

TEST REPORT

Report Number. : R14381848-E2

Applicant : Ademco Inc
251 Little Falls Dr.
Wilmington, DE 19808-1674, U.S.A.

Model : PROOUTMV

FCC ID : CFS8DLPROINDMV

IC : 573F-PROINDMV

EUT Description : PROOUTMV Wireless Motion Detector

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C:2022
ISED RSS-247 ISSUE 2: 2017
ISED RSS-GEN ISSUE 5 + A2:2021

Date Of Issue:
2022-12-08

Prepared by:
UL LLC
12 Laboratory Dr.
Research Triangle Park, NC 27709 U.S.A.
TEL: (919) 549-1400



REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2022-10-19	Initial Issue	Charles Moody
V2	2022-11-22	Updated Measuring Equipment	Charles Moody
V3	2022-12-08	Update Duty Cycle Testing and Measuring Equipment Information	Charles Moody

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Ademco Inc
251 Little Falls Dr.
Wilmington, DE 19808-1674, U.S.A.

EUT DESCRIPTION: PROOUTMV Wireless Motion Detector

MODEL: PROOUTMV

SERIAL NUMBER: 02183B01

SAMPLE RECEIPT DATE: 2022-06-29

DATE TESTED: 2022-08-12 TO 2022-10-06

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	See section 2
ISED RSS-247 Issue 2	See section 2
ISED RSS-GEN Issue 5 + A2	See section 2

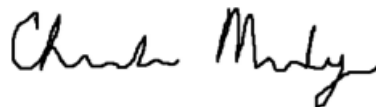
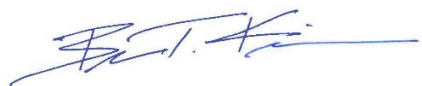
UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, or any agency of the U.S. government.

Approved & Released For
UL LLC Inc. By:

Prepared By:



Brian Kiewra
Project Engineer
Consumer, Medical and IT Segment
UL LLC

Charles Moody
Electrical Engineer
Consumer, Medical and IT Segment
UL LLC

2. TEST RESULTS SUMMARY

This report contains data provided by the applicant which can impact the validity of results. UL LLC is only responsible for the validity of results after the integration of the data provided by the customer.

FCC Clause	ISED Clause	Requirement	Result	Comment
See Comment		Duty Cycle	Reporting purposes only	ANSI C63.10 Section 11.6.
-	RSS-GEN 6.7	99% OBW	Not Performed	Refer to Note 1
15.247 (a) (2)	RSS-247 5.2 (a)	6dB BW		
15.247 (b) (3)	RSS-247 5.4 (d)	Output Power		
See Comment		Average power		
15.247 (e)	RSS-247 5.2 (b)	PSD		
15.247 (d)	RSS-247 5.5	Conducted Spurious Emissions		
15.209, 15.205	RSS-GEN 8.9, 8.10	Radiated Emissions	Complies	None
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions	N/A	EUT is not AC powered and uses a battery

Note 1: This test report covers a Class 2 Permissive Change to a device which has undergone a change to the original enclosure. This change includes the addition of a Hall sensor and a magnet as a tamper. For this report, only radiated emissions testing was performed.

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15: 2022, ANSI C63.10-2013, KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, RSS-GEN Issue 5 + A2, and RSS-247 Issue 2.

4. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, Certificate Number 0751.06, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
<input checked="" type="checkbox"/>	Building 2800 Suite Perimeter Park Dr. Suite B Morrisville, NC 27560, U.S.A	US0067	27265	825374

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	U_{LAB}
All emissions, radiated	6.01 dB

Uncertainty figures are valid to a confidence level of 95%.

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

$36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is a battery-powered, wireless outdoor motion detector that communicates through the use of a 900 MHz radio. This report covers full radiated emissions testing of the 900 MHz radio.

6.2. MAXIMUM OUTPUT POWER

The purpose of this report is to cover a Class 2 Permissive Change to a device which has undergone a change to the enclosure. This change includes the addition of a Hall sensor and a magnet as a tamper. Only radiated emissions testing was performed. Therefore, power measurements are not covered in this report.

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The antenna(s) gain and type, as provided by the manufacturer' are as follows:

The radio utilizes a PCB, inverted F antenna, with a maximum gain of 2.15 dBi.

6.4. SOFTWARE AND FIRMWARE

The EUT MCU firmware version installed during testing was A00e.

The EUT MPU firmware version installed during testing was D00a.

6.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 30MHz, were performed with the EUT set to transmit at the channel with highest power spectral density from the original radio module manufacturer's report as worst-case scenario. This was done for both data rates, Wiselink Mode (38.672kbps), and Streaming Mode (300kbps).

Radiated emissions between 30MHz and 1000MHz, and 1GHz and 10GHz were performed with the EUT set to transmit at the max power setting on low, middle and high channels for both data rates.

The fundamental of the EUT was investigated in three orthogonal orientations X,Y and Z. It was determined that X orientation was worst-case orientation. Therefore, all final radiated testing was performed with the EUT in X orientation.

6.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Lenovo	RTP0116PC0A2UQT	N/A	N/A

I/O CABLES

I/O Cable List						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	USB	1	3-Pin	Shielded	<3m	Debug Cable

TEST SETUP

The EUT was connected to the support laptop using the UART Debug cable prior to testing to configure the radio. However, for radiated emissions testing, the EUT was disconnected from all support equipment.

