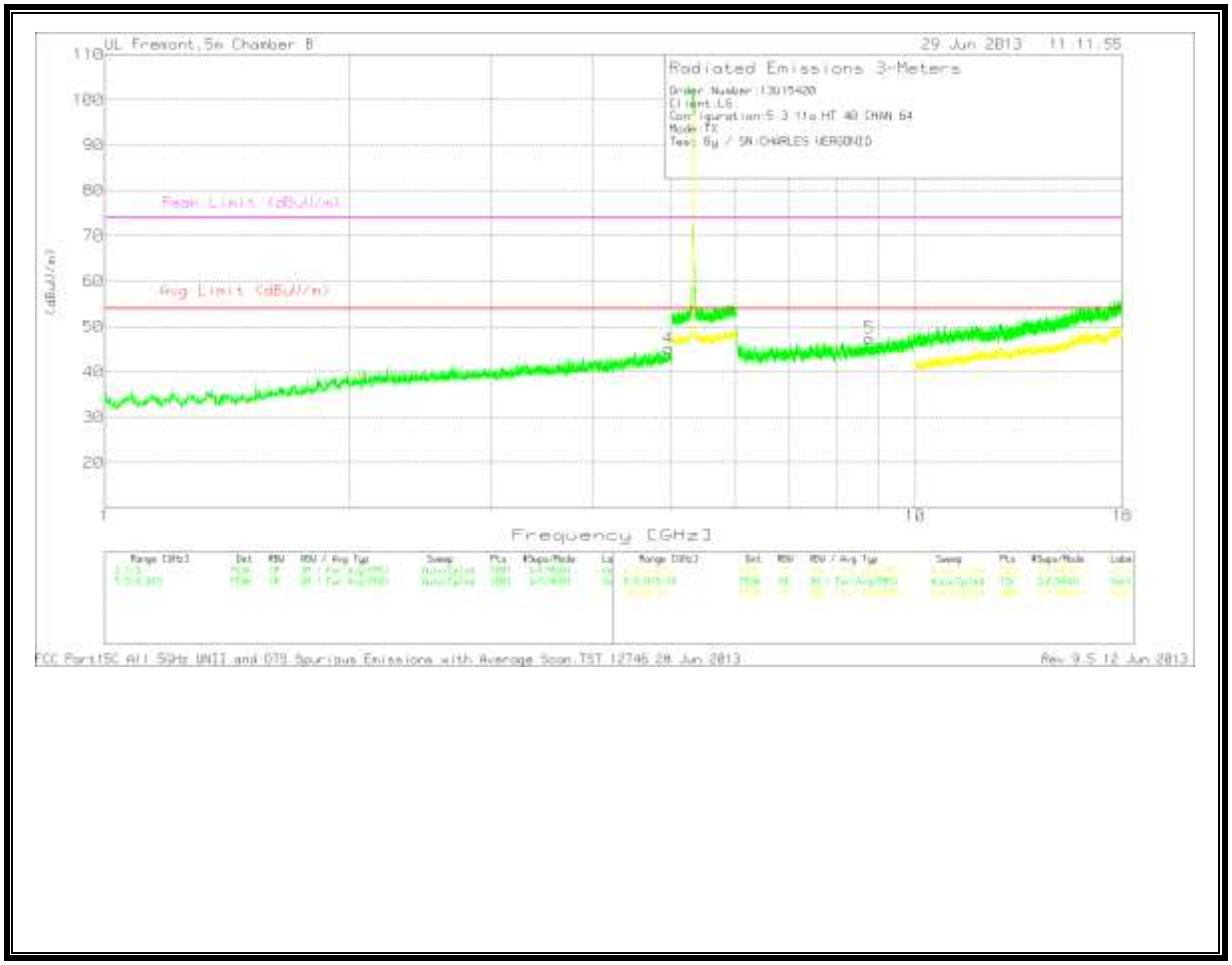
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.572	41.62	PK	34.6	-30.8	45.42	53.97	-8.55	74	-28.58	0-360	200	H
4.816	41.26	PK	34.7	-30.3	45.66	53.97	-8.31	74	-28.34	0-360	200	V
6.12	39.53	PK	35.9	-28.2	47.23	53.97	-6.74	74	-26.77	0-360	100	H
10.063	36.07	PK	37.9	-23.6	50.37	53.97	-3.6	74	-23.63	0-360	200	H
6.937	39.43	PK	35.9	-28	47.33	53.97	-6.64	74	-26.67	0-360	200	V
8.775	37.55	PK	36.4	-25.9	48.05	53.97	-5.92	74	-25.95	0-360	200	V
10.059	28.24	PK	37.8	-23.7	42.34	53.97	-11.63	74	-31.66	0-360	200	H

HIGH CHANNEL
HORIZONTAL



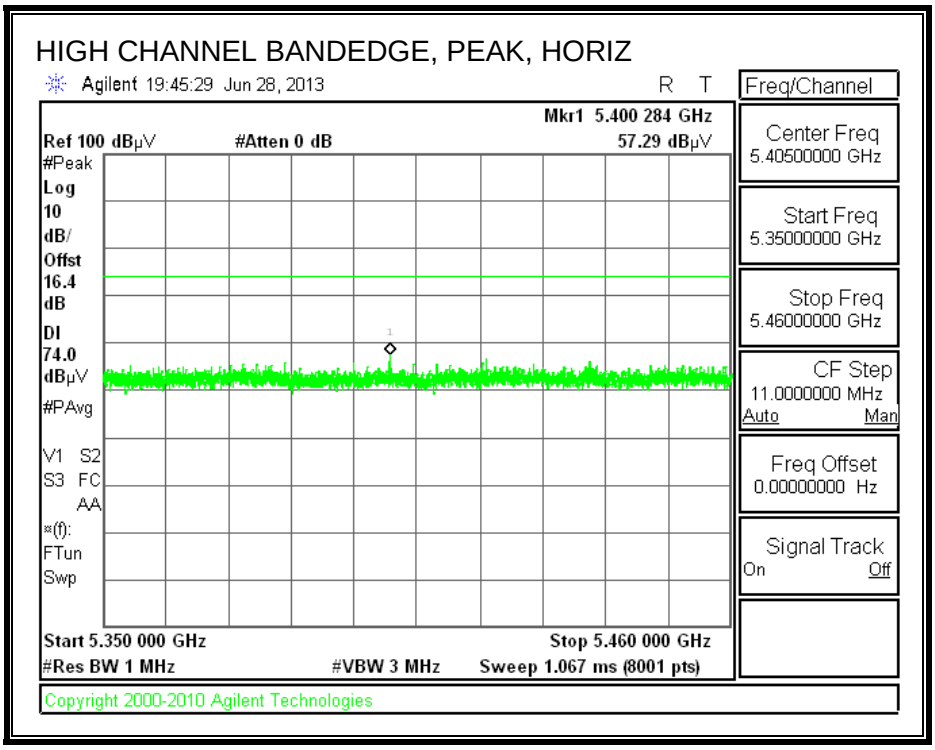
VERTICAL

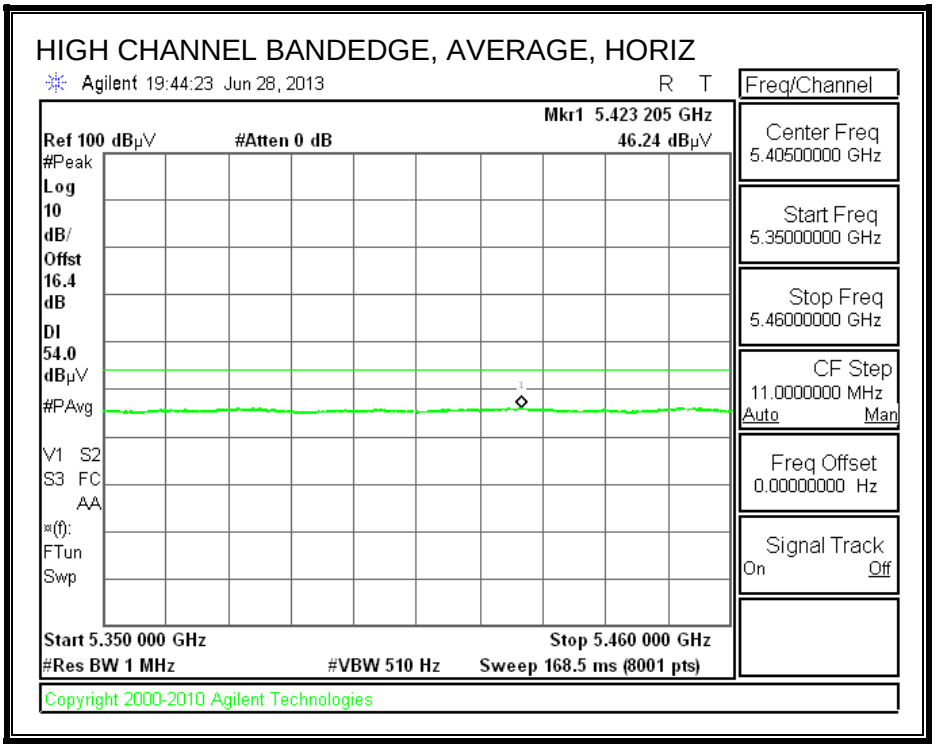


HIGH CHANNEL DATA

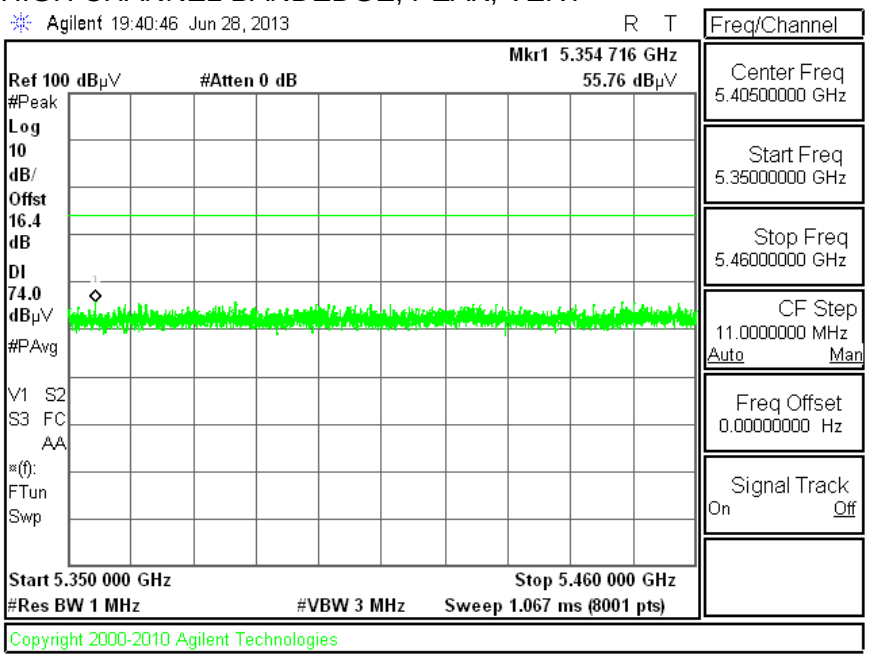
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.791	40.96	PK	34.7	-29.6	46.06	53.97	-7.91	74	-27.94	0-360	100	H
4.963	39.15	PK	34.6	-28.6	45.15	53.97	-8.82	74	-28.85	0-360	200	V
6.015	39.21	PK	35.9	-23.3	51.81	53.97	-2.16	74	-22.19	0-360	100	H
10.013	35.21	PK	37.8	-23.9	49.11	53.97	-4.86	74	-24.89	0-360	200	H
8.777	36.88	PK	36.4	-25.8	47.48	53.97	-6.49	74	-26.52	0-360	100	V

10.2.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

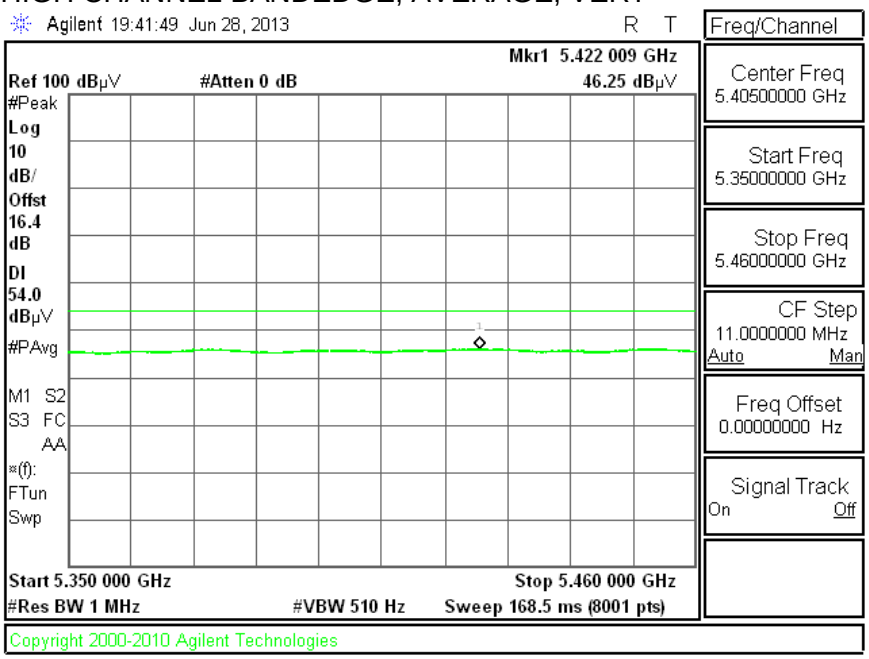




HIGH CHANNEL BANDEDGE, PEAK, VERT

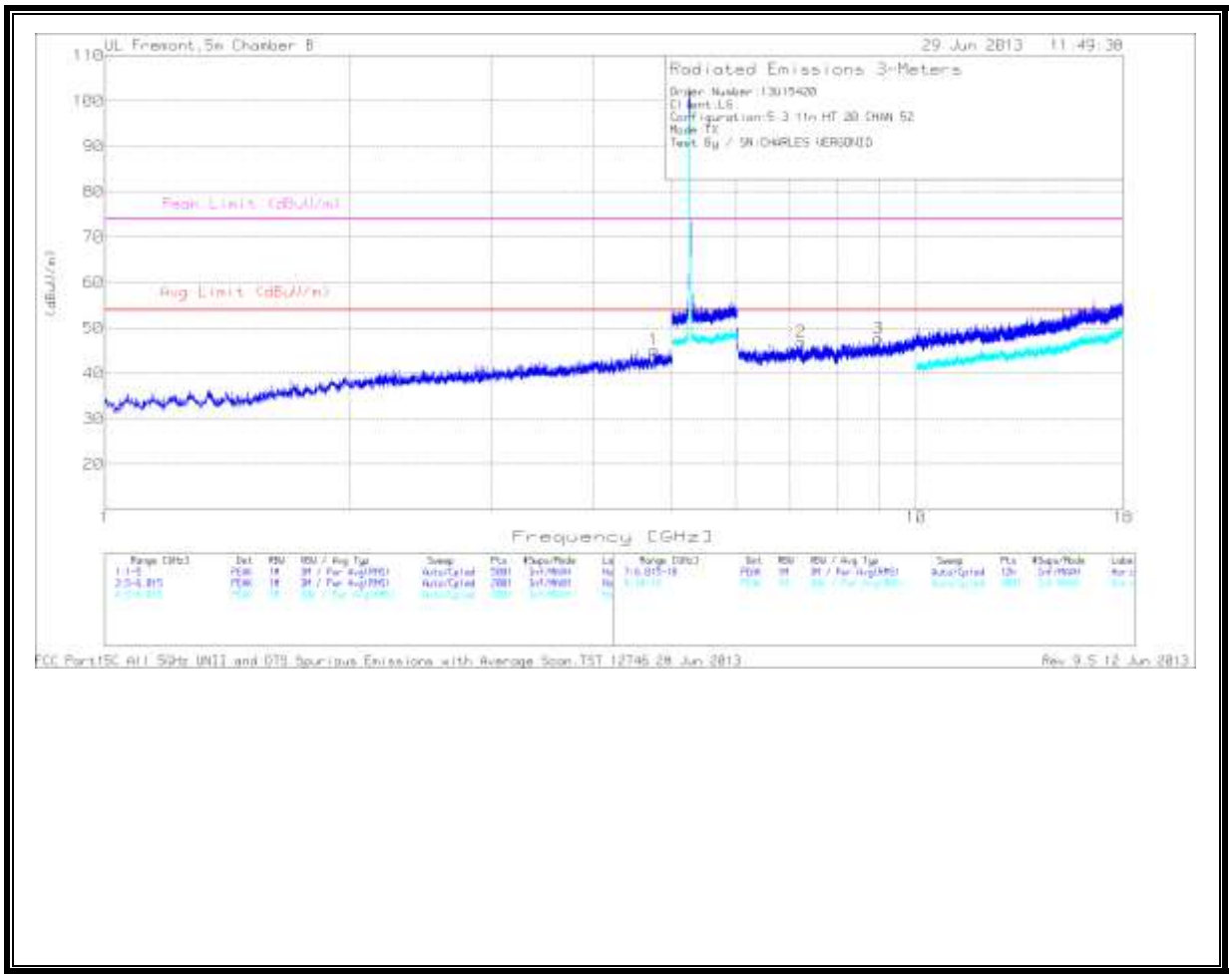


HIGH CHANNEL BANDEDGE, AVERAGE, VERT

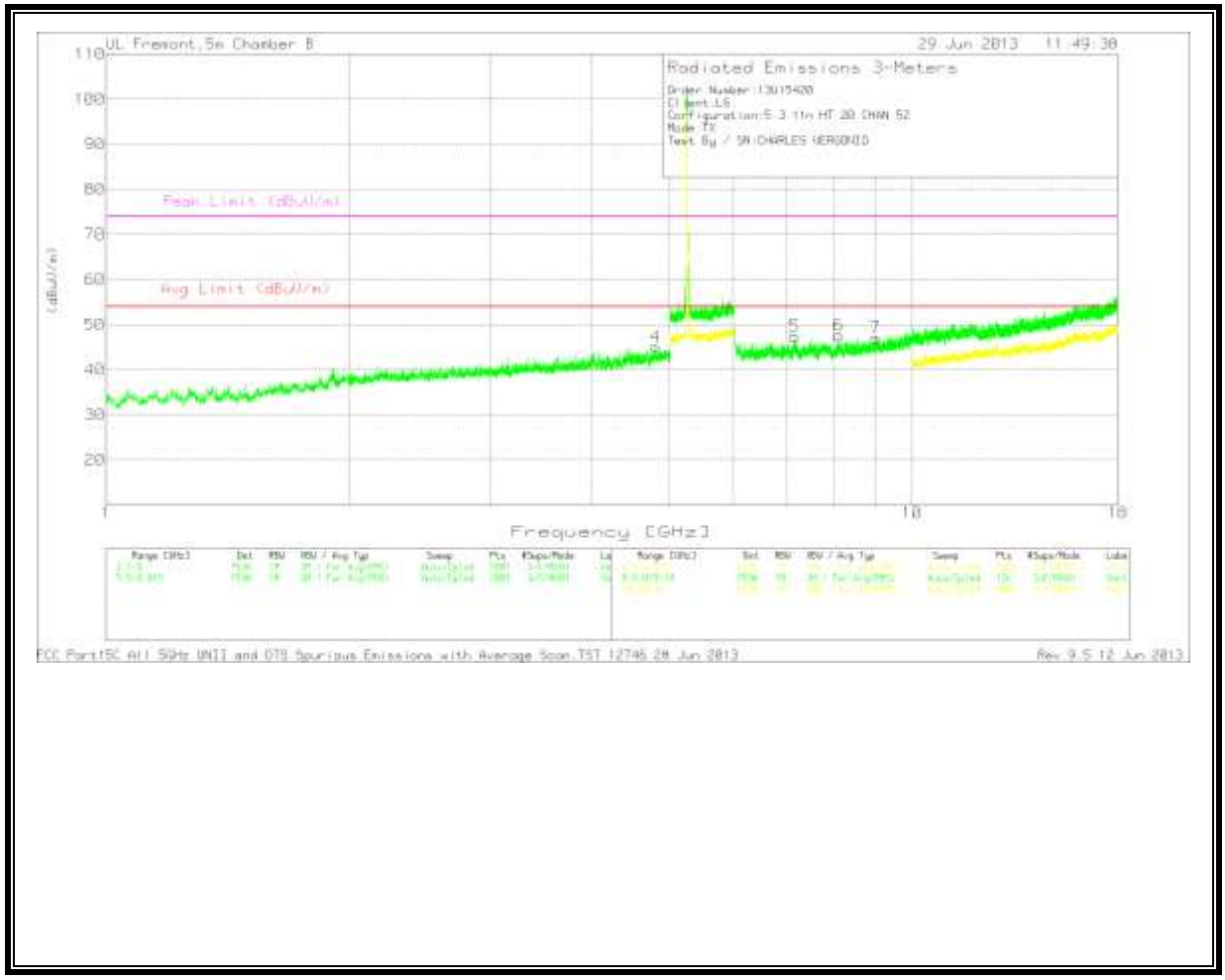


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



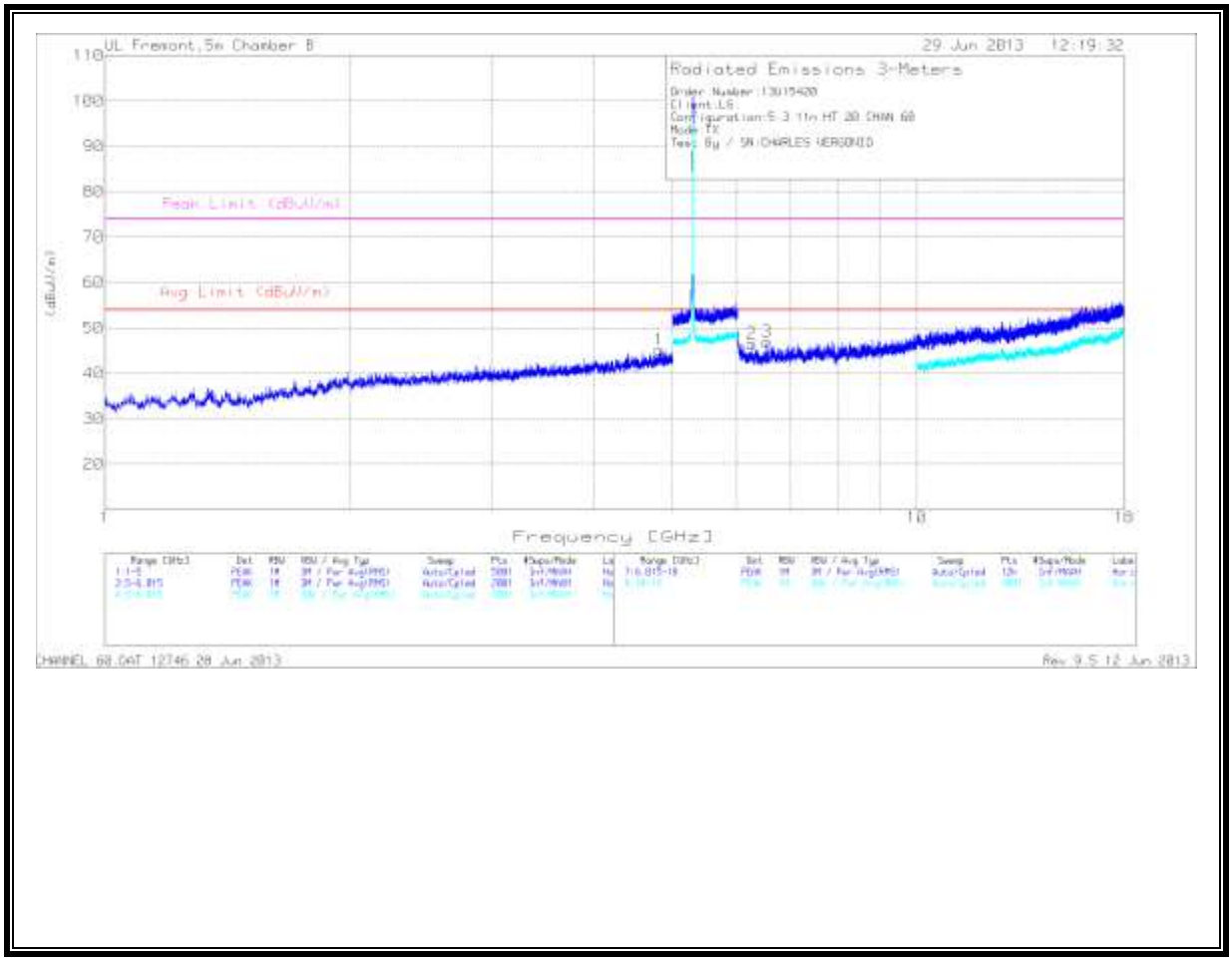
VERTICAL



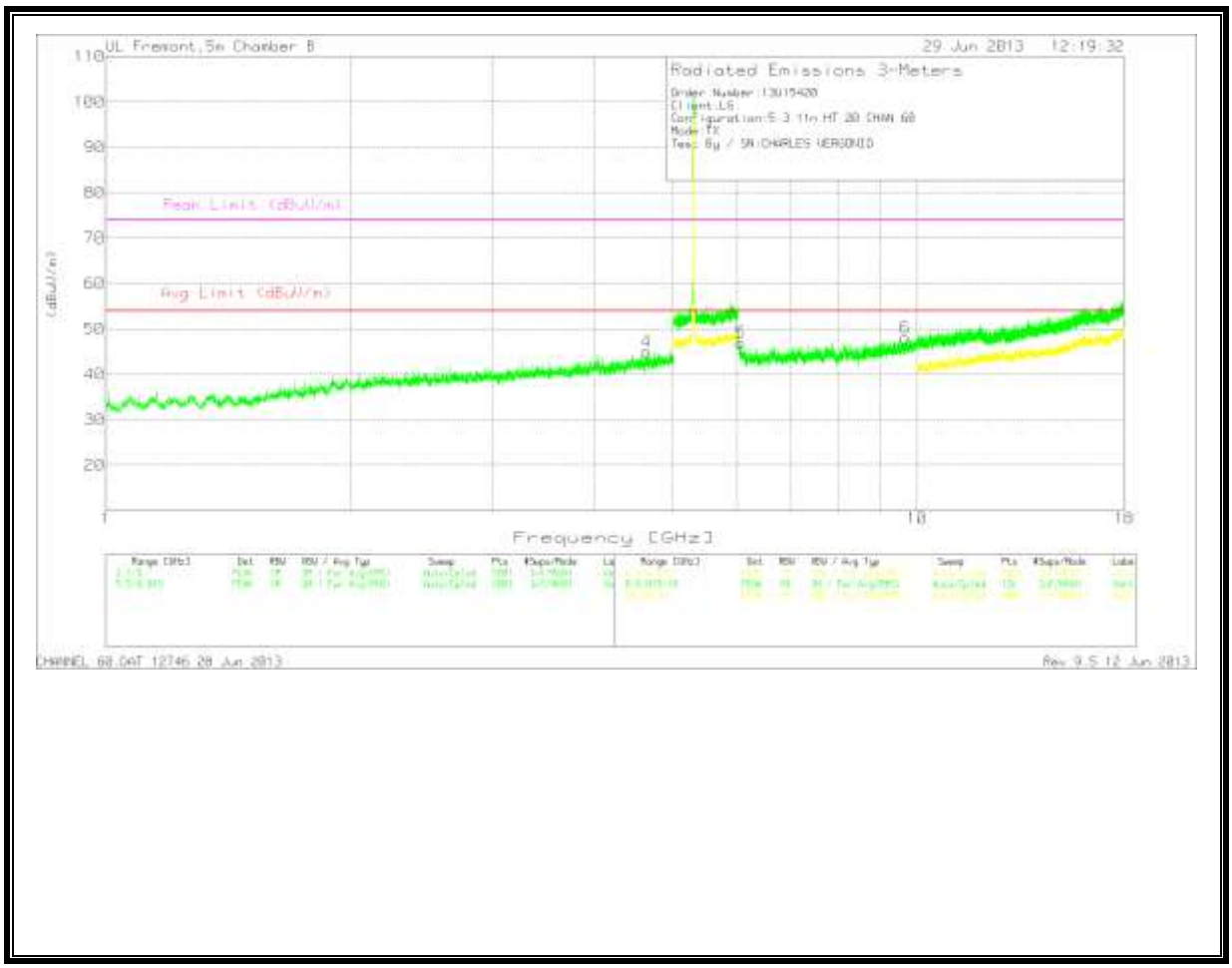
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.756	40.31	PK	34.7	-29.9	45.11	53.97	-8.86	74	-28.89	0-360	200	H
4.809	40.43	PK	34.7	-30.1	45.03	53.97	-8.94	74	-28.97	0-360	200	V
7.219	37.97	PK	35.8	-26.9	46.87	53.97	-7.1	74	-27.13	0-360	200	H
8.986	36.37	PK	36.8	-25.5	47.67	53.97	-6.3	74	-26.33	0-360	100	H
7.147	38.78	PK	35.8	-27.2	47.38	53.97	-6.59	74	-26.62	0-360	100	V
8.102	37.96	PK	36.1	-26.4	47.66	53.97	-6.31	74	-26.34	0-360	100	V
9.014	36.16	PK	36.8	-25.9	47.06	53.97	-6.91	74	-26.94	0-360	100	V

MID CHANNEL
HORIZONTAL



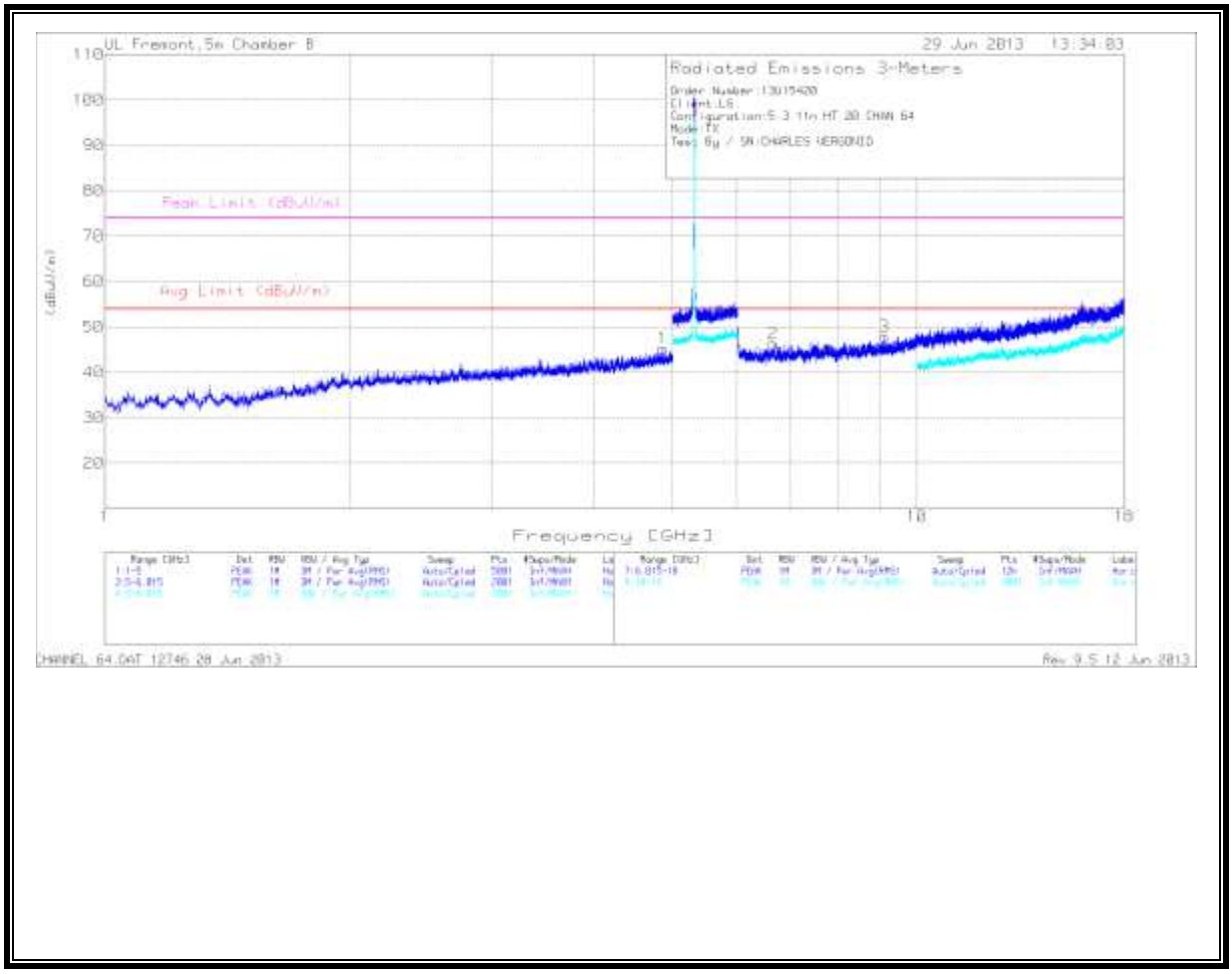
VERTICAL



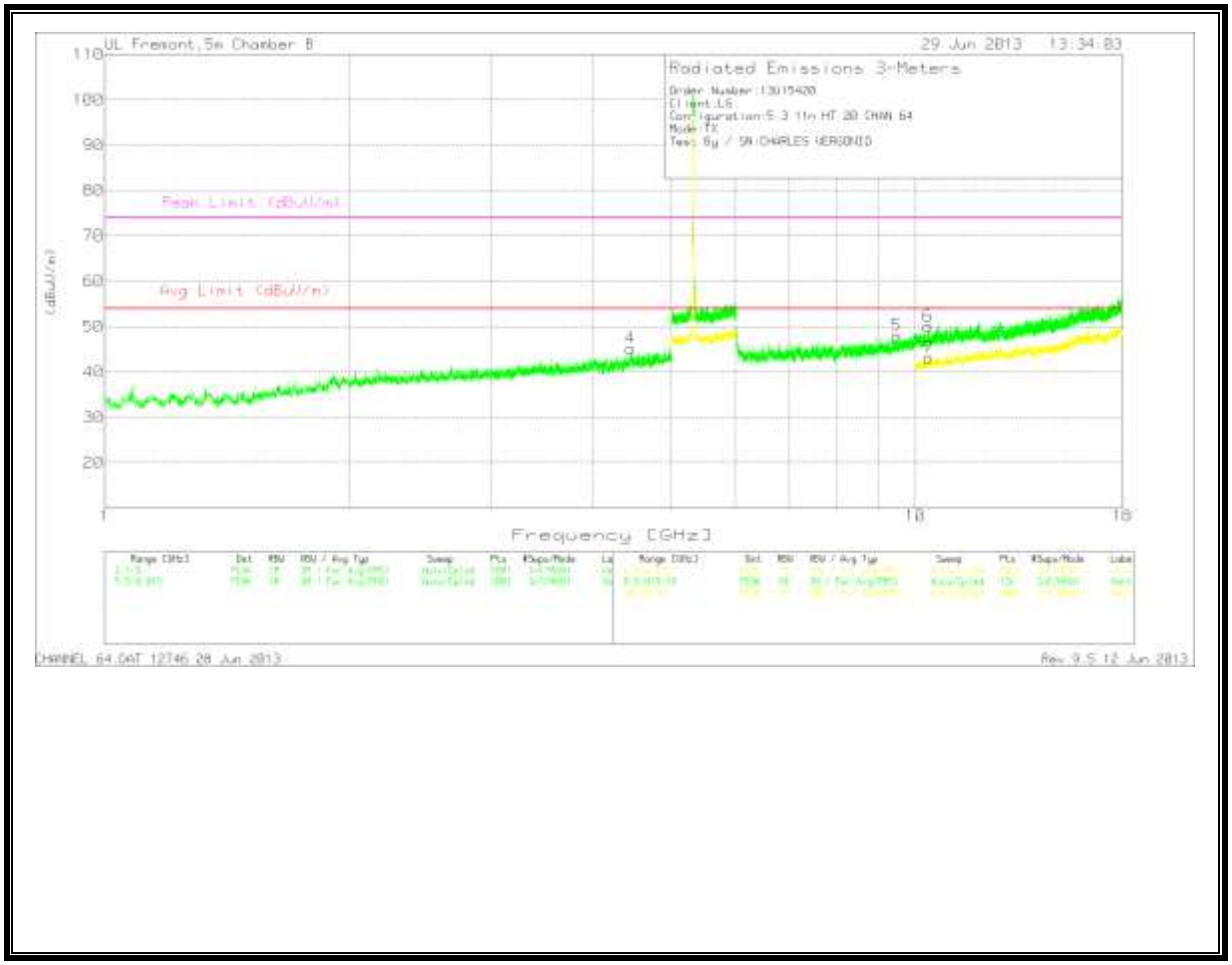
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.822	40.83	PK	34.7	-30.4	45.13	53.97	-8.84	74	-28.87	0-360	100	H
4.638	40.16	PK	34.6	-29.8	44.96	53.97	-9.01	74	-29.04	0-360	100	V
6.266	39.87	PK	36	-29.4	46.47	53.97	-7.5	74	-27.53	0-360	100	H
6.539	38.96	PK	35.9	-27.9	46.96	53.97	-7.01	74	-27.04	0-360	100	H
6.063	39.4	PK	35.9	-28.4	46.9	53.97	-7.07	74	-27.1	0-360	100	V
9.673	35.23	PK	37.4	-24.6	48.03	53.97	-5.94	74	-25.97	0-360	100	V

HIGH CHANNEL
HORIZONTAL



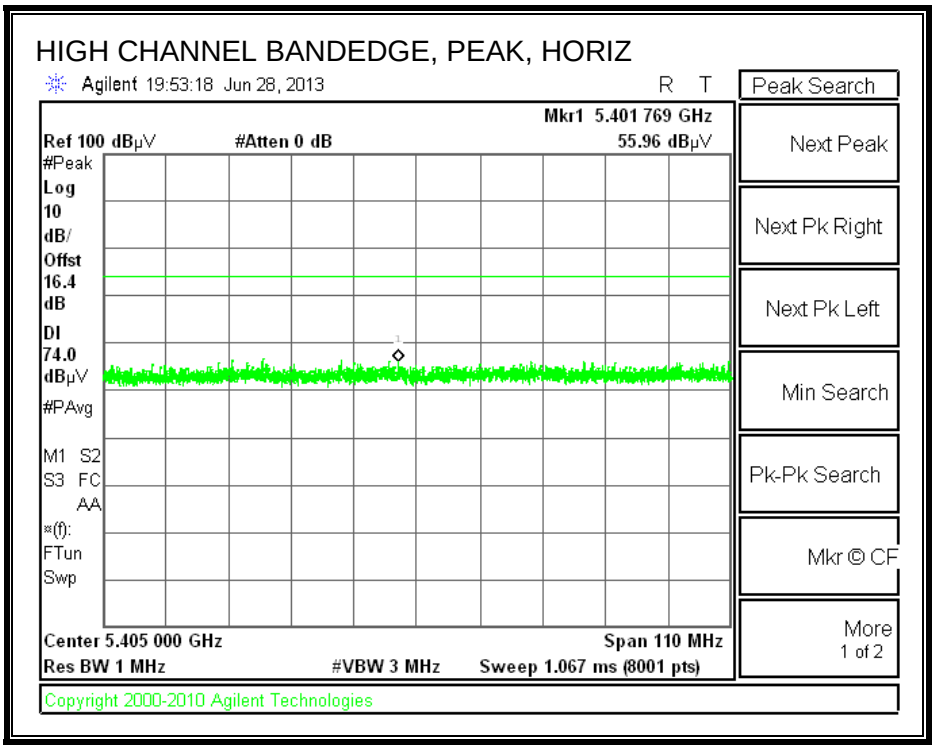
VERTICAL

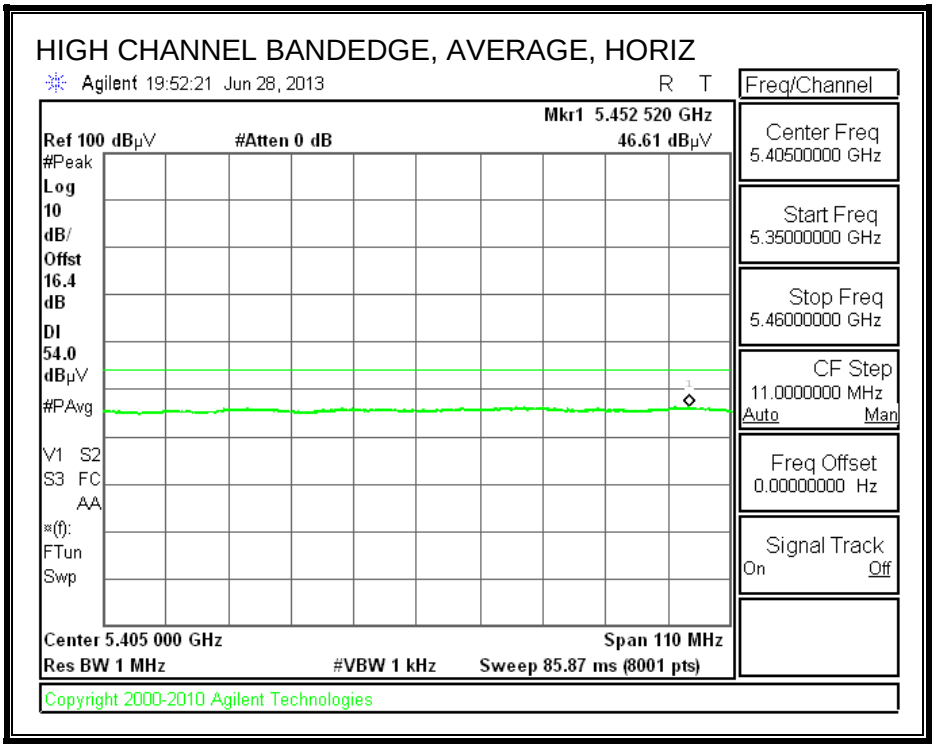


HIGH CHANNEL DATA

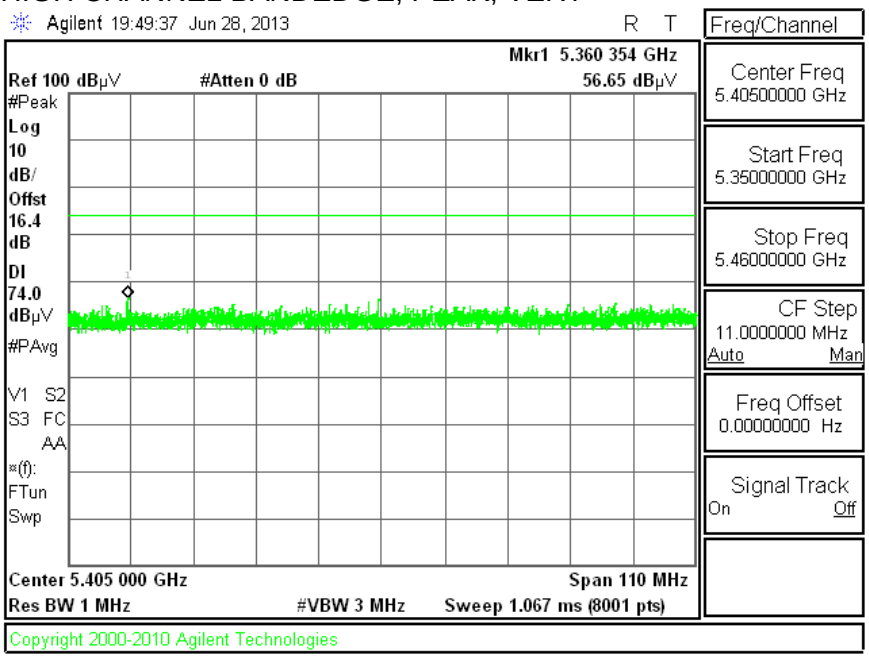
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.863	41.07	PK	34.7	-30.5	45.27	53.97	-8.7	74	-28.73	0-360	200	H
4.454	40.7	PK	34.4	-29.9	45.2	53.97	-8.77	74	-28.8	0-360	100	V
6.658	39.71	PK	35.8	-29.2	46.31	53.97	-7.66	74	-27.69	0-360	100	H
9.13	36.17	PK	36.9	-25.3	47.77	53.97	-6.2	74	-26.23	0-360	200	H
9.485	35.71	PK	37.2	-24.9	48.01	53.97	-5.96	74	-25.99	0-360	100	V
10.374	34.87	PK	38.1	-22.9	50.07	53.97	-3.9	74	-23.93	0-360	100	V
10.389	27.61	PK	38.1	-22.6	43.11	53.97	-10.86	74	-30.89	0-360	100	V

10.2.5. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

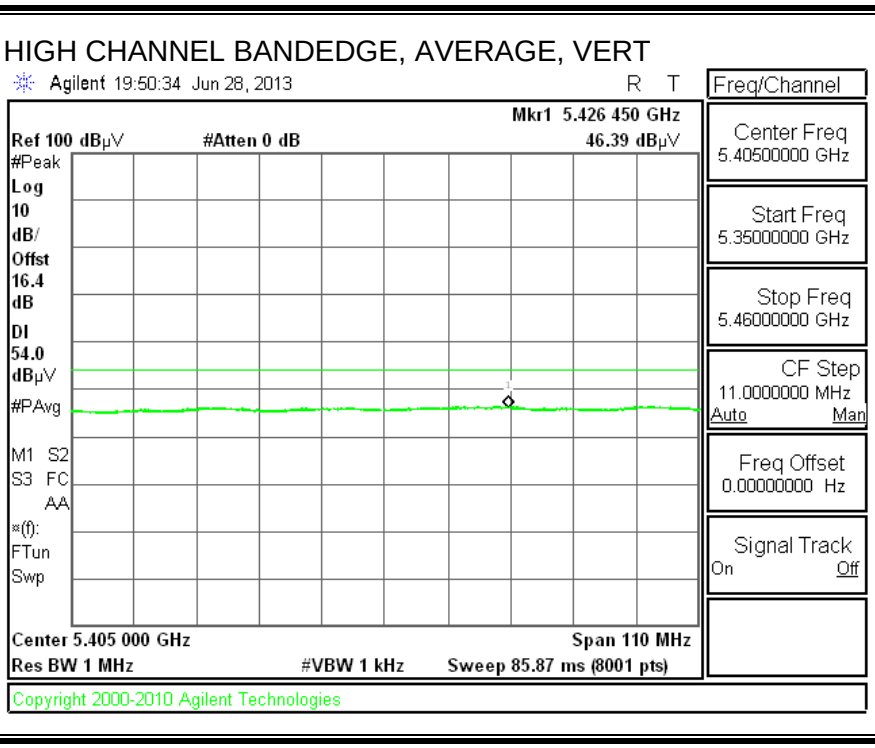




HIGH CHANNEL BANDEDGE, PEAK, VERT

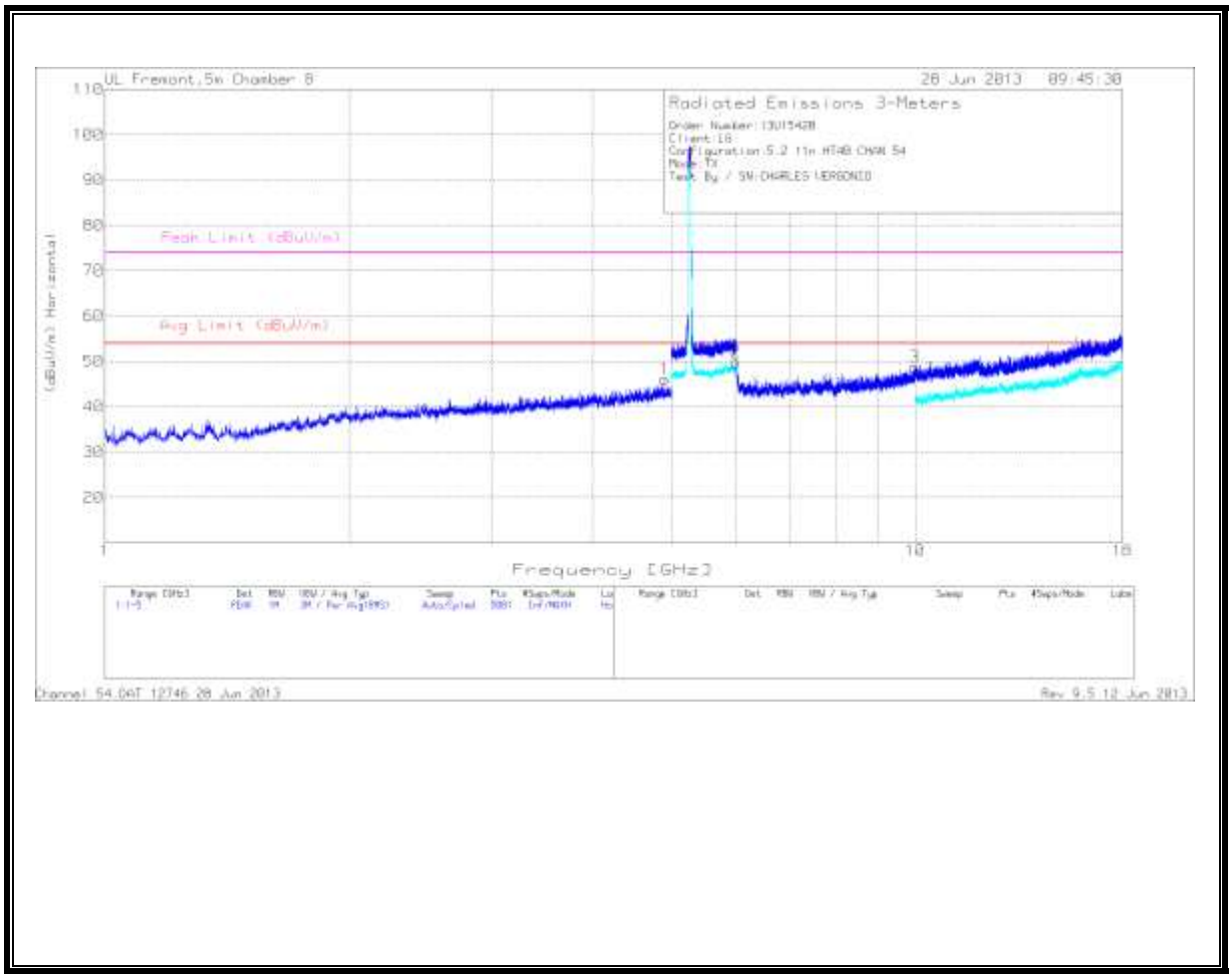


HIGH CHANNEL BANDEDGE, AVERAGE, VERT

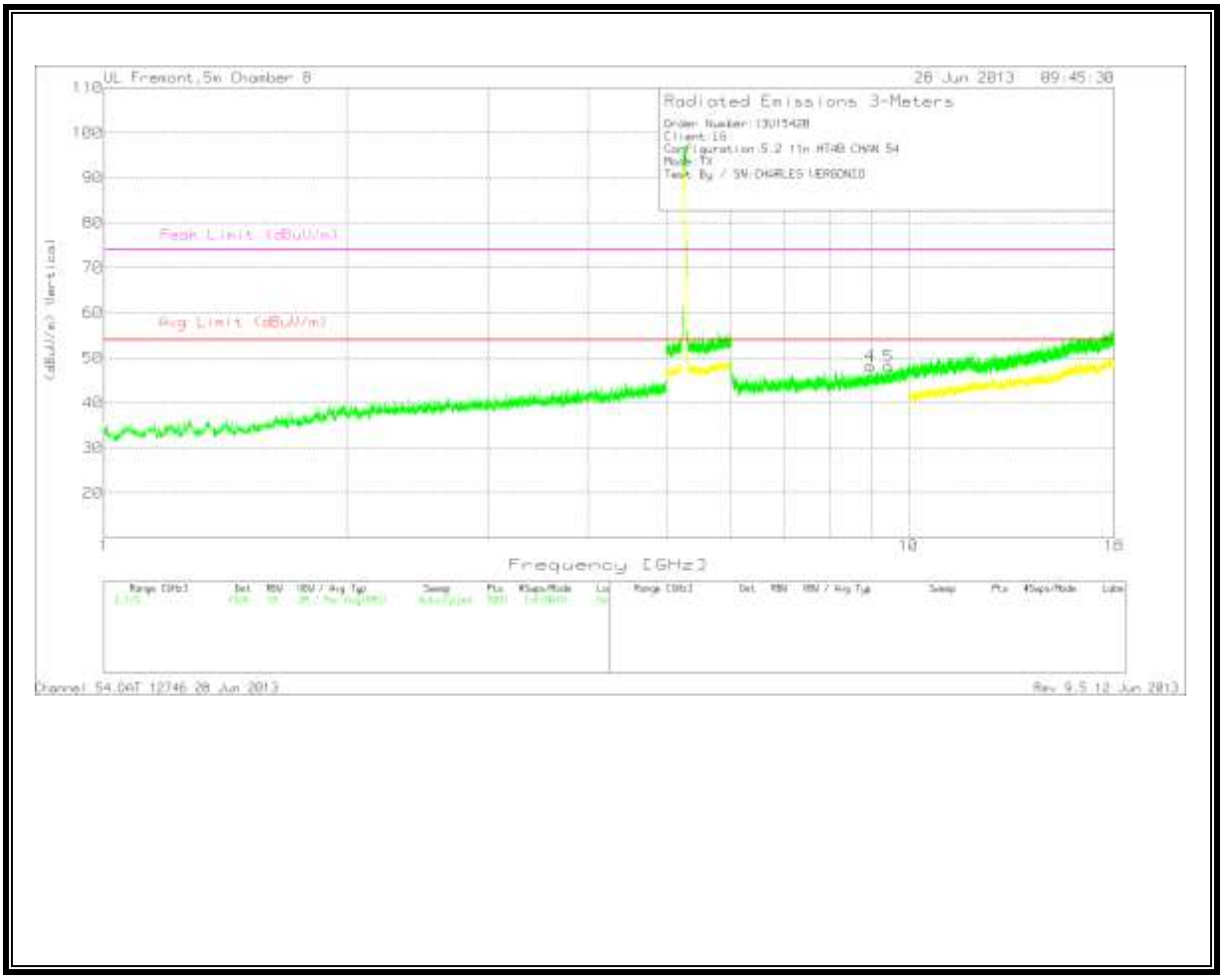


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



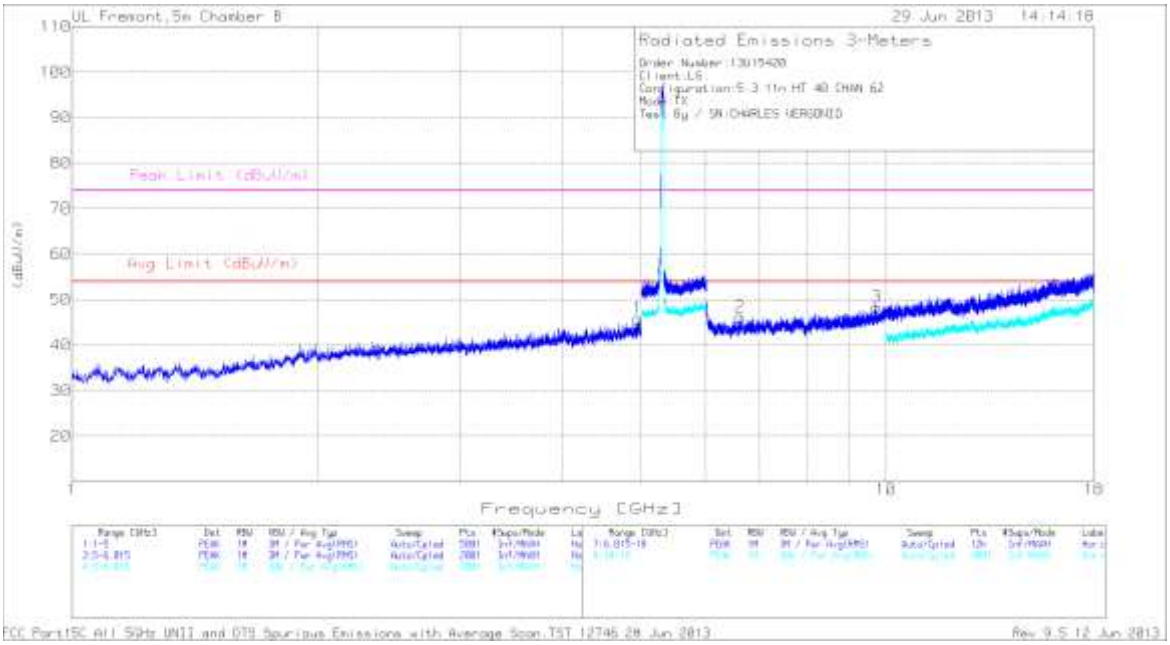
VERTICAL



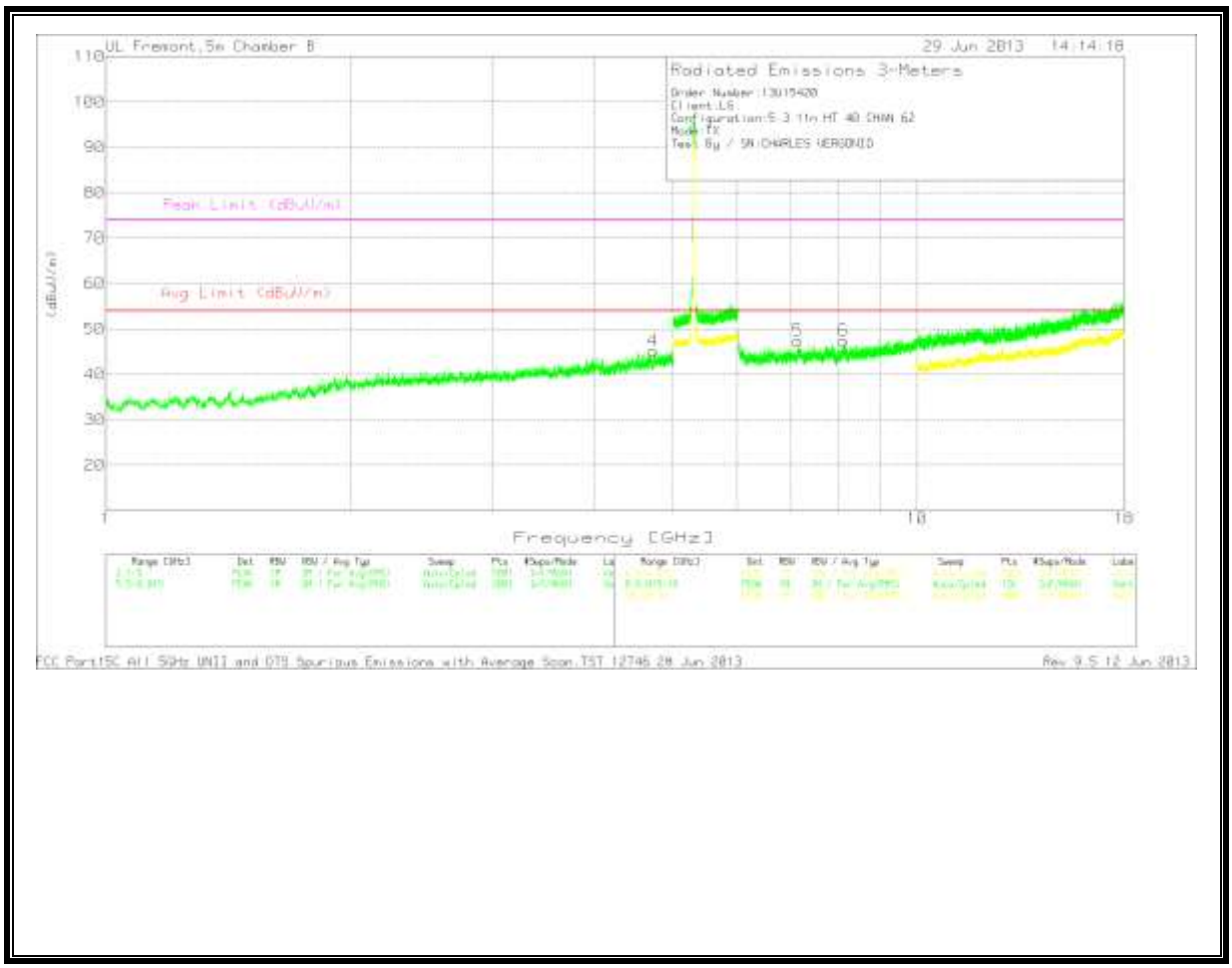
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.906	41.69	PK	34.6	-30.2	46.09	53.97	-7.88	74	-27.91	0-360	100	H
6.015	37.2	PK	35.9	-23.3	49.8	53.97	-4.17	74	-24.2	0-360	100	H
9.985	35.42	PK	37.8	-24.4	48.82	53.97	-5.15	74	-25.18	0-360	200	H
8.963	36.89	PK	36.7	-25.5	48.09	53.97	-5.88	74	-25.91	0-360	200	V
9.445	35.6	PK	37.1	-24.6	48.1	53.97	-5.87	74	-25.9	0-360	200	V

