

8.5.6. 802.11n HT20 MODE IN THE 5.6 GHz BAND

(FCC+IC)

Test Engineer:	GA12485
Test Date:	05/05/2020

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5500	20.40	17.615	2.20	4.67
Mid	5580	20.35	17.549	2.20	4.67
High	5700	20.30	17.594	2.20	4.67

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm/ 1MHz)	ISED PSD Limit (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)
Low	5500	24.00	23.46	29.46	23.46	11.00	11.00	11.00
Mid	5580	24.00	23.44	29.44	23.44	11.00	11.00	11.00
High	5700	24.00	23.45	29.45	23.45	11.00	11.00	11.00

Duty Cycle CF (dB)	3.83	Included in Calculations of Corr'd Power & PSD
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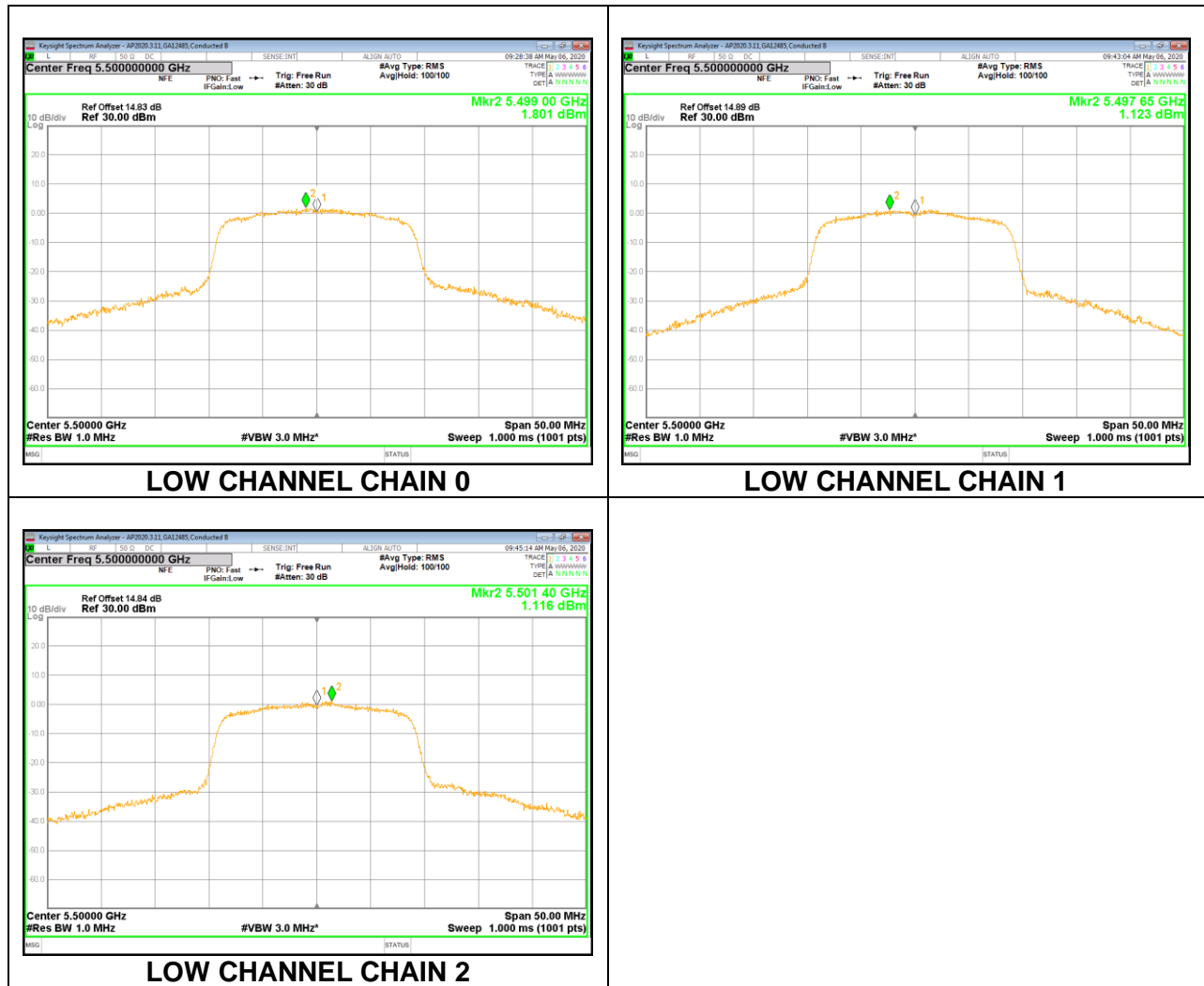
Output Power Results

Channel	Frequency (MHz)	Antenna 1 Meas Power (dBm)	Antenna 2 Meas Power (dBm)	Antenna 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	16.12	15.12	14.67	20.12	23.46	-3.34
Mid	5580	15.95	15.36	15.05	20.24	23.44	-3.20
High	5700	14.32	13.56	13.08	18.45	23.45	-5.00

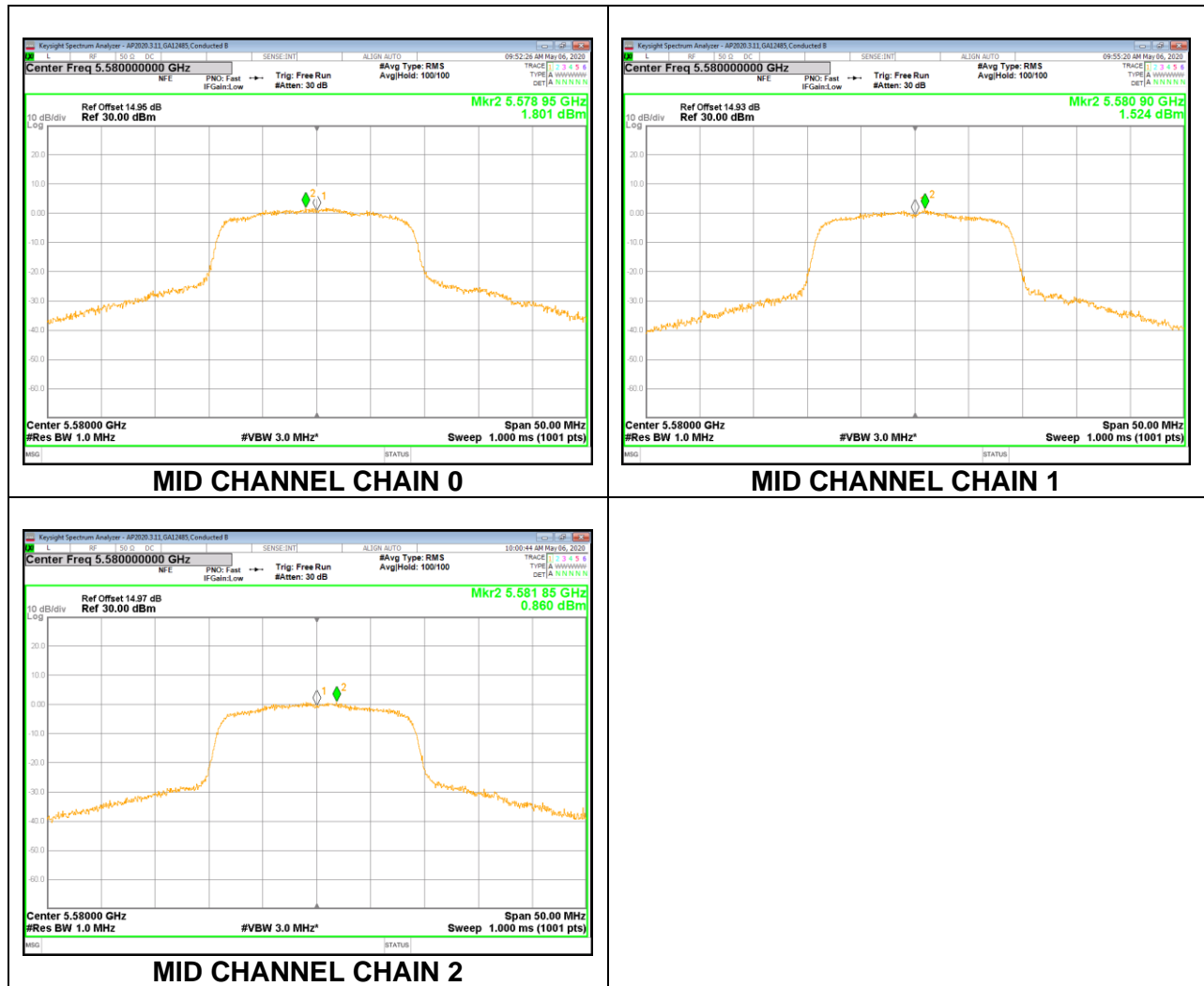
PSD Results

Channel	Frequency (MHz)	Antenna 1 Meas PSD (dBm/ 1MHz)	Antenna 2 Meas PSD (dBm/ 1MHz)	Antenna 3 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5500	1.801	1.123	1.116	9.960	11.00	-1.04
Mid	5580	1.801	1.524	0.860	10.014	11.00	-0.99
High	5700	2.190	1.976	0.817	10.303	11.00	-0.70

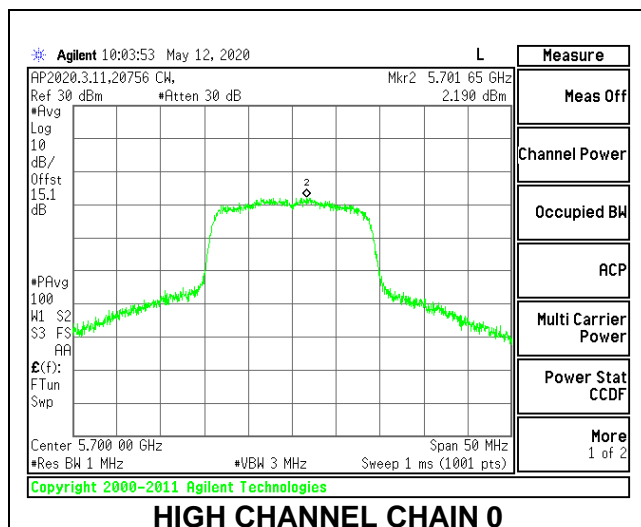
LOW CHANNEL



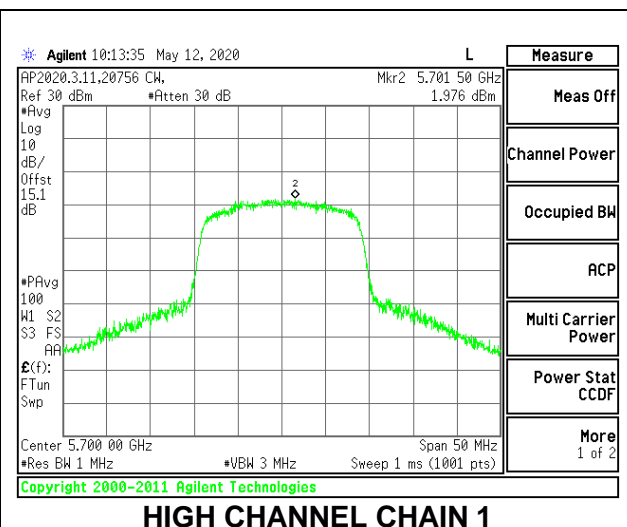
MID CHANNEL



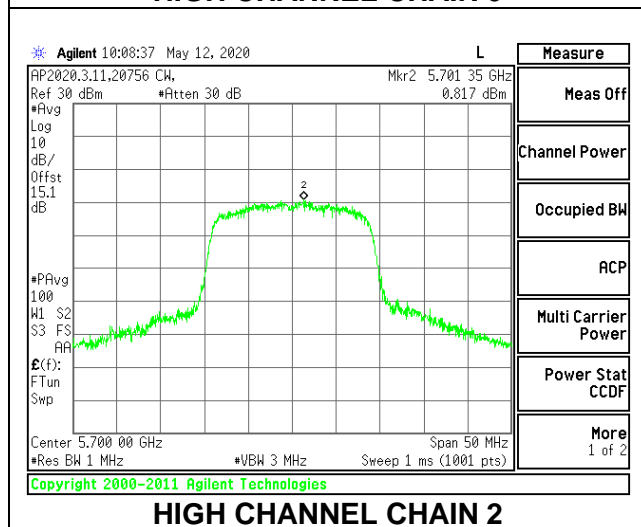
HIGH CHANNEL



HIGH CHANNEL CHAIN 0



HIGH CHANNEL CHAIN 1



HIGH CHANNEL CHAIN 2

8.5.7. 802.11a MODE IN THE 5.8 GHz BAND

(FCC+IC)

Test Engineer:	GA12485
Test Date:	05/05/2020

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBm)	FCC/ISED Power Limit (dBm)	FCC/ISED PSD Limit (dBm/ 500KHz)
Low	5745	2.20	4.67	30.00	30.00
Mid	5785	2.20	4.67	30.00	30.00
High	5825	2.20	4.67	30.00	30.00

Duty Cycle CF (dB)	2.93	Included in Calculations of Corr'd Power & PSD
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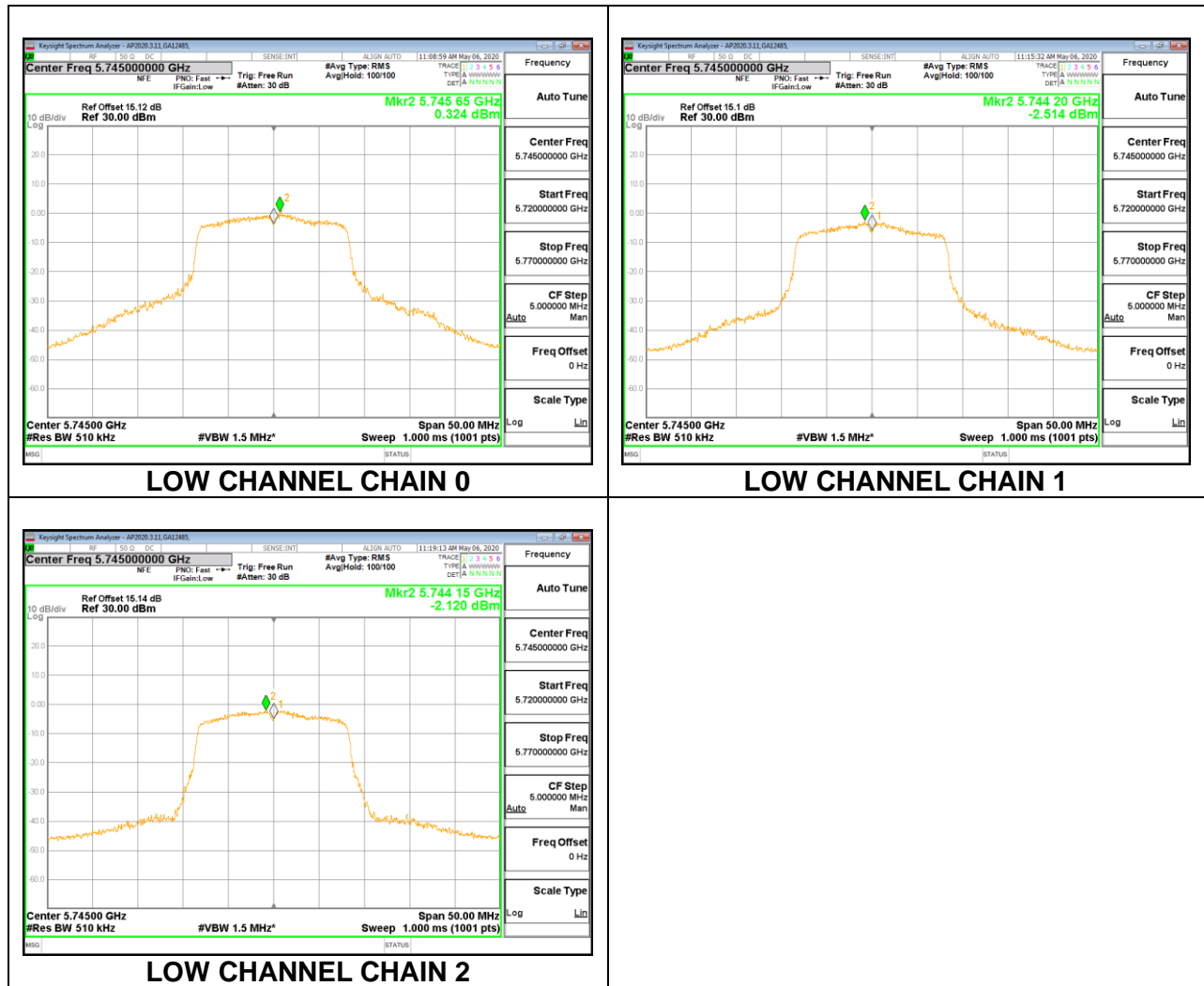
Output Power Results

Channel	Frequency (MHz)	Antenna 1 Meas Power (dBm)	Antenna 2 Meas Power (dBm)	Antenna 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	15.84	13.33	13.96	19.28	30.00	-10.72
Mid	5785	15.82	13.67	13.79	19.32	30.00	-10.68
High	5825	15.77	13.75	13.68	19.28	30.00	-10.72

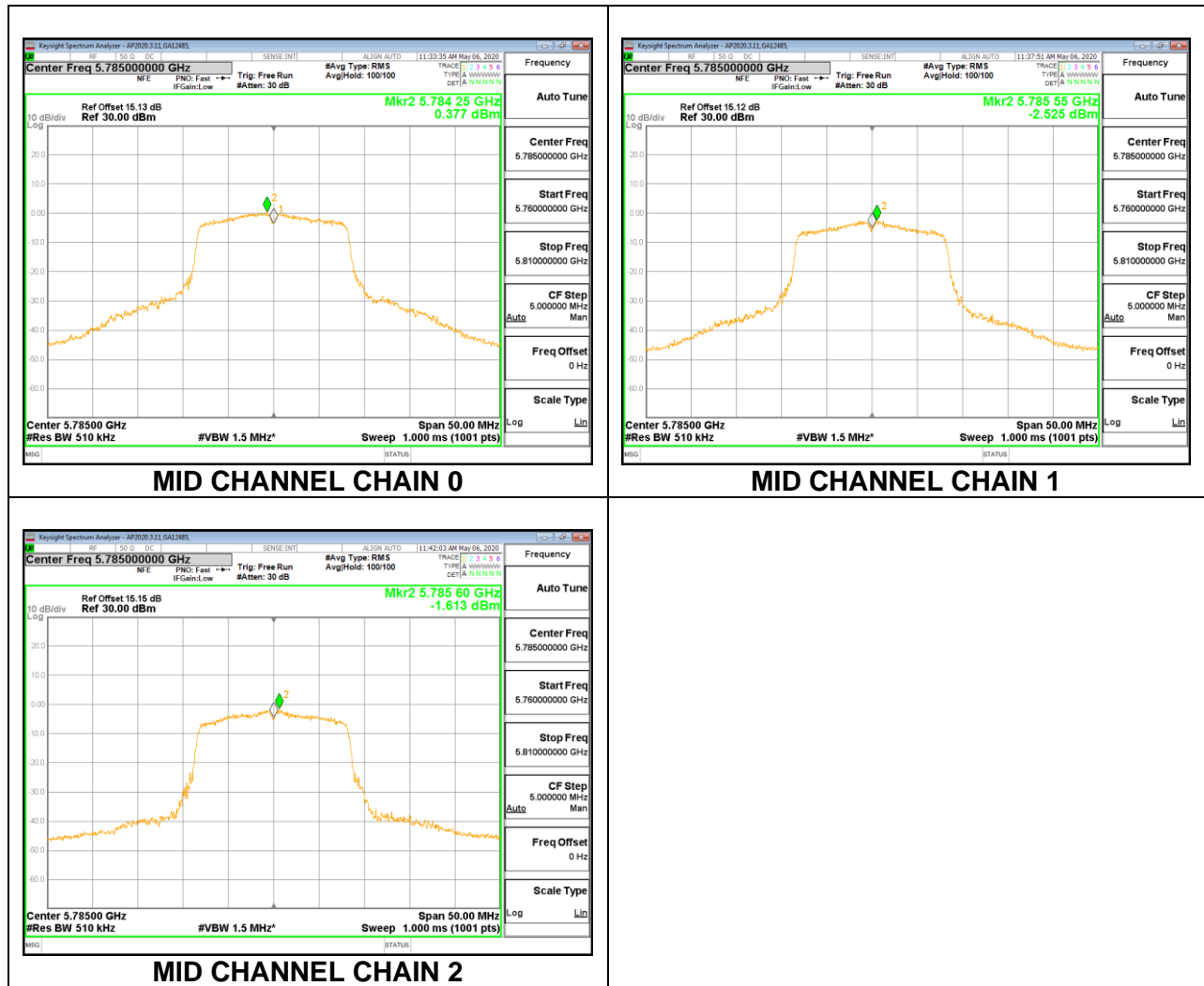
PSD Results

Channel	Frequency (MHz)	Antenna 1 Meas PSD (dBm/ 500KHz)	Antenna 2 Meas PSD (dBm/ 500KHz)	Antenna 3 Meas PSD (dBm/ 500KHz)	Total Corr'd PSD (dBm/ 500KHz)	PSD Limit (dBm/ 500KHz)	PSD Margin (dB)
Low	5745	0.324	-2.514	-2.120	6.455	30.00	-23.54
Mid	5785	0.377	-2.525	-1.613	6.621	30.00	-23.38
High	5825	0.635	-1.248	-1.670	7.060	30.00	-22.94