SETUP DIAGRAMS

Please refer to R14381848-EP1 for setup diagrams

7. MEASUREMENT METHOD

On Time and Duty Cycle: ANSI C63.10 Subclause – 11.6

Radiated Emissions Restricted Frequency Bands: ANSI C63.10 Subclause -11.12.1

General Radiated Spurious Emissions: ANSI C63.10-2013 Section 6.3 to 6.6

8. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 1)

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	1-10 GHz				
AT0072	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2022-05-11	2023-05-11
	Gain-Loss Chains				
C1-SAC03	Gain-loss string: 1-18GHz	Various	Various	2022-05-05	2023-05-05
	Receiver & Software				
197954	Spectrum Analyzer	Rohde & Schwarz	ESW44	2022-04-14	2023-04-14
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
	Additional Equipment used				
HI0096	Environmental Meter	Fisher Scientific	14-650-118 s/n 181562858	2022-09-26	2023-09-26

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 2)

Equip. ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
	30-1000 MHz				
**AT0073	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2021-08-30	2022-08-30
***AT0074	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2022-09-07	2023-09-07
	1-10 GHz				
206211	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2022-03-21	2023-03-21
	Gain-Loss Chains				
C2-SAC02	Gain-loss string: 25-1000MHz	Various	Various	2022-05-10	2023-05-10
C2-SAC03	Gain-loss string: 1-18GHz	Various	Various	2022-05-10	2023-05-10
	Receiver & Software				
197955	Spectrum Analyzer	Rohde & Schwarz	ESW44	2022-03-08	2023-03-08
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
	Additional Equipment used				
*200540	Environmental Meter	Fisher Scientific	15-077-963 (s/n 181474409)	2021-09-27	2022-09-27
HI0096	Environmental Meter	Fisher Scientific	BRC17691	2022-09-26	2023-09-26
HPF009	1GHz high-pass filter, 2W, F _{high} = 10GHz	Micro-Tronics	HPM17672	2022-02-17	2023-02-17
BRF007	902-928MHz notch filter, 2W, F _{high} = 1.5GHz	Micro-Tronics	BRC17691	2022-05-27	2023-05-27

*NOTE: Testing on this environmental meter was performed on 2022-08-15, prior to calibration being out of date. All testing done on 2022-09-27 or later, was performed using Environmental Meter HI0096

**NOTE: Scan performed on this antenna (30-1000MHz, Streaming Mode: Low Channel) occurred on 2022-08-15. This occurred while AT0073 was still in calibration.

***NOTE: Scans performed on this antenna (30-1000MHz, Streaming Mode: Mid/High Channel, Wiselink Mode: Low/Mid/High Channel) occurred on 2022-10-04. This occurred while AT0074 was still in calibration.

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 4)

Equip. ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
	0.009-30MHz				
AT0079	Active Loop Antenna	ETS-Lindgren	6502	2022-09-12	2023-09-12
	1-10 GHz				
AT0067	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2022-05-24	2023-05-24
	Gain-Loss Chains				
C4-SAC01	Gain-loss string: 0.009-30MHz	Various	Various	2022-05-20	2023-05-20
C4-SAC03	Gain-loss string: 1-18GHz	Various	Various	2022-05-20	2023-05-20
	Receiver & Software				
206496	Spectrum Analyzer	Rohde & Schwarz	ESW44	2022-02-15	2023-02-15
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
	Additional Equipment used				
21642	Environmental Meter	Fisher Scientific	15-077-963 (s/n 210701692)	2021-08-16	2023-08-16
BRF007	902-928MHz notch filter, 2W, $F_{high} = 1.5\text{GHz}$	Micro-Tronics	BRC17691	2022-05-27	2023-05-27
HPF009	1GHz high-pass filter, 2W, $F_{high} = 10\text{GHz}$	Micro-Tronics	HPM17672	2022-02-17	2023-02-17

9. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

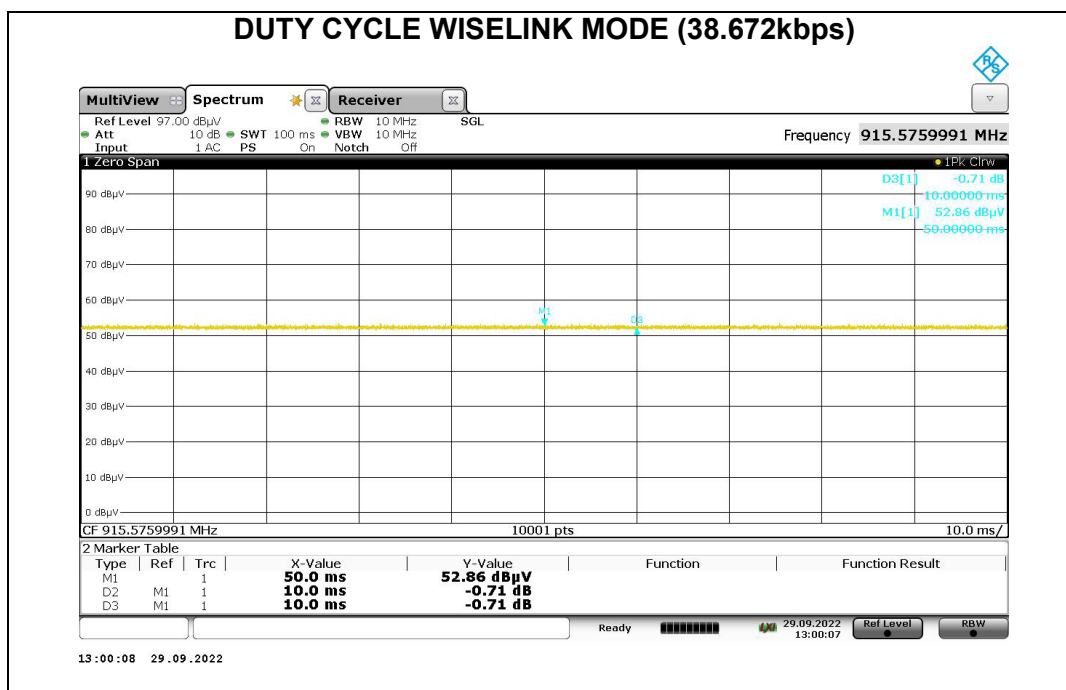
KDB 558074 Zero-Span Spectrum Analyzer Method.