MID CHANNEL
HORIZONTAL



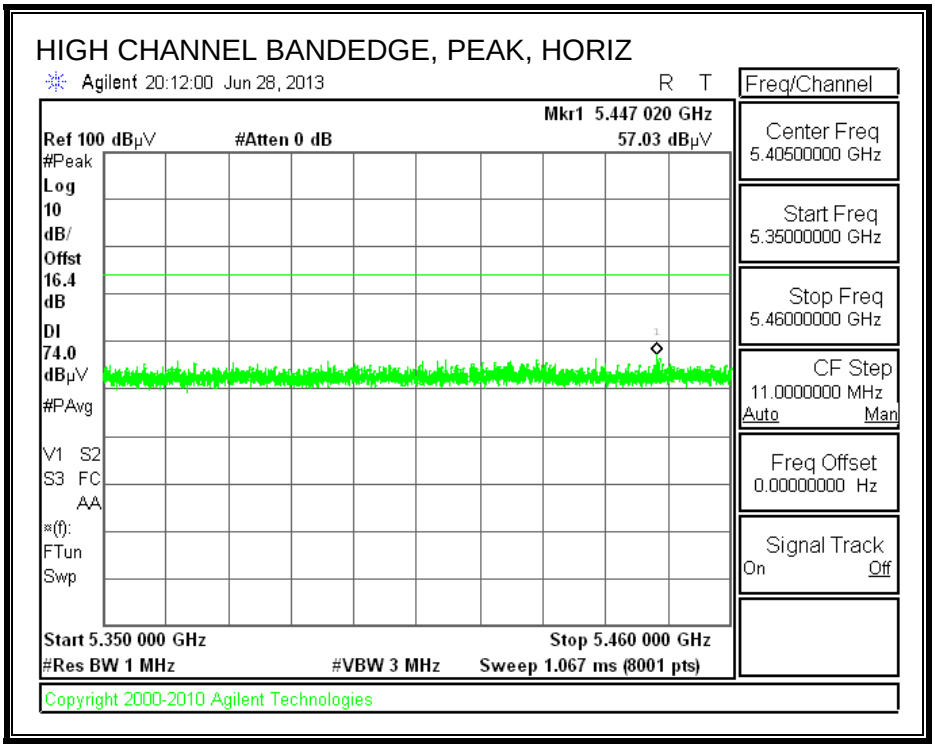
VERTICAL

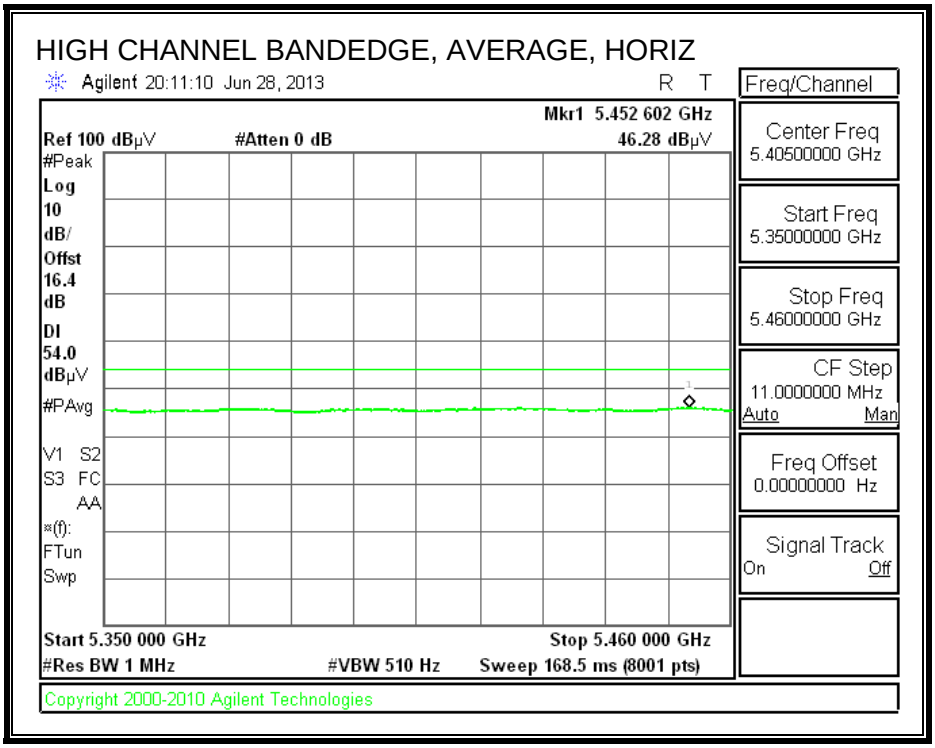


MID CHANNEL DATA

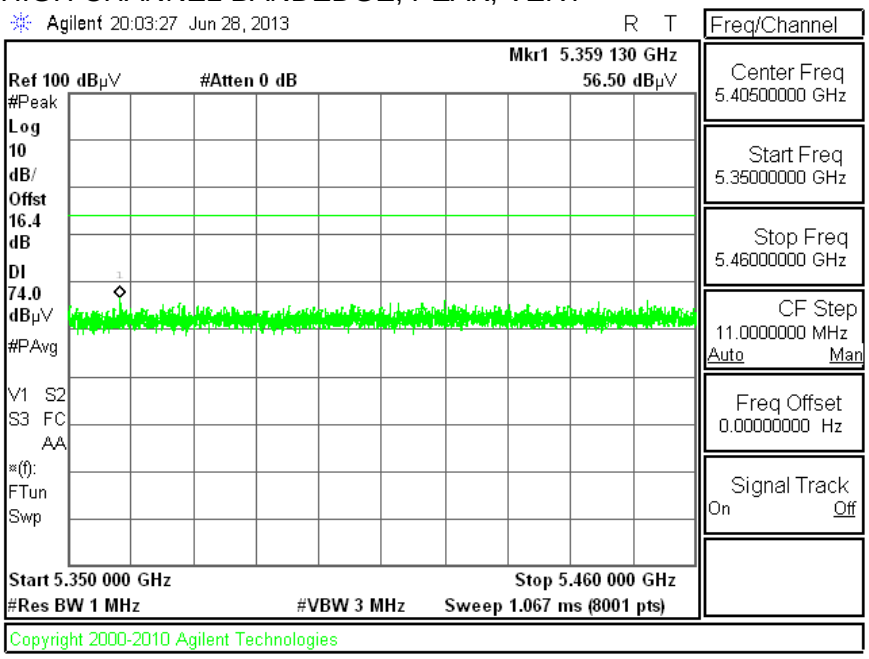
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.957	40.27	PK	34.6	-29.1	45.77	53.97	-8.2	74	-28.23	0-360	100	H
4.734	40.83	PK	34.7	-30.4	45.13	53.97	-8.84	74	-28.87	0-360	100	V
6.619	38.47	PK	35.9	-28.2	46.17	53.97	-7.8	74	-27.83	0-360	100	H
9.735	34.69	PK	37.5	-23.8	48.39	53.97	-5.58	74	-25.61	0-360	200	H
7.131	39.78	PK	35.8	-28.2	47.38	53.97	-6.59	74	-26.62	0-360	100	V
8.117	37.48	PK	36.1	-26.1	47.48	53.97	-6.49	74	-26.52	0-360	100	V

10.2.7. TX ABOVE 1 GHz 802.11ac HT20 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

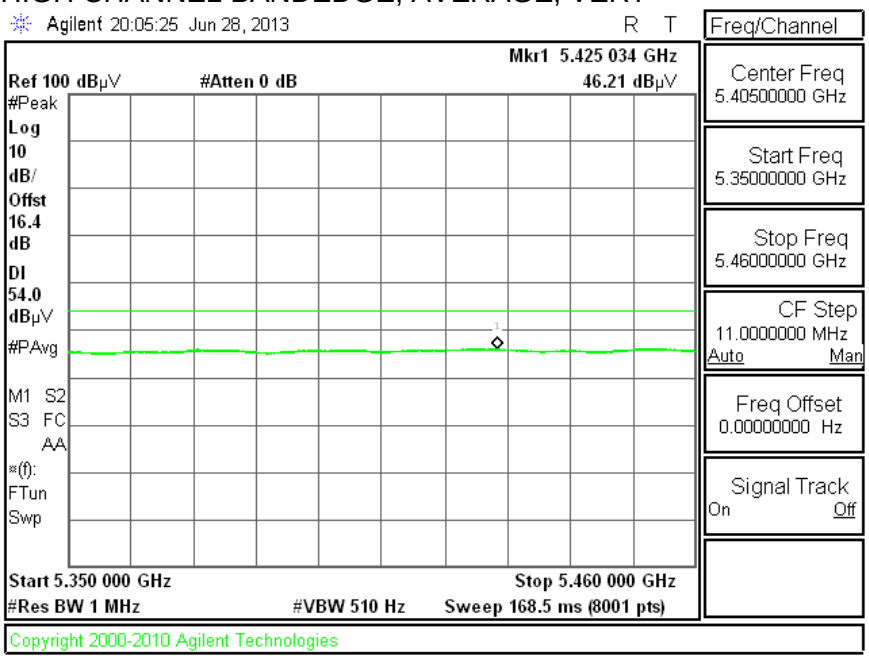




HIGH CHANNEL BANDEDGE, PEAK, VERT

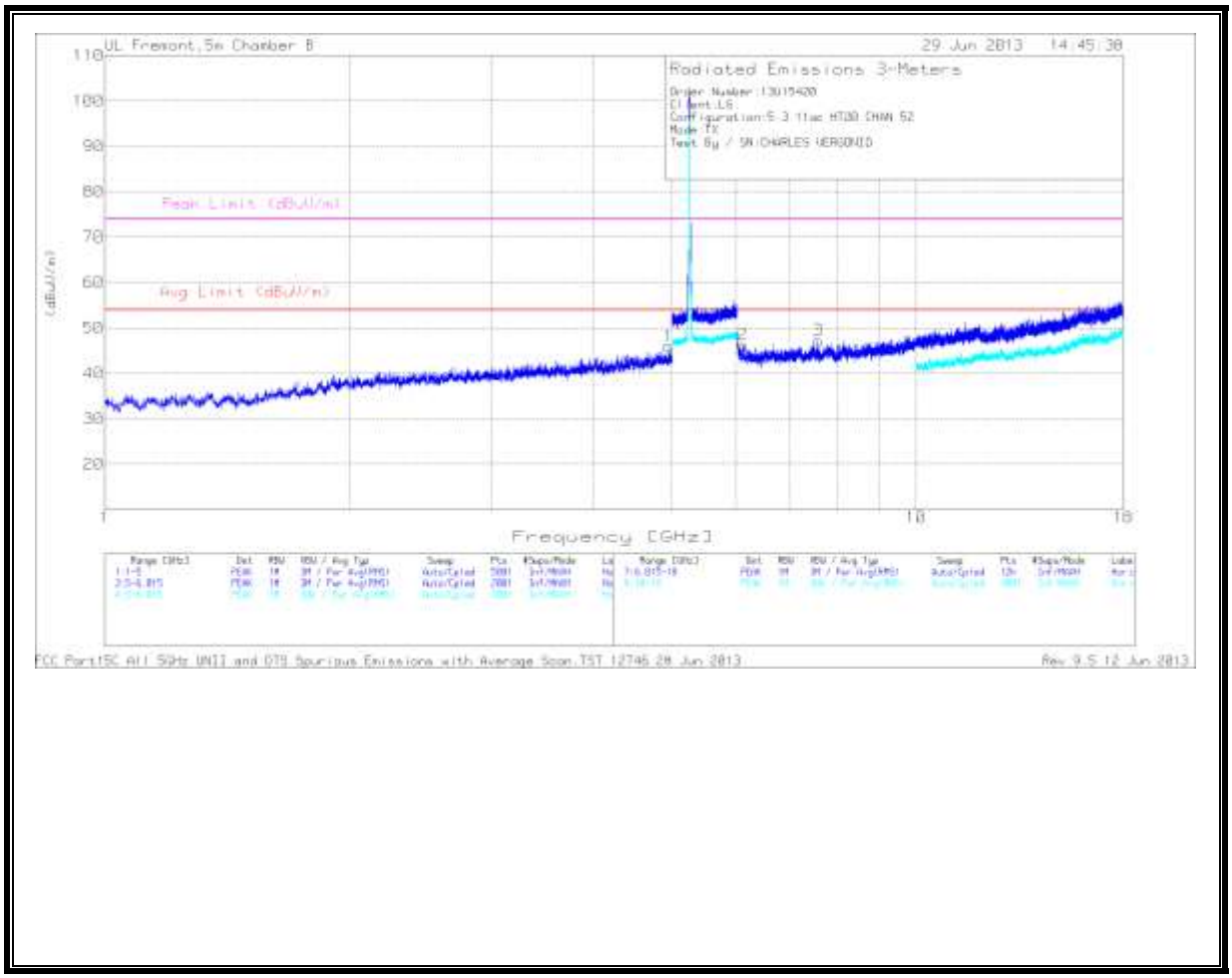


HIGH CHANNEL BANDEDGE, AVERAGE, VERT

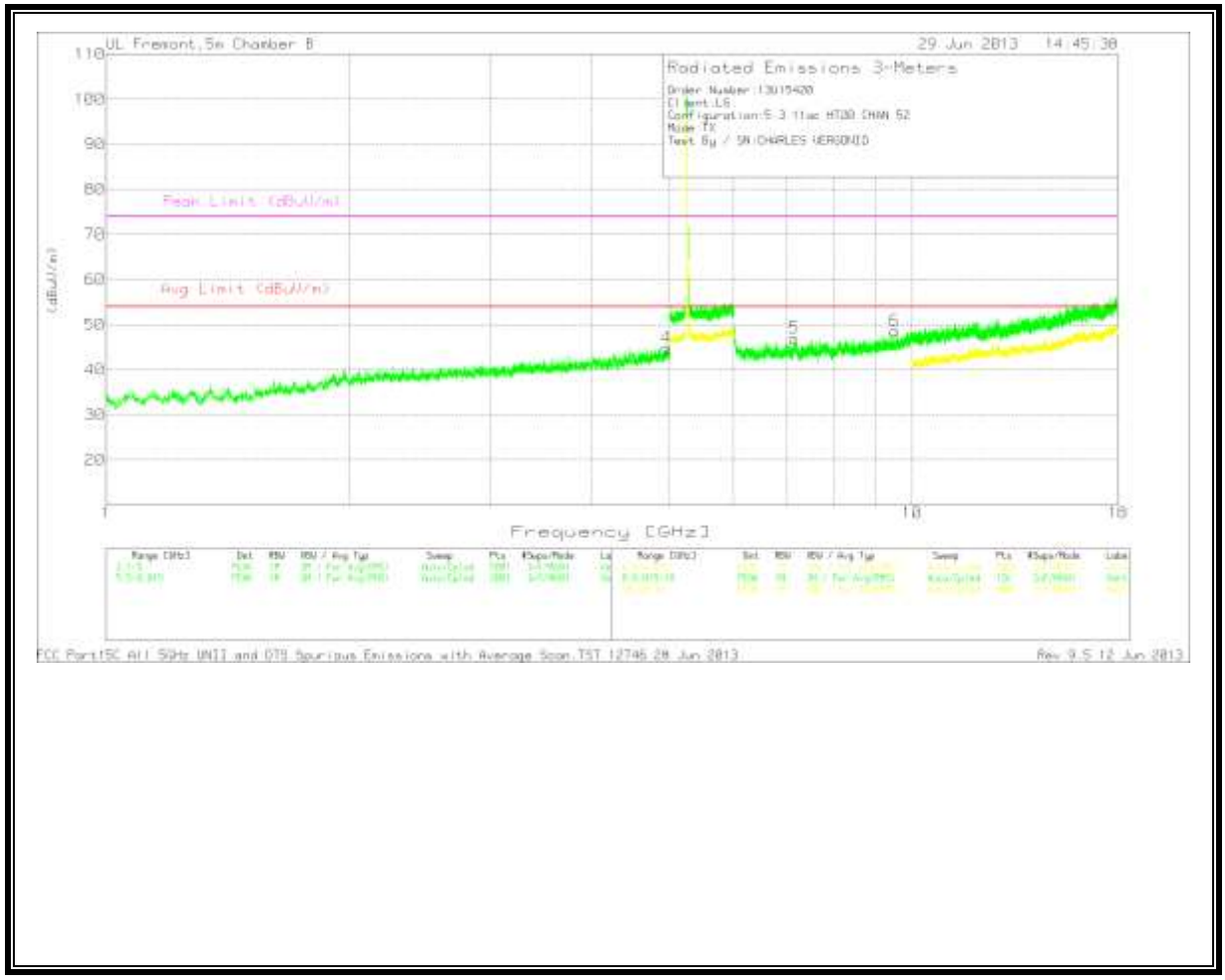


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



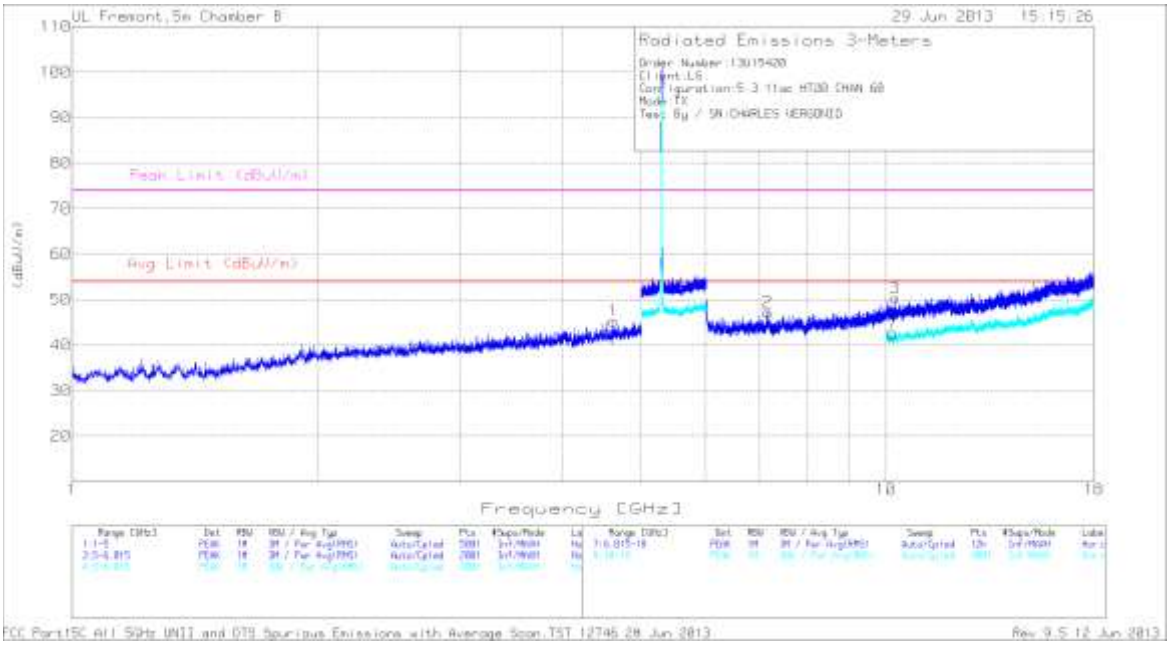
VERTICAL



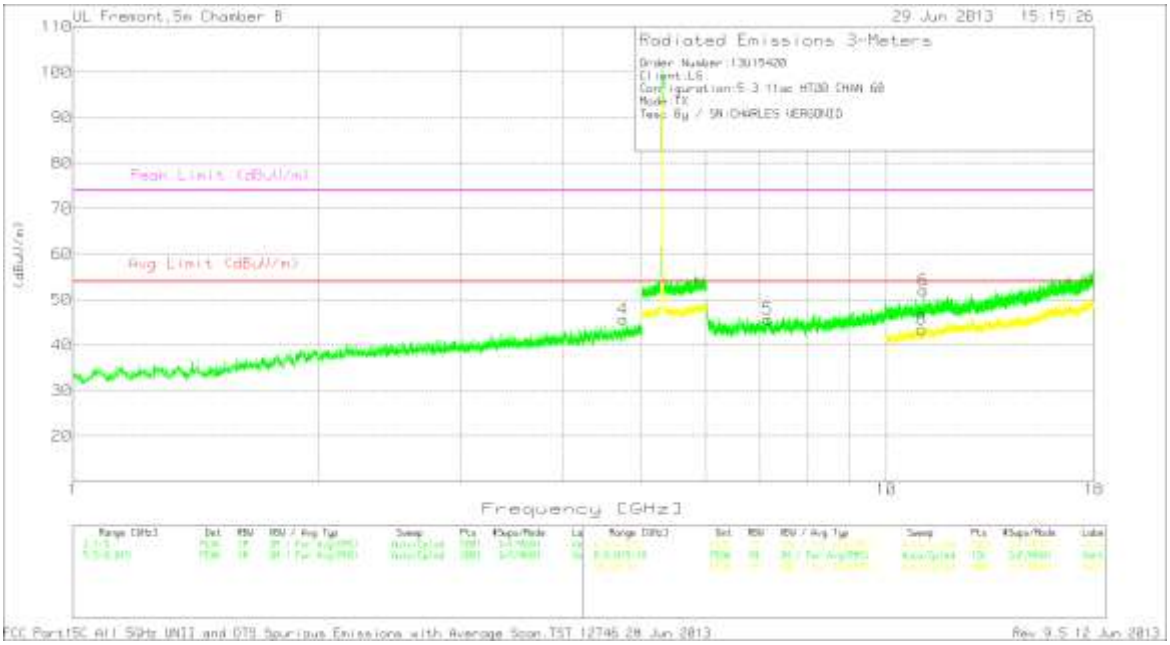
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.954	40.59	PK	34.6	-29.3	45.89	53.97	-8.08	74	-28.11	0-360	100	H
4.962	38.97	PK	34.6	-28.7	44.87	53.97	-9.1	74	-29.13	0-360	100	V
6.117	38.58	PK	35.9	-28.2	46.28	53.97	-7.69	74	-27.72	0-360	200	H
7.576	39.01	PK	36.1	-27.9	47.21	53.97	-6.76	74	-26.79	0-360	200	H
7.142	38.58	PK	35.8	-27.4	46.98	53.97	-6.99	74	-27.02	0-360	100	V
9.518	35.91	PK	37.2	-24.5	48.61	53.97	-5.36	74	-25.39	0-360	200	V

MID CHANNEL
HORIZONTAL



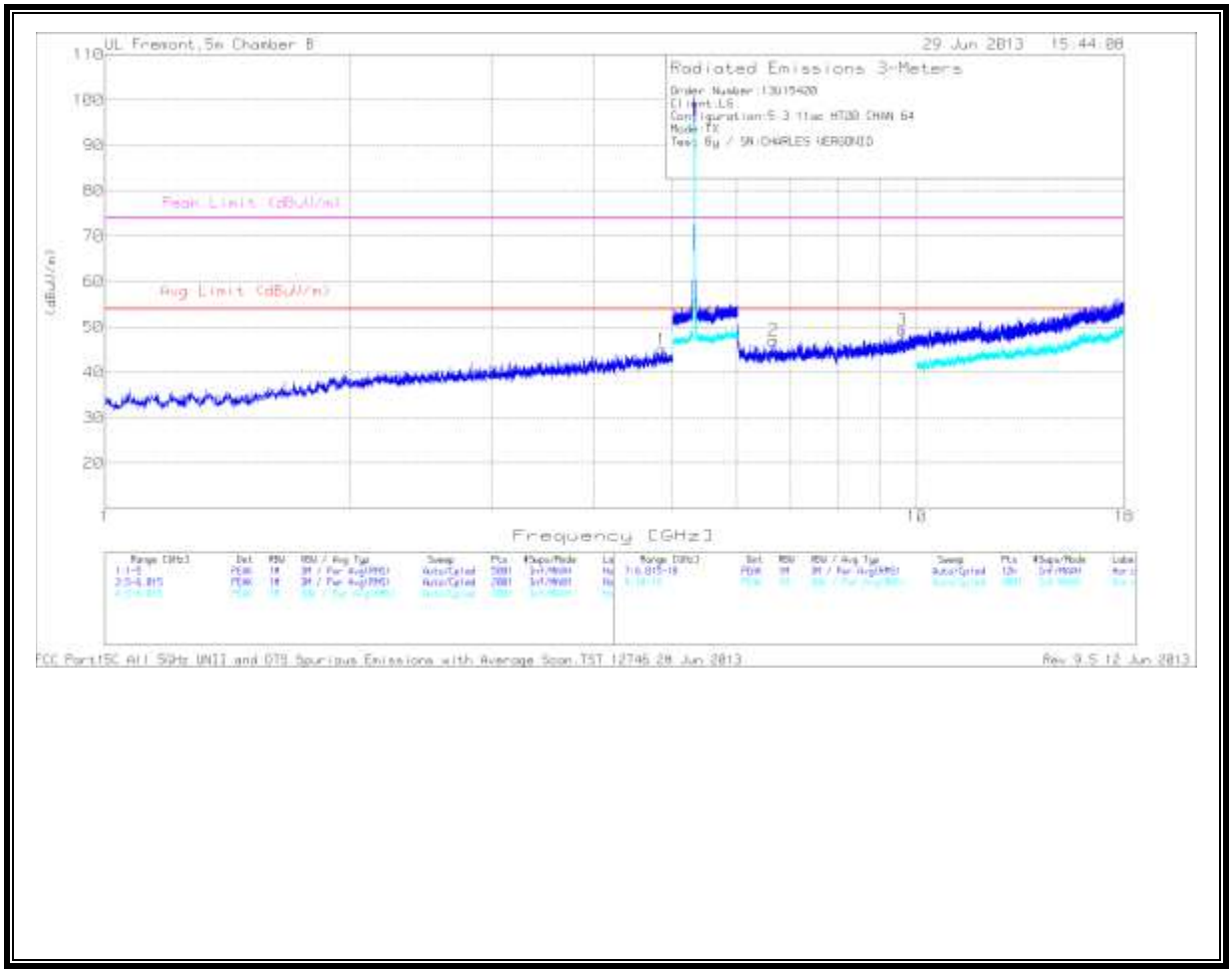
VERTICAL



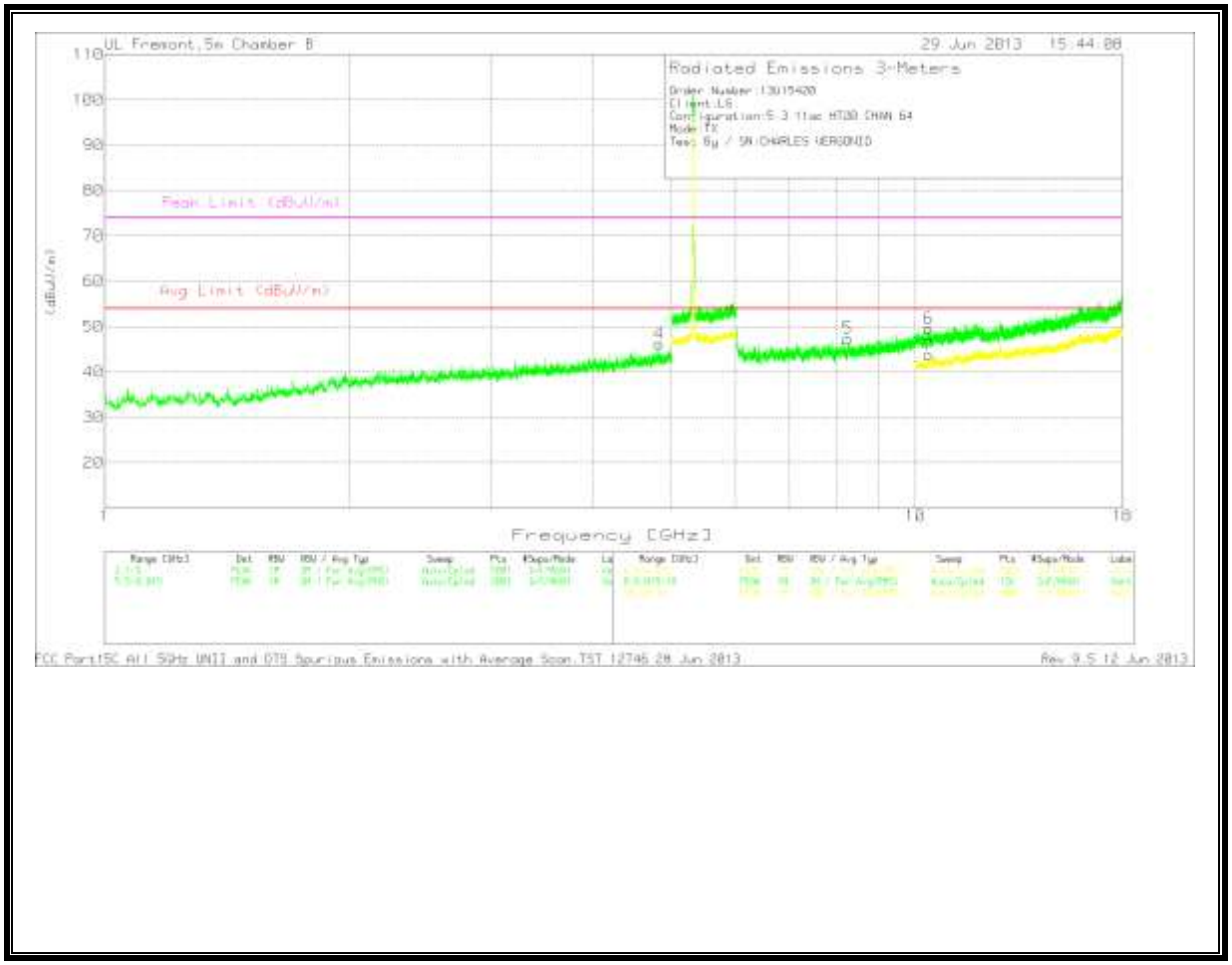
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.626	40.71	PK	34.6	-30	45.31	53.97	-8.66	74	-28.69	0-360	200	H
4.746	41.1	PK	34.7	-30.1	45.7	53.97	-8.27	74	-28.3	0-360	200	V
7.16	38.46	PK	35.8	-27.1	47.16	53.97	-6.81	74	-26.84	0-360	100	H
10.263	36.26	PK	38	-24	50.26	53.97	-3.71	74	-23.74	0-360	200	H
7.151	37	PK	35.8	-27.1	45.7	53.97	-8.27	74	-28.3	0-360	200	V
11.12	37.16	PK	38.4	-23.5	52.06	53.97	-1.91	74	-21.94	0-360	100	V
10.188	28.59	PK	38	-23.9	42.69	53.97	-11.28	74	-31.31	0-360	100	H
11.062	28.35	PK	38.3	-23.1	43.55	53.97	-10.42	74	-30.45	0-360	200	V

HIGH CHANNEL
HORIZONTAL



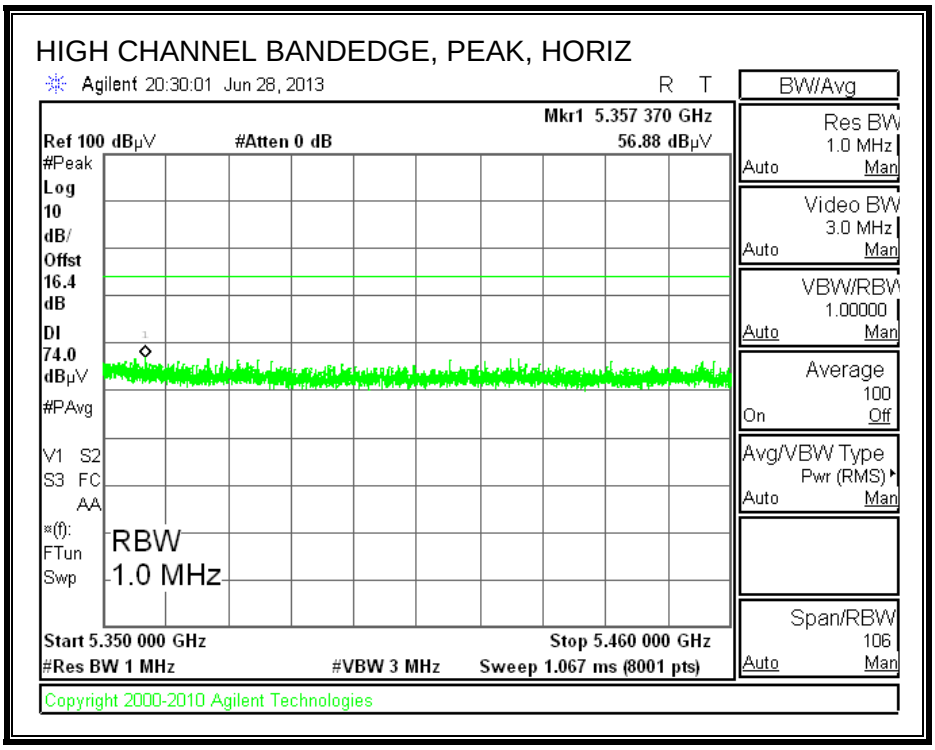
VERTICAL

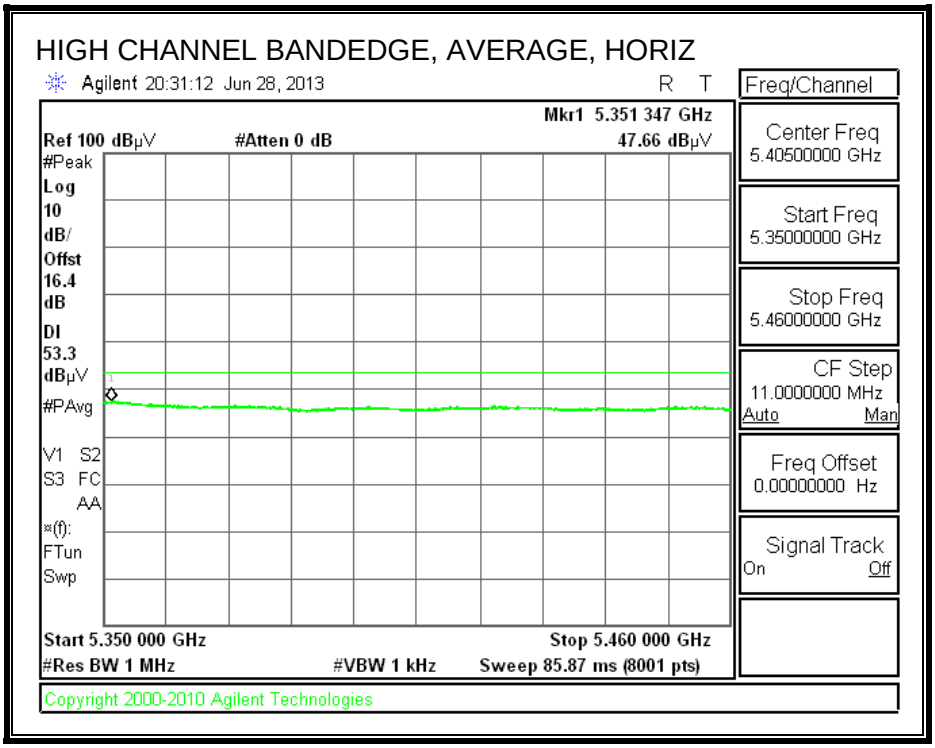


HIGH CHANNEL DATA

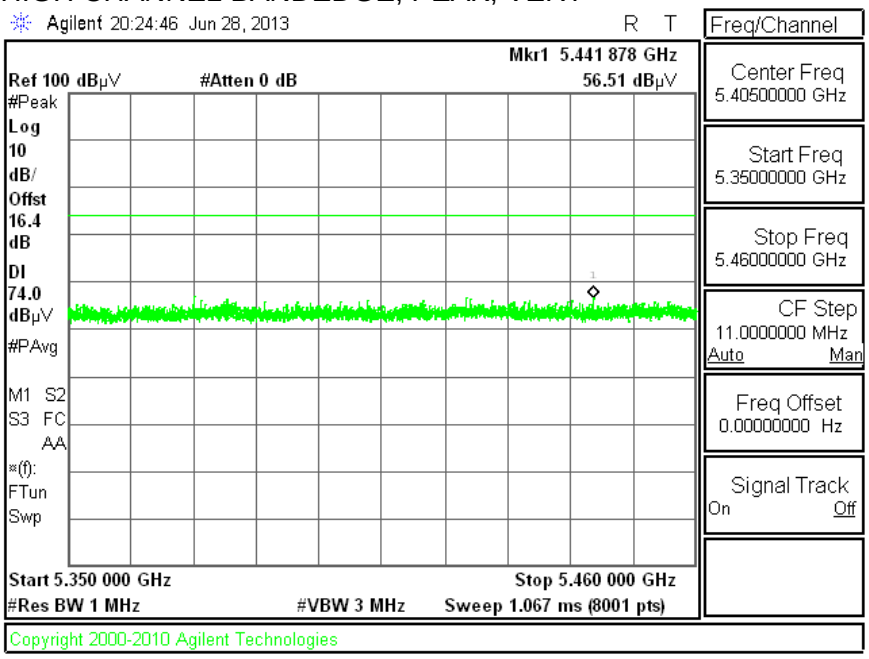
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.854	40.88	PK	34.7	-30.6	44.98	53.97	-8.99	74	-29.02	0-360	200	H
4.83	42.12	PK	34.7	-30.6	46.22	53.97	-7.75	74	-27.78	0-360	200	V
6.661	40.38	PK	35.8	-29.2	46.98	53.97	-6.99	74	-27.02	0-360	100	H
9.6	36.9	PK	37.3	-24.9	49.3	53.97	-4.67	74	-24.7	0-360	100	H
8.252	37.57	PK	36.1	-26.3	47.37	53.97	-6.6	74	-26.63	0-360	100	V
10.383	34.19	PK	38.1	-22.7	49.59	53.97	-4.38	74	-24.41	0-360	200	V
10.392	28.21	PK	38.1	-22.6	43.71	53.97	-10.26	74	-30.29	0-360	200	V

10.2.9. TX ABOVE 1 GHz 802.11ac HT40 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

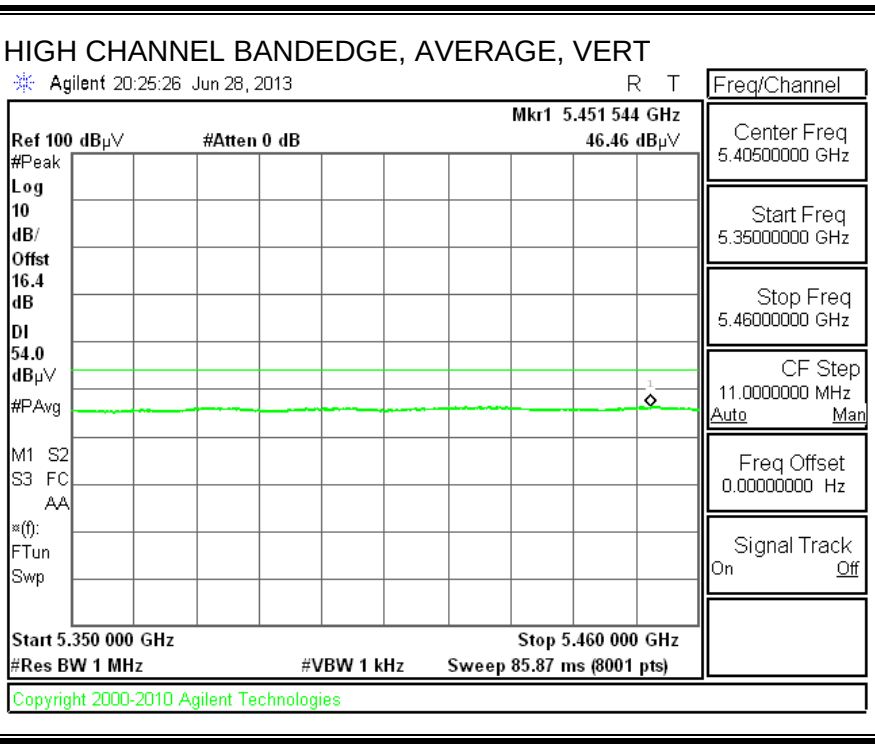




HIGH CHANNEL BANDEDGE, PEAK, VERT

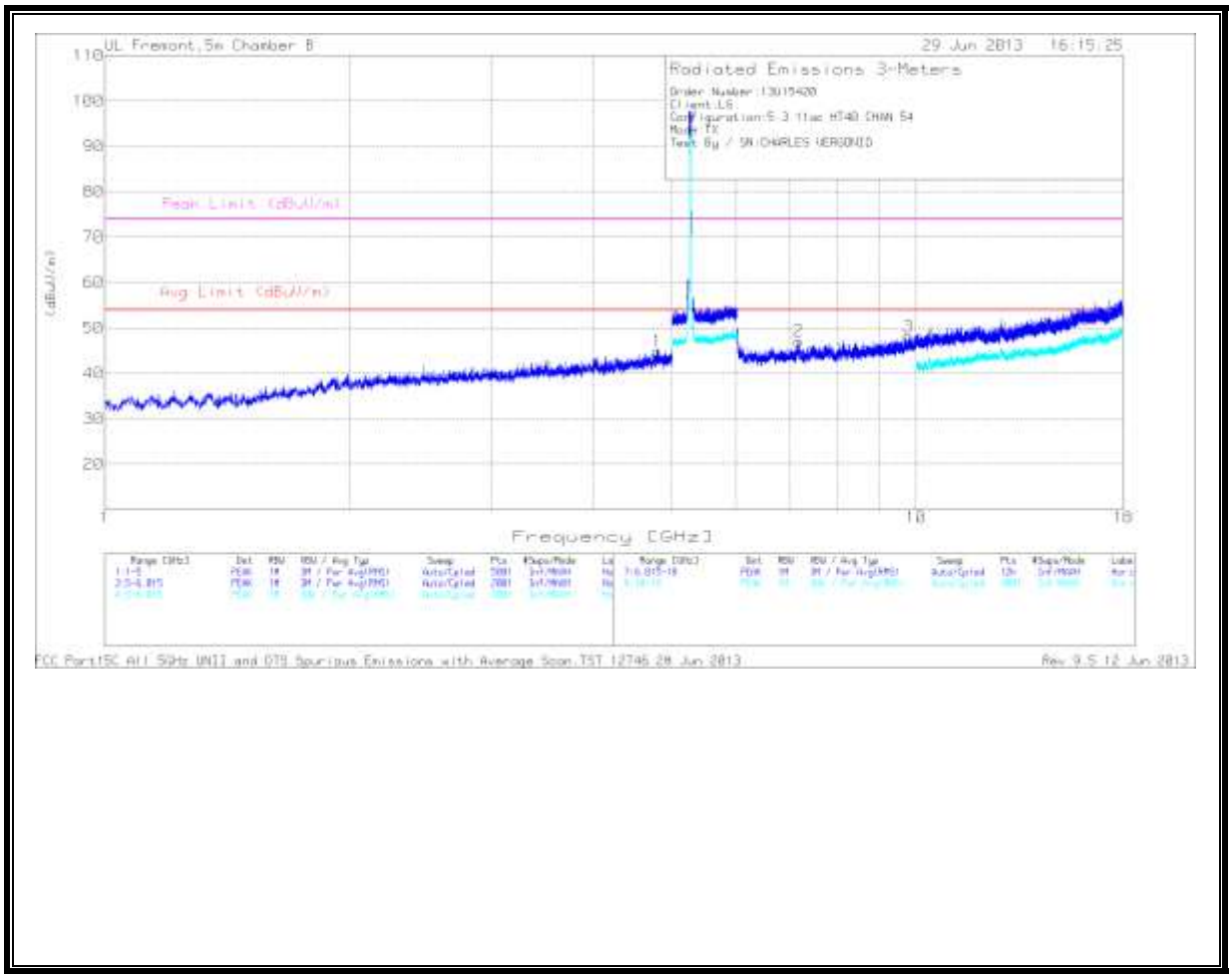


HIGH CHANNEL BANDEDGE, AVERAGE, VERT

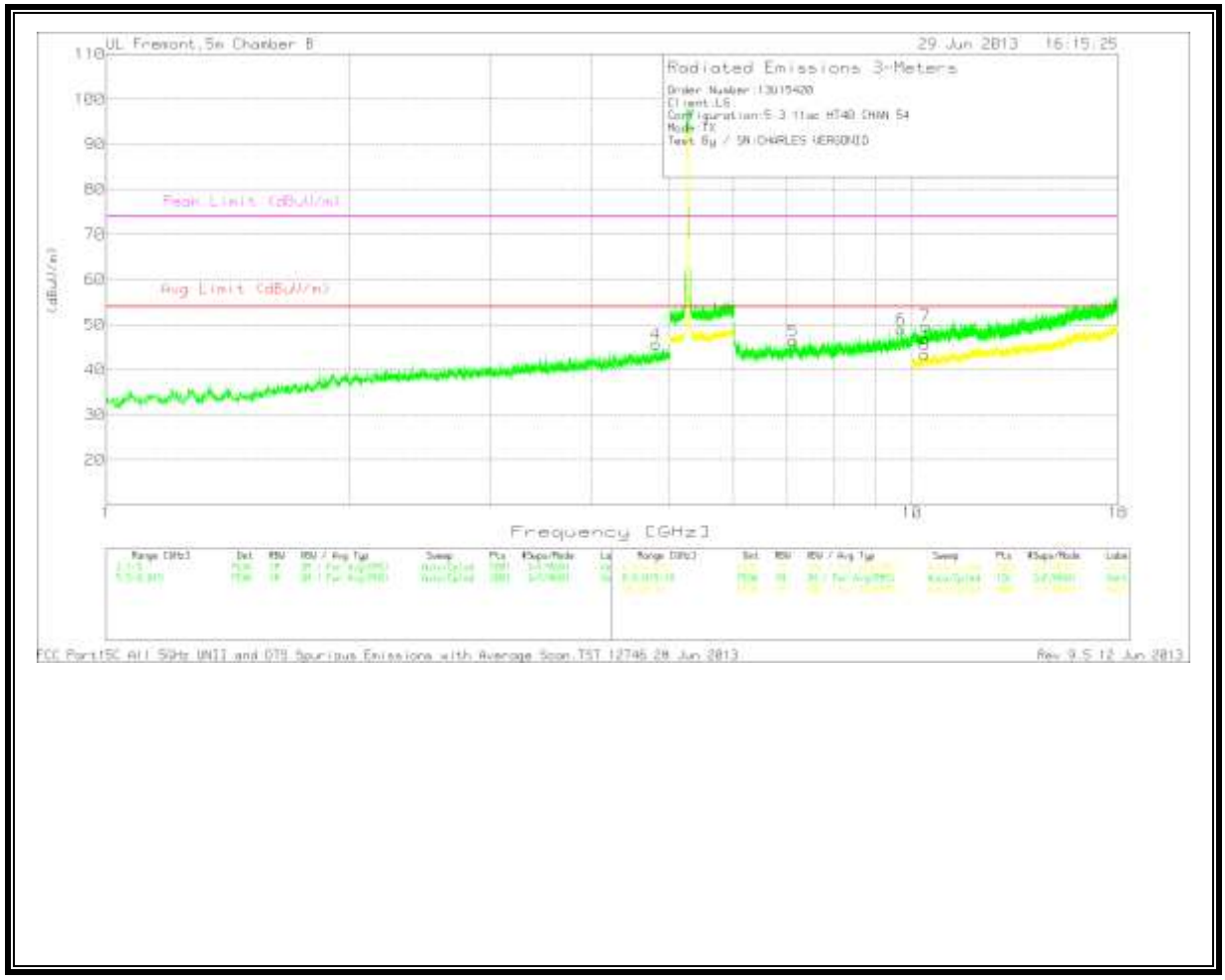


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



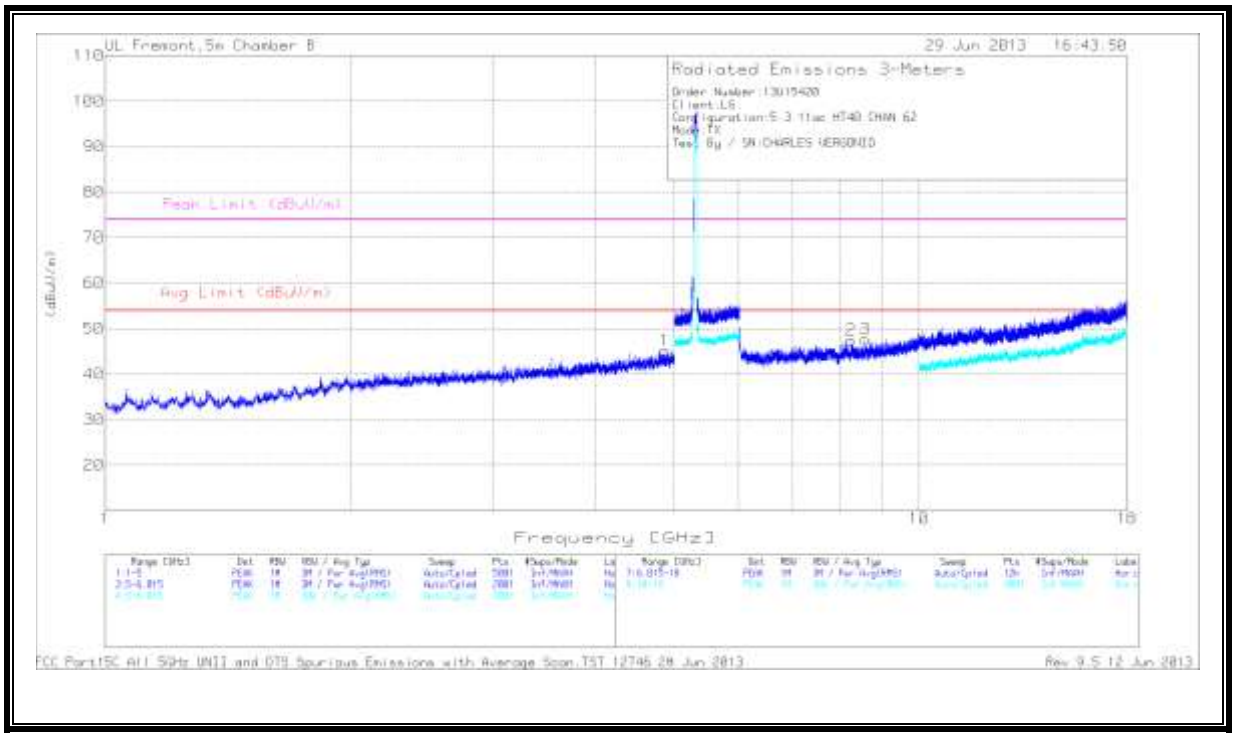
VERTICAL



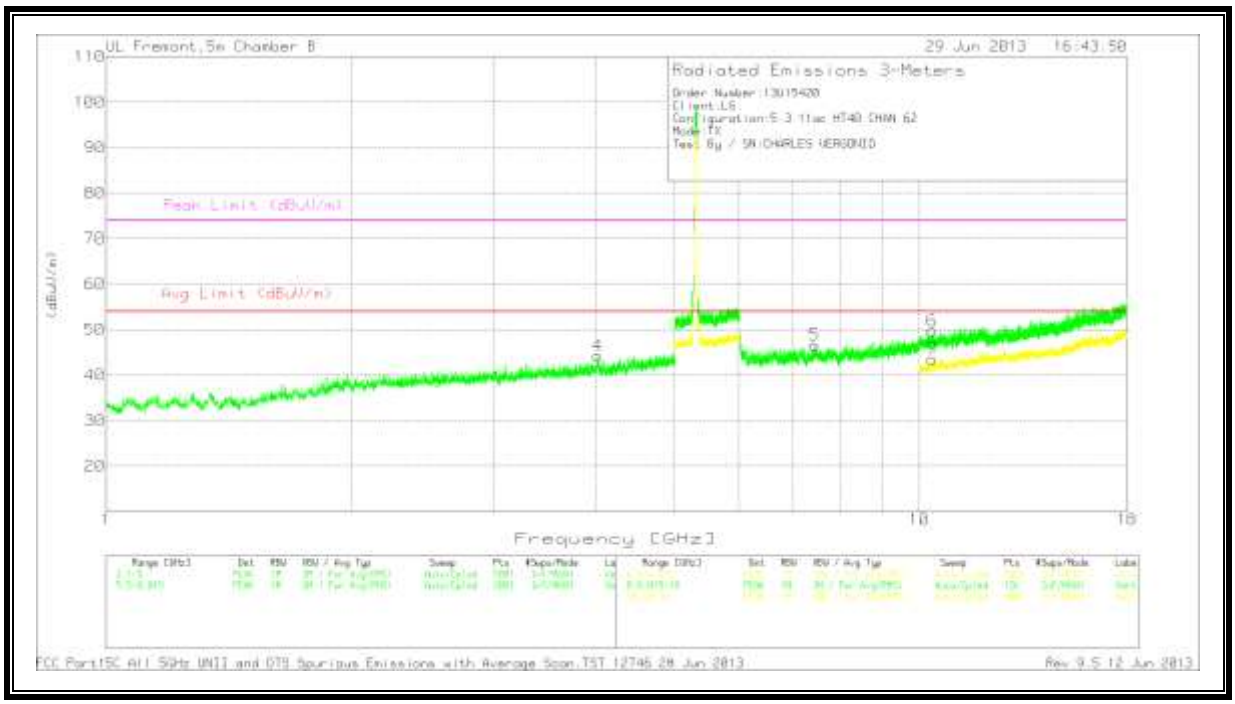
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margi n (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.802	40.08	PK	34.7	-29.9	44.88	53.97	-9.09	74	-29.12	0-360	100	H
4.812	41.05	PK	34.7	-30.2	45.55	53.97	-8.42	74	-28.45	0-360	100	V
7.163	38.38	PK	35.8	-27.1	47.08	53.97	-6.89	74	-26.92	0-360	100	H
9.791	34.61	PK	37.5	-24	48.11	53.97	-5.86	74	-25.89	0-360	100	H
7.131	38.75	PK	35.8	-28.2	46.35	53.97	-7.62	74	-27.65	0-360	200	V
9.695	35.69	PK	37.4	-24.2	48.89	53.97	-5.08	74	-25.11	0-360	100	V
10.4	34.28	PK	38.1	-22.7	49.68	53.97	-4.29	74	-24.32	0-360	200	V
10.379	28.07	PK	38.1	-22.8	43.37	53.97	-10.6	74	-30.63	0-360	200	V

