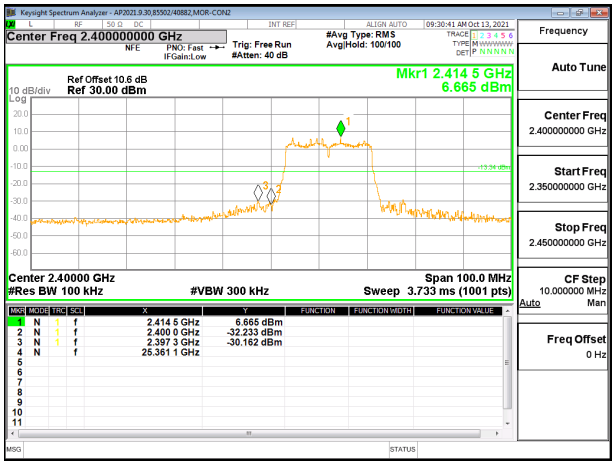
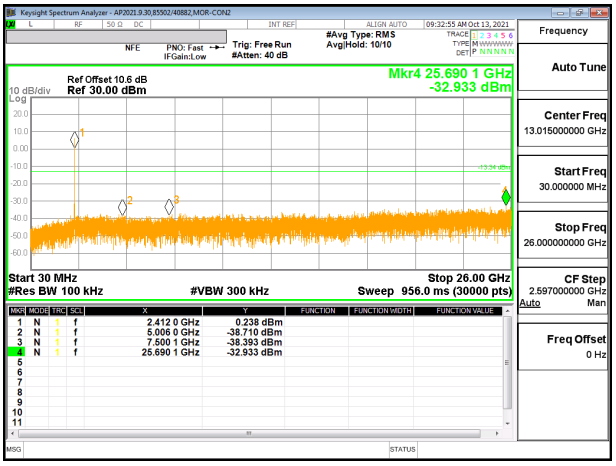
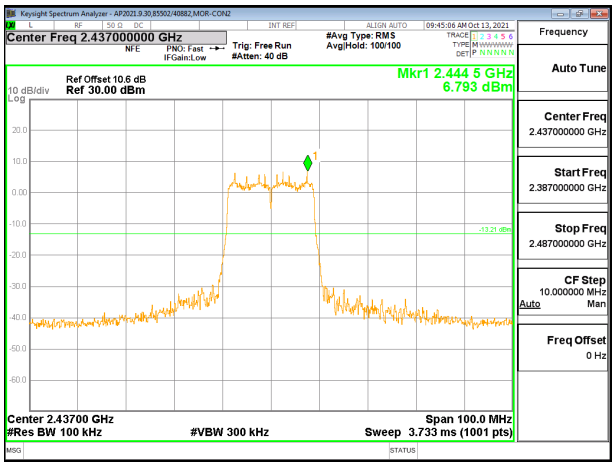
9.6.4. 2.4 WLAN-Antenna 1 (802.11nHT20) 2TX Antenna 1 + Antenna 2 CDD MODE



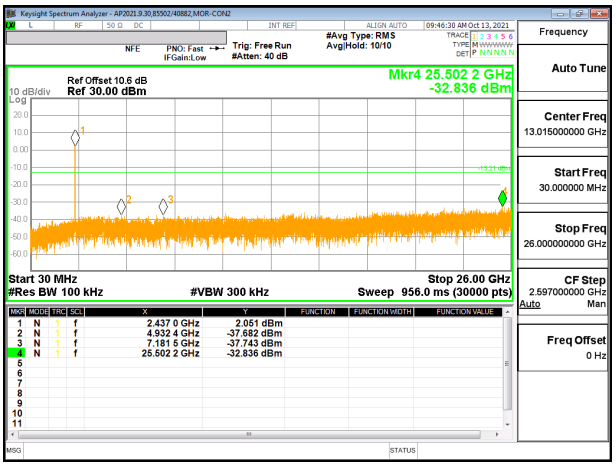
LOW CHANNEL BANDEDGE



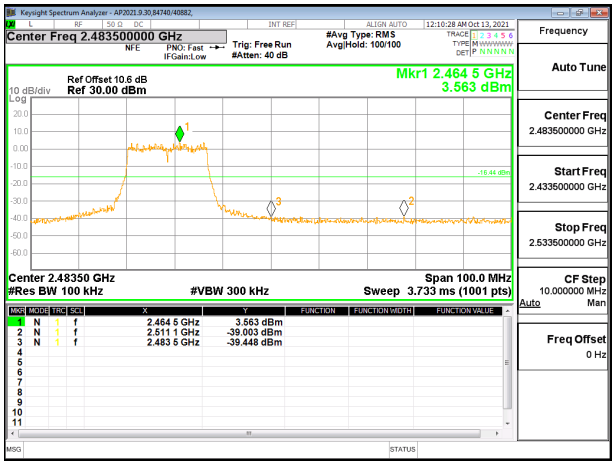
OUT-OF-BAND LOW CHANNEL



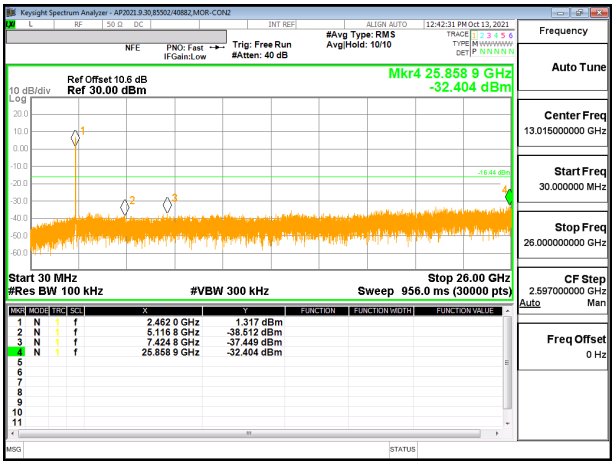
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

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10. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	2400/F(kHz) @ 300 m	-
0.490-1.705	24000/F(kHz) @ 30 m	-
1.705 - 30	30 @ 30m	-
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

RSS-GEN, Section 8.9 and 8.10

Frequency Range (MHz)	Field Strength Limit (uA/m) at 3 m	Field Strength Limit (dBuA/m) at 3 m
0.009-0.490	6.37/F(kHz) @ 300 m	-
0.490-1.705	63.7/F(kHz) @ 30 m	-
1.705 - 30	0.08 @ 30m	-
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 in the 30-1000MHz range, 9kHz for peak and/or quasi-peak detection measurements in the 0.15-30MHz range and 200Hz for peak and/or quasi-peak detection measurements in the 9 to 150kHz range. Peak detection is used unless otherwise noted as quasi-peak or average (9-90kHz and 110-490kHz).

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.

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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. In this case linear voltage averaging.

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. Below 1GHz and above 18GHz emissions, the channel with the highest output power was tested.

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.

3D antenna use - For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel).

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.

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

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

NOTE: The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table), using the free space impedance of 377 Ohms. For example the measurement at frequency 11.34 kHz resulted in a level of -20.32 dBuV/m, which is equivalent to -20.32 – 51.5 = -71.82 dBuA/m, which has the same margin, -66.83 dB, to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limit.

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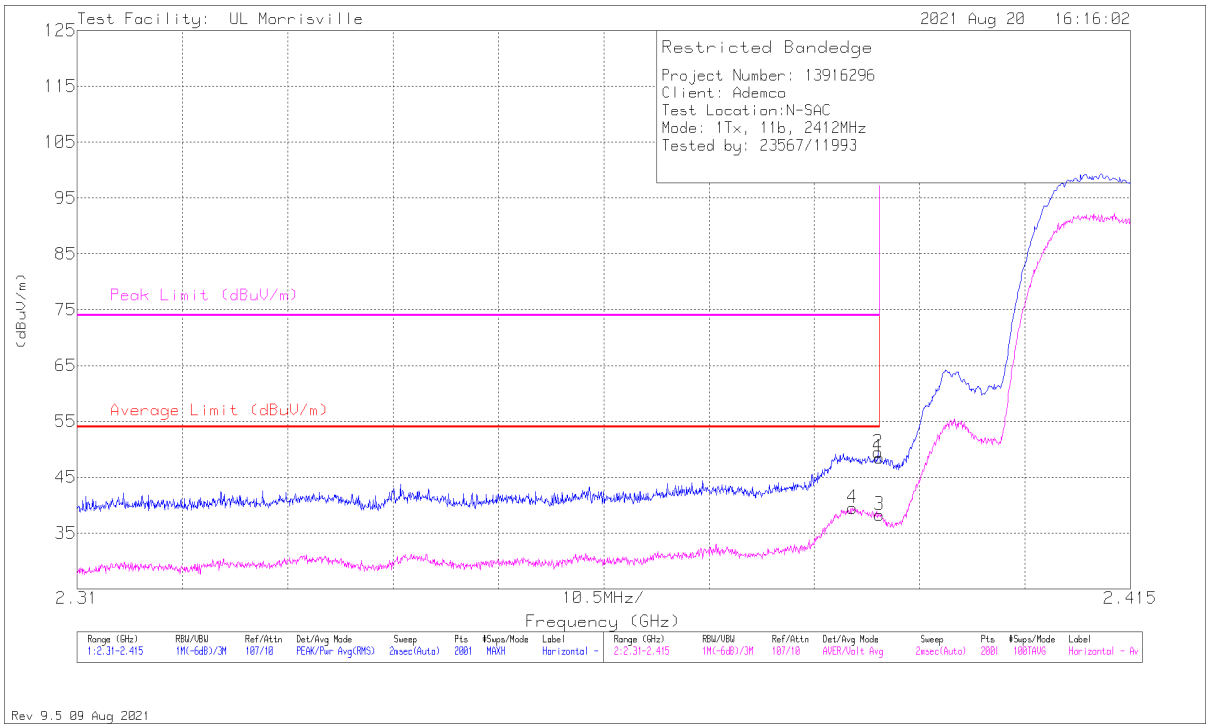
10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND

1TX Antenna 1 MODE

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	41.05	Pk	31.8	-24.3	48.55	-	-	74	-25.45	142	116	H
2	* ** 2.38985	41.95	Pk	31.8	-24.3	49.45	-	-	74	-24.55	142	116	H
3	* ** 2.38996	30.77	ADV	31.8	-24.3	38.27	54	-15.73	-	-	142	116	H
4	* ** 2.38728	31.99	ADV	31.8	-24.3	39.49	54	-14.51	-	-	142	116	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
ADV - Linear Voltage Average

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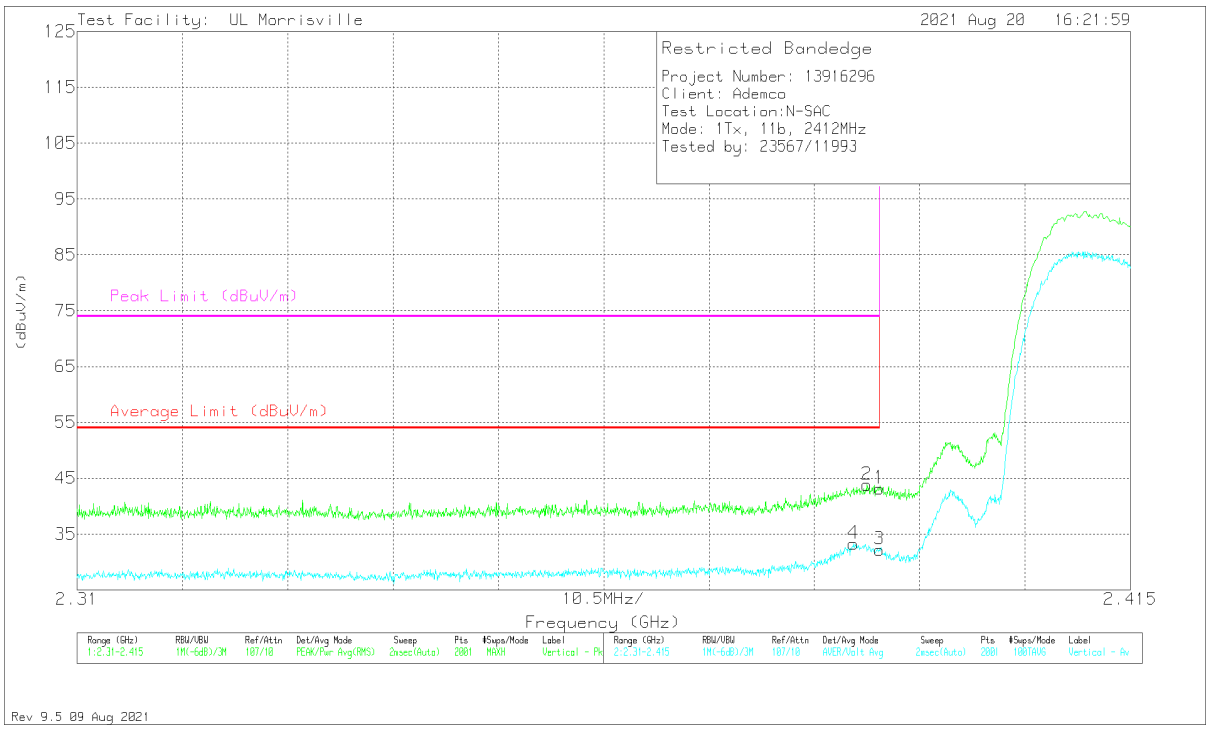
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	35.67	Pk	31.8	-24.3	43.17	-	-	74	-30.83	5	352	V
2	* ** 2.38875	36.32	Pk	31.8	-24.3	43.82	-	-	74	-30.18	5	352	V
3	* ** 2.38996	24.73	ADV	31.8	-24.3	32.23	54	-21.77	-	-	5	352	V
4	* ** 2.38739	25.79	ADV	31.8	-24.3	33.29	54	-20.71	-	-	5	352	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
ADV - Linear Voltage Average

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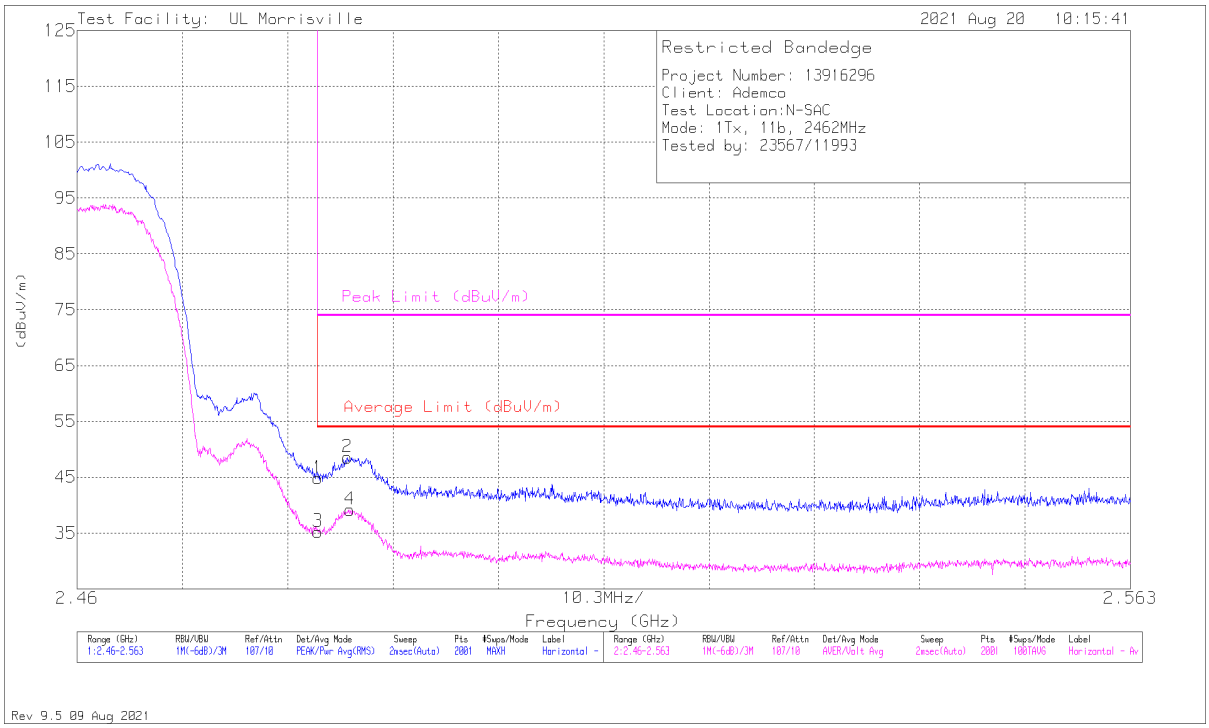
BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	37.03	Pk	32.4	-24.6	44.83	-	-	74	-29.17	161	341	H
2	* ** 2.48642	40.66	Pk	32.5	-24.6	48.56	-	-	74	-25.44	161	341	H
3	* ** 2.48354	27.43	ADV	32.4	-24.6	35.23	54	-18.77	-	-	161	341	H
4	* ** 2.48668	31.28	ADV	32.5	-24.6	39.18	54	-14.82	-	-	161	341	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
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Pk - Peak detector
ADV - Linear Voltage Average

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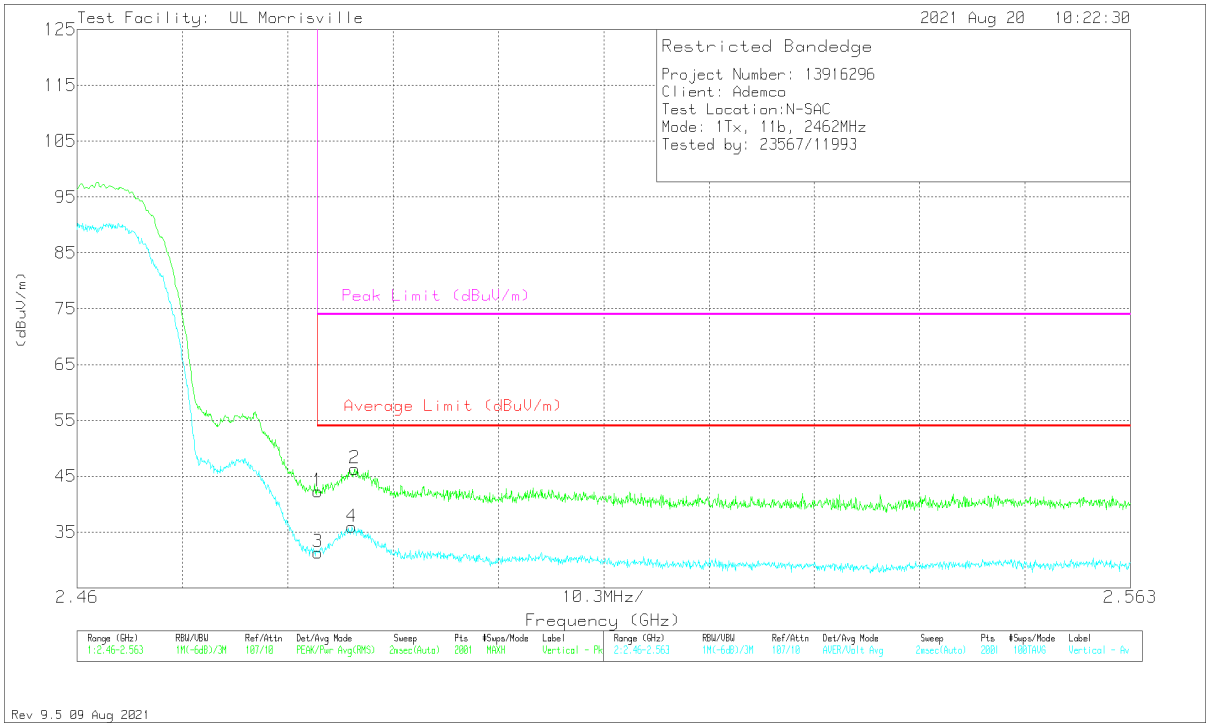
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	34.51	Pk	32.4	-24.6	42.31	-	-	74	-31.69	196	385	V
2	* ** 2.48714	38.45	Pk	32.5	-24.6	46.35	-	-	74	-27.65	196	385	V
3	* ** 2.48354	23.57	ADV	32.4	-24.6	31.37	54	-22.63	-	-	196	385	V
4	* ** 2.48688	28.02	ADV	32.5	-24.6	35.92	54	-18.08	-	-	196	385	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
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Pk - Peak detector
ADV - Linear Voltage Average

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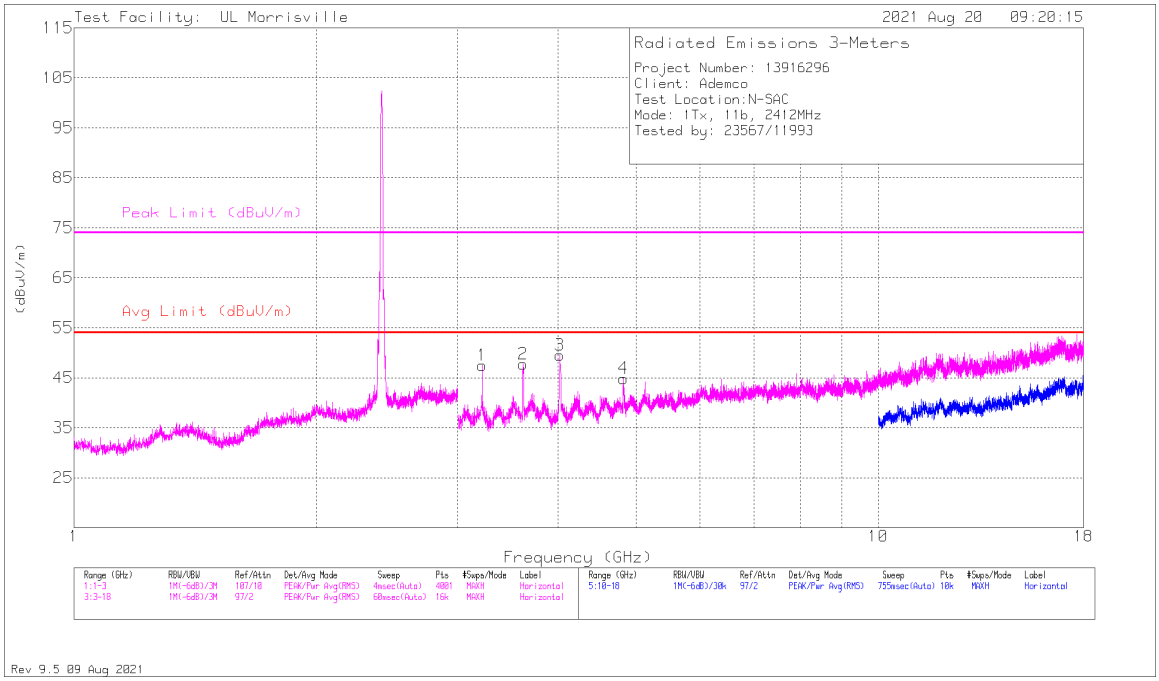
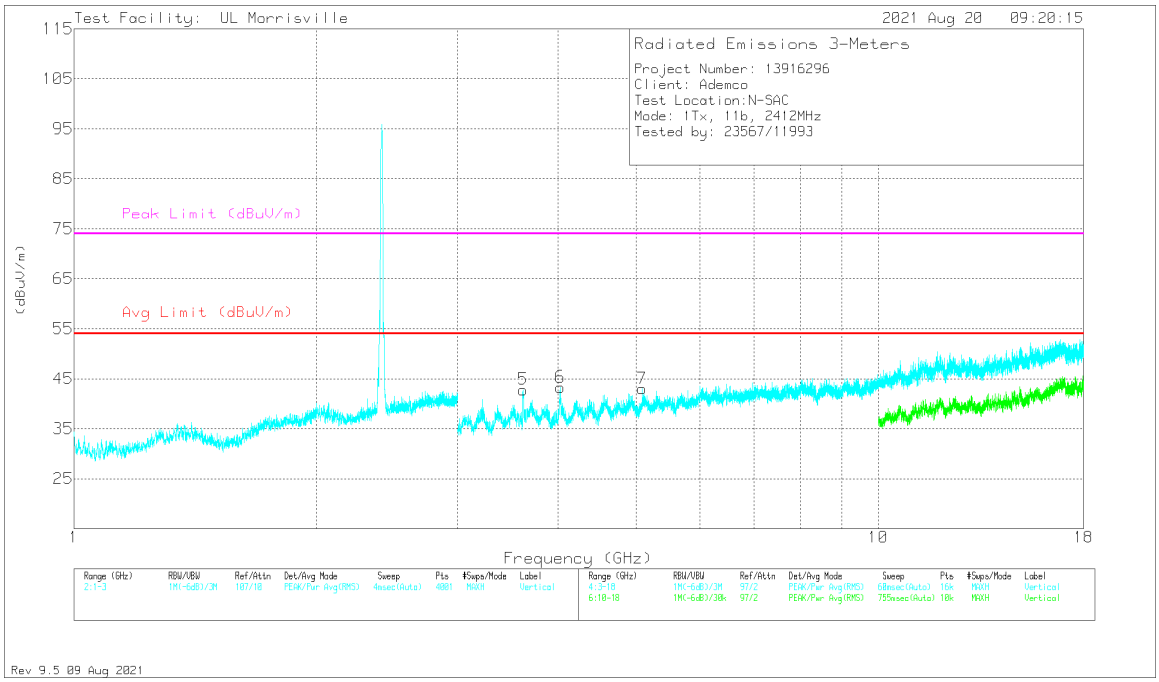
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Fltr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 3.615	46.21	Pk	33.3	-31.8	47.71	54	-6.29	74	-26.29	0-360	200	H
3	* ** 4.02156	51.72	PK2	33.2	-32.1	52.82	-	-	74	-21.18	200	200	H
	* ** 4.02142	41.11	ADV	33.2	-32.1	42.21	54	-11.79	-	-	200	200	H
4	* ** 4.82344	42.04	Pk	34.1	-31.3	44.84	54	-9.16	74	-29.16	0-360	200	H
5	* ** 3.61594	41.32	Pk	33.3	-31.8	42.82	54	-11.18	74	-31.18	0-360	200	V
6	* ** 4.02375	42.09	Pk	33.2	-32	43.29	54	-10.71	74	-30.71	0-360	200	V
7	* ** 5.08875	40.02	Pk	34.4	-31.4	43.02	54	-10.98	74	-30.98	0-360	200	V
1	3.21563	47.06	Pk	32.9	-32.5	47.46	-	-	-	-	0-360	200	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
ADV - Linear Voltage Average