ANSI C63.10 Subclause 11.6

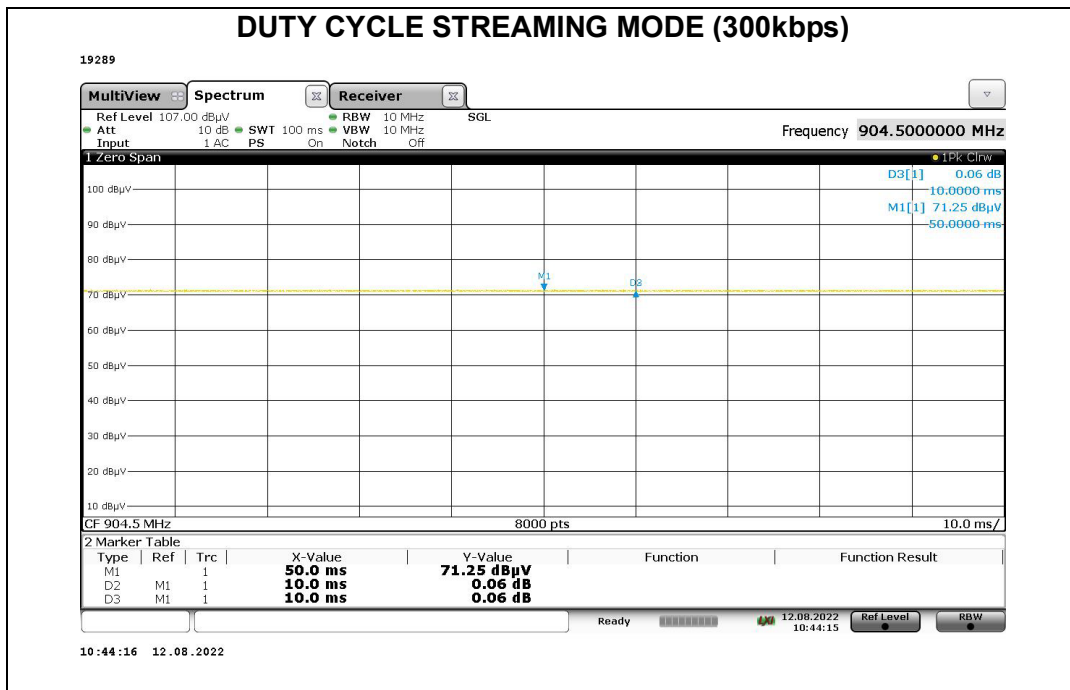
ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
900 MHz Band						
Wiselink (38.672kbps)	10.00	10.00	1.000	100.00%	0.00	0.010
Streaming (300kbps)	10.000	10.000	1.000	100.00%	0.00	0.010

DUTY CYCLE PLOT



NOTE: Wiselink mode duty cycle was performed on 2022-09-29 in Chamber 1 and was tested by 88117/11993. See equipment list above for Chamber 1 equipment information.



NOTE: Streaming mode duty cycle was performed on 2022-08-12 in Chamber 4 and was tested by: 85501/11993. See equipment list above for Chamber 4 equipment information.

10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit (uA/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 3 MHz 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. Linear Voltage Averaging was used.

The spectrum from 30MHz to 1000MHz, and 1 GHz to 10GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. Below 30MHz emissions, the channel with the highest power spectral density 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