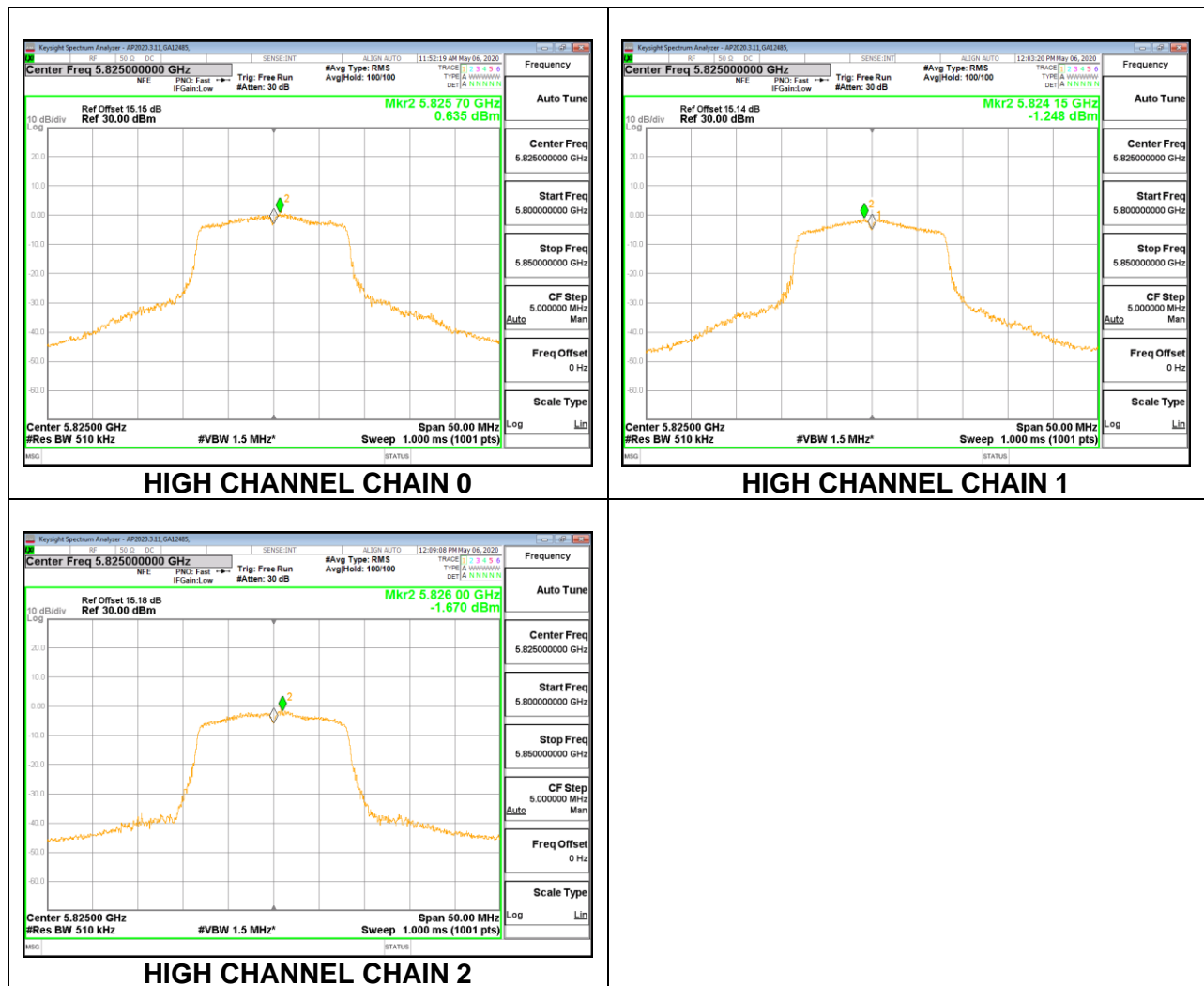
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



8.5.8. 802.11n HT20 MODE IN THE 5.8 GHz BAND

(FCC+IC)

Test Engineer:	GA12485
Test Date:	05/05/2020

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBm)	FCC/ISED Power Limit (dBm)	FCC/ISED PSD Limit (dBm/ 500KHz)
Low	5745	2.20	4.67	30.00	30.00
Mid	5785	2.20	4.67	30.00	30.00
High	5825	2.20	4.67	30.00	30.00

Duty Cycle CF (dB)	3.83	Included in Calculations of Corr'd Power & PSD
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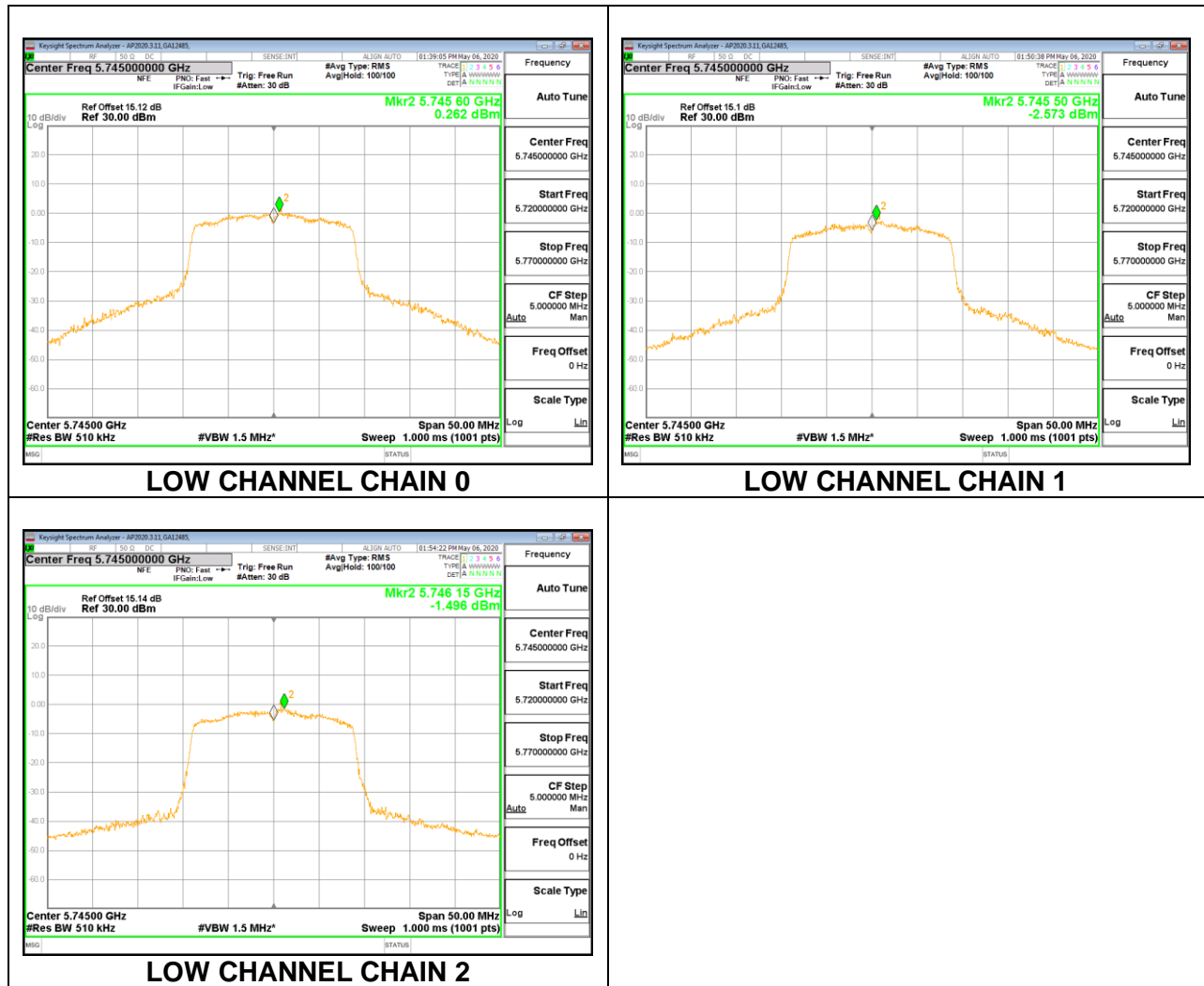
Output Power Results

Channel	Frequency (MHz)	Antenna 1 Meas Power (dBm)	Antenna 2 Meas Power (dBm)	Antenna 3 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	16.50	14.40	15.36	20.28	30.00	-9.72
Mid	5785	16.89	14.45	14.82	20.30	30.00	-9.70
High	5825	16.63	14.41	14.68	20.13	30.00	-9.87

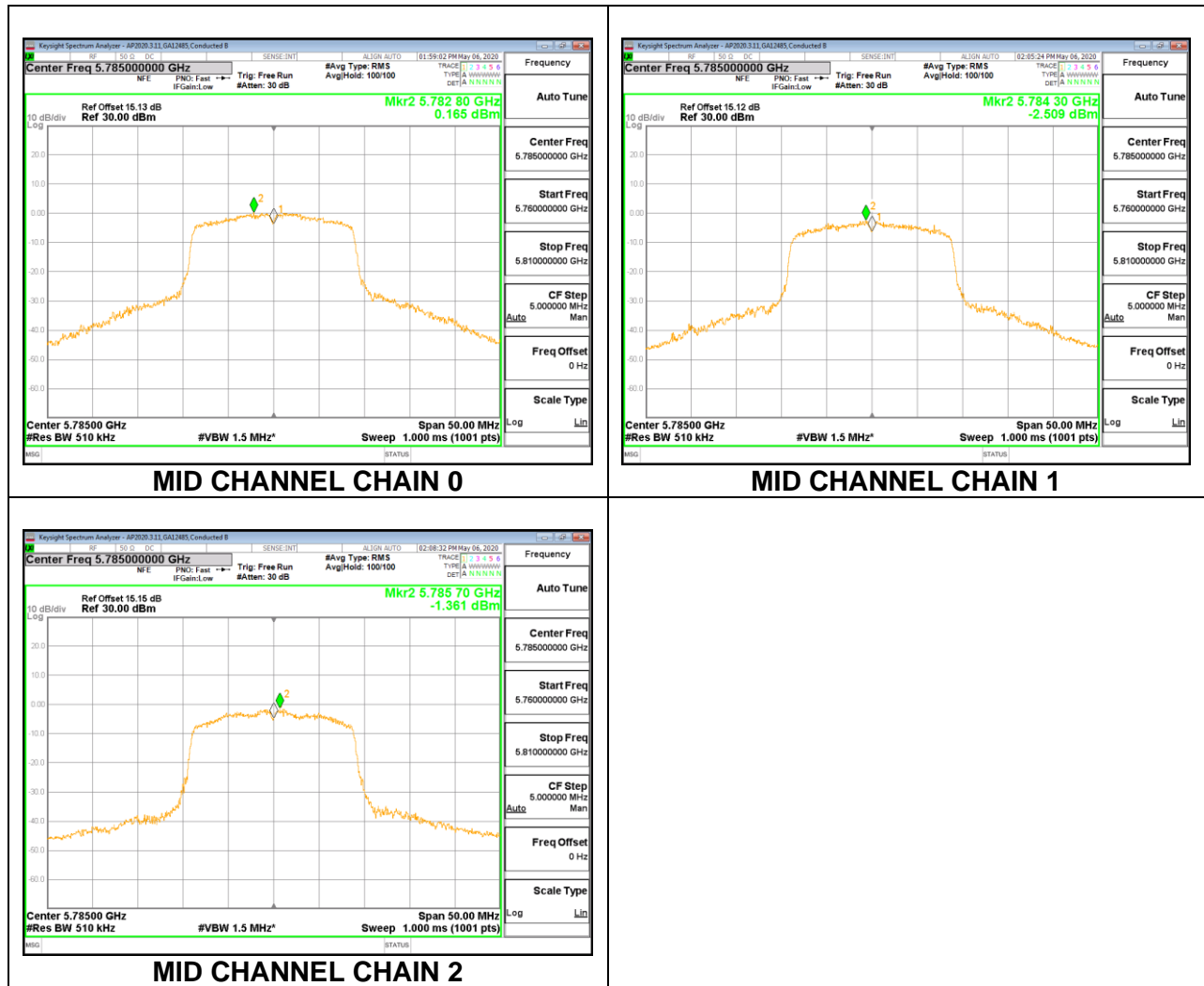
PSD Results

Channel	Frequency (MHz)	Antenna 1 Meas PSD (dBm/ 500KHz)	Antenna 2 Meas PSD (dBm/ 500KHz)	Antenna 3 Meas PSD (dBm/ 500KHz)	Total Corr'd PSD (dBm/ 500KHz)	PSD Limit (dBm/ 500KHz)	PSD Margin (dB)
Low	5745	0.262	-2.573	-1.496	7.492	30.00	-22.51
Mid	5785	0.165	-2.509	-1.361	7.505	30.00	-22.49
High	5825	0.360	-1.568	-1.647	7.753	30.00	-22.25

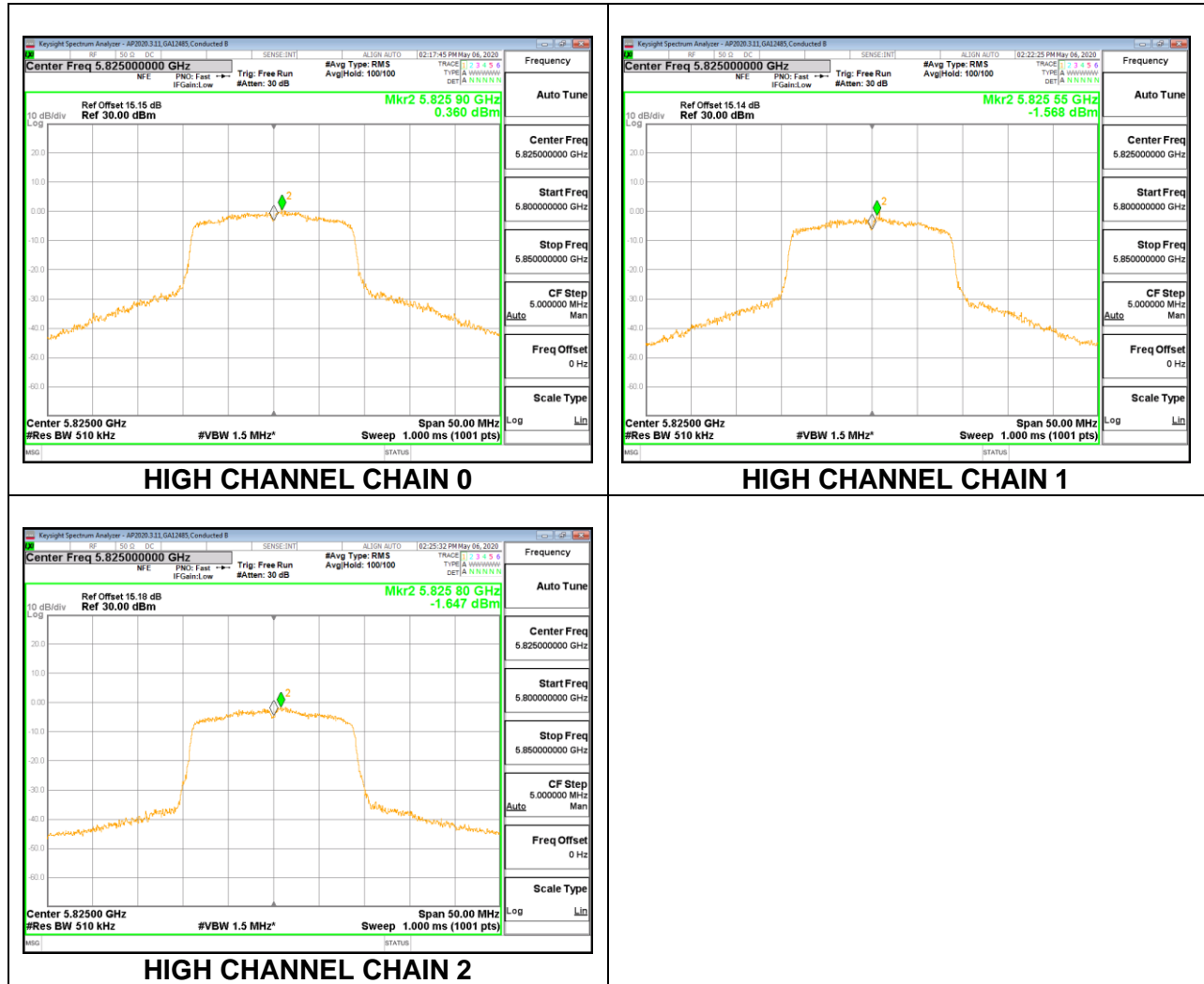
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



9. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209 -Restricted bands

FCC §15.407(b)(1-3) -Un-Restricted bands

After January 01, 2019 for Outside of the Restricted Bands Emissions

RSS 247 Issue 2 Sections

6.2.1.2 (for 5150-5250 MHz band)

6.2.2.2 (for 5250-5350 MHz band)

6.2.3.2 (for 5470-5600 MHz and 5650-5725 MHz bands)

6.2.4.2 (for 5725-5850 MHz band)

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

TEST PROCEDURE

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

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

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

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

The spectrum from 30 MHz to 1GHz and 18GHz to 40 GHz is investigated with the transmitter set to transmit at the channel with highest output power as worst-case scenario. 1GHz to 18GHz was set to the lowest, middle, and highest channels in the 5 GHz bands.

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

2D antenna use - For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel), parallel and perpendicular are the worst orientations, therefore testing was performed on these two orientations only.