MID CHANNEL
HORIZONTAL



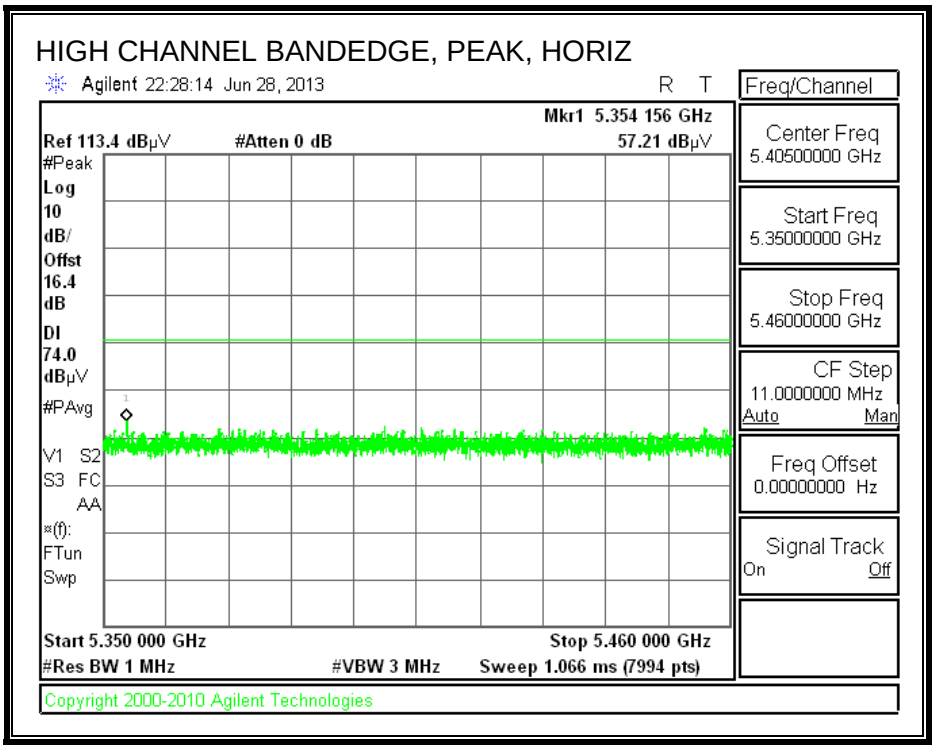
VERTICAL

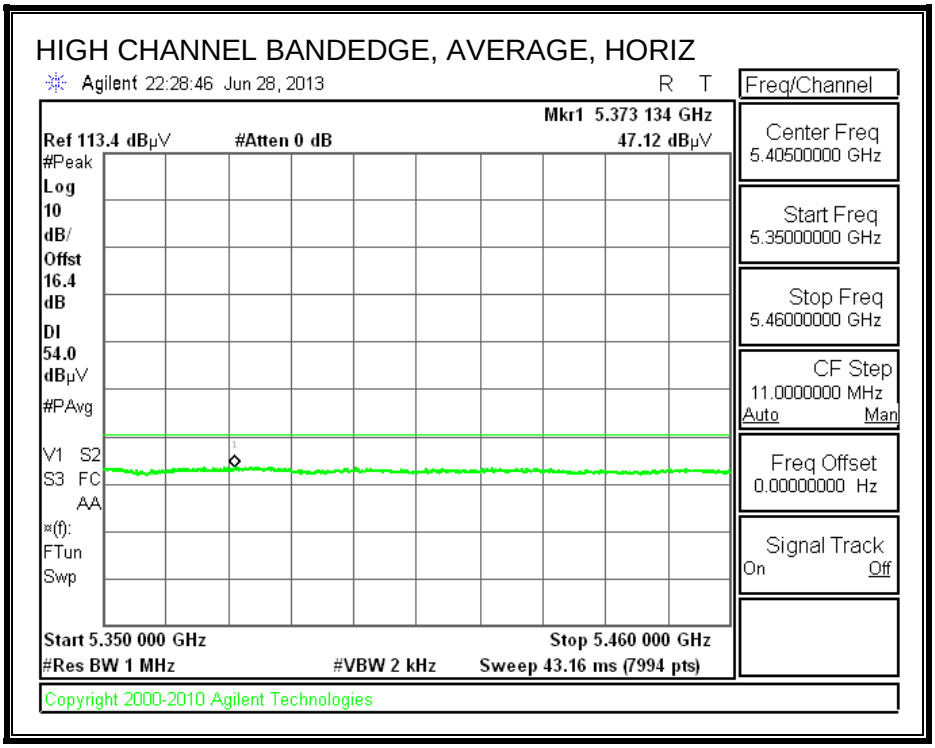


MID CHANNEL DATA

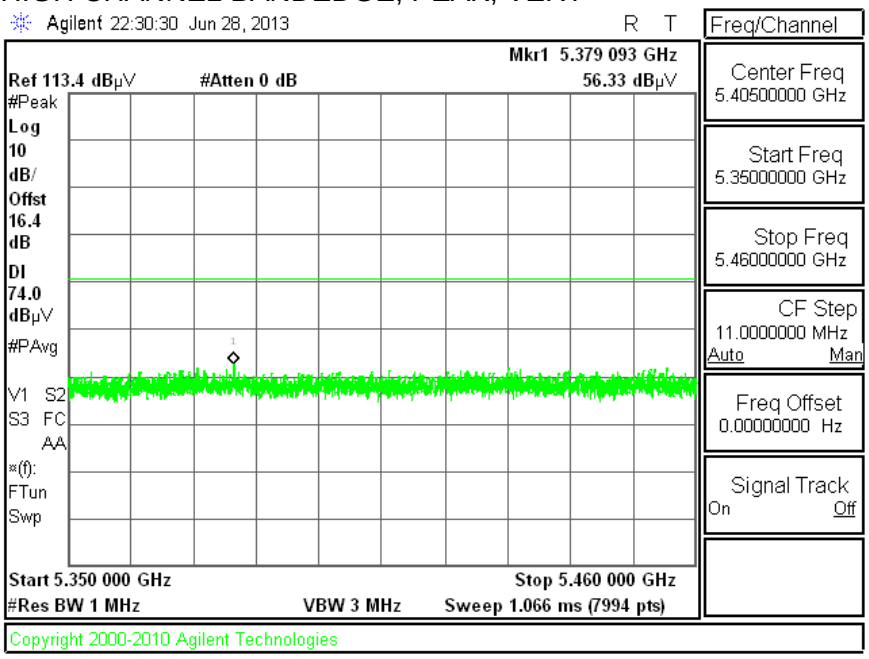
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.87	40.85	PK	34.7	-30.4	45.15	53.97	-8.82	74	-28.85	0-360	100	H
4.024	40.73	PK	33.9	-30.4	44.23	53.97	-9.74	74	-29.77	0-360	100	V
8.25	37.87	PK	36.1	-26.5	47.47	53.97	-6.5	74	-26.53	0-360	100	H
8.589	37.63	PK	36.3	-26.3	47.63	53.97	-6.34	74	-26.37	0-360	100	H
7.438	37.53	PK	36	-26.9	46.63	53.97	-7.34	74	-27.37	0-360	100	V
10.382	34.36	PK	38.1	-22.7	49.76	53.97	-4.21	74	-24.24	0-360	200	V
10.38	28.13	PK	38.1	-22.7	43.53	53.97	-10.44	74	-30.47	0-360	100	V

10.2.11. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

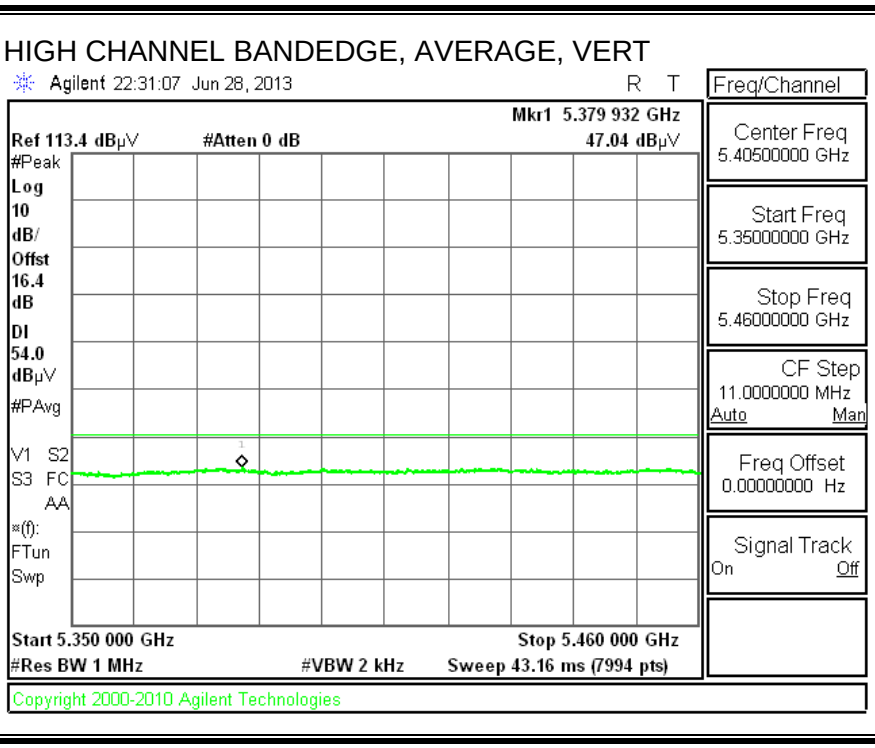




HIGH CHANNEL BANDEDGE, PEAK, VERT

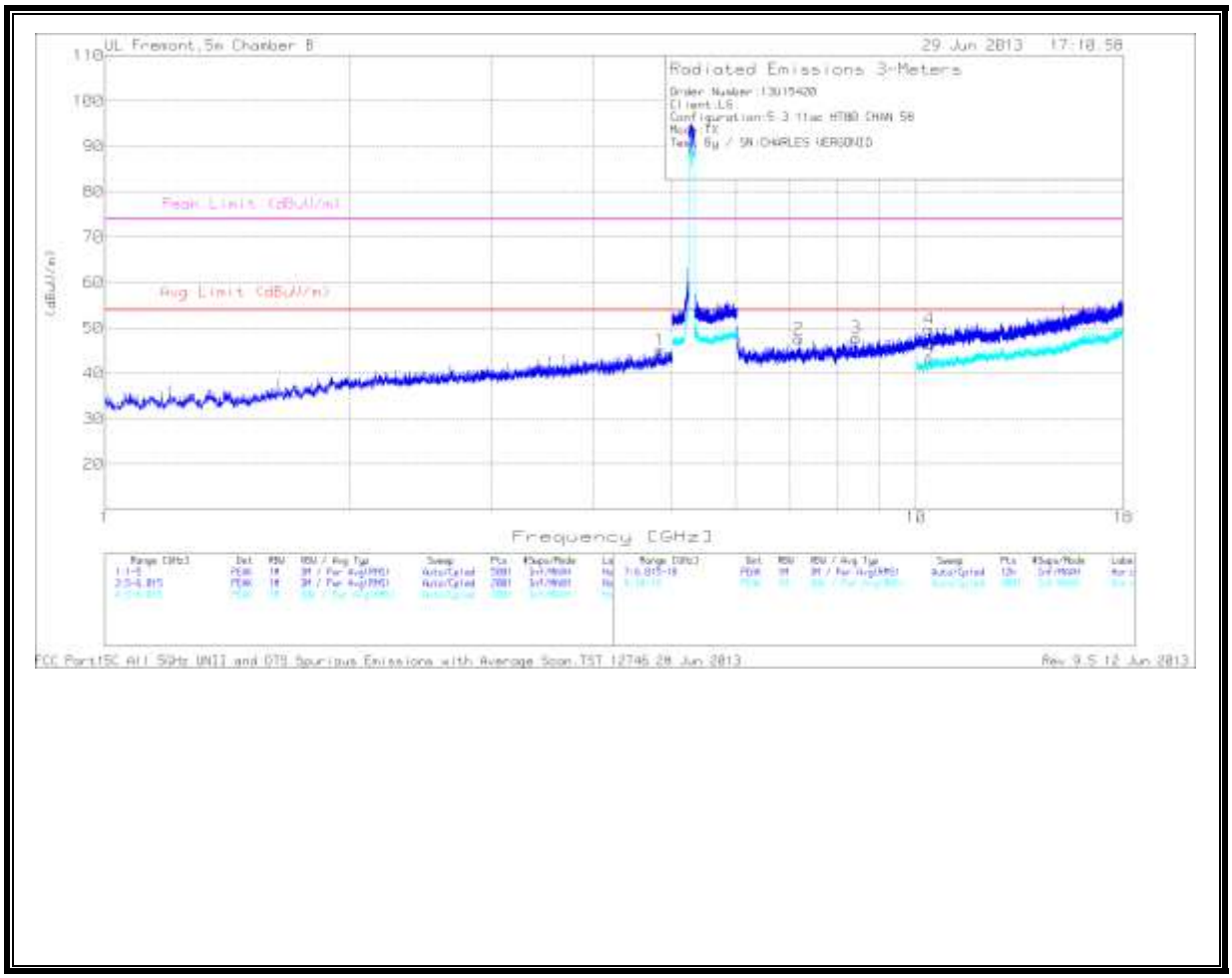


HIGH CHANNEL BANDEDGE, AVERAGE, VERT

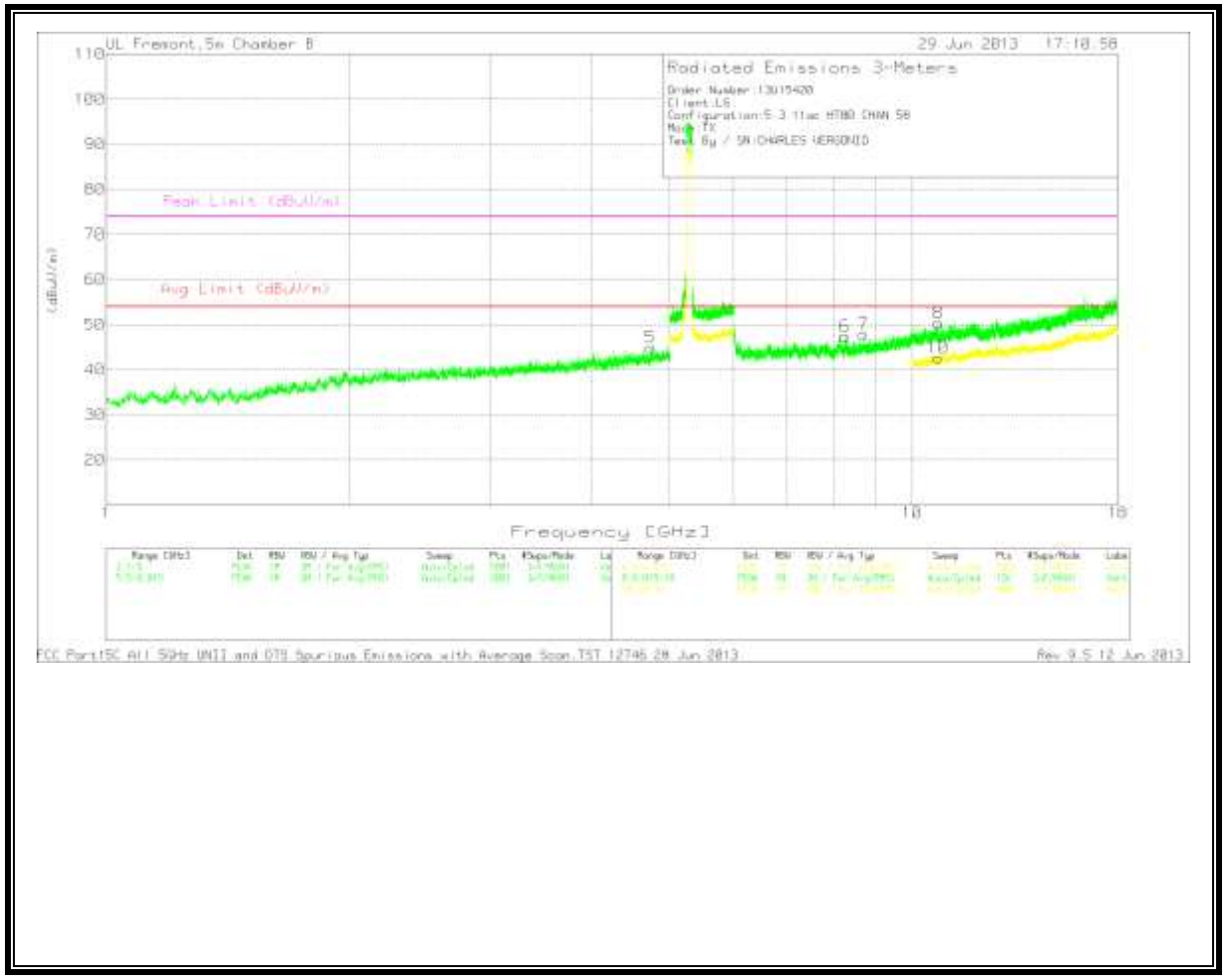


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



VERTICAL



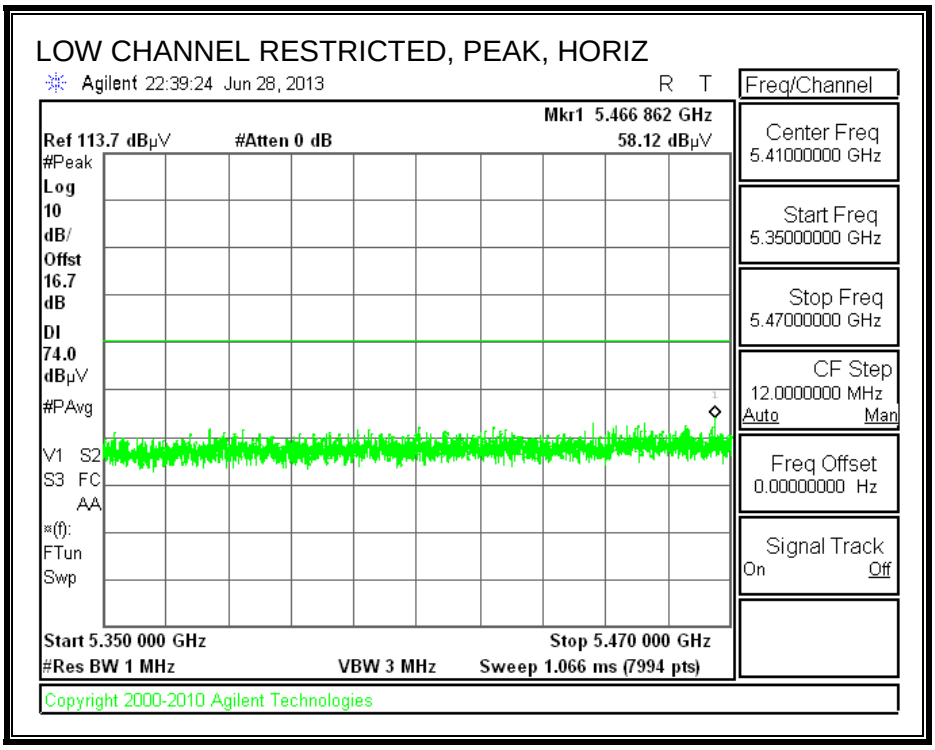
LOW CHANNEL DATA

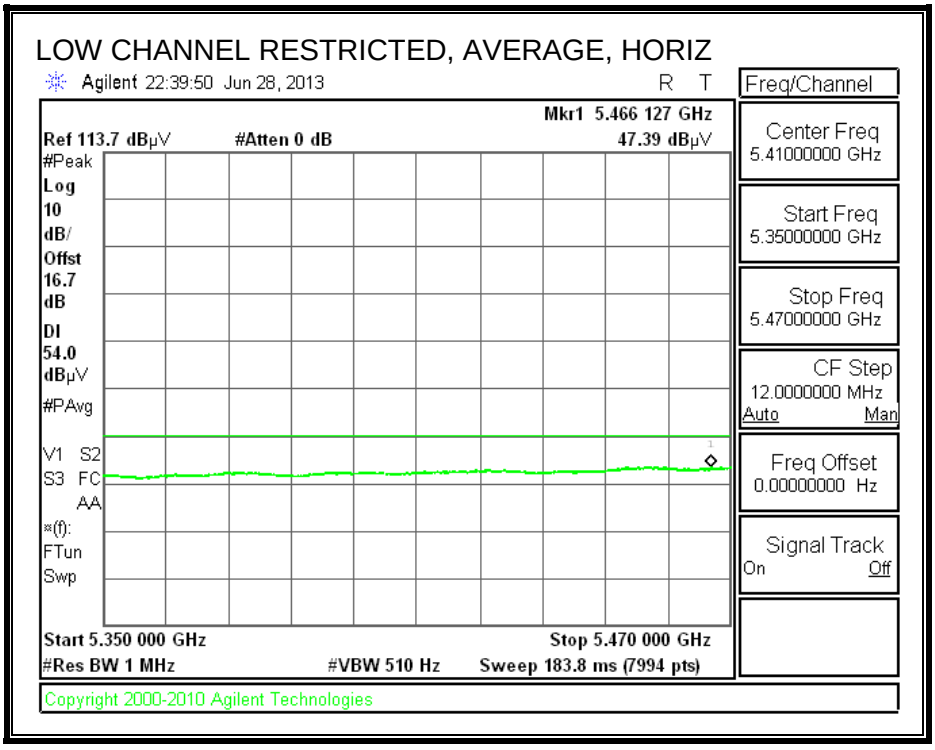
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.836	41.04	PK	34.7	-30.6	45.14	53.97	-8.83	74	-28.86	0-360	200	H
4.738	40.62	PK	34.7	-30.4	44.92	53.97	-9.05	74	-29.08	0-360	200	V
7.168	38.88	PK	35.8	-27.1	47.58	53.97	-6.39	74	-26.42	0-360	200	H
8.435	37.57	PK	36.2	-26	47.77	53.97	-6.2	74	-26.23	0-360	100	H
10.381	34.34	PK	38.1	-22.7	49.74	53.97	-4.23	74	-24.26	0-360	100	H
8.256	37.38	PK	36.1	-26.1	47.38	53.97	-6.59	74	-26.62	0-360	200	V
8.705	37.69	PK	36.4	-26.2	47.89	53.97	-6.08	74	-26.11	0-360	200	V
10.78	35.43	PK	38.3	-23.4	50.33	53.97	-3.64	74	-23.67	0-360	200	V
10.394	27.67	PK	38.1	-22.6	43.17	53.97	-10.8	74	-30.83	0-360	100	H
10.771	27.65	PK	38.3	-23.3	42.65	53.97	-11.32	74	-31.35	0-360	100	V

10.3. 5.5-5.6 GHz

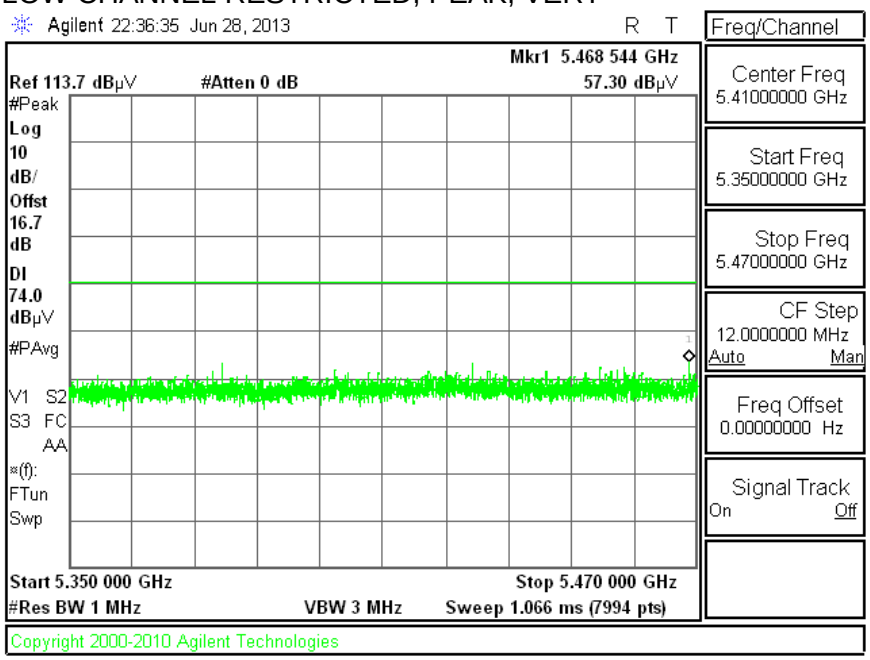
10.3.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.5 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

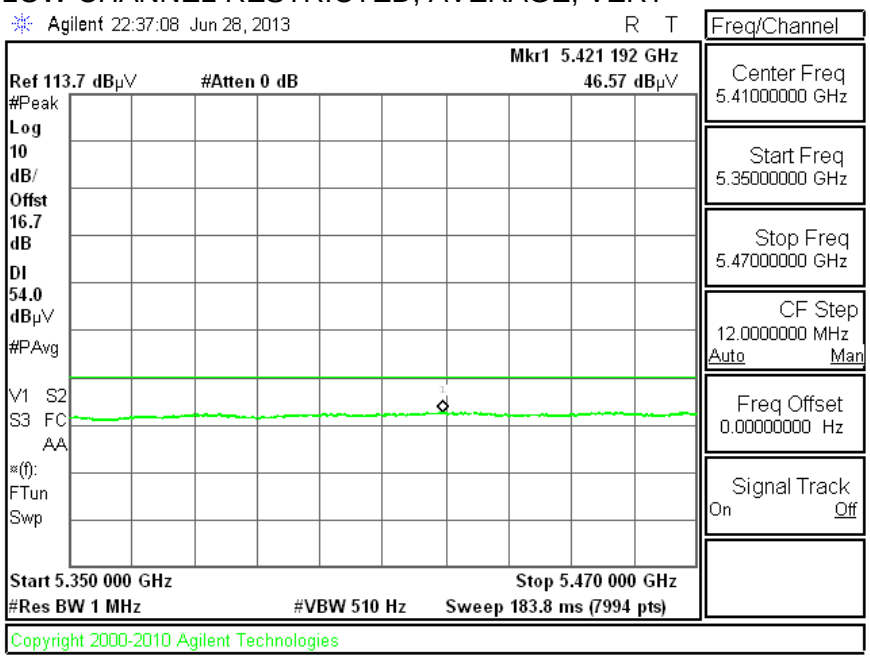




LOW CHANNEL RESTRICTED, PEAK, VERT

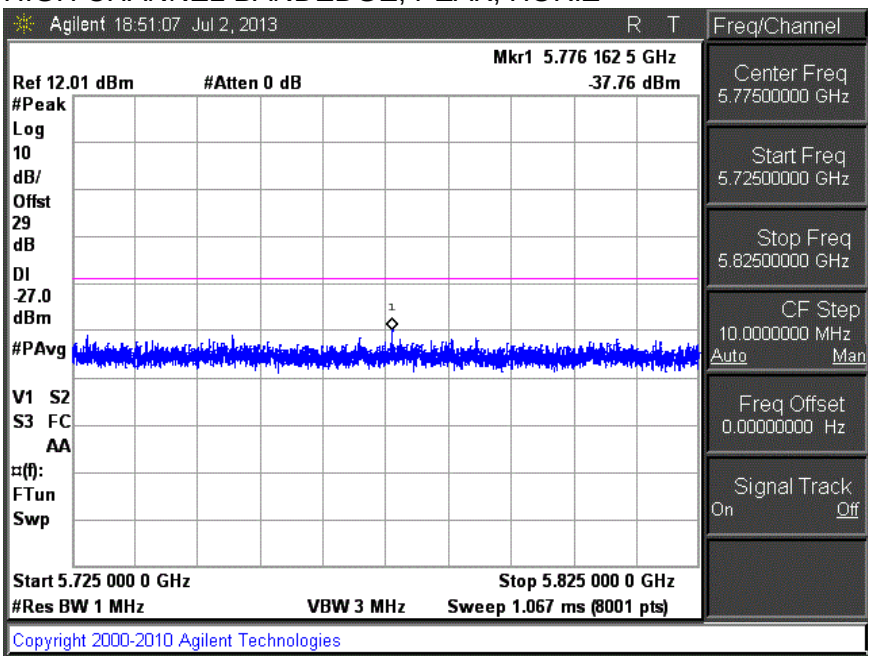


LOW CHANNEL RESTRICTED, AVERAGE, VERT

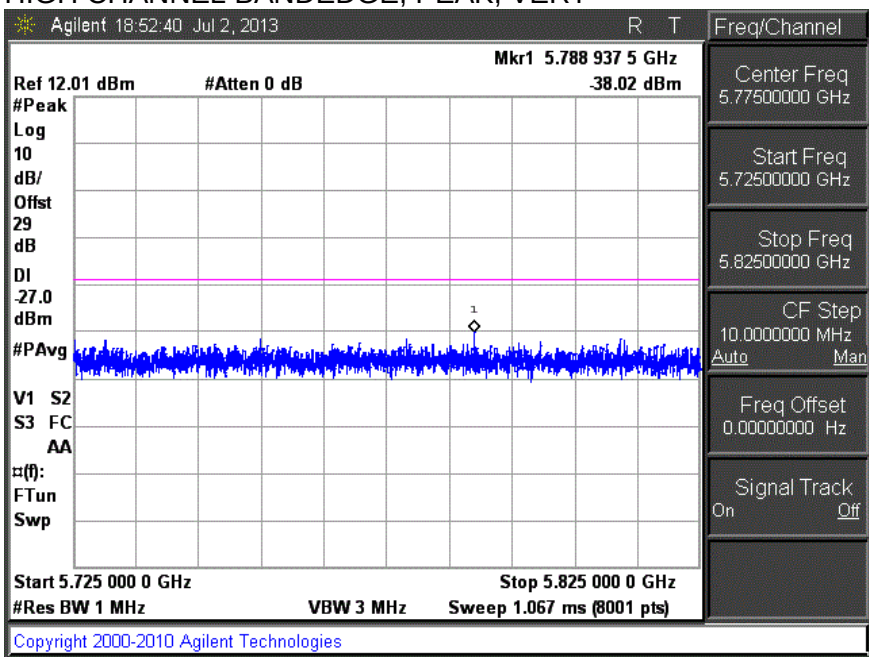


AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL BANDEDGE, PEAK, HORIZ

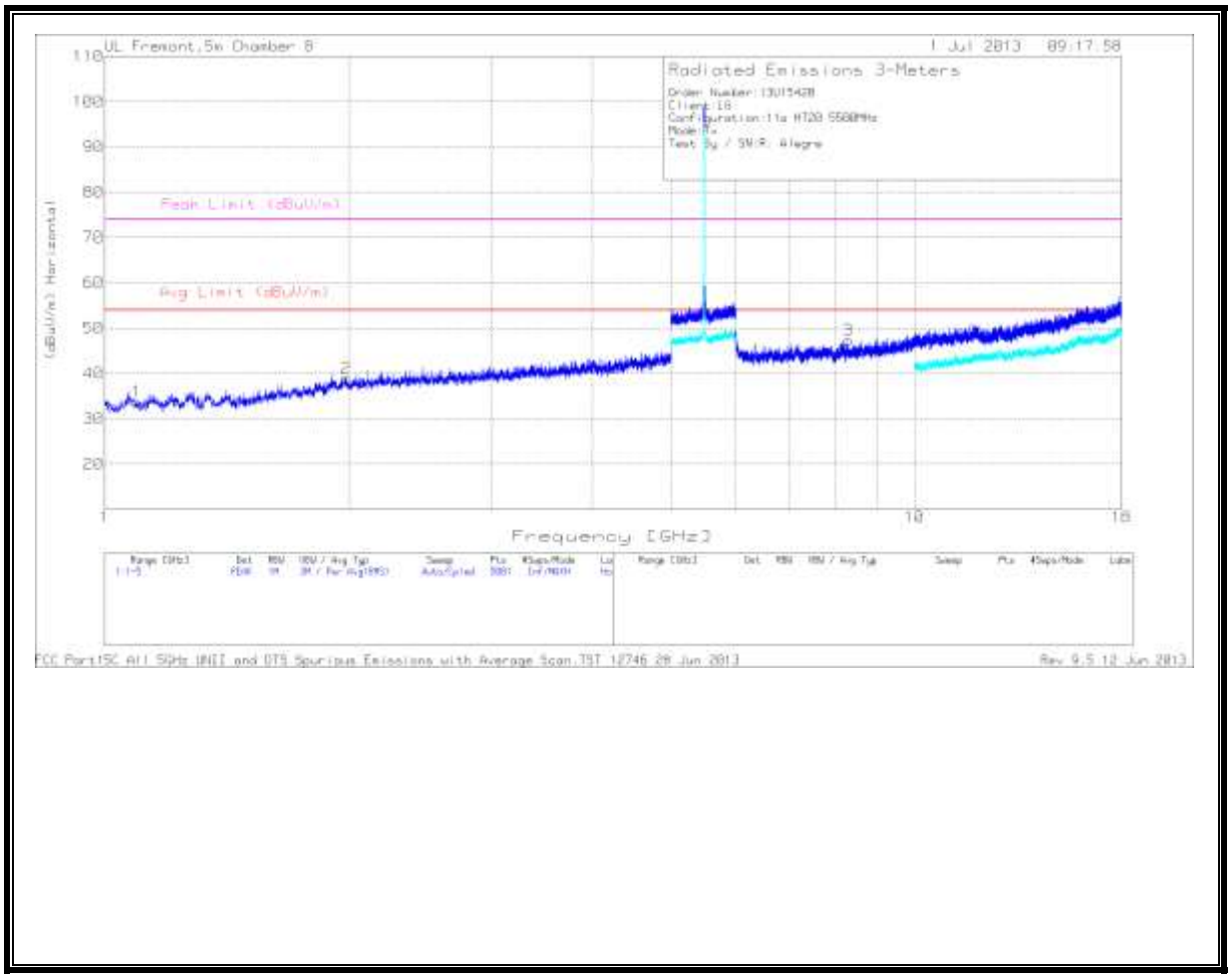


HIGH CHANNEL BANDEDGE, PEAK, VERT

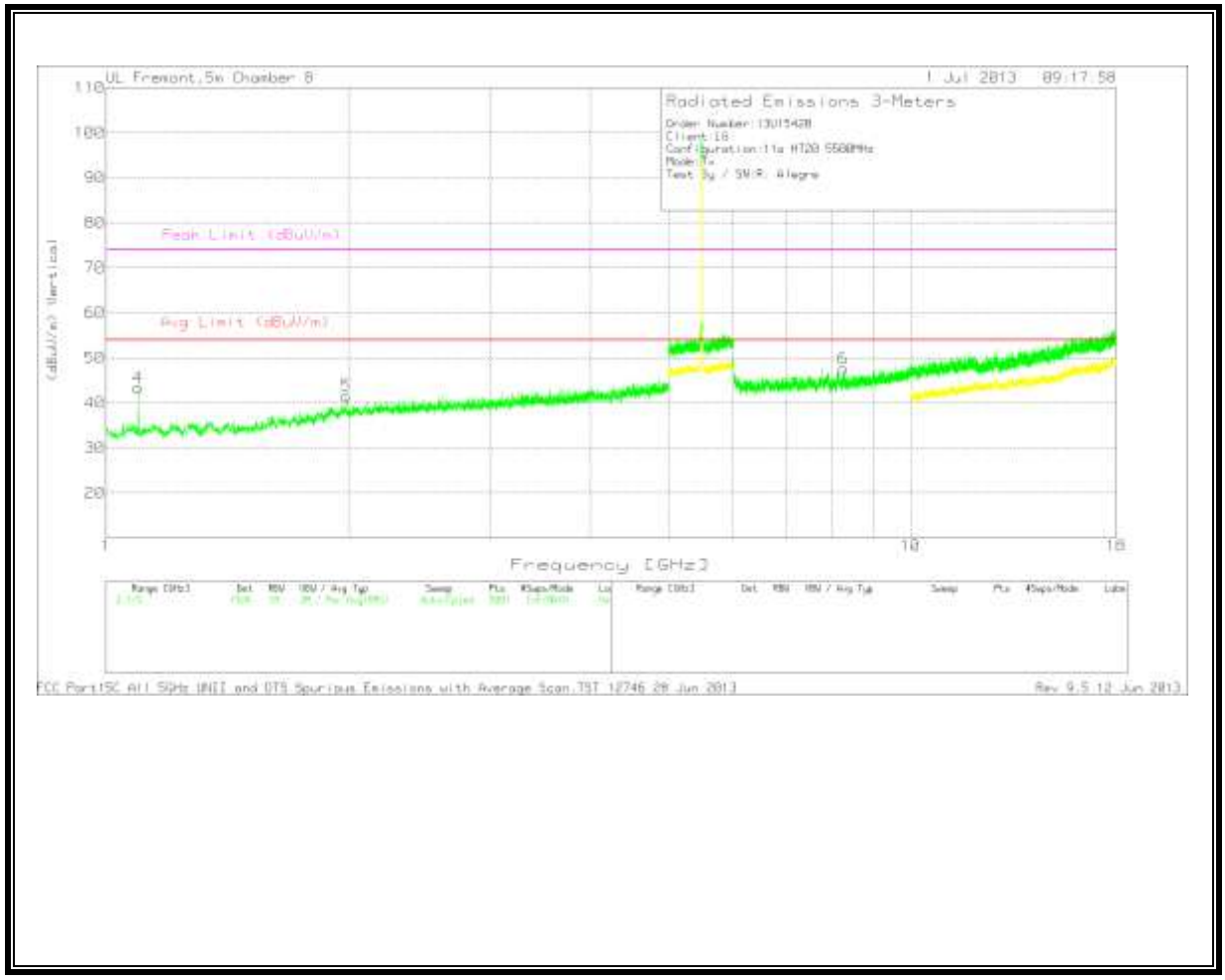


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



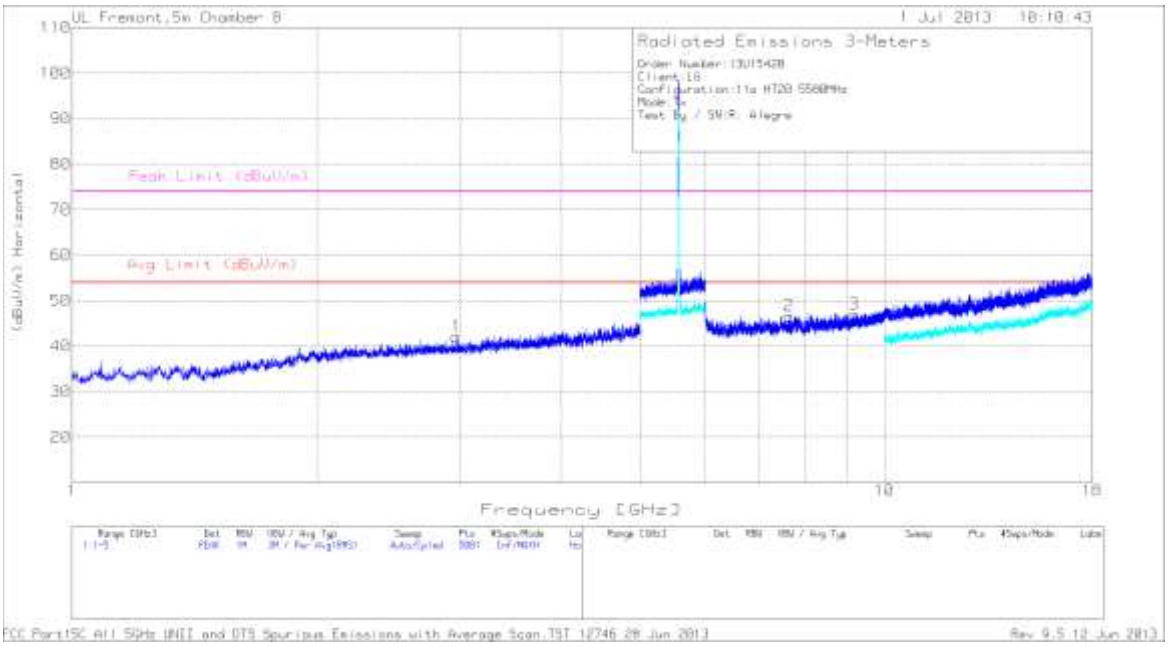
VERTICAL



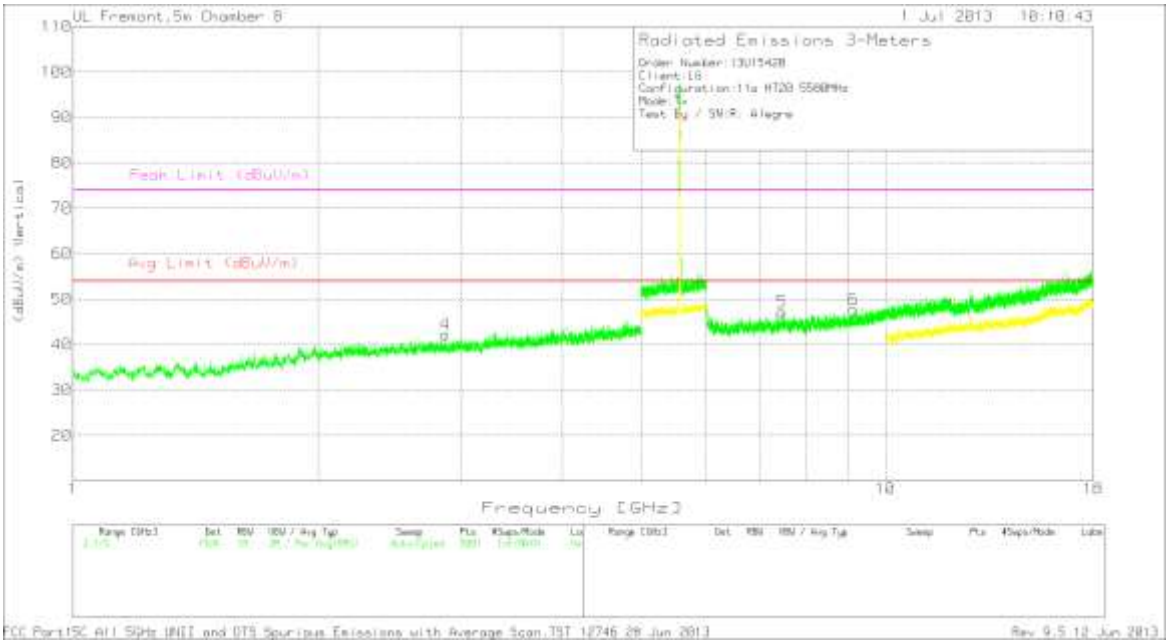
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.095	40.91	PK	27.9	-35.1	33.71	53.97	-20.26	74	-40.29	0-360	200	H
1.986	40.86	PK	31.7	-33.7	38.86	53.97	-15.11	74	-35.14	0-360	200	H
1.096	50.49	PK	27.9	-35.1	43.29	53.97	-10.68	74	-30.71	0-360	200	V
1.989	43.53	PK	31.7	-33.7	41.53	53.97	-12.44	74	-32.47	0-360	100	V
8.284	37.73	PK	36.1	-26.5	47.33	53.97	-6.64	74	-26.67	0-360	200	H
8.254	37.73	PK	36.1	-26.2	47.63	53.97	-6.34	74	-26.37	0-360	100	V

MID CHANNEL
HORIZONTAL



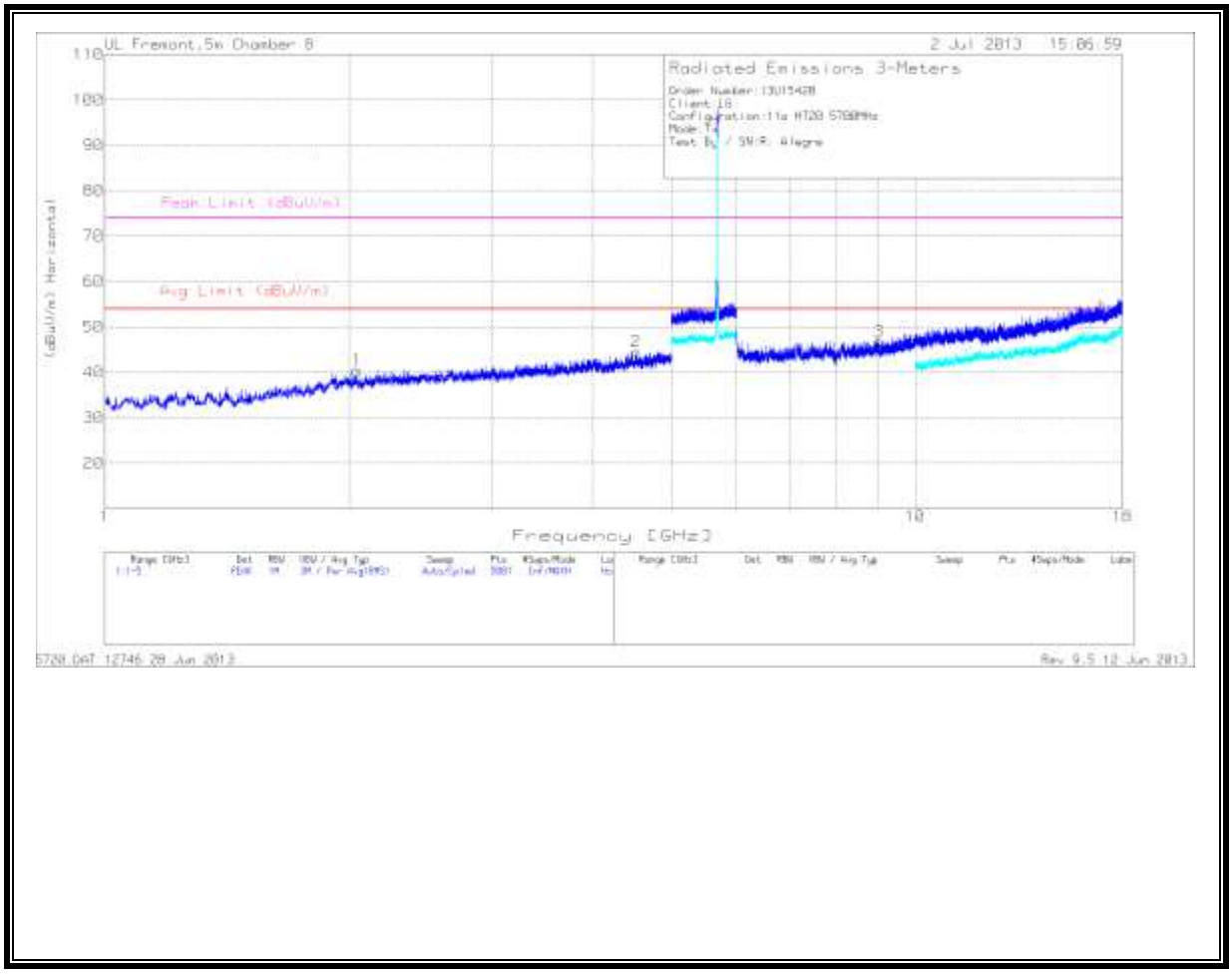
VERTICAL



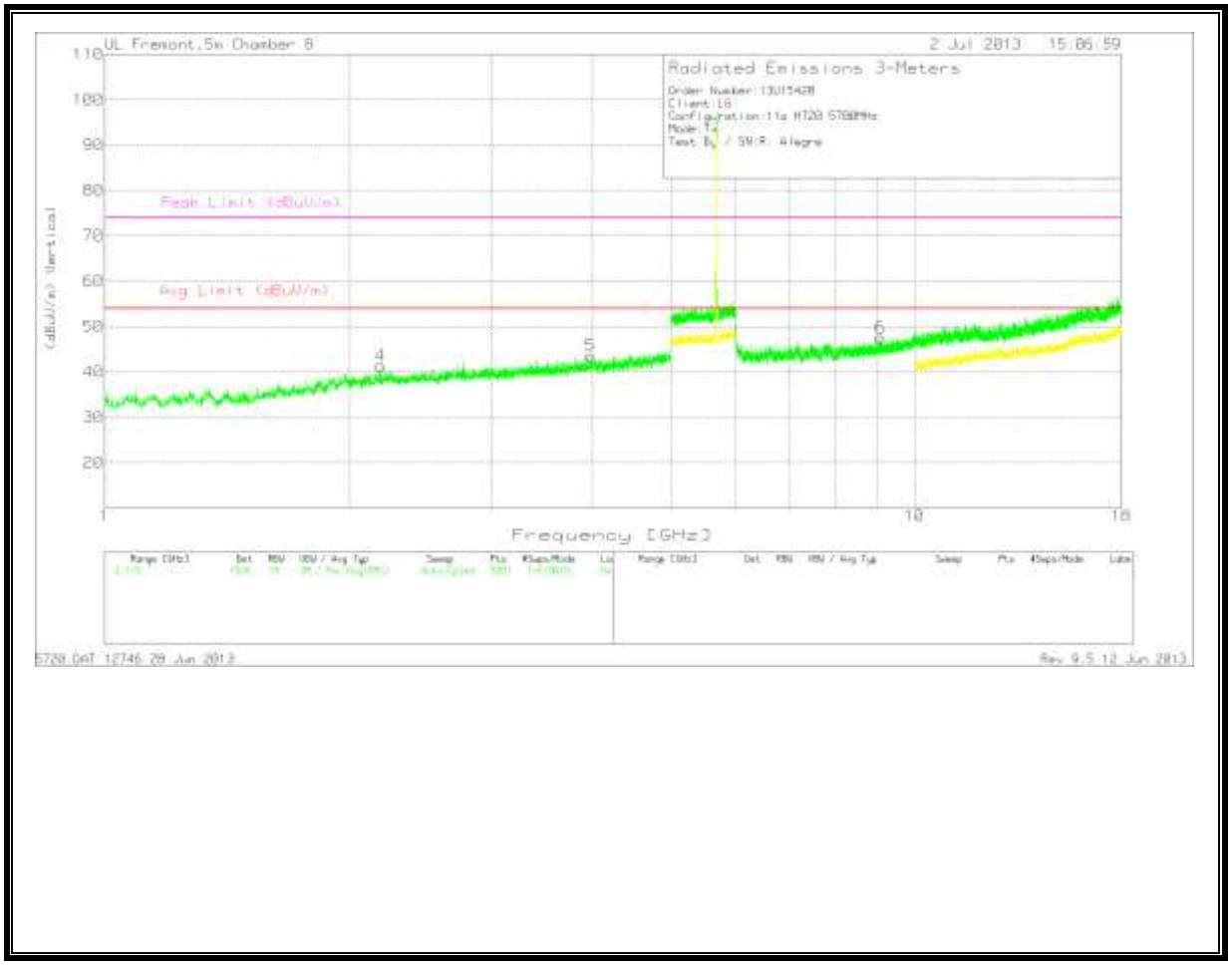
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.971	41.22	PK	33.1	-32.3	42.02	53.97	-11.95	74	-31.98	0-360	200	H
2.871	42.11	PK	32.9	-32.8	42.21	53.97	-11.76	74	-31.79	0-360	200	V
7.631	38.15	PK	36.1	-27.6	46.65	53.97	-7.32	74	-27.35	0-360	100	H
9.177	35.52	PK	36.9	-25.4	47.02	53.97	-6.95	74	-26.98	0-360	200	H
7.458	37.06	PK	36	-25.9	47.16	53.97	-6.81	74	-26.84	0-360	200	V
9.136	36.24	PK	36.9	-25.5	47.64	53.97	-6.33	74	-26.36	0-360	200	V

HIGH CHANNEL
HORIZONTAL



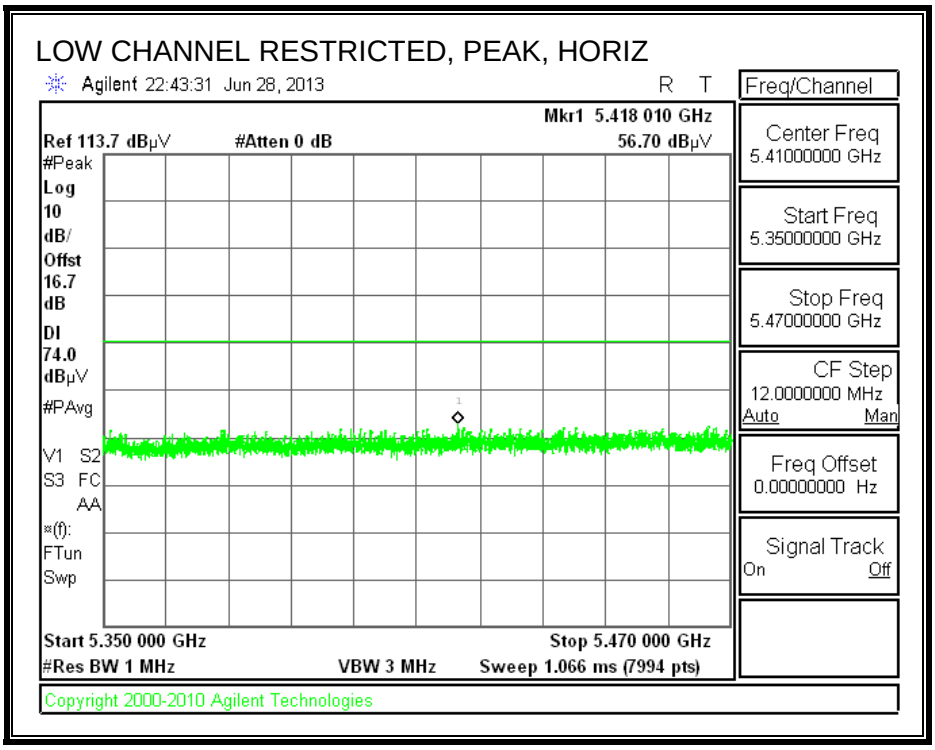
VERTICAL

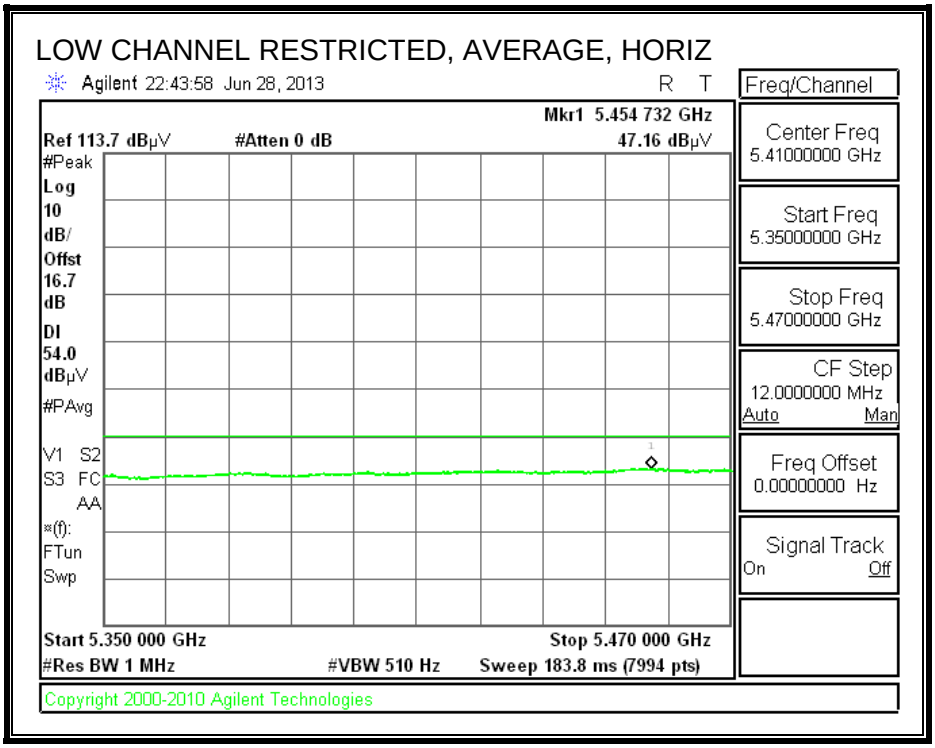


HIGH CHANNEL DATA

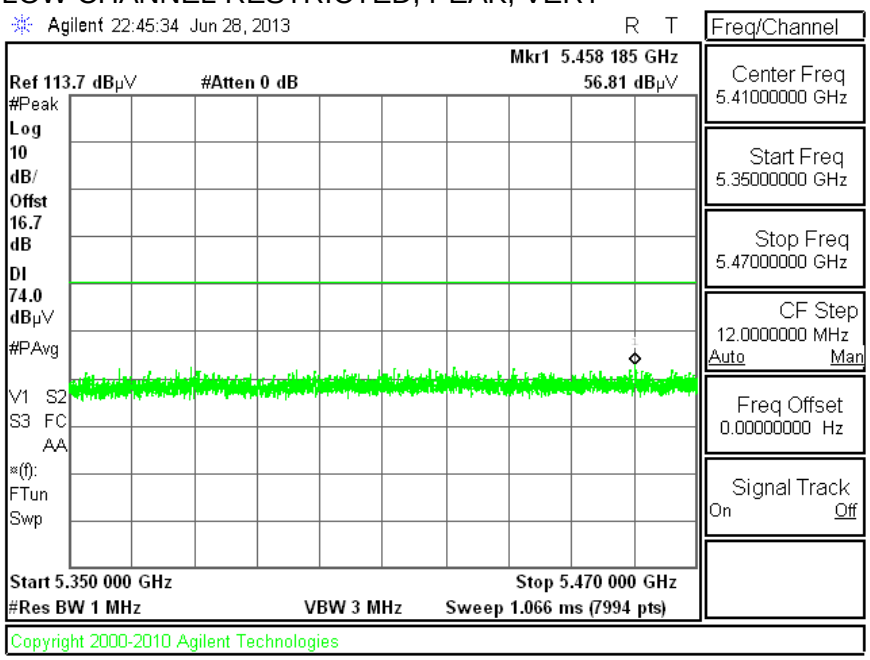
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.046	42.64	PK	31.9	-34.1	40.44	53.97	-13.53	74	-33.56	0-360	100	H
4.526	41.31	PK	34.5	-31.3	44.51	53.97	-9.46	74	-29.49	0-360	100	H
2.192	42.17	PK	32	-32.8	41.37	53.97	-12.6	74	-32.63	0-360	200	V
3.979	40.19	PK	33.9	-30.5	43.59	53.97	-10.38	74	-30.41	0-360	200	V
9.02	35.76	PK	36.8	-25.8	46.76	53.97	-7.21	74	-27.24	0-360	200	H
9.08	36.15	PK	36.8	-25.4	47.55	53.97	-6.42	74	-26.45	0-360	100	V