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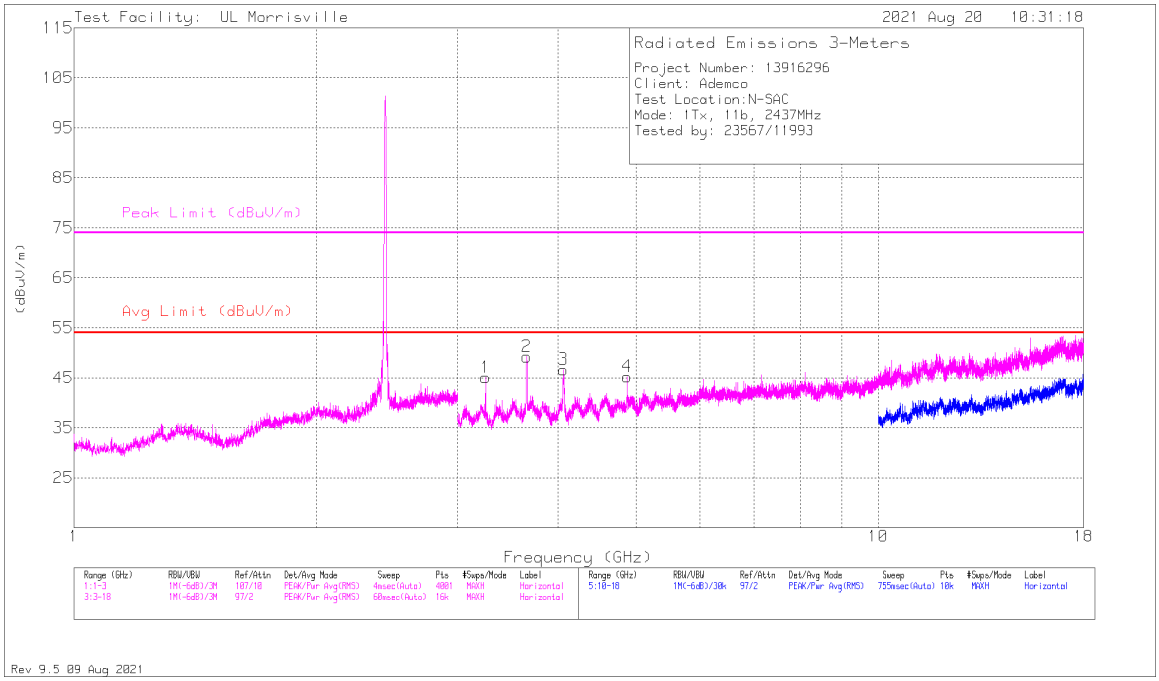
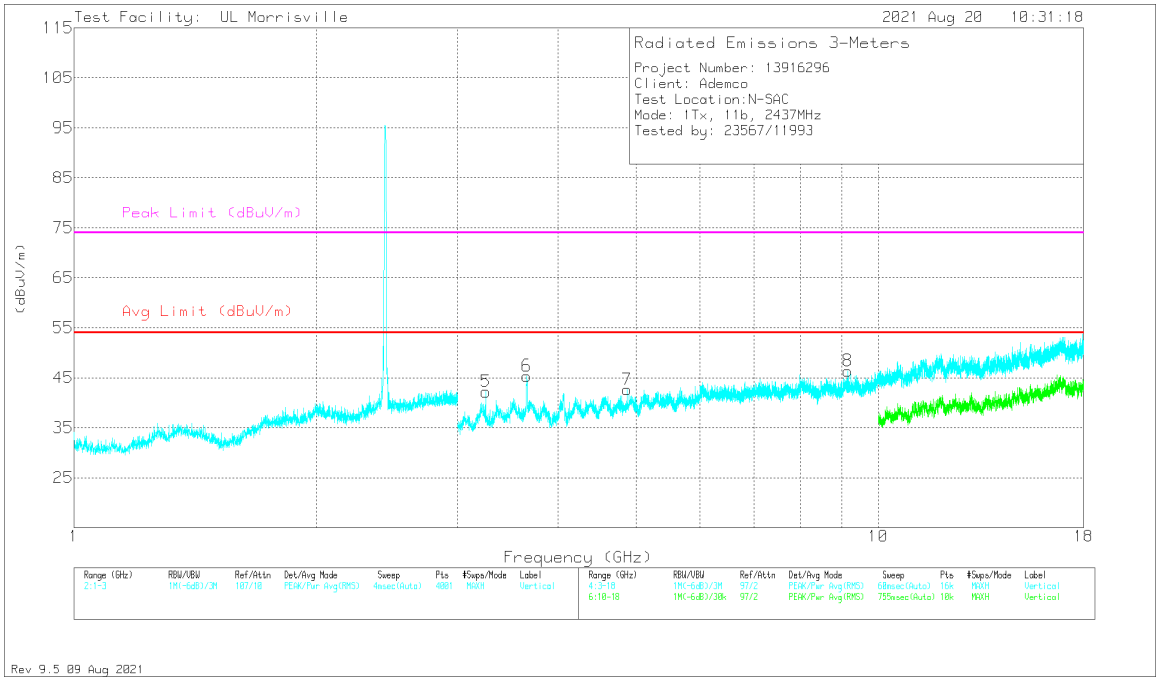
MID CHANNEL, CH 6 RESULTS



HORIZONTAL



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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Fltr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 3.65559	50.86	PK2	33.4	-31.2	53.06	-	-	74	-20.94	190	126	H
	* ** 3.65467	41.22	ADV	33.4	-31.2	43.42	54	-10.58	-	-	190	126	H
3	* ** 4.06031	46.43	Pk	33.2	-33	46.63	54	-7.37	74	-27.37	0-360	200	H
4	* ** 4.87313	42.52	Pk	34.2	-31.5	45.22	54	-8.78	74	-28.78	0-360	101	H
6	* ** 3.65531	43.12	Pk	33.4	-31.2	45.32	54	-8.68	74	-28.68	0-360	200	V
7	* ** 4.87406	40.12	Pk	34.2	-31.7	42.62	54	-11.38	74	-31.38	0-360	200	V
8	* ** 9.16031	37.75	Pk	36.3	-27.7	46.35	54	-7.65	74	-27.65	0-360	101	V
1	3.24844	44.83	Pk	32.9	-32.7	45.03	-	-	-	-	0-360	200	H
5	3.24938	42.01	Pk	32.9	-32.7	42.21	-	-	-	-	0-360	200	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
ADV - Linear Voltage Average

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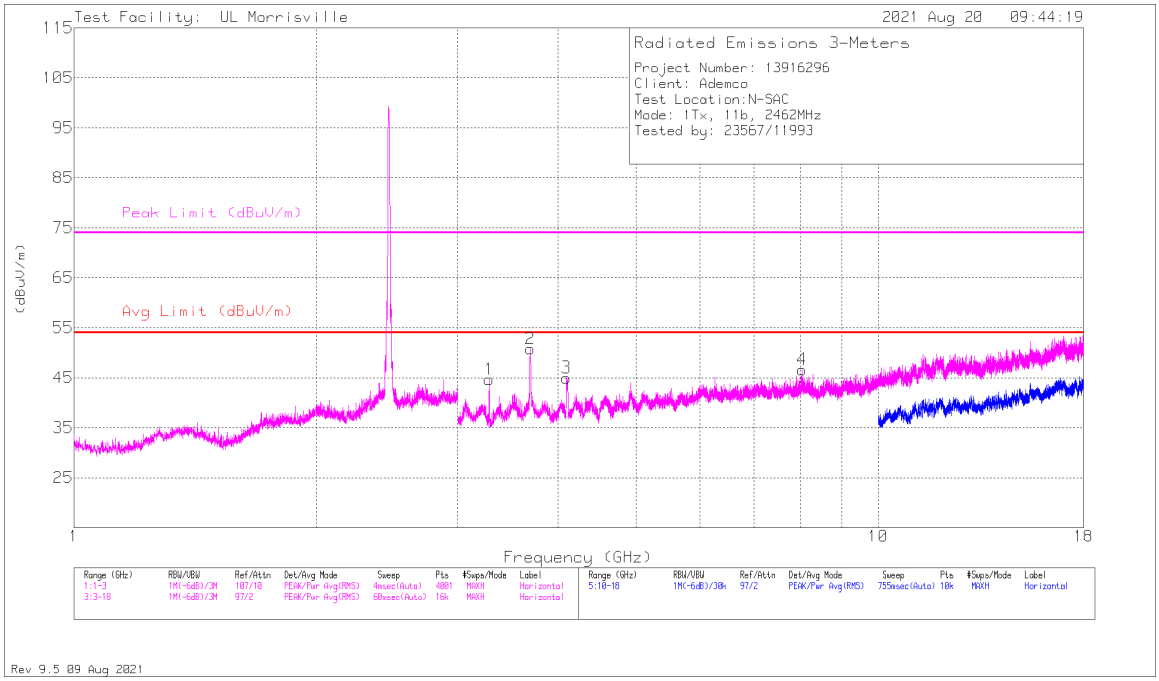
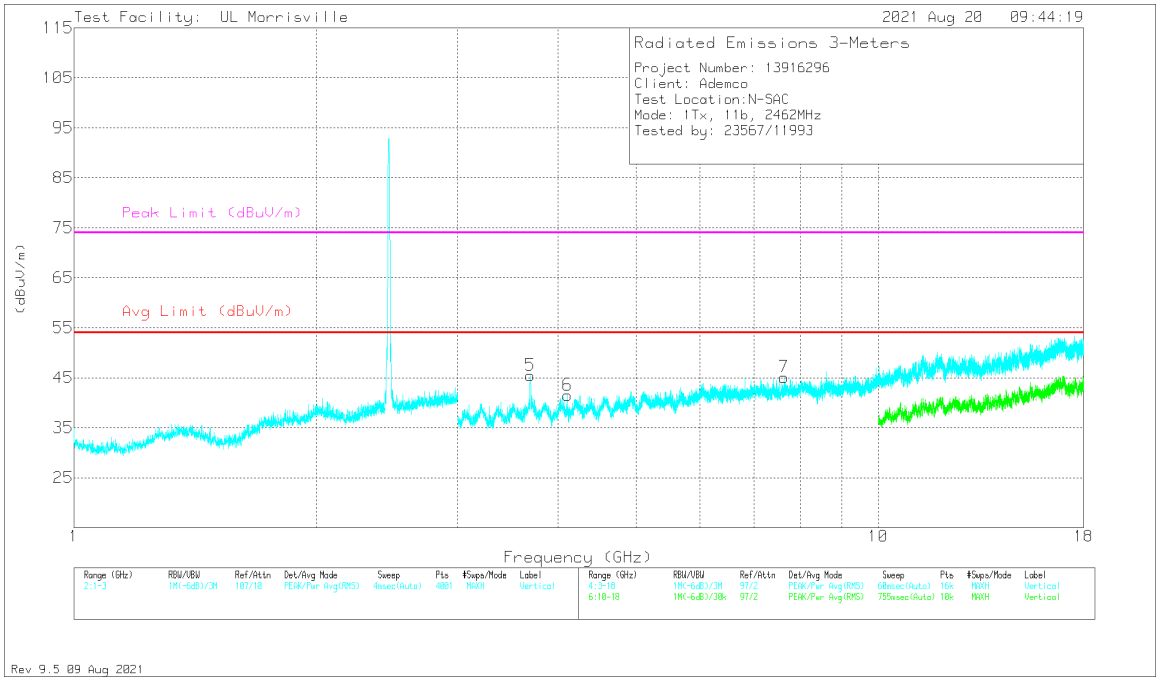
HIGH CHANNEL, CH 11 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Fltr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 3.69301	53.83	PK2	33.3	-32.2	54.93	-	-	74	-19.07	190	344	H
	* ** 3.69366	44.19	ADV	33.3	-32.1	45.39	54	-8.61	-	-	190	344	H
3	* ** 4.095	44.66	Pk	33.2	-32.9	44.96	54	-9.04	74	-29.04	0-360	200	H
4	* ** 8.04094	38.81	Pk	35.9	-28.1	46.61	54	-7.39	74	-27.39	0-360	200	H
5	* ** 3.69375	44.27	Pk	33.3	-32.1	45.47	54	-8.53	74	-28.53	0-360	200	V
6	* ** 4.11094	41.11	Pk	33.3	-32.9	41.51	54	-12.49	74	-32.49	0-360	200	V
7	* ** 7.63875	37.61	Pk	35.9	-28.4	45.11	54	-8.89	74	-28.89	0-360	200	V
1	3.28219	44.07	Pk	32.8	-32.2	44.67	-	-	-	-	0-360	200	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
ADV - Linear Voltage Average

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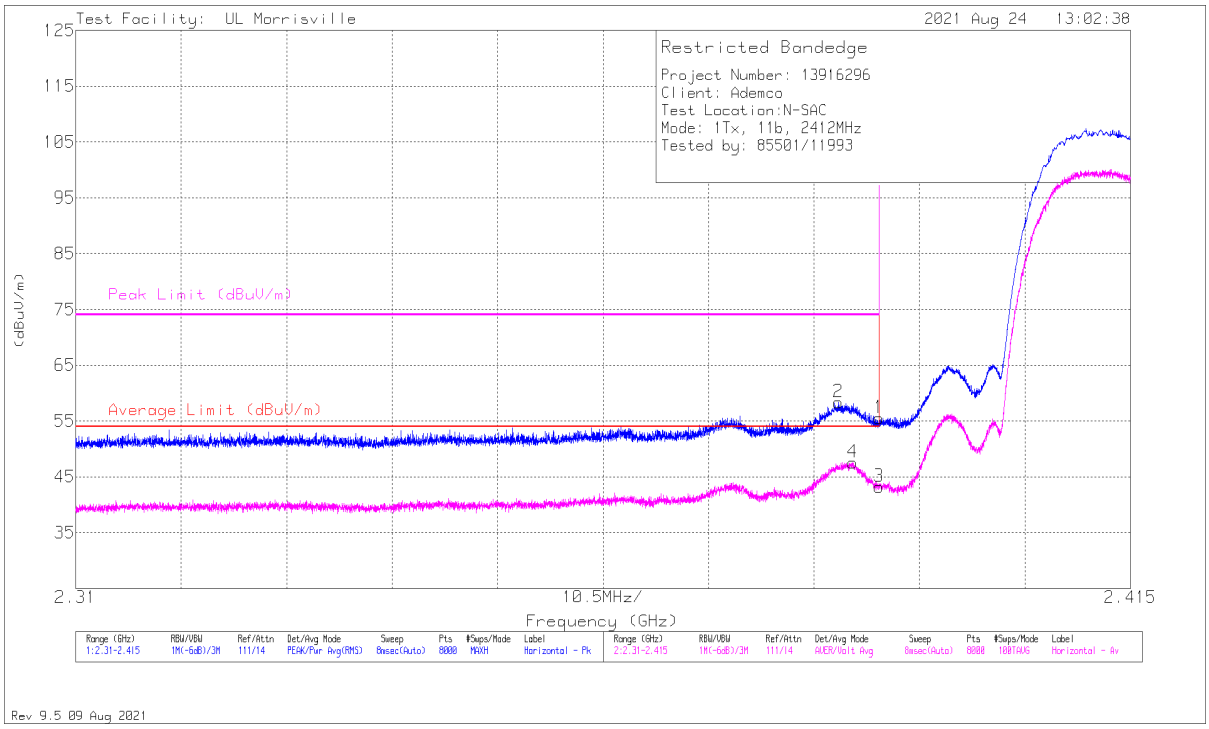
1TX Antenna 2 MODE

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	38.03	Pk	31.8	-24.3	10	55.53	-	-	74	-18.47	3	101	H
2	* ** 2.38591	40.94	Pk	31.8	-24.4	10	58.34	-	-	74	-15.66	3	101	H
3	* ** 2.39	25.75	ADV	31.8	-24.3	10	43.25	54	-10.75	-	-	3	101	H
4	* ** 2.38733	30.1	ADV	31.8	-24.3	10	47.6	54	-6.4	-	-	3	101	H

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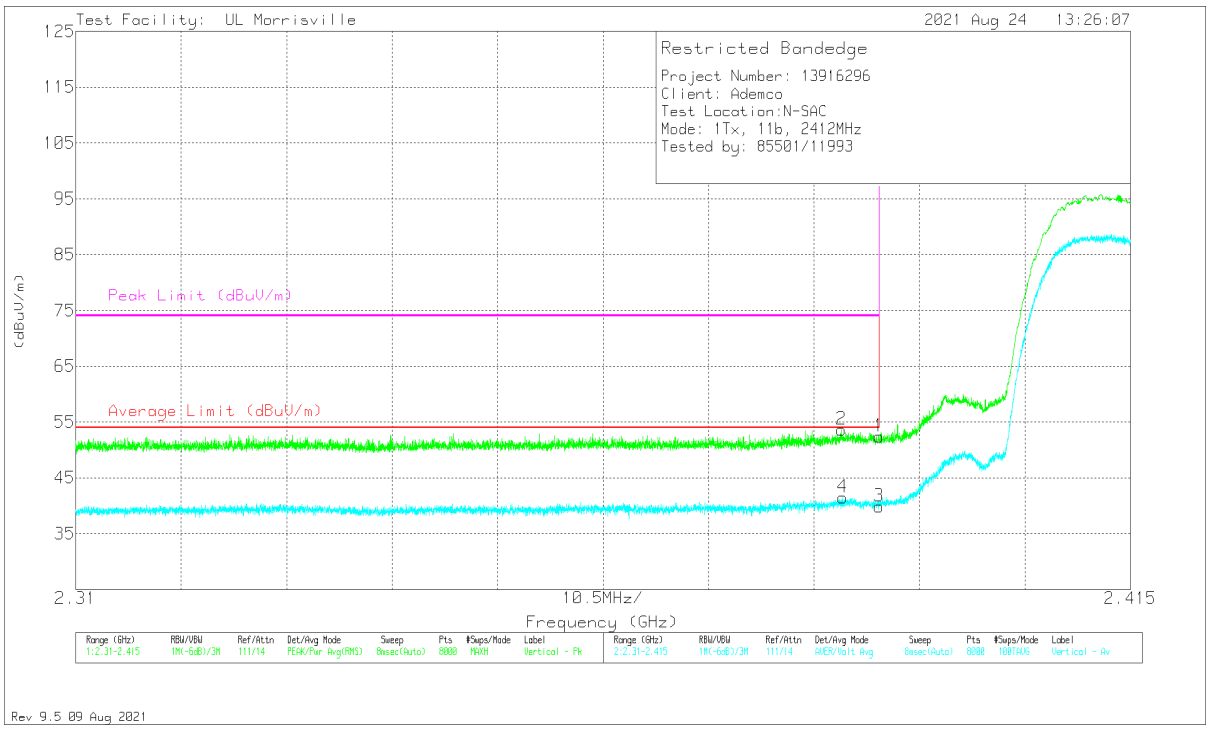
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	34.86	Pk	31.8	-24.3	10	52.36	-	-	74	-21.64	149	348	V
2	* ** 2.38622	36.25	Pk	31.8	-24.4	10	53.65	-	-	74	-20.35	149	348	V
3	* ** 2.39	22.37	ADV	31.8	-24.3	10	39.87	54	-14.13	-	-	149	348	V
4	* ** 2.38636	24.13	ADV	31.8	-24.4	10	41.53	54	-12.47	-	-	149	348	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
ADV - Linear Voltage Average

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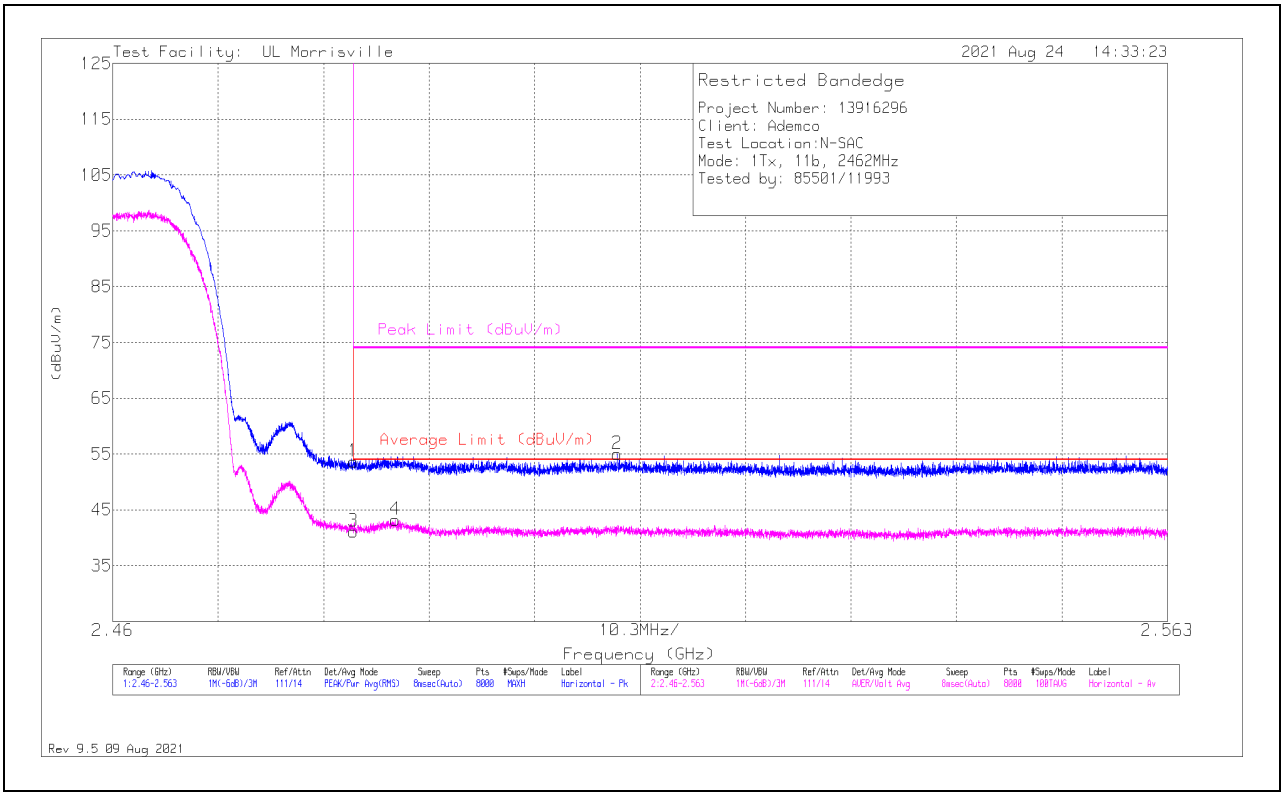
BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	35.89	Pk	32.4	-24.6	10	53.69	-	-	74	-20.31	17	138	H
2	** 2.50927	36.68	Pk	32.6	-24.3	10	54.98	-	-	74	-19.02	17	138	H
3	* ** 2.4835	23.3	ADV	32.4	-24.6	10	41.1	54	-12.9	-	-	17	137	H
4	* ** 2.48761	25.27	ADV	32.5	-24.6	10	43.17	54	-10.83	-	-	17	137	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
ADV - Linear Voltage Average

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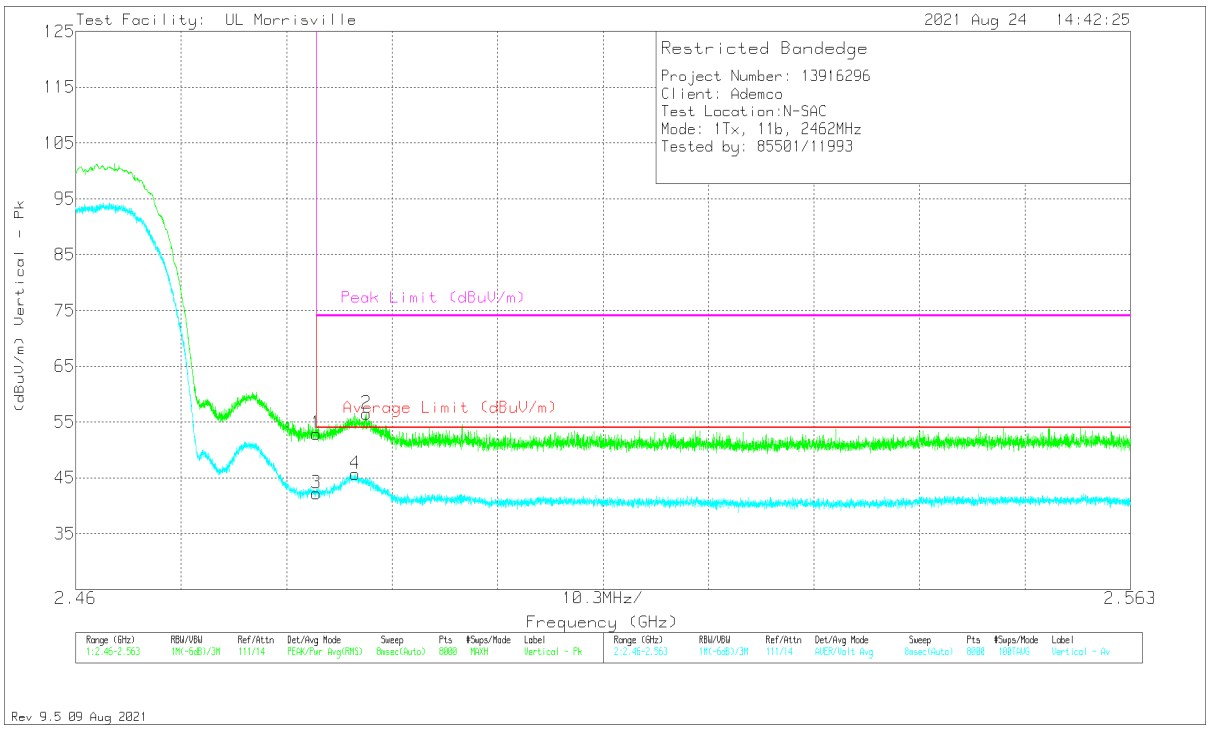
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	35.11	Pk	32.4	-24.6	10	52.91	-	-	74	-21.09	315	379	V
2	* ** 2.48837	38.6	Pk	32.5	-24.6	10	56.5	-	-	74	-17.5	315	379	V
3	* ** 2.4835	24.41	ADV	32.4	-24.6	10	42.21	54	-11.79	-	-	315	379	V
4	* ** 2.48726	27.77	ADV	32.5	-24.6	10	45.67	54	-8.33	-	-	315	379	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
ADV - Linear Voltage Average