KDB 414788 Open Field Site(OFS) and Chamber Correlation Justification

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

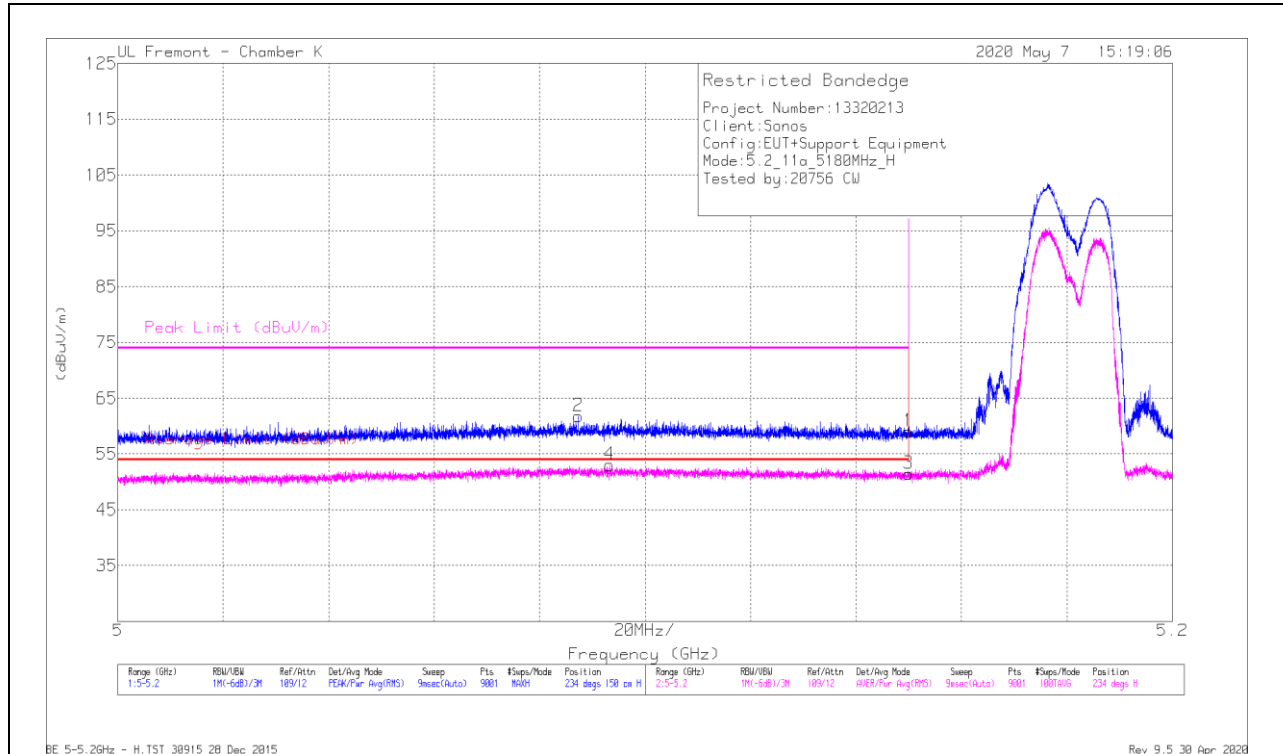
OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

9.1. TRANSMITTER ABOVE 1 GHz

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

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



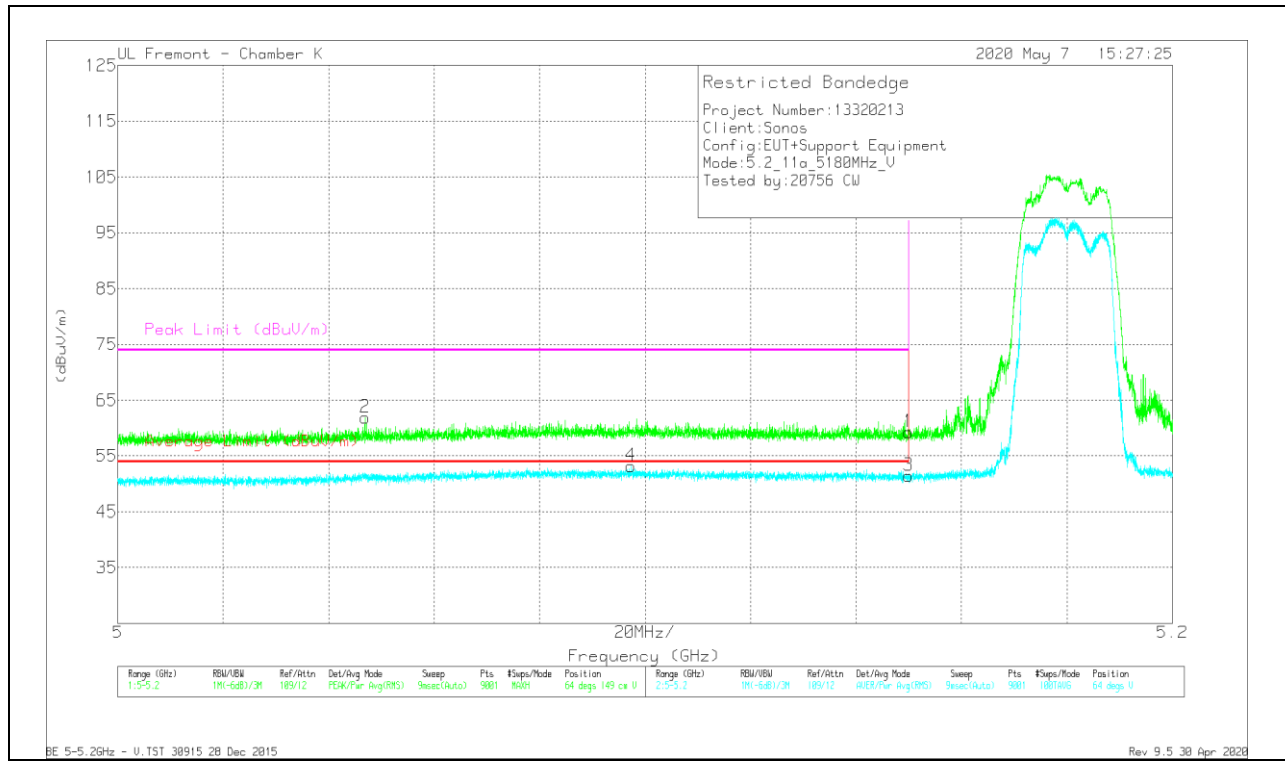
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC424 (dBm)	Amp/CM/Fltr/Psd (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	32.43	Pk	34.2	-7.6	0	59.03	-	-	74	-14.97	234	150	H
2	* 5.08733	35.13	Pk	34.2	-7.6	0	61.73	-	-	74	-12.27	234	150	H
3	* 5.15	21.91	RMS	34.2	-7.6	2.93	51.44	54	-2.56	-	-	234	150	H
4	* 5.09333	23.58	RMS	34.2	-7.7	2.93	53.01	54	-9.9	-	-	234	150	H

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

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

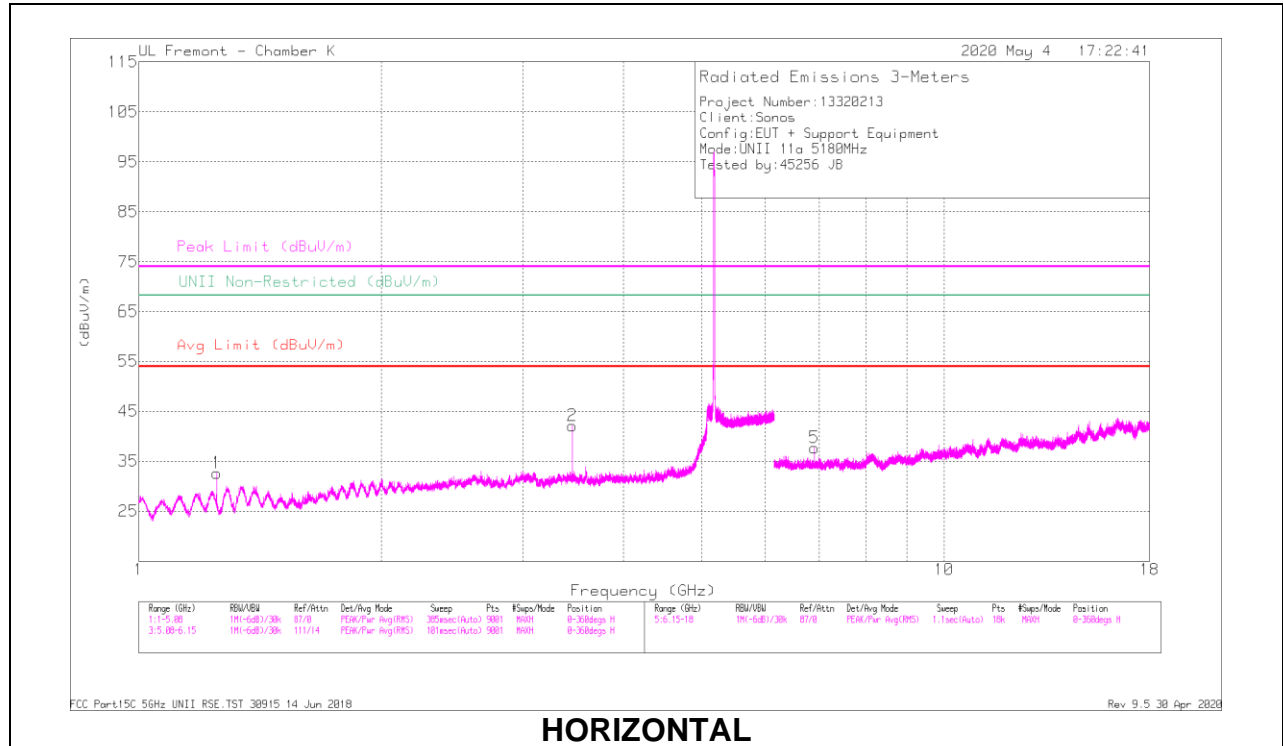


Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/Cou/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	32.66	Pk	34.2	-7.6	0	59.26	-	-	74	-14.74	64	149	V
2	* 5.04688	35.4	Pk	34.3	-7.8	0	61.6	-	-	74	-12.1	64	149	V
3	* 5.15	21.97	RMS	34.2	-7.6	2.93	51.5	54	-2.5	-	-	64	149	V
4	* 5.09735	23.74	RMS	34.2	-7.7	2.93	53.17	54	-0.83	-	-	64	149	V

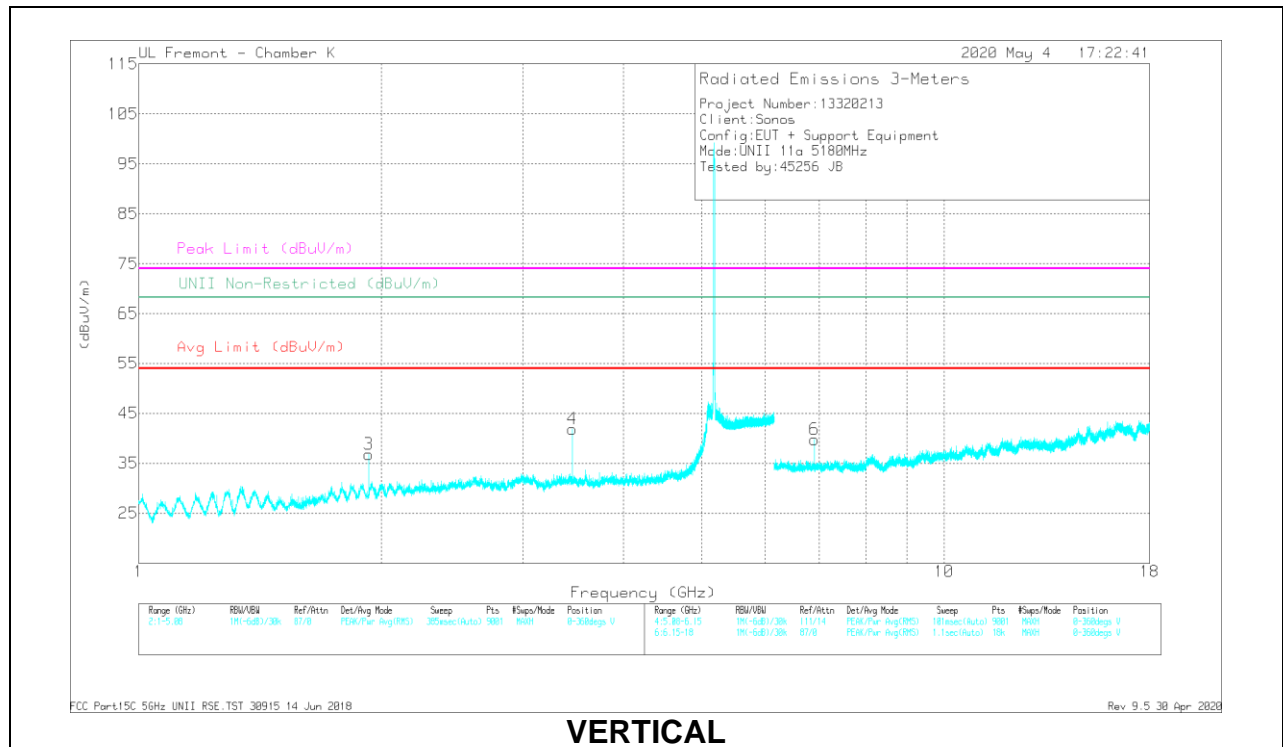
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



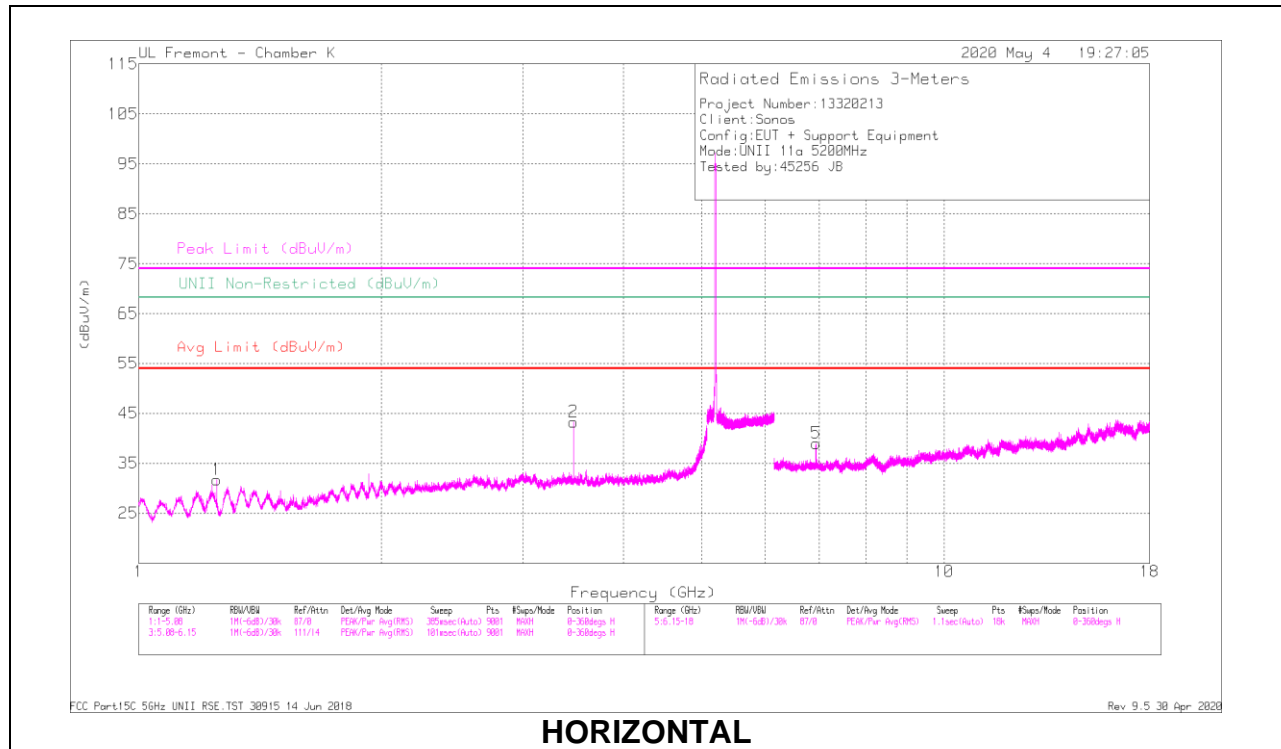
VERTICAL

RADIATED EMISSIONS

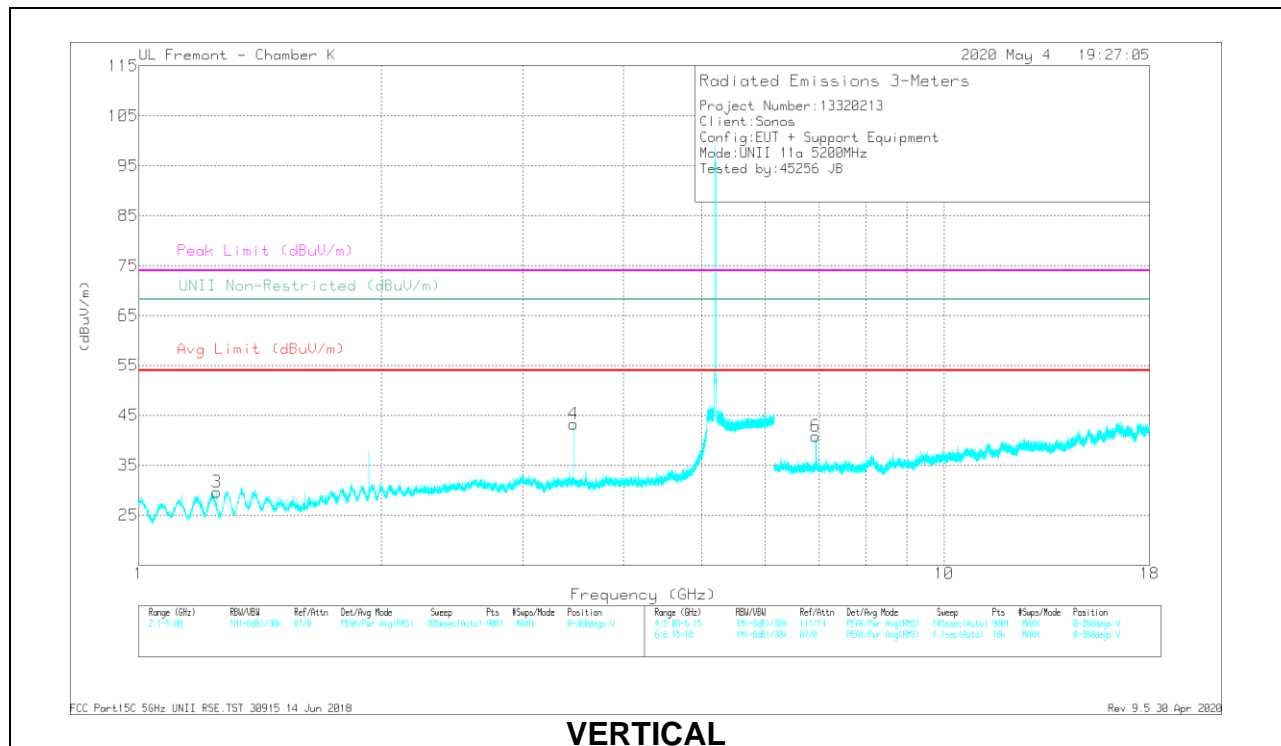
Frequency (MHz)	Max Reading (dBµV)	Dist	AF EMC424 (dBm)	Amp/Gain/Fit (dB)	DC Corr (dB)	Corrected Reading (dBµV/m)	Avg Limit (dBµV/m)	Margin (dB)	Peak Limit (dBµV/m)	PK Margin (dB)	UNR Non-Restricted (dBµV/m)	PK Margin (dB)	Altitude (Feet)	Height (m)	Polarity
* 1.25009	54.42	PK-U	28.8	-46.6	0	36.62	-	-	74	-37.38	-	-	315	208	H
* 1.25001	47.03	ADR	28.8	-46.6	2.93	32.16	54	-21.84	-	-	-	-	315	208	H
3.45333	53.39	PK-U	33.1	-42.4	0	44.09	-	-	-	-	68.2	-24.11	113	207	H
1.93139	56.84	PK-U	31.1	-45.6	0	42.34	-	-	-	-	68.2	-25.86	17	197	V
3.45331	53.81	PK-U	33.1	-42.4	0	44.51	-	-	-	-	68.2	-23.69	165	193	V
6.90645	46.98	PK-U	35.6	-38.4	0	44.18	-	-	-	-	68.2	-24.02	227	294	H
6.90668	47.82	PK-U	35.7	-38.4	0	45.12	-	-	-	-	68.2	-23.08	200	105	V