10.3.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

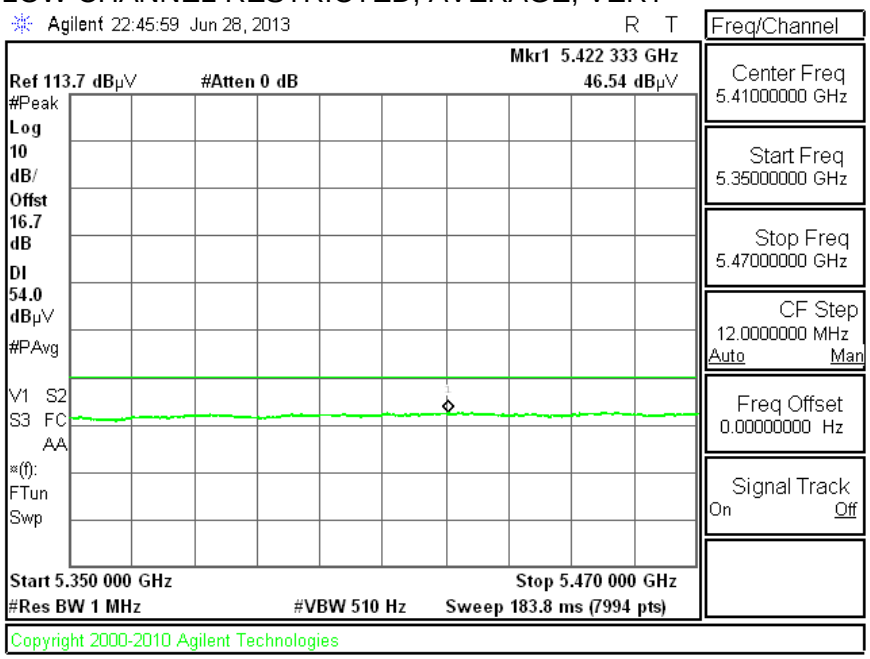




LOW CHANNEL RESTRICTED, PEAK, VERT

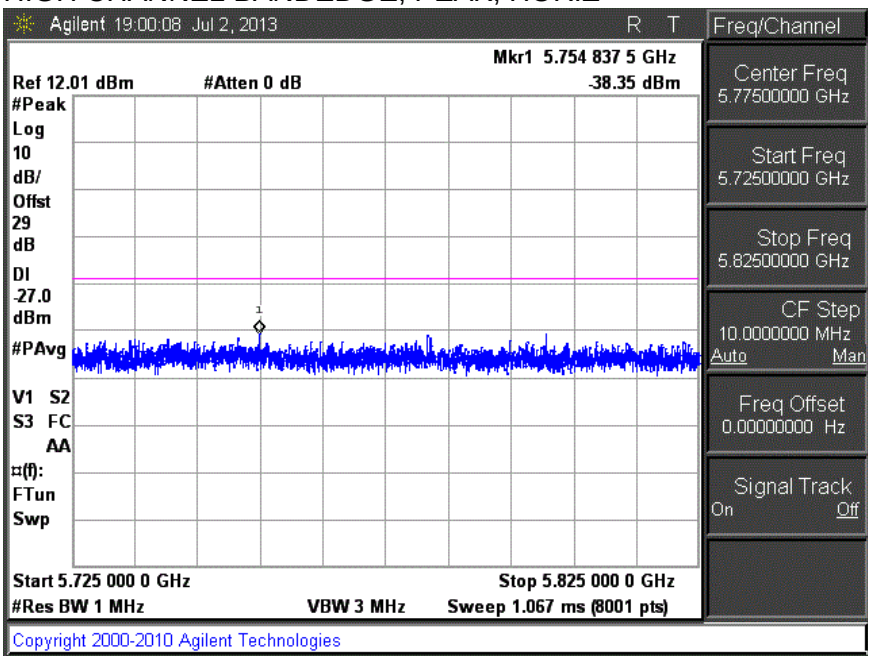


LOW CHANNEL RESTRICTED, AVERAGE, VERT

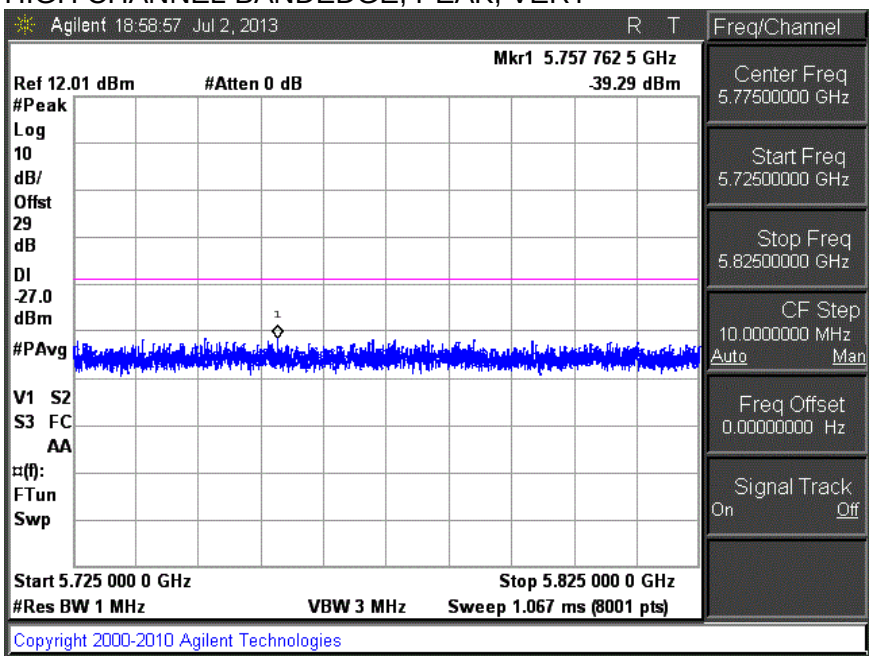


AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL BANDEDGE, PEAK, HORIZ

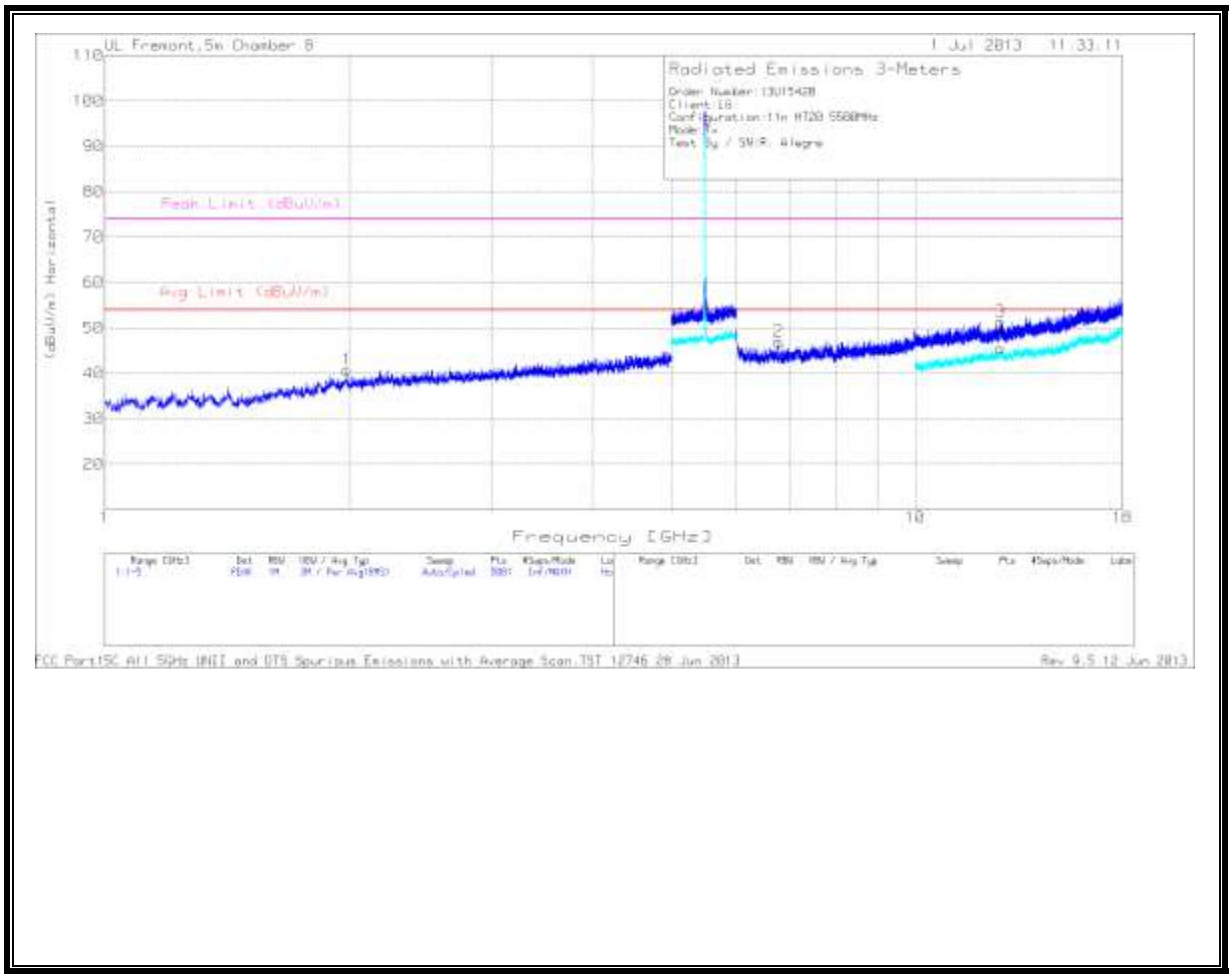


HIGH CHANNEL BANDEDGE, PEAK, VERT

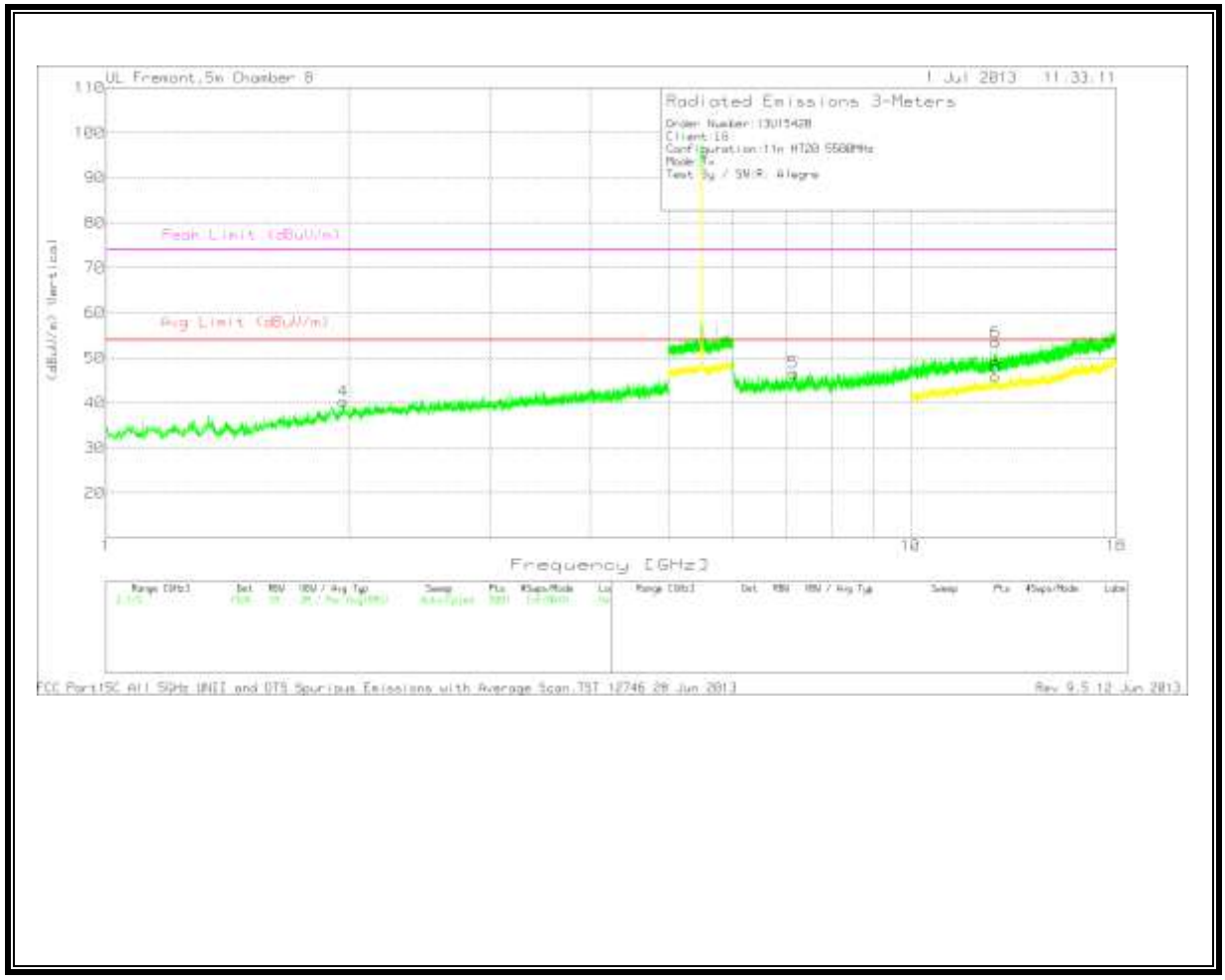


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



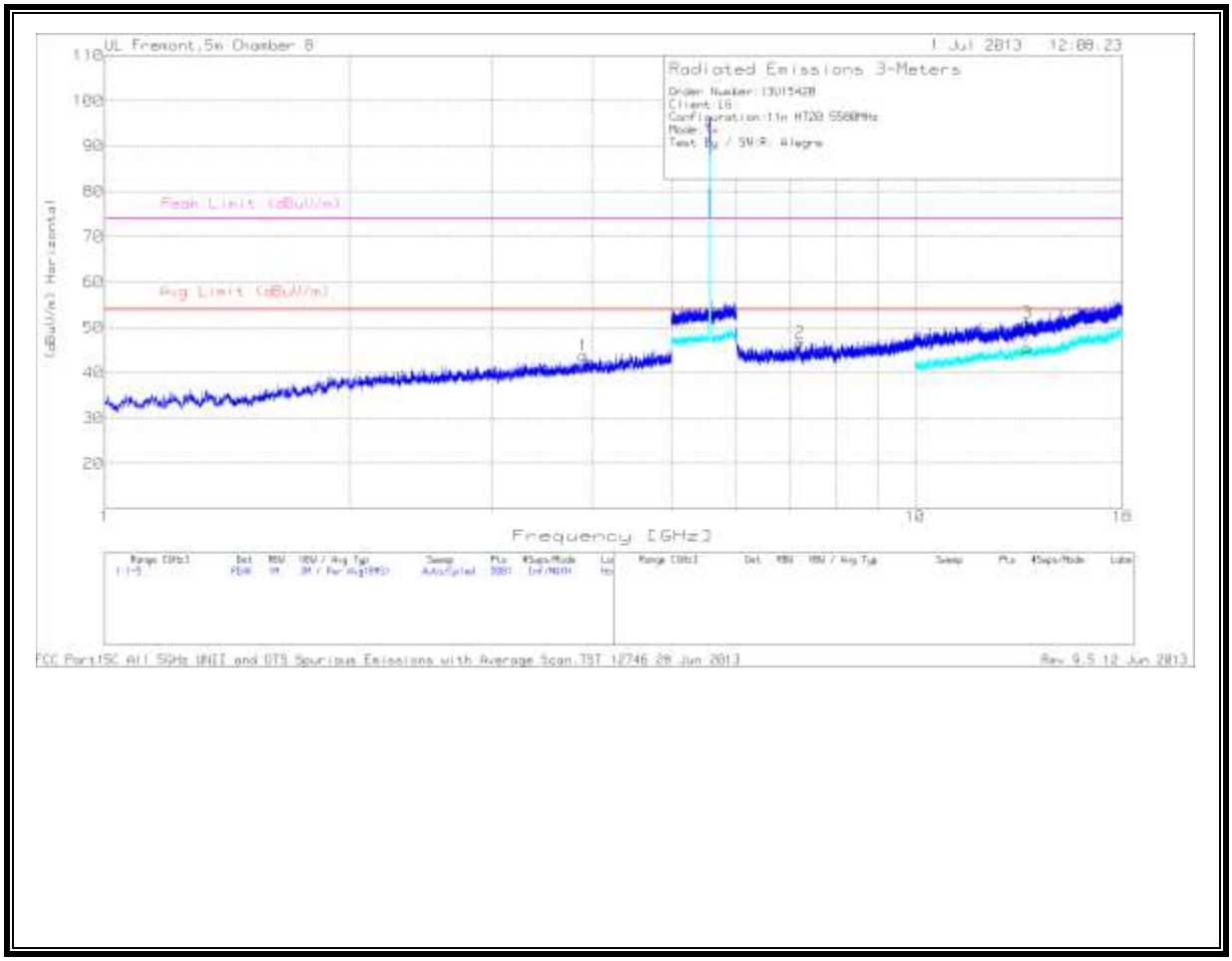
VERTICAL



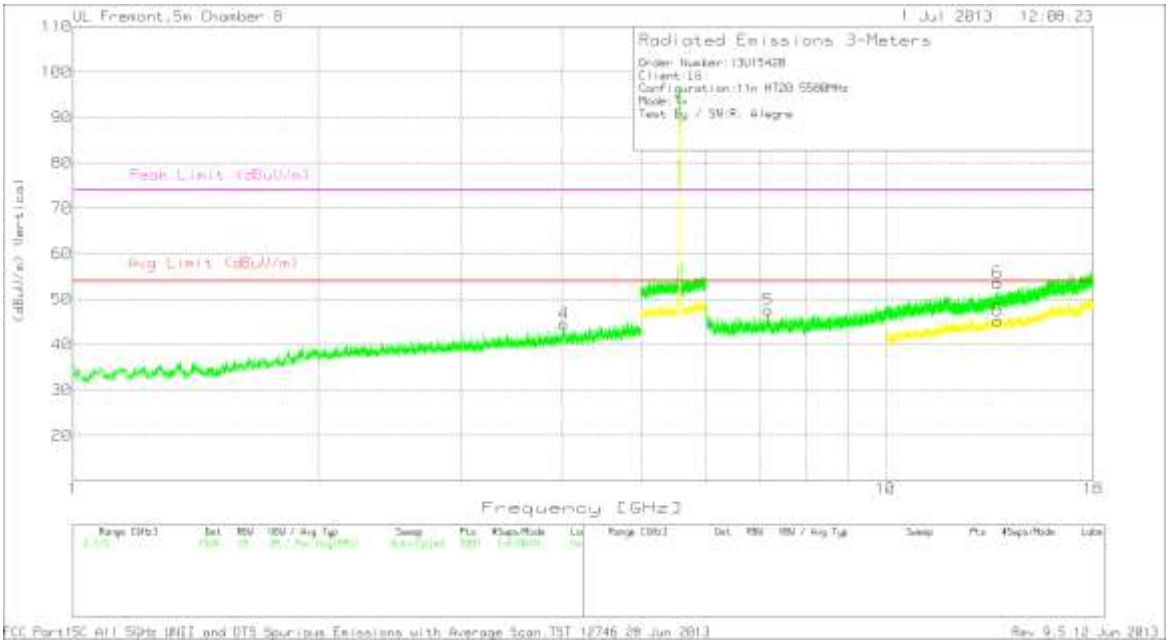
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.989	42.79	PK	31.7	-33.7	40.79	53.97	-13.18	74	-33.21	0-360	289	H
1.972	42.27	PK	31.6	-33.6	40.27	53.97	-13.7	74	-33.73	0-360	100	V
6.781	40.27	PK	35.8	-29.1	46.97	53.97	-7	74	-27.03	0-360	200	H
12.745	33.71	PK	39.2	-21.5	51.41	53.97	-2.56	74	-22.59	0-360	200	H
7.159	37.97	PK	35.8	-27.1	46.67	53.97	-7.3	74	-27.33	0-360	200	V
12.757	35.75	PK	39.2	-21.5	53.45	53.97	-.52	74	-20.55	0-360	200	V
12.742	27.9	PK	39.2	-21.6	45.5	53.97	-8.47	74	-28.5	0-360	200	H
12.753	28.03	PK	39.2	-21.4	45.83	53.97	-8.14	74	-28.17	0-360	100	V

MID CHANNEL
HORIZONTAL



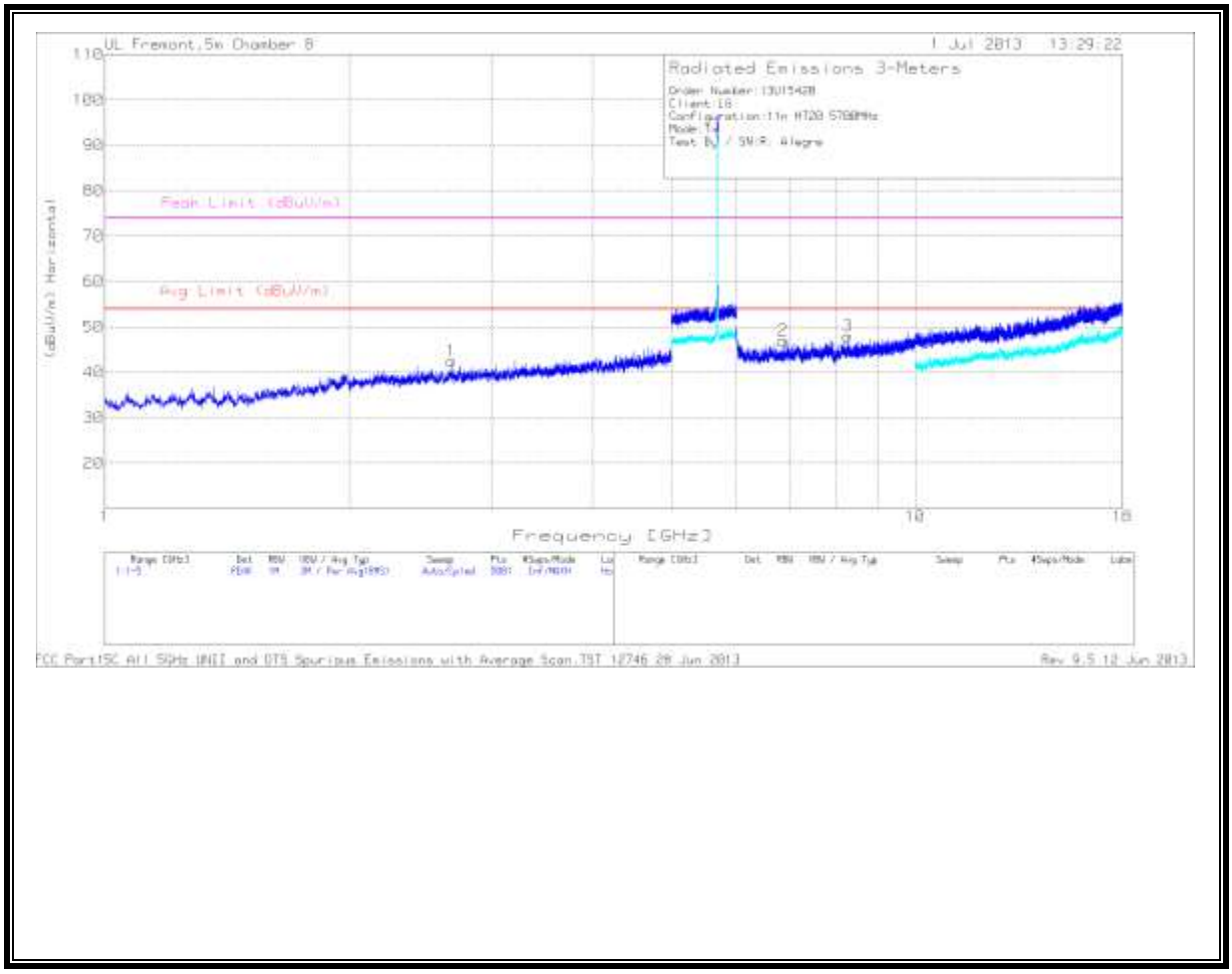
VERTICAL



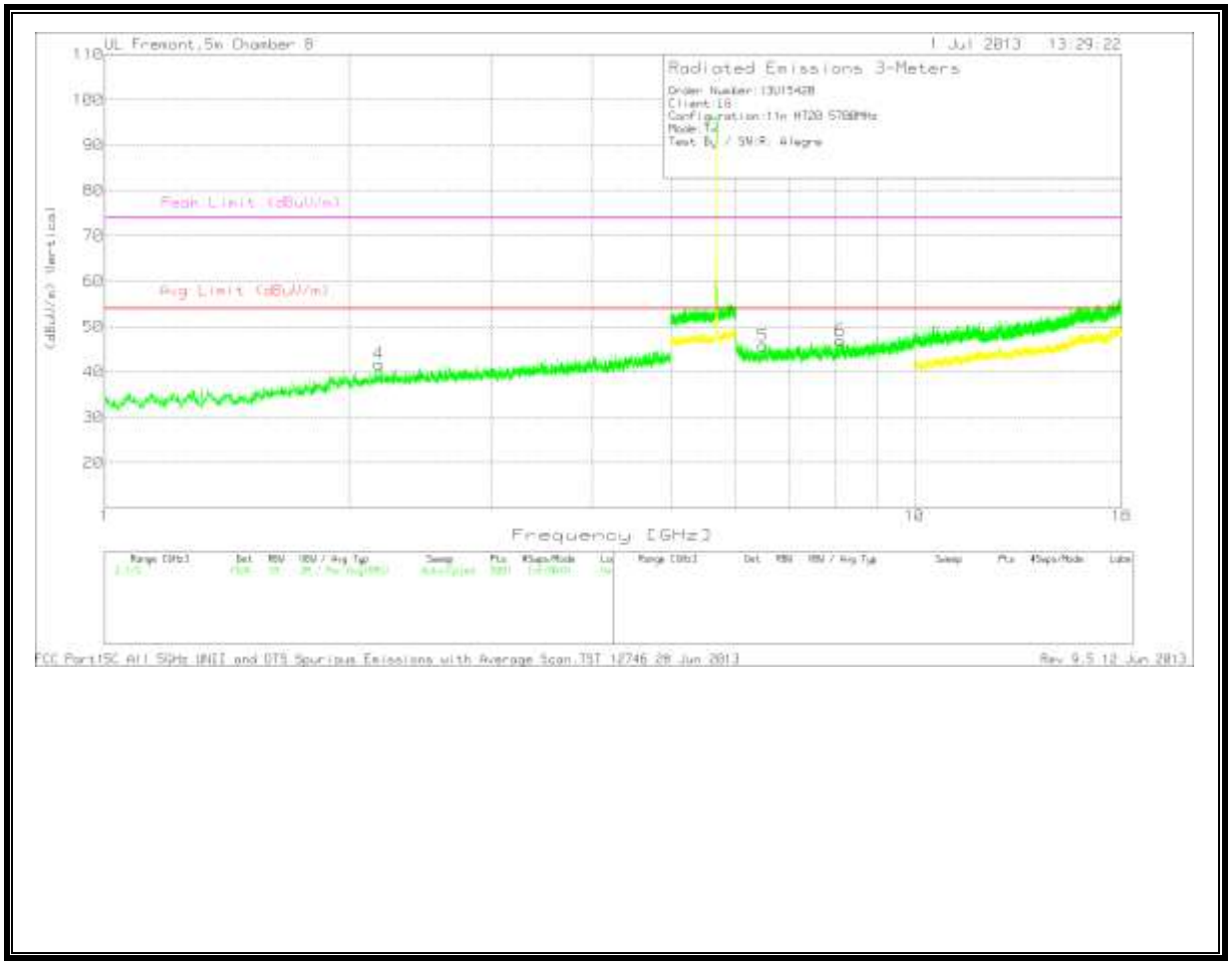
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3.898	41.91	PK	33.9	-32.1	43.71	53.97	-10.26	74	-30.29	0-360	200	H
4.018	41.04	PK	33.9	-30.4	44.54	53.97	-9.43	74	-29.46	0-360	200	V
7.216	37.63	PK	35.8	-26.8	46.63	53.97	-7.34	74	-27.37	0-360	100	H
13.736	33.9	PK	39.1	-22	51	53.97	-2.97	74	-23	0-360	200	H
7.171	38.9	PK	35.8	-27.1	47.6	53.97	-6.37	74	-26.4	0-360	200	V
13.738	36.48	PK	39.1	-22	53.58	53.97	-.39	74	-20.42	0-360	200	V
13.741	28.35	PK	39.1	-22	45.45	53.97	-8.52	74	-28.55	0-360	200	H
13.742	28.19	PK	39.1	-22	45.29	53.97	-8.68	74	-28.71	0-360	100	V

HIGH CHANNEL
HORIZONTAL



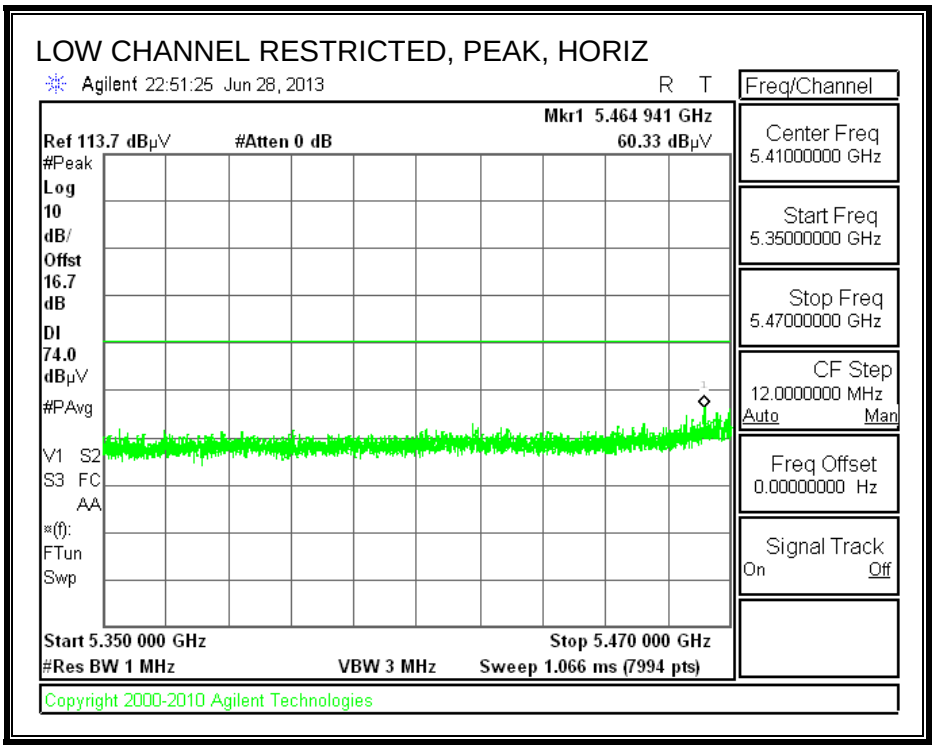
VERTICAL

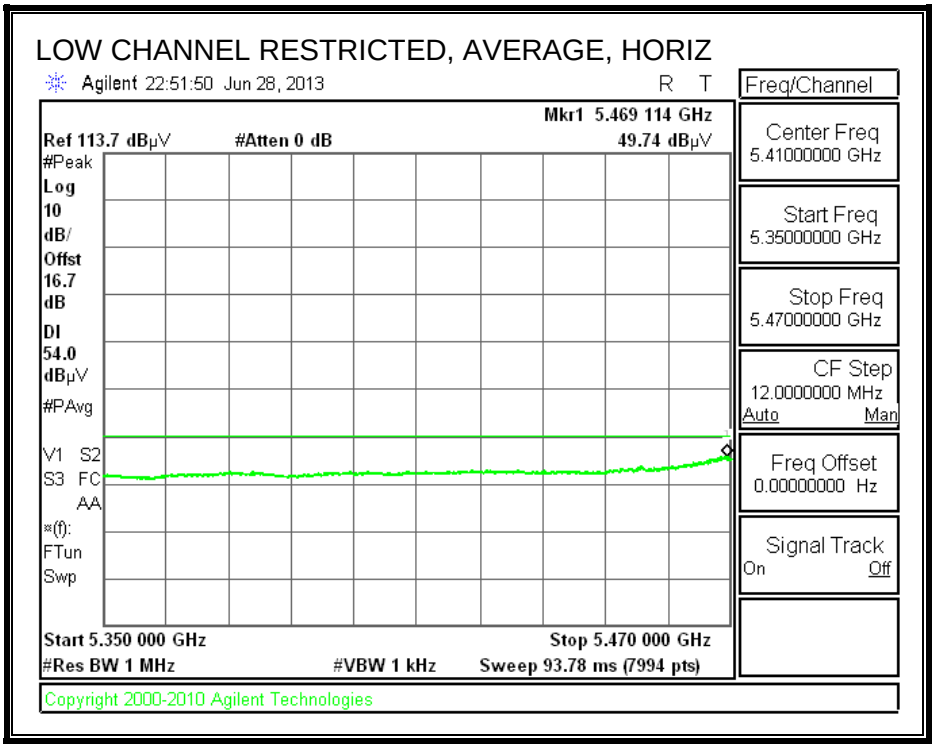


HIGH CHANNEL DATA

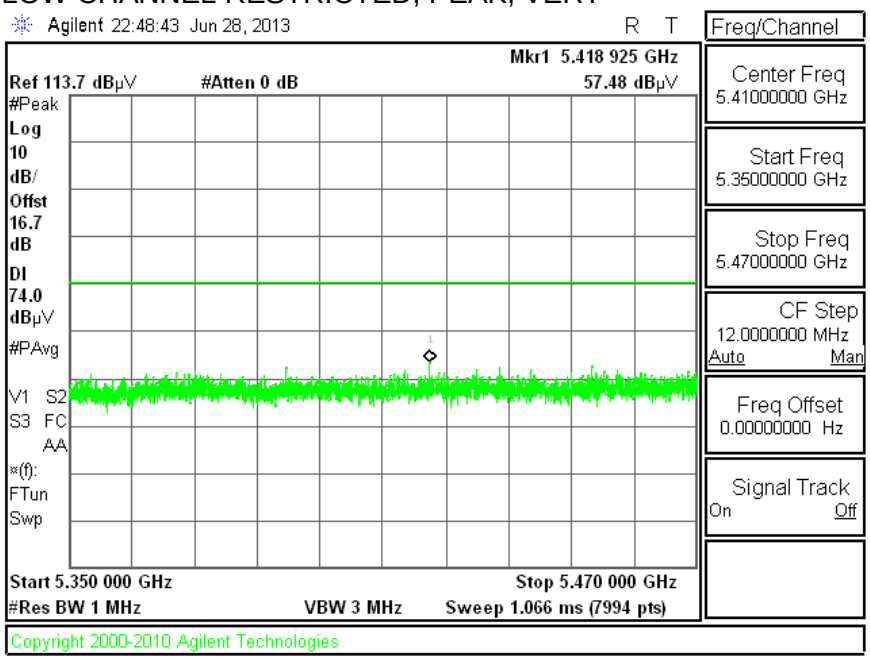
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.678	42.28	PK	32.7	-32.5	42.48	53.97	-11.49	74	-31.52	0-360	100	H
2.18	42.84	PK	32	-33.1	41.74	53.97	-12.23	74	-32.26	0-360	200	V
6.872	39.2	PK	35.8	-28	47	53.97	-6.97	74	-27	0-360	100	H
8.261	38.2	PK	36.1	-26.3	48	53.97	-5.97	74	-26	0-360	200	H
6.505	38.9	PK	35.9	-29	45.8	53.97	-8.17	74	-28.2	0-360	200	V
8.101	37.17	PK	36.1	-26.4	46.87	53.97	-7.1	74	-27.13	0-360	100	V

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

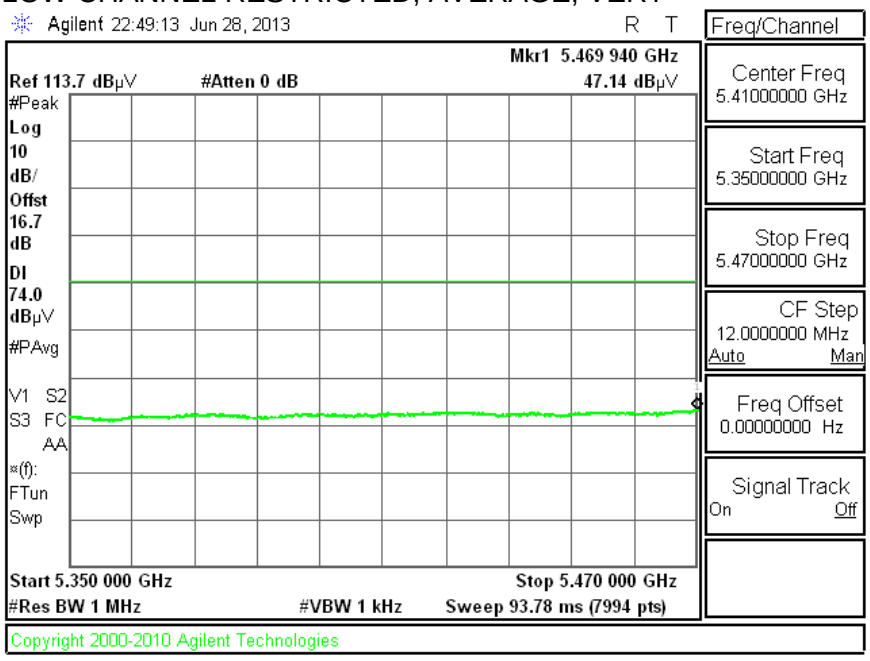




LOW CHANNEL RESTRICTED, PEAK, VERT

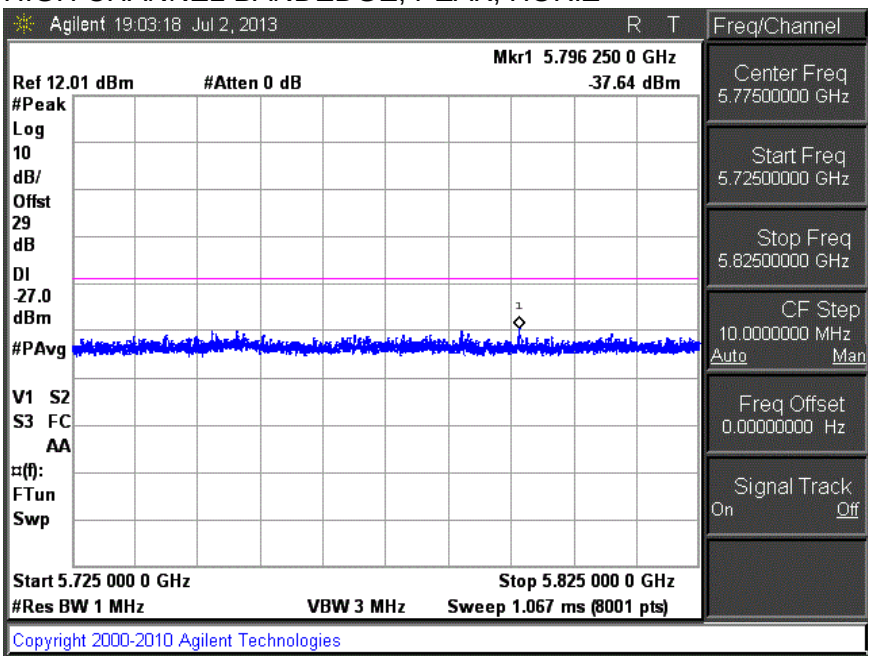


LOW CHANNEL RESTRICTED, AVERAGE, VERT

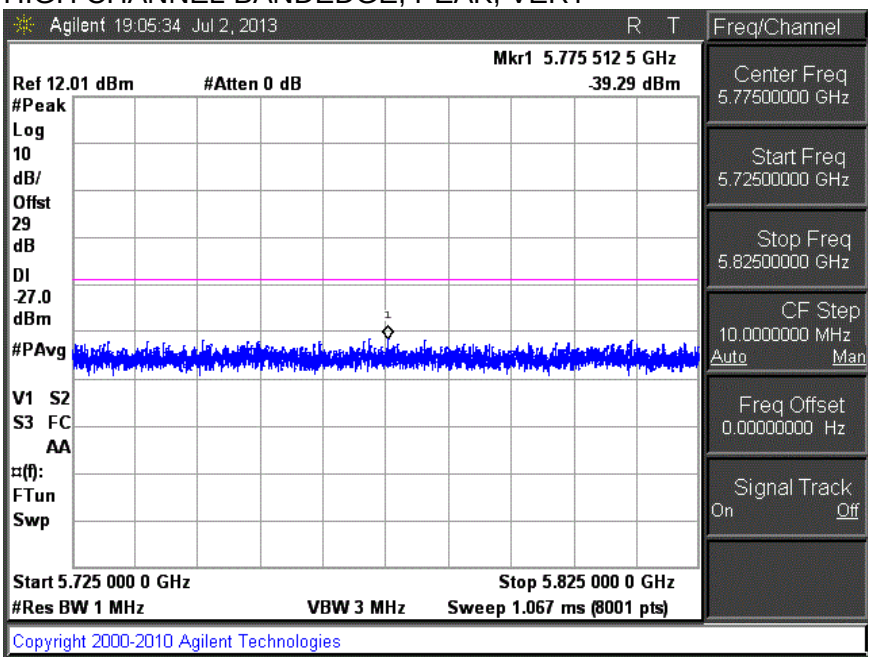


AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL BANDEDGE, PEAK, HORIZ

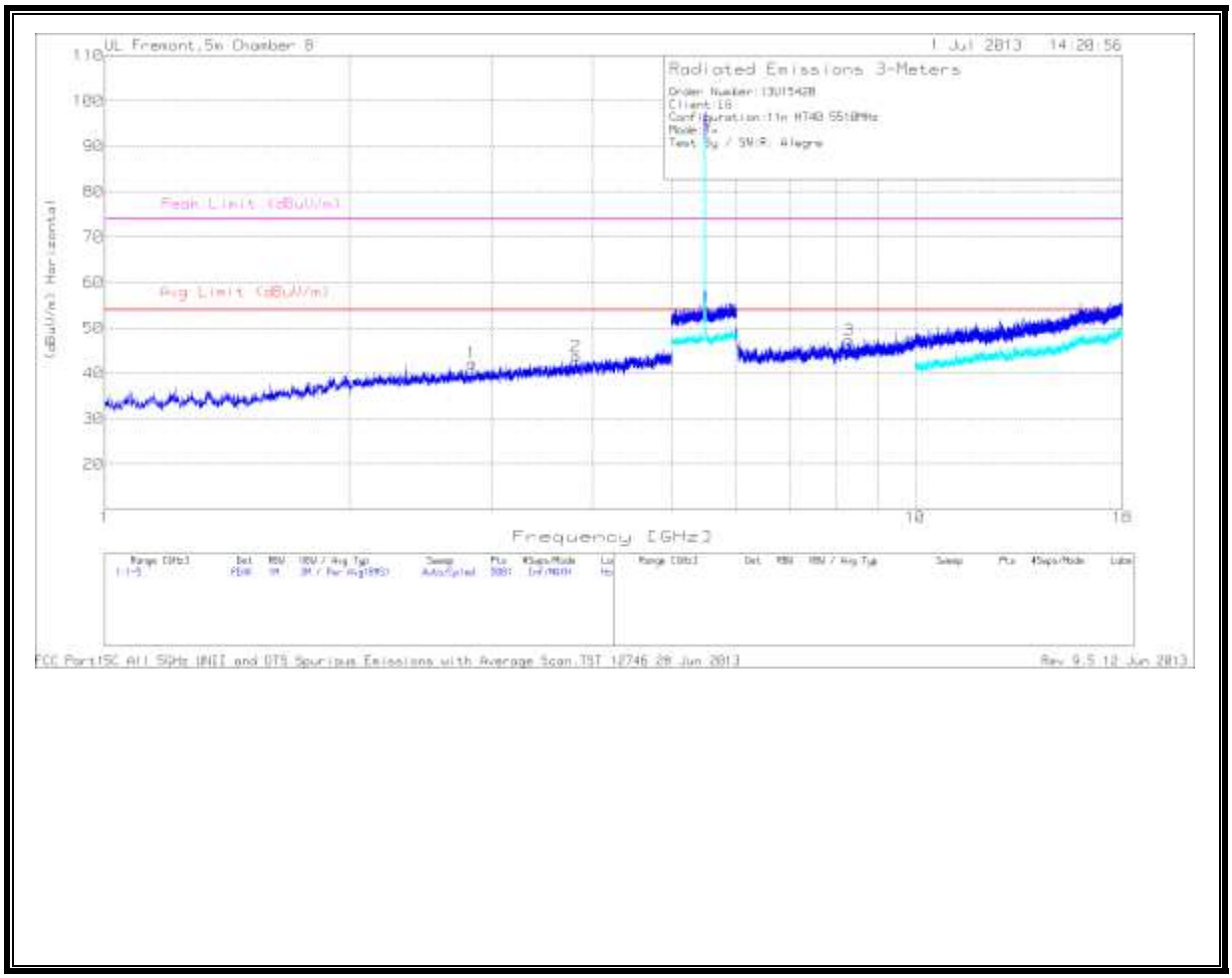


HIGH CHANNEL BANDEDGE, PEAK, VERT

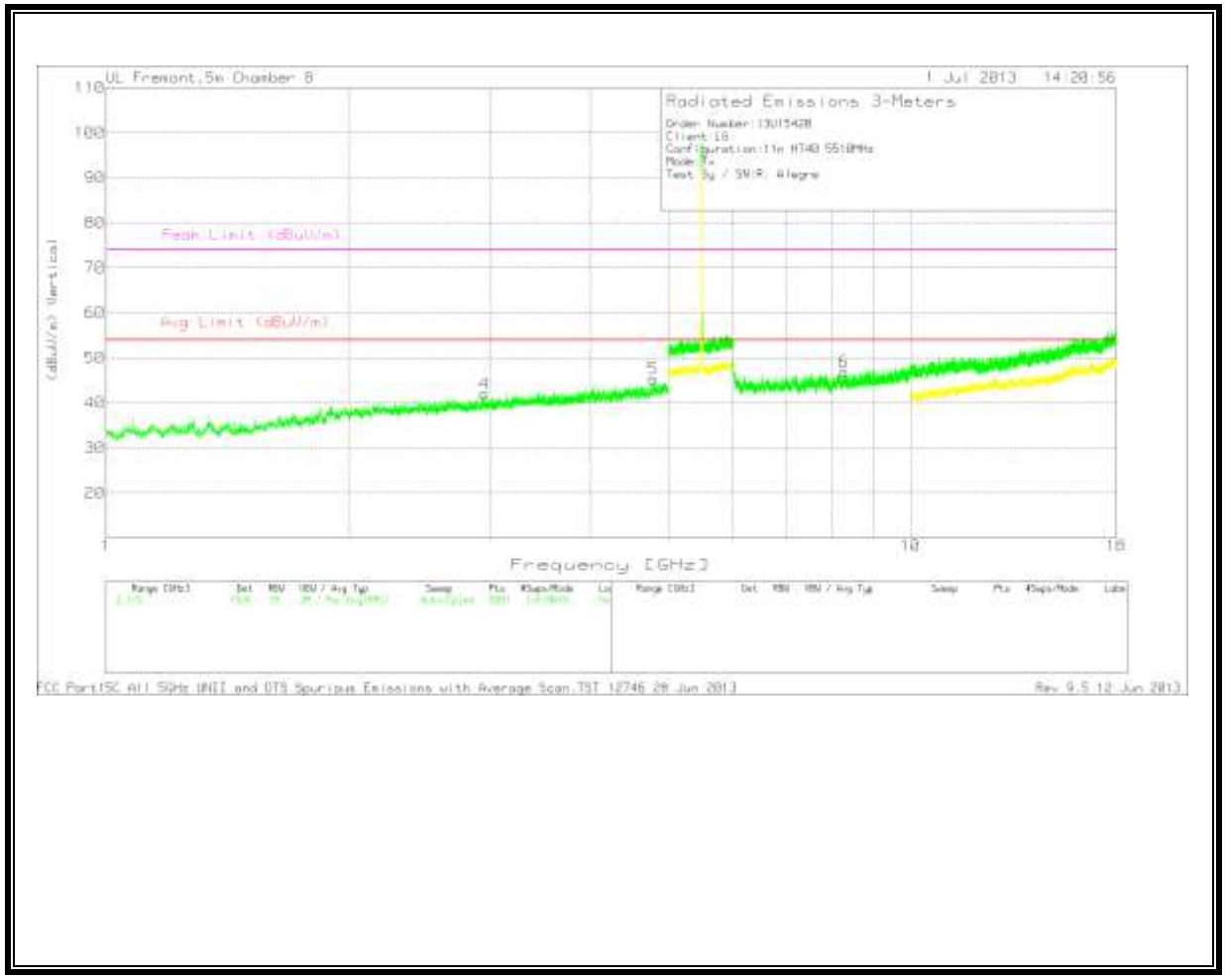


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



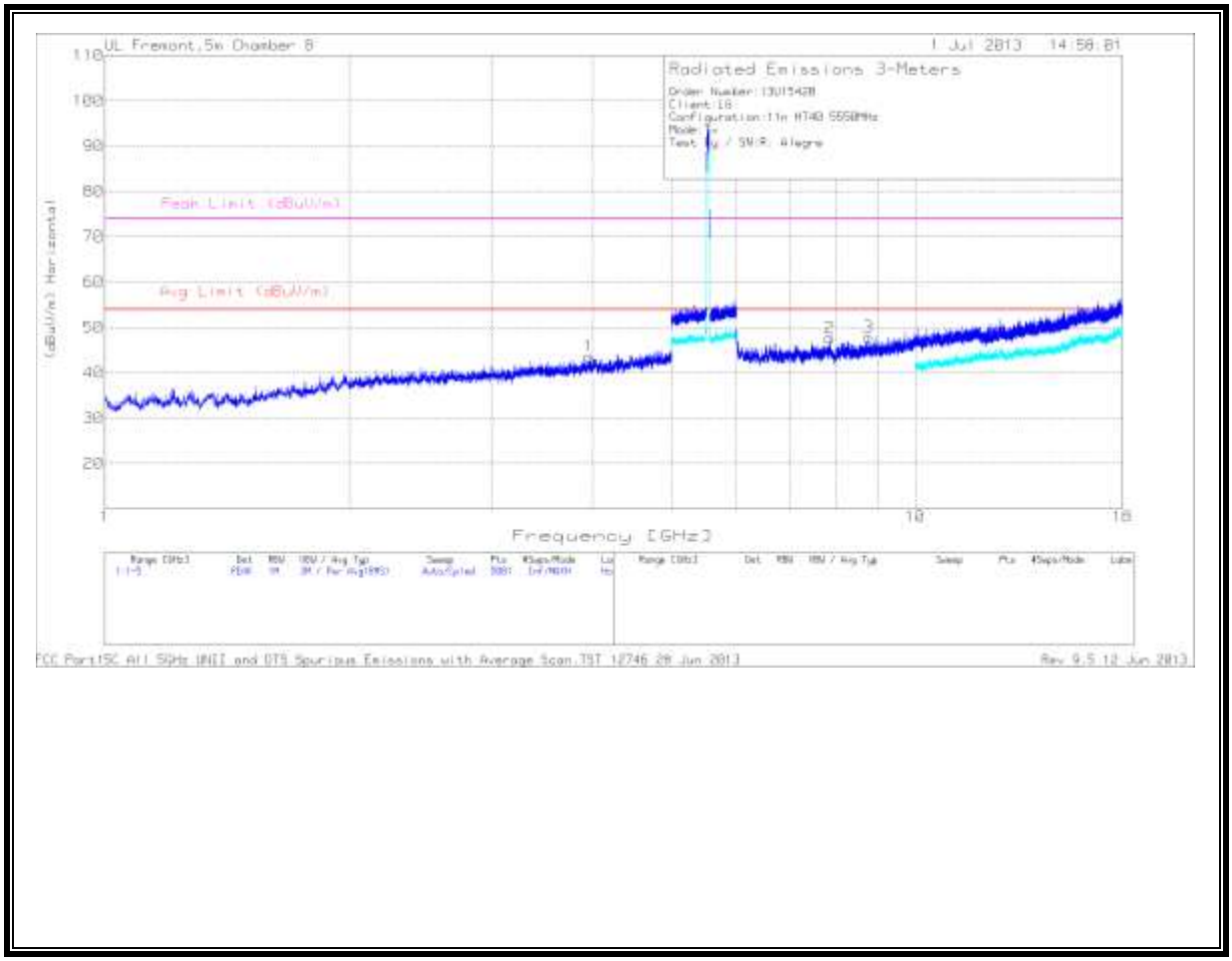
VERTICAL



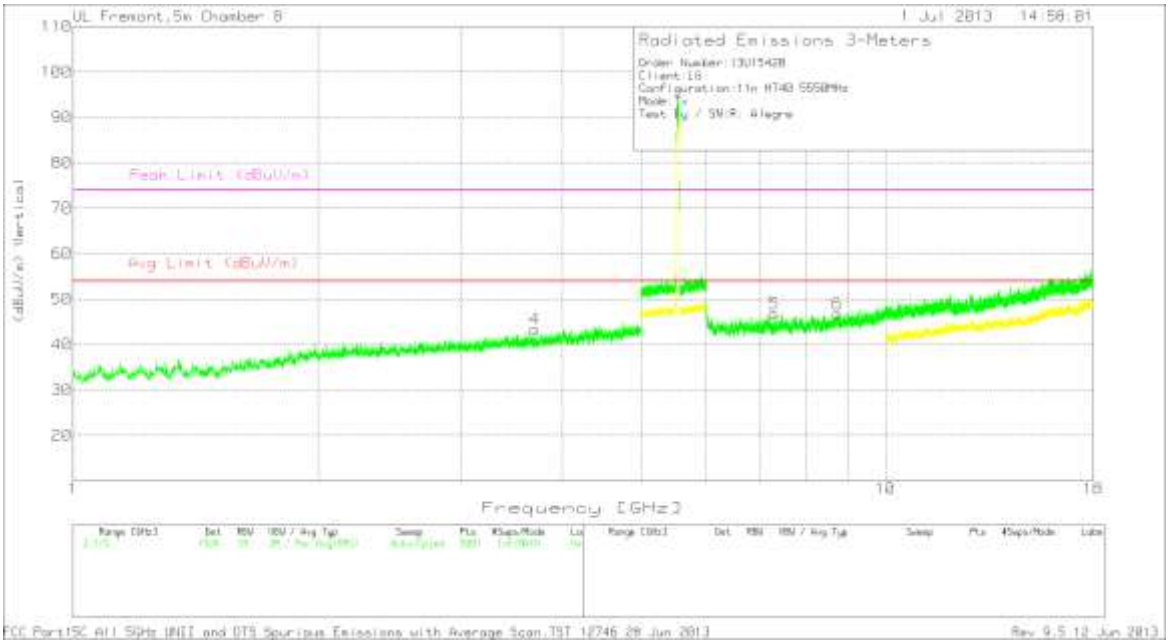
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.838	42.09	PK	32.9	-32.8	42.19	53.97	-11.78	74	-31.81	0-360	100	H
3.816	41.18	PK	33.8	-31.3	43.68	53.97	-10.29	74	-30.32	0-360	100	H
2.956	41.19	PK	33	-32.2	41.99	53.97	-11.98	74	-32.01	0-360	100	V
4.787	40.24	PK	34.7	-29.6	45.34	53.97	-8.63	74	-28.66	0-360	200	V
8.285	37.71	PK	36.1	-26.5	47.31	53.97	-6.66	74	-26.69	0-360	100	H
8.266	37.29	PK	36.1	-26.5	46.89	53.97	-7.08	74	-27.11	0-360	200	V