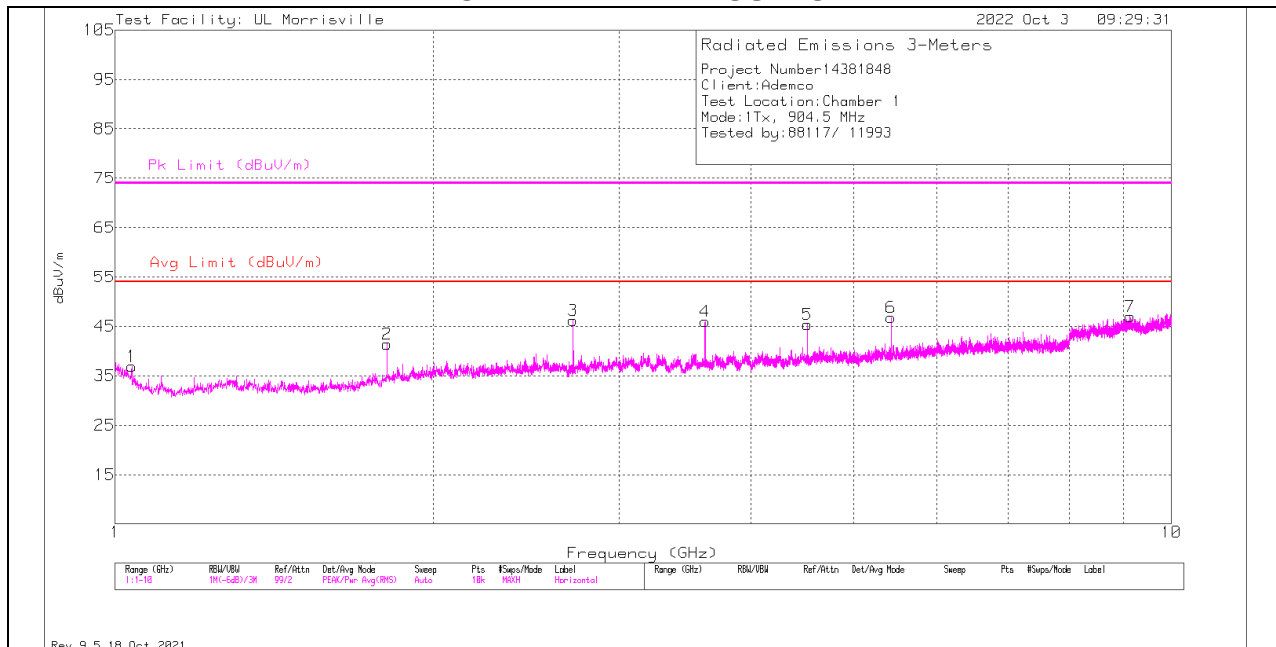
OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

10.2. TRANSMITTER ABOVE 1 GHz

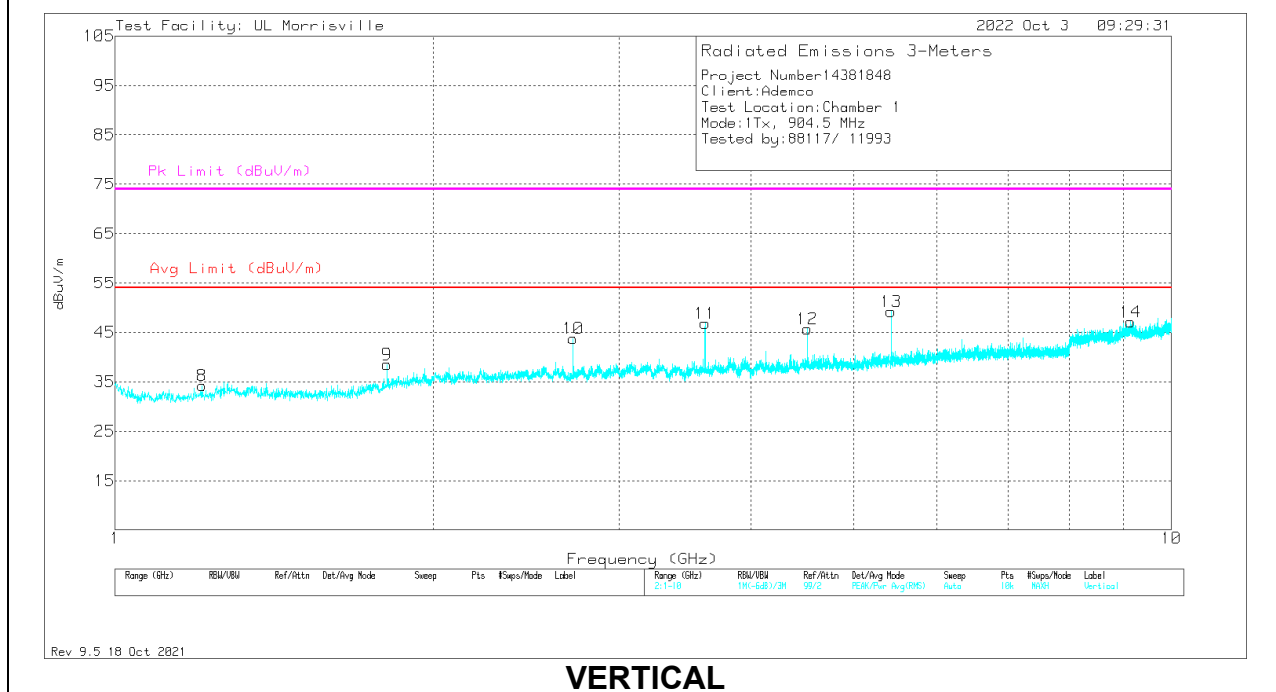
10.2.1. Wiselink Mode (38.672kbps)