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

MID CHANNEL RESULTS



HORIZONTAL



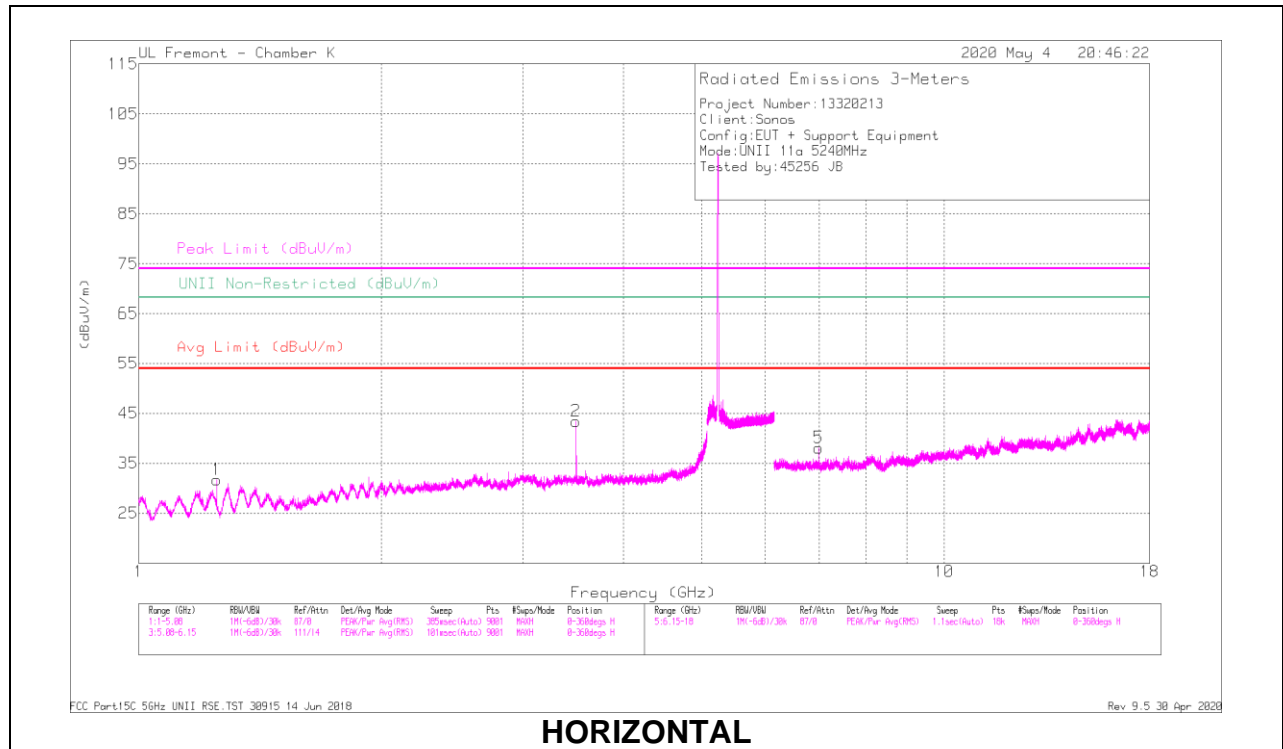
VERTICAL

RADIATED EMISSIONS

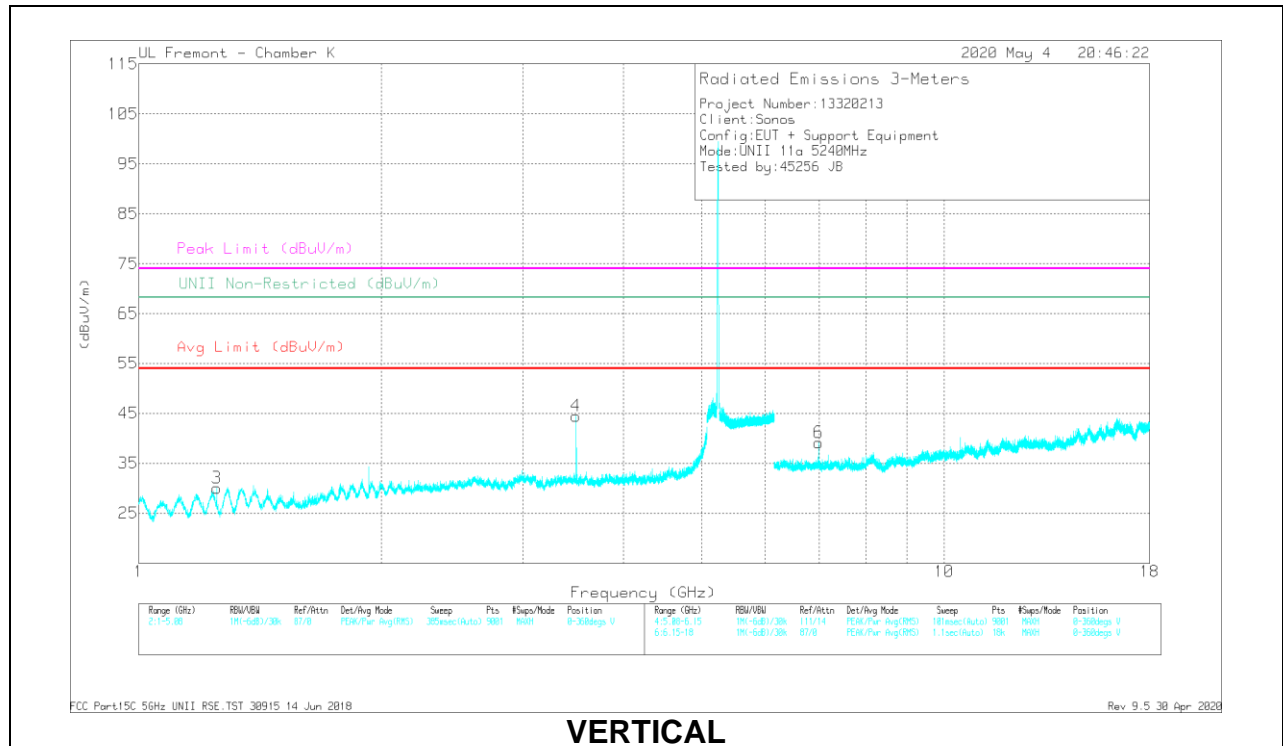
Frequency (MHz)	Max Reading (dBu)	Dist	AF EMC424 (dBm)	Amp/Gain/Freq (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNR Non-Restricted (dBuV/m)	PK Margin (dB)	Altitude (Feet)	Height (m)	Polarity
* 1.25004	55.06	PK-U	28.8	-46.6	0	37.26	-	-	74	-36.74	-	-	316	206	H
* 1.25001	47.75	ADR	28.8	-46.6	2.93	32.88	54	-21.12	-	-	-	-	316	206	H
3.46664	53.99	PK-U	33.1	-42.2	0	44.89	-	-	-	-	68.2	-23.31	109	201	H
* 1.25023	53.9	PK-U	28.8	-46.6	0	36.1	-	-	74	-37.9	-	-	333	123	V
* 1.24999	44.8	ADR	28.8	-46.6	2.93	29.93	54	-24.07	-	-	-	-	333	123	V
3.46672	54.37	PK-U	33.1	-42.2	0	45.27	-	-	-	-	68.2	-22.93	160	102	V
6.93324	45.91	PK-U	35.8	-38.1	0	43.61	-	-	-	-	68.2	-24.59	136	102	H
6.93331	47.44	PK-U	35.8	-38.1	0	45.14	-	-	-	-	68.2	-23.06	250	205	V

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

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

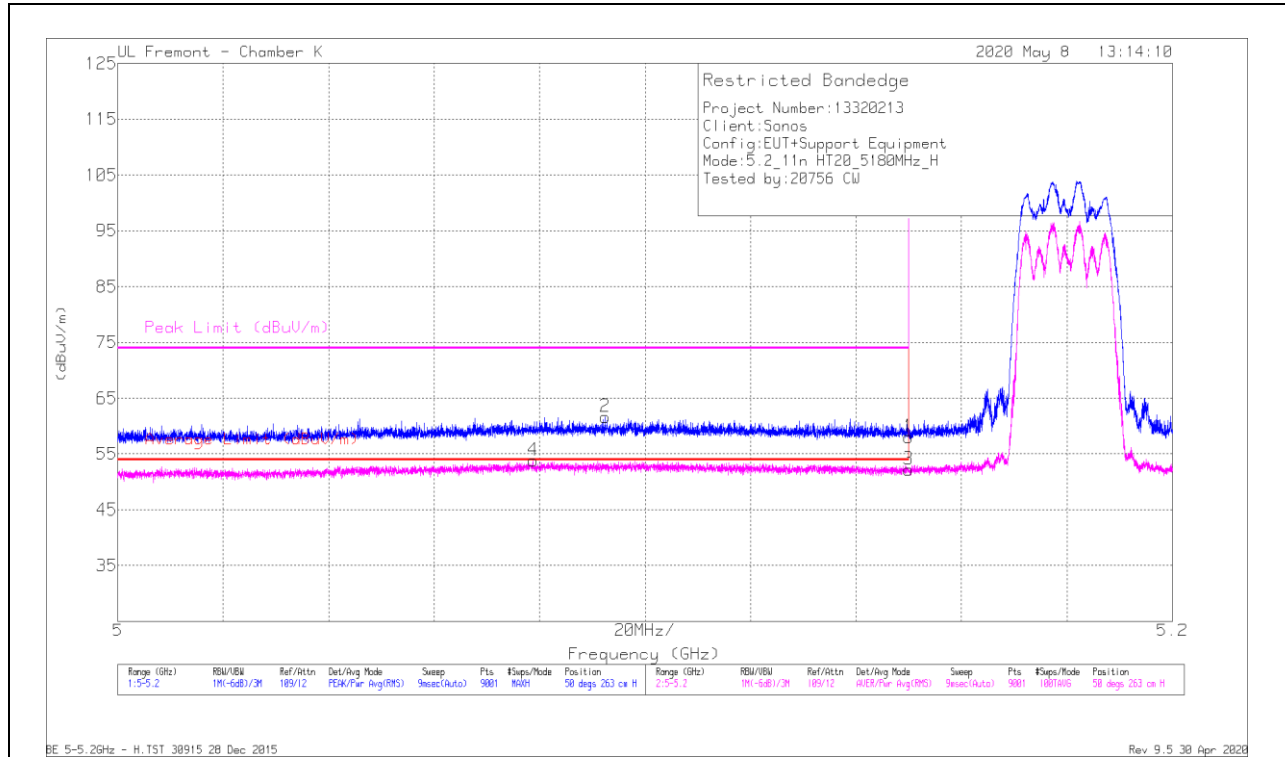
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/Cbl/Ft/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.24991	56.44	PK-U	28.8	-46.6	0	37.64	-	-	74	-36.36	-	-	310	107	H
* 1.25003	47.42	ADR	28.8	-46.6	2.93	32.55	54	-21.45	-	-	-	-	310	107	H
3.49329	52.7	PK-U	33	-42.2	0	43.5	-	-	-	-	68.2	-24.7	220	119	H
* 1.24995	53.59	PK-U	28.8	-46.6	0	35.79	-	-	74	-38.21	-	-	343	272	V
* 1.25001	44.32	ADR	28.8	-46.6	2.93	29.45	54	-24.55	-	-	-	-	343	272	V
3.49332	56.5	PK-U	33	-42.2	0	46.3	-	-	-	-	68.2	-21.9	169	103	V
6.98966	46.36	PK-U	35.8	-38.3	0	42.86	-	-	-	-	68.2	-25.34	344	188	H
6.98944	47.4	PK-U	35.8	-38.3	0	44.3	-	-	-	-	68.2	-23.3	295	112	V

9.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND

BANDEDGE (LOW CHANNEL)

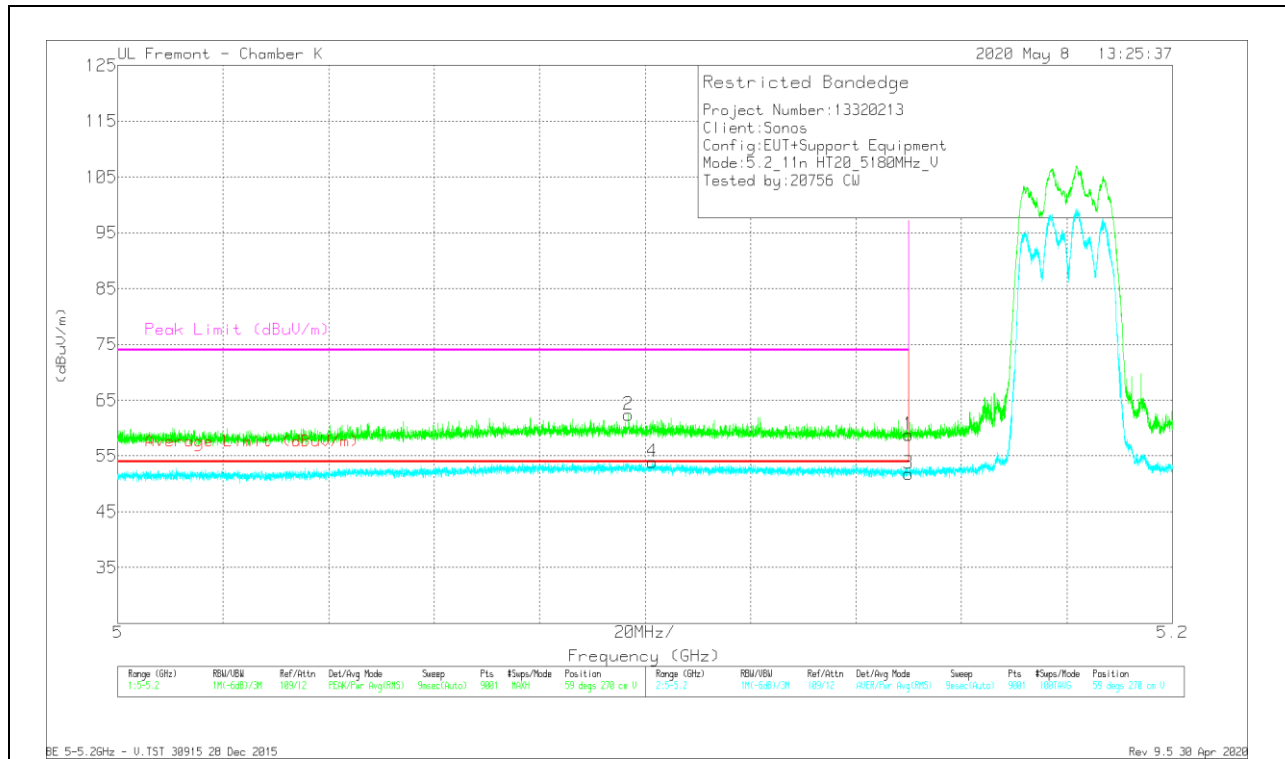
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/Cou/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 5.15	31.45	Pk	34.2	-7.6	0	53.08	-	-	74	-15.92	50	263	H
2	* 5.08242	35.19	Pk	34.2	-7.7	0	61.69	-	-	74	-12.31	50	263	H
3	* 5.15	21.82	RMS	34.2	-7.6	3.83	52.25	54	-1.75	-	-	50	263	H
4	* 5.07873	23.41	RMS	34.2	-7.6	3.83	53.84	54	-1.16	-	-	50	263	H

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

VERTICAL RESULT

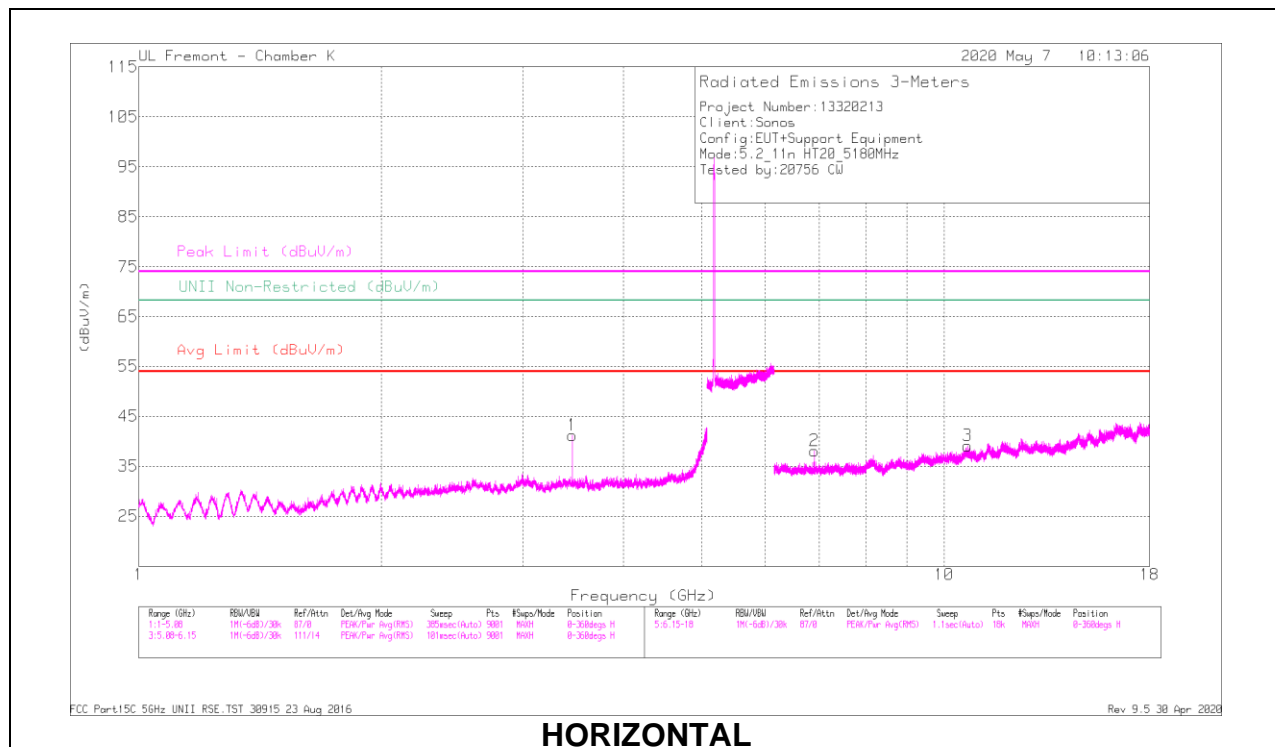


Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/Cou/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 5.15	32.24	PK	34.2	-7.6	0	51.84	-	-	74	-15.16	59	270	V
2	* 5.09688	35.88	PK	34.2	-7.7	0	62.38	-	-	74	-11.62	59	270	V
3	* 5.15	21.43	RMS	34.2	-7.6	3.83	51.86	54	-2.14	-	-	59	270	V
4	* 5.1014	23.53	RMS	34.3	-7.7	3.83	53.96	54	-0.4	-	-	59	270	V

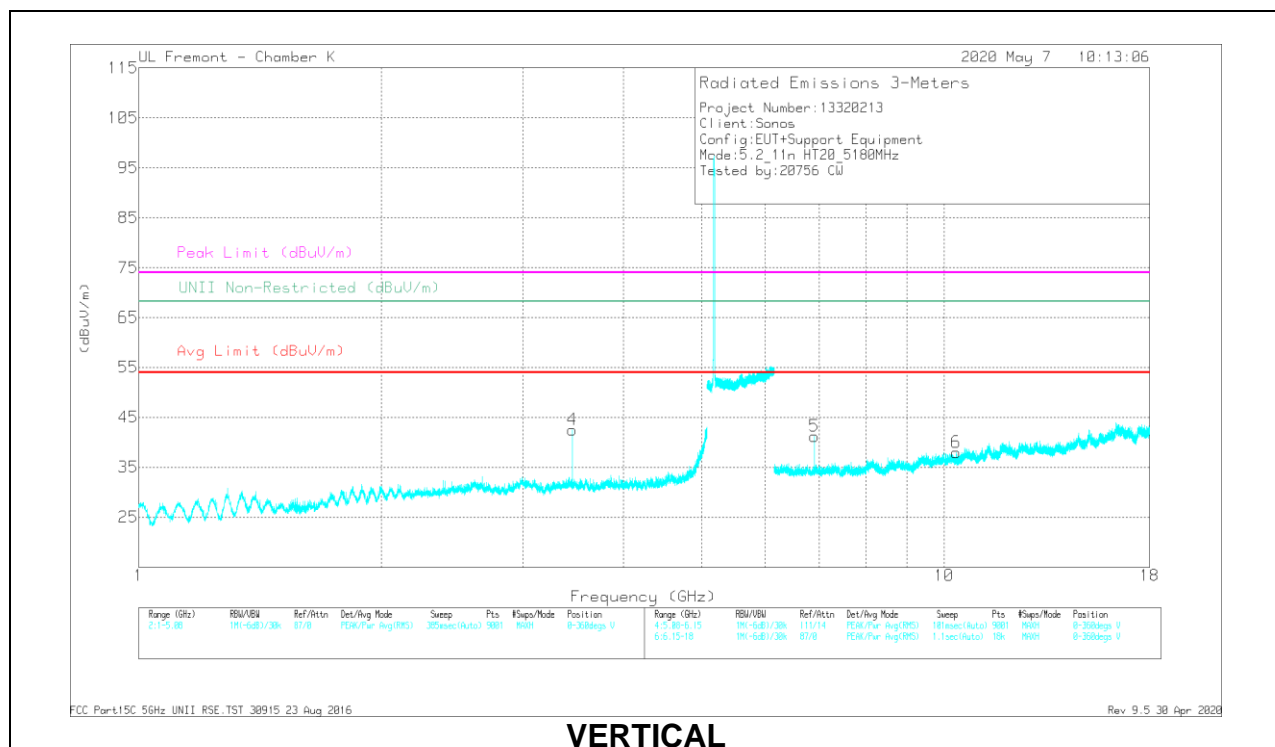
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