MID CHANNEL
HORIZONTAL



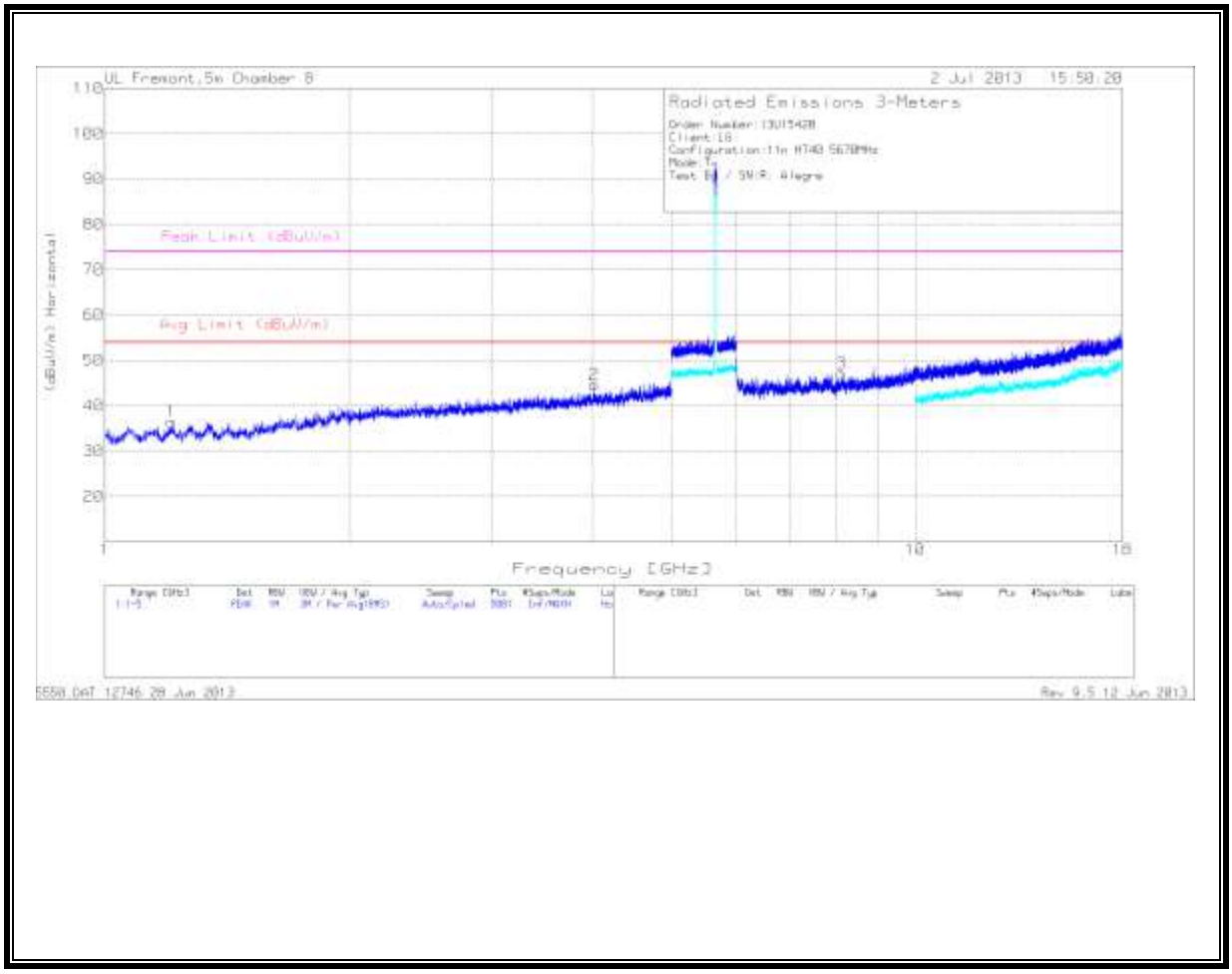
VERTICAL



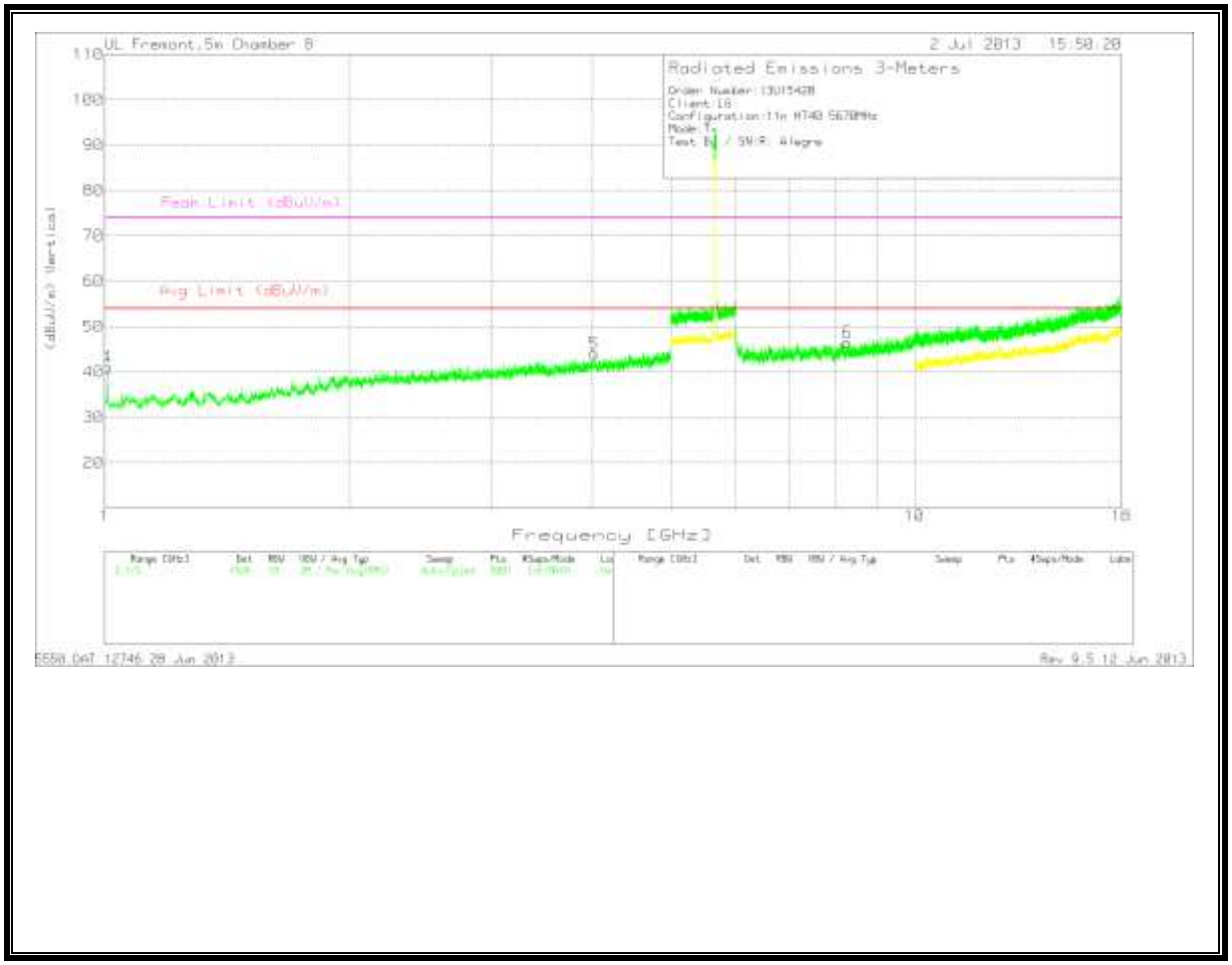
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3.957	40.1	PK	33.9	-30.4	43.6	53.97	-10.37	74	-30.4	0-360	200	H
3.7	41.52	PK	33.7	-31.9	43.32	53.97	-10.65	74	-30.68	0-360	100	V
7.842	38.51	PK	36.2	-27	47.71	53.97	-6.26	74	-26.29	0-360	200	H
8.762	37.34	PK	36.4	-25.9	47.84	53.97	-6.13	74	-26.16	0-360	100	H
7.294	38.76	PK	35.8	-27.8	46.76	53.97	-7.21	74	-27.24	0-360	200	V
8.731	36.06	PK	36.4	-25.7	46.76	53.97	-7.21	74	-27.24	0-360	100	V

HIGH CHANNEL
HORIZONTAL



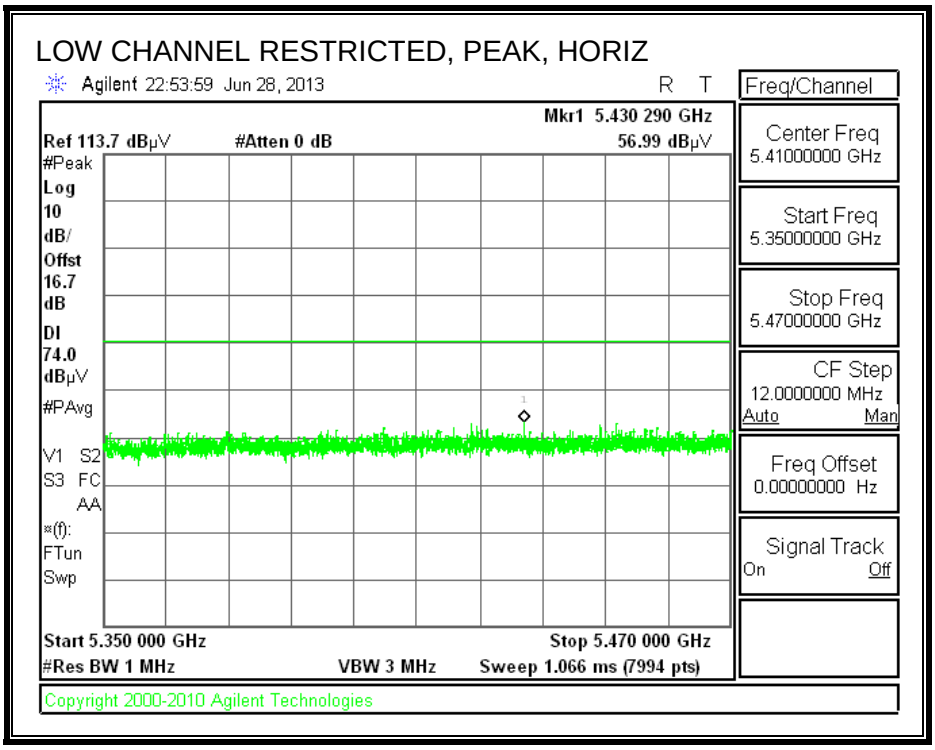
VERTICAL

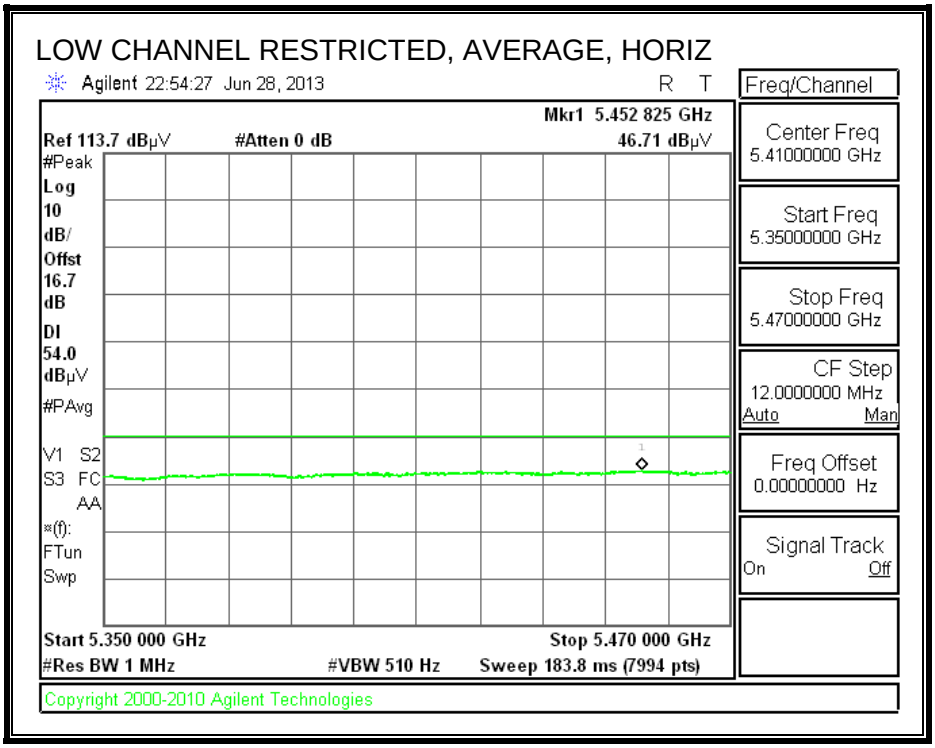


HIGH CHANNEL DATA

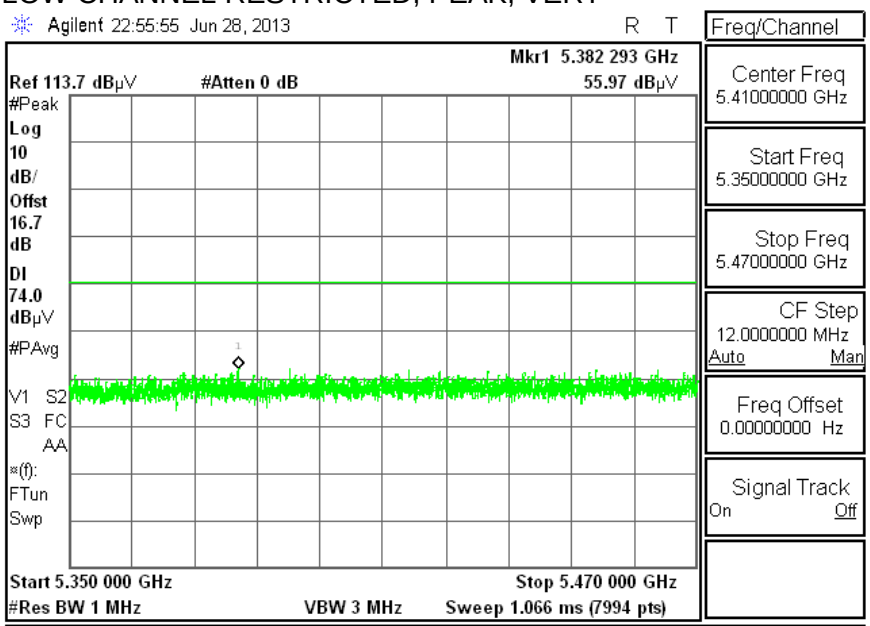
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.209	43.54	PK	28.4	-35.5	36.44	53.97	-17.53	74	-37.56	0-360	200	H
4.02	41.14	PK	33.9	-30.4	44.64	53.97	-9.33	74	-29.36	0-360	200	H
1.007	48.88	PK	27.4	-35.3	40.98	53.97	-12.99	74	-33.02	0-360	200	V
4.022	40.52	PK	33.9	-30.4	44.02	53.97	-9.95	74	-29.98	0-360	100	V
8.11	37.33	PK	36.1	-26.3	47.13	53.97	-6.84	74	-26.87	0-360	200	H
8.264	36.73	PK	36.1	-26.4	46.43	53.97	-7.54	74	-27.57	0-360	200	V

10.3.7. TX ABOVE 1 GHz 802.11ac HT20 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

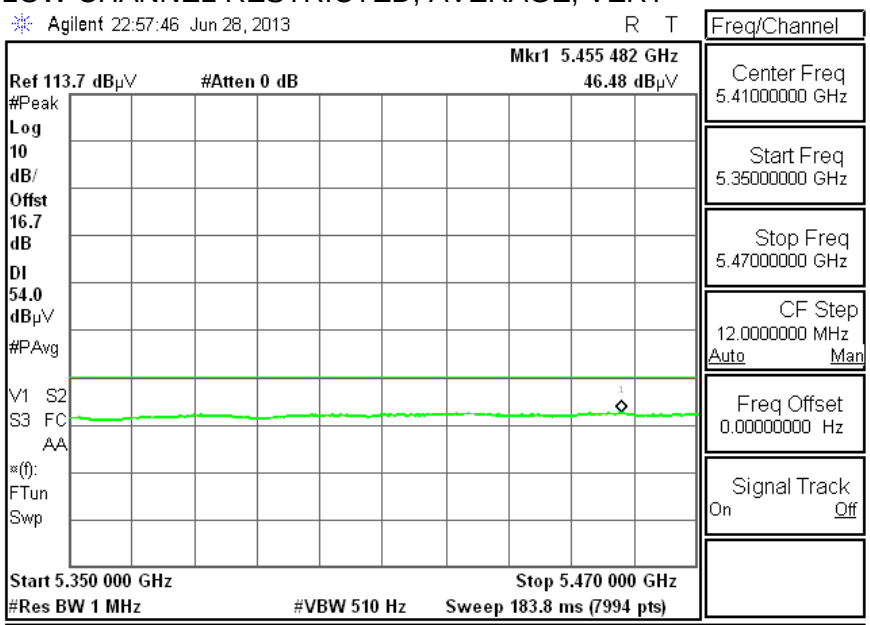




LOW CHANNEL RESTRICTED, PEAK, VERT

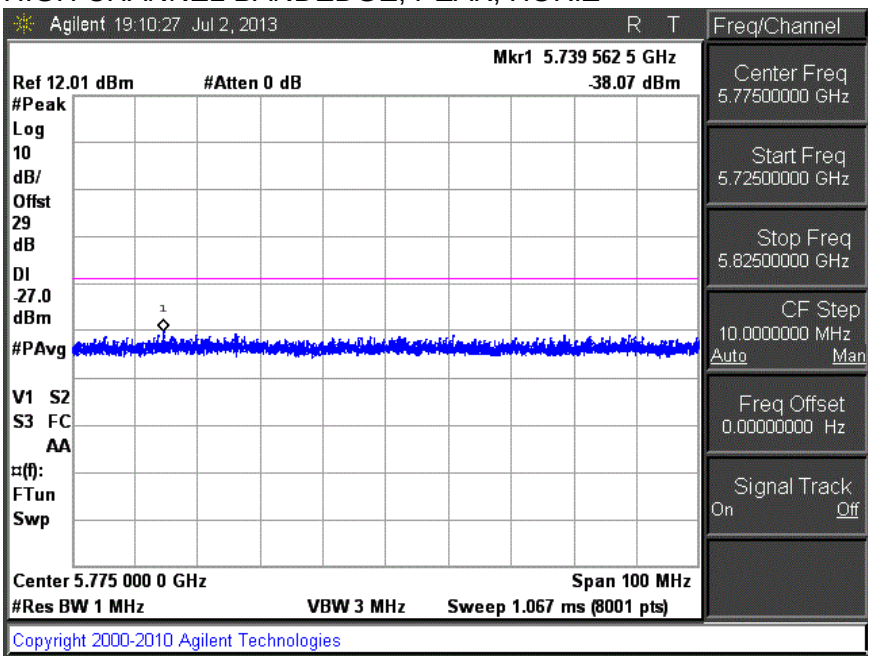


LOW CHANNEL RESTRICTED, AVERAGE, VERT

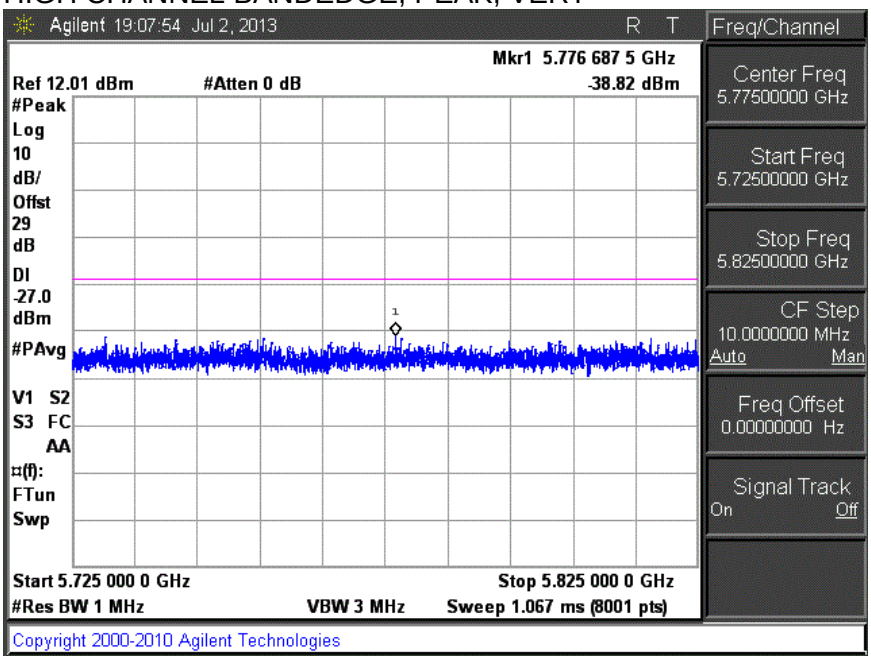


AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL BANDEDGE, PEAK, HORIZ

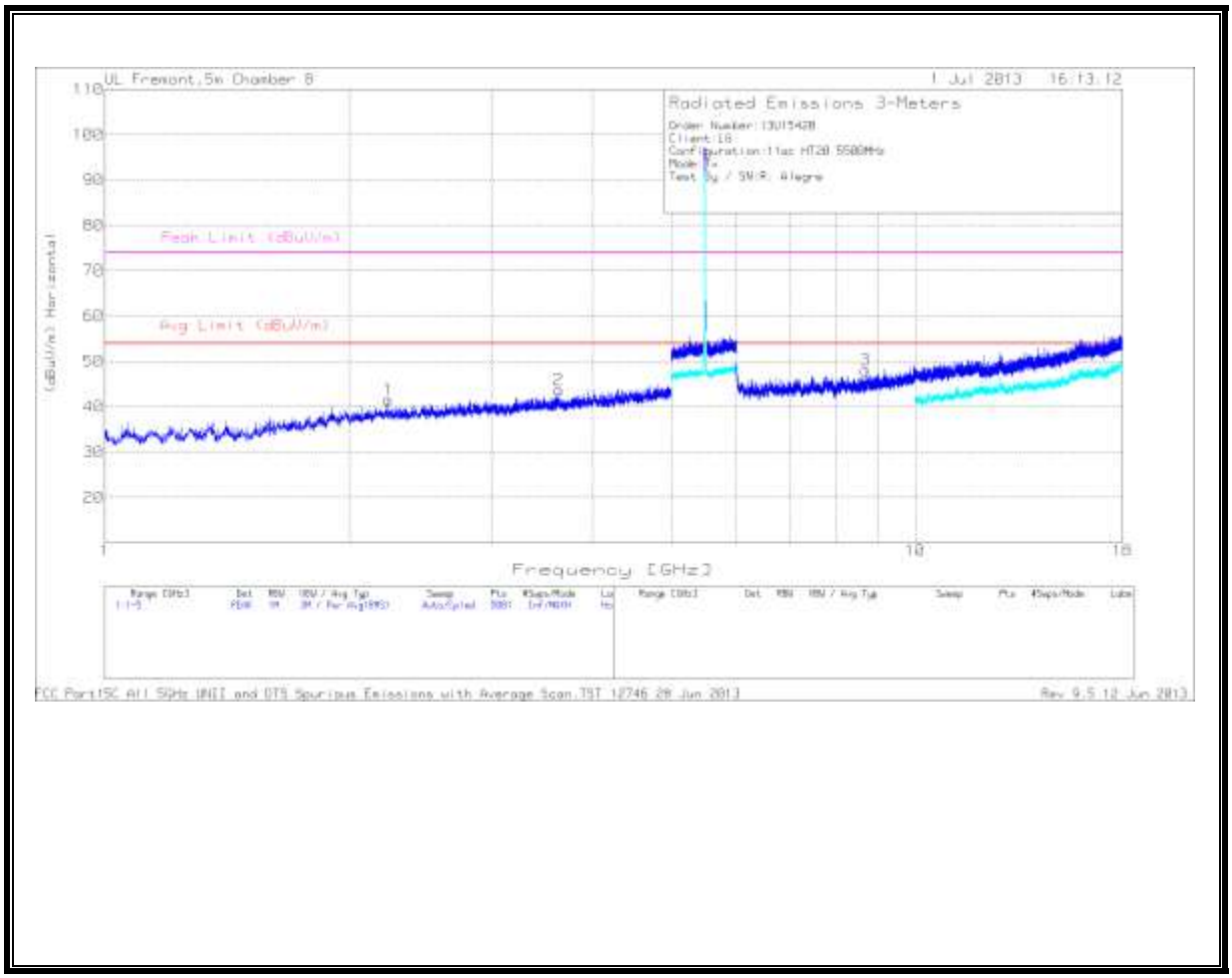


HIGH CHANNEL BANDEDGE, PEAK, VERT

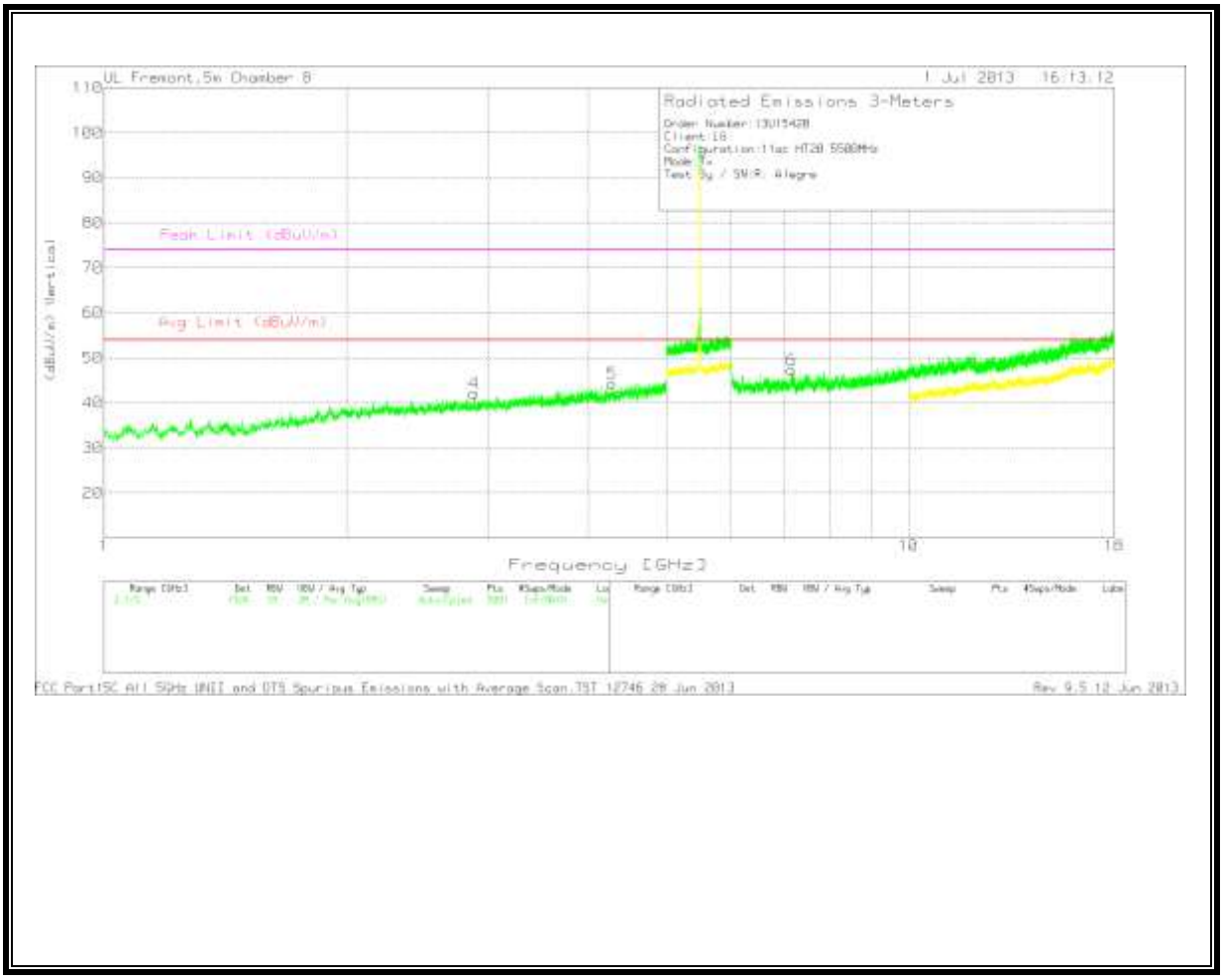


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



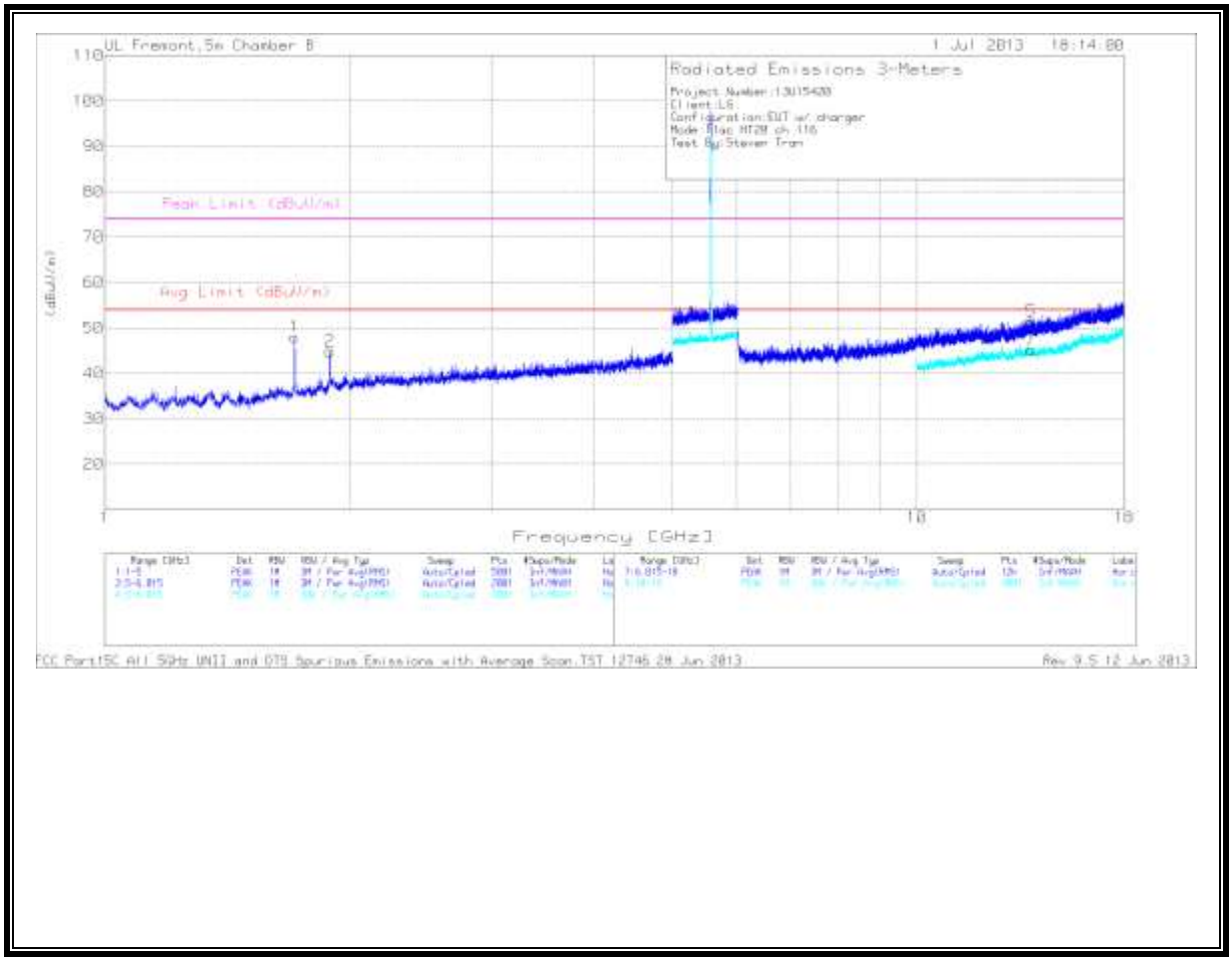
VERTICAL



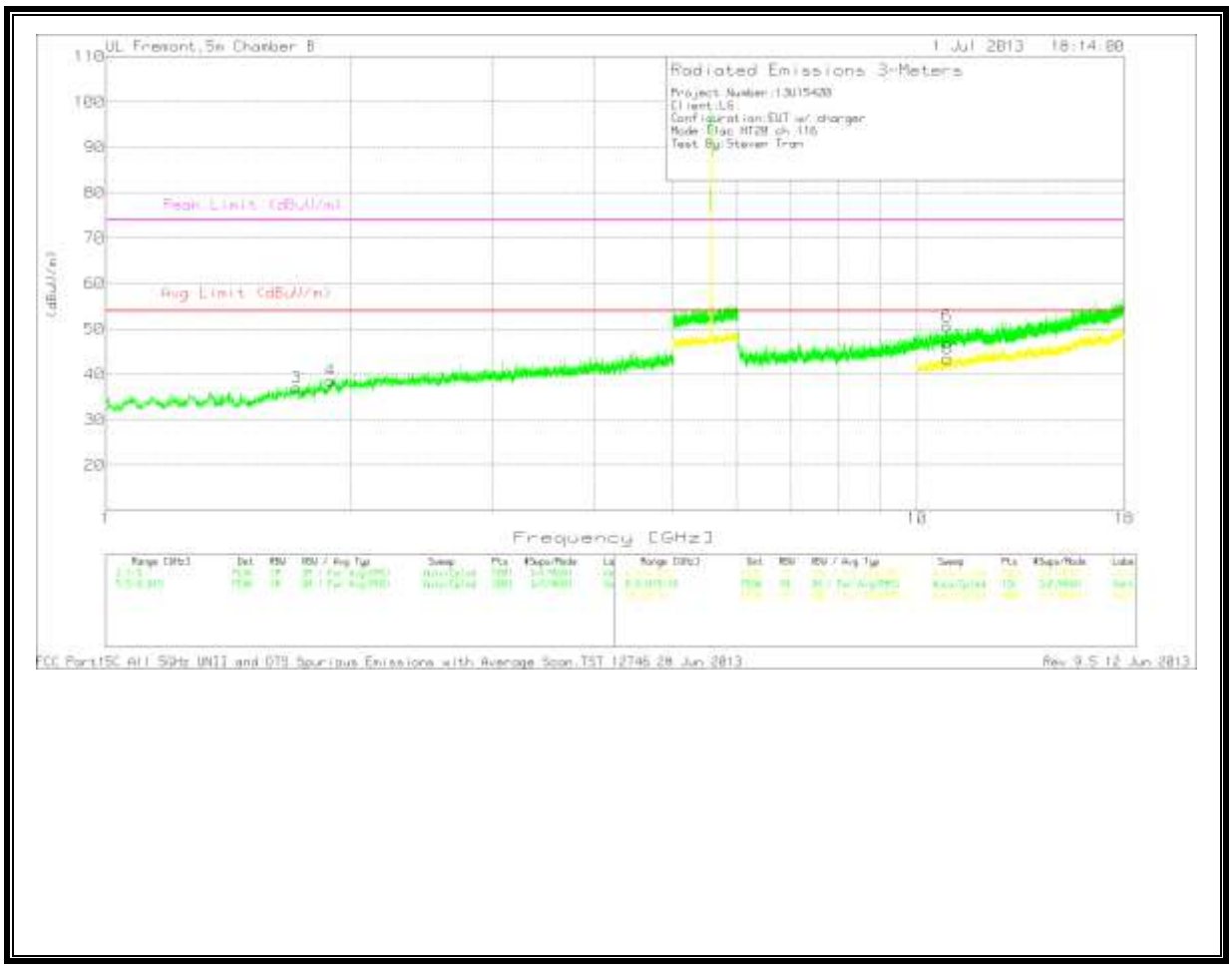
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.238	42.52	PK	32.1	-33.1	41.52	53.97	-12.45	74	-32.48	0-360	100	H
3.631	42.18	PK	33.5	-32	43.68	53.97	-10.29	74	-30.32	0-360	100	H
2.884	41.9	PK	33	-32.8	42.1	53.97	-11.87	74	-31.9	0-360	100	V
4.28	40.34	PK	34.1	-30.2	44.24	53.97	-9.73	74	-29.76	0-360	200	V
8.678	38.07	PK	36.3	-26.3	48.07	53.97	-5.9	74	-25.93	0-360	200	H
7.16	38.59	PK	35.8	-27.1	47.29	53.97	-6.68	74	-26.71	0-360	100	V

MID CHANNEL
HORIZONTAL



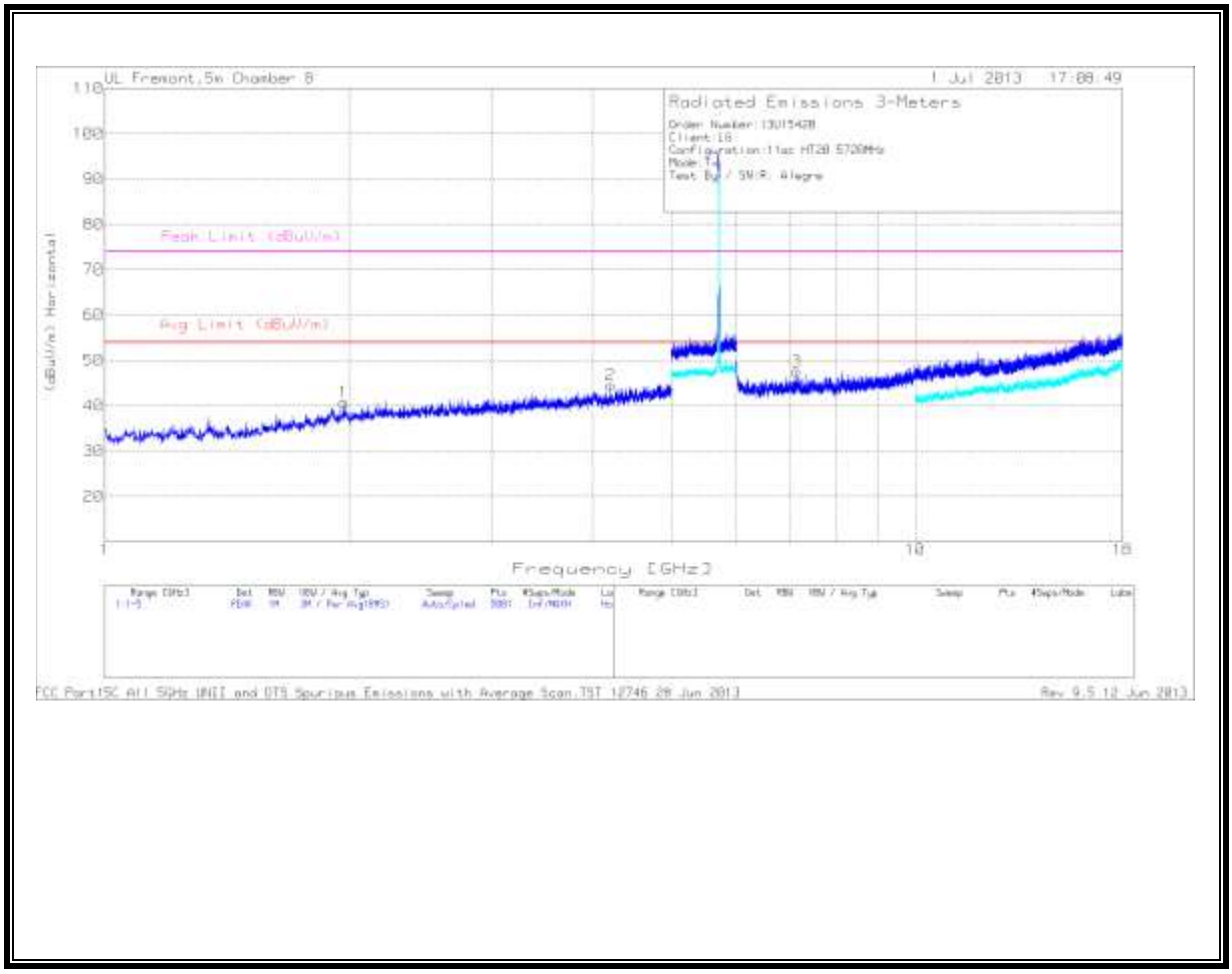
VERTICAL



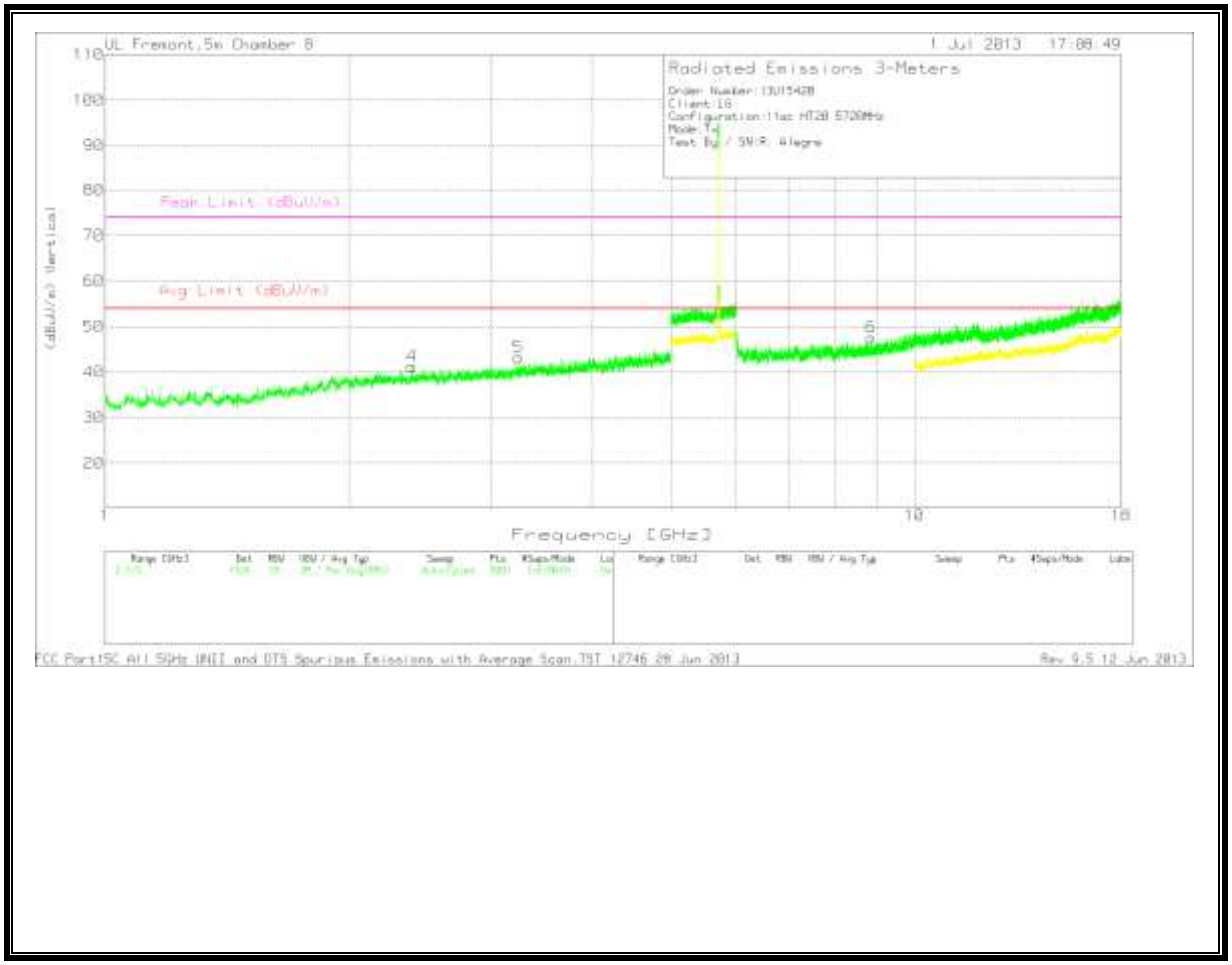
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.712	52.21	PK	29.8	-34	48.01	53.97	-5.96	74	-25.99	0-360	100	H
1.894	47.17	PK	31.1	-33.4	44.87	53.97	-9.1	74	-29.13	0-360	100	H
1.718	41.24	PK	29.9	-34.1	37.04	53.97	-16.93	74	-36.96	0-360	100	V
1.892	40.93	PK	31.1	-33.4	38.63	53.97	-15.34	74	-35.37	0-360	200	V
13.844	34.56	PK	39.2	-22.4	51.36	53.97	-2.61	74	-22.64	0-360	200	H
10.89	35.12	PK	38.3	-22.8	50.62	53.97	-3.35	74	-23.38	0-360	100	V
13.816	28.18	PK	39.2	-22.3	45.08	53.97	-8.89	74	-28.92	0-360	200	H
10.905	28.09	PK	38.3	-22.9	43.49	53.97	-10.48	74	-30.51	0-360	200	V

HIGH CHANNEL
HORIZONTAL



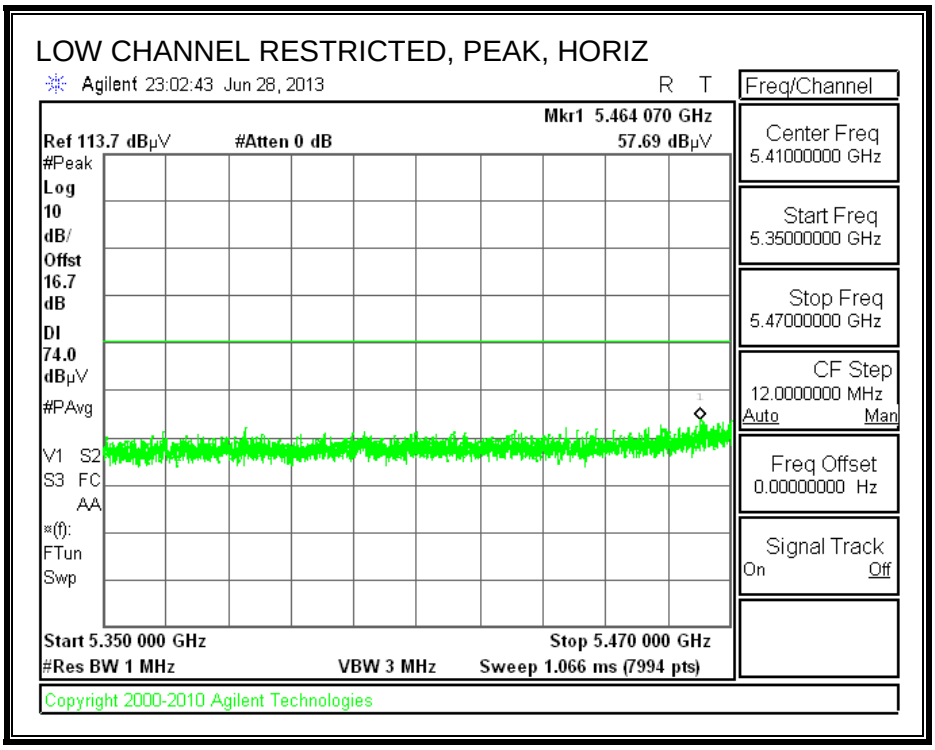
VERTICAL

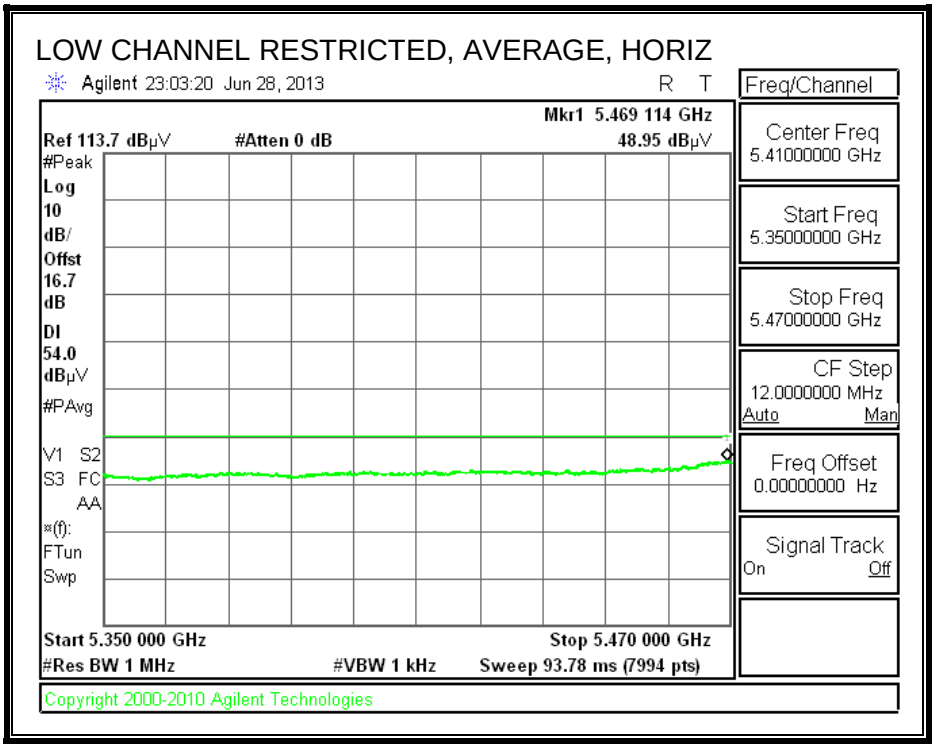


HIGH CHANNEL DATA

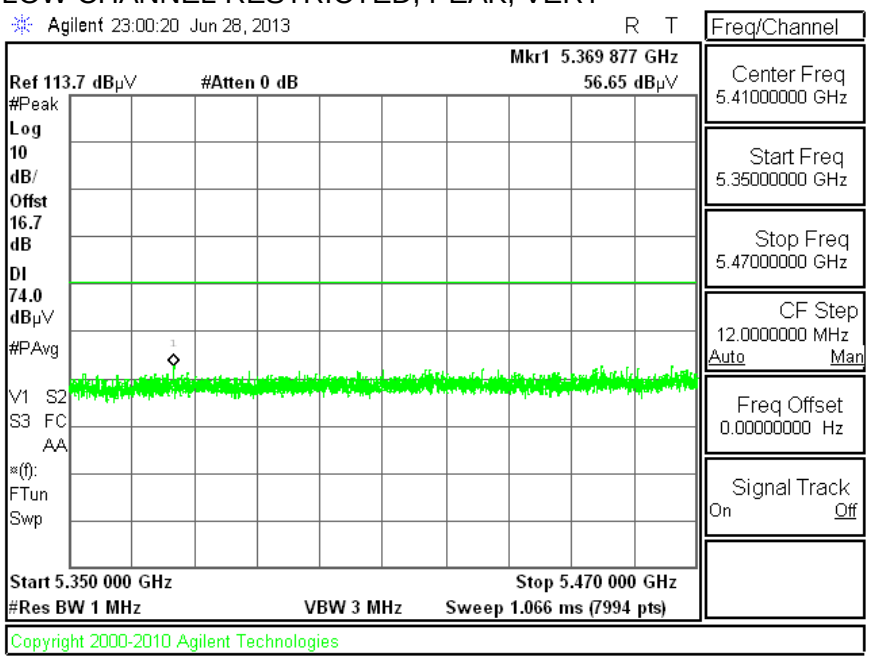
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.972	42.75	PK	31.6	-33.6	40.75	53.97	-13.22	74	-33.25	0-360	100	H
4.209	41.21	PK	34.1	-30.8	44.51	53.97	-9.46	74	-29.49	0-360	100	H
2.392	42.22	PK	32.3	-33.3	41.22	53.97	-12.75	74	-32.78	0-360	100	V
3.244	42.03	PK	33.3	-32.1	43.23	53.97	-10.74	74	-30.77	0-360	200	V
7.141	39.25	PK	35.8	-27.5	47.55	53.97	-6.42	74	-26.45	0-360	200	H
8.844	37.19	PK	36.6	-26.2	47.59	53.97	-6.38	74	-26.41	0-360	200	V