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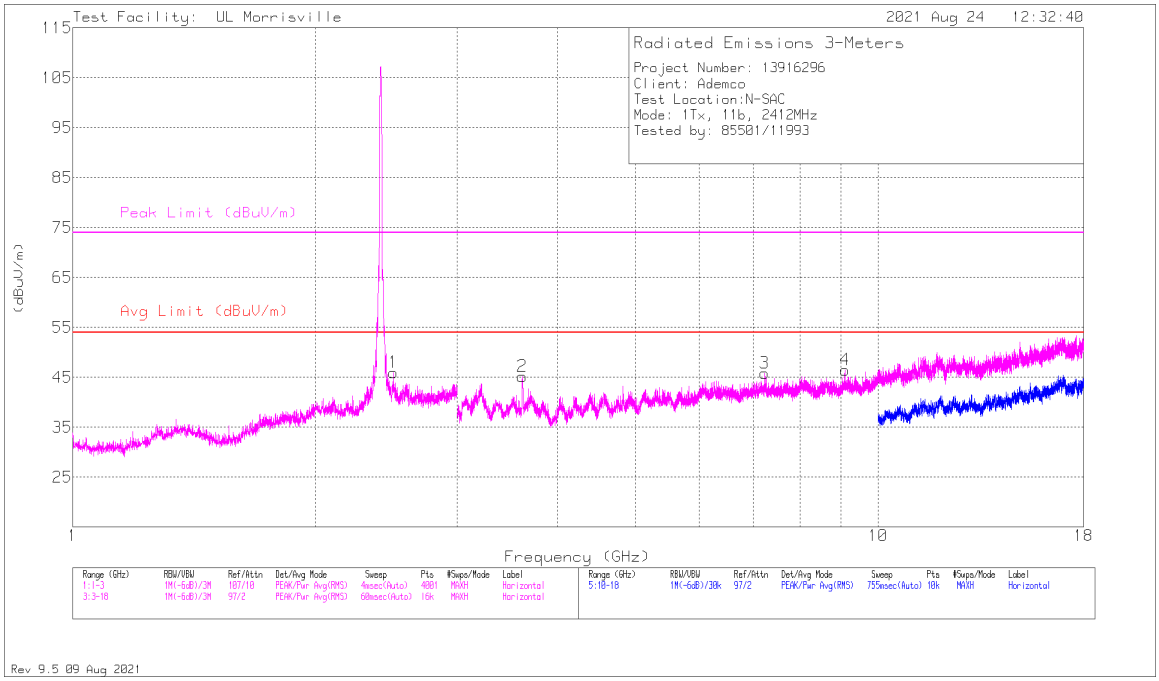
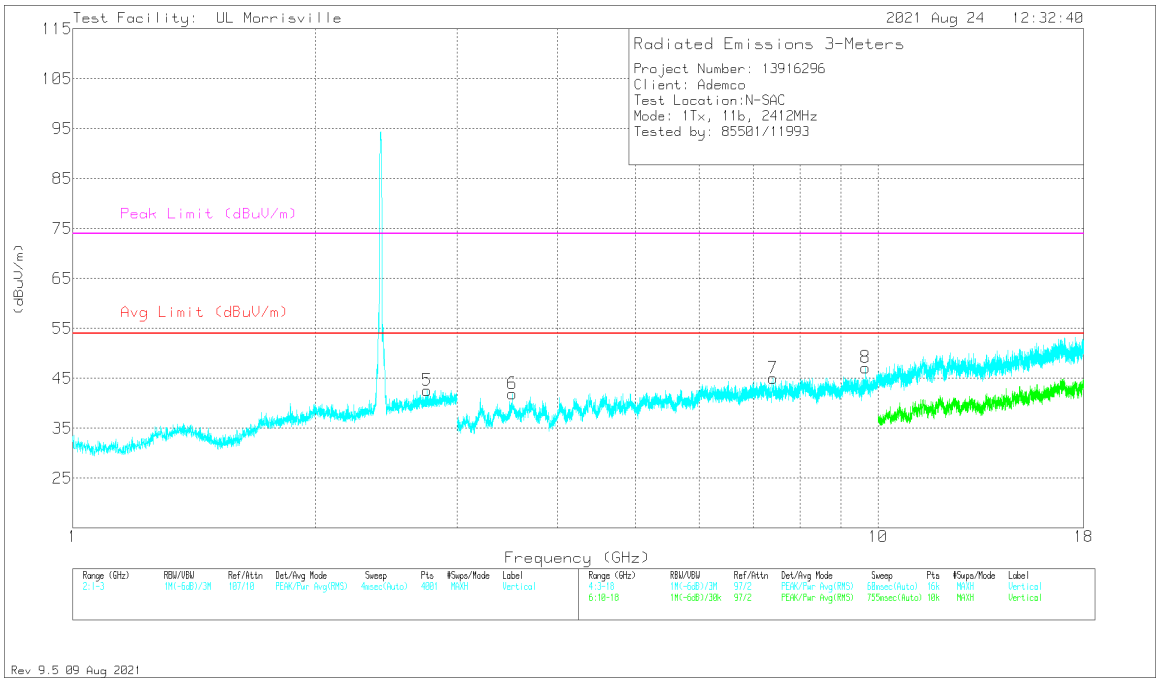
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	** 2.5015	38.09	Pk	32.6	-24.7	45.99	-	-	-	-	0-360	101	H
5	* ** 2.754	33.92	Pk	32.6	-23.9	42.62	54	-11.38	74	-31.38	0-360	200	V
6	* ** 3.51469	41.72	Pk	33.2	-33	41.92	54	-12.08	74	-32.08	0-360	200	V
2	* ** 3.61594	43.64	Pk	33.3	-31.8	45.14	54	-8.86	74	-28.86	0-360	101	H
7	* ** 7.40625	38.28	Pk	35.6	-28.8	45.08	54	-8.92	74	-28.92	0-360	200	V
4	* ** 9.09469	38.13	Pk	36.3	-28	46.43	54	-7.57	74	-27.57	0-360	101	H
3	7.23	39.18	Pk	35.7	-29.1	45.78	-	-	-	-	0-360	101	H
8	9.64781	38.59	Pk	36.6	-28	47.19	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector

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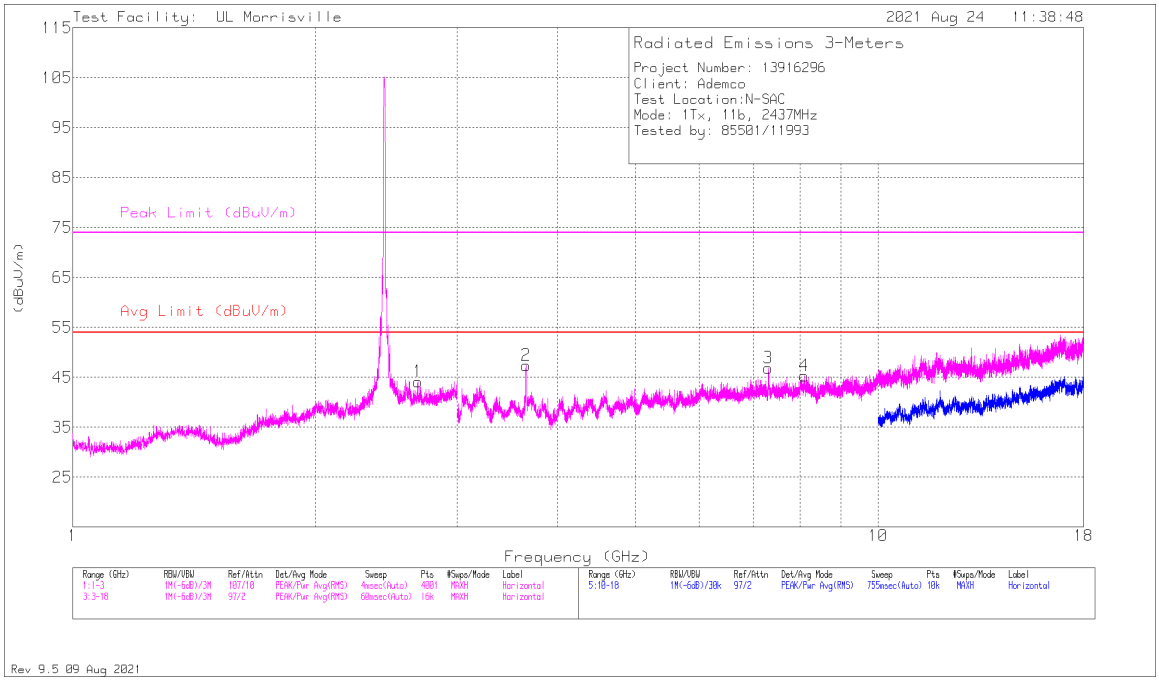
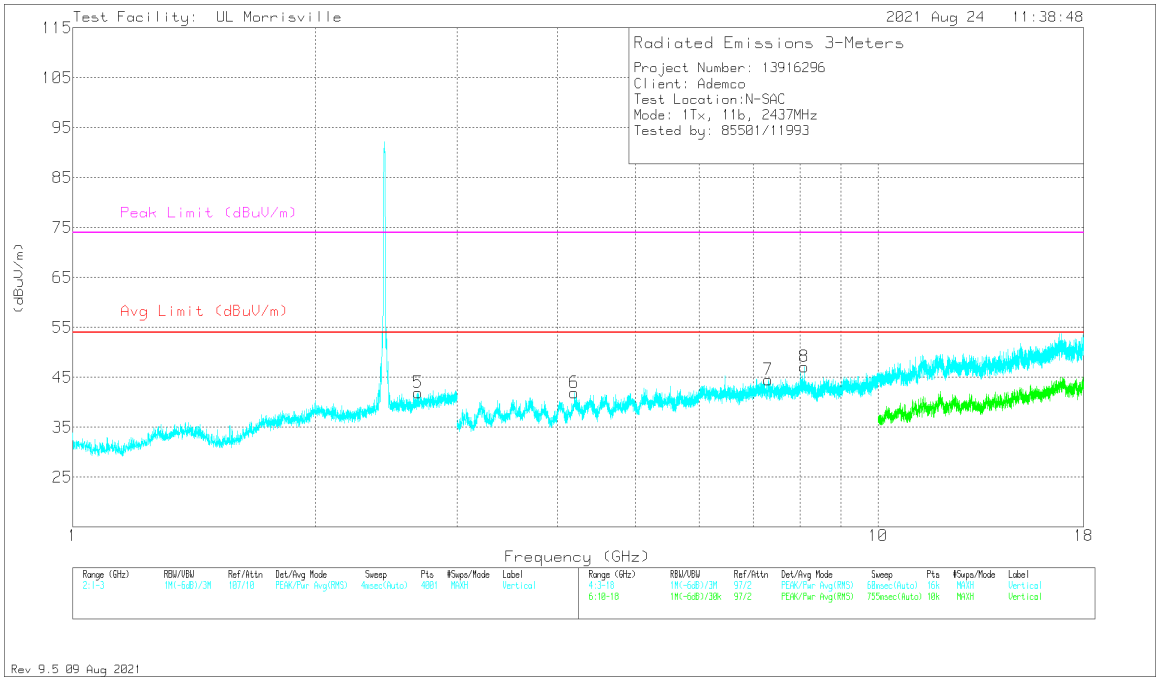
MID CHANNEL, CH 6 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.682	35.68	Pk	32.5	-24	44.18	54	-9.82	74	-29.82	0-360	200	H
5	* ** 2.682	33.39	Pk	32.5	-24	41.89	54	-12.11	74	-32.11	0-360	101	V
2	* ** 3.65625	45.24	Pk	33.4	-31.2	47.44	54	-6.56	74	-26.56	0-360	200	H
6	* ** 4.19531	39.83	Pk	33.7	-31.6	41.93	54	-12.07	74	-32.07	0-360	101	V
7	* ** 7.305	37.79	Pk	35.6	-28.8	44.59	54	-9.41	74	-29.41	0-360	101	V
3	* ** 7.31156	39.74	Pk	35.6	-28.5	46.84	54	-7.16	74	-27.16	0-360	101	H
8	* ** 8.09344	39.26	Pk	35.9	-28	47.16	54	-6.84	74	-26.84	0-360	200	V
4	* ** 8.10281	37.59	Pk	35.9	-28.2	45.29	54	-8.71	74	-28.71	0-360	200	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector

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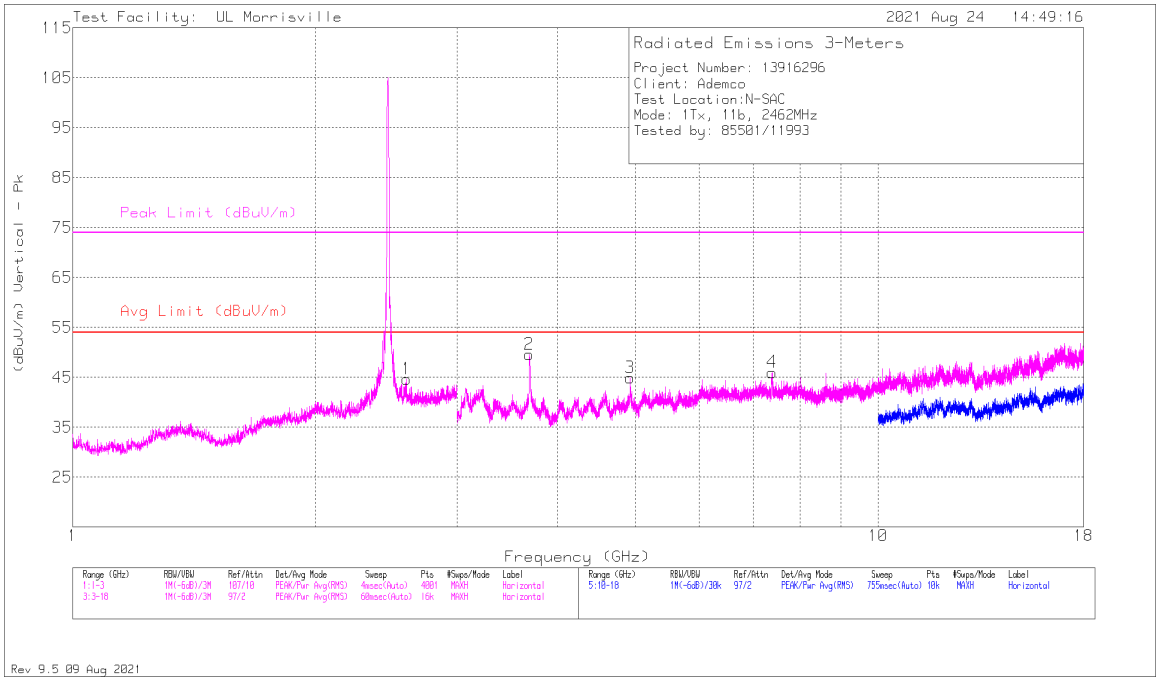
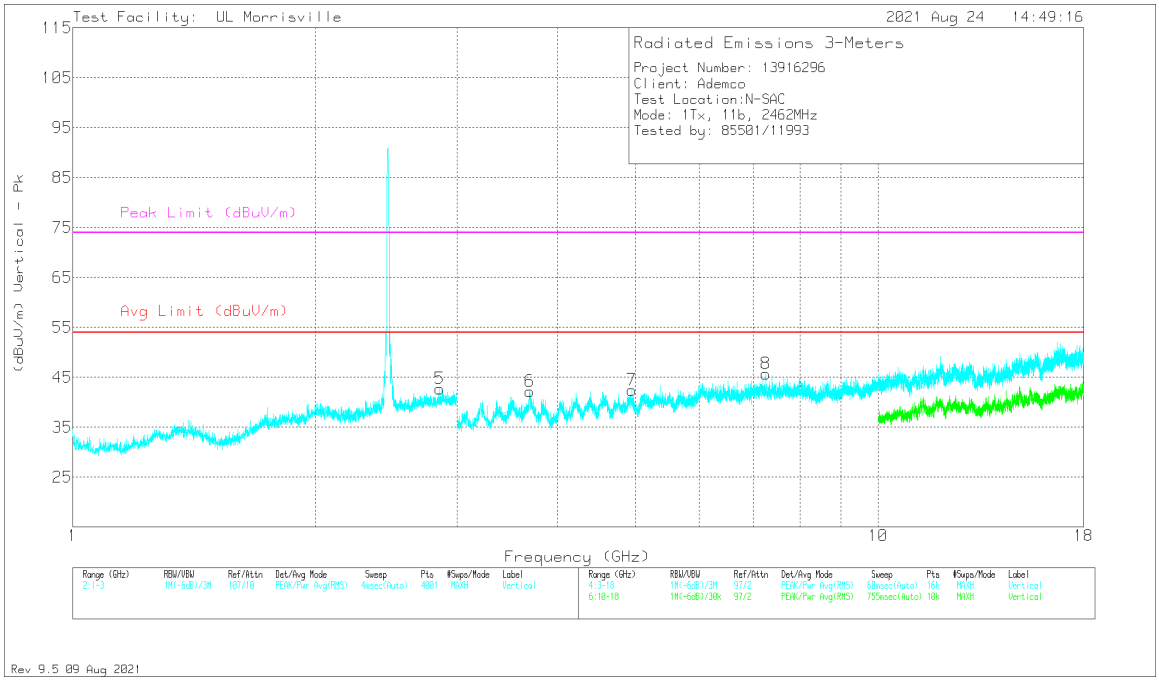
HIGH CHANNEL, CH 11 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	** 2.5985	36.68	Pk	32.5	-24.5	44.68	-	-	-	-	0-360	101	H
5	* ** 2.8555	33.99	Pk	32.4	-23.7	42.69	54	-11.31	74	-31.31	0-360	200	V
2	* ** 3.69169	51.11	PK2	33.3	-32.3	52.11	-	-	74	-21.89	49	104	H
	* ** 3.69124	40.84	ADV	33.3	-32.3	41.84	54	-12.16	-	-	49	104	H
6	* ** 3.69188	41.2	Pk	33.3	-32.3	42.2	54	-11.8	74	-31.8	0-360	200	V
3	* ** 4.92375	42.38	Pk	34.2	-31.7	44.88	54	-9.12	74	-29.12	0-360	101	H
7	* ** 4.94625	40.35	Pk	34.3	-32.2	42.45	54	-11.55	74	-31.55	0-360	200	V
8	* ** 7.26094	38.96	Pk	35.7	-29	45.66	54	-8.34	74	-28.34	0-360	200	V
4	* ** 7.3875	39.12	Pk	35.6	-28.7	46.02	54	-7.98	74	-27.98	0-360	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
ADV - Linear Voltage Average

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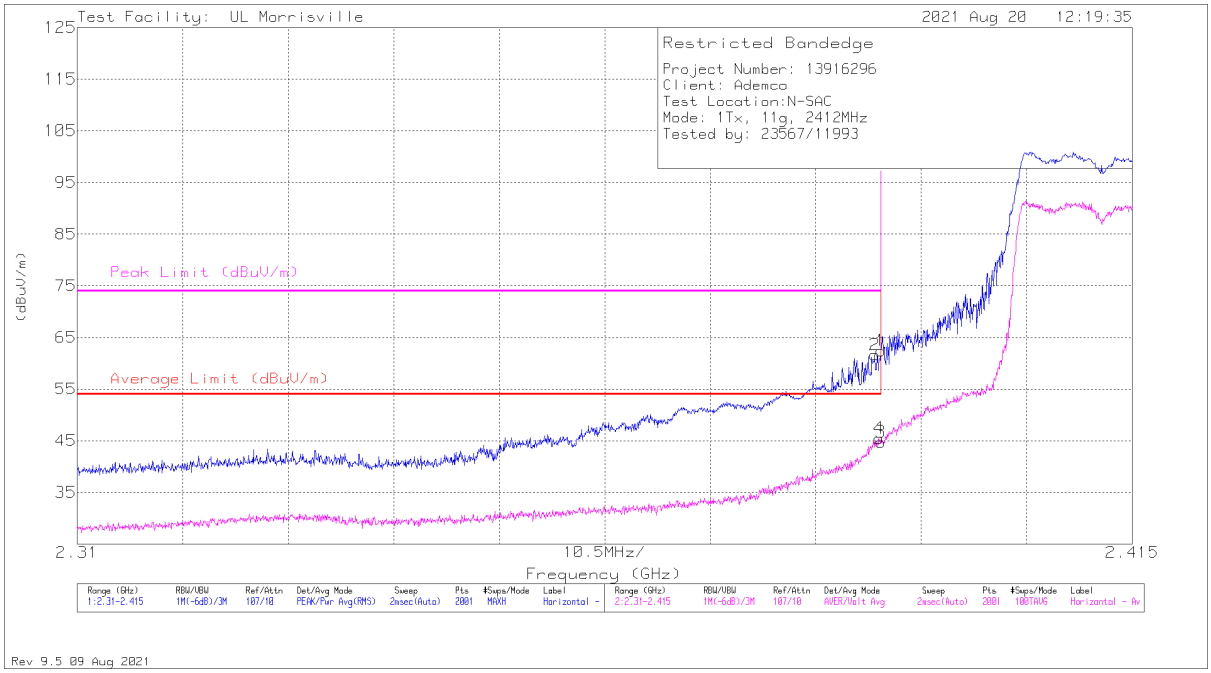
10.1.2. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

1TX Antenna 1 MODE

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	54.94	Pk	31.8	-24.3	62.44	-	-	74	-11.56	152	109	H
2	* ** 2.38938	54.12	Pk	31.8	-24.3	61.62	-	-	74	-12.38	152	109	H
3	* ** 2.38996	37.26	ADV	31.8	-24.3	44.76	54	-9.24	-	-	152	109	H
4	* ** 2.3898	37.97	ADV	31.8	-24.3	45.47	54	-8.53	-	-	152	109	H

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ADV - Linear Voltage Average

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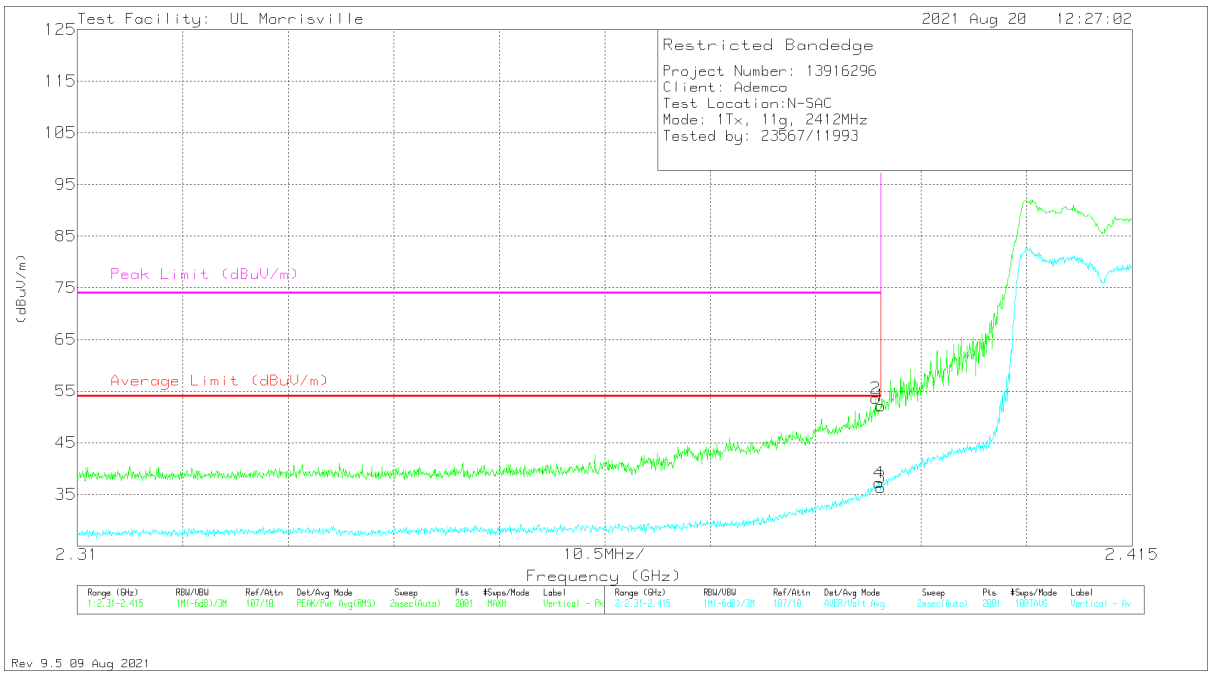
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	44.67	Pk	31.8	-24.3	52.17	-	-	74	-21.83	297	109	V
2	* ** 2.38949	46.08	Pk	31.8	-24.3	53.58	-	-	74	-20.42	297	109	V
3	* ** 2.38996	28.85	ADV	31.8	-24.3	36.35	54	-17.65	-	-	297	109	V
4	* ** 2.3898	29.78	ADV	31.8	-24.3	37.28	54	-16.72	-	-	297	109	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
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ADV - Linear Voltage Average