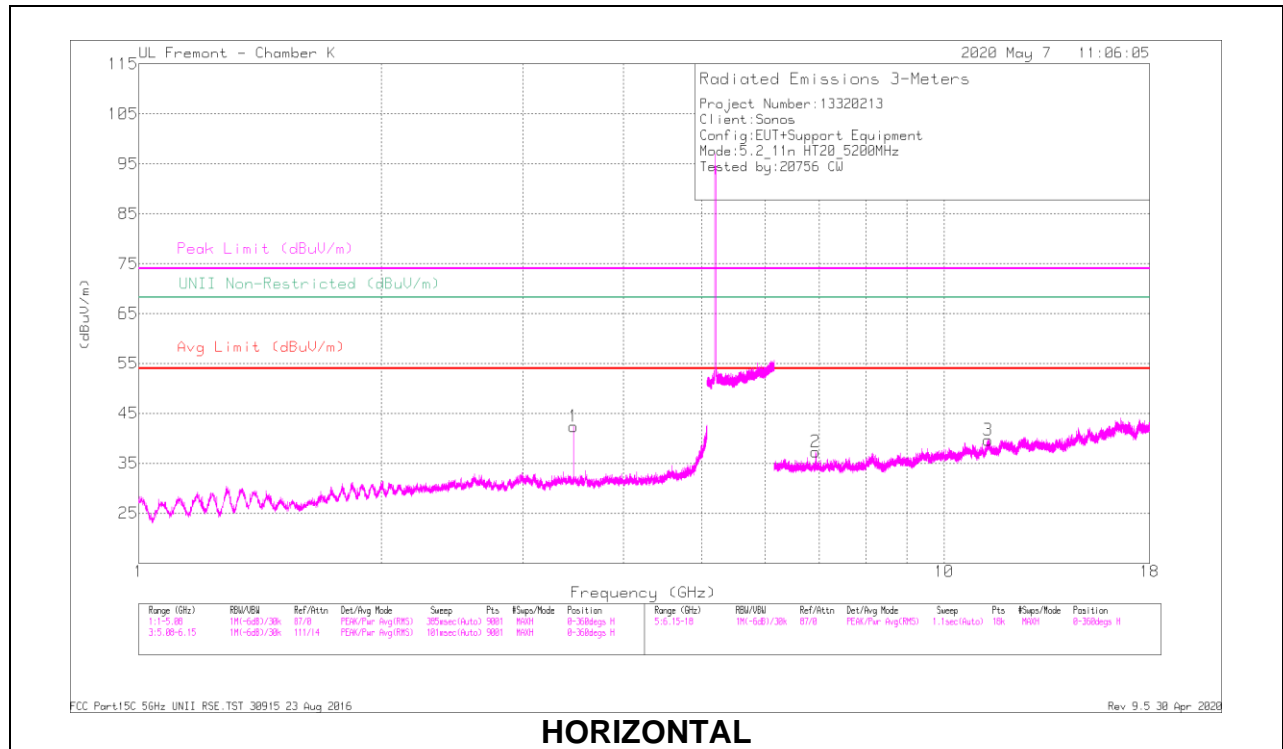
VERTICAL

RADIATED EMISSIONS

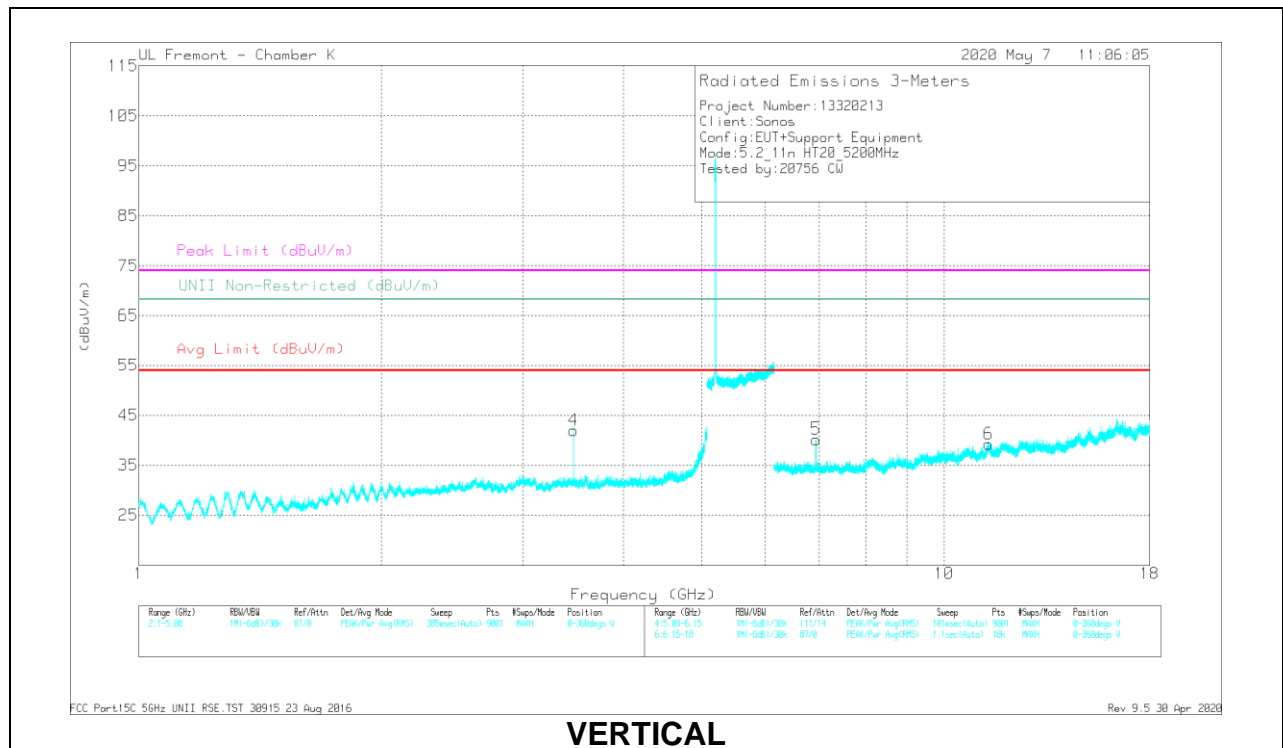
Frequency (MHz)	Meas Reading (dBµV)	Det	AF EMC424 (dBm)	Amp/Clk/Freq (dB)	DC Corr (dB)	Corrected Reading (dBµV/m)	Avrg Limit (dBµV/m)	Margin (dB)	Peak Limit (dBµV/m)	PK Margin (dB)	UNR Non-Restricted (dBµV/m)	PK Margin (dB)	Altitude (Feet)	Height (m)	Polarity
3.45336	53.15	PK-U	33.1	-42.4	0	43.85	-	-	-	-	68.2	-24.35	109	206	H
3.4533	53.71	PK-U	33.1	-42.4	0	44.41	-	-	-	-	68.2	-23.79	162	100	V
6.90667	46.23	PK-U	35.7	-38.4	0	43.53	-	-	-	-	68.2	-24.67	56	203	H
* 10.69929	45.11	PK-U	37.9	-37.1	0	45.91	-	-	74	-28.09	-	-	207	303	H
* 10.69969	34.53	ADR	37.9	-37.1	3.83	39.16	54	-14.84	-	-	-	-	207	303	H
6.9065	48.66	PK-U	35.6	-38.4	0	45.86	-	-	-	-	68.2	-22.34	201	103	V
10.35434	46.27	PK-U	37.5	-37.2	0	46.57	-	-	-	-	68.2	-21.63	145	115	V

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

MID CHANNEL RESULTS



HORIZONTAL



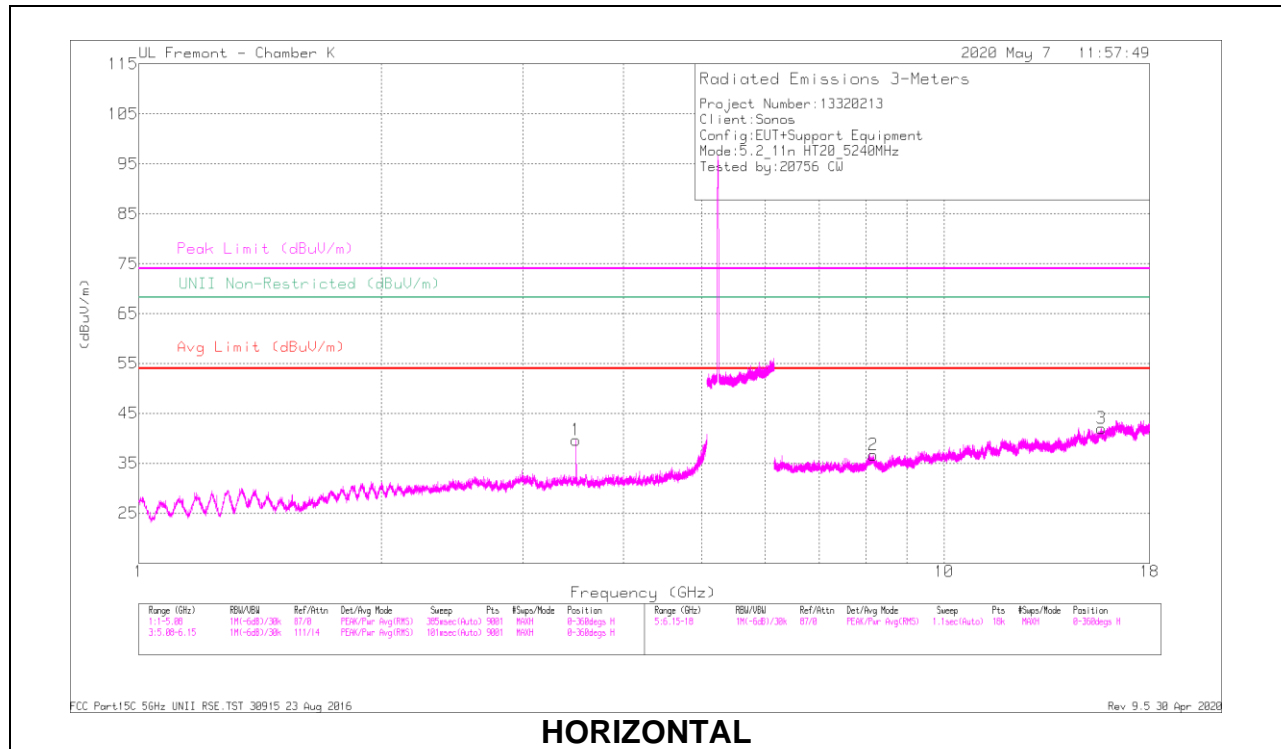
VERTICAL

RADIATED EMISSIONS

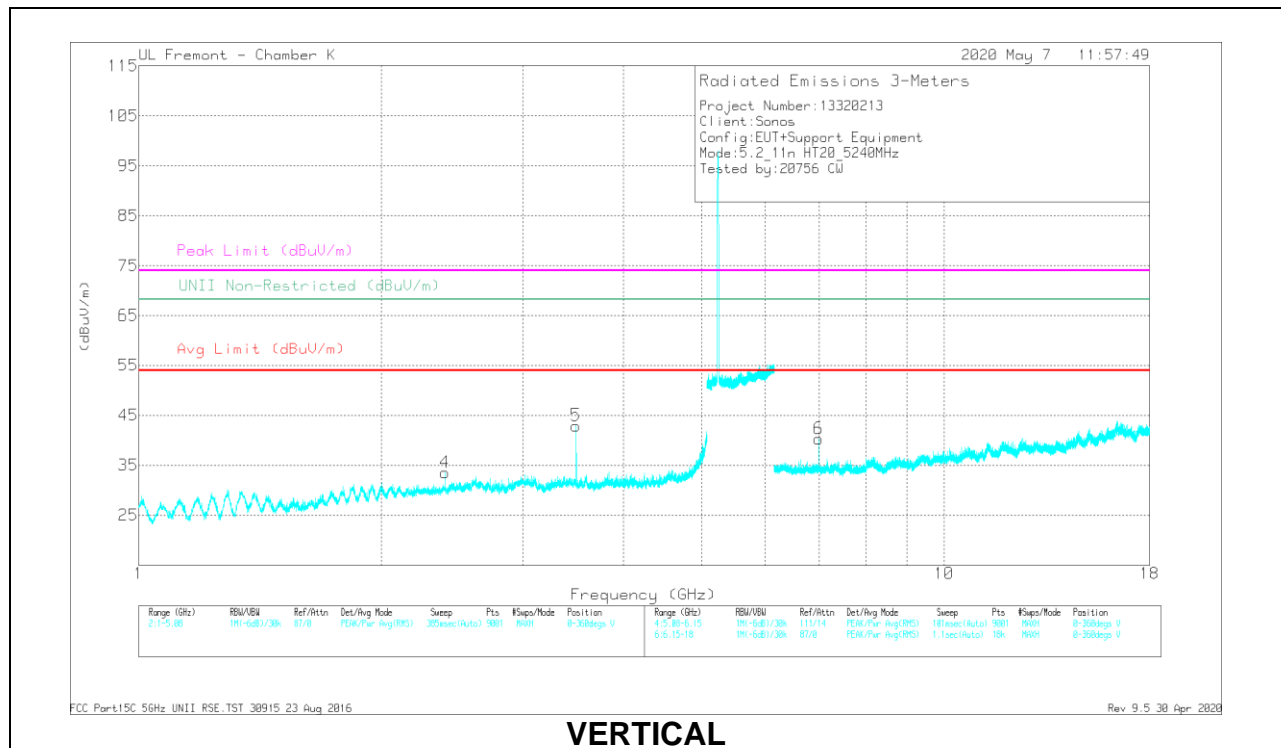
Frequency (MHz)	Meas Reading (dBµV)	Det	AF EMC424 (dBm)	Amp/Clk/Freq Pad (dB)	DC Corr (dB)	Corrected Reading (dBµV/m)	Avrg Limit (dBµV/m)	Margin (dB)	Peak Limit (dBµV/m)	PK Margin (dB)	UNR Non-Restricted (dBµV/m)	PK Margin (dB)	Altitude (ft)	Height (m)	Polarity
3.46664	53.74	PK-U	33.1	-42.2	0	44.64	-	-	-	-	68.2	-23.56	112	217	H
3.46664	54.47	PK-U	33.1	-42.2	0	45.37	-	-	-	-	68.2	-22.83	165	98	V
6.93334	46.02	PK-U	35.8	-38.1	0	43.72	-	-	-	-	68.2	-24.48	139	108	H
* 11.34081	42.93	PK-U	38.1	-36.1	0	44.93	-	-	74	-29.07	-	-	102	369	H
* 11.34081	33.69	ADR	38.1	-36.1	3.83	39.52	54	-14.96	-	-	-	-	102	369	H
6.93318	48.29	PK-U	35.8	-38.1	0	45.99	-	-	-	-	68.2	-22.21	262	205	V
* 11.35113	42.99	PK-U	38.2	-36.1	0	45.09	-	-	74	-28.91	-	-	302	262	V
* 11.35101	33.11	ADR	38.2	-36.1	3.83	39.04	54	-14.96	-	-	-	-	302	262	V

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

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

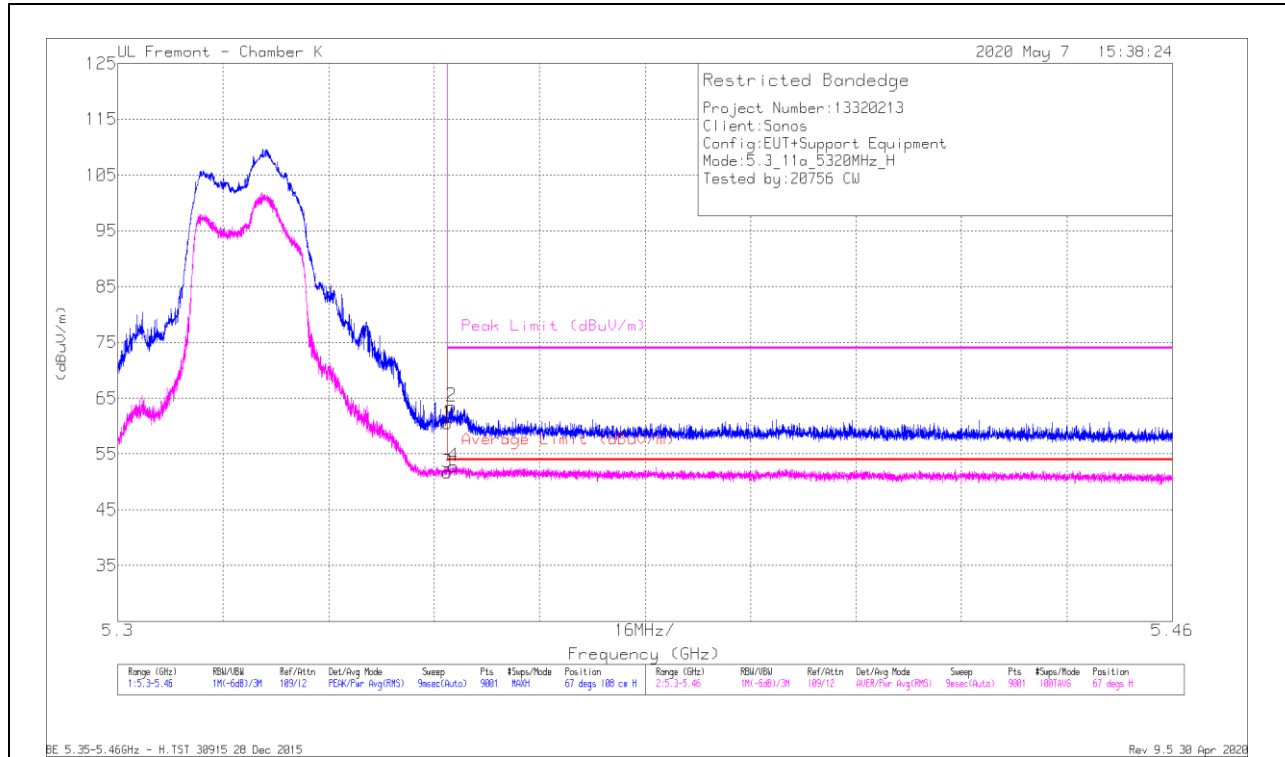
Frequency (MHz)	Meas Reading (dBµV)	Det	AF EMC424 (dBm)	Amp/Clk/Freq Pad (dB)	DC Corr (dB)	Corrected Reading (dBµV/m)	Avrg Limit (dBµV/m)	Margin (dB)	Peak Limit (dBµV/m)	PK Margin (dB)	UNR Non-Restricted (dBµV/m)	PK Margin (dB)	Altitude (ft/m)	Height (m)	Polarity
3.49331	55.1	PK-U	33	-42.2	0	45.9	-	-	-	-	68.2	-22.3	114	195	H
2.40221	51.16	PK-U	31.9	-45	0	38.06	-	-	-	-	68.2	-30.14	181	314	V
3.49336	55.71	PK-U	33	-42.2	0	46.51	-	-	-	-	68.2	-21.69	44	188	V
* 8.16442	44.88	PK-U	35.9	-37.9	0	42.88	-	-	74	-31.12	-	-	344	266	H
* 3.1662	34.74	ADR	34.9	-38	3.83	38.47	54	-17.53	-	-	-	-	344	266	H
* 15.67937	41	PK-U	40	-33.9	0	47.1	-	-	74	-26.9	-	-	113	224	H
* 15.67971	31.74	ADR	40	-33.9	3.83	41.67	54	-12.33	-	-	-	-	113	224	H
6.98666	47.61	PK-U	35.8	-38.3	0	45.11	-	-	-	-	68.2	-23.09	205	98	V

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

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

BANDEDGE (HIGH CHANNEL)

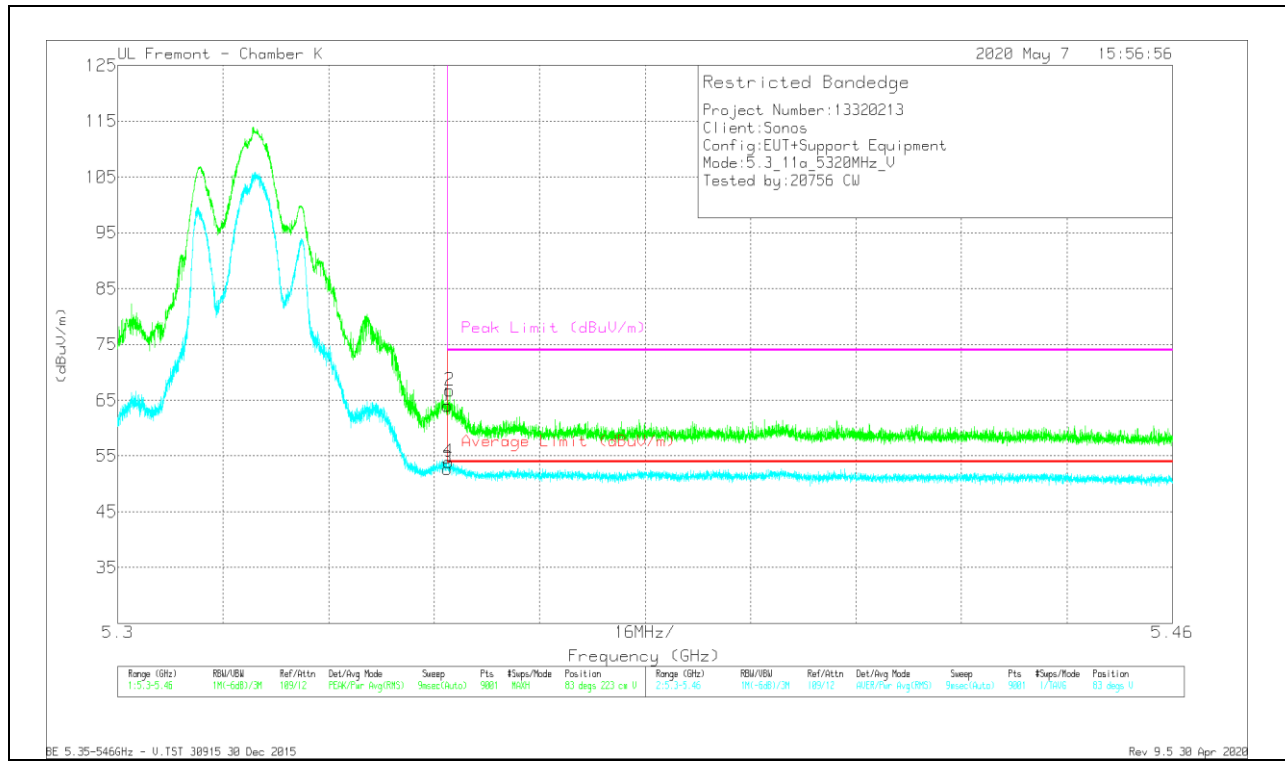
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/Cou/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 5.35001	33.38	Pk	34.4	-7.2	0	60.58	-	-	74	-13.42	67	108	H
2	* 5.3507	36.57	Pk	34.4	-7.2	0	63.57	-	-	74	-10.43	67	108	H
3	* 5.35001	21.6	RMS	34.4	-7.2	2.93	51.73	54	-2.27	-	-	67	108	H
4	* 5.35092	22.68	RMS	34.4	-7.2	2.93	52.81	54	-1.19	-	-	67	108	H