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

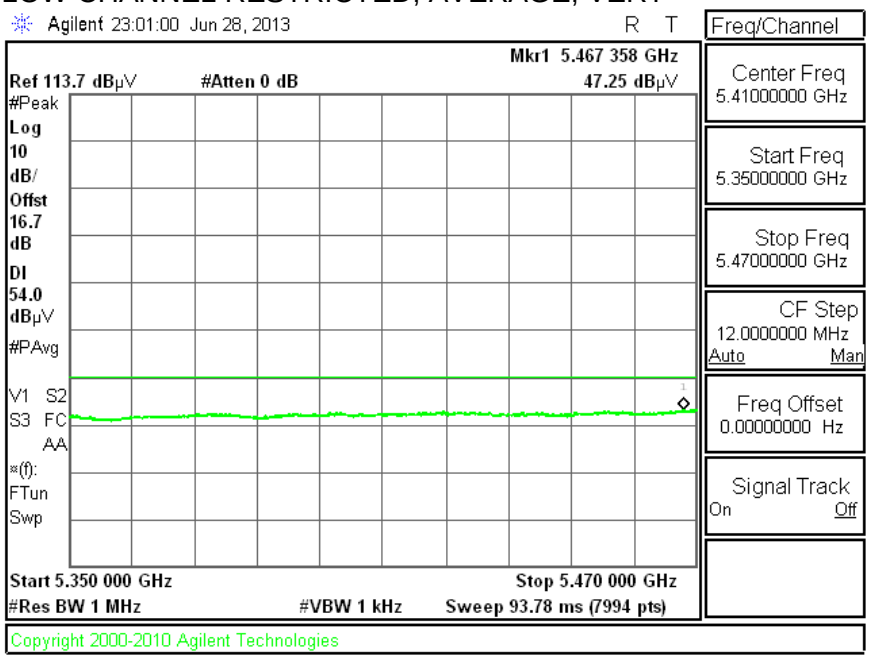




LOW CHANNEL RESTRICTED, PEAK, VERT

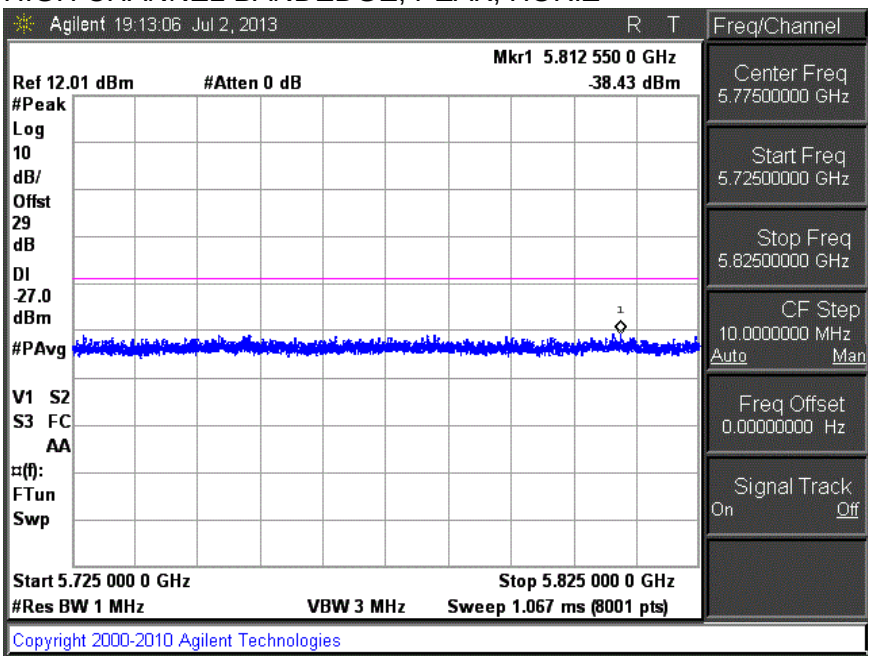


LOW CHANNEL RESTRICTED, AVERAGE, VERT

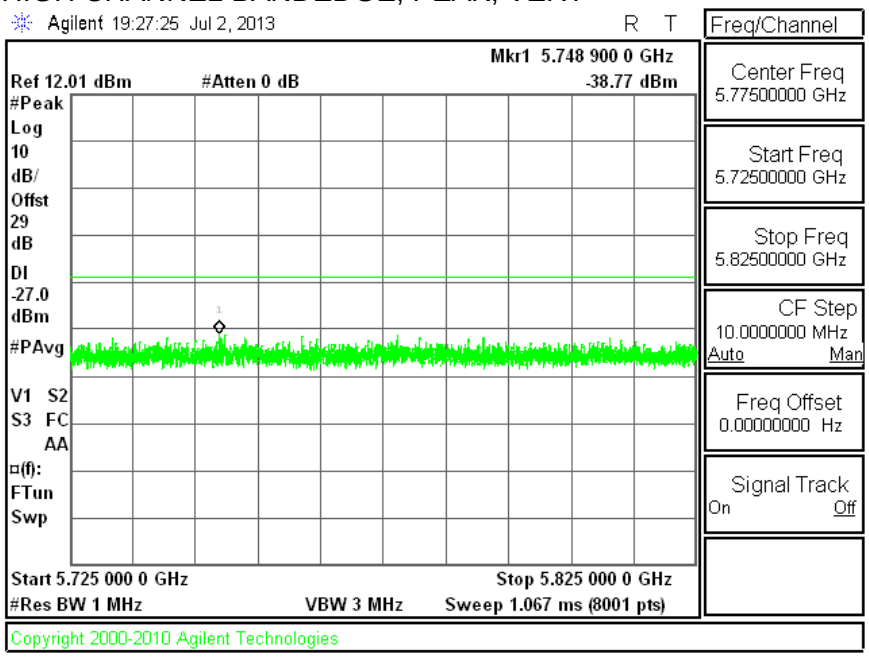


AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL BANDEDGE, PEAK, HORIZ

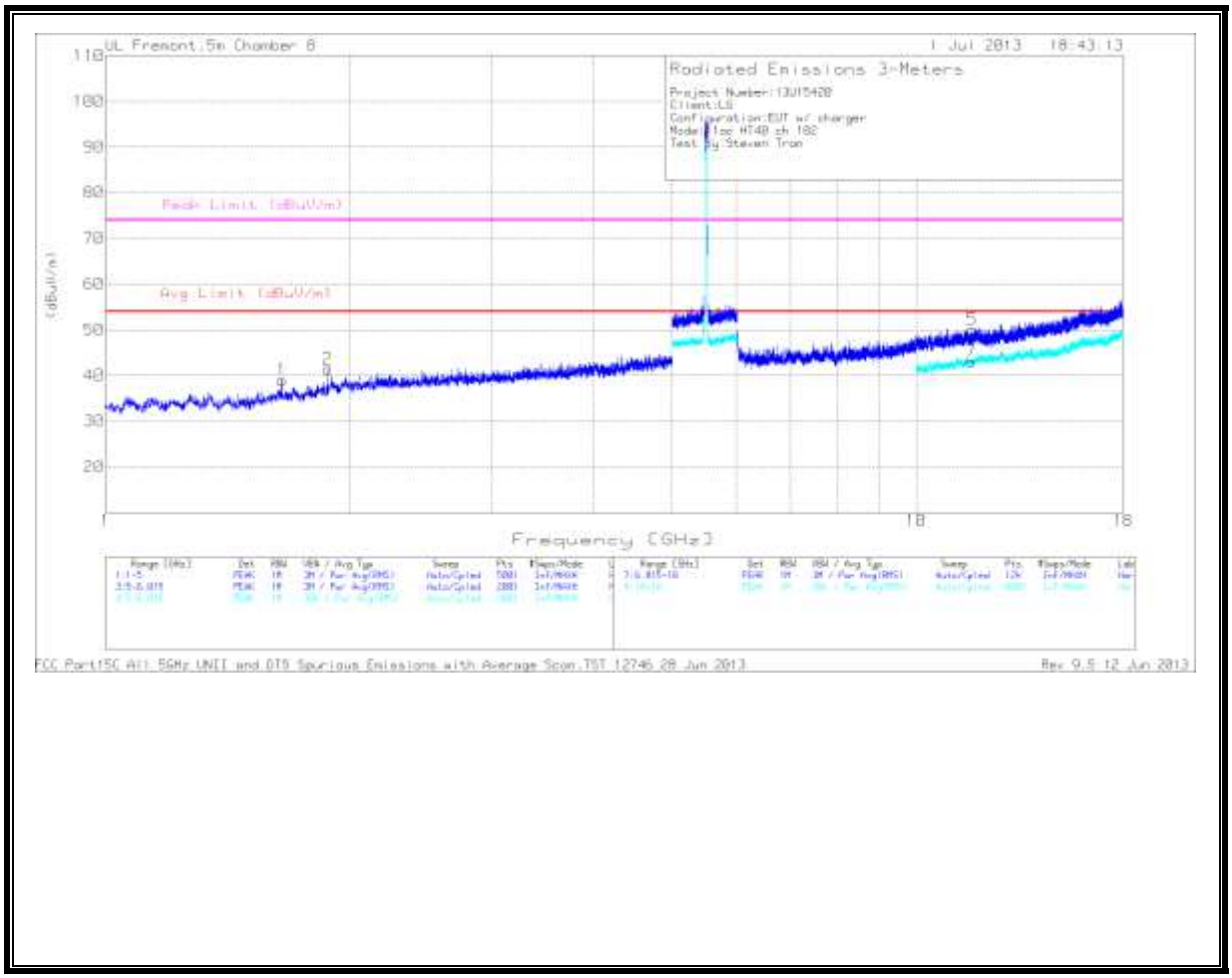


HIGH CHANNEL BANDEDGE, PEAK, VERT

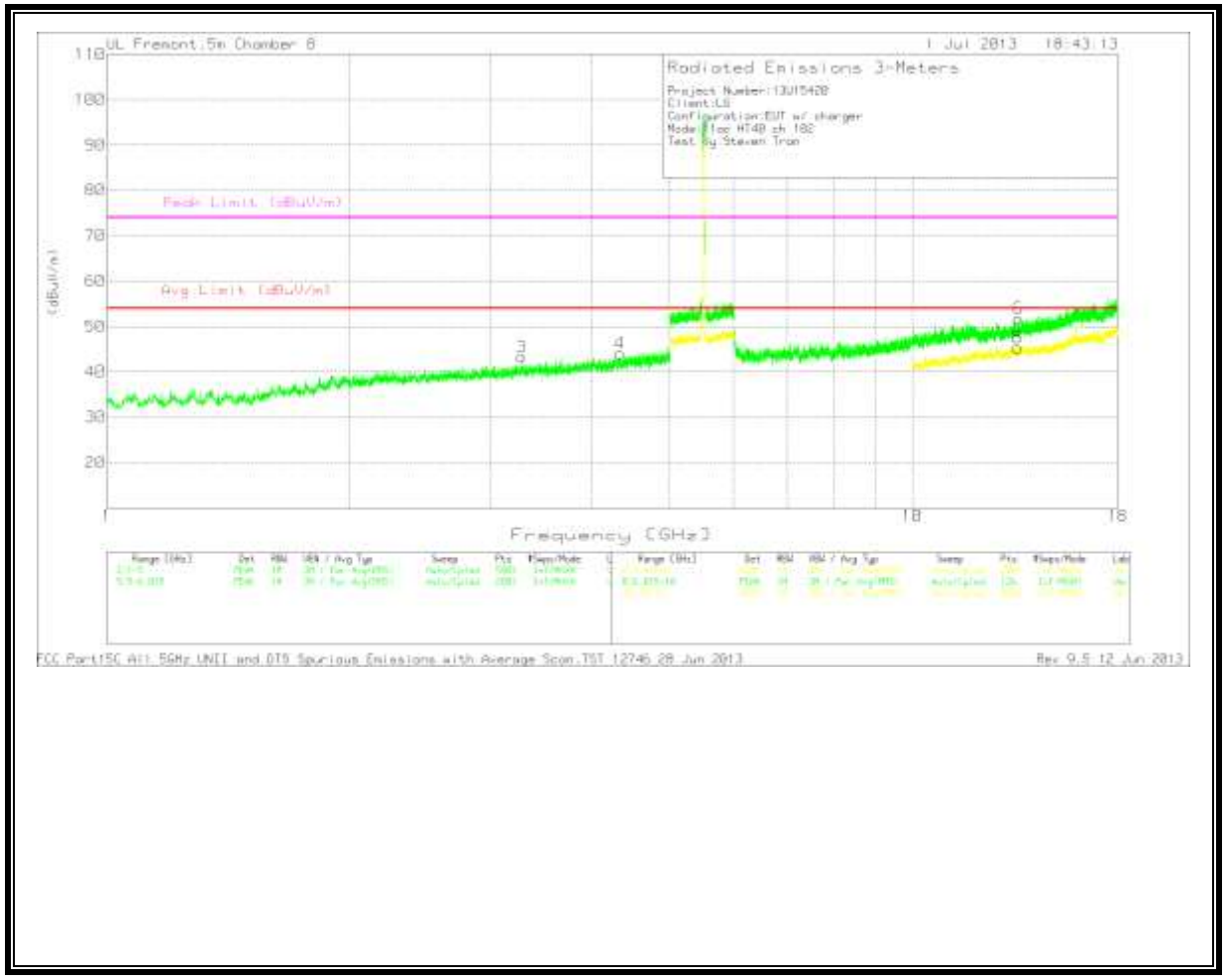


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



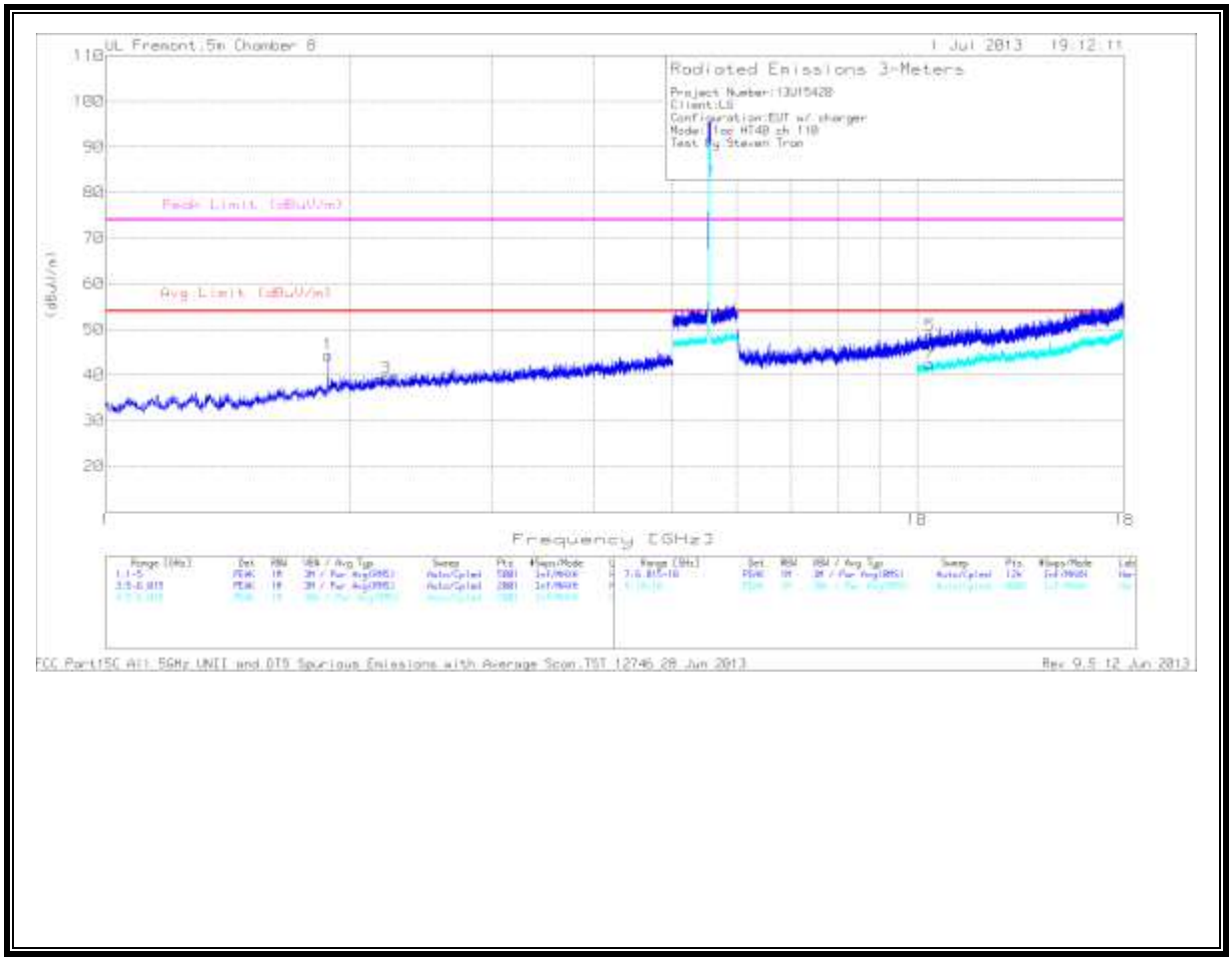
VERTICAL



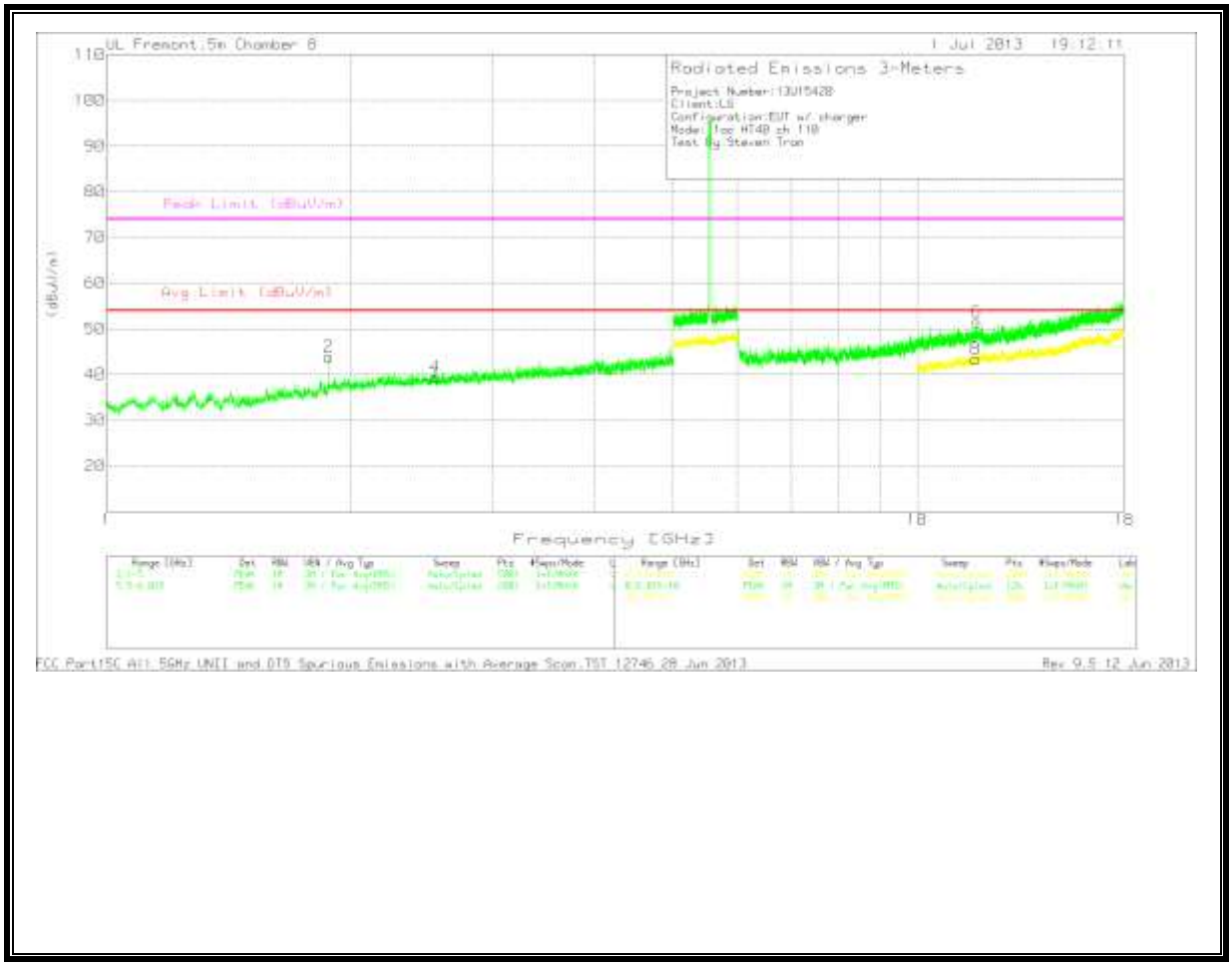
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.652	43.39	PK	29.4	-33.8	38.99	53.97	-14.98	74	-35.01	0-360	200	H
1.882	43.89	PK	31	-33.5	41.39	53.97	-12.58	74	-32.61	0-360	100	H
3.275	42.29	PK	33.3	-32.3	43.29	53.97	-10.68	74	-30.71	0-360	100	V
4.341	41.06	PK	34.2	-31.2	44.06	53.97	-9.91	74	-29.94	0-360	200	V
11.724	33.74	PK	39	-22.7	50.04	53.97	-3.93	74	-23.96	0-360	100	H
13.546	35.22	PK	39.1	-22.6	51.72	53.97	-2.25	74	-22.28	0-360	100	V
11.699	27.18	PK	38.9	-23	43.08	53.97	-10.89	74	-30.92	0-360	100	H
13.518	28.61	PK	39.1	-22.3	45.41	53.97	-8.56	74	-28.59	0-360	100	V

MID CHANNEL
HORIZONTAL



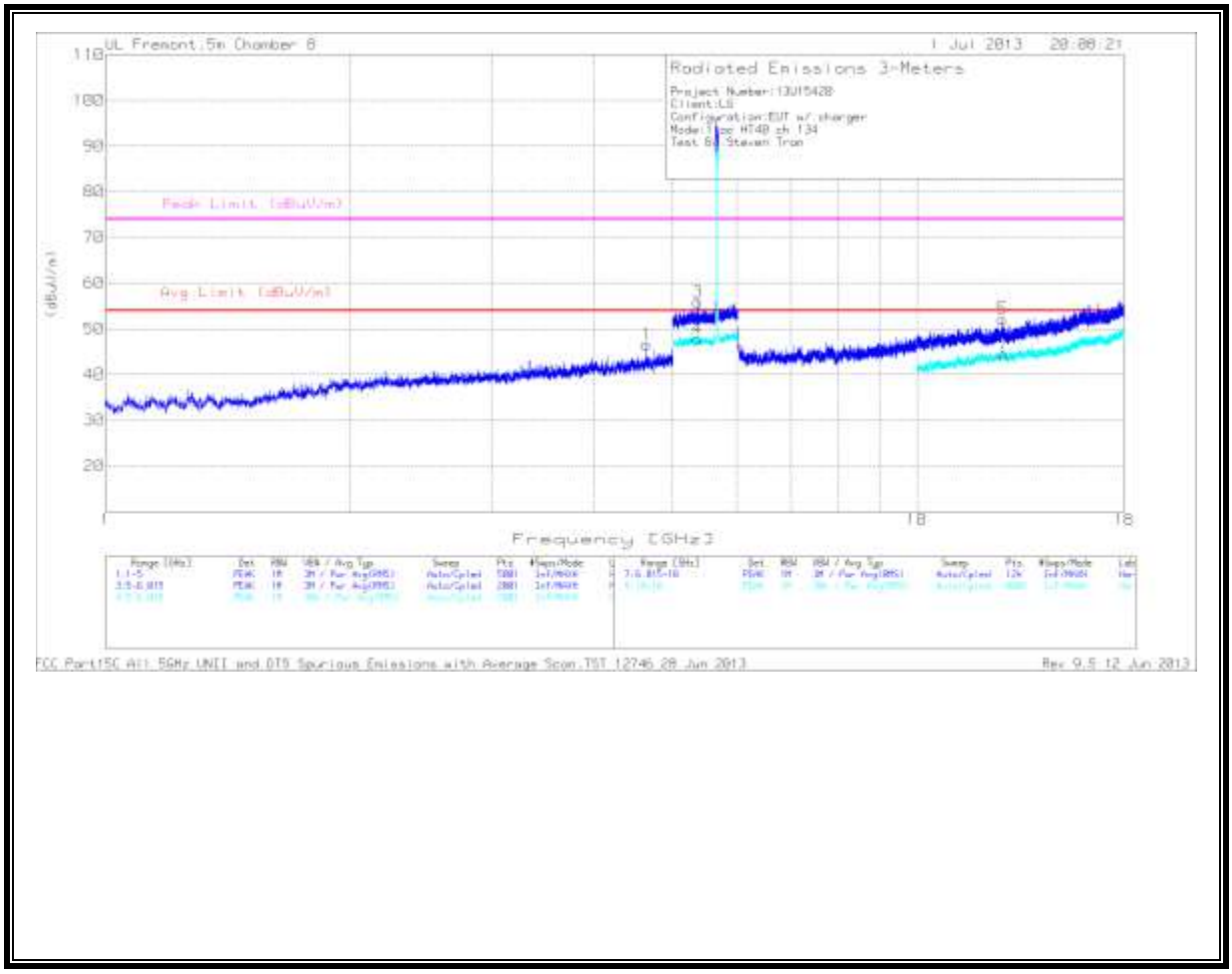
VERTICAL



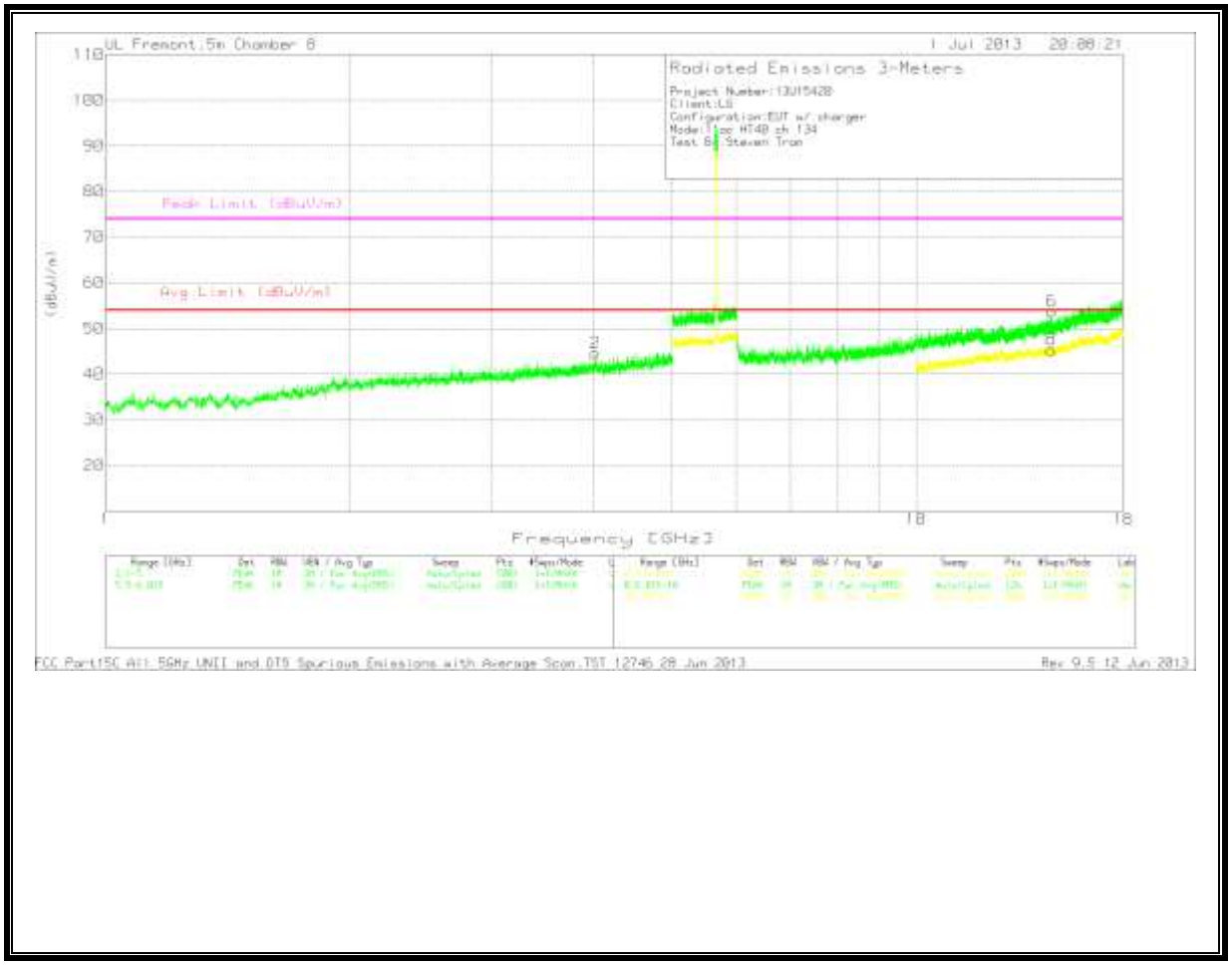
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.882	46.84	PK	31	-33.5	44.34	53.97	-9.63	74	-29.66	0-360	200	H
2.219	40.11	PK	32.1	-32.9	39.31	53.97	-14.66	74	-34.69	0-360	200	H
1.882	46.29	PK	31	-33.5	43.79	53.97	-10.18	74	-30.21	0-360	100	V
2.545	39.99	PK	32.6	-33.2	39.39	53.97	-14.58	74	-34.61	0-360	100	V
10.388	33.14	PK	38.1	-22.6	48.64	53.97	-5.33	74	-25.36	0-360	200	H
11.848	35.1	PK	39.1	-22.7	51.5	53.97	-2.47	74	-22.5	0-360	100	V
10.366	27.33	PK	38.1	-23	42.43	53.97	-11.54	74	-31.57	0-360	200	H
11.812	27.31	PK	39	-22.9	43.41	53.97	-10.56	74	-30.59	0-360	200	V

HIGH CHANNEL
HORIZONTAL



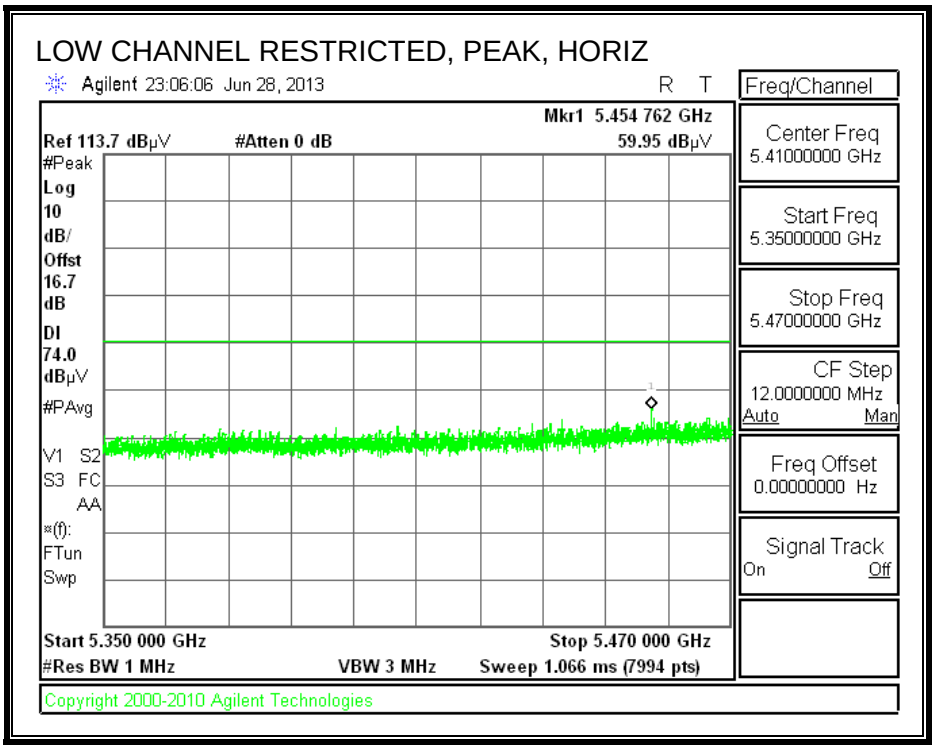
VERTICAL

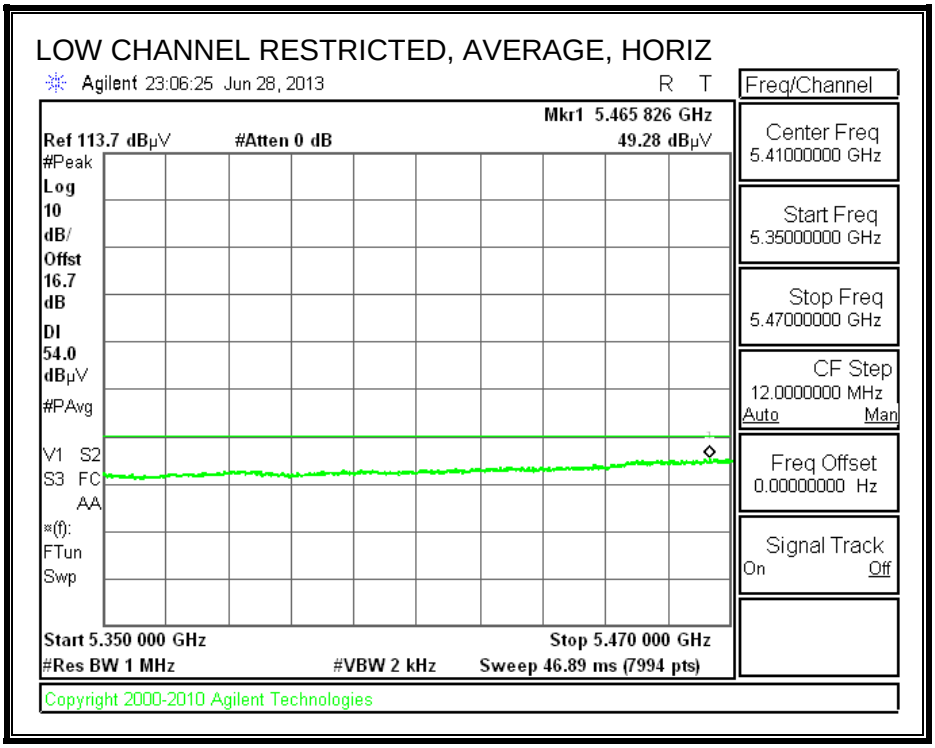


HIGH CHANNEL DATA

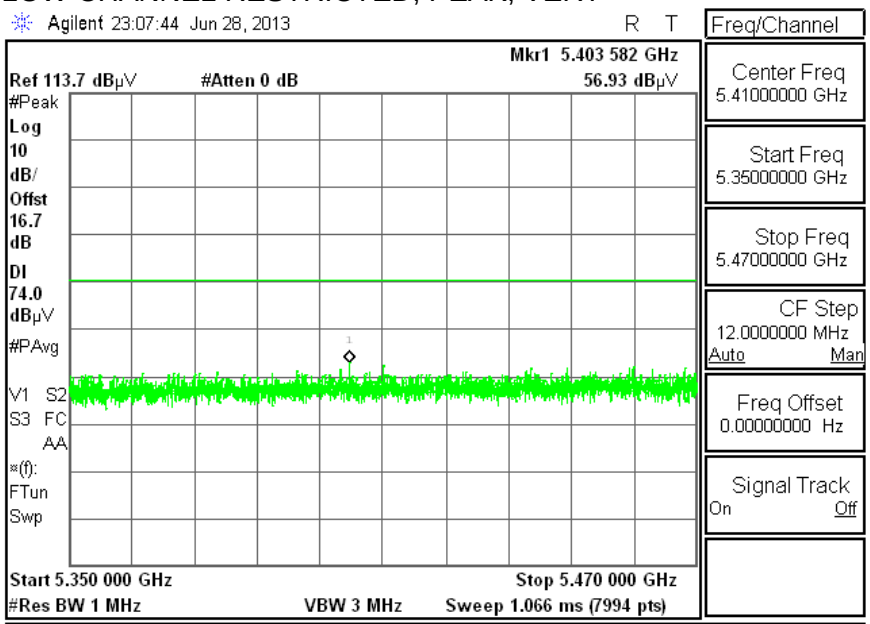
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.641	41.8	PK	34.6	-29.8	46.6	53.97	-7.37	74	-27.4	0-360	100	H
4.022	41.08	PK	33.9	-30.4	44.58	53.97	-9.39	74	-29.42	0-360	200	V
5.372	41.41	PK	34.9	-20.4	55.91	53.97	1.94	74	-18.09	0-360	100	H
5.369	33.08	PK	34.9	-20.3	47.68	53.97	-6.29	74	-26.32	0-360	200	H
12.746	34.43	PK	39.2	-21.5	52.13	53.97	-1.84	74	-21.87	0-360	100	H
14.696	35.82	PK	39.8	-21.9	53.72	53.97	-.25	74	-20.28	0-360	100	V
12.807	27.56	PK	39.2	-22.2	44.56	53.97	-9.41	74	-29.44	0-360	100	H
14.686	27.63	PK	39.8	-22	45.43	53.97	-8.54	74	-28.57	0-360	200	V

10.3.11. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

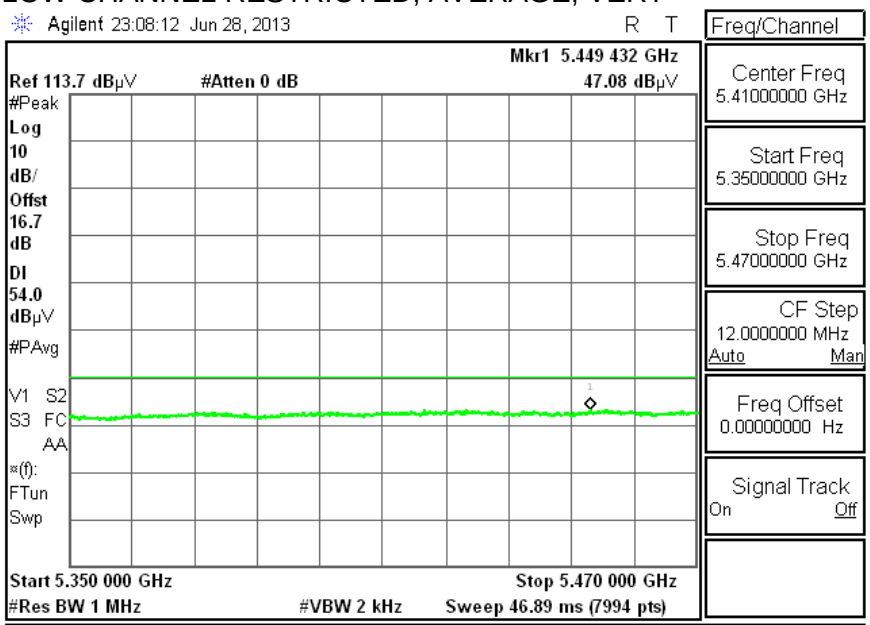




LOW CHANNEL RESTRICTED, PEAK, VERT

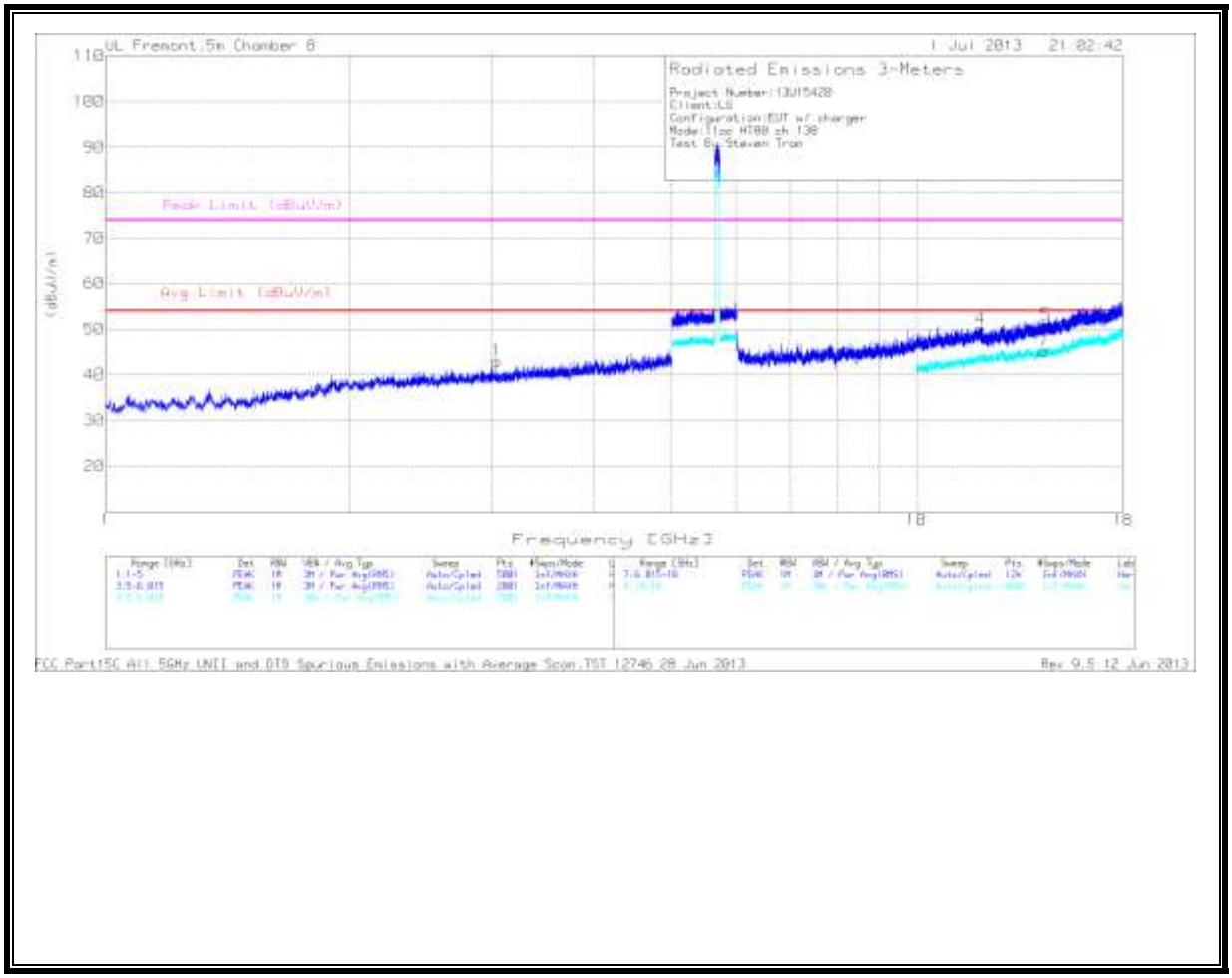


LOW CHANNEL RESTRICTED, AVERAGE, VERT

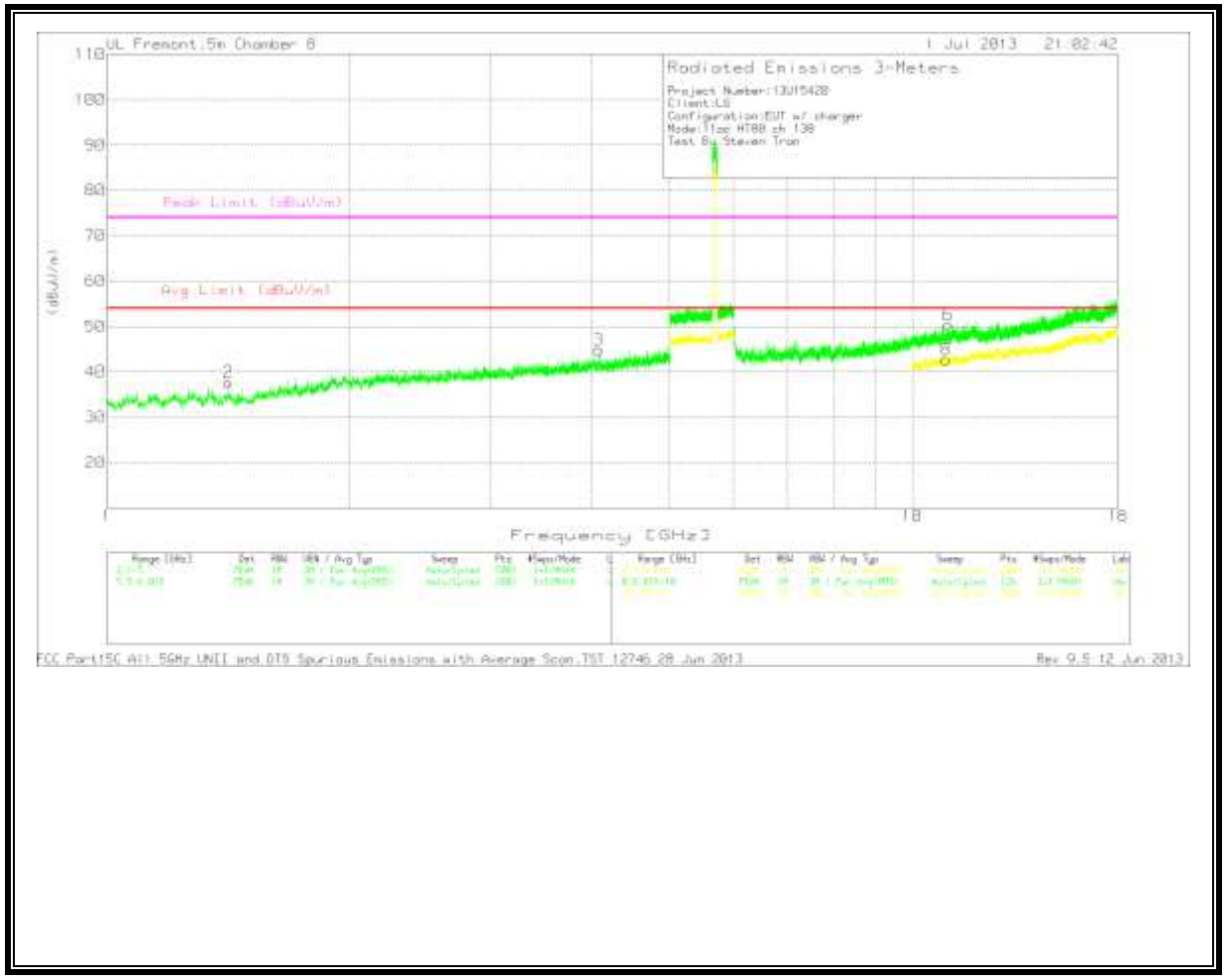


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



VERTICAL



LOW CHANNEL DATA

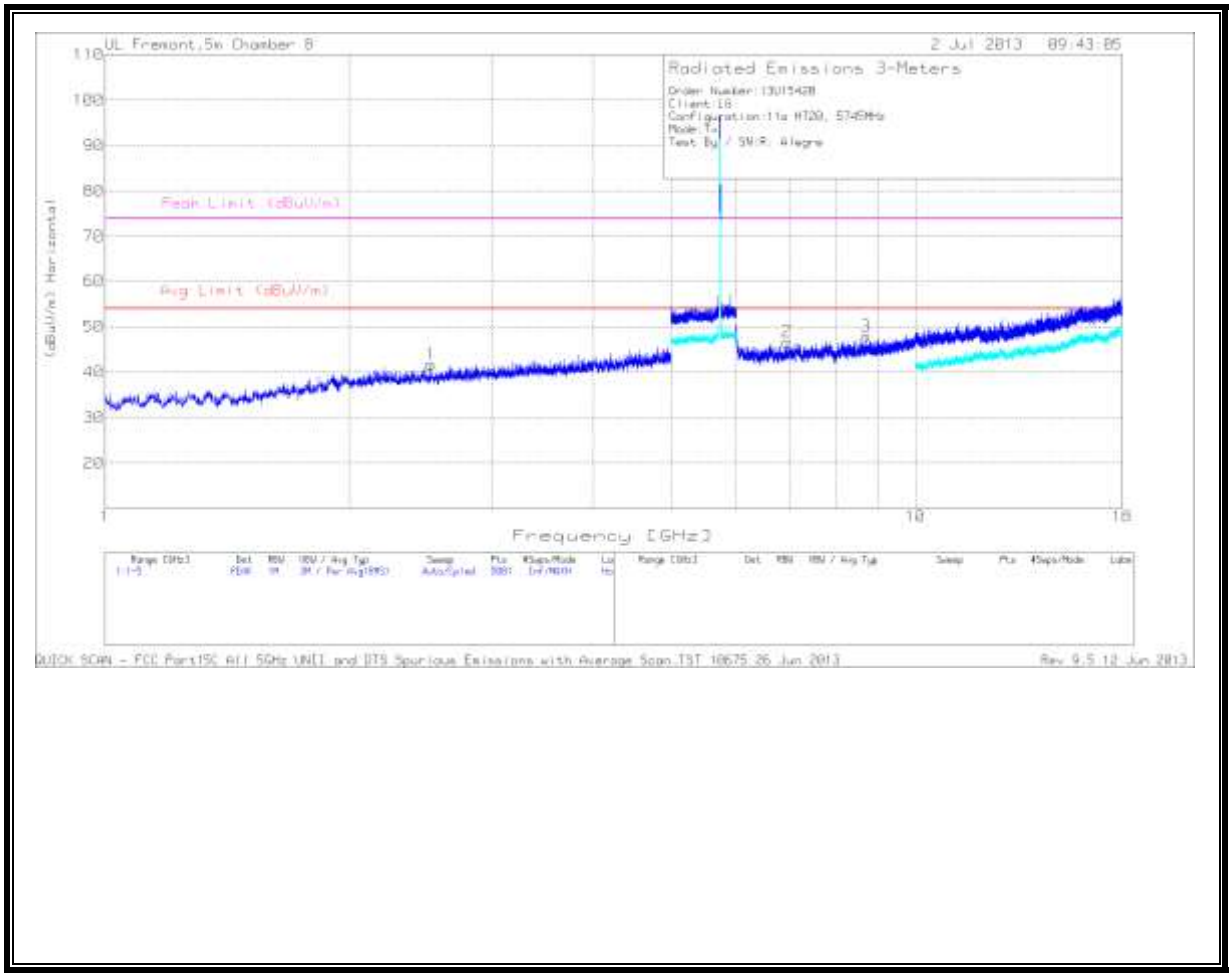
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3.036	42.74	PK	33.1	-32.8	43.04	53.97	-10.93	74	-30.96	0-360	100	H
1.416	44.03	PK	28.3	-34.7	37.63	53.97	-16.34	74	-36.37	0-360	100	V
4.082	41.69	PK	34	-30.8	44.89	53.97	-9.08	74	-29.11	0-360	200	V
12.005	33.54	PK	39.2	-22.7	50.04	53.97	-3.93	74	-23.96	0-360	200	H
14.471	33.61	PK	39.7	-22.4	50.91	53.97	-3.06	74	-23.09	0-360	100	H
11.082	35.34	PK	38.4	-23.4	50.34	53.97	-3.63	74	-23.66	0-360	200	V
14.383	27.74	PK	39.6	-22.2	45.14	53.97	-8.83	74	-28.86	0-360	200	H
11.019	27.72	PK	38.3	-23.3	42.72	53.97	-11.25	74	-31.28	0-360	200	V

10.4. 5.8 GHz

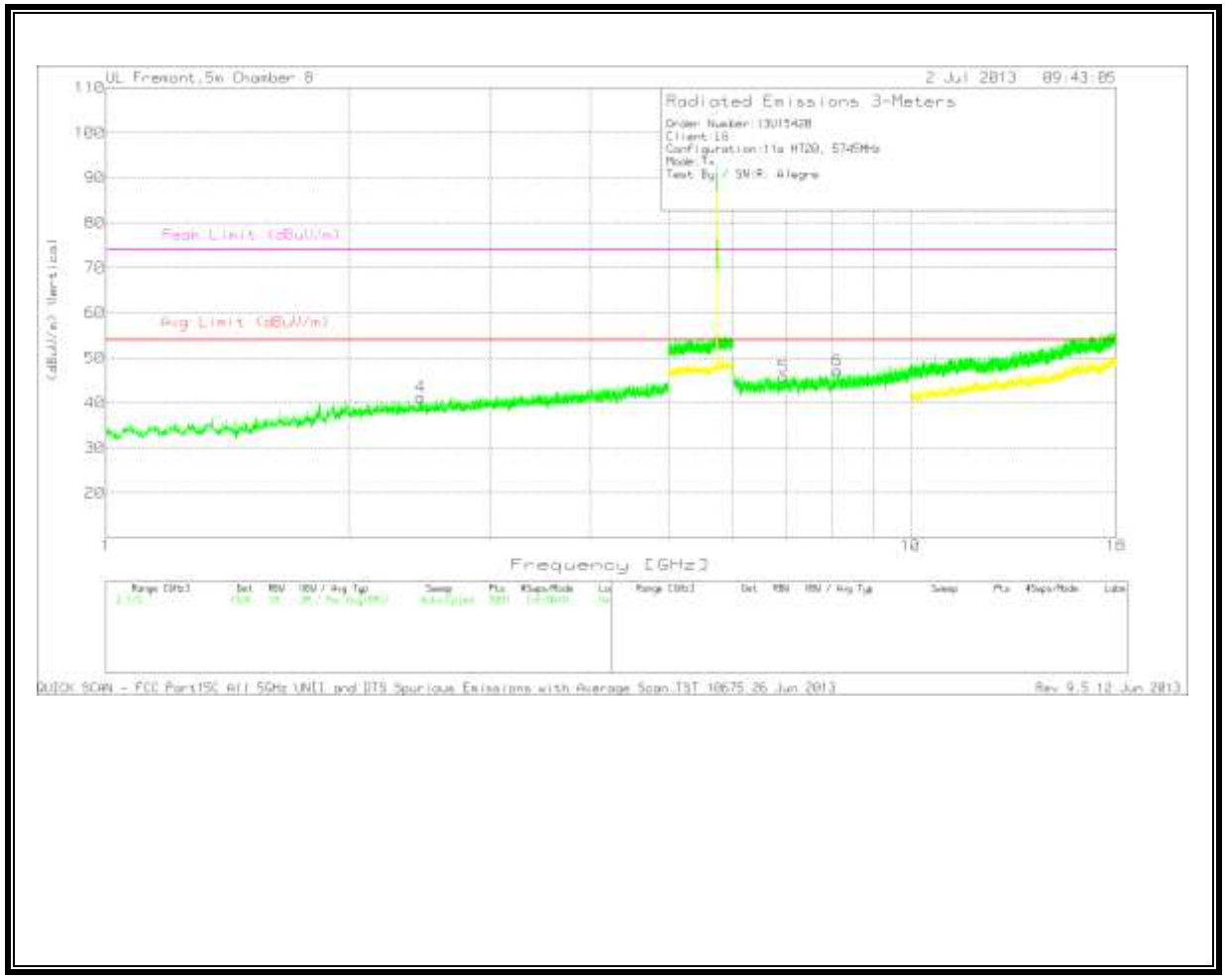
10.4.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.8 GHz BAND

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



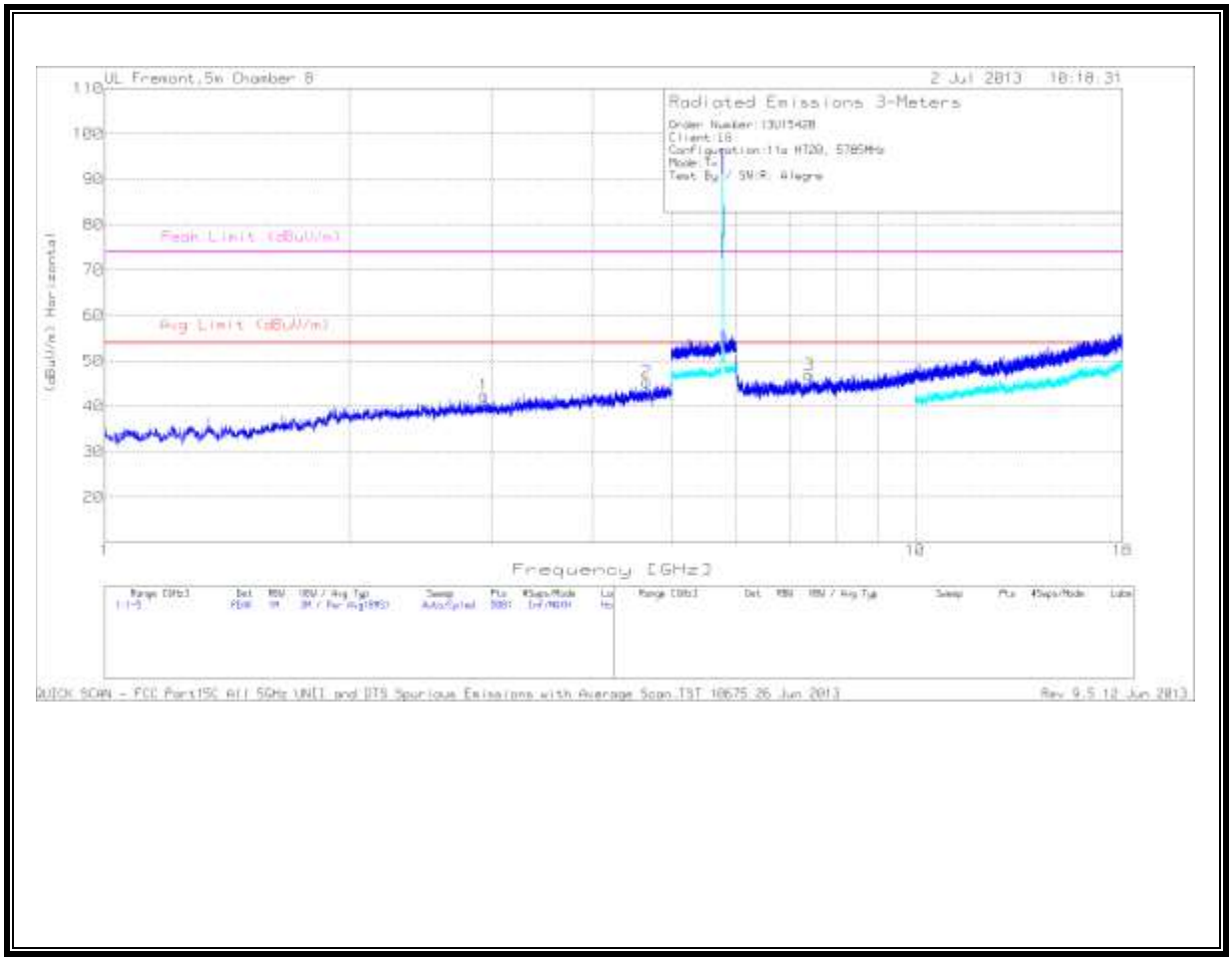
VERTICAL



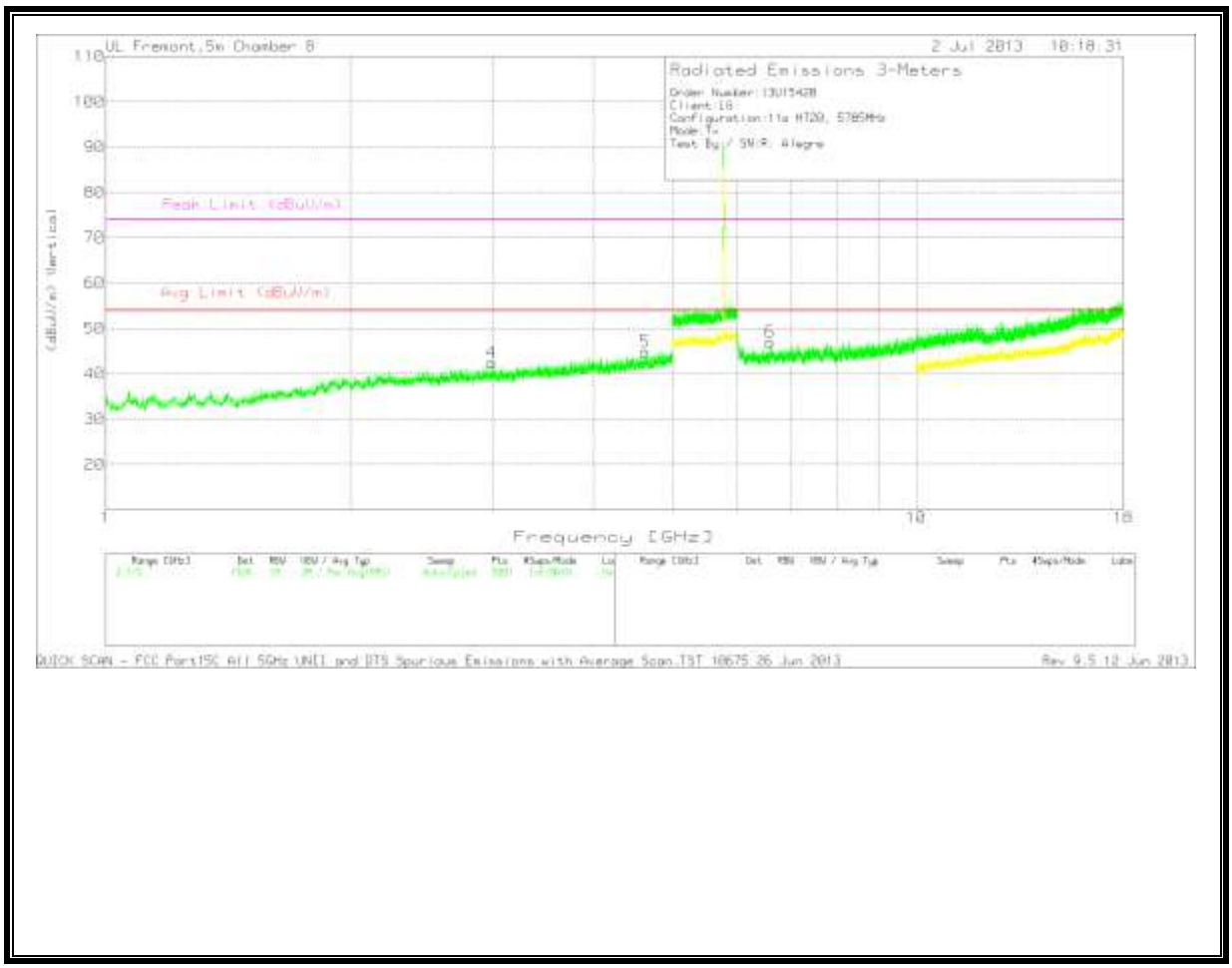
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.524	42.02	PK	32.5	-32.9	41.62	53.97	-12.35	74	-32.38	0-360	200	H
2.461	41.86	PK	32.4	-33	41.26	53.97	-12.71	74	-32.74	0-360	100	V
6.949	38.58	PK	35.9	-27.8	46.68	53.97	-7.29	74	-27.32	0-360	200	H
8.7	37.64	PK	36.4	-26.2	47.84	53.97	-6.13	74	-26.16	0-360	200	H
6.949	37.71	PK	35.9	-27.8	45.81	53.97	-8.16	74	-28.19	0-360	100	V
8.119	37.18	PK	36.1	-26.1	47.18	53.97	-6.79	74	-26.82	0-360	200	V