TX HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Gain/Loss (dB)	Filter (dB)	Corrected Reading dBuV/m	Avg Limit (dBuV/m)	Margin (dB)	Pk Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarit y
1	*** 1.0369	43.91	Pk	27.1	-35.6	1.5	36.91	54	-17.09	74	-37.09	0-360	100	H
2	** 1.8091	46.87	Pk	30.5	-36.3	.4	41.47	54	-12.23	74	-32.23	0-360	300	H
3	*** 2.7136	49.74	Pk	32.2	-36.1	.4	46.24	54	-7.76	74	-27.76	0-360	100	H
4	*** 3.6181	47.31	Pk	33.1	-34.5	.1	46.01	54	-7.99	74	-27.99	0-360	100	H
5	*** 4.5217	43.22	Pk	33.9	-32.1	.4	45.42	54	-8.58	74	-28.58	0-360	100	H
6	*** 5.4262	44.11	Pk	34.6	-32.1	.2	46.81	54	-7.19	74	-27.19	0-360	200	H
7	*** 9.1351	36.8	Pk	36.2	-26.5	.5	47	54	-7	74	-27	0-360	300	H
8	*** 1.2088	41.06	Pk	28.5	-35.9	.6	34.26	54	-19.74	74	-39.74	0-360	400	V
9	** 1.8091	43.87	Pk	30.5	-36.3	.4	38.47	54	-15.53	74	-35.53	0-360	200	V
10	*** 2.7136	47.26	Pk	32.2	-36.1	.4	43.76	54	-10.24	74	-30.24	0-360	400	V
11	*** 3.6181	48.16	Pk	33.1	-34.5	.1	46.86	54	-7.14	74	-27.14	0-360	400	V
12	*** 4.5226	43.56	Pk	33.9	-32.1	.4	45.76	54	-8.24	74	-28.24	0-360	200	V
13	*** 5.42694	49.51	PK2	34.6	-32.1	.2	52.21	-	-	74	-21.79	256	217	V
	*** 5.42767	42.82	ADV	34.6	-32.1	.2	45.52	54	-8.48	-	-	256	217	V
14	*** 9.1486	37.2	Pk	36.2	-26.6	.4	47.2	54	-6.8	74	-26.8	0-360	200	V

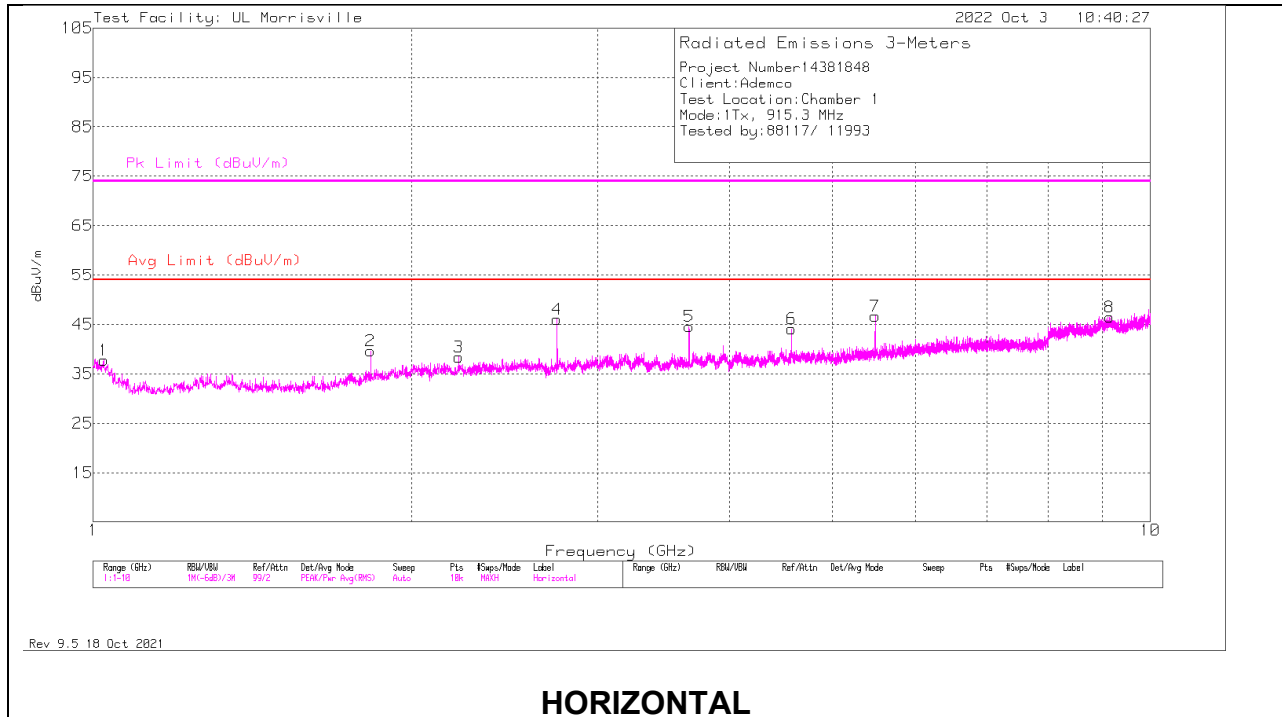
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