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

VERTICAL RESULT

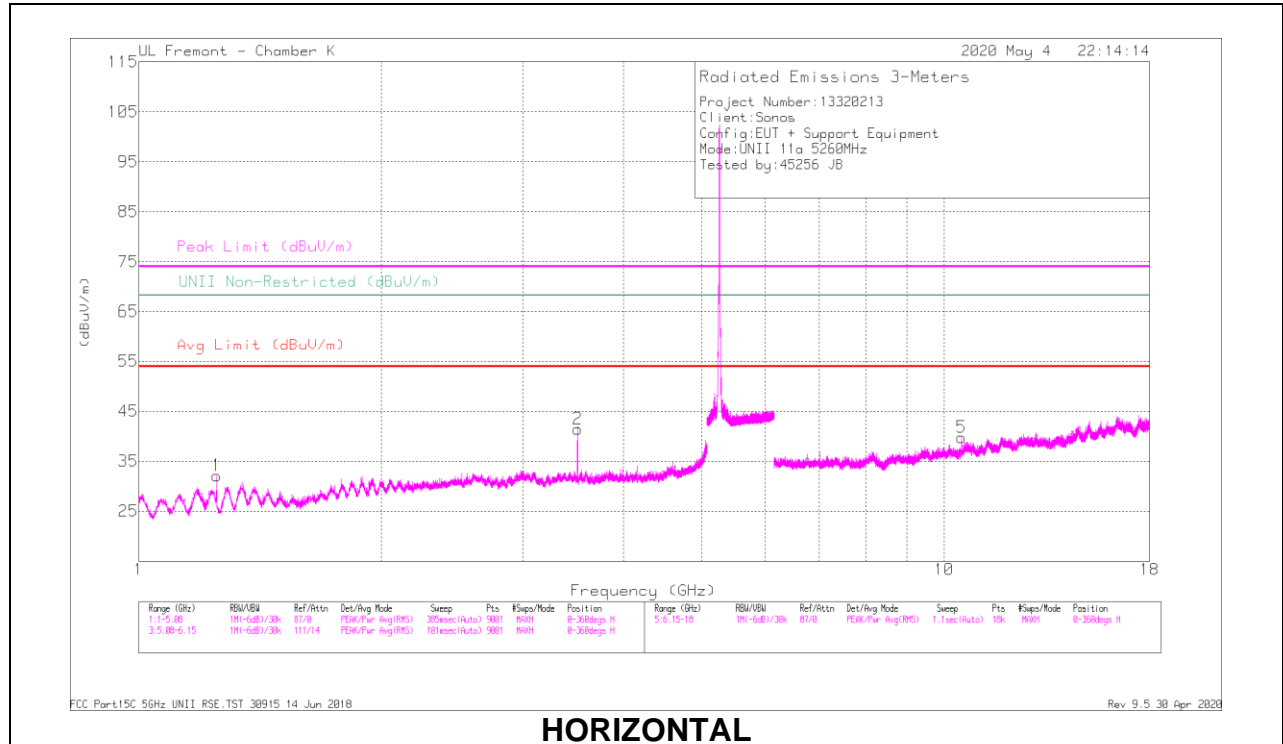


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/CA/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35001	36.32	PK	34.4	-7.2	0	64.02	-	-	74	-9.98	83	223	V
2	* 5.35038	38.58	PK	34.4	-7.2	0	66.78	-	-	74	-7.22	83	223	V
3	* 5.35001	22.59	RMS	34.4	-7.2	2.93	52.72	54	-1.28	-	-	83	223	V
4	* 5.35019	23.8	RMS	34.4	-7.2	2.93	53.93	54	-0.07	-	-	83	223	V

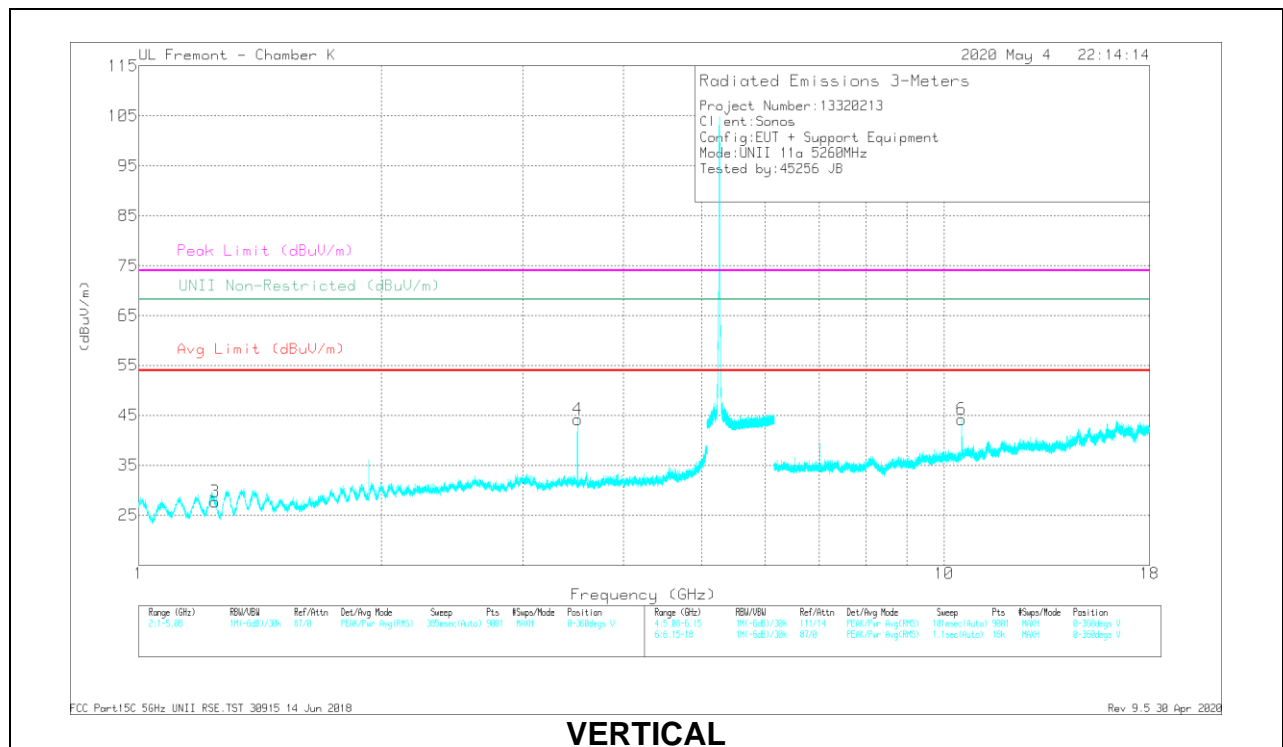
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



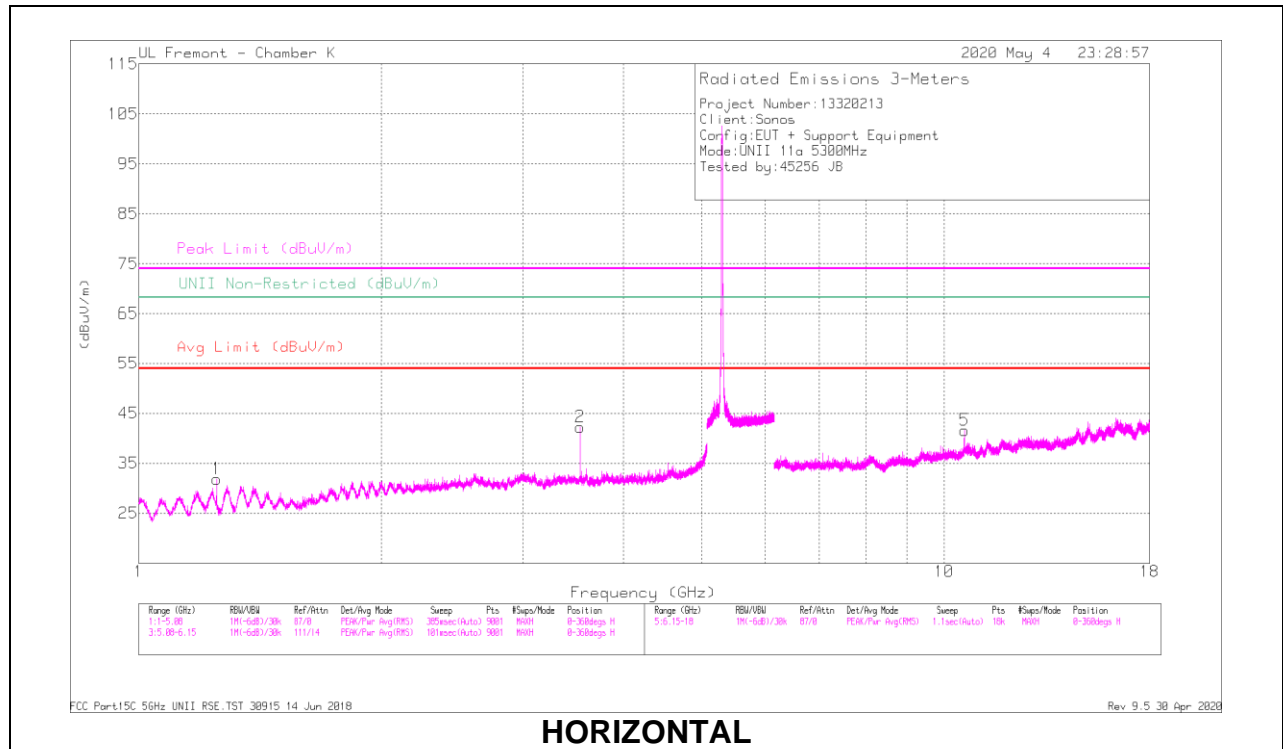
VERTICAL

RADIATED EMISSIONS

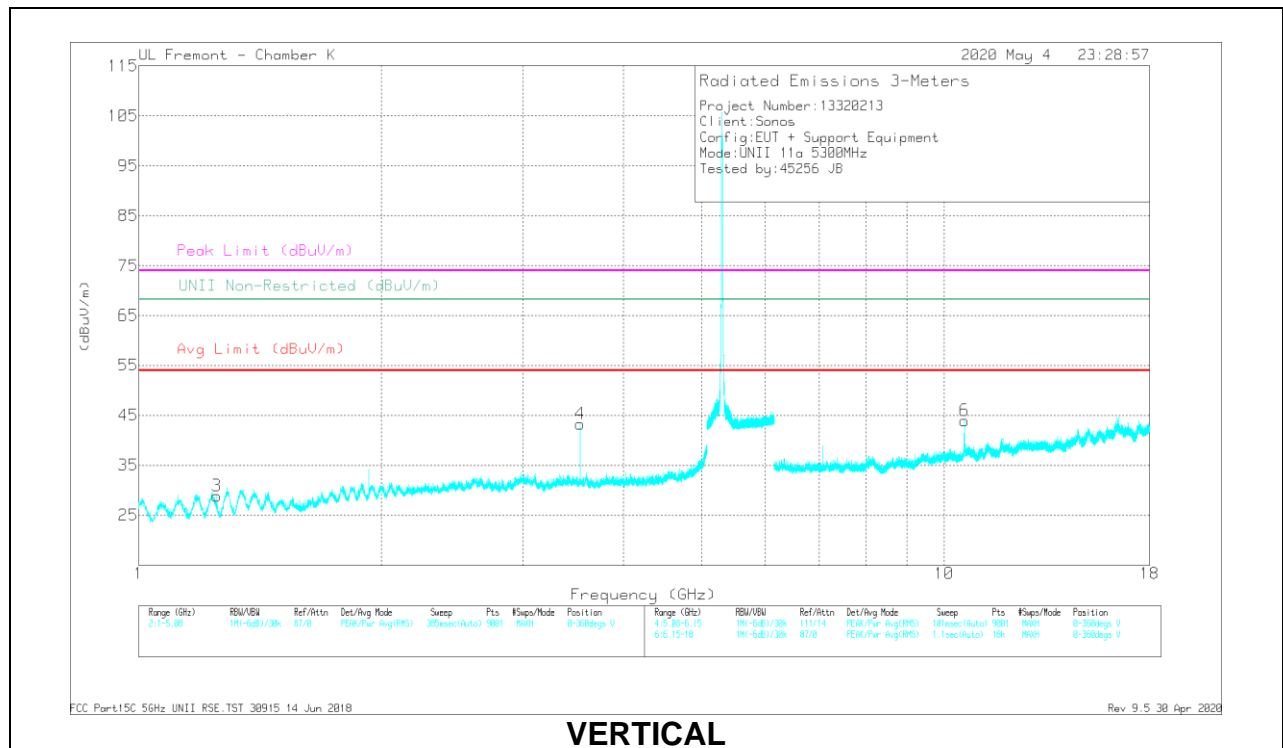
Frequency (MHz)	Max Reading (dBu)	Dist	AF EMC424 (dBm)	Amp/Gain/Fid (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNI Non-Restricted (dBuV/m)	PK Margin (dB)	Altitude (Feet)	Height (m)	Polarity
* 1.25002	54.49	PK-U	28.8	-46.6	0	36.63	-	-	74	-37.32	-	-	307	107	H
* 1.25001	46.74	ADR	28.8	-46.6	2.93	31.87	54	-22.13	-	-	-	-	307	107	H
* 1.24989	55.38	PK-U	28.8	-46.6	0	37.58	-	-	74	-36.42	-	-	307	107	H
* 1.24999	46.8	ADR	28.8	-46.6	2.93	31.93	54	-22.07	-	-	-	-	307	107	H
* 3.50666	54.49	PK-U	33.1	-42.3	0	45.26	-	-	74	-26.72	-	-	117	210	H
* 3.50664	47.18	ADR	33.1	-42.3	2.93	40.91	54	-13.09	-	-	-	-	117	210	H
* 1.24341	53.96	PK-U	28.6	-46.6	0	35.96	-	-	74	-38.04	-	-	192	125	V
* 1.24204	42.86	ADR	28.6	-46.6	2.93	27.79	54	-26.21	-	-	-	-	192	125	V
* 3.50663	55.43	PK-U	33.1	-42.3	0	46.23	-	-	74	-27.77	-	-	167	98	V
* 3.50664	48.18	ADR	33.1	-42.3	2.93	41.91	54	-12.09	-	-	-	-	167	98	V
10.5175	48.21	PK-U	37.7	-37.4	0	48.51	-	-	-	-	68.2	-19.69	0	96	H
10.51788	48.06	PK-U	37.7	-37.4	0	48.36	-	-	-	-	68.2	-19.84	360	111	V

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

MID CHANNEL RESULTS



HORIZONTAL



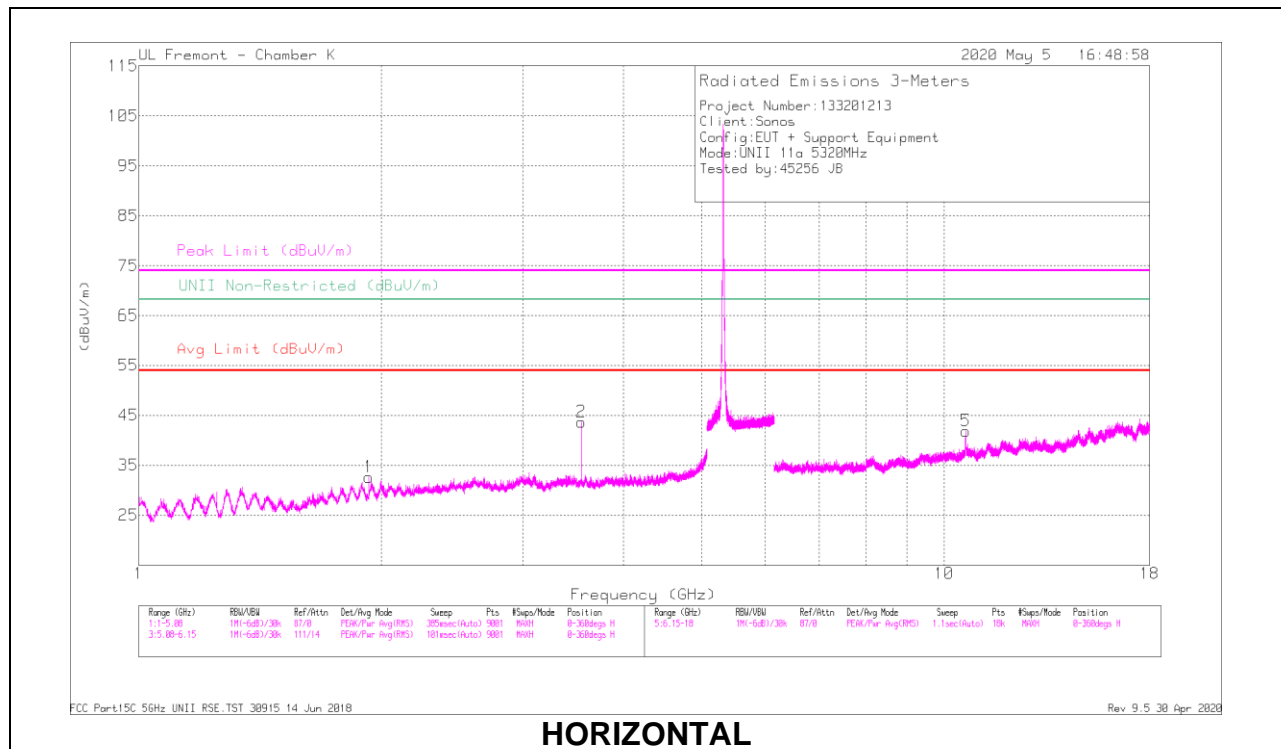
VERTICAL

RADIATED EMISSIONS

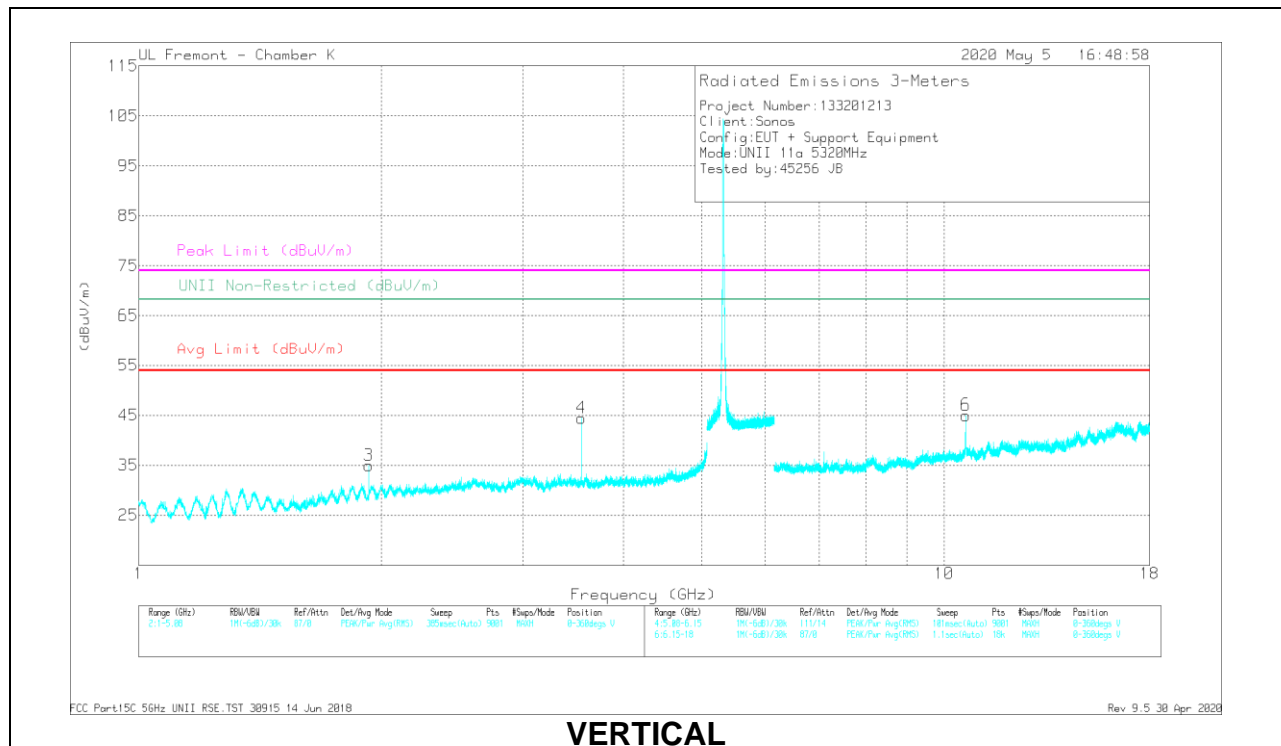
Frequency (MHz)	Meas Reading (dBm)	Det	AF EMC424 (dBm)	Amp/Clk/Freq/Pad (dB)	DC Corr (dB)	Corrected Reading (dBm)	Avrg Limit (dBm)	Margin (dB)	Peak Limit (dBm)	PK Margin (dB)	UNI Non-Restricted (dBm)	PK Margin (dB)	Altitude (ft)	Height (m)	Polarity
* 124993	55.49	PK-U	28.8	-46.6	0	37.69	-	-	74	-36.31	-	-	315	108	H
* 125001	47.52	ADR	28.8	-46.6	2.93	32.65	54	-21.35	-	-	-	-	315	108	H
* 3.53331	54.61	PK-U	33.1	-42.1	0	45.61	-	-	74	-28.39	-	-	111	175	H
* 3.5333	47.14	ADR	33.1	-42.1	2.93	41.07	54	-12.93	-	-	-	-	111	175	H
* 124998	54.06	PK-U	28.8	-46.6	0	35.25	-	-	74	-37.74	-	-	315	116	V
* 124999	44.87	ADR	28.8	-46.6	2.93	30.00	54	-24.00	-	-	-	-	315	116	V
* 3.53334	55.69	PK-U	33.1	-42.1	0	46.69	-	-	74	-27.31	-	-	166	237	V
* 3.5333	49.43	ADR	33.1	-42.1	2.93	43.35	54	-10.64	-	-	-	-	166	237	V
10.9385	47.48	PK-U	37.8	-37.4	0	47.88	-	-	-	-	68.2	-20.32	99	97	H
* 11.83319	45.59	PK-U	38.7	-35.5	0	48.79	-	-	74	-25.21	-	-	152	137	V
* 11.48442	34.08	ADR	38.3	-36.5	2.93	38.81	54	-15.19	-	-	-	-	152	137	V