MID CHANNEL
HORIZONTAL



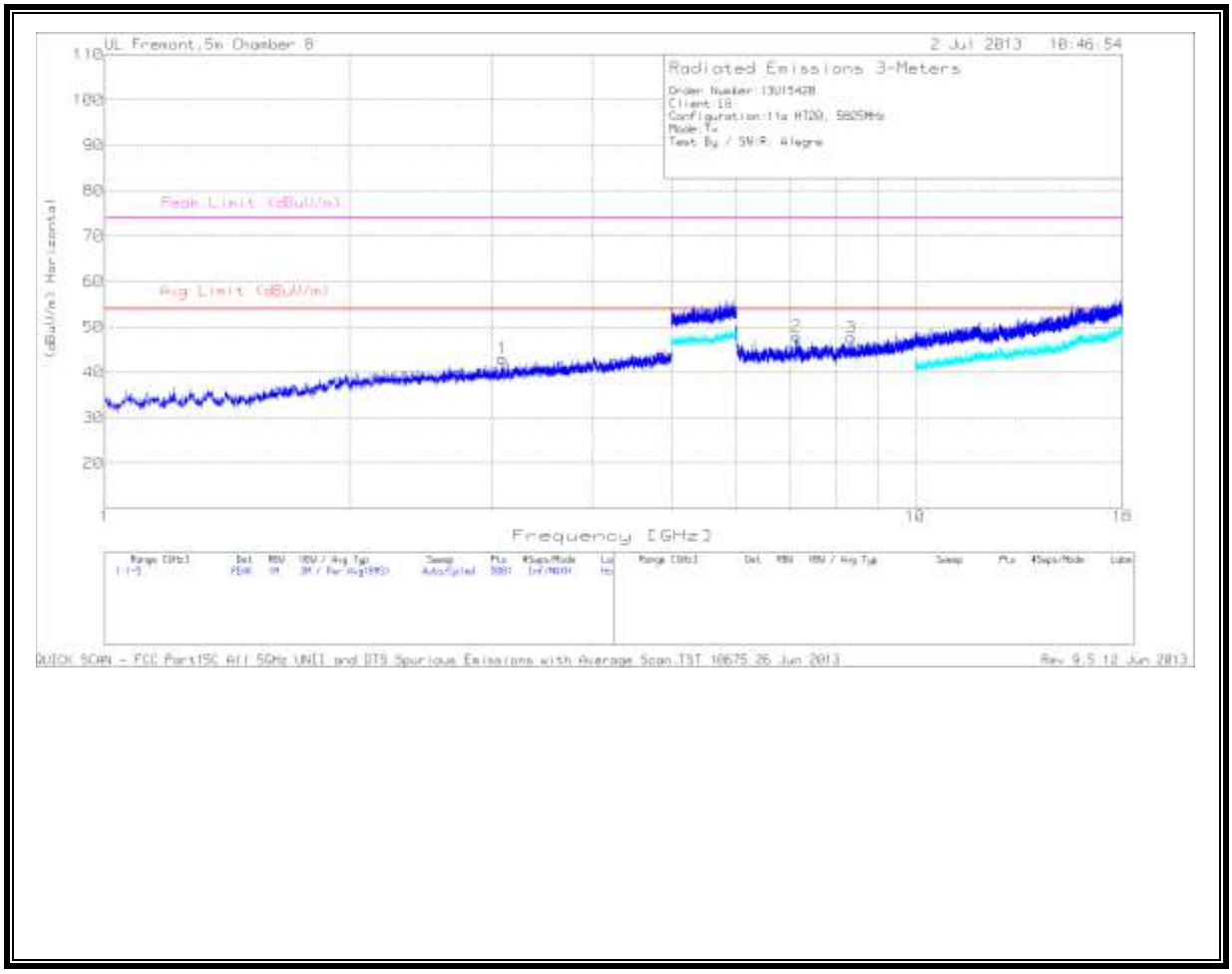
VERTICAL



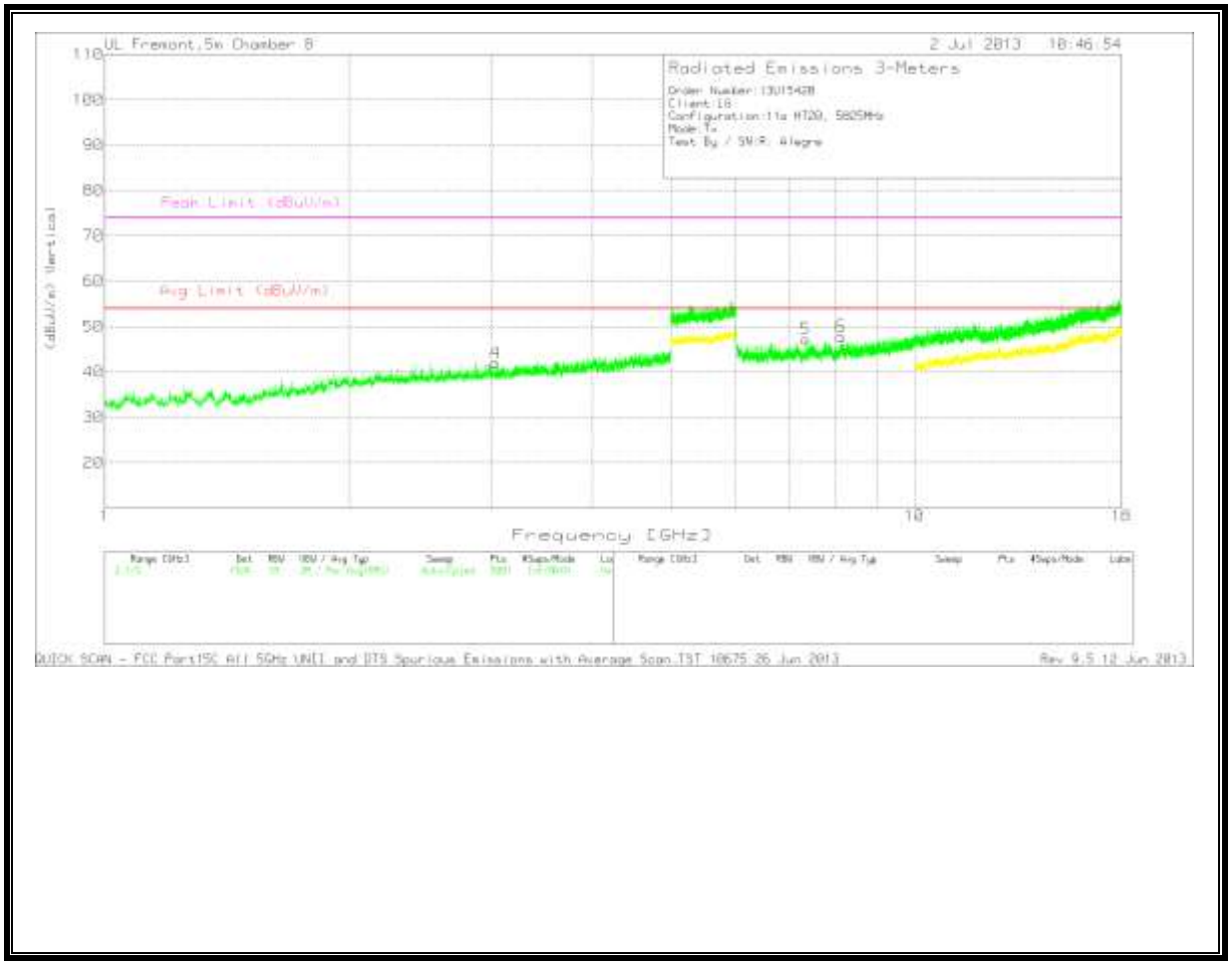
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.938	41.8	PK	33	-32.5	42.3	53.97	-11.67	74	-31.7	0-360	100	H
4.662	40.46	PK	34.6	-29.7	45.36	53.97	-8.61	74	-28.64	0-360	100	H
2.992	41.96	PK	33.1	-32.6	42.46	53.97	-11.51	74	-31.54	0-360	200	V
4.63	40.11	PK	34.6	-29.9	44.81	53.97	-9.16	74	-29.19	0-360	200	V
7.4	39.08	PK	35.9	-28.1	46.88	53.97	-7.09	74	-27.12	0-360	200	H
6.6	38.82	PK	35.9	-27.7	47.02	53.97	-6.95	74	-26.98	0-360	100	V

HIGH CHANNEL
HORIZONTAL



VERTICAL



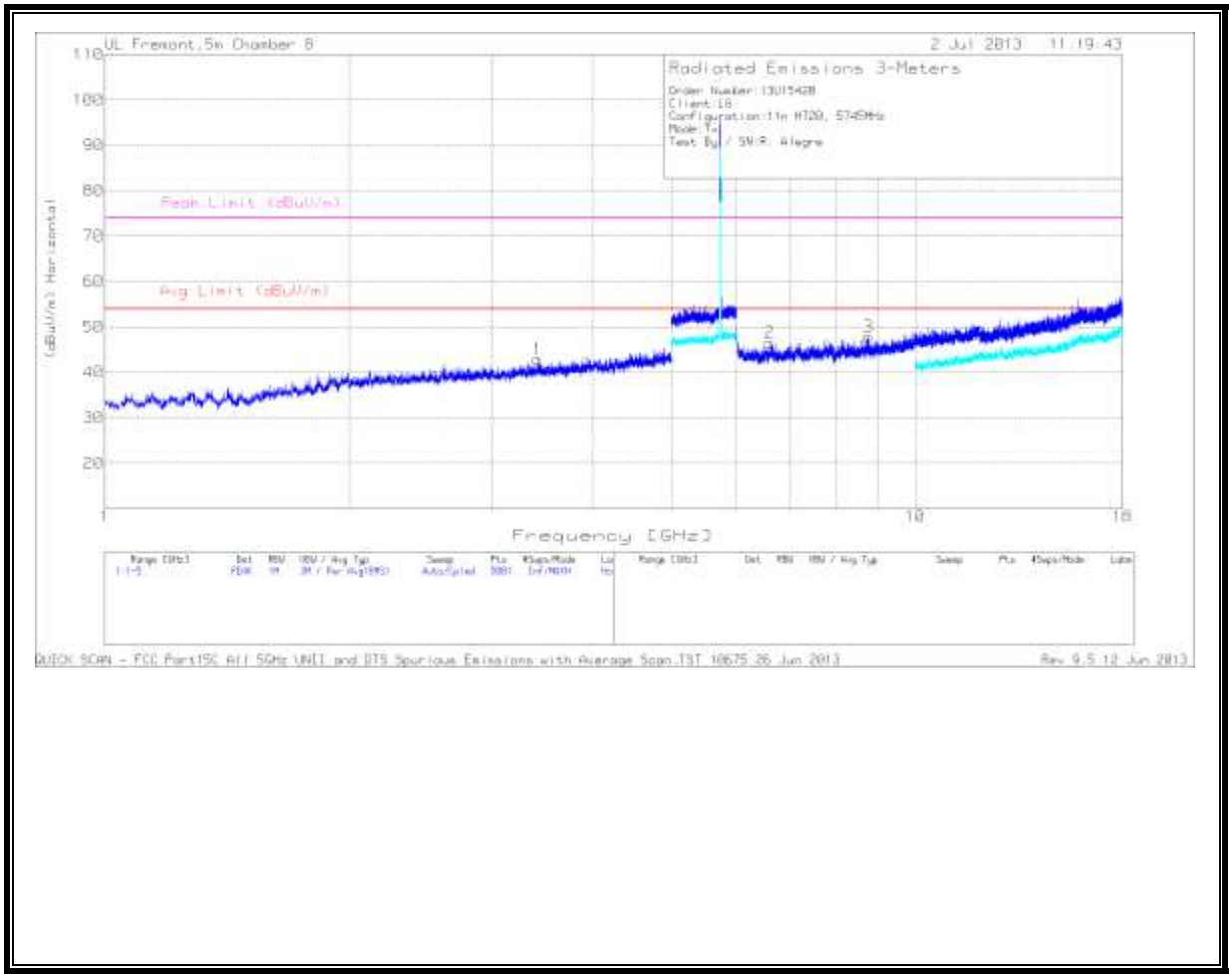
HIGH CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3.095	41.65	PK	33.2	-31.9	42.95	53.97	-11.02	74	-31.05	0-360	200	H
3.038	41.66	PK	33.1	-32.8	41.96	53.97	-12.01	74	-32.04	0-360	200	V
7.14	39.57	PK	35.8	-27.5	47.87	53.97	-6.1	74	-26.13	0-360	100	H
8.329	38.35	PK	36.1	-26.8	47.65	53.97	-6.32	74	-26.35	0-360	100	H
7.341	39.31	PK	35.9	-28	47.21	53.97	-6.76	74	-26.79	0-360	200	V
8.117	37.74	PK	36.1	-26.1	47.74	53.97	-6.23	74	-26.26	0-360	100	V

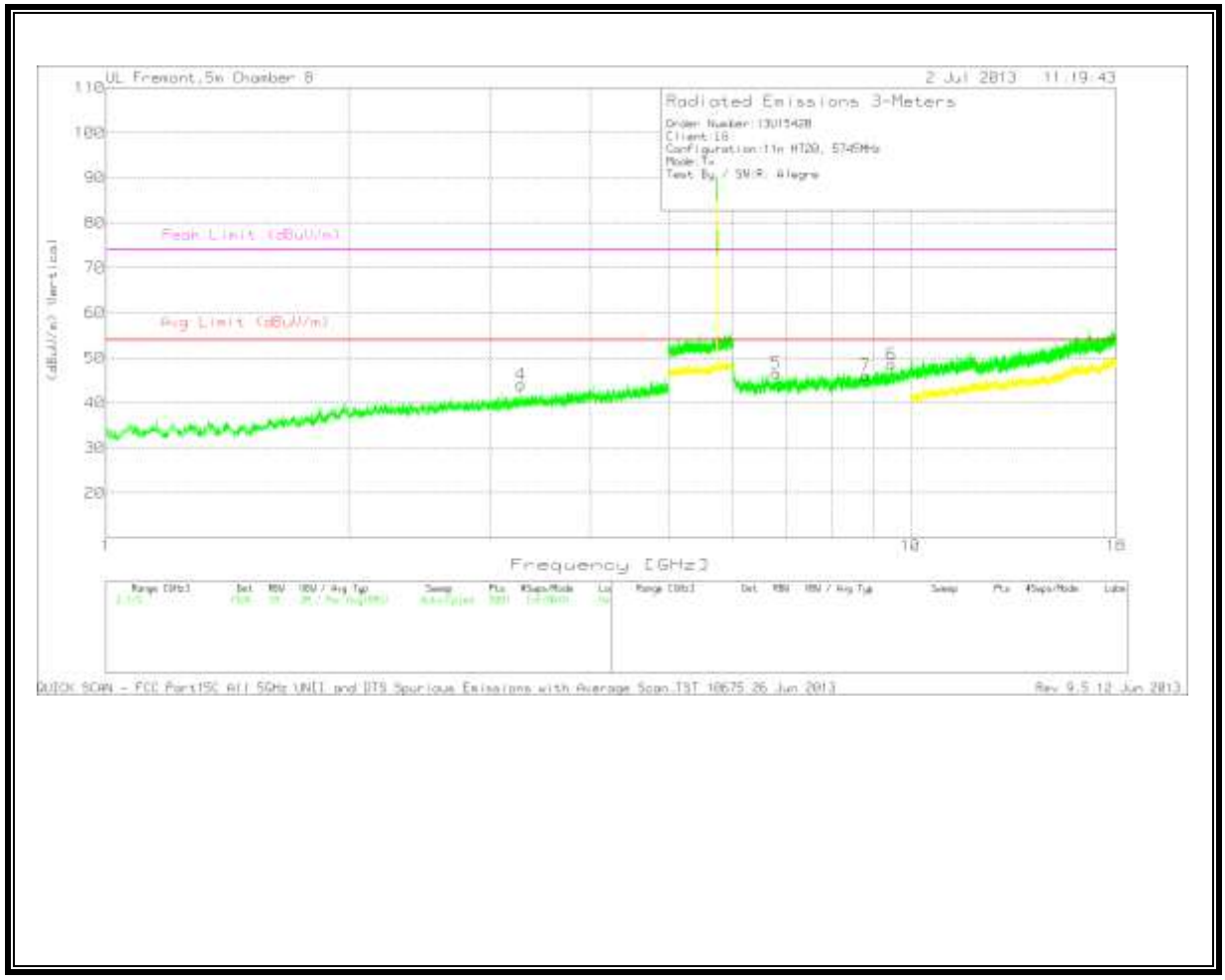
10.4.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.8 GHz BAND

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



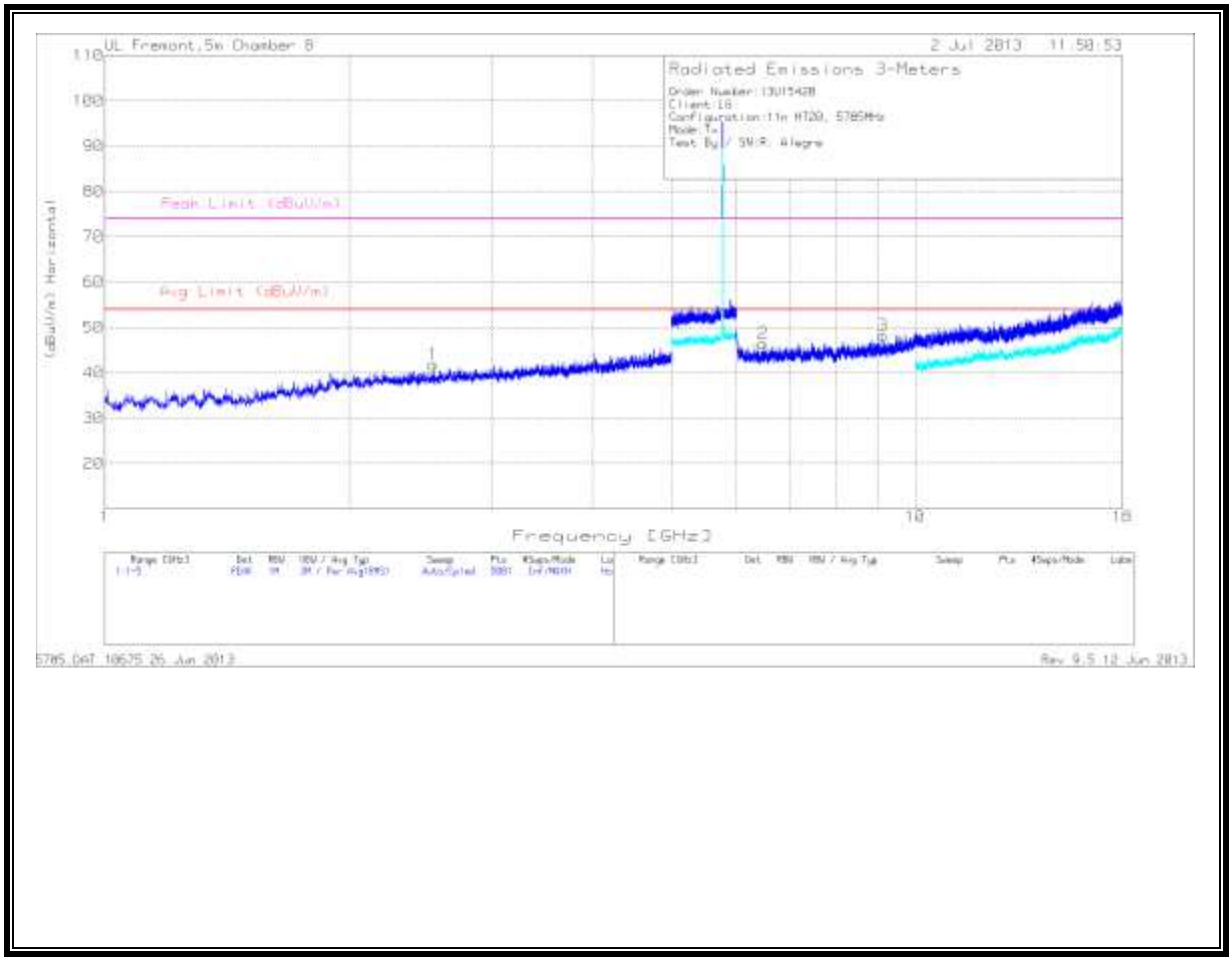
VERTICAL



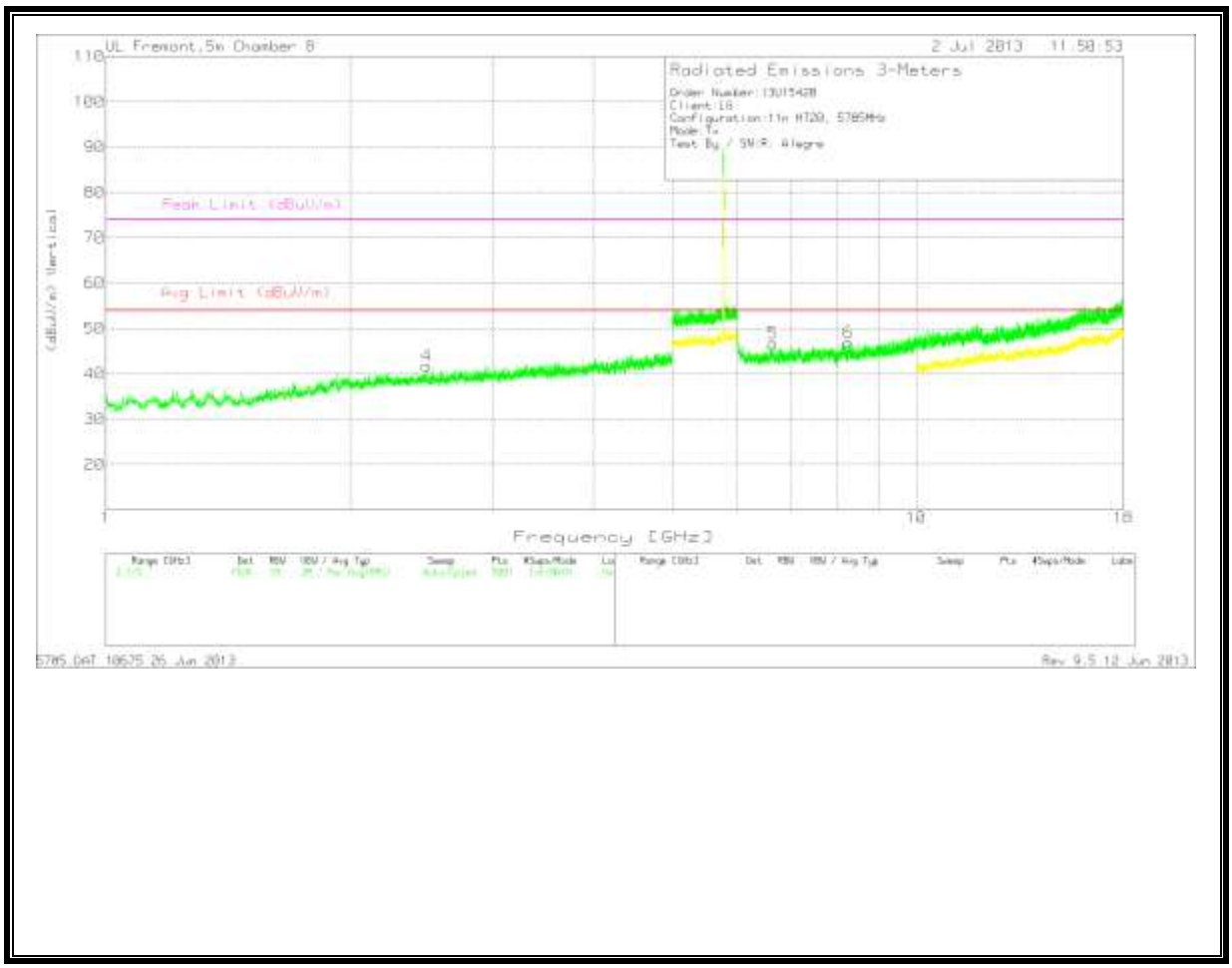
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3.421	40.86	PK	33.2	-31.2	42.86	53.97	-11.11	74	-31.14	0-360	100	H
3.278	43.06	PK	33.3	-32.3	44.06	53.97	-9.91	74	-29.94	0-360	200	V
6.611	38.45	PK	35.9	-27.9	46.45	53.97	-7.52	74	-27.55	0-360	100	H
8.758	37.29	PK	36.4	-25.9	47.79	53.97	-6.18	74	-26.21	0-360	100	H
6.808	39.52	PK	35.8	-28.7	46.62	53.97	-7.35	74	-27.38	0-360	100	V
9.477	36.25	PK	37.2	-24.9	48.55	53.97	-5.42	74	-25.45	0-360	200	V
8.791	35.78	PK	36.5	-26.2	46.08	53.97	-7.89	74	-27.92	0-360	200	V

MID CHANNEL
HORIZONTAL



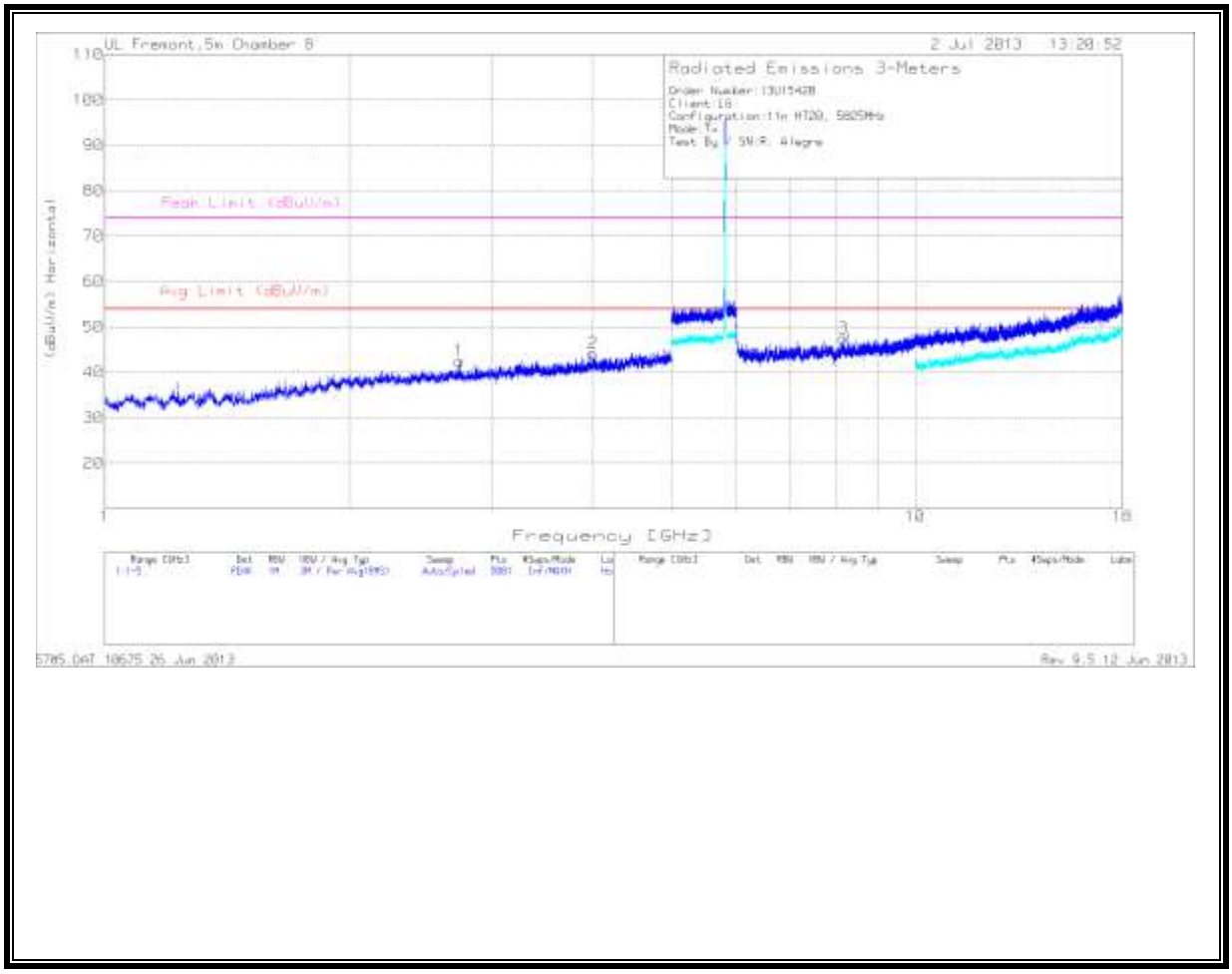
VERTICAL



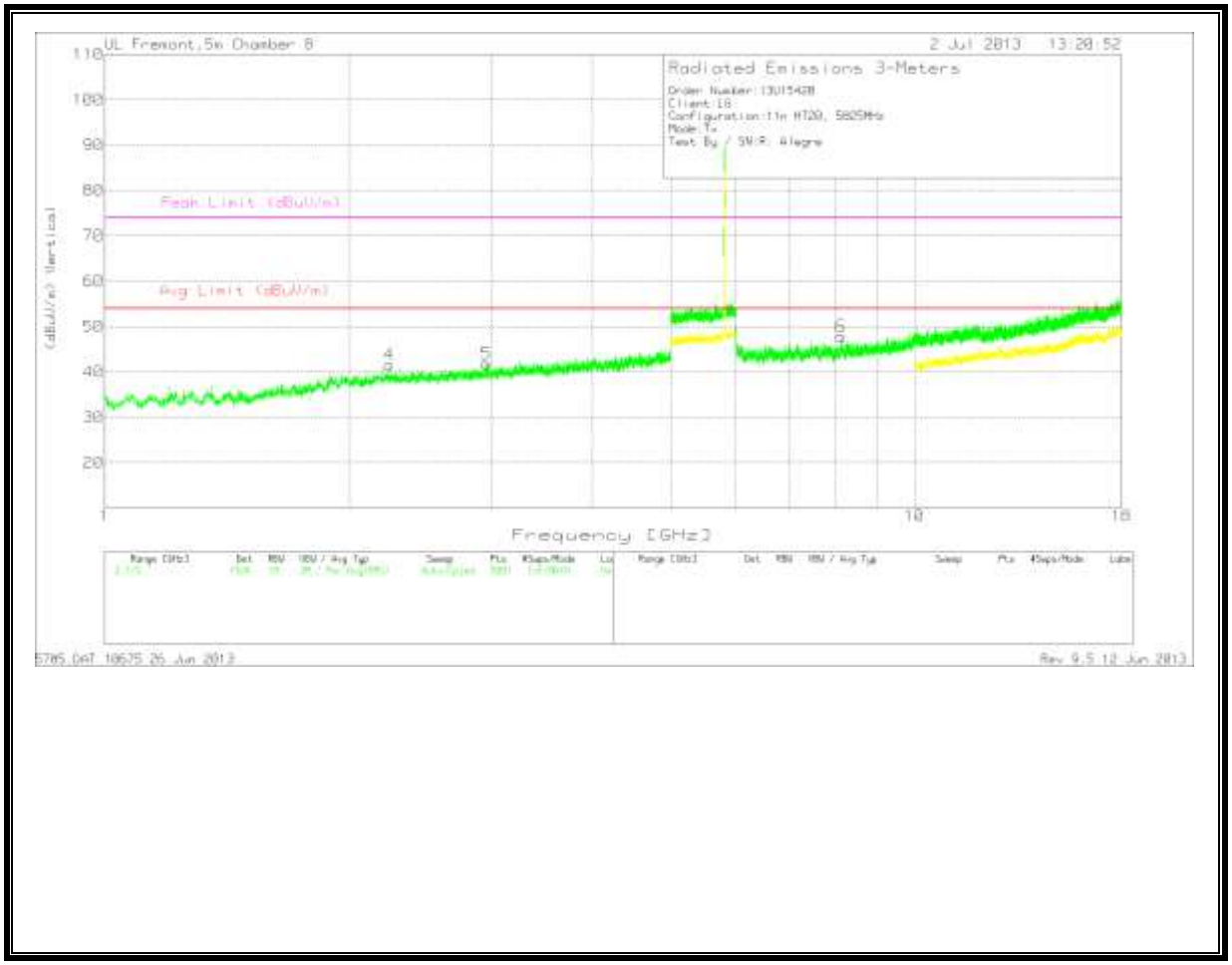
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.54	42.41	PK	32.5	-33.1	41.81	53.97	-12.16	74	-32.19	0-360	100	H
2.488	42.02	PK	32.5	-32.8	41.72	53.97	-12.25	74	-32.28	0-360	100	V
6.492	39.81	PK	35.9	-29.3	46.41	53.97	-7.56	74	-27.59	0-360	200	H
9.12	36.74	PK	36.8	-25.3	48.24	53.97	-5.73	74	-25.76	0-360	100	H
6.655	40.12	PK	35.8	-29.2	46.72	53.97	-7.25	74	-27.28	0-360	200	V
8.25	37.31	PK	36.1	-26.5	46.91	53.97	-7.06	74	-27.09	0-360	200	V

HIGH CHANNEL
HORIZONTAL



VERTICAL



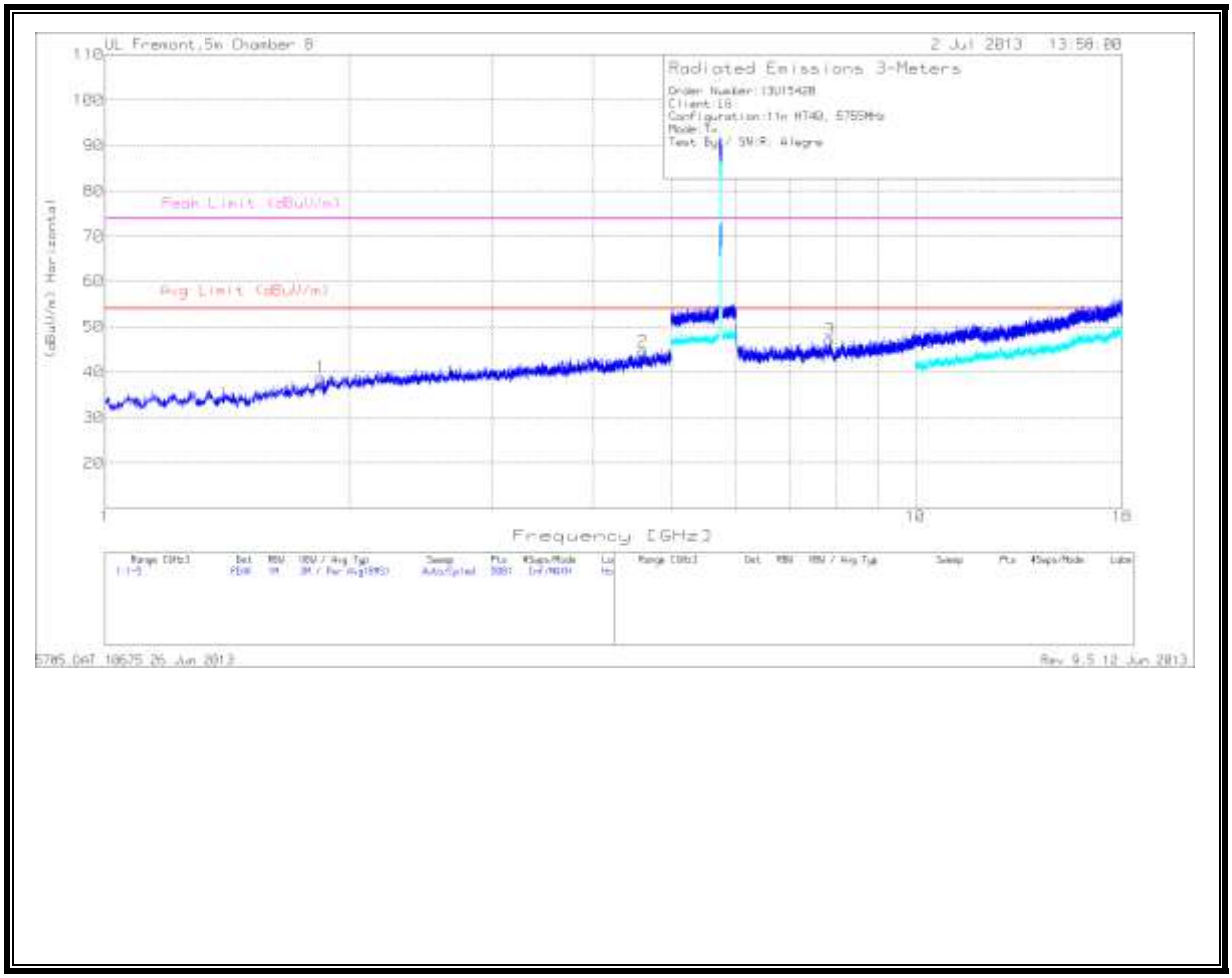
HIGH CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2.739	42.23	PK	32.8	-32.5	42.53	53.97	-11.44	74	-31.47	0-360	100	H
4.002	40.85	PK	33.9	-30.6	44.15	53.97	-9.82	74	-29.85	0-360	100	H
2.246	42.57	PK	32.1	-33.1	41.57	53.97	-12.4	74	-32.43	0-360	200	V
2.96	40.93	PK	33.1	-32.2	41.83	53.97	-12.14	74	-32.17	0-360	200	V
8.151	38.12	PK	36.1	-26.7	47.52	53.97	-6.45	74	-26.48	0-360	100	H
8.114	37.86	PK	36.1	-26.2	47.76	53.97	-6.21	74	-26.24	0-360	200	V

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

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL

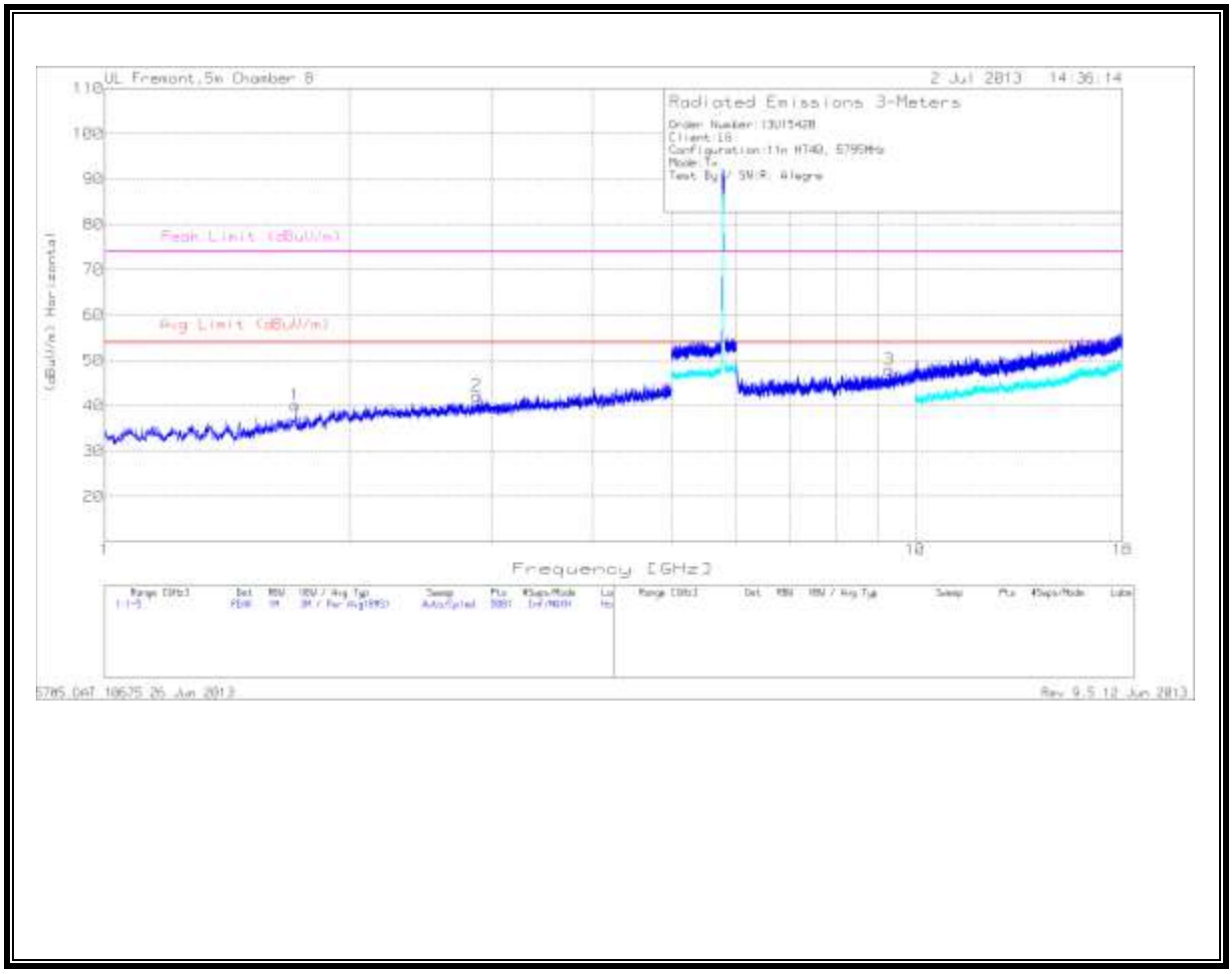


VERTICAL

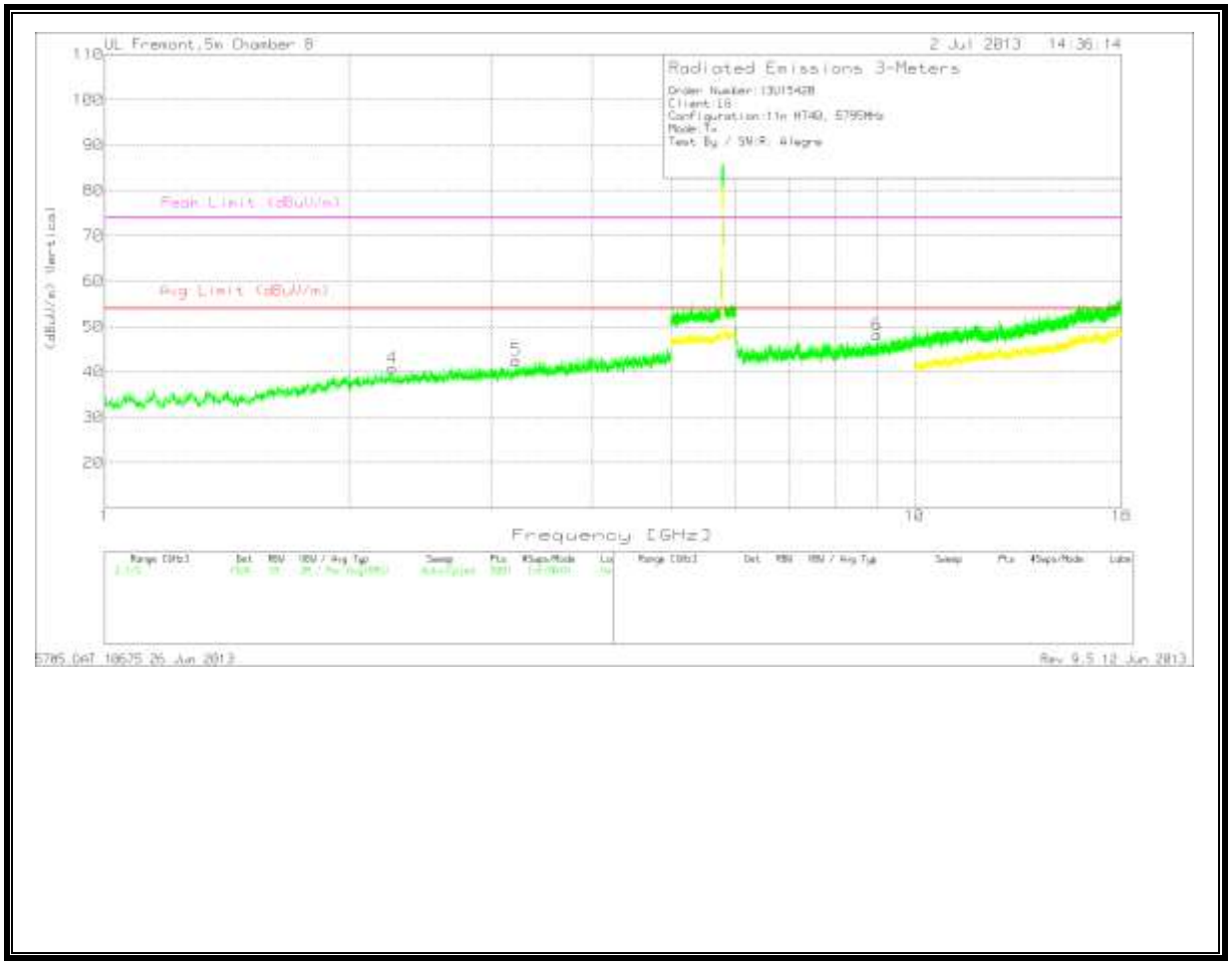
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.85	41.92	PK	30.8	-34	38.72	54	-15.25	74	-35.28	0-360	200	H
4.621	39.98	PK	34.6	-30.1	44.48	54	-9.49	74	-29.52	0-360	200	H
1.188	47.76	PK	28.3	-35.5	40.56	54	-13.41	74	-33.44	0-360	200	V
4.394	41.03	PK	34.3	-31	44.33	54	-9.64	74	-29.67	0-360	100	V
7.844	38	PK	36.2	-27.1	47.1	54	-6.87	74	-26.9	0-360	200	H
7.798	36.98	PK	36.2	-26.4	46.78	54	-7.19	74	-27.22	0-360	200	V

HIGH CHANNEL
HORIZONTAL



VERTICAL



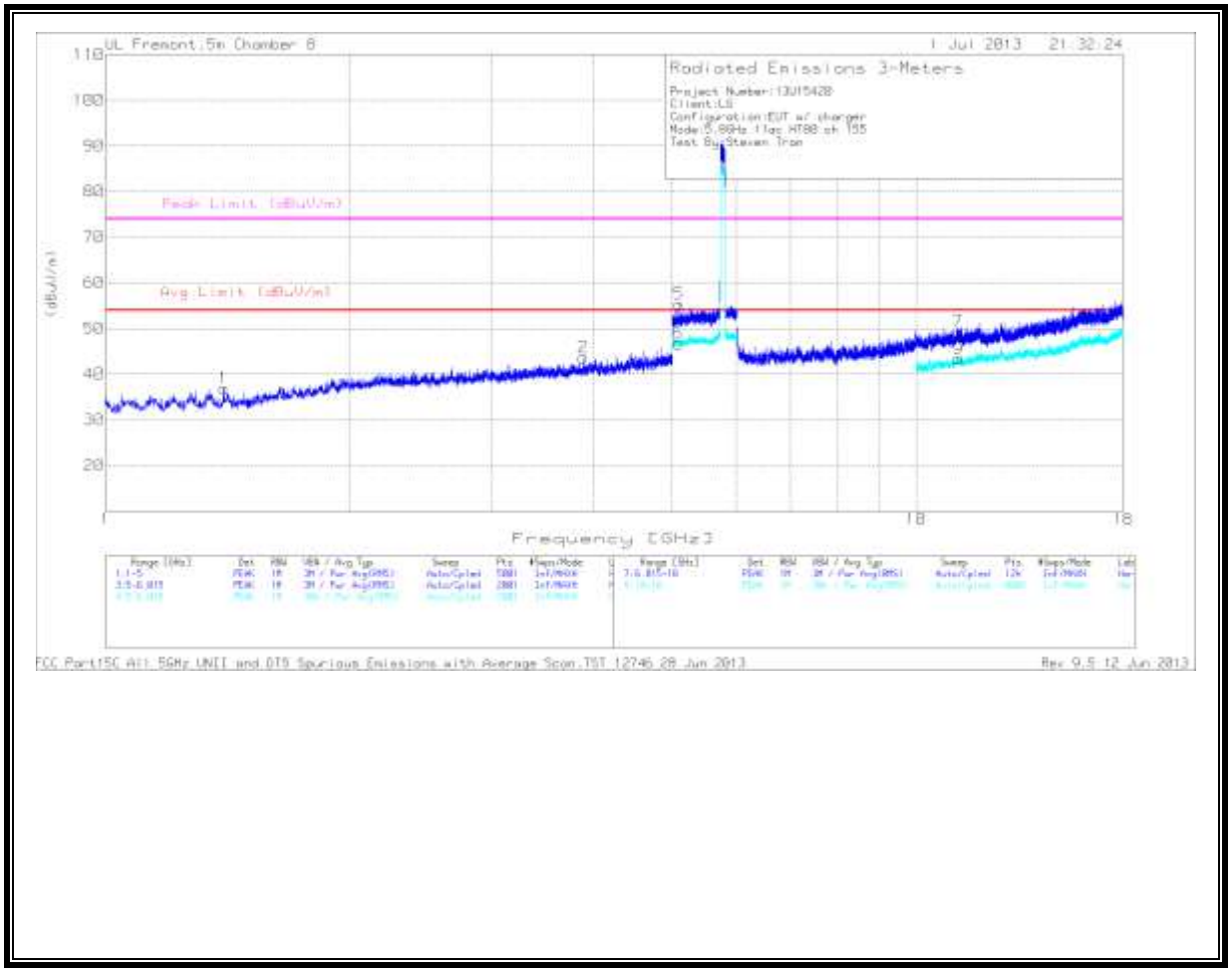
HIGH CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.718	44.31	PK	29.9	-34.1	40.11	53.97	-13.86	74	-33.89	0-360	200	H
2.879	41.98	PK	33	-32.8	42.18	53.97	-11.79	74	-31.82	0-360	200	H
2.265	41.78	PK	32.1	-33	40.88	53.97	-13.09	74	-33.12	0-360	200	V
3.222	41.8	PK	33.3	-32.5	42.6	53.97	-11.37	74	-31.4	0-360	100	V
9.281	36.29	PK	36.9	-25.2	47.99	53.97	-5.98	74	-26.01	0-360	200	H
8.991	36.92	PK	36.8	-25.5	48.22	53.97	-5.75	74	-25.78	0-360	200	V

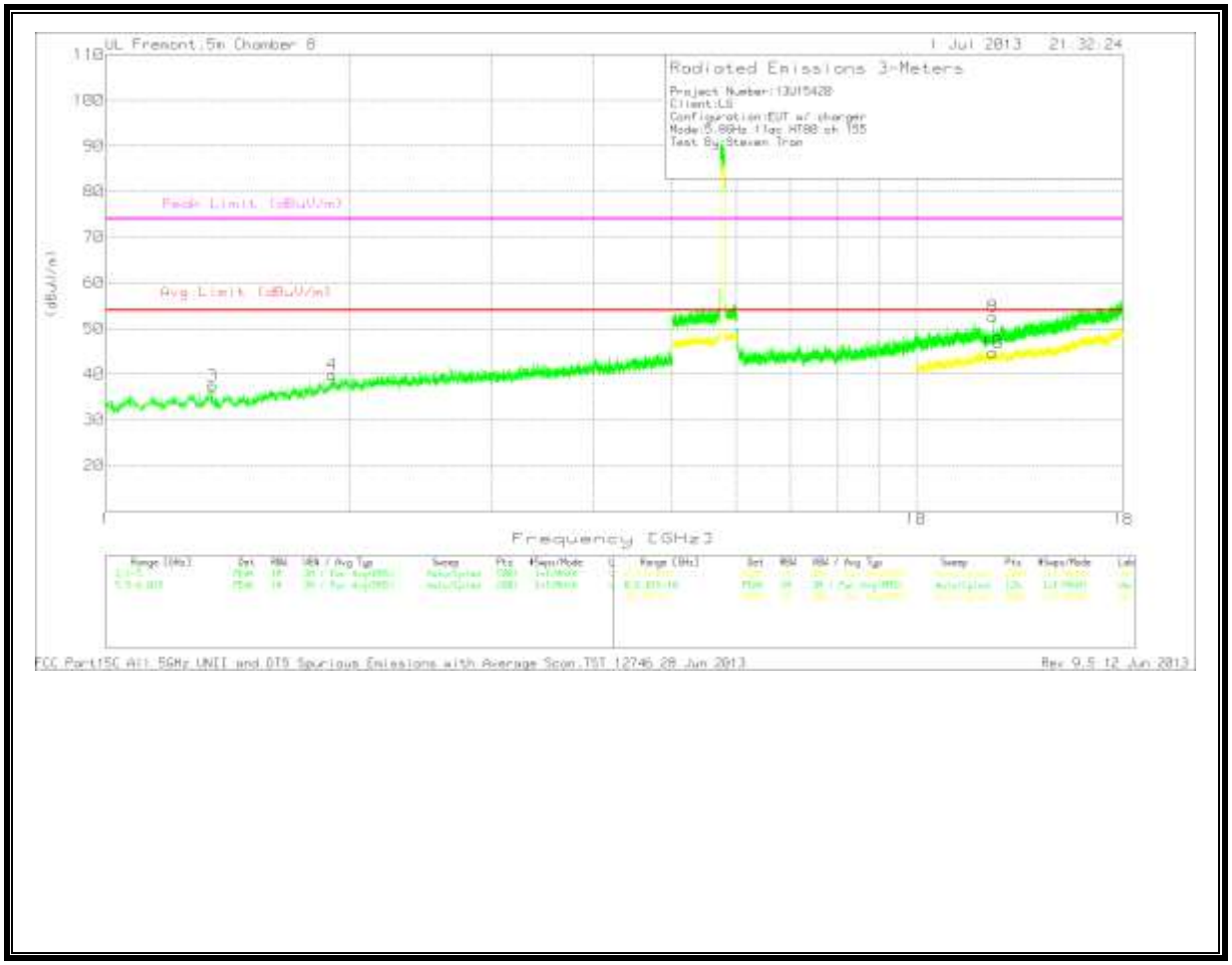
10.4.4. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.8 GHz BAND

HARMONICS AND SPURIOUS EMISSIONS

HIGH CHANNEL
HORIZONTAL



VERTICAL



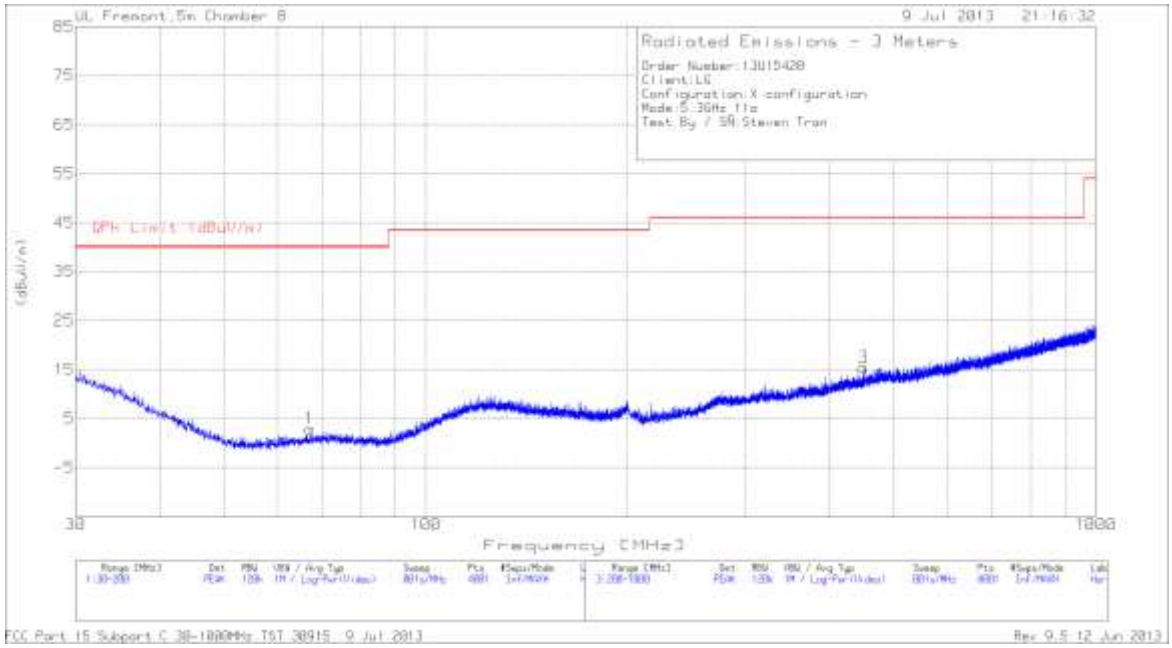
HIGH CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.4	42.98	PK	28.4	-34.5	36.88	54	-17.12	74	-37.12	0-360	200	H
3.886	41.78	PK	33.9	-32	43.68	54	-10.32	74	-30.32	0-360	100	H
1.355	43.56	PK	28.4	-34.5	37.46	54	-16.54	74	-36.54	0-360	100	V
1.905	42.06	PK	31.2	-33.4	39.86	54	-14.14	74	-34.14	0-360	200	V
5.097	41.39	PK	34.7	-20.7	55.39	54	1.39	74	-18.61	0-360	200	H
5.087	32.51	PK	34.7	-20.5	46.71	54	-7.29	74	-27.29	0-360	200	H
11.256	32.83	PK	38.5	-22.1	49.23	54	-4.77	74	-24.77	0-360	200	H
12.438	35.61	PK	39.2	-22.2	52.61	54	-1.39	74	-21.39	0-360	200	V
11.28	27.3	PK	38.5	-22.4	43.4	54	-10.6	74	-30.6	0-360	100	H
12.436	27.86	PK	39.2	-22.3	44.76	54	-9.24	74	-29.24	0-360	200	V

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

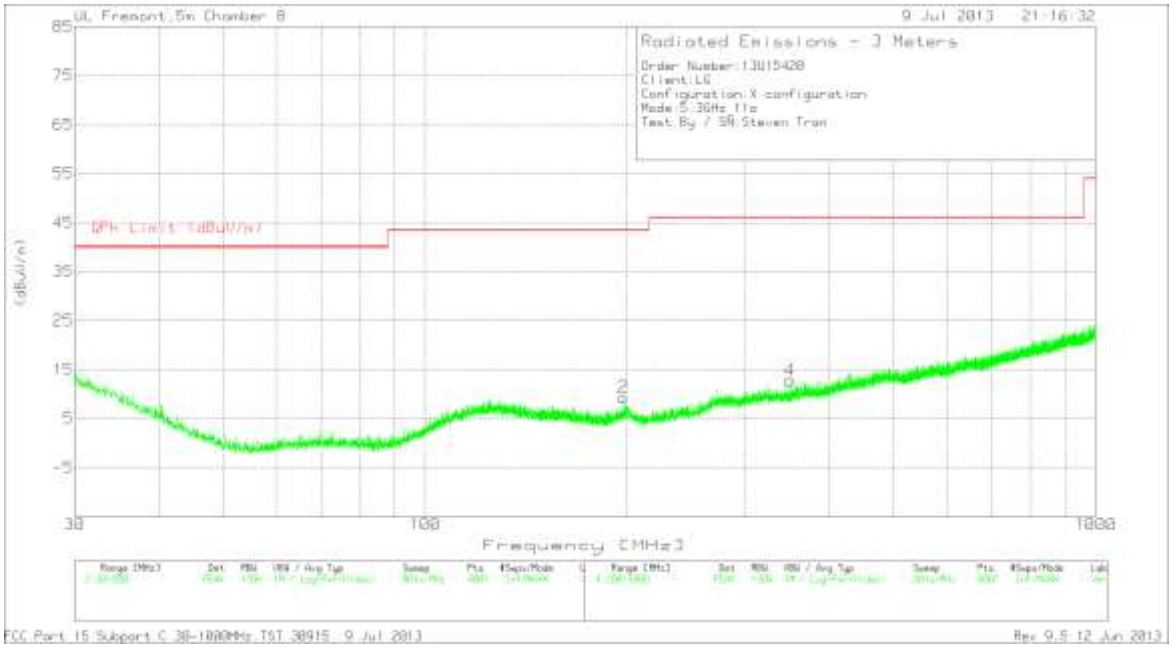
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

HORIZONTAL PLOT



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

VERTICAL PLOT



Worst Case Data

Frequency (MHz)	Meter Reading (dBuV)	Det	AF T243 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
67.1025	23.64	PK	7.7	-28.4	2.94	40	-37.06	0-360	200	H
197.3225	24.18	PK	12.1	-27	9.28	43.52	-34.24	0-360	100	V
450.1	24.59	PK	16.7	-25.9	15.39	46.02	-30.63	0-360	400	H
350.1	24.49	PK	14.2	-25.9	12.79	46.02	-33.23	0-360	400	V

12. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

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.