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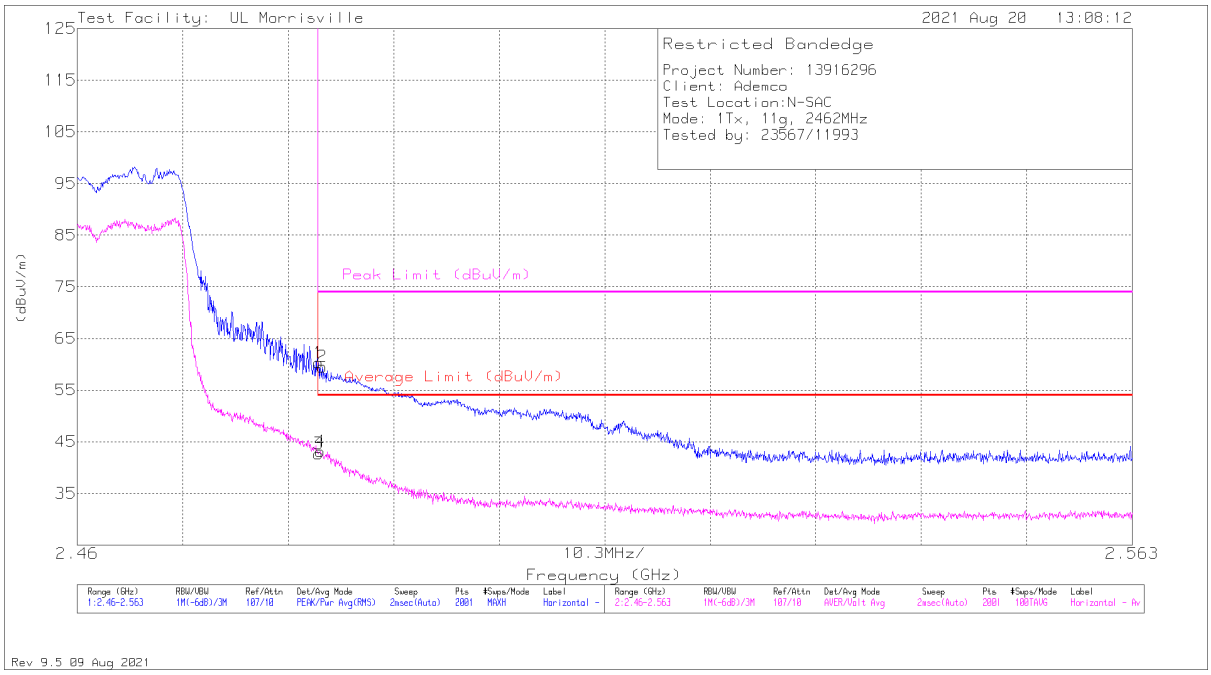
BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth(Degs)	Height(cm)	Polarity
1	* ** 2.48354	52.48	Pk	32.4	-24.6	60.28	-	-	74	-13.72	96	153	H
2	* ** 2.4839	51.62	Pk	32.5	-24.6	59.52	-	-	74	-14.48	96	153	H
3	* ** 2.48354	34.88	ADV	32.4	-24.6	42.68	54	-11.32	-	-	96	153	H
4	* ** 2.48374	35.23	ADV	32.5	-24.6	43.13	54	-10.87	-	-	96	153	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
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ADV - Linear Voltage Average

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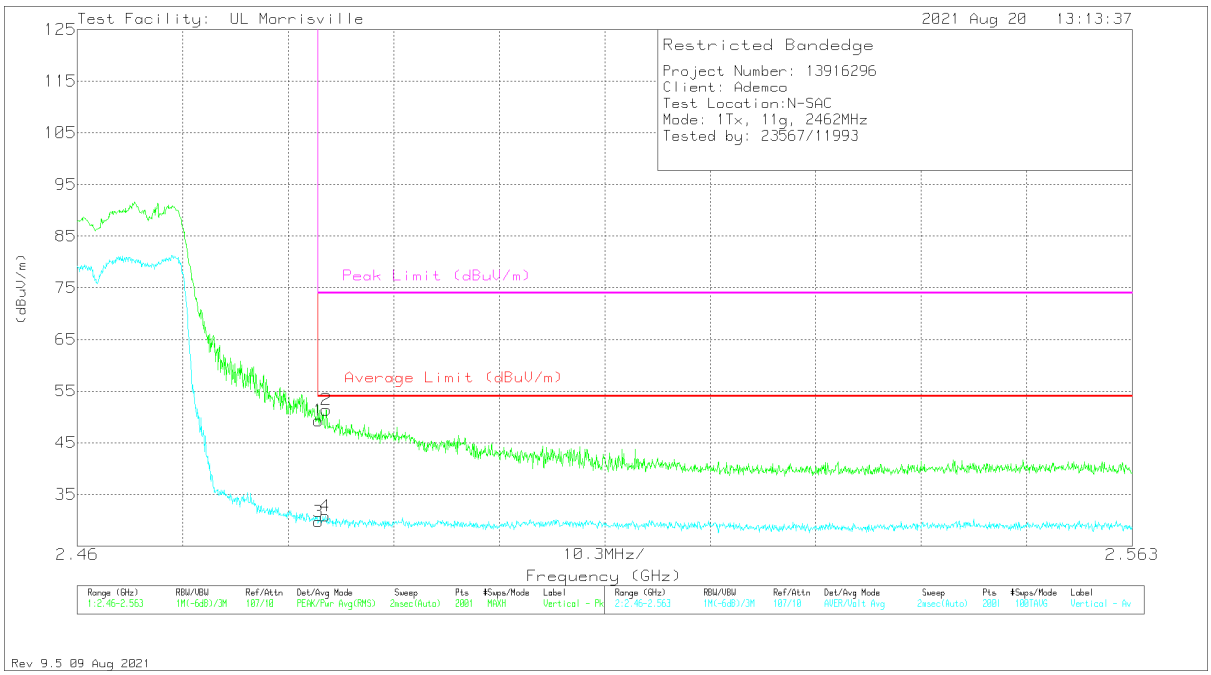
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	41.5	Pk	32.4	-24.6	49.3	-	-	74	-24.7	259	235	V
2	* ** 2.48431	43.48	Pk	32.5	-24.6	51.38	-	-	74	-22.62	259	235	V
3	* ** 2.48354	21.93	ADV	32.4	-24.6	29.73	54	-24.27	-	-	259	235	V
4	* ** 2.48421	22.91	ADV	32.5	-24.6	30.81	54	-23.19	-	-	259	235	V

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ADV - Linear Voltage Average

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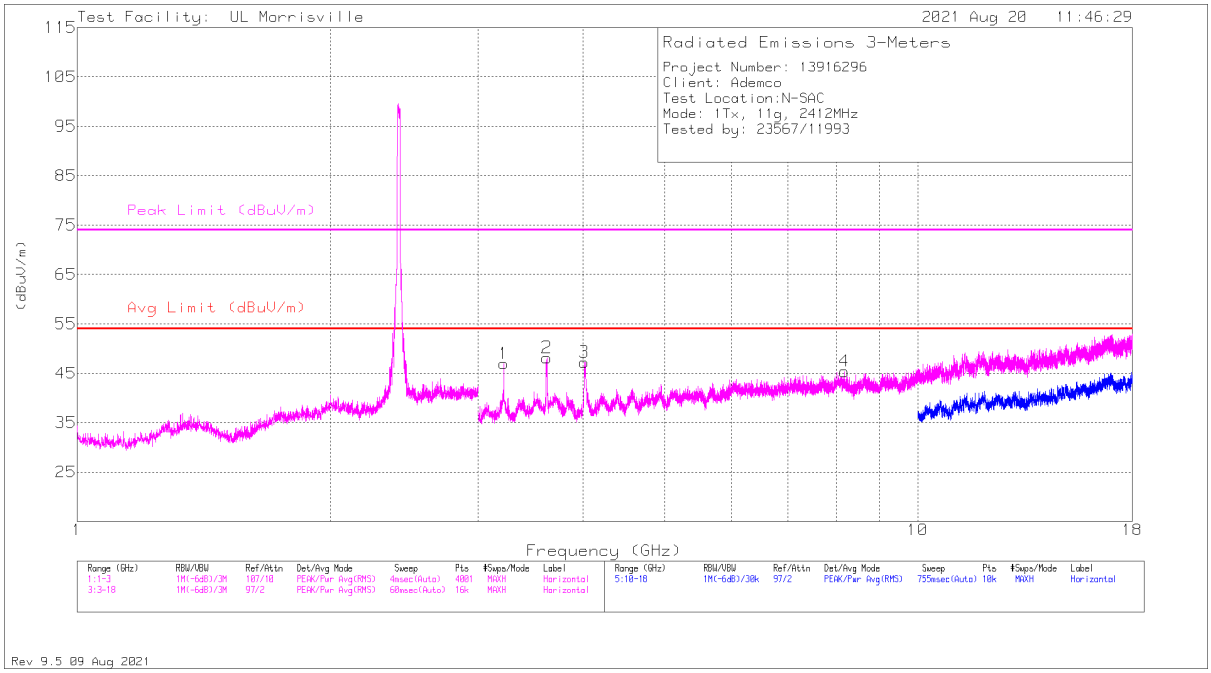
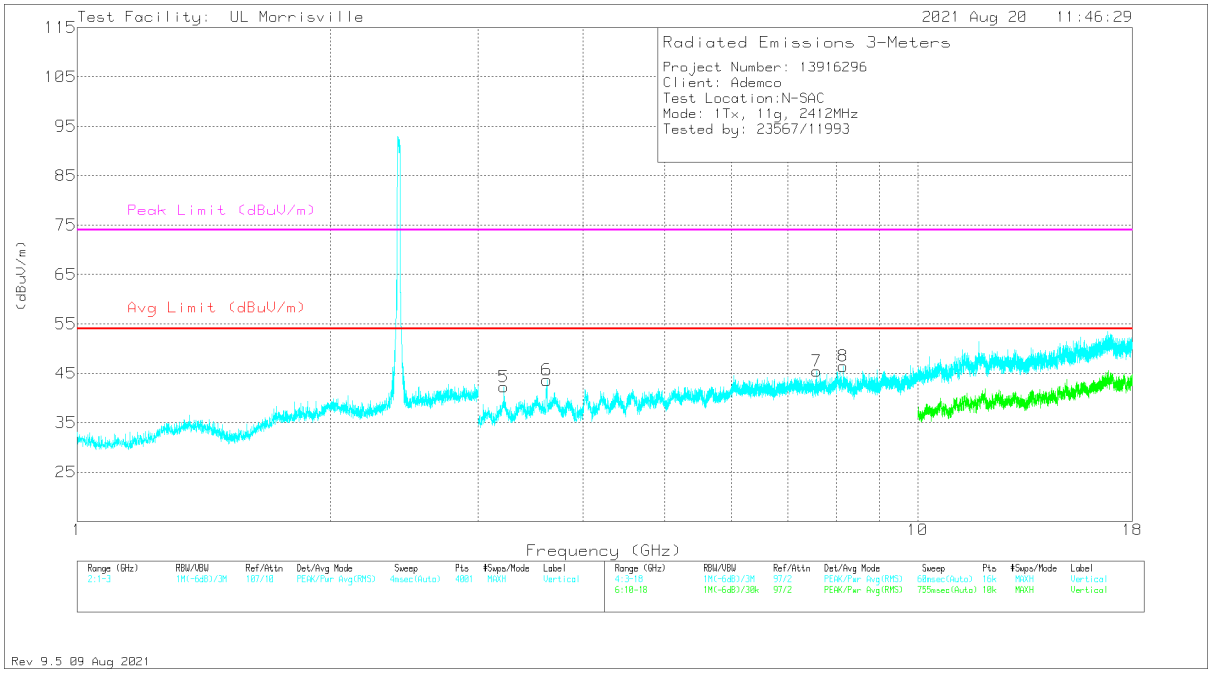
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Fltr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 3.62159	50.4	PK2	33.3	-31.6	52.1	-	-	74	-21.9	186	111	H
	* ** 3.62035	39.33	ADV	33.3	-31.7	40.93	54	-13.07	-	-	186	111	H
3	* ** 4.0125	46.15	Pk	33.2	-32.1	47.25	54	-6.75	74	-26.75	0-360	200	H
4	* ** 8.17969	38.18	Pk	35.9	-28.7	45.38	54	-8.62	74	-28.62	0-360	200	H
6	* ** 3.62063	42.02	Pk	33.3	-31.7	43.62	54	-10.38	74	-30.38	0-360	101	V
7	* ** 7.58531	38.41	Pk	35.8	-28.8	45.41	54	-8.59	74	-28.59	0-360	101	V
8	* ** 8.15156	39.32	Pk	35.9	-28.8	46.42	54	-7.58	74	-27.58	0-360	200	V
1	3.21563	46.56	Pk	32.9	-32.5	46.96	-	-	-	-	0-360	200	H
5	3.21563	41.83	Pk	32.9	-32.5	42.23	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
ADV - Linear Voltage Average

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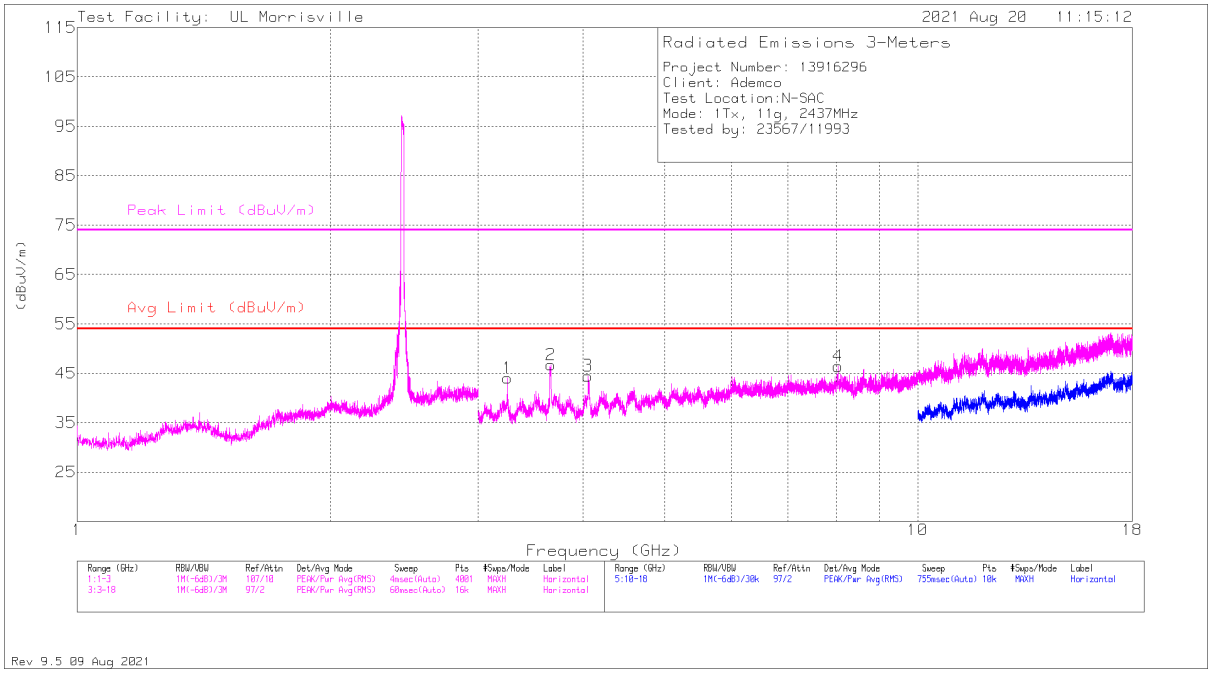
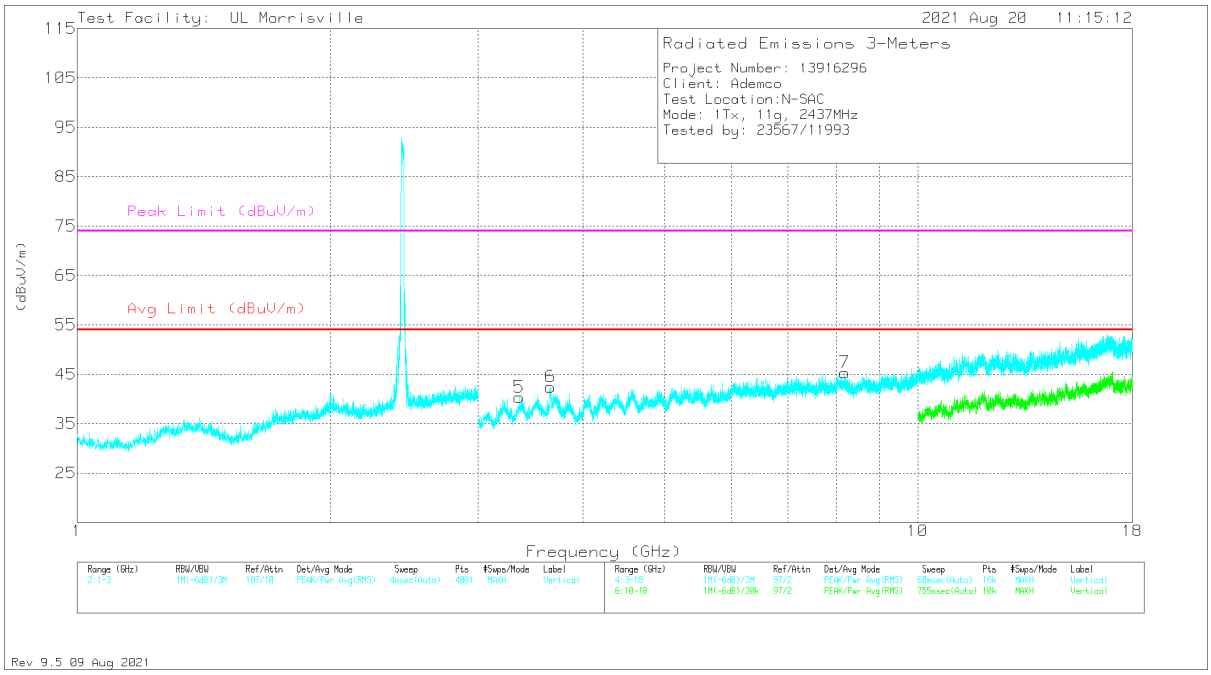
MID CHANNEL, CH 6 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Fltr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 3.66188	44.71	Pk	33.4	-31.4	46.71	54	-7.29	74	-27.29	0-360	199	H
3	* ** 4.05375	44.26	Pk	33.2	-33	44.46	54	-9.54	74	-29.54	0-360	101	H
4	* ** 8.04188	38.62	Pk	35.9	-28.1	46.42	54	-7.58	74	-27.58	0-360	199	H
5	* ** 3.35625	39.75	Pk	32.9	-32.3	40.35	54	-13.65	74	-33.65	0-360	101	V
6	* ** 3.65719	40.25	Pk	33.4	-31.2	42.45	54	-11.55	74	-31.55	0-360	199	V
7	* ** 8.18625	38.14	Pk	35.9	-28.7	45.34	54	-8.66	74	-28.66	0-360	199	V
1	3.24938	43.81	Pk	32.9	-32.7	44.01	-	-	-	-	0-360	199	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
ADV - Linear Voltage Average

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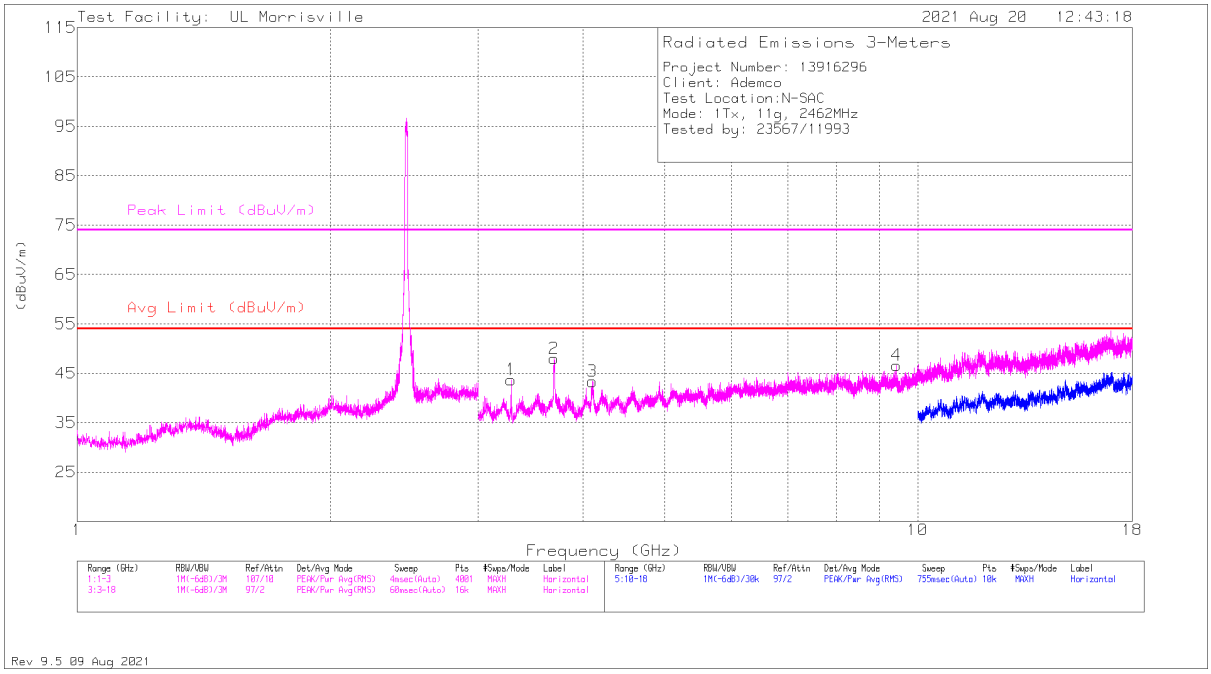
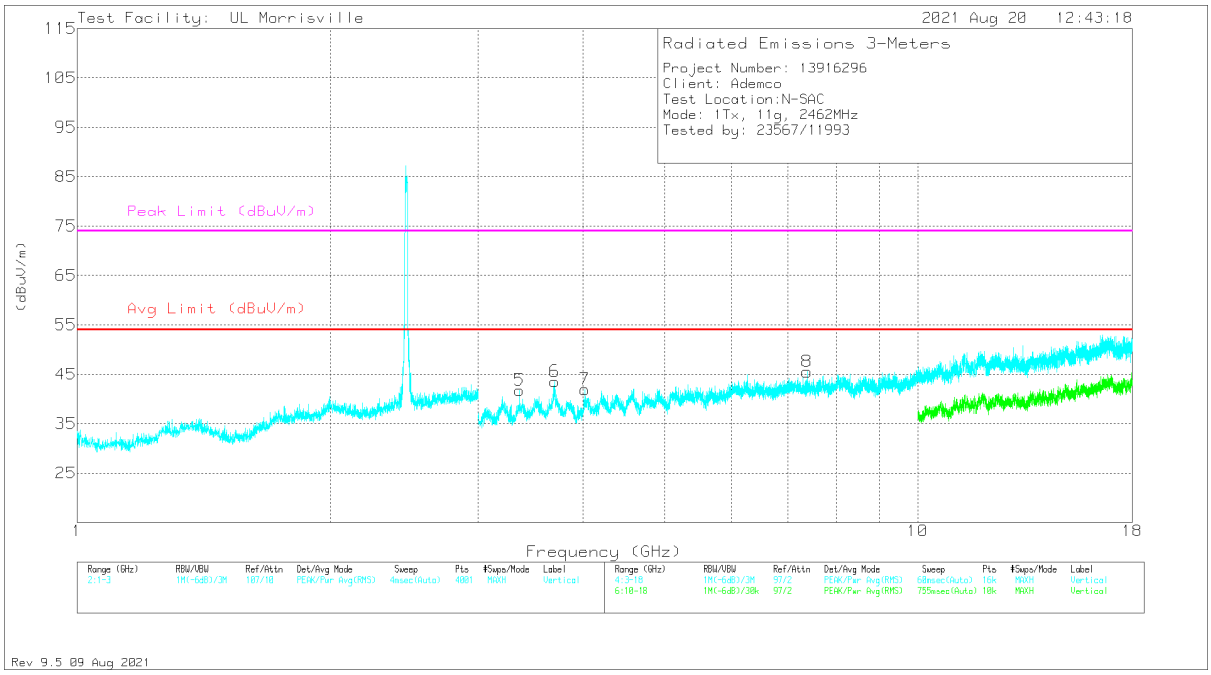
HIGH CHANNEL, CH 11 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Fltr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 3.69375	46.77	Pk	33.3	-32.1	47.97	54	-6.03	74	-26.03	0-360	199	H
3	* ** 4.1025	42.95	Pk	33.2	-32.8	43.35	54	-10.65	74	-30.65	0-360	199	H
4	* ** 9.43594	38.29	Pk	36.3	-28	46.59	54	-7.41	74	-27.41	0-360	199	H
6	* ** 3.69844	42.55	Pk	33.3	-32.3	43.55	54	-10.45	74	-30.45	0-360	200	V
7	* ** 4.01719	40.54	Pk	33.2	-31.8	41.94	54	-12.06	74	-32.06	0-360	200	V
8	* ** 7.38375	38.32	Pk	35.6	-28.4	45.52	54	-8.48	74	-28.48	0-360	200	V
1	3.28219	43.06	Pk	32.8	-32.2	43.66	-	-	-	-	0-360	101	H
5	3.35813	41.19	Pk	32.9	-32.3	41.79	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
ADV - Linear Voltage Average