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

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

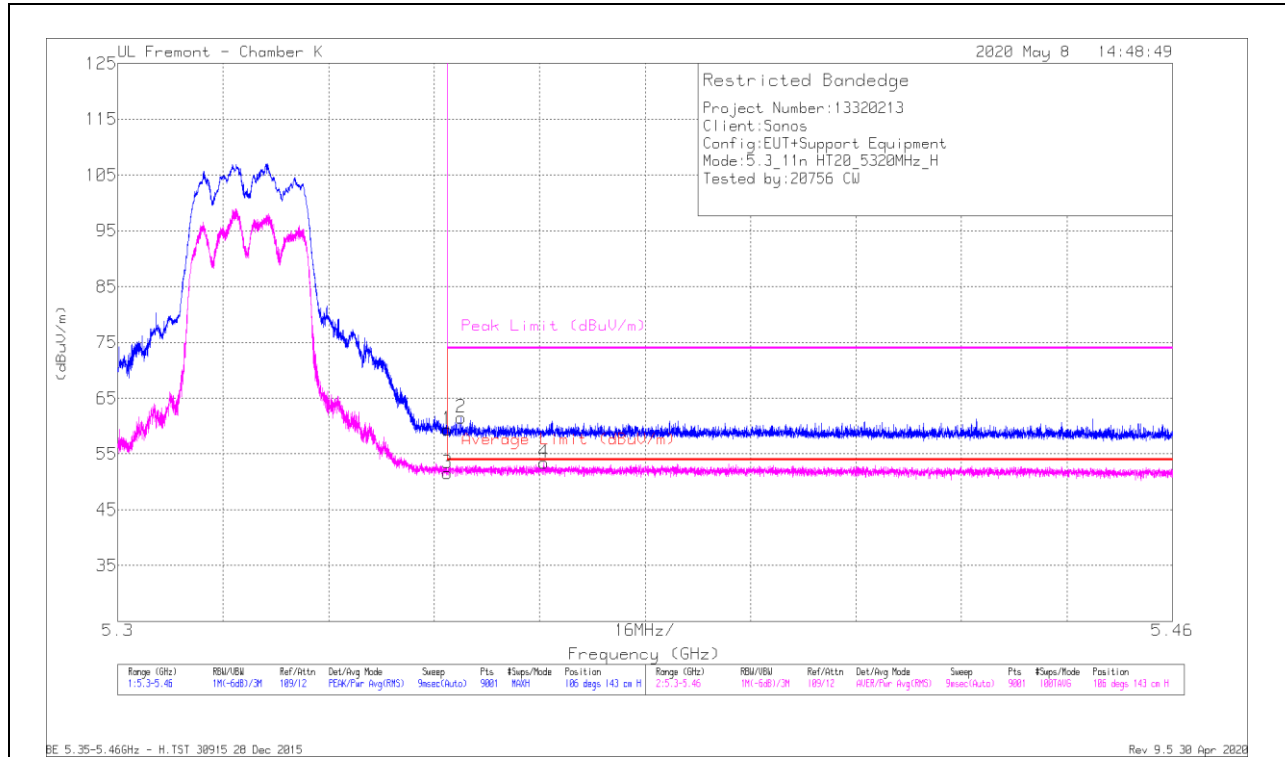
Frequency (MHz)	Meas Reading (dBµV)	Det	AF EMC424 (dBm)	Amp/Clk/Freq/Pad (dB)	DC Corr (dB)	Corrected Reading (dBµV/m)	Avrg Limit (dBµV/m)	Margin (dB)	Peak Limit (dBµV/m)	PK Margin (dB)	UNR Non-Restricted (dBµV/m)	PK Margin (dB)	Altitude (ft/m)	Height (m)	Polarity
1.93101	55.12	PK-U	31.1	-45.6	0	49.62	-	-	-	-	68.2	-27.58	59	264	H
* 3.54663	54.87	PK-U	33.2	-42.1	0	45.97	-	-	74	-28.03	-	-	111	207	H
* 3.54663	48.11	ADR	33.2	-42.1	2.93	42.14	54	-11.86	-	-	-	-	111	207	H
1.93116	57.16	PK-U	31.1	-45.6	0	42.66	-	-	-	-	68.2	-25.54	18	195	V
* 3.54664	55.74	PK-U	33.2	-42.1	0	46.94	-	-	74	-27.16	-	-	164	233	V
* 3.54664	48.22	ADR	33.2	-42.1	2.93	42.25	54	-11.75	-	-	-	-	164	233	V
* 10.64029	50.23	PK-U	37.9	-37.2	0	50.93	-	-	74	-23.07	-	-	272	113	H
* 10.64213	35.97	ADR	37.9	-37.2	2.93	39.60	54	-14.40	-	-	-	-	272	113	H
* 10.63826	53.17	PK-U	37.9	-37.2	0	53.97	-	-	74	-20.13	-	-	146	147	V
* 10.6382	37.88	ADR	37.9	-37.2	2.93	41.51	54	-12.49	-	-	-	-	146	147	V

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

9.1.4. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND

BANDEDGE (HIGH CHANNEL)

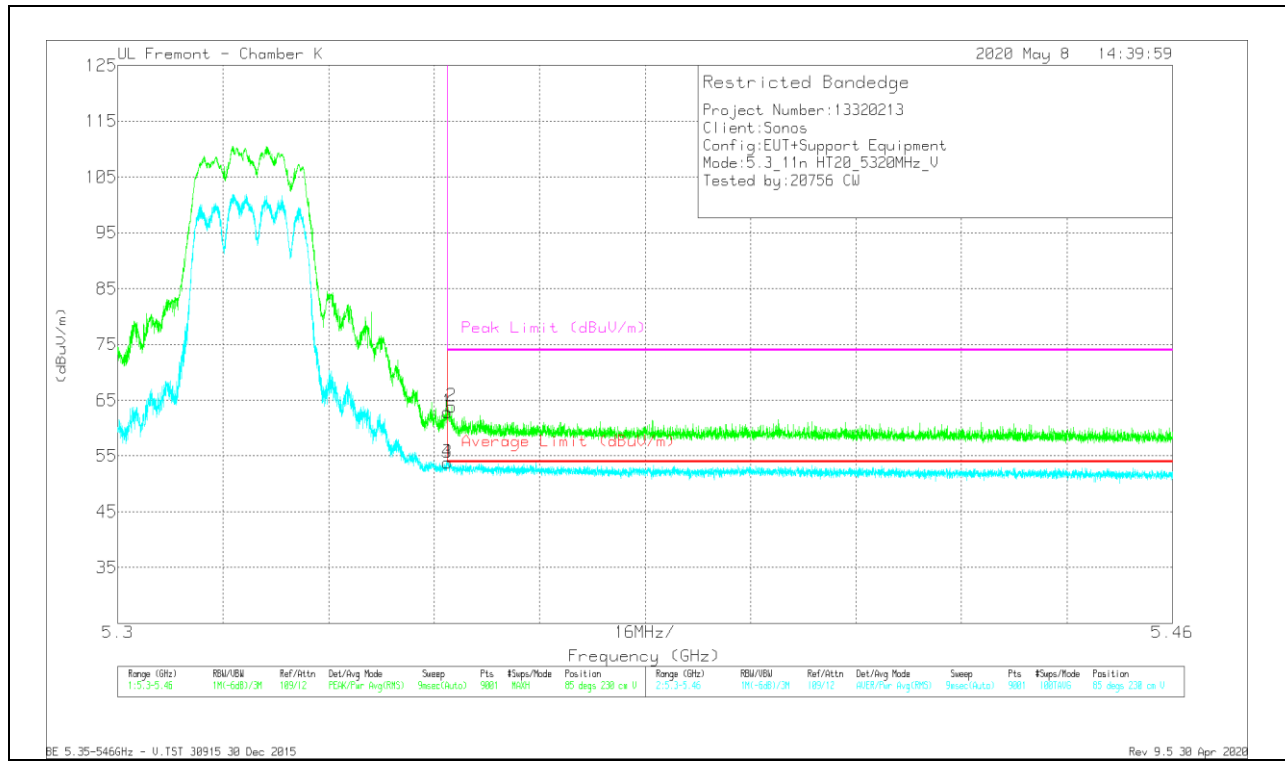
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/Cou/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 5.35001	32.16	Pk	34.4	-7.2	0	59.36	-	-	74	-14.64	106	143	H
2	* 5.35209	34.28	Pk	34.4	-7.2	0	61.48	-	-	74	-12.51	106	143	H
3	* 5.35001	20.57	RMS	34.4	-7.2	3.83	51.6	54	-2.4	-	-	106	143	H
4	* 5.36464	22.37	RMS	34.4	-7.1	3.83	53.5	54	-1.5	-	-	106	143	H

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

VERTICAL RESULT

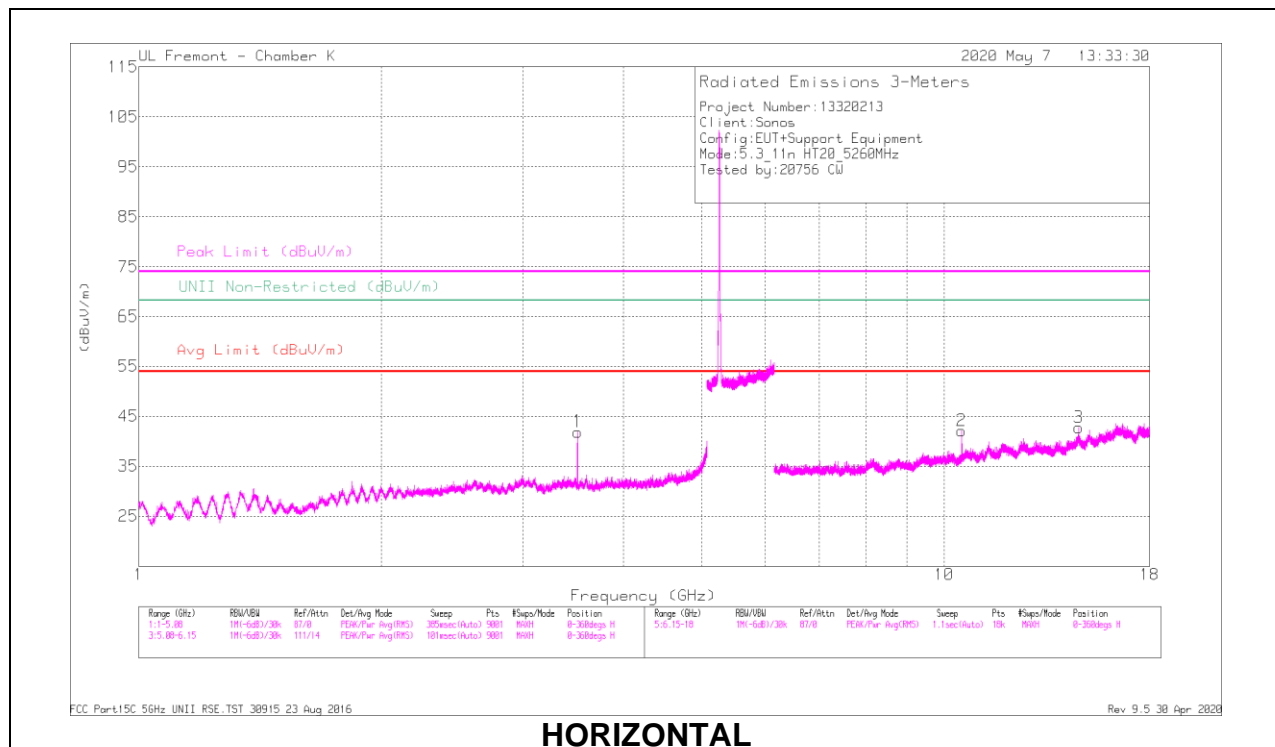


Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/CA/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 5.35001	35.66	PK	34.4	-7.2	0	62.86	-	-	74	-11.14	85	230	V
2	* 5.35067	36.94	PK	34.4	-7.2	0	63.84	-	-	74	-10.16	85	230	V
3	* 5.35001	22.75	RMS	34.4	-7.2	3.83	53.78	54	-22	-	-	85	230	V
4	* 5.35005	22.82	RMS	34.4	-7.2	3.83	53.85	54	-15	-	-	85	230	V

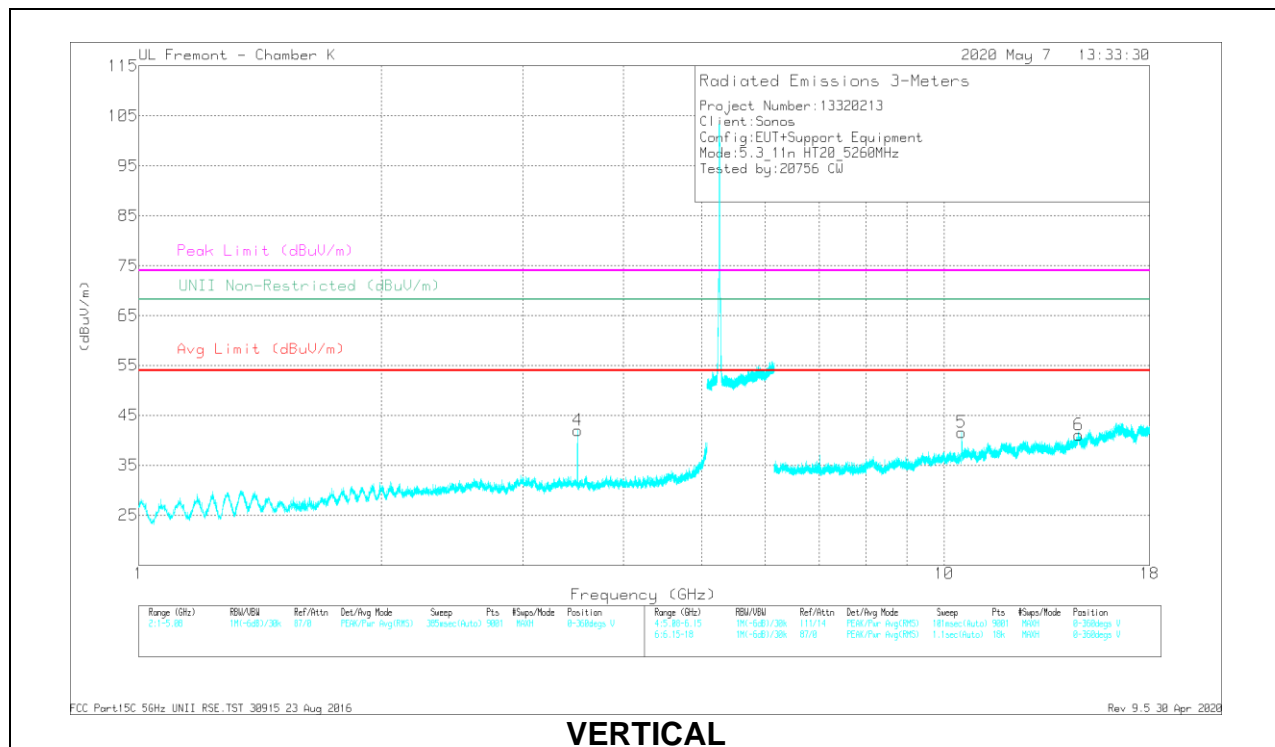
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



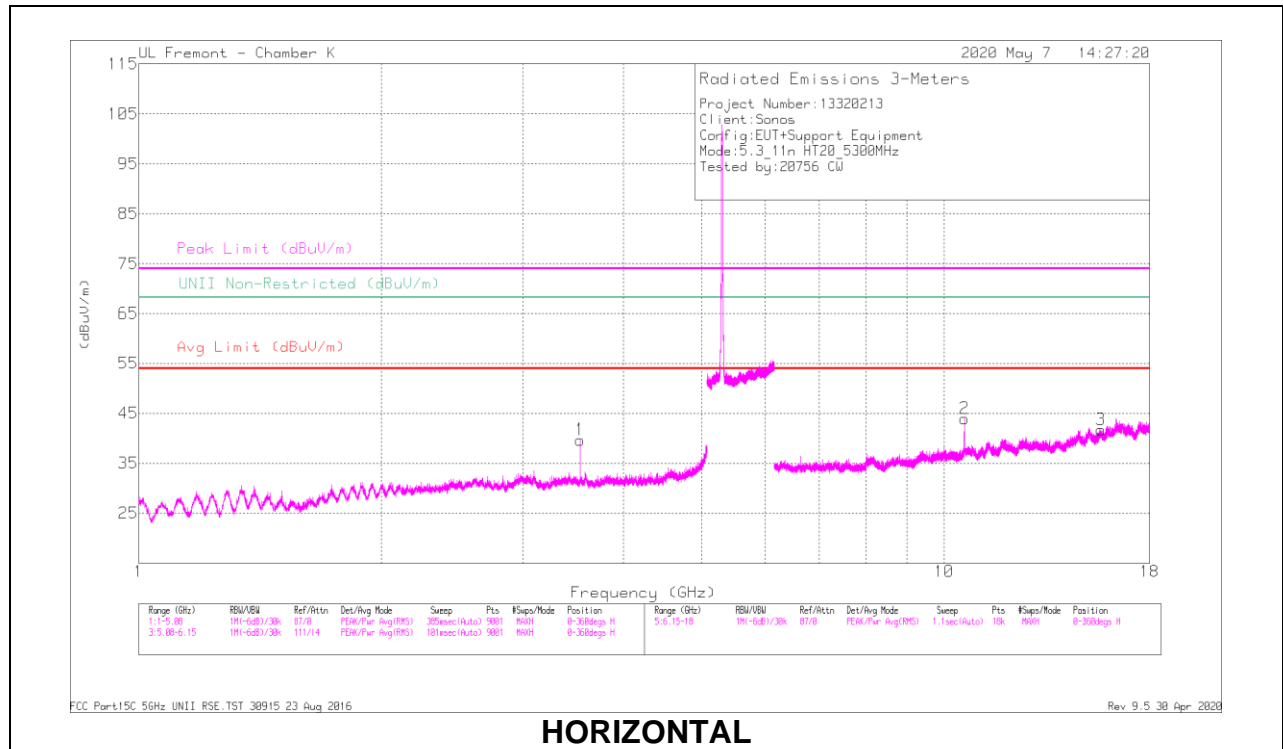
VERTICAL

RADIATED EMISSIONS

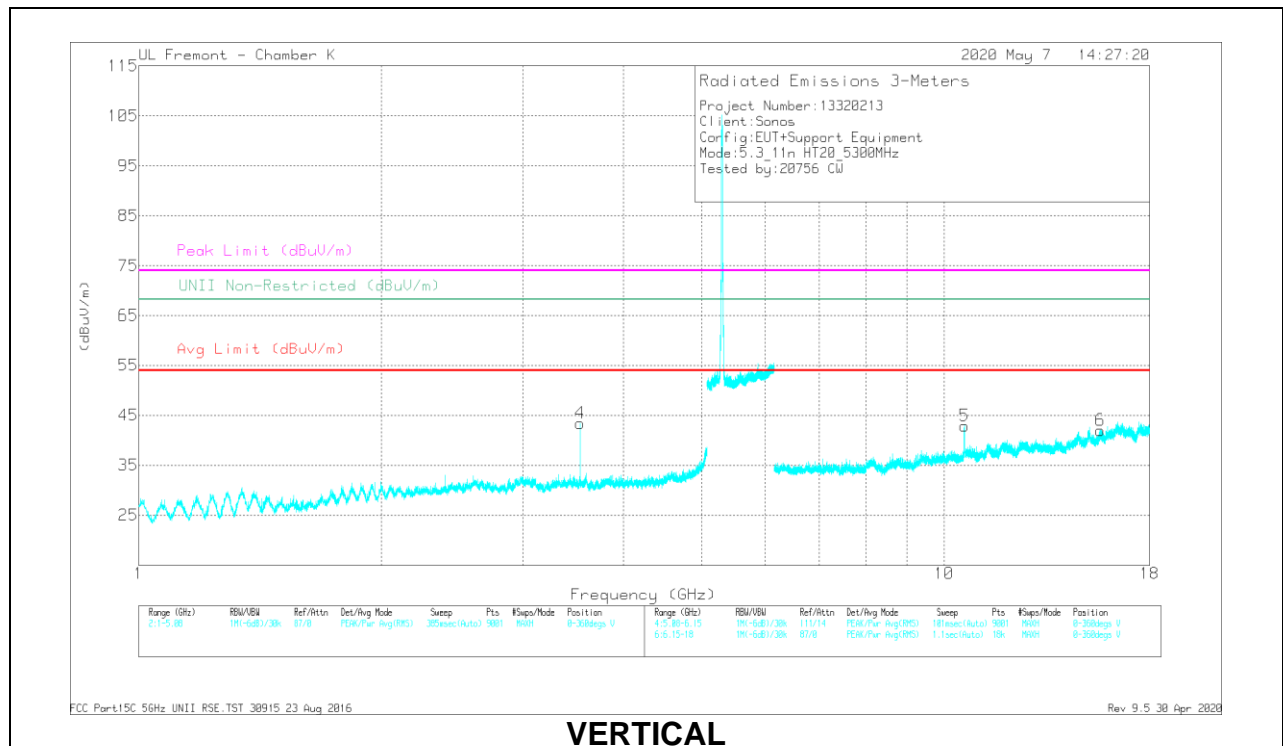
Frequency (MHz)	Max Reading (dBµV)	Dist	AF EMC424 (dBm)	Amp/Gain/Freq (dB)	DC Corr (dB)	Corrected Reading (dBµV/m)	Avg Limit (dBµV/m)	Margin (dB)	Peak Limit (dBµV/m)	PK Margin (dB)	UNR Non-Restricted (dBµV/m)	PK Margin (dB)	Altitude (Feet)	Height (m)	Polarity
* 3.50662	53.64	PK-U	33.1	-42.3	0	44.44	-	-	74	-29.56	-	-	108	175	H
* 3.50664	45.9	ADR	33.1	-42.3	3.83	40.53	54	-13.47	-	-	-	-	108	175	H
* 3.50669	53.7	PK-U	33.1	-42.3	0	44.5	-	-	74	-29.5	-	-	41	203	V
* 3.50663	46.07	ADR	33.1	-42.3	3.83	40.7	54	-13.3	-	-	-	-	41	203	V
10.523	49.86	PK-U	37.7	-37.4	0	50.26	-	-	-	-	68.2	-17.84	262	89	H
14.6961	41.69	PK-U	39.9	-33.9	0	47.69	-	-	-	-	68.2	-20.51	204	154	H
10.5144	50.03	PK-U	37.7	-37.4	0	50.33	-	-	-	-	68.2	-17.67	138	110	V
14.7026	41.63	PK-U	39.9	-34	0	47.53	-	-	-	-	68.2	-20.67	207	256	V