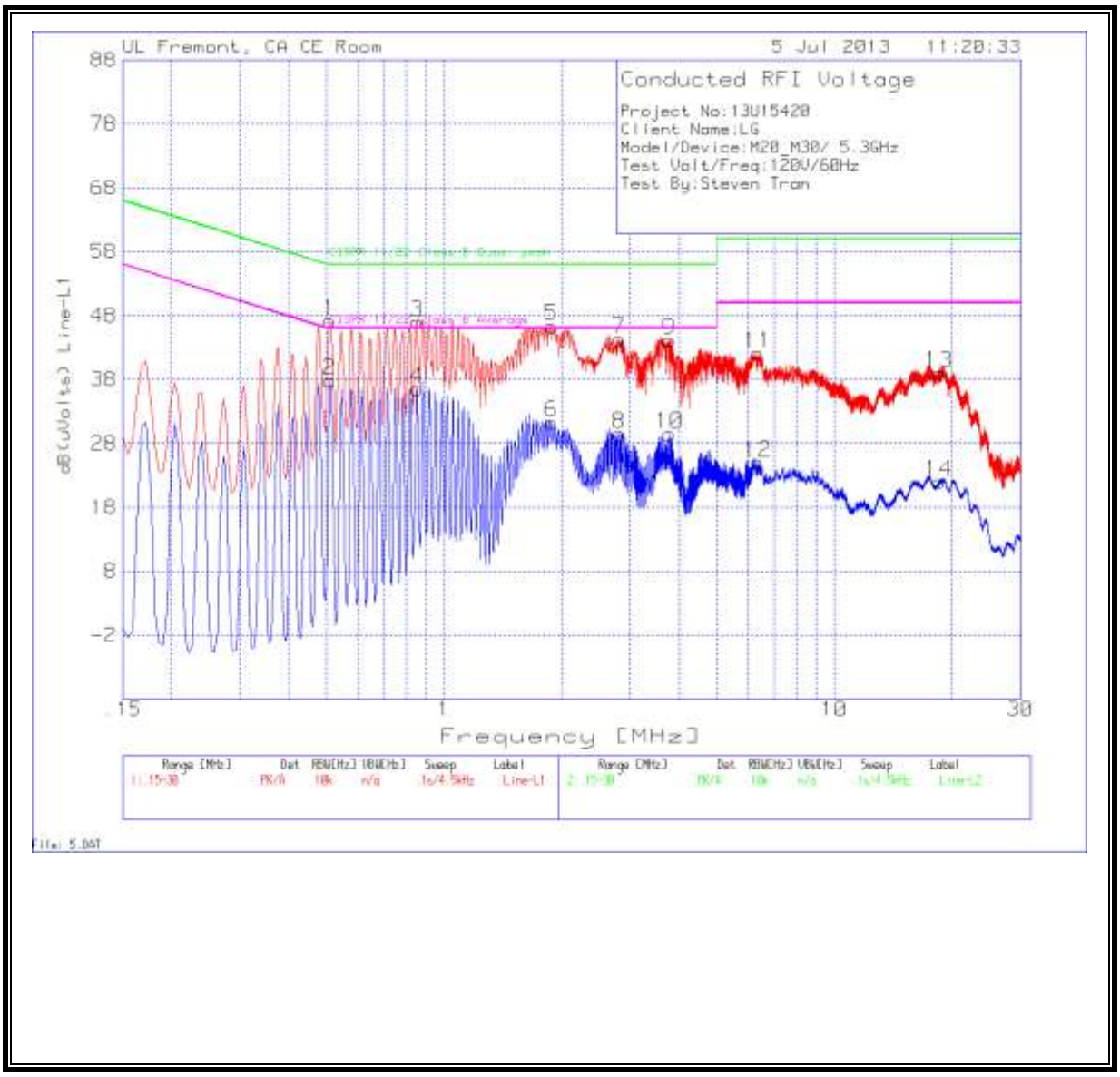
Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

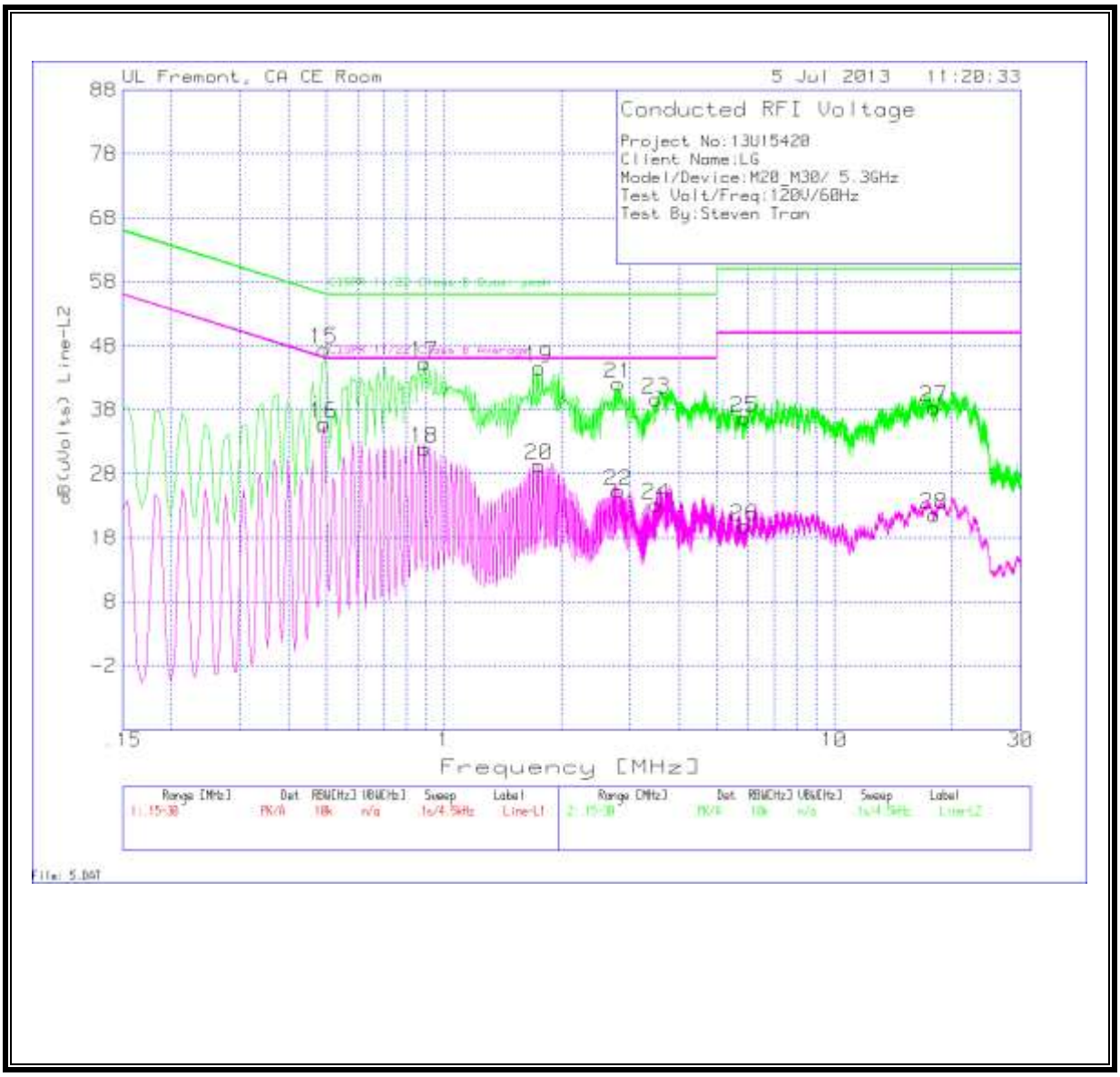
6 WORST EMISSIONS

Line-L1 .15 - 30MHz									
Test Frequency	Meter Reading	Detector	T24 IL L1.TXT (dB)	LC Cables 1&3.TXT (dB)	dB(uVolts)	CISPR 11/22 Class B Quasi-peak	Margin	CISPR 11/22 Class B Average	Margin
0.51	47.07	PK	0.1	0	47.17	56	-8.83	-	-
0.51	37.72	Av	0.1	0	37.82	-	-	46	-8.18
0.852	46.85	PK	0.1	0	46.95	56	-9.05	-	-
0.852	36.48	Av	0.1	0	36.58	-	-	46	-9.42
1.887	46.12	PK	0.1	0.1	46.32	56	-9.68	-	-
1.887	31.11	Av	0.1	0.1	31.31	-	-	46	-14.69
2.8095	44.05	PK	0.1	0.1	44.25	56	-11.75	-	-
2.8095	29.24	Av	0.1	0.1	29.44	-	-	46	-16.56
3.777	44.01	PK	0.1	0.1	44.21	56	-11.79	-	-
3.777	29.24	Av	0.1	0.1	29.44	-	-	46	-16.56
6.369	41.88	PK	0.1	0.1	42.08	60	-17.92	-	-
6.369	24.82	Av	0.1	0.1	25.02	-	-	50	-24.98
18.5865	38.63	PK	0.2	0.2	39.03	60	-20.97	-	-
18.5865	21.62	Av	0.2	0.2	22.02	-	-	50	-27.98
Line-L2 .15 - 30MHz									
Test Frequency	Meter Reading	Detector	T24 IL L2.TXT (dB)	LC Cables 2&3.TXT (dB)	dB(uVolts)	CISPR 11/22 Class B Quasi-peak	Margin	CISPR 11/22 Class B Average	Margin
0.492	47.25	PK	0.1	0	47.35	56.1	-8.75	-	-
0.492	35.63	Av	0.1	0	35.73	-	-	46.1	-10.37
0.8925	45.19	PK	0.1	0	45.29	56	-10.71	-	-
0.8925	31.82	Av	0.1	0	31.92	-	-	46	-14.08
1.752	44.34	PK	0.1	0.1	44.54	56	-11.46	-	-
1.752	29.08	Av	0.1	0.1	29.28	-	-	46	-16.72
2.8005	41.84	PK	0.1	0.1	42.04	56	-13.96	-	-
2.8005	25.08	Av	0.1	0.1	25.28	-	-	46	-20.72
3.498	39.43	PK	0.1	0.1	39.63	56	-16.37	-	-
3.498	22.92	Av	0.1	0.1	23.12	-	-	46	-22.88
5.8965	36.47	PK	0.1	0.1	36.67	60	-23.33	-	-
5.8965	19.55	Av	0.1	0.1	19.75	-	-	50	-30.25
18.051	37.99	PK	0.2	0.2	38.39	60	-21.61	-	-
18.051	21.23	Av	0.2	0.2	21.63	-	-	50	-28.37

LINE 1 RESULTS



LINE 2 RESULTS



13. DYNAMIC FREQUENCY SELECTION

13.1. OVERVIEW

13.1.1. LIMITS

INDUSTRY CANADA

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

RSS-210 Issue 7 A9.4 (b) (ii) **Channel Availability Check Time:** …

Additional requirements for the band 5600-5650 MHz: Until further notice, devices subject to this Section shall not be capable of transmitting in the band 5600-5650 MHz, so that Environment Canada weather radars operating in this band are protected.

RSS-210 Issue 7 A9.4 (b) (iv) **Channel closing time:** the maximum channel closing time is 260 ms.

FCC

§15.407 (h) and FCC 06-96 APPENDIX “COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVCIES OPERATING IN THE 5250-5350 MHz AND 5470-5725 MHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION”.

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
Uniform Spreading	Yes	Not required	Not required

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

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

Maximum Transmit Power	Value (see note)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 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.		

Table 4: DFS Response requirement values

Parameter	Value
Non-occupancy period	30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds
Channel Closing Transmission Time	200 milliseconds + approx. 60 milliseconds over remaining 10 second period
The instant that the *Channel Move Time* and the *Channel Closing Transmission Time* begins is as follows: For the Short pulse radar Test Signals this instant is the end of the *Burst*. For the Frequency Hopping radar Test Signal, this instant is the end of the last radar burst generated. For the Long Pulse radar Test Signal this instant is the end of the 12 second period defining the radar transmission. 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 channel changes (an aggregate of approximately 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.	

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (Microseconds)	PRI (Microseconds)	Pulses	Minimum Percentage of Successful Detection	Minimum Trials
1	1	1428	18	60%	30
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

Table 6 – Long Pulse Radar Test Signal

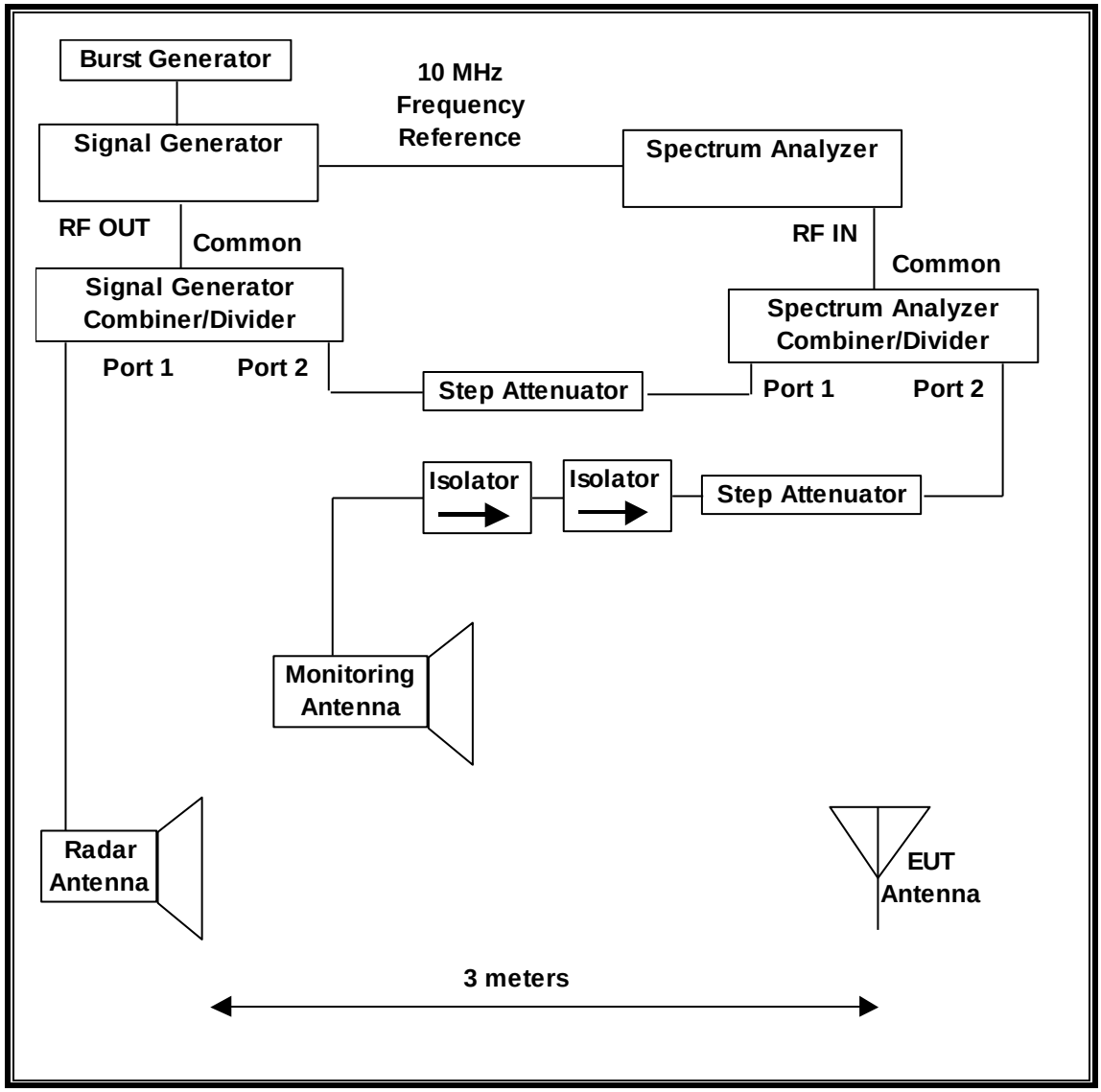
Radar Waveform	Bursts	Pulses per Burst	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Minimum Percentage of Successful Detection	Minimum Trials
5	8-20	1-3	50-100	5-20	1000-2000	80%	30

Table 7 – Frequency Hopping Radar Test Signal

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

13.1.2. 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 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 FCC 06-96 APPENDIX. 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.

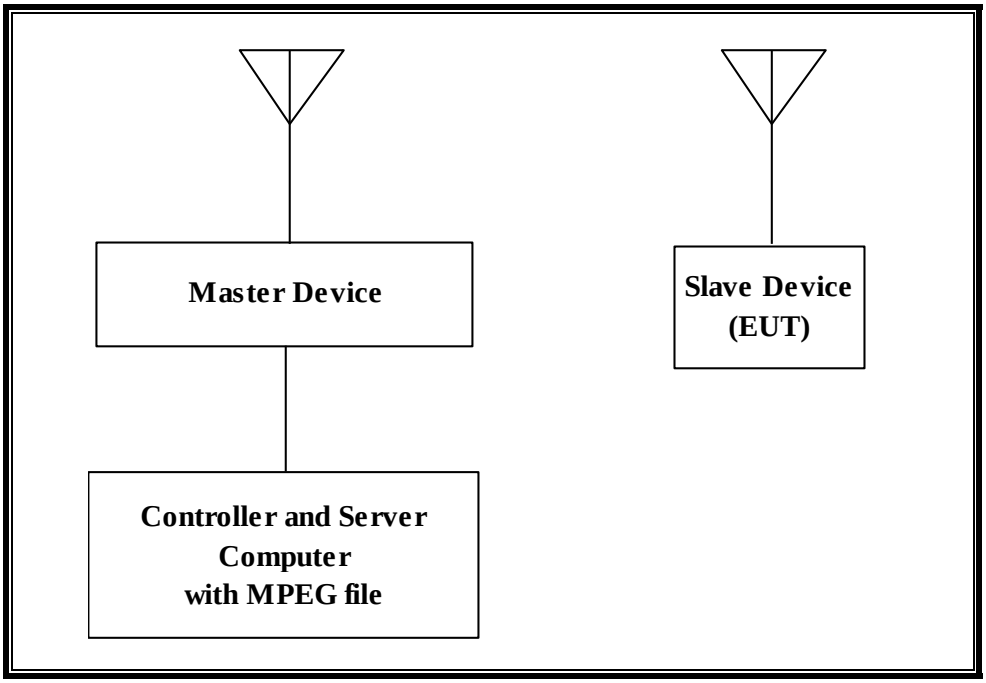
TEST AND MEASUREMENT EQUIPMENT

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, 26.5 GHz	Agilent / HP	E4440A	C01178	08/18/13
Vector Signal Generator, 20GHz	Agilent / HP	E8267C	C01066	11/20/13

13.1.3. SETUP OF EUT

RADIATED METHOD EUT TEST SETUP



SUPPORT EQUIPMENT

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

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Wireless Access Point (Master Device)	Cisco	AIR-AP1252AG-A-K9	FTX120690N2	LDK102061
AC Adapter (AP)	Delta Electronics	EADP-45BB B	DTH112490BD	DoC
Notebook PC (Controller/Server)	Dell	PP18L	10657517725	DoC
AC Adapter (Controller/Server PC)	Dell	LA65SN0-00	CN-ODF263-71615-6AU-1019	DoC

13.1.4. DESCRIPTION OF EUT

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

The EUT is a Slave Device without Radar Detection.

The highest power level within these bands is 6.56 dBm EIRP in the 5250-5350 MHz band and 7.81 dBm EIRP in the 5470-5725 MHz band.

The only antenna assembly utilized with the EUT has a gain of -3.4 Bi.

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 to an antenna to perform radiated tests.

WLAN traffic is generated by streaming the video file TestFile.mp2 “6 ½ Magic Hours” from the Master to the Slave in full motion video mode using V player, version V3.1.9.

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

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 revision 12.4(25d)JA1.

UNIFORM CHANNEL SPREADING

This requirement is not applicable to Slave radio devices.

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 margin to the limit.

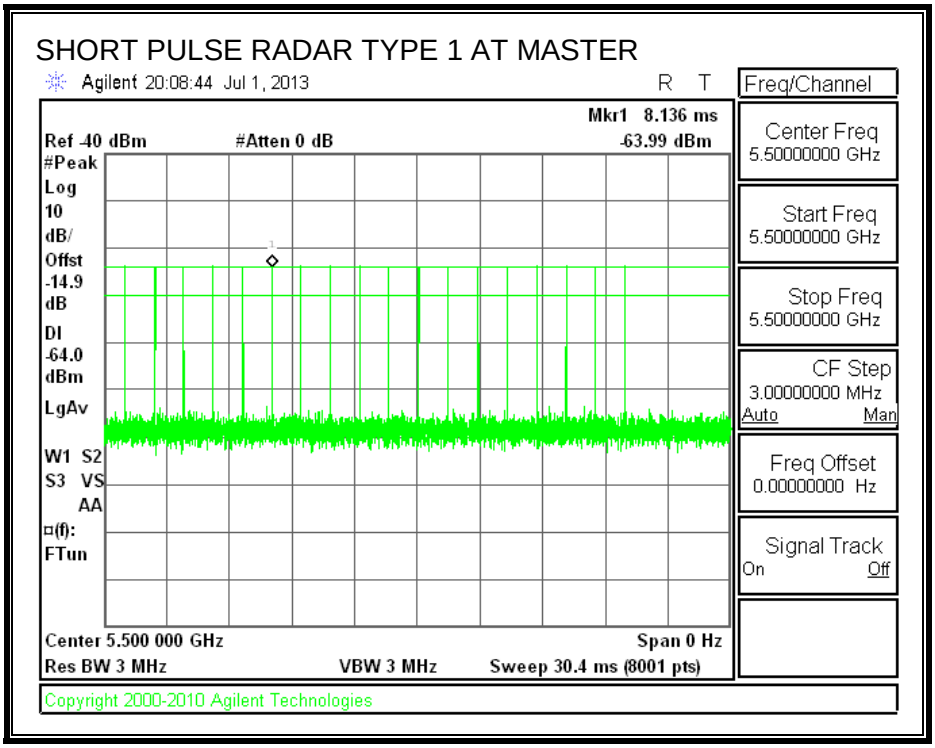
13.2. RESULTS FOR 20 MHz BANDWIDTH

13.2.1. TEST CHANNEL

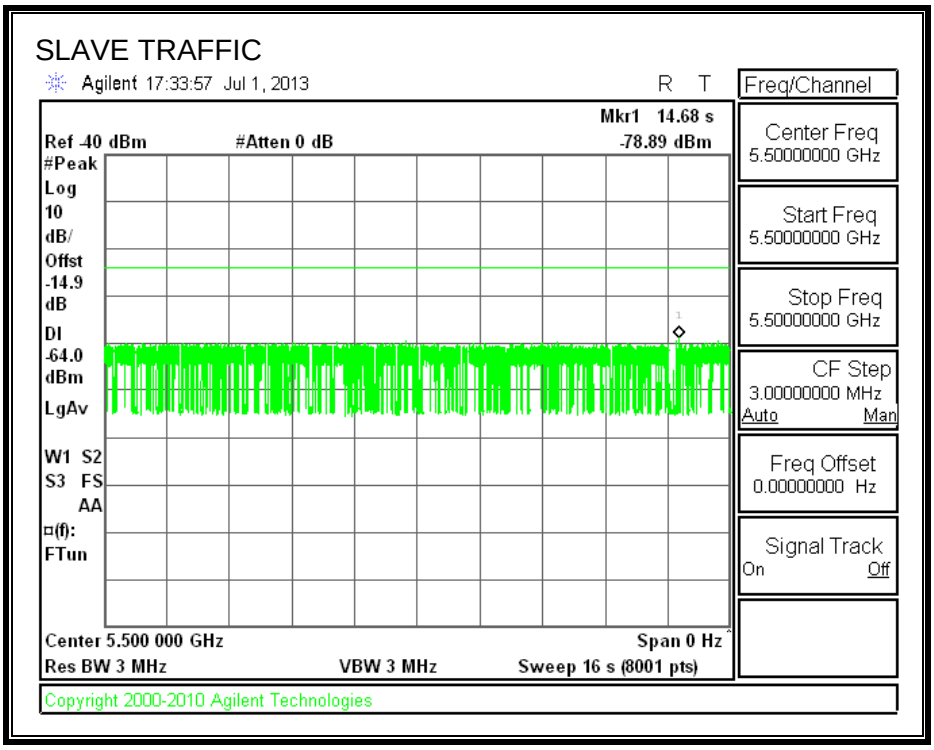
All tests were performed at a channel center frequency of 5500 MHz.

13.2.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM



TRAFFIC



13.2.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

13.2.4. 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 FCC aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

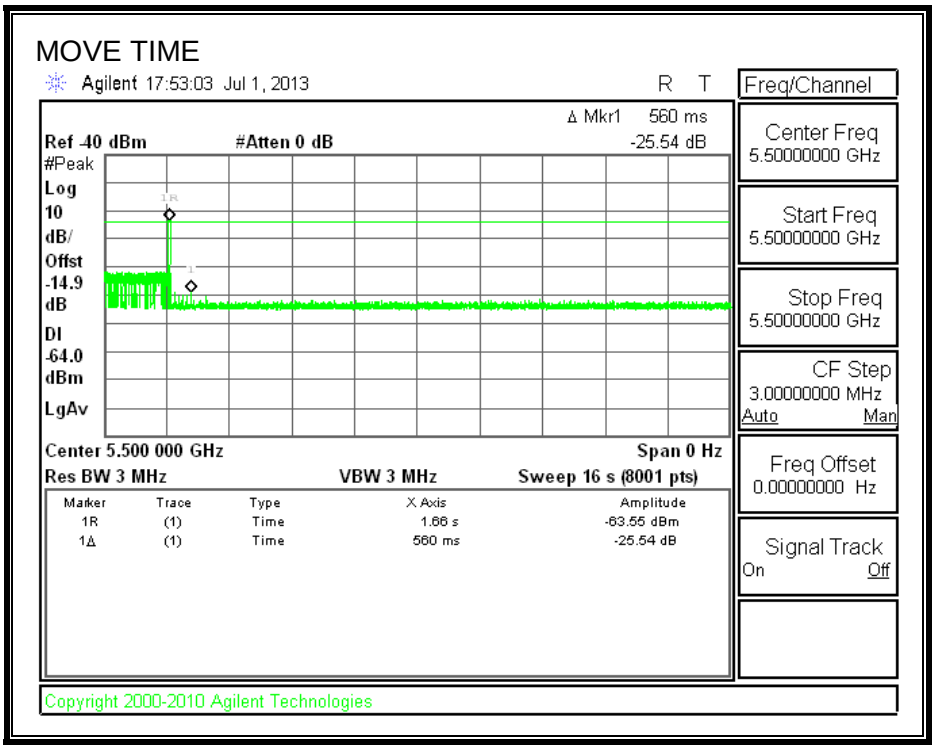
The observation period over which the IC aggregate time is calculated begins at (Reference Marker) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

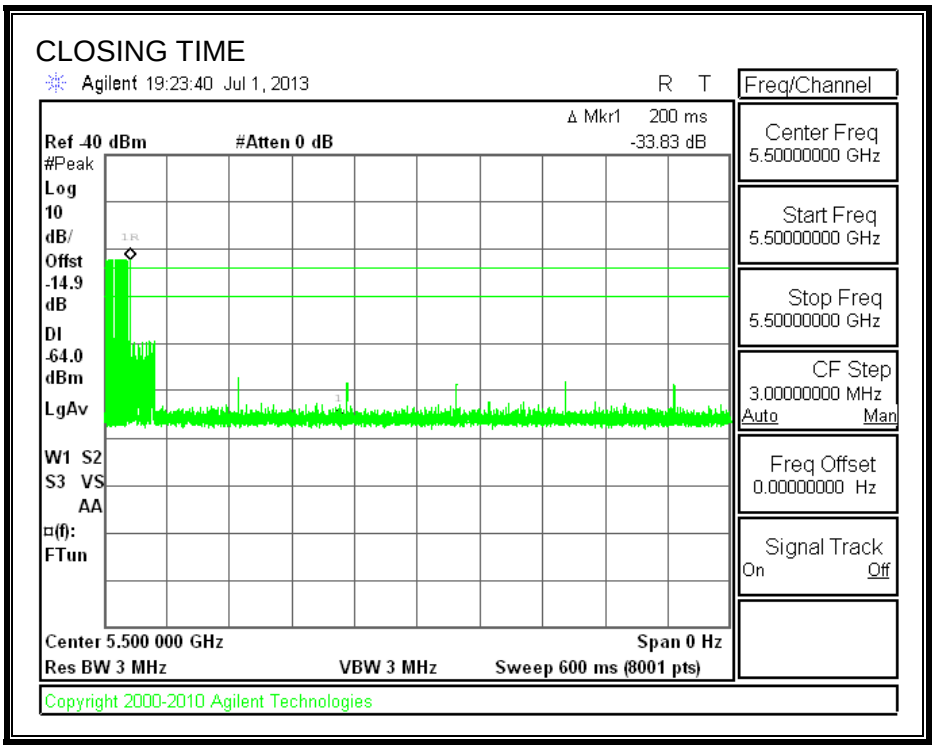
Agency	Channel Move Time (sec)	Limit (sec)
FCC / IC	0.560	10

Agency	Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
FCC	10.0	60
IC	20.0	260

MOVE TIME



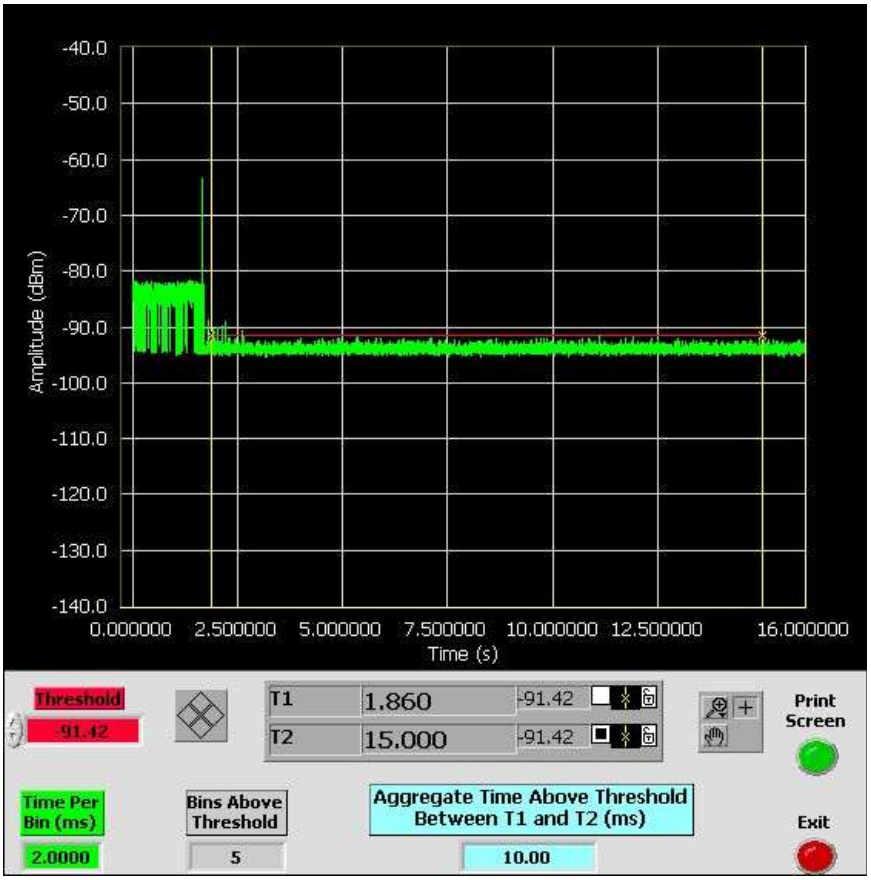
CHANNEL CLOSING TIME



AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

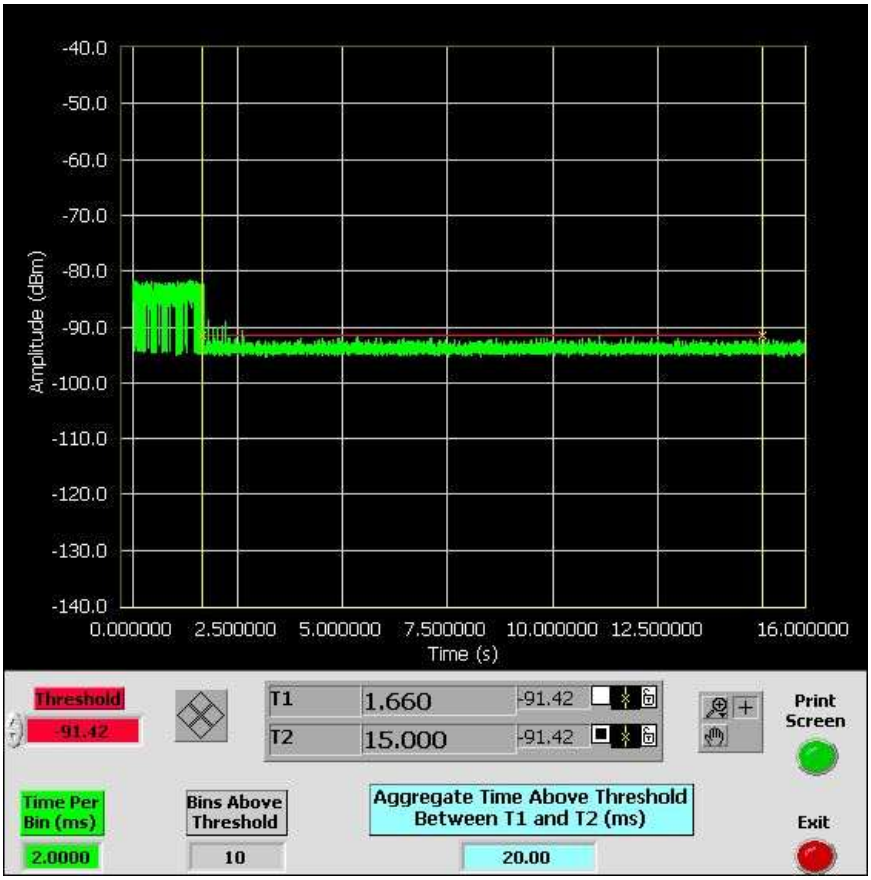
Only intermittent transmissions are observed during the FCC aggregate monitoring period.

FCC AGGREGATE CLOSING TIME



Only intermittent transmissions are observed during the IC aggregate monitoring period.

IC AGGREGATE CLOSING TIME



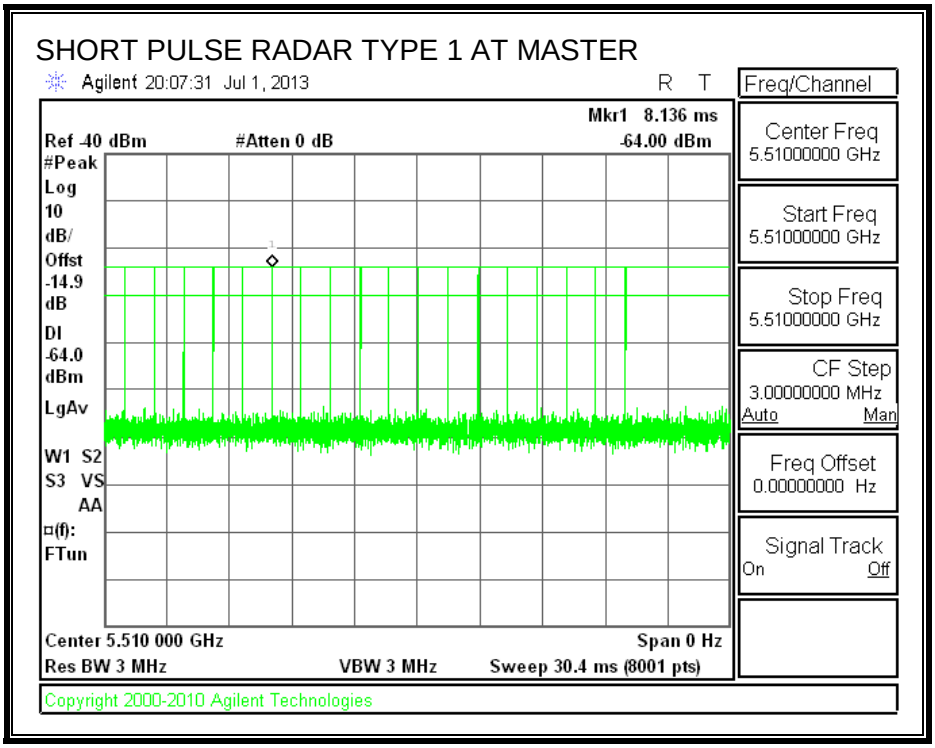
13.3. RESULTS FOR 40 MHz BANDWIDTH

13.3.1. TEST CHANNEL

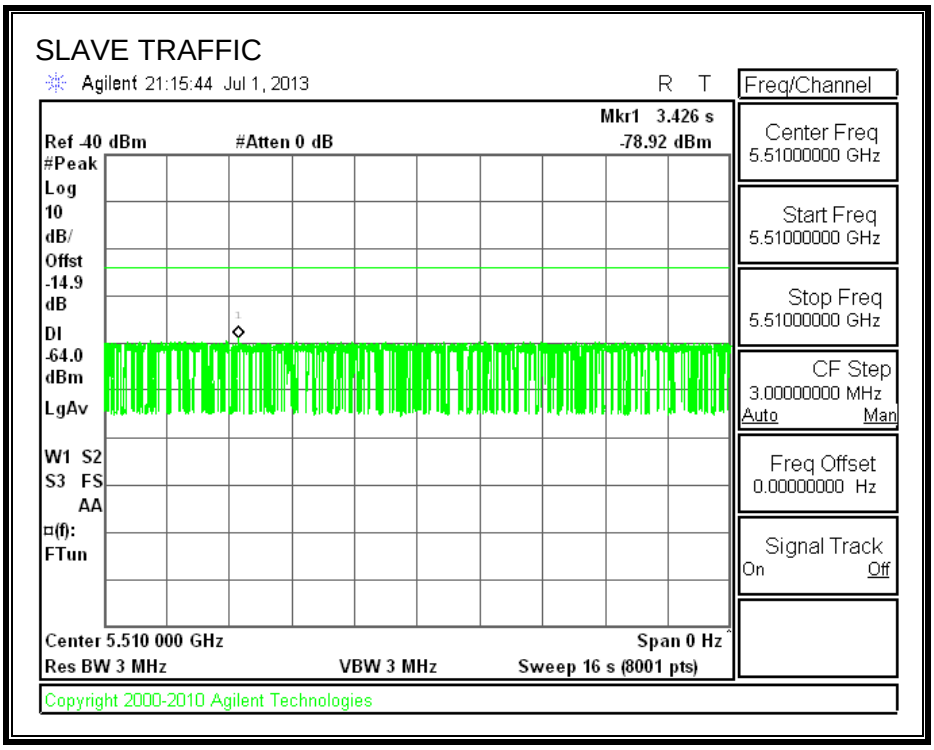
All tests were performed at a channel center frequency of 5510 MHz.

13.3.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM



TRAFFIC



13.3.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

13.3.4. 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 FCC aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

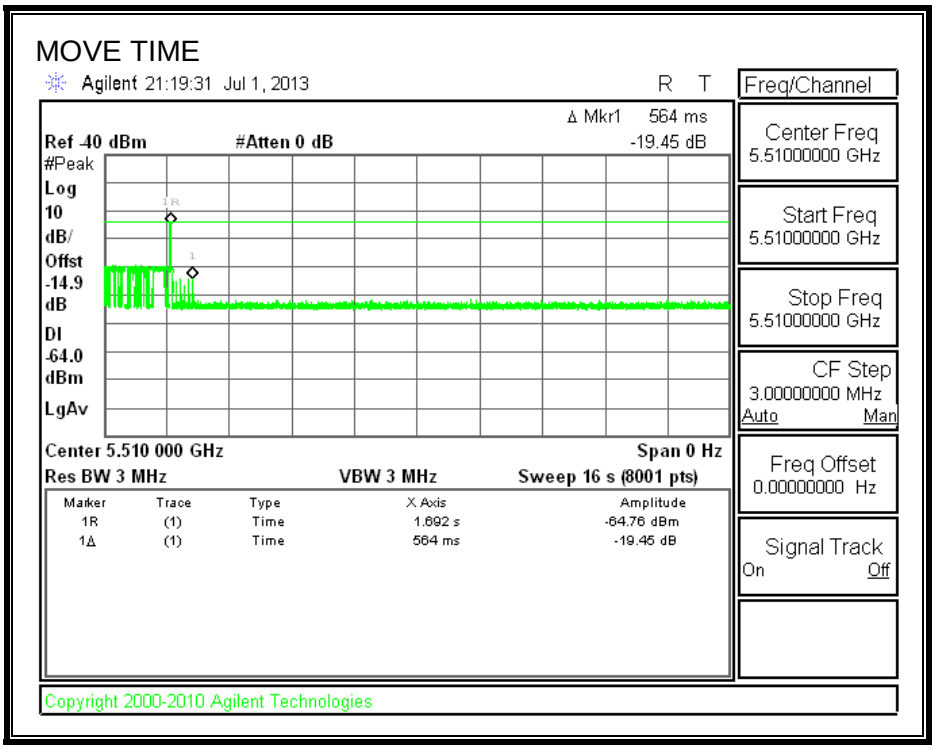
The observation period over which the IC aggregate time is calculated begins at (Reference Marker) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

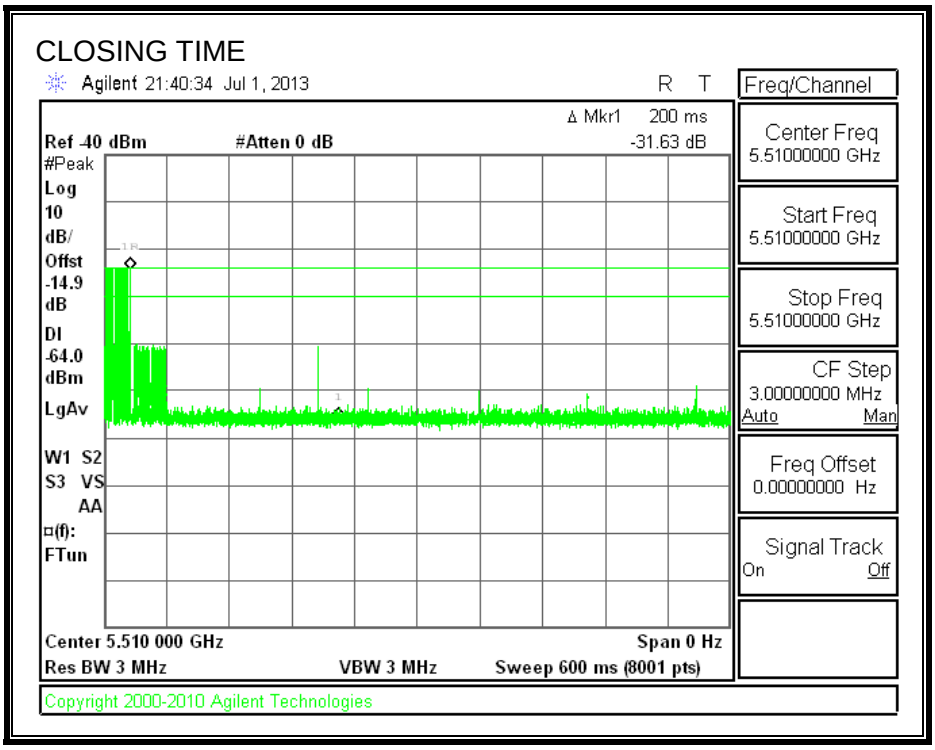
Agency	Channel Move Time (sec)	Limit (sec)
FCC / IC	0.564	10

Agency	Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
FCC	8.0	60
IC	44.0	260

MOVE TIME



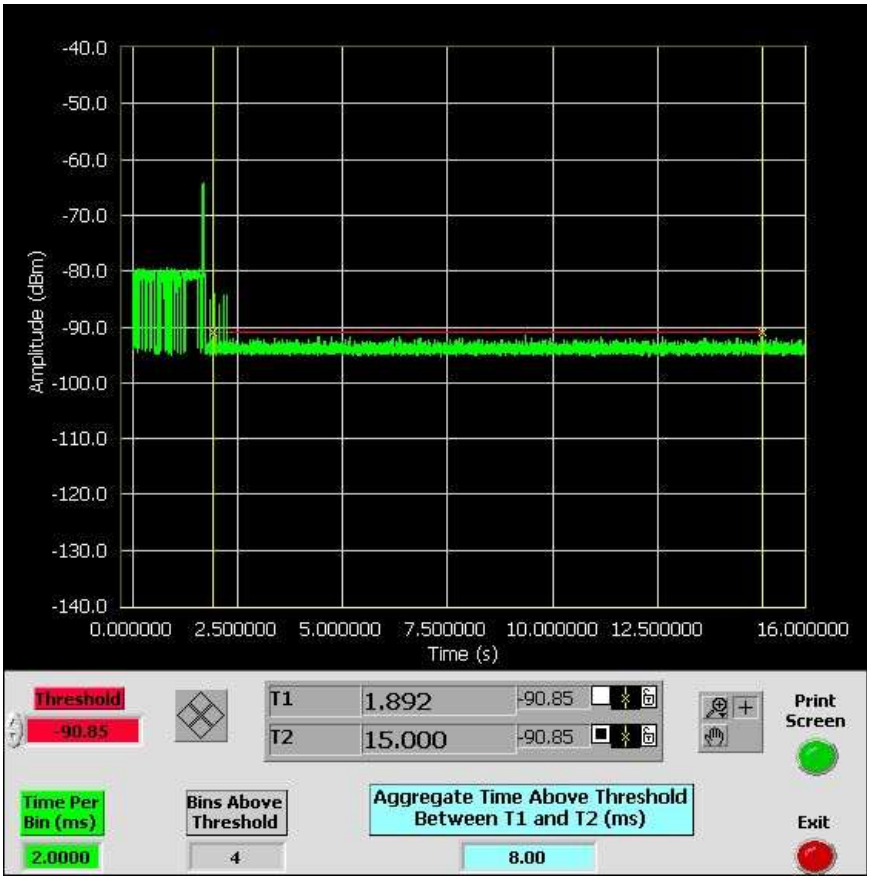
CHANNEL CLOSING TIME



AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

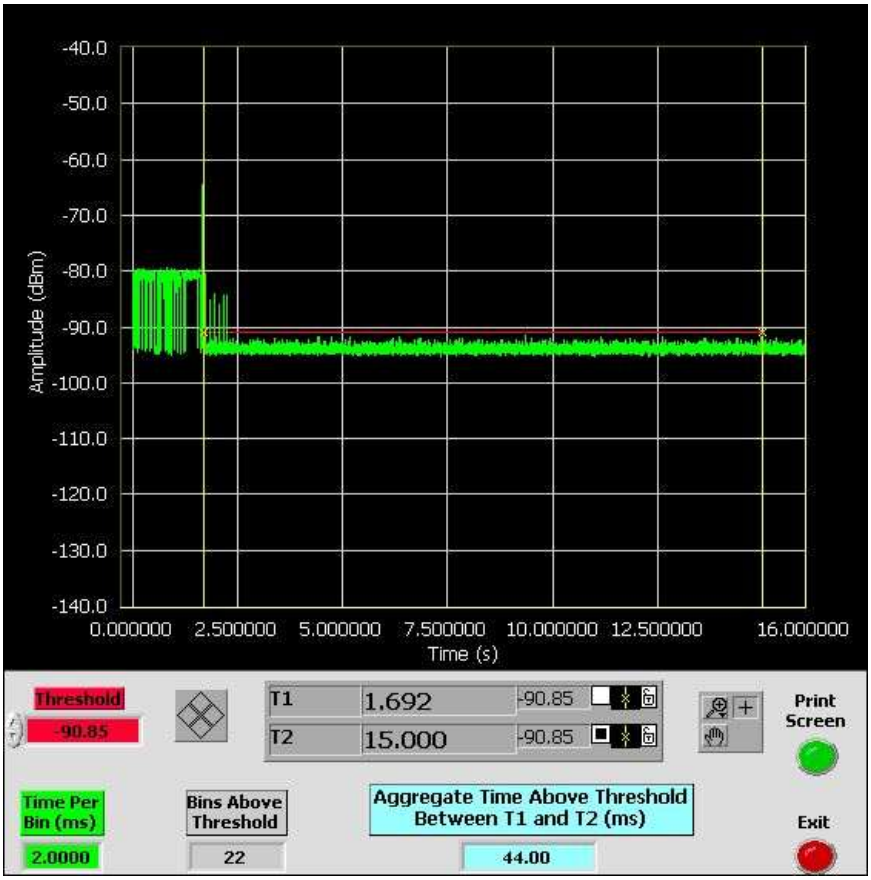
Only intermittent transmissions are observed during the FCC aggregate monitoring period.

FCC AGGREGATE CLOSING TIME



Only intermittent transmissions are observed during the IC aggregate monitoring period.

IC AGGREGATE CLOSING TIME



13.3.5. NON-OCCUPANCY PERIOD

RESULTS

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