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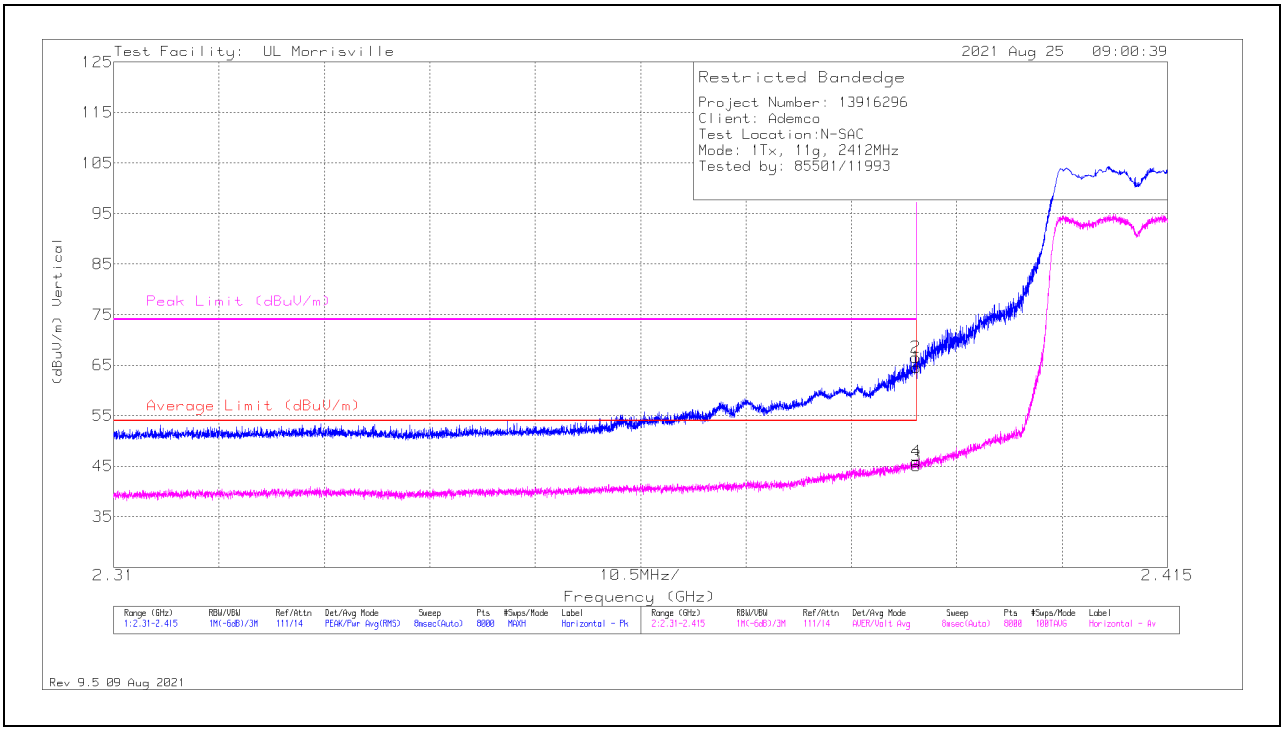
1TX Antenna 2 MODE

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	47.05	Pk	31.8	-24.3	10	64.55	-	-	74	-9.45	360	127	H
2	* ** 2.38993	49.01	Pk	31.8	-24.3	10	66.51	-	-	74	-7.49	360	127	H
3	* ** 2.39	27.62	ADV	31.8	-24.3	10	45.12	54	-8.88	-	-	360	127	H
4	* ** 2.38996	28.42	ADV	31.8	-24.3	10	45.92	54	-8.08	-	-	360	127	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
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Pk - Peak detector
ADV - Linear Voltage Average

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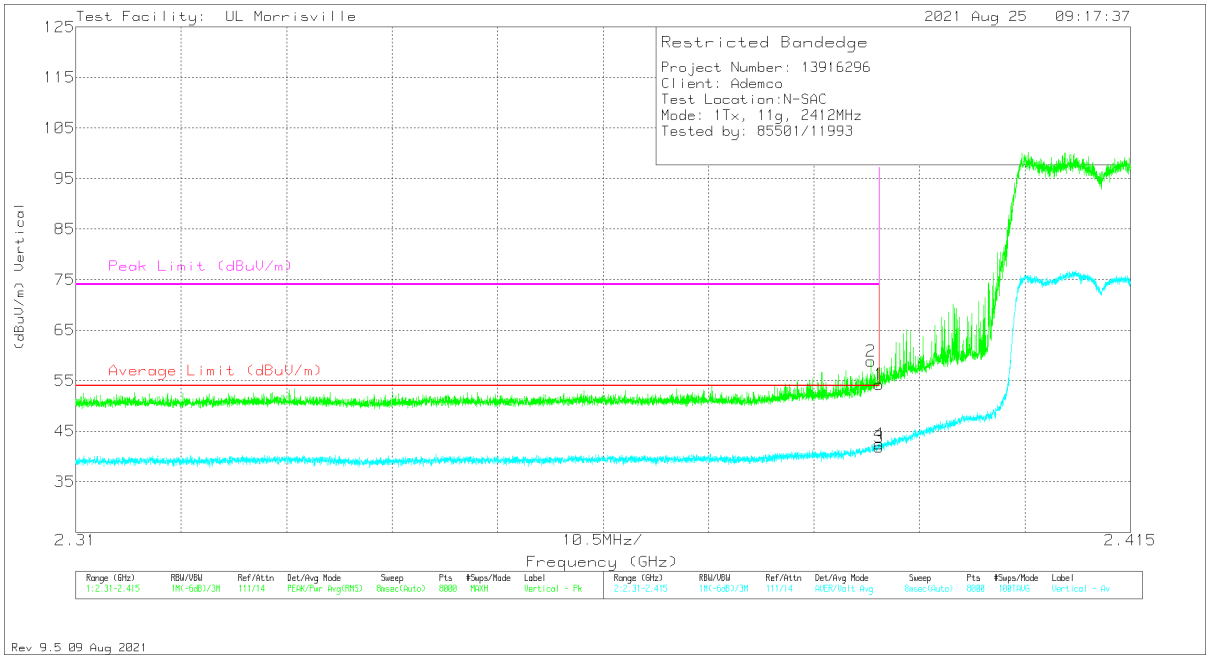
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	36.81	Pk	31.8	-24.3	10	54.31	-	-	74	-19.69	4	119	V
2	* ** 2.38918	41.34	Pk	31.8	-24.3	10	58.84	-	-	74	-15.16	4	119	V
3	* ** 2.39	24.35	ADV	31.8	-24.3	10	41.85	54	-12.15	-	-	4	119	V
4	* ** 2.38997	24.92	ADV	31.8	-24.3	10	42.42	54	-11.58	-	-	4	119	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
ADV - Linear Voltage Average

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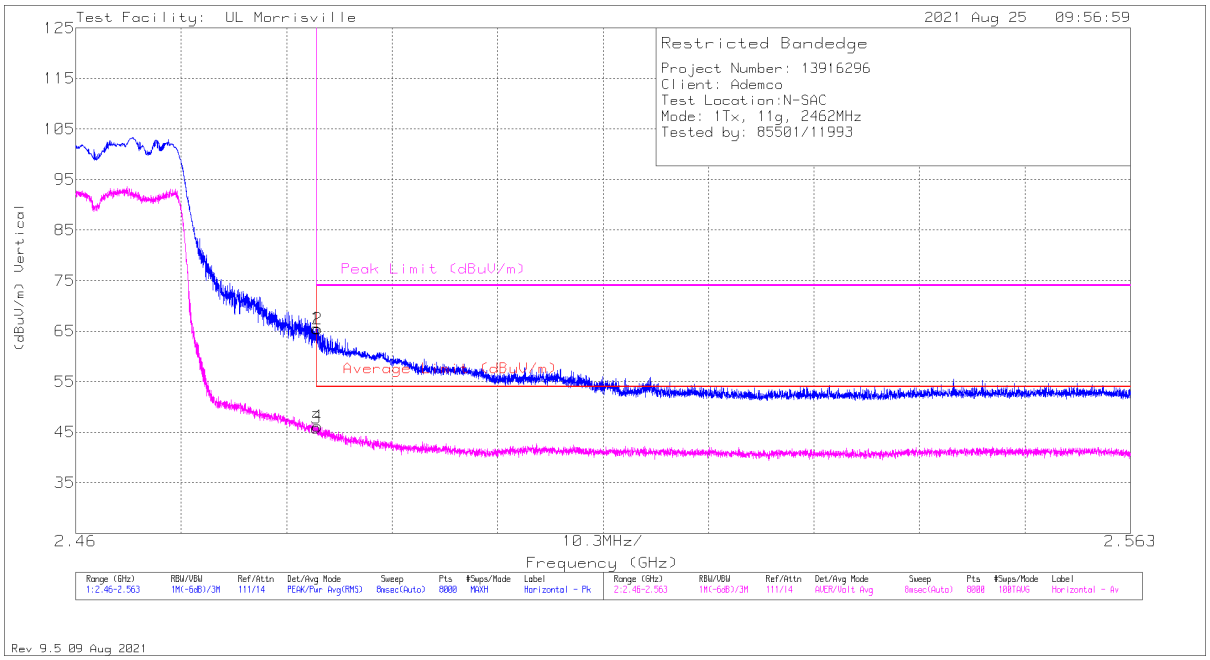
BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	47.79	Pk	32.4	-24.6	10	65.59	-	-	74	-8.41	3	119	H
2	* ** 2.48363	47.56	Pk	32.5	-24.6	10	65.46	-	-	74	-8.54	3	119	H
3	* ** 2.4835	27.98	ADV	32.4	-24.6	10	45.78	54	-8.22	-	-	3	119	H
4	* ** 2.48364	28.28	ADV	32.5	-24.6	10	46.18	54	-7.82	-	-	3	119	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
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Pk - Peak detector
ADV - Linear Voltage Average

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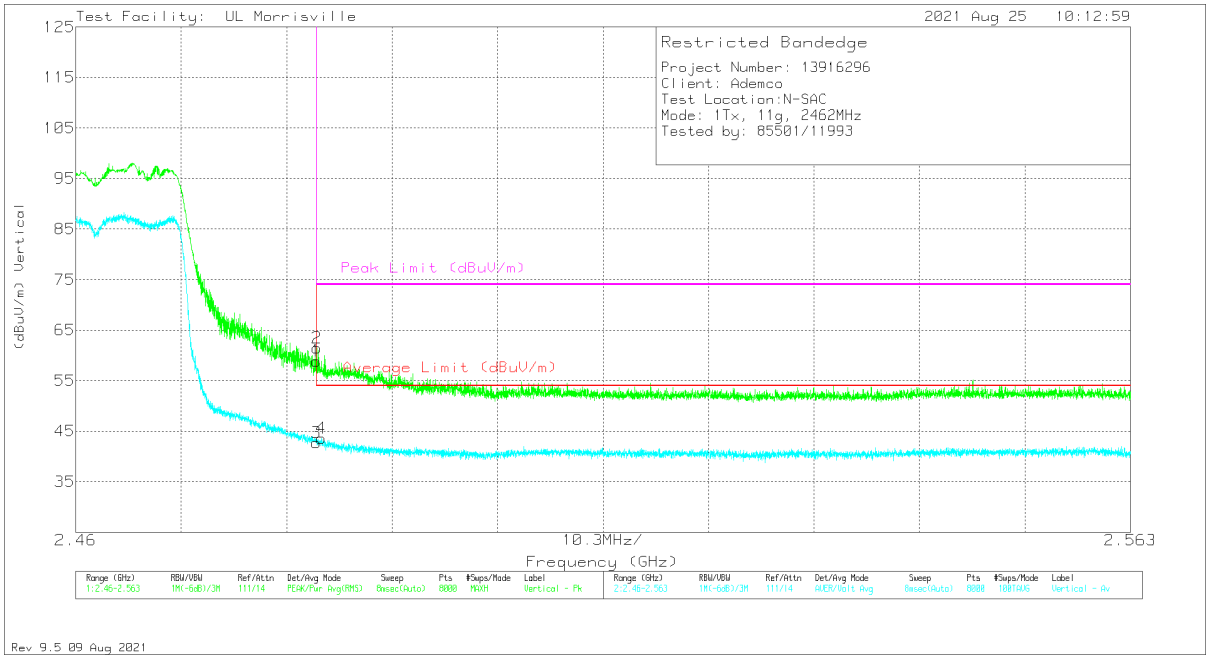
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	41.12	Pk	32.4	-24.6	10	58.92	-	-	74	-15.08	334	379	V
2	* ** 2.48355	43.64	Pk	32.4	-24.6	10	61.44	-	-	74	-12.56	334	379	V
3	* ** 2.4835	24.9	ADV	32.4	-24.6	10	42.7	54	-11.3	-	-	334	379	V
4	* ** 2.48398	25.67	ADV	32.5	-24.6	10	43.57	54	-10.43	-	-	334	379	V

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Pk - Peak detector
ADV - Linear Voltage Average

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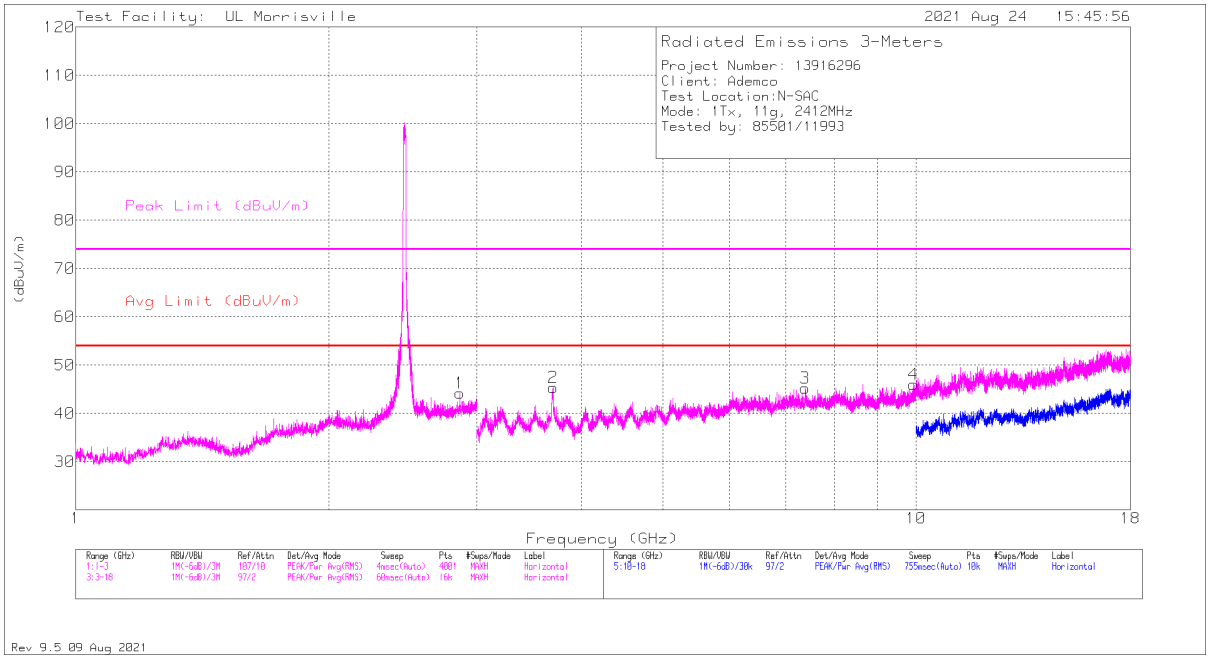
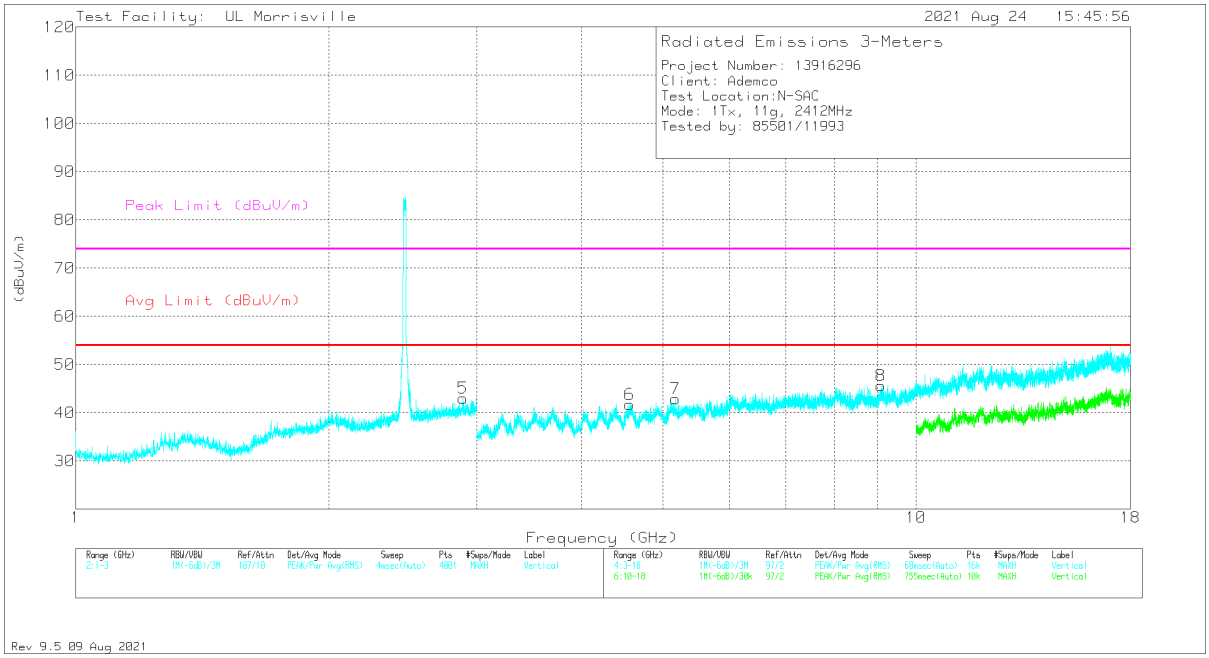
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.8665	35.48	Pk	32.5	-23.8	44.18	54	-9.82	74	-29.82	0-360	101	H
5	* ** 2.88875	33.82	Pk	32.6	-23.4	43.02	54	-10.98	74	-30.98	0-360	101	V
2	* ** 3.69938	44.27	Pk	33.3	-32.2	45.37	54	-8.63	74	-28.63	0-360	200	H
6	* ** 4.56188	39.8	Pk	34.1	-32.2	41.7	54	-12.3	74	-32.3	0-360	200	V
3	* ** 7.37625	38.13	Pk	35.6	-28.5	45.23	54	-8.77	74	-28.77	0-360	101	H
8	* ** 9.0825	37.73	Pk	36.2	-28.3	45.63	54	-8.37	74	-28.37	0-360	101	V
7	** 5.16938	40.41	Pk	34.4	-31.9	42.91	-	-	-	-	0-360	101	V
4	9.93563	36.84	Pk	37	-27.8	46.04	-	-	-	-	0-360	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector

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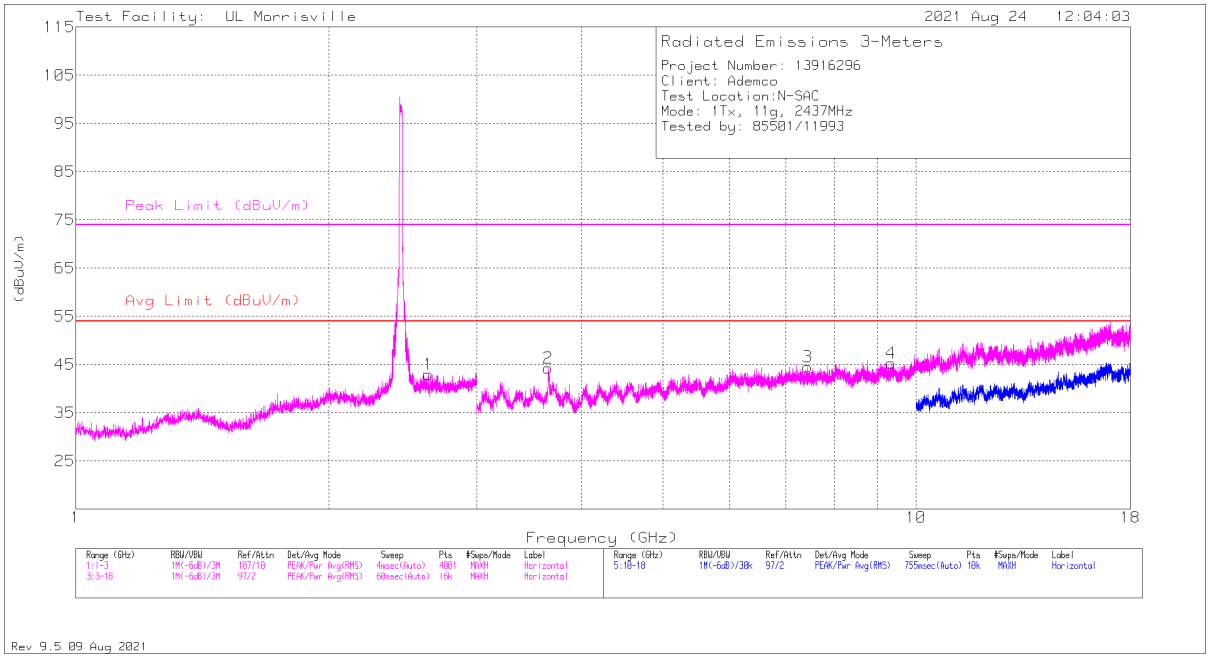
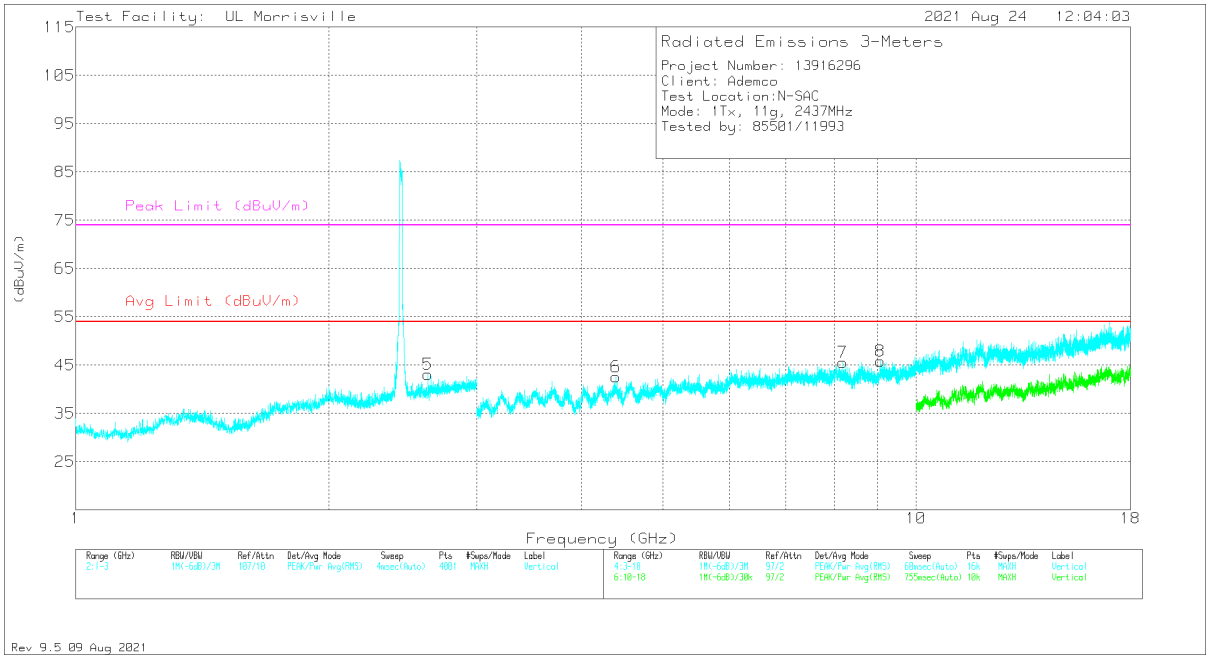
MID CHANNEL, CH 6 RESULTS



HORIZONTAL



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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	** 2.6275	34.74	Pk	32.4	-24.2	42.94	-	-	-	-	0-360	200	H
5	** 2.6255	34.88	Pk	32.4	-24.2	43.08	-	-	-	-	0-360	200	V
2	* ** 3.6525	42.11	Pk	33.4	-31.2	44.31	54	-9.69	74	-29.69	0-360	101	H
6	* ** 4.39313	40.93	Pk	34	-32.3	42.63	54	-11.37	74	-31.37	0-360	200	V
3	* ** 7.43156	37.72	Pk	35.7	-28.9	44.52	54	-9.48	74	-29.48	0-360	101	H
7	* ** 8.18625	38.41	Pk	35.9	-28.7	45.61	54	-8.39	74	-28.39	0-360	101	V
8	* ** 9.06938	38.07	Pk	36.2	-28.4	45.87	54	-8.13	74	-28.13	0-360	200	V
4	* ** 9.33844	37.32	Pk	36.4	-28.4	45.32	54	-8.68	74	-28.68	0-360	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector