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

MID CHANNEL RESULTS



HORIZONTAL



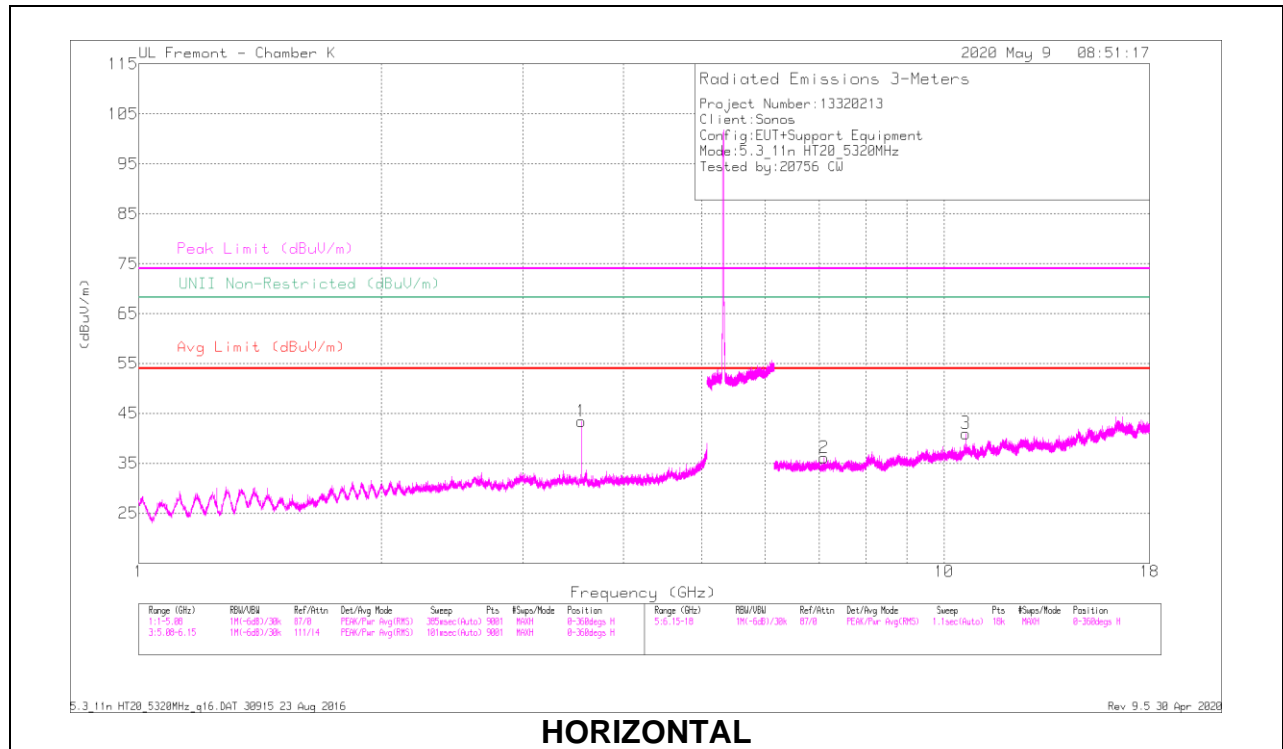
VERTICAL

RADIATED EMISSIONS

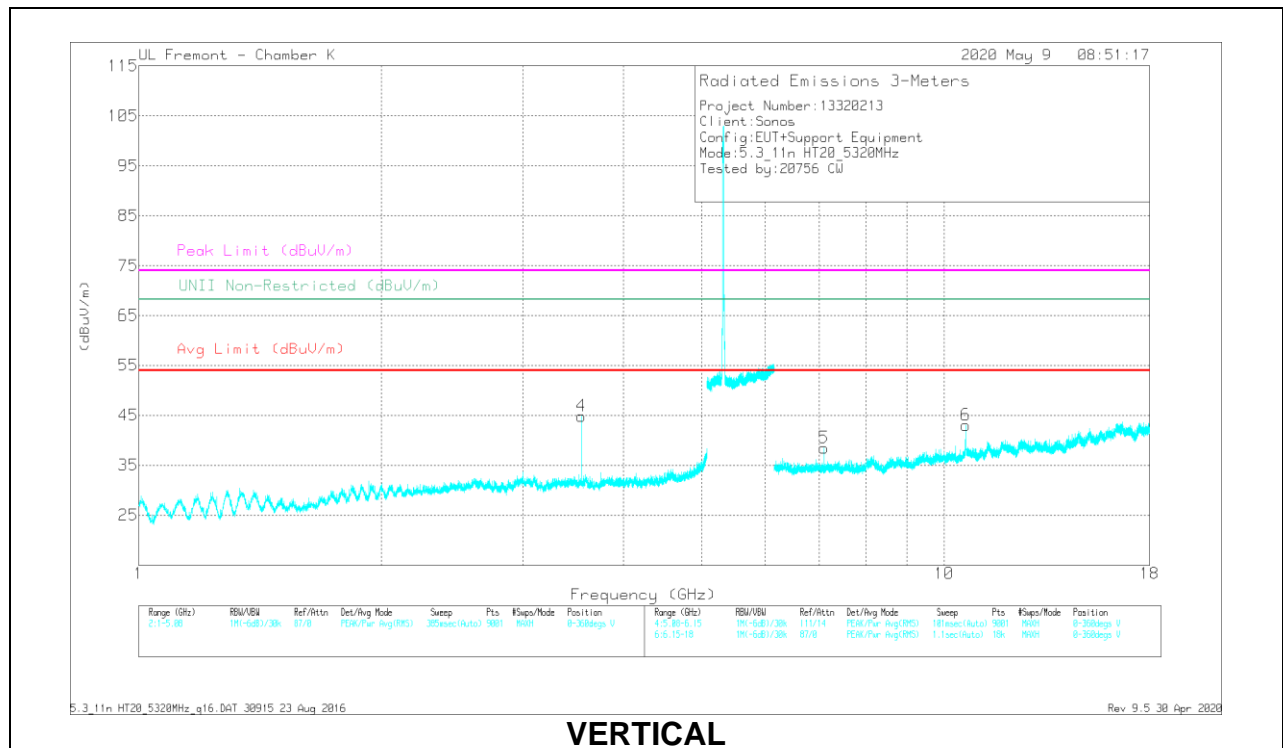
Frequency (MHz)	Meas Reading (dBµV)	Det	AF EMC424 (dBm)	Amp/Clk/Freq Pad (dB)	DC Corr (dB)	Corrected Reading (dBµV/m)	Avrg Limit (dBµV/m)	Margin (dB)	Peak Limit (dBµV/m)	PK Margin (dB)	UNI Non-Restricted (dBµV/m)	PK Margin (dB)	Altitude (Feet)	Height (m)	Polarity
* 3.53325	53.91	PK-U	33.1	-42.1	0	44.91	-	-	74	-29.09	-	-	117	203	H
* 3.5333	46.4	ADR	33.1	-42.1	3.83	41.23	54	-12.77	-	-	-	-	117	203	H
* 3.53339	54.98	PK-U	33.1	-42.1	0	45.98	-	-	74	-28.02	-	-	166	237	V
* 3.53331	47.39	ADR	33.1	-42.1	3.83	42.22	54	-11.78	-	-	-	-	166	237	V
* 10.60116	49.52	PK-U	37.8	-37.4	0	50.22	-	-	74	-23.78	-	-	265	138	H
* 10.60111	38.29	ADR	37.8	-37.4	3.83	42.52	54	-11.48	-	-	-	-	265	108	H
* 15.66259	41.98	PK-U	40.1	-33.6	0	48.48	-	-	74	-25.52	-	-	267	103	H
* 15.66222	32.15	ADR	40.1	-33.6	3.83	42.48	54	-11.52	-	-	-	-	267	103	H
10.5971	52.88	PK-U	37.8	-37.4	0	53.08	-	-	-	-	68.2	-15.12	146	139	V
10.59715	39.7	ADR	37.8	-37.4	3.83	43.93	-	-	-	-	-	-	146	139	V
* 15.6435	41.17	PK-U	40	-33.4	0	47.77	-	-	74	-26.23	-	-	119	331	V
* 15.6431	31.79	ADR	40.1	-33.4	3.83	42.32	54	-11.68	-	-	-	-	119	331	V

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

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

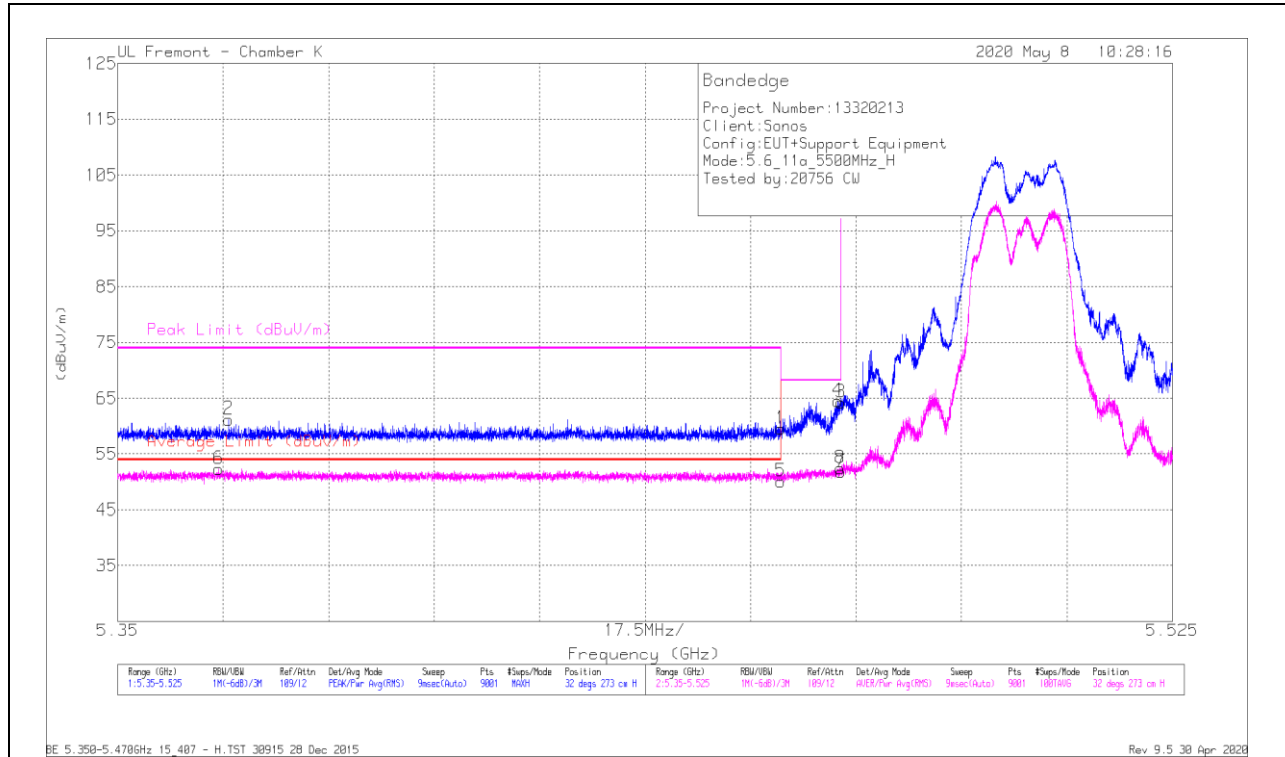
Frequency (MHz)	Meas Reading (dBuV)	Det	AF EMC424 (dBm)	Amp/Clk/Freq/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avrg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNR Non-Restricted (dBuV/m)	PK Margin (dB)	Altitude (ft/m)	Height (m)	Polarity
* 3.5467	56.09	PK-U	33.2	-42.1	0	47.19	-	-	74	-26.81	-	-	107	191	H
* 3.54665	46.23	ADR	33.2	-42.1	3.83	41.16	54	-12.84	-	-	-	-	107	191	H
* 3.54668	55.6	PK-U	33.2	-42.1	0	46.7	-	-	74	-27.3	-	-	167	257	V
* 3.54664	48.75	ADR	33.2	-42.1	3.83	43.68	54	-10.32	-	-	-	-	167	257	V
7.09304	45.5	PK-U	35.6	-38.2	0	42.9	-	-	-	-	68.2	-25.3	119	119	H
* 10.64242	48.02	PK-U	37.9	-37.2	0	48.72	-	-	74	-25.28	-	-	142	100	H
* 10.64242	36.69	ADR	37.9	-37.2	3.83	41.12	54	-12.88	-	-	-	-	142	100	H
7.09352	45.73	PK-U	35.6	-38.2	0	43.13	-	-	-	-	68.2	-25.07	88	197	V
* 10.6411	50.41	PK-U	37.9	-37.2	0	51.11	-	-	74	-22.89	-	-	118	98	V
* 10.64107	37.82	ADR	37.9	-37.2	3.83	42.35	54	-11.65	-	-	-	-	118	98	V

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

9.1.5. TX ABOVE 1 GHz 802.11a MODE IN THE 5.6 GHz BAND

BANDEDGE (LOW CHANNEL)

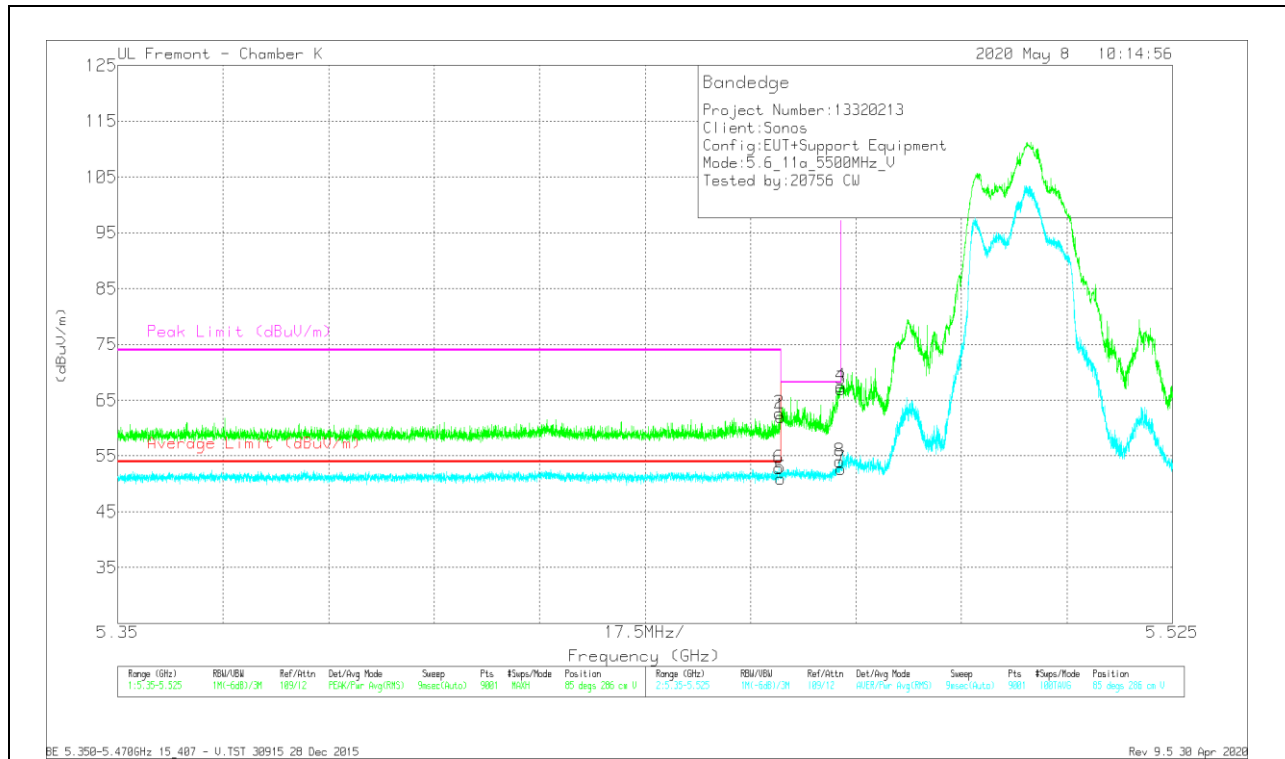
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/Cou/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 5.45999	32.43	Pk	34.5	-7.4	0	59.53	-	-	74	-14.47	32	273	H
2	* 5.36845	33.91	Pk	34.4	-7.1	0	61.21	-	-	74	-12.79	32	273	H
3	5.46999	37.15	Pk	34.5	-7.4	0	64.25	-	-	68.2	-3.95	32	273	H
4	5.46948	37.38	Pk	34.5	-7.4	0	64.48	-	-	68.2	-3.72	32	273	H
5	* 5.45999	20.04	RMS	34.5	-7.4	2.93	50.07	54	-3.93	-	-	32	273	H
6	* 5.36674	22.11	RMS	34.4	-7.1	2.93	52.34	54	-1.66	-	-	32	273	H
7	5.46999	21.84	RMS	34.5	-7.4	2.93	51.87	-	-	-	-	32	273	H
8	5.46987	22.38	RMS	34.5	-7.4	2.93	52.41	-	-	-	-	32	273	H

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

VERTICAL RESULT



Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/Cat/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 5.45999	34.39	Pk	34.5	-7.4	0	62.08	-	-	74	-11.32	85	286	V
2	* 5.45982	35.58	Pk	34.5	-7.4	0	62.68	-	-	74	-11.32	85	286	V
3	5.46999	39.88	Pk	34.5	-7.4	0	66.98	-	-	68.2	-1.22	85	286	V
4	5.46995	40.43	Pk	34.5	-7.4	0	67.53	-	-	68.2	-0.67	85	286	V
5	* 5.45999	20.9	RMS	34.5	-7.4	2.93	50.93	54	-3.07	-	-	85	286	V
6	* 5.45966	22.78	RMS	34.5	-7.4	2.93	52.81	54	-1.19	-	-	85	286	V
7	5.46999	22.66	RMS	34.5	-7.4	2.93	52.69	-	-	-	-	85	286	V
8	5.46974	24.04	RMS	34.5	-7.4	2.93	54.07	-	-	-	-	85	286	V

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