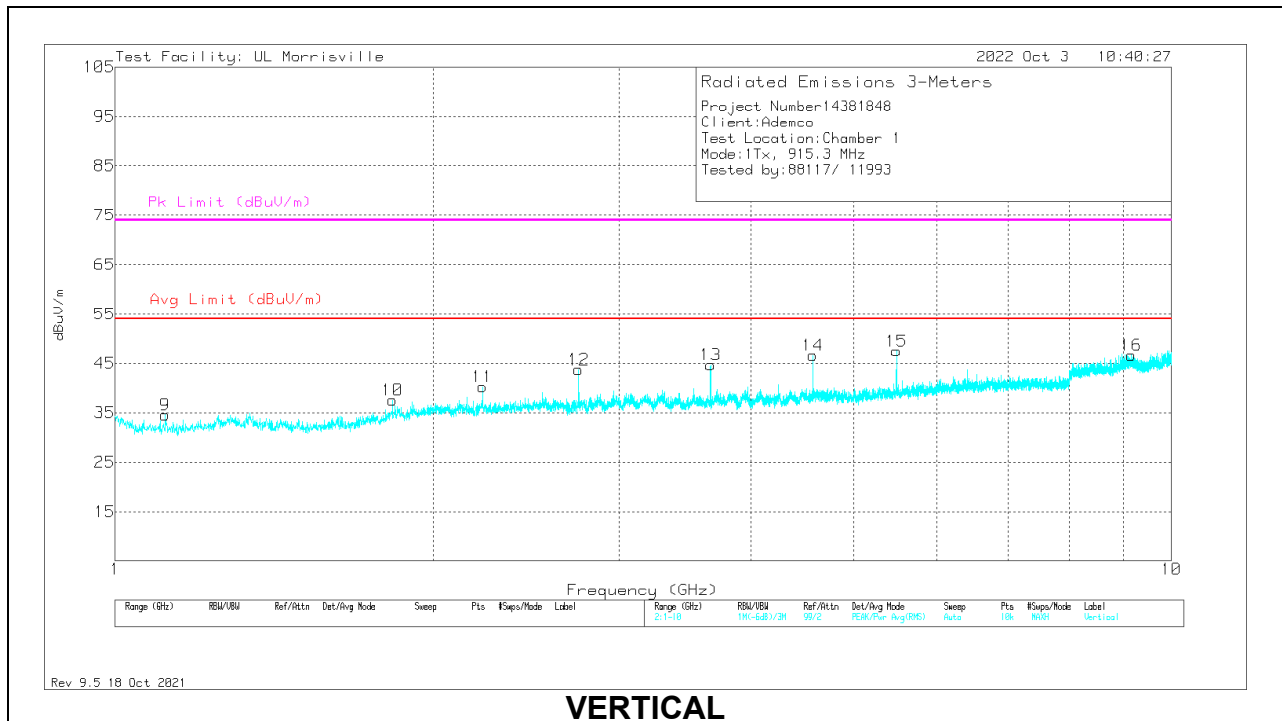
PK2 - Maximum Peak

ADV - Linear Voltage Average

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

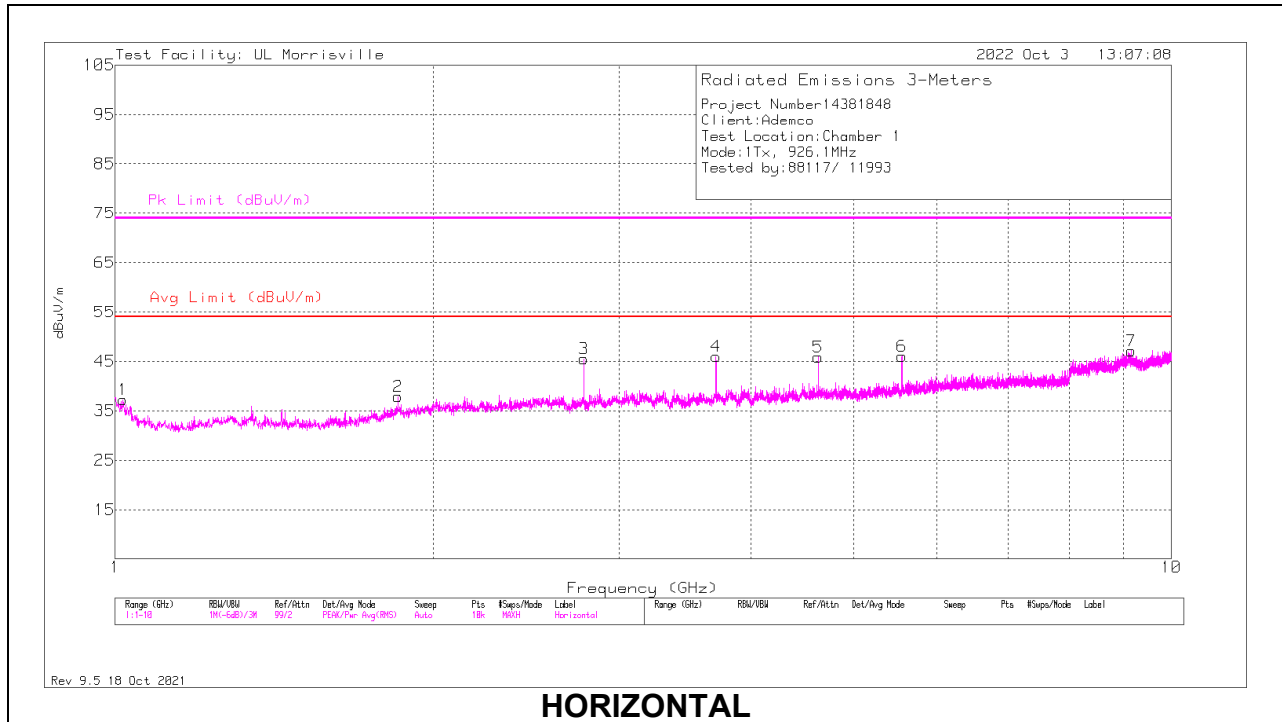
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Gain/Loss (dB)	Filter (dB)	Corrected Reading dBuV/m	Avg Limit (dBuV/m)	Margin (dB)	Pk Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 1.0234	44.08	Pk	27.3	-35.5	1.9	37.78	54	-16.22	74	-36.22	0-360	100	H
2	** 1.8298	44.54	Pk	30.8	-36.2	.5	39.64	54	-14.36	74	-34.36	0-360	100	H
3	* ** 2.2168	42.11	Pk	32	-36	.3	38.41	54	-15.59	74	-35.59	0-360	200	H
4	* ** 2.746	49.15	Pk	32.4	-36	.5	46.05	54	-7.95	74	-27.95	0-360	100	H
5	* ** 3.6604	45.17	Pk	33.2	-34.3	.5	44.57	54	-9.43	74	-29.43	0-360	100	H
6	* ** 4.5757	42.22	Pk	34.1	-32.4	.2	44.12	54	-9.88	74	-29.88	0-360	300	H