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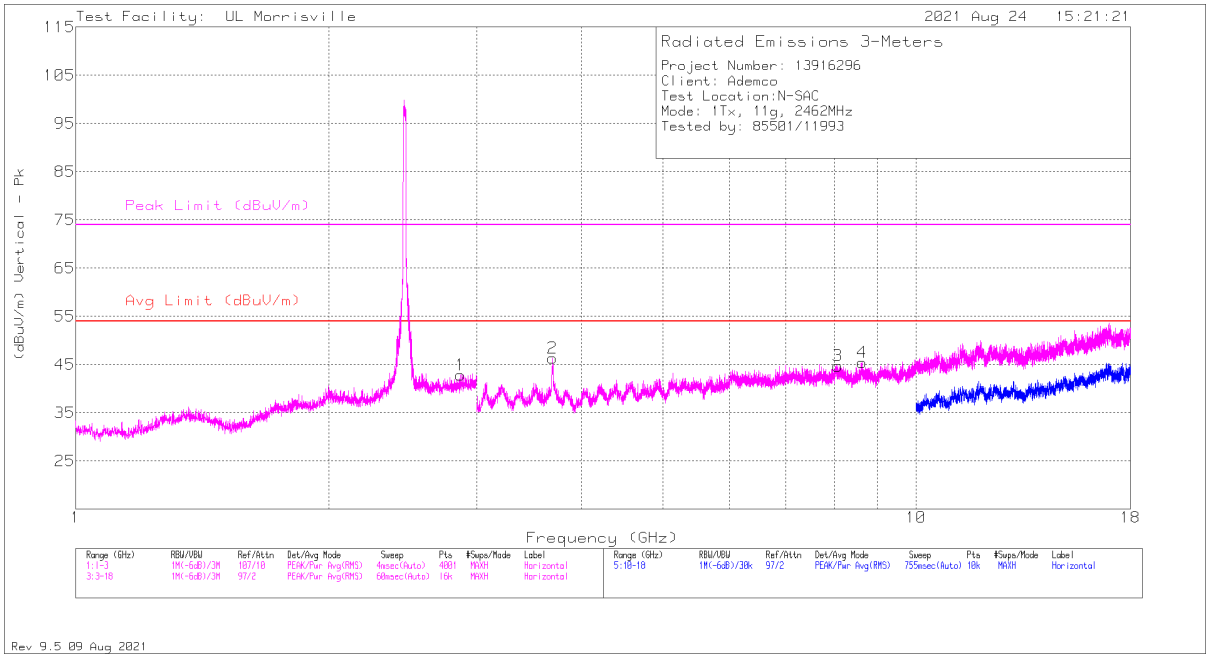
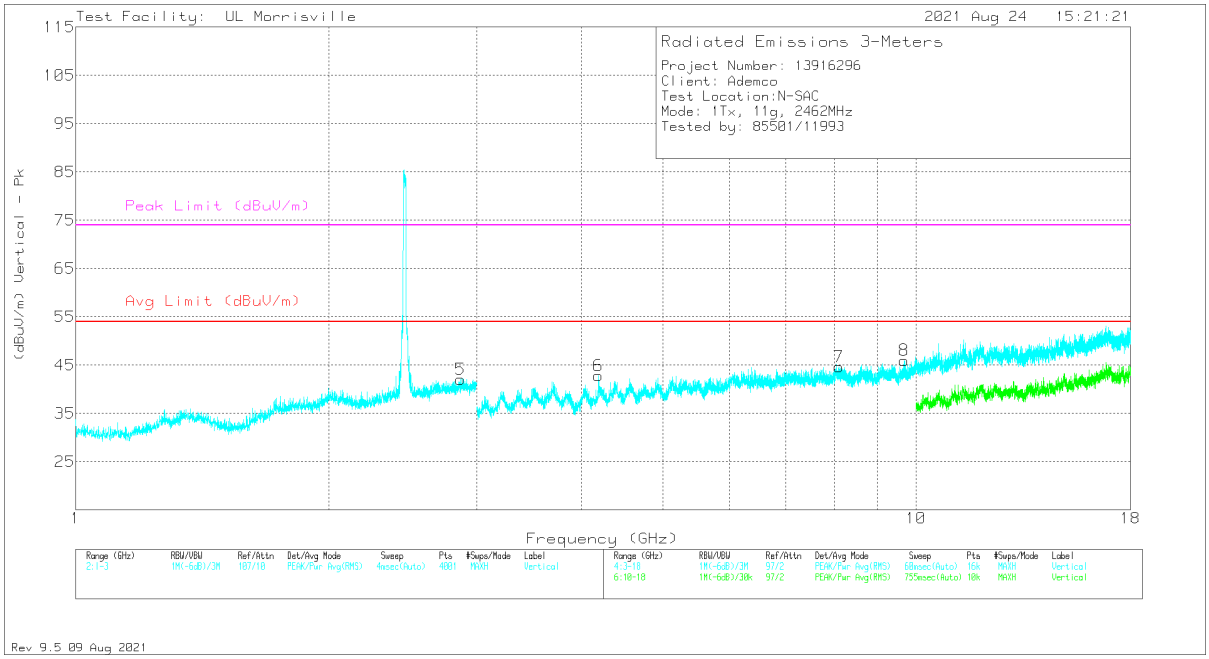
HIGH CHANNEL, CH 11 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.871	34.14	Pk	32.5	-23.8	42.84	54	-11.16	74	-31.16	0-360	101	H
5	* ** 2.871	33.38	Pk	32.5	-23.8	42.08	54	-11.92	74	-31.92	0-360	200	V
2	* ** 3.69563	45.1	Pk	33.3	-32.1	46.3	54	-7.7	74	-27.7	0-360	101	H
6	* ** 4.18969	40.93	Pk	33.7	-31.8	42.83	54	-11.17	74	-31.17	0-360	101	V
3	* ** 8.07469	37.43	Pk	35.9	-28.6	44.73	54	-9.27	74	-29.27	0-360	101	H
7	* ** 8.0925	36.8	Pk	35.9	-28	44.7	54	-9.3	74	-29.3	0-360	200	V
4	8.62781	38.29	Pk	35.9	-28.8	45.39	-	-	-	-	0-360	200	H
8	9.675	37.12	Pk	36.6	-27.7	46.02	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
ADV - Linear Voltage Average

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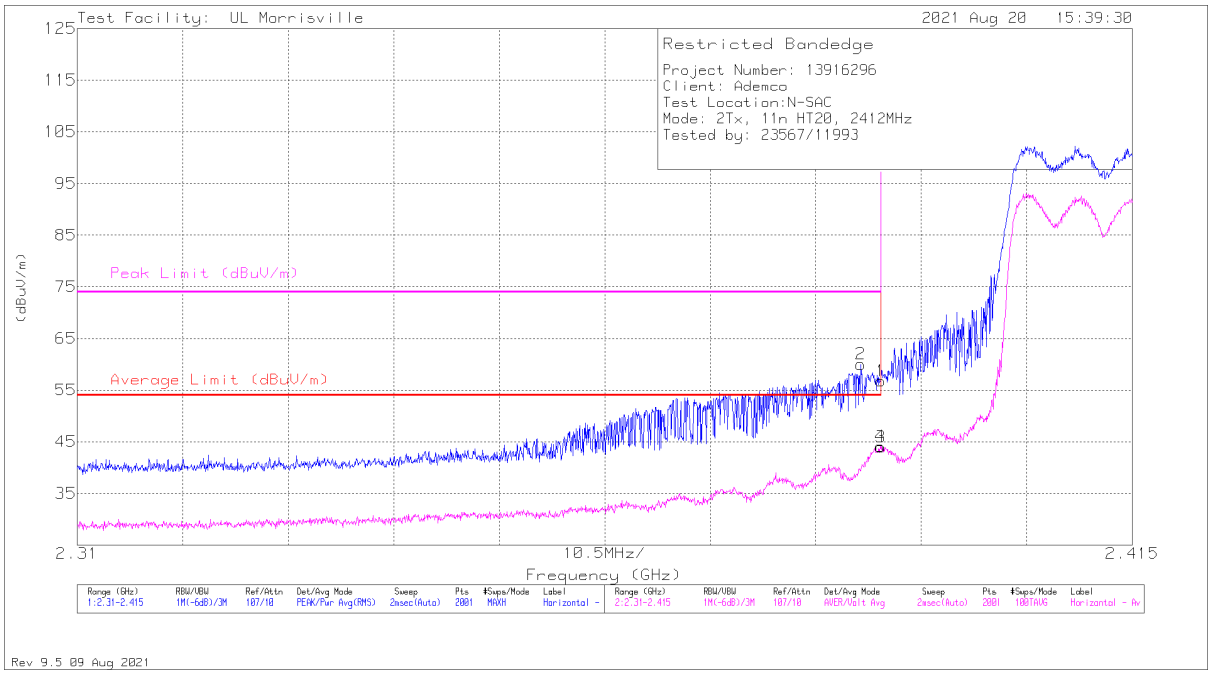
10.1.1. TX ABOVE 1 GHz 802.11nHT20 MODE IN THE 2.4 GHz BAND

2TX Antenna 1 + Antenna 2 MODE

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	49.27	Pk	31.8	-24.3	56.77	-	-	74	-17.23	339	105	H
2	* ** 2.38796	52.51	Pk	31.8	-24.3	60.01	-	-	74	-13.99	339	105	H
3	* ** 2.38996	36.46	ADV	31.8	-24.3	43.96	54	-10.04	-	-	339	105	H
4	* ** 2.38991	36.59	ADV	31.8	-24.3	44.09	54	-9.91	-	-	339	105	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
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Pk - Peak detector
ADV - Linear Voltage Average

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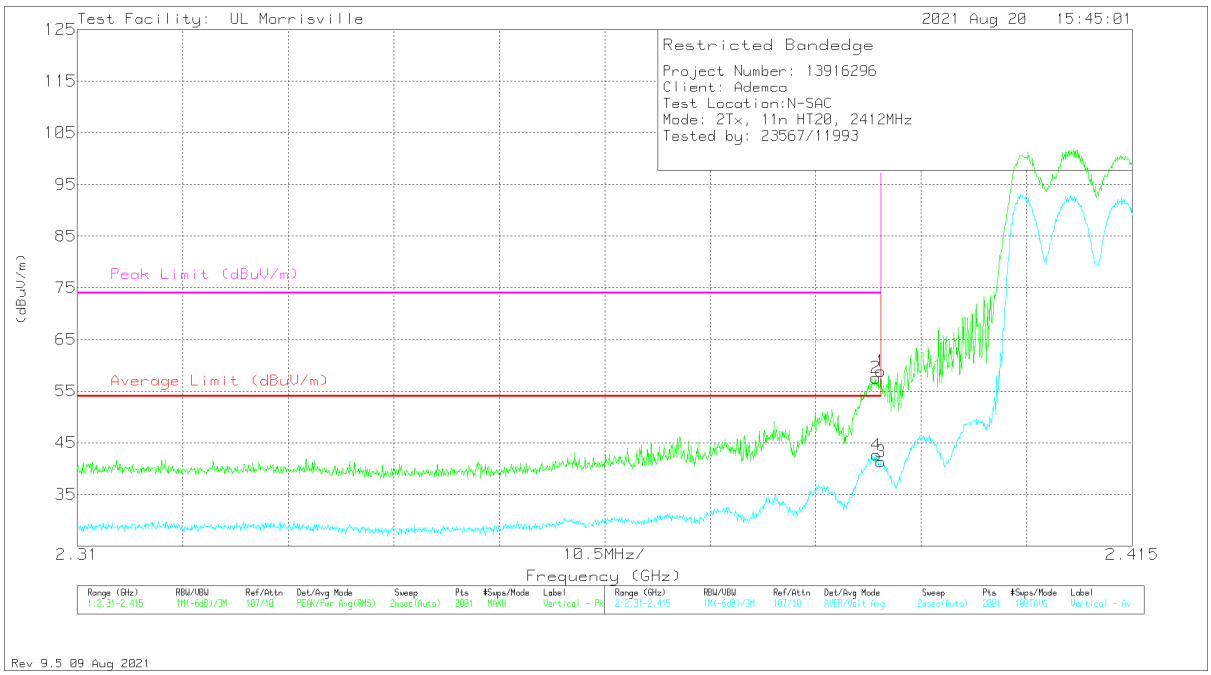
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38996	51.33	Pk	31.8	-24.3	58.83	-	-	74	-15.17	291	354	V
2	* ** 2.38949	50.09	Pk	31.8	-24.3	57.59	-	-	74	-16.41	291	354	V
3	* ** 2.38996	33.81	ADV	31.8	-24.3	41.31	54	-12.69	-	-	291	354	V
4	* ** 2.38954	35.13	ADV	31.8	-24.3	42.63	54	-11.37	-	-	291	354	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
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Pk - Peak detector
ADV - Linear Voltage Average

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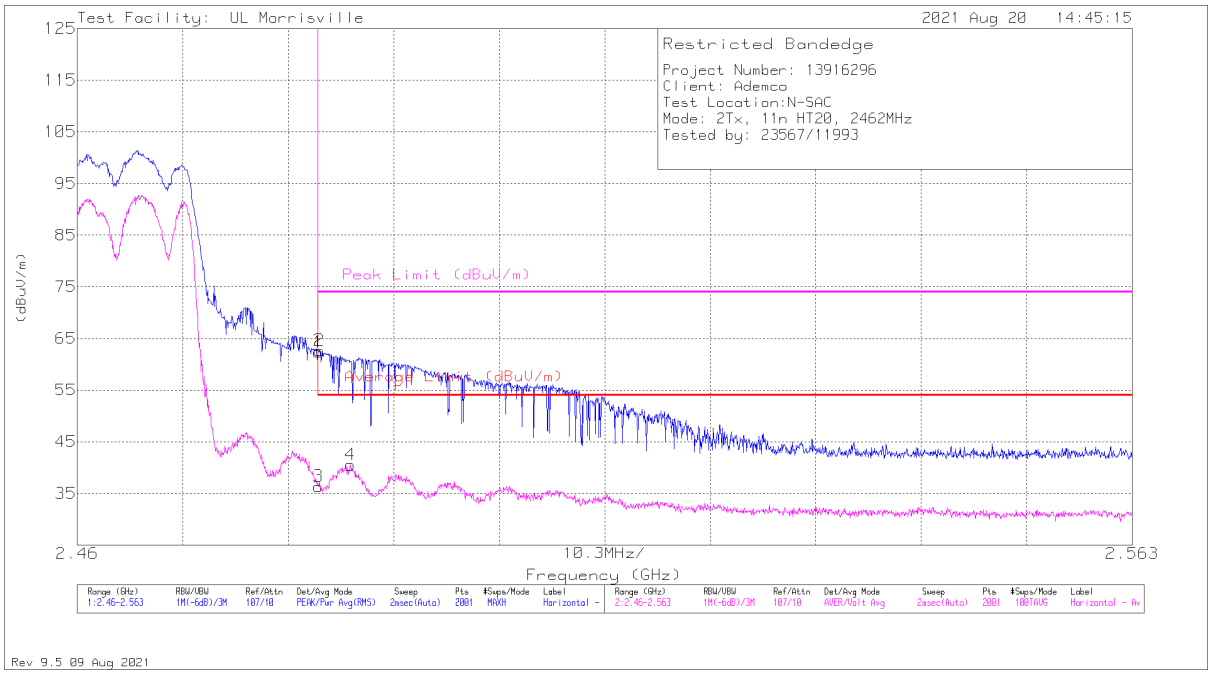
BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	54.58	Pk	32.4	-24.6	62.38	-	-	74	-11.62	104	115	H
2	* ** 2.48364	54.77	Pk	32.5	-24.6	62.67	-	-	74	-11.33	104	115	H
3	* ** 2.48354	28.55	ADV	32.4	-24.6	36.35	54	-17.65	-	-	104	115	H
4	* ** 2.48668	32.64	ADV	32.5	-24.6	40.54	54	-13.46	-	-	104	115	H

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ADV - Linear Voltage Average

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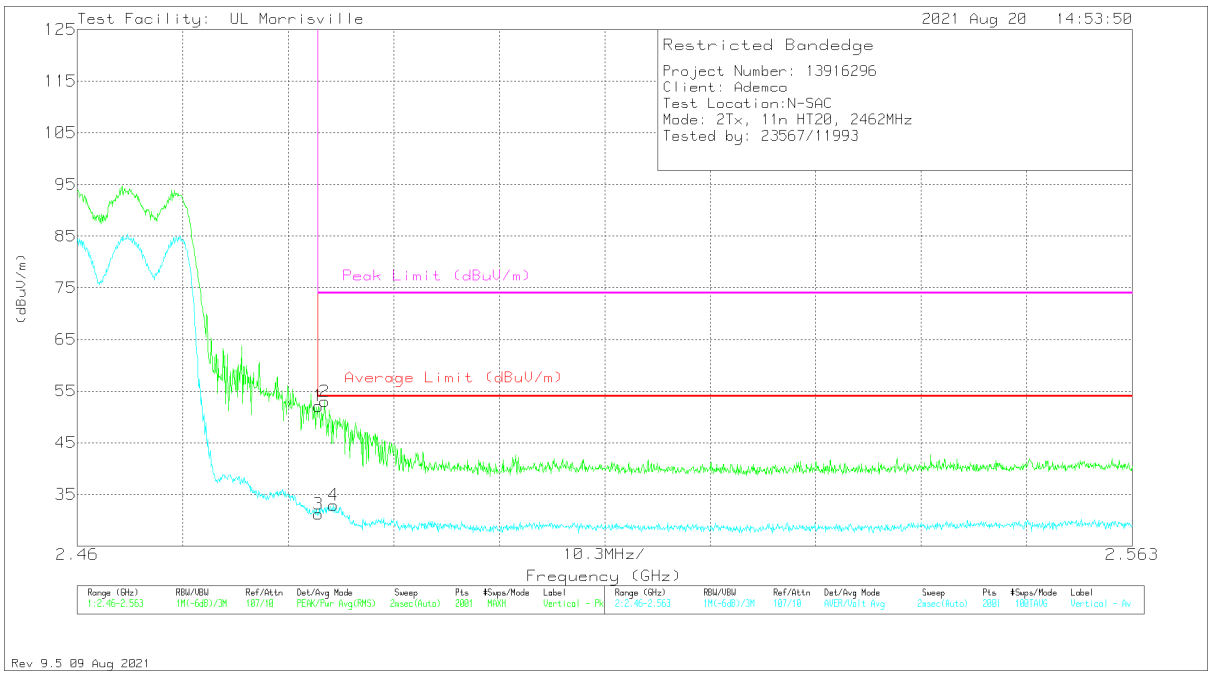
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48354	44.29	Pk	32.4	-24.6	52.09	-	-	74	-21.91	40	384	V
2	* ** 2.48415	45.07	Pk	32.5	-24.6	52.97	-	-	74	-21.03	40	384	V
3	* ** 2.48354	23.38	ADV	32.4	-24.6	31.18	54	-22.82	-	-	40	384	V
4	* ** 2.48503	25.01	ADV	32.5	-24.6	32.91	54	-21.09	-	-	40	384	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
ADV - Linear Voltage Average

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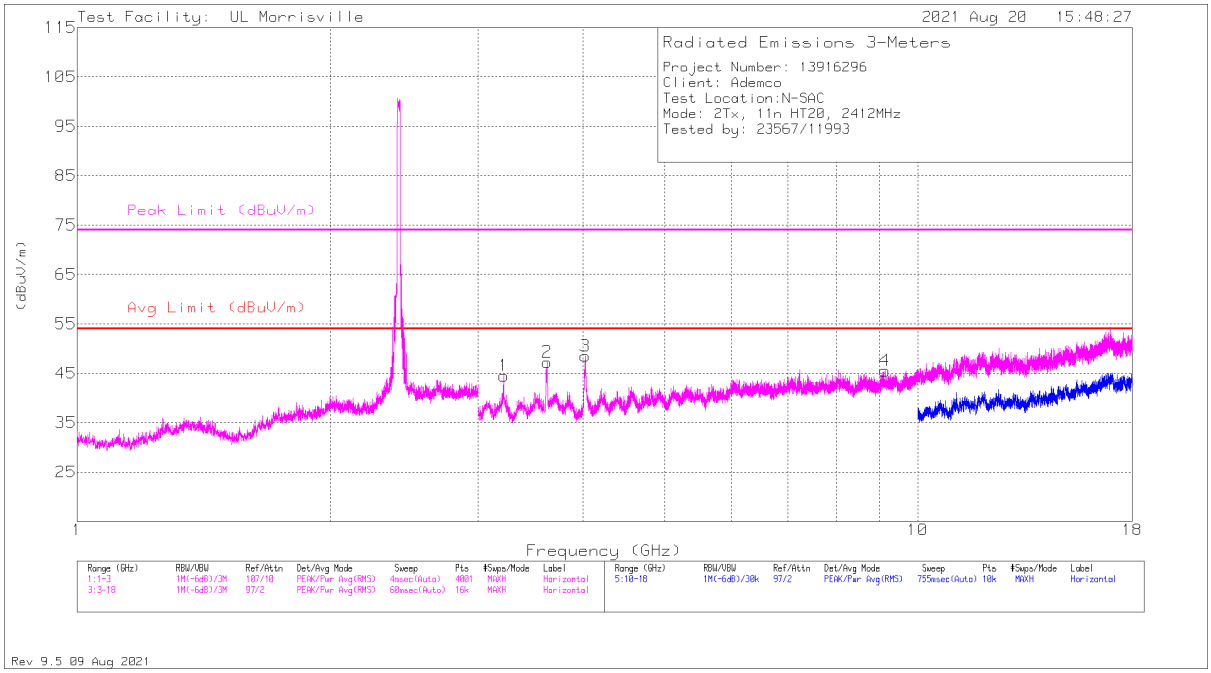
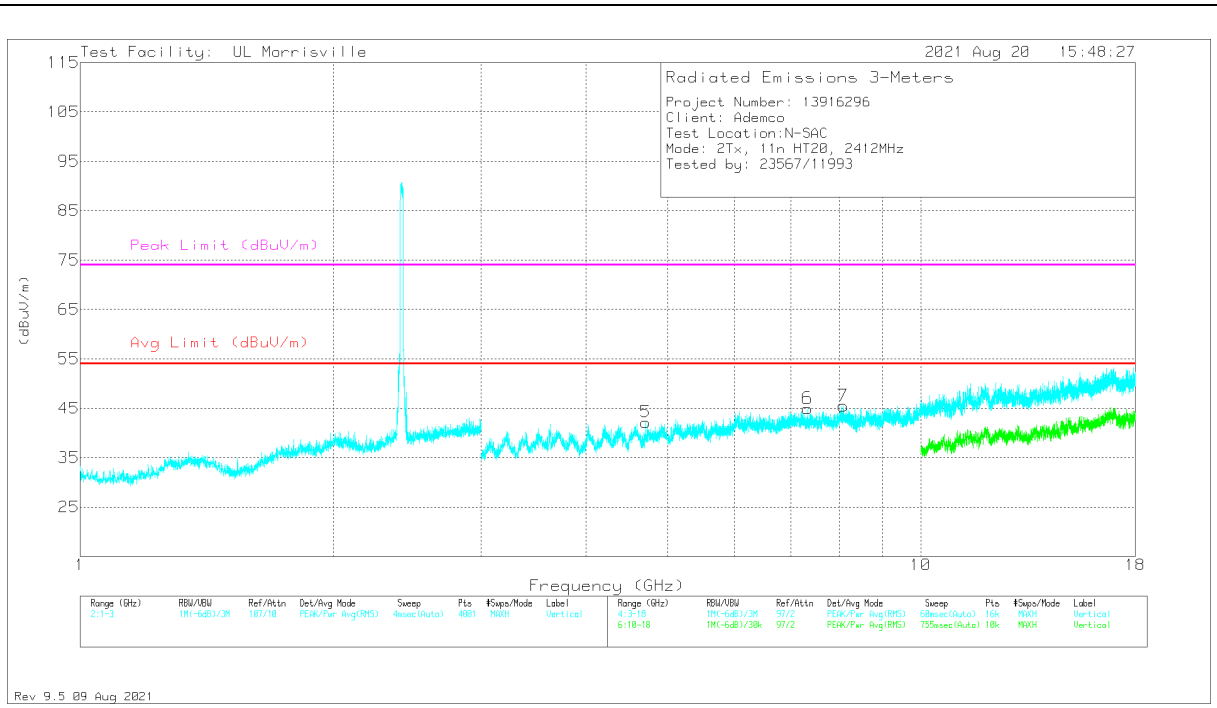
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Fltr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 3.62438	45.25	Pk	33.4	-31.4	47.25	54	-6.75	74	-26.75	0-360	200	H
3	* ** 4.02242	49.38	PK2	33.2	-32.1	50.48	-	-	74	-23.52	200	218	H
	* ** 4.02341	36.28	ADV	33.2	-32	37.48	54	-16.52	-	-	200	218	H
4	* ** 9.14156	37.02	Pk	36.3	-27.8	45.52	54	-8.48	74	-28.48	0-360	200	H
5	* ** 4.70813	40.38	Pk	33.8	-32	42.18	54	-11.82	74	-31.82	0-360	200	V
6	* ** 7.33313	37.97	Pk	35.6	-28.6	44.97	54	-9.03	74	-29.03	0-360	101	V
7	* ** 8.08781	37.91	Pk	35.9	-28.3	45.51	54	-8.49	74	-28.49	0-360	101	V
1	3.21563	44.1	Pk	32.9	-32.5	44.5	-	-	-	-	0-360	200	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
ADV - Linear Voltage Average