8	* ** 9.1504	36.49	Pk	36.2	-26.6	.4	46.49	54	-7.51	74	-27.51	0-360	100	H
9	* ** 1.1152	41.5	Pk	27.8	-35.6	.9	34.6	54	-19.4	74	-39.4	0-360	200	V
10	** 1.8307	42.4	Pk	30.8	-36.1	.5	37.6	54	-16.4	74	-36.4	0-360	200	V
11	* ** 2.2276	43.99	Pk	32	-36.1	.4	40.29	54	-13.71	74	-33.71	0-360	400	V
12	* ** 2.746	46.83	Pk	32.4	-36	.5	43.73	54	-10.27	74	-30.27	0-360	400	V
13	* ** 3.6613	45.31	Pk	33.2	-34.3	.5	44.71	54	-9.29	74	-29.29	0-360	400	V
14	* ** 4.5766	44.74	Pk	34.1	-32.4	.2	46.64	54	-7.36	74	-27.36	0-360	200	V
16	* ** 9.1639	36.8	Pk	36.2	-26.7	.4	46.7	54	-7.3	74	-27.3	0-360	400	V
7	5.491	43.61	Pk	34.6	-31.9	.4	46.71	-	-	-	-	0-360	200	H
15	5.4919	44.52	Pk	34.6	-31.9	.3	47.52	-	-	-	-	0-360	400	V

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

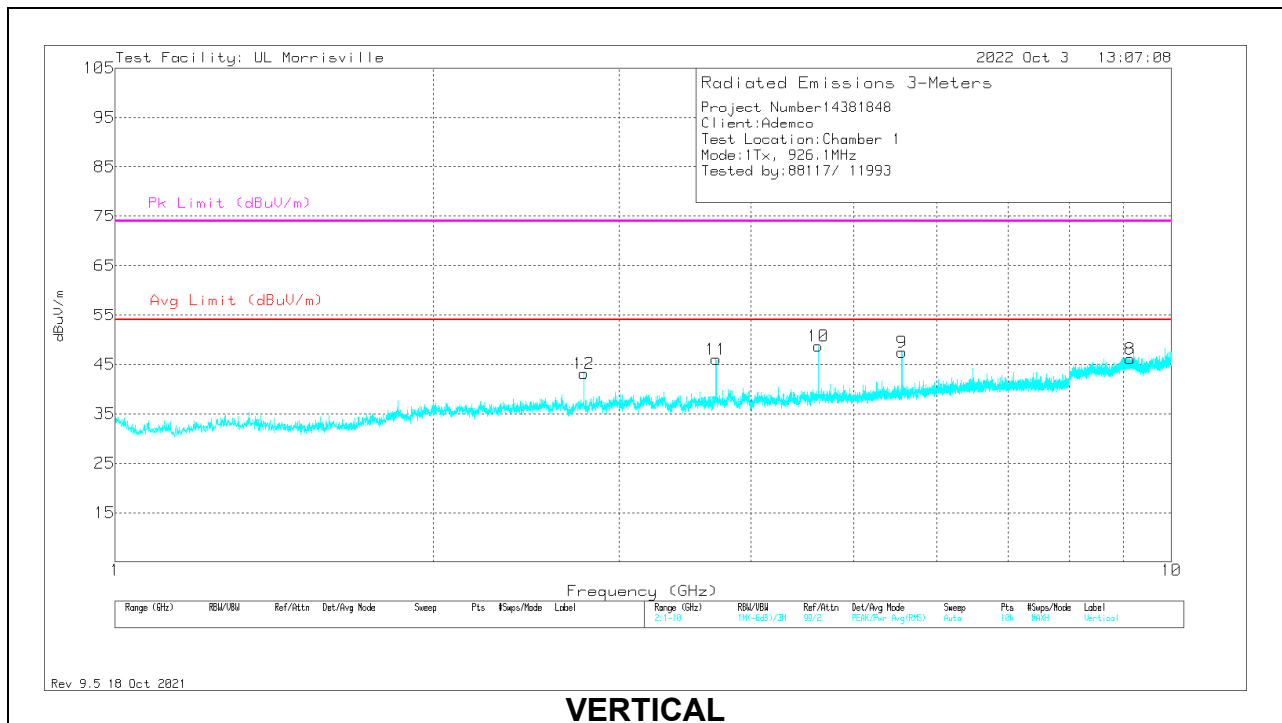
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