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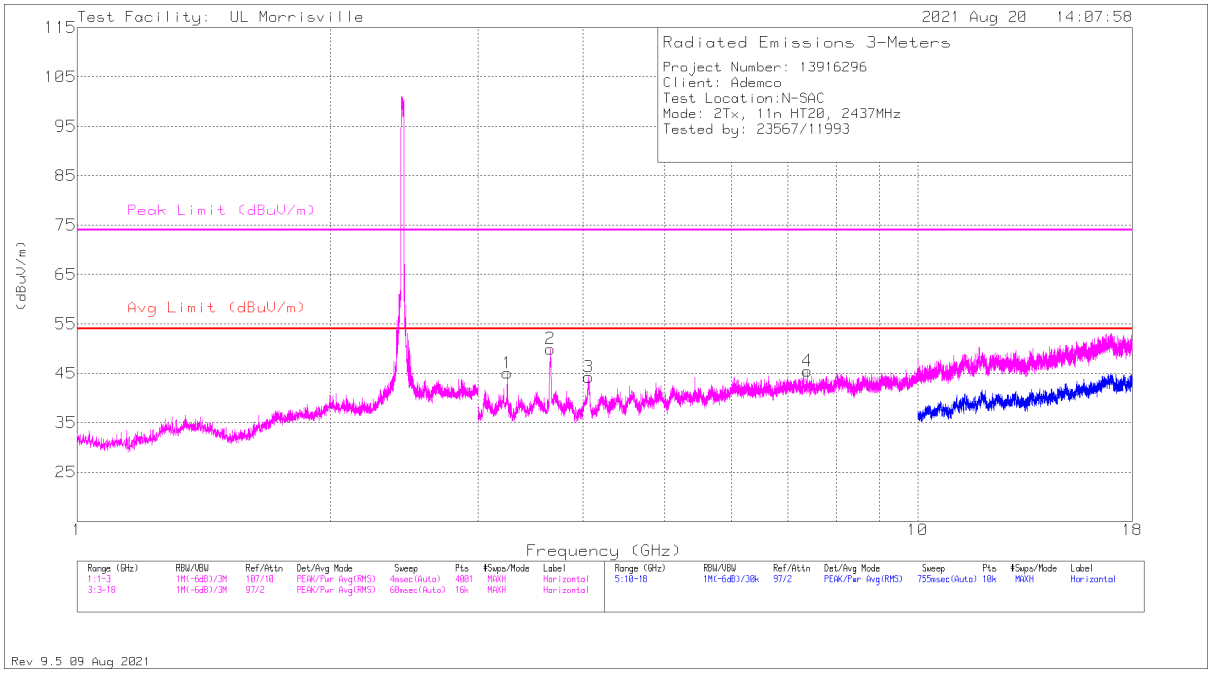
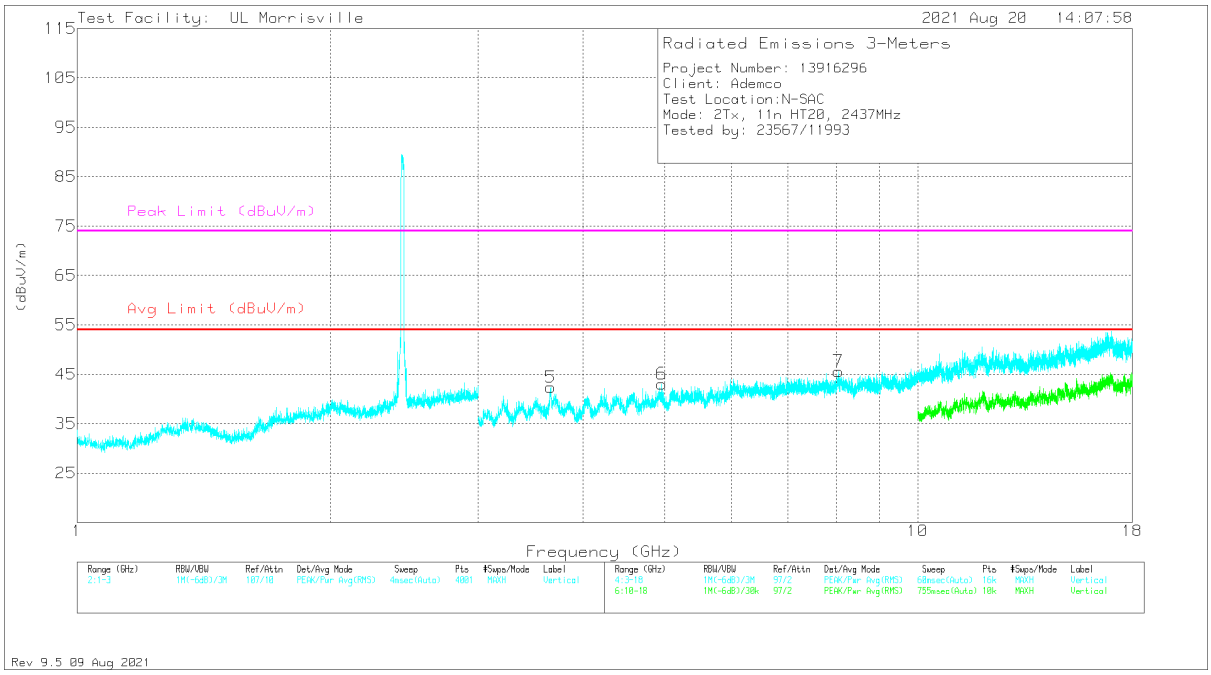
MID CHANNEL, CH 6 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Fltr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 3.65184	50.33	PK2	33.4	-31.2	52.53	-	-	74	-21.47	185	215	H
	* ** 3.6524	39.03	ADV	33.4	-31.2	41.23	54	-12.77	-	-	185	215	H
3	* ** 4.05938	44.04	Pk	33.2	-33	44.24	54	-9.76	74	-29.76	0-360	101	H
4	* ** 7.3875	38.56	Pk	35.6	-28.7	45.46	54	-8.54	74	-28.54	0-360	200	H
5	* ** 3.65813	40.27	Pk	33.4	-31.3	42.37	54	-11.63	74	-31.63	0-360	200	V
6	* ** 4.96031	41.25	Pk	34.3	-32.5	43.05	54	-10.95	74	-30.95	0-360	101	V
7	* ** 8.04844	38.18	Pk	35.8	-28.4	45.58	54	-8.42	74	-28.42	0-360	101	V
1	3.24844	44.83	Pk	32.9	-32.7	45.03	-	-	-	-	0-360	200	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
ADV - Linear Voltage Average

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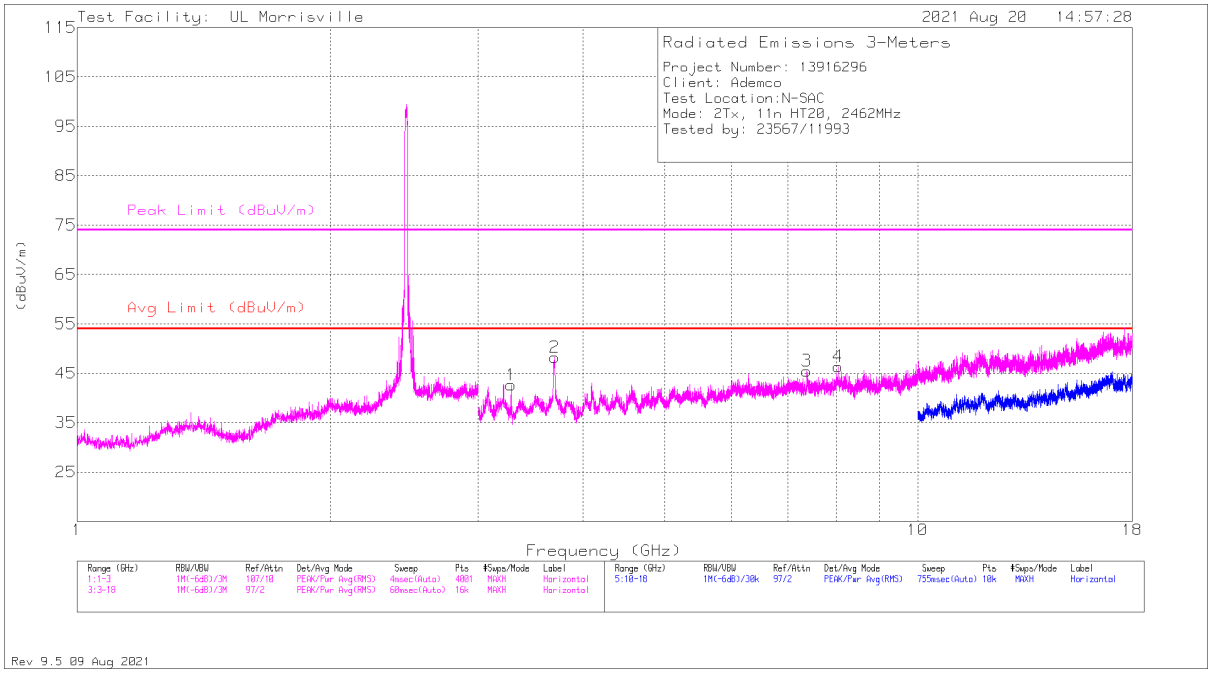
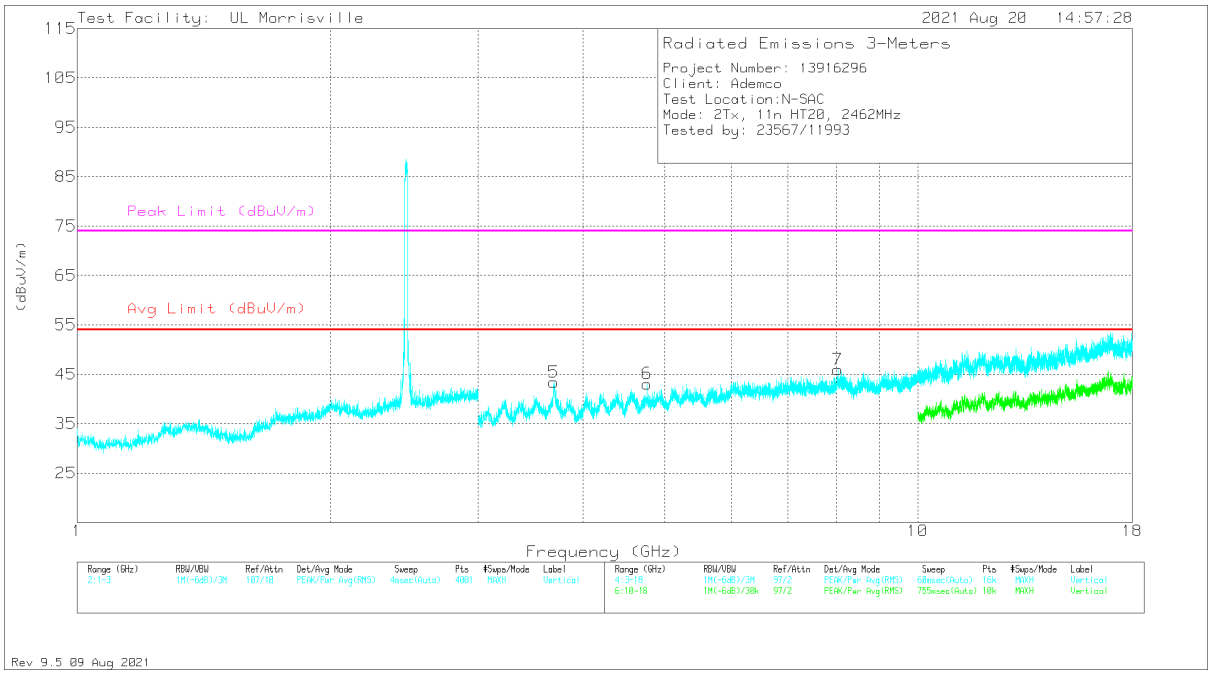
HIGH CHANNEL, CH 11 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (db/m)	Amp/Cbl/Fltr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 3.70044	51.5	PK2	33.3	-32.1	52.7	-	-	74	-21.3	192	293	H
	* ** 3.70028	40.19	ADV	33.3	-32.2	41.29	54	-12.71	-	-	192	293	H
3	* ** 7.38188	38.28	Pk	35.6	-28.4	45.48	54	-8.52	74	-28.52	0-360	199	H
4	* ** 8.04	38.55	Pk	35.9	-28.1	46.35	54	-7.65	74	-27.65	0-360	101	H
5	* ** 3.69	42.5	Pk	33.3	-32.4	43.4	54	-10.6	74	-30.6	0-360	101	V
6	* ** 4.76438	40.78	Pk	34	-31.7	43.08	54	-10.92	74	-30.92	0-360	101	V
7	* ** 8.03344	38.25	Pk	35.9	-28.2	45.95	54	-8.05	74	-28.05	0-360	101	V
1	3.28219	42.03	Pk	32.8	-32.2	42.63	-	-	-	-	0-360	199	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
ADV - Linear Voltage Average

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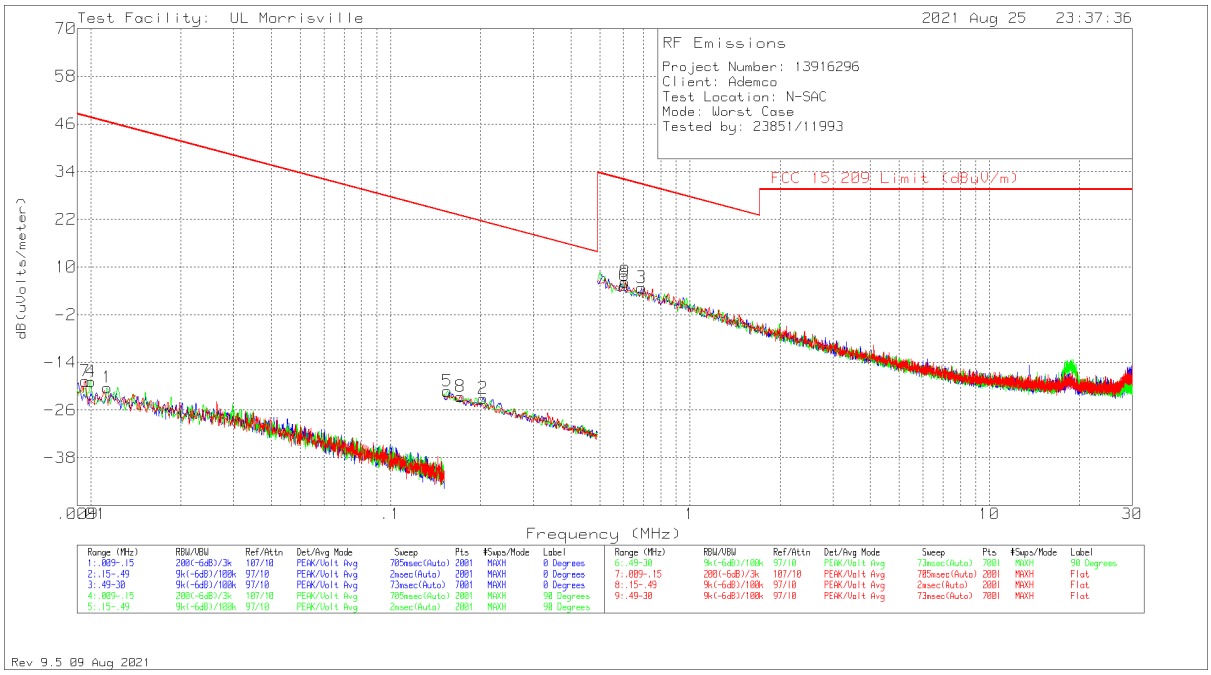
10.2. WORST CASE BELOW 30MHZ

Note for below 30 MHz scans: All measurements were made at a test distance of 3 m. The measured data was extrapolated from the test distance (3m) to the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz – 30 MHz) to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the intentionally transmitted signal. The extrapolation factor for the limits were 40*Log (test distance / specification distance).

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION) - ANTENNA 1



ANTENNA- THREE ORIENTATIONS

Below 30MHz Data – Antenna 1

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 (dB/m)	Cbl (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	FCC 15.209 QP/AV Limit (dBuV/m)	FCC 15.209 QP/AV Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Loop Angle
1	.01134	42.28	Pk	17.3	.1	-80	-20.32	46.51	66.51	-66.83	0-360	404	On
2	.20398	46.04	Pk	10.8	.1	-80	-23.06	21.41	41.41	-44.47	0-360	404	On
3	.68815	33.81	Pk	10.8	.2	-40	4.81	30.85	-	-26.04	0-360	404	On
4	.00999	43.18	Pk	17.9	.1	-80	-18.82	47.61	67.61	-66.43	0-360	404	Off
5	.15502	47.85	Pk	10.8	.1	-80	-21.25	23.8	43.8	-45.05	0-360	404	Off
6	.60383	34.43	Pk	10.8	.2	-40	5.43	31.99	-	-26.56	0-360	404	Off
7	.00957	42.9	Pk	18.3	.1	-80	-18.7	47.99	67.99	-66.69	0-360	404	Flat
8	.17108	46.51	Pk	10.8	.1	-80	-22.59	22.94	42.94	-45.53	0-360	404	Flat
9	.60805	35.27	Pk	10.8	.2	-40	6.27	31.93	-	-25.66	0-360	404	Flat

Pk - Peak detector

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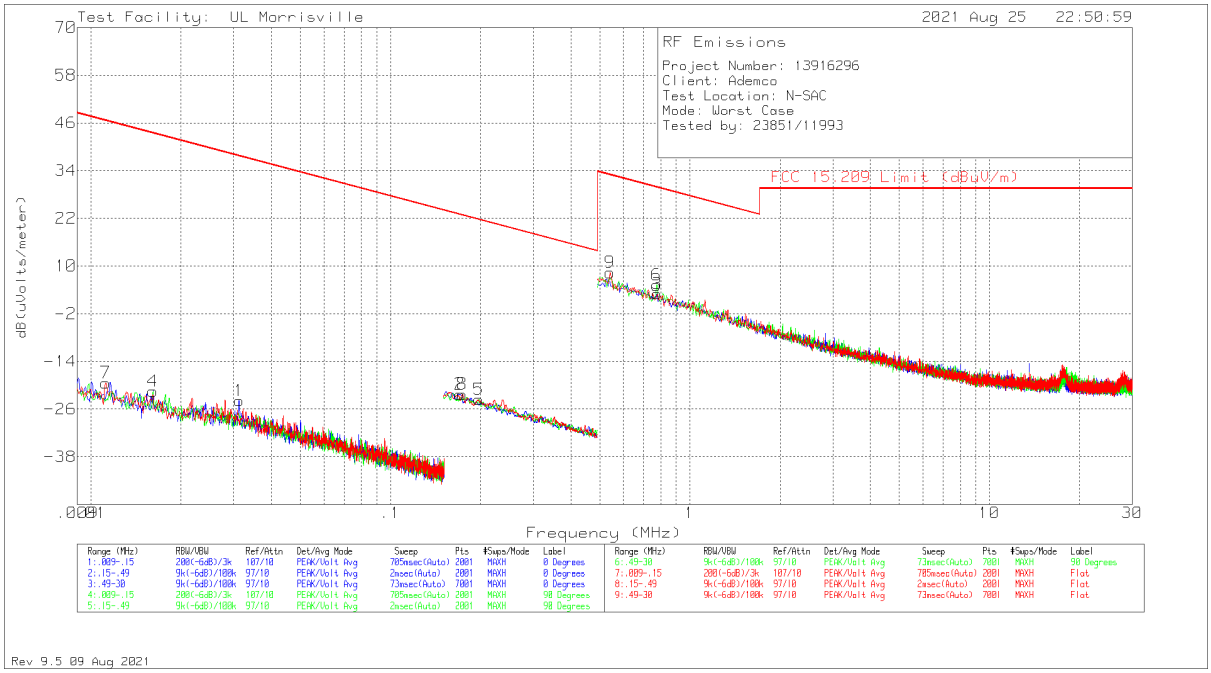
SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION) - ANTENNA 2



ANTENNA- THREE ORIENTATIONS

Below 30MHz Data – Antenna 2

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 (dB/m)	Cbl (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	FCC 15.209 QP/AV Limit (dBuV/m)	FCC 15.209 PK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Loop Angle
1	.03122	42.82	Pk	13.2	.1	-80	-23.88	37.72	57.72	-61.6	0-360	404	On
2	.17032	46.84	Pk	10.8	.1	-80	-22.26	22.98	42.98	-45.24	0-360	404	On
3	.77669	32.03	Pk	10.8	.2	-40	3.03	29.8	-	-26.77	0-360	404	On
4	.0161	43.08	Pk	15.3	.1	-80	-21.52	43.47	63.47	-64.99	0-360	404	Off
5	.19743	45.53	Pk	10.8	.1	-80	-23.57	21.7	41.7	-45.27	0-360	404	Off
6	.77247	34.2	Pk	10.8	.2	-40	5.2	29.85	-	-24.65	0-360	404	Off
7	.0112	43.07	Pk	17.4	.1	-80	-19.43	46.62	66.62	-66.05	0-360	404	Flat
8	.17397	46.83	Pk	10.8	.1	-80	-22.27	22.79	42.79	-45.06	0-360	404	Flat
9	.54059	37.36	Pk	10.8	.2	-40	8.36	32.95	-	-24.59	0-360	404	Flat

Pk - Peak detector

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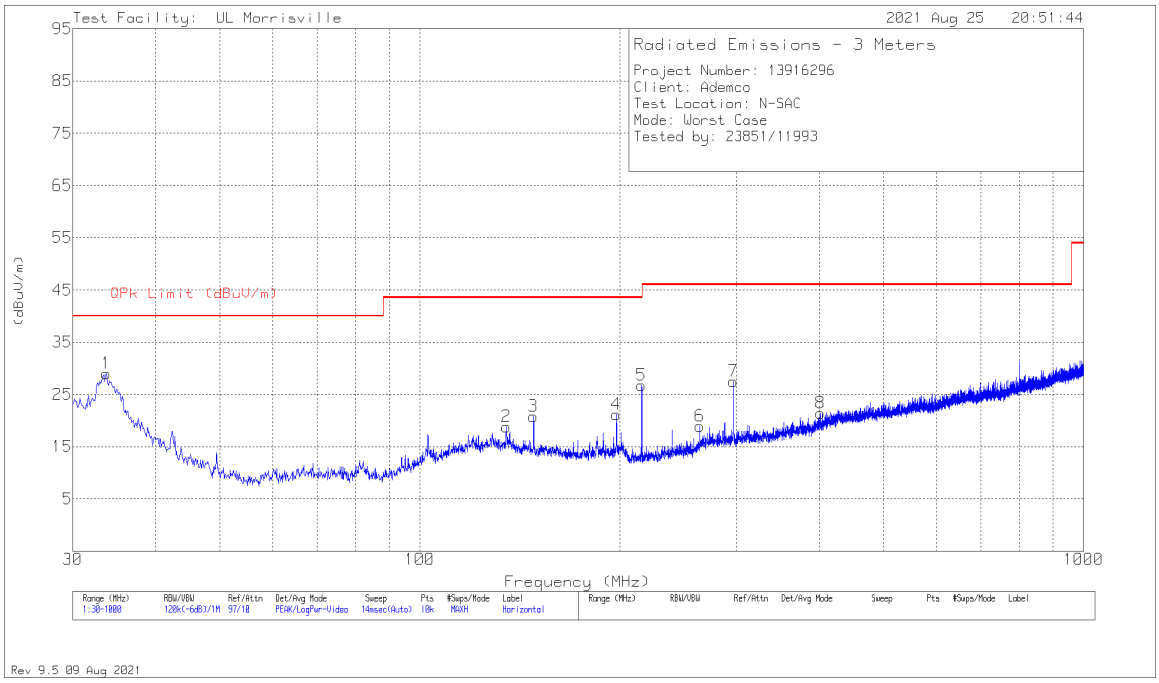
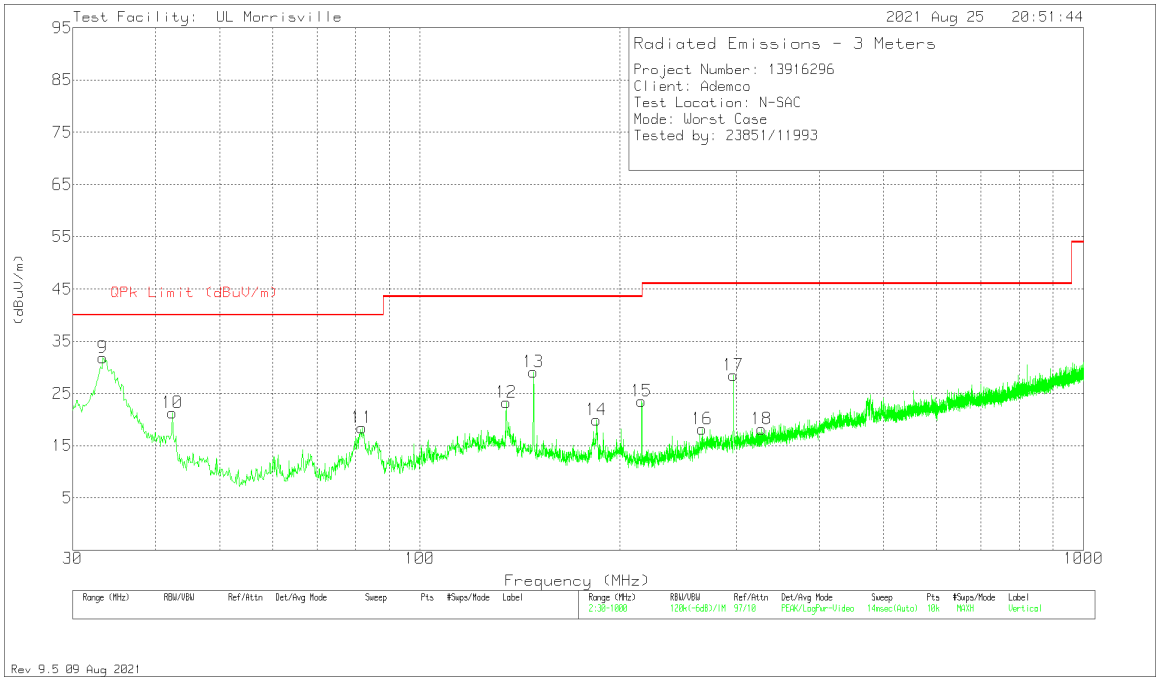
10.3. WORST CASE BELOW 1 GHZ

Antenna 1



HORIZONTAL



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Below 1GHz DATA – Antenna 1

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0066 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 134.954	29.34	Pk	19.5	-30	18.84	43.52	-24.68	0-360	299	H
6	* ** 263.964	29.09	Pk	18.8	-29	18.89	46.02	-27.13	0-360	99	H
8	* ** 401.413	27.52	Pk	21.8	-27.9	21.42	46.02	-24.6	0-360	199	H
12	* ** 134.954	33.79	Pk	19.5	-30	23.29	43.52	-20.23	0-360	100	V
16	* ** 266.389	28.21	Pk	19.1	-29.1	18.21	46.02	-27.81	0-360	100	V
18	* ** 327.499	26.45	Pk	20.1	-28.4	18.15	46.02	-27.87	0-360	100	V
9	33.298	37.94	Pk	25.3	-31.4	31.84	40	-8.16	0-360	100	V
1	33.686	35.39	Pk	25	-31.4	28.99	40	-11.01	0-360	299	H
10	42.416	34.24	Pk	18.4	-31.3	21.34	40	-18.66	0-360	100	V
11	81.798	35.58	Pk	13.4	-30.5	18.48	40	-21.52	0-360	100	V
3	148.34	32.01	Pk	18.6	-29.8	20.81	43.52	-22.71	0-360	299	H
13	148.34	40.36	Pk	18.6	-29.8	29.16	43.52	-14.36	0-360	100	V
14	184.521	31.93	Pk	17.4	-29.4	19.93	43.52	-23.59	0-360	100	V
4	197.81	32.22	Pk	18.2	-29.3	21.12	43.52	-22.4	0-360	99	H
5	215.949	39.15	Pk	16.7	-29.1	26.75	43.52	-16.77	0-360	199	H
15	215.949	35.88	Pk	16.7	-29.1	23.48	43.52	-20.04	0-360	100	V
7	296.653	36.42	Pk	19.6	-28.5	27.52	46.02	-18.5	0-360	399	H
17	296.653	37.41	Pk	19.6	-28.5	28.51	46.02	-17.51	0-360	100	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector

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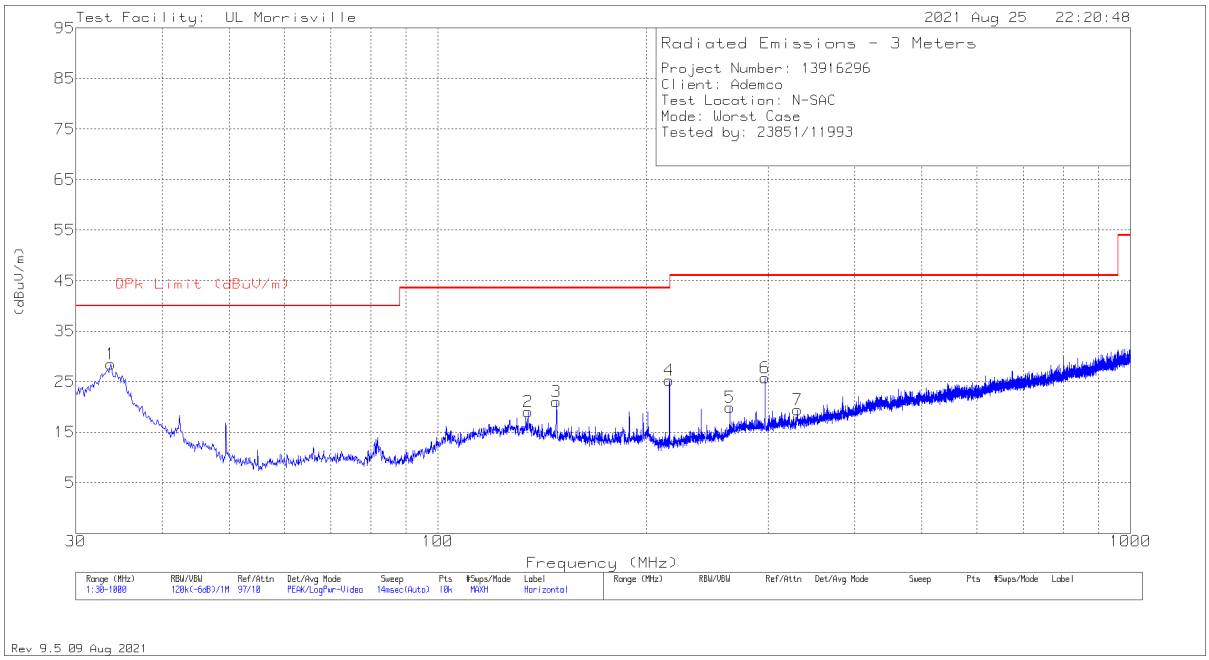
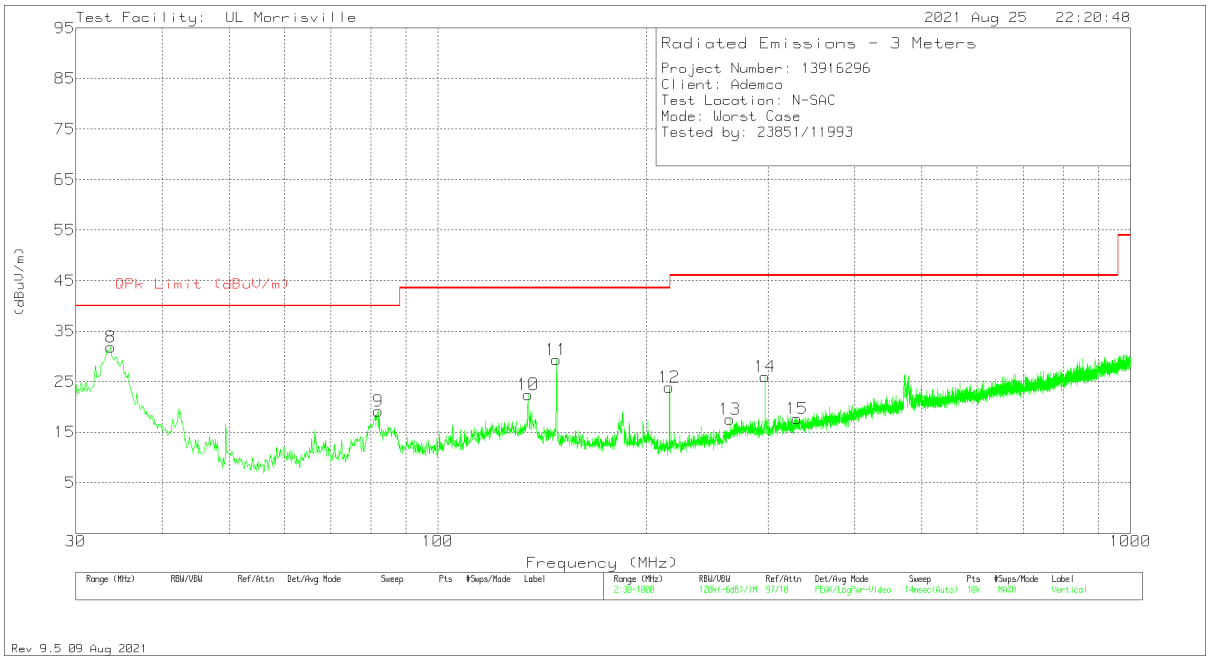
Antenna 2



HORIZONTAL



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Below 1GHz DATA – Antenna 2

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0066 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 134.954	29.6	Pk	19.5	-30	19.1	43.52	-24.42	0-360	399	H
5	* ** 263.964	30.08	Pk	18.8	-29	19.88	46.02	-26.14	0-360	99	H
7	* ** 330.7	27.54	Pk	20.1	-28.2	19.44	46.02	-26.58	0-360	199	H
10	* ** 134.954	32.96	Pk	19.5	-30	22.46	43.52	-21.06	0-360	100	V
13	* ** 263.964	27.8	Pk	18.8	-29	17.6	46.02	-28.42	0-360	100	V
15	* ** 329.924	25.74	Pk	20.1	-28.1	17.74	46.02	-28.28	0-360	100	V
1	33.686	34.94	Pk	25	-31.4	28.54	40	-11.46	0-360	300	H
8	33.686	38.27	Pk	25	-31.4	31.87	40	-8.13	0-360	100	V
9	81.992	36.51	Pk	13.4	-30.7	19.21	40	-20.79	0-360	100	V
3	148.34	32.25	Pk	18.6	-29.8	21.05	43.52	-22.47	0-360	399	H
11	148.34	40.52	Pk	18.6	-29.8	29.32	43.52	-14.2	0-360	100	V
4	215.949	37.69	Pk	16.7	-29.1	25.29	43.52	-18.23	0-360	199	H
12	215.949	36.27	Pk	16.7	-29.1	23.87	43.52	-19.65	0-360	100	V
6	296.653	34.67	Pk	19.6	-28.5	25.77	46.02	-20.25	0-360	399	H
14	296.653	34.86	Pk	19.6	-28.5	25.96	46.02	-20.06	0-360	100	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector

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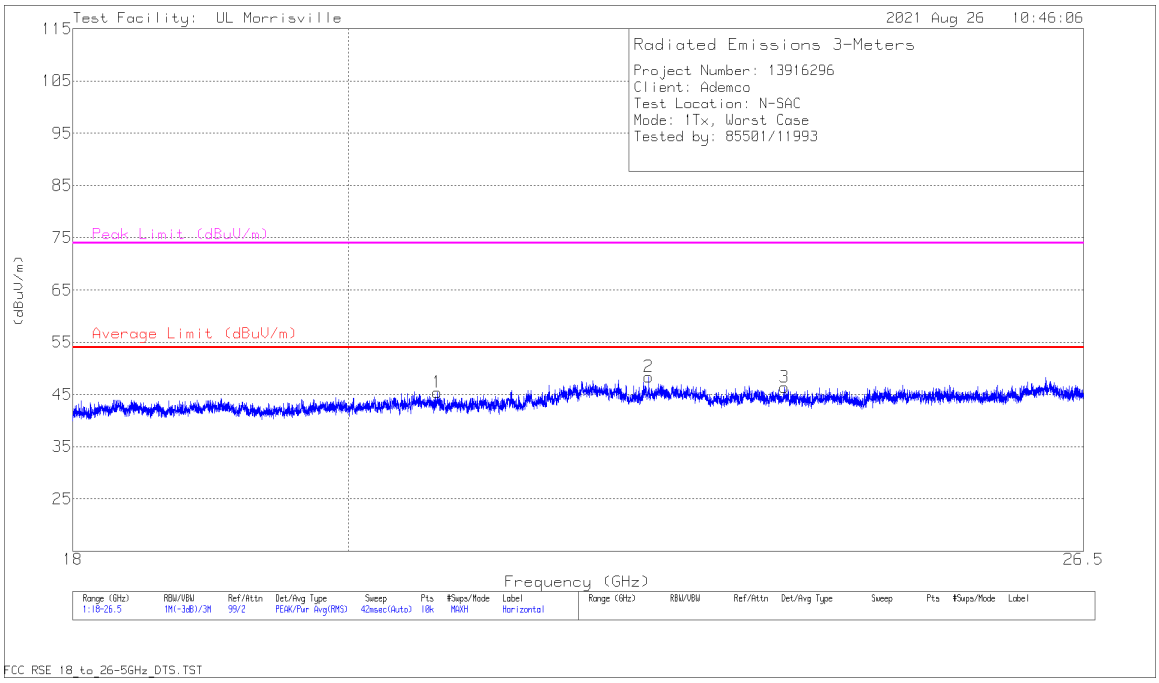
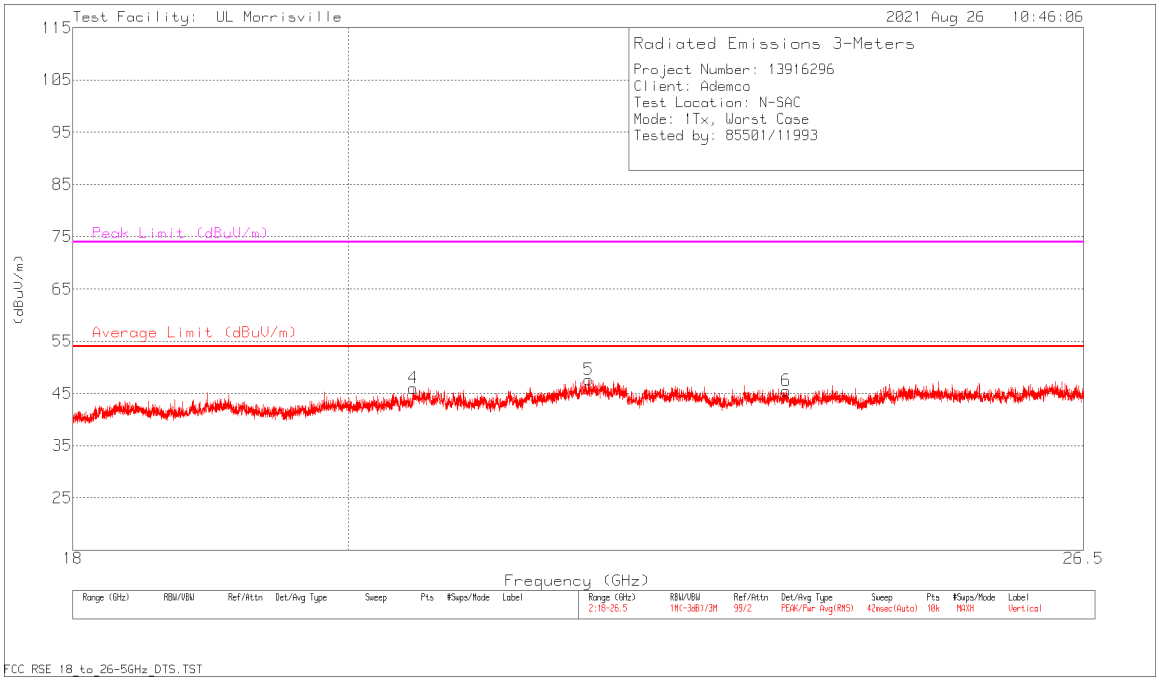
10.4. WORST CASE 18-26 GHz

Antenna 1



HORIZONTAL



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18 – 26GHz DATA – Antenna 1

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0063 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 20.69593	50.76	Pk	34	-39.4	45.36	54	-8.64	74	-28.64	0-360	300	H
2	* ** 22.43587	50.78	PK2	36.5	-39.3	47.98	54	-6.02	74	-26.02	224	149	H
	* ** 22.4355	37.85	ADV	36.5	-39.3	35.05	54	-18.95	74	-38.95	224	149	H
3	* ** 23.63409	50.52	Pk	34.9	-39	46.42	54	-7.58	74	-27.58	0-360	249	H
4	* ** 20.5047	50.86	Pk	34.1	-39	45.96	54	-8.04	74	-28.04	0-360	200	V
6	* ** 23.64939	49.71	Pk	34.9	-39.1	45.51	54	-8.49	74	-28.49	0-360	251	V
5	21.92576	50.12	Pk	37	-39.5	47.62	54	-6.38	74	-26.38	0-360	200	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector

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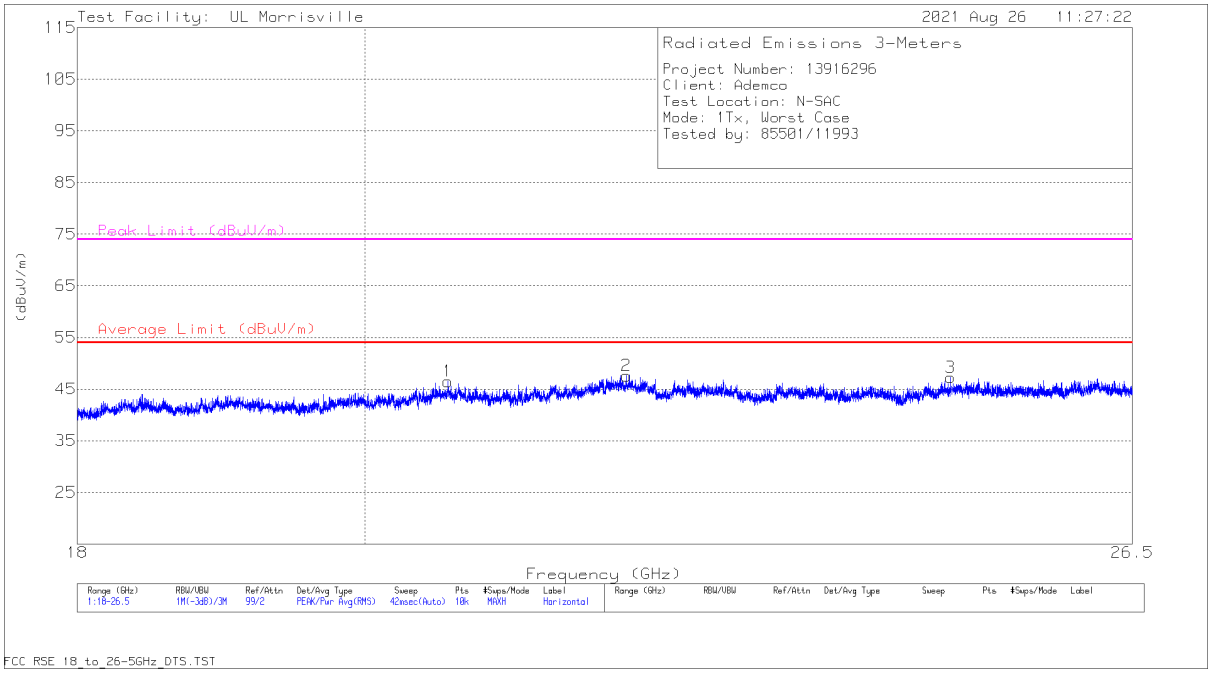
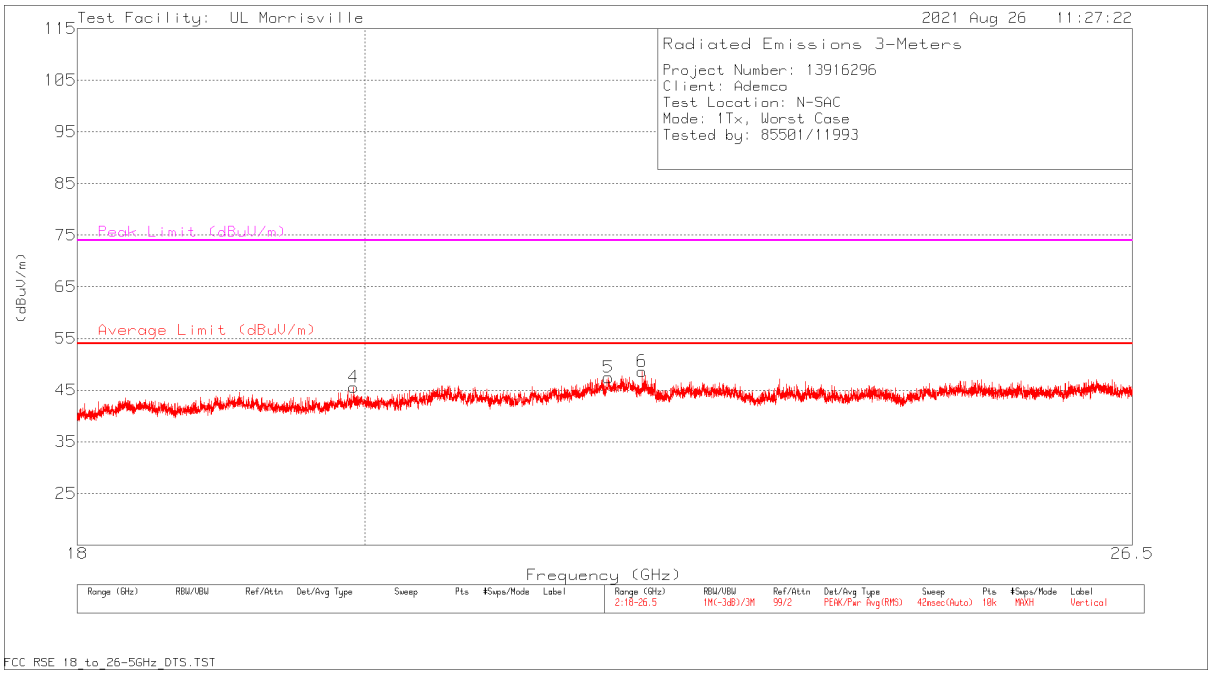
Antenna 2



HORIZONTAL



VERTICAL

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18 – 26GHz DATA – Antenna 2

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0063 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 20.61944	51.38	Pk	34	-38.9	46.48	54	-7.52	74	-27.52	0-360	300	H
2	* ** 22.01245	50.19	Pk	37	-39.6	47.59	54	-6.41	74	-26.41	0-360	101	H
4	* ** 19.91996	50.98	Pk	33.5	-38.9	45.58	54	-8.42	74	-28.42	0-360	150	V
6	* ** 22.14236	50.76	PK2	36.7	-39.4	48.06	-	-	74	-25.94	110	240	V
	* ** 22.14353	37.76	ADV	36.7	-39.6	34.86	54	-19.14	74	-39.14	110	240	V
5	21.86966	49.55	Pk	36.8	-38.9	47.45	54	-6.55	74	-26.55	0-360	250	V
3	24.79422	50.34	Pk	35	-38.1	47.24	54	-6.76	74	-26.76	0-360	150	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector

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11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

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 C63.10.

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

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

RESULTS

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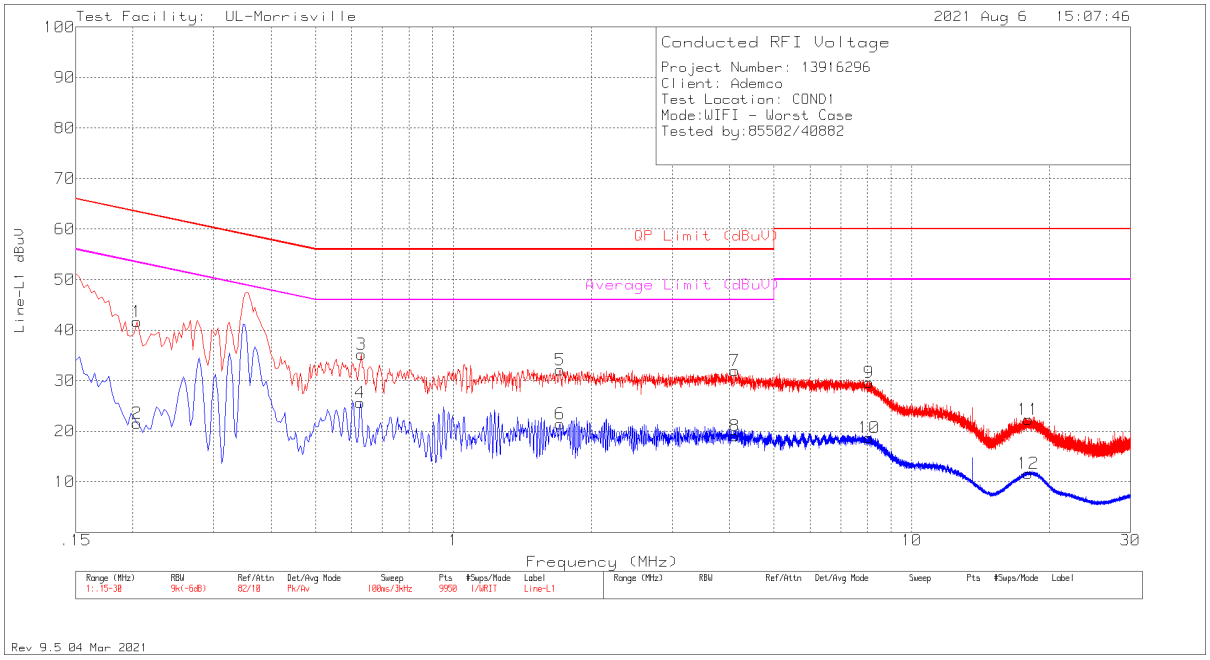
11.1.1. AC Power Line Host

LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.204	31.77	Pk	.1	9.8	41.67	63.45	-21.78	-	-
2	.204	11.68	Av	.1	9.8	21.58	-	-	53.45	-31.87
4	.627	15.88	Av	0	9.8	25.68	-	-	46	-20.32
3	.63	25.37	Pk	0	9.8	35.17	56	-20.83	-	-
5	1.707	22.31	Pk	0	9.8	32.11	56	-23.89	-	-
6	1.707	11.62	Av	0	9.8	21.42	-	-	46	-24.58
7	4.116	22.07	Pk	0	9.9	31.97	56	-24.03	-	-
8	4.119	9.14	Av	0	9.9	19.04	-	-	46	-26.96
9	8.07	19.5	Pk	.1	10	29.6	60	-30.4	-	-
10	8.07	8.66	Av	.1	10	18.76	-	-	50	-31.24
11	17.958	12.13	Pk	.1	10.1	22.33	60	-37.67	-	-
12	17.958	1.47	Av	.1	10.1	11.67	-	-	50	-38.33

Pk - Peak detector
Av - Average detection

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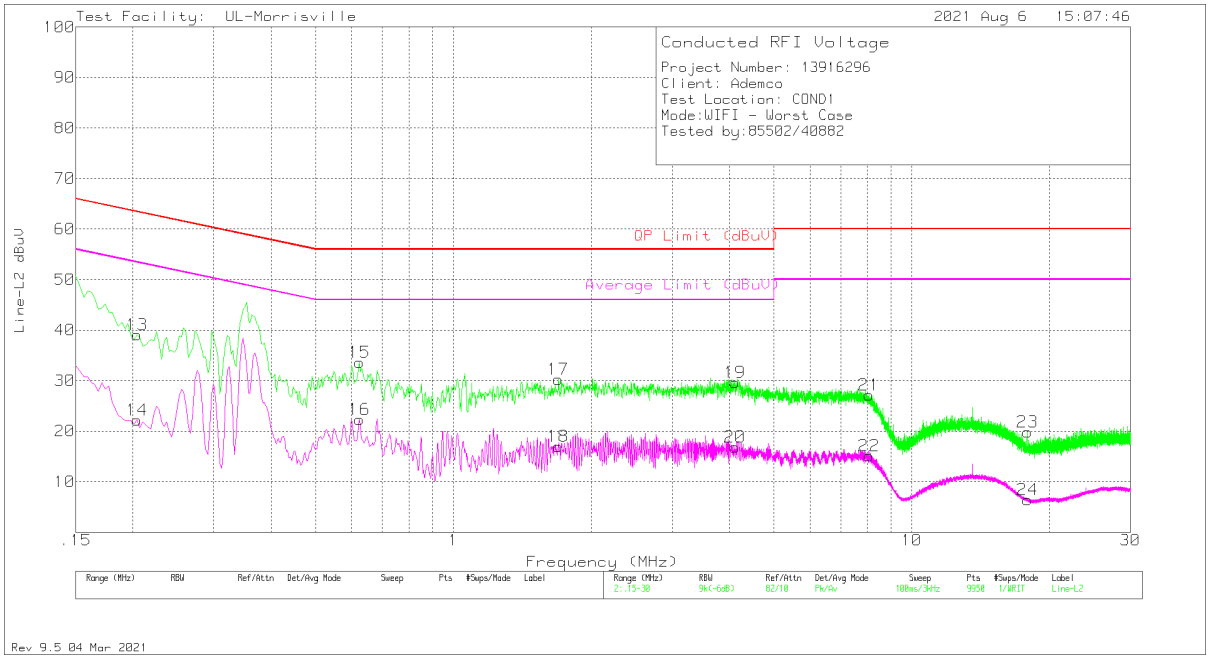
LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
13	.204	29.05	Pk	.2	9.8	39.05	63.45	-24.4	-	-
14	.204	12.17	Av	.2	9.8	22.17	-	-	53.45	-31.28
15	.624	23.77	Pk	0	9.8	33.57	56	-22.43	-	-
16	.624	12.46	Av	0	9.8	22.26	-	-	46	-23.74
17	1.695	20.48	Pk	0	9.8	30.28	56	-25.72	-	-
18	1.695	7.12	Av	0	9.8	16.92	-	-	46	-29.08
19	4.11	19.6	Pk	.1	9.9	29.6	56	-26.4	-	-
20	4.11	6.87	Av	.1	9.9	16.87	-	-	46	-29.13
21	8.064	17.07	Pk	.1	10	27.17	60	-32.83	-	-
22	8.064	5.01	Av	.1	10	15.11	-	-	50	-34.89
23	17.922	9.61	Pk	.1	10.1	19.81	60	-40.19	-	-
24	17.922	-3.73	Av	.1	10.1	6.47	-	-	50	-43.53

Pk - Peak detector
Av - Average detection

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12. SETUP PHOTOS

Please refer to R13916296-EP2 for setup photos.

END OF TEST REPORT

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