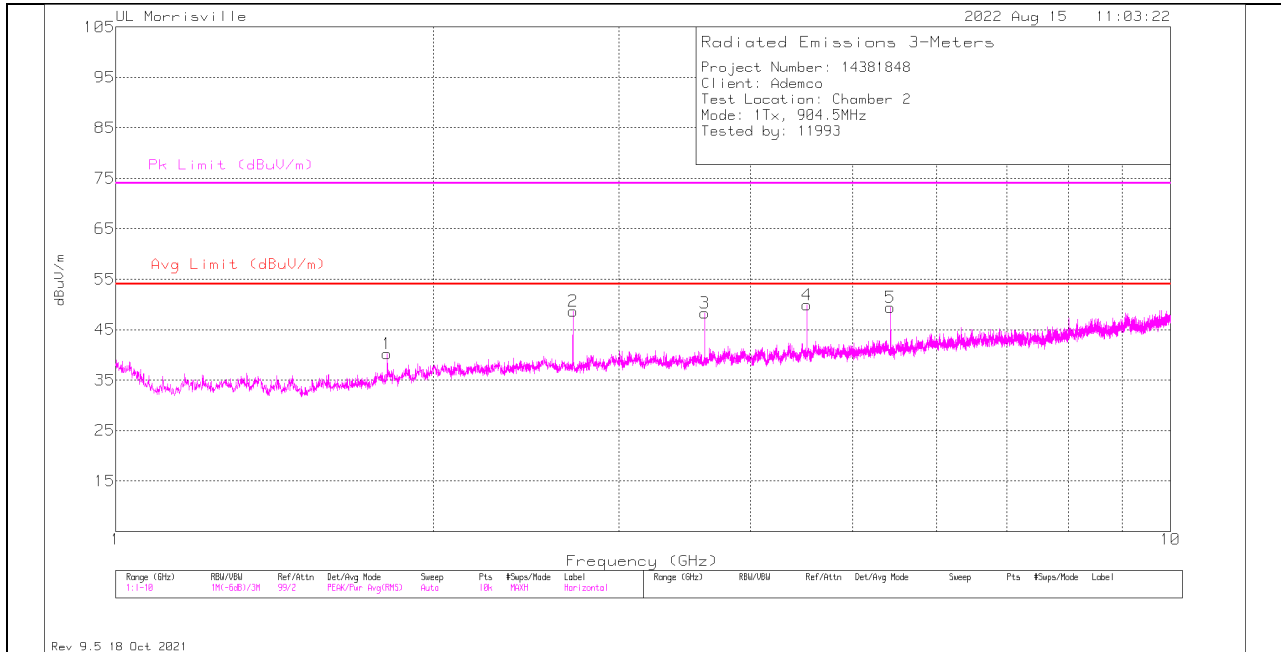
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Gain/Loss (dB)	Filter (dB)	Corrected Reading dBuV/m	Avg Limit (dBuV/m)	Margin (dB)	Pk Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 1.0171	43.28	Pk	27.4	-35.5	2.1	37.28	54	-16.72	74	-36.72	0-360	100	H
2	** 1.8523	42.69	Pk	31.1	-36.3	.4	37.89	54	-16.11	74	-36.11	0-360	100	H
3	*** 2.7784	48.43	Pk	32.5	-35.9	.5	45.53	54	-8.47	74	-28.47	0-360	100	H
4	*** 3.7045	46.03	Pk	33.3	-33.9	.6	46.03	54	-7.97	74	-27.97	0-360	100	H
5	*** 4.6297	43.71	Pk	34.1	-32.4	.5	45.91	54	-8.09	74	-28.09	0-360	300	H
7	*** 9.1603	37.36	Pk	36.2	-26.8	.4	47.16	54	-6.84	74	-26.84	0-360	100	H
8	*** 9.1351	35.92	Pk	36.2	-26.5	.5	46.12	54	-7.88	74	-27.88	0-360	300	V
10	*** 4.63033	47.56	PK2	34.1	-32.4	.5	49.76	-	-	74	-24.24	122	202	V
	*** 4.63	39.7	ADV	34.1	-32.4	.5	41.9	54	-12.1	-	-	122	202	V
11	*** 3.7045	46.04	Pk	33.3	-33.9	.6	46.04	54	-7.96	74	-27.96	0-360	400	V
12	*** 2.7775	46.07	Pk	32.5	-35.9	.5	43.17	54	-10.83	74	-30.83	0-360	400	V
9	5.5558	44.28	Pk	34.7	-31.7	.2	47.48	-	-	-	-	0-360	200	V
6	5.5576	42.77	Pk	34.7	-31.6	.2	46.07	-	-	-	-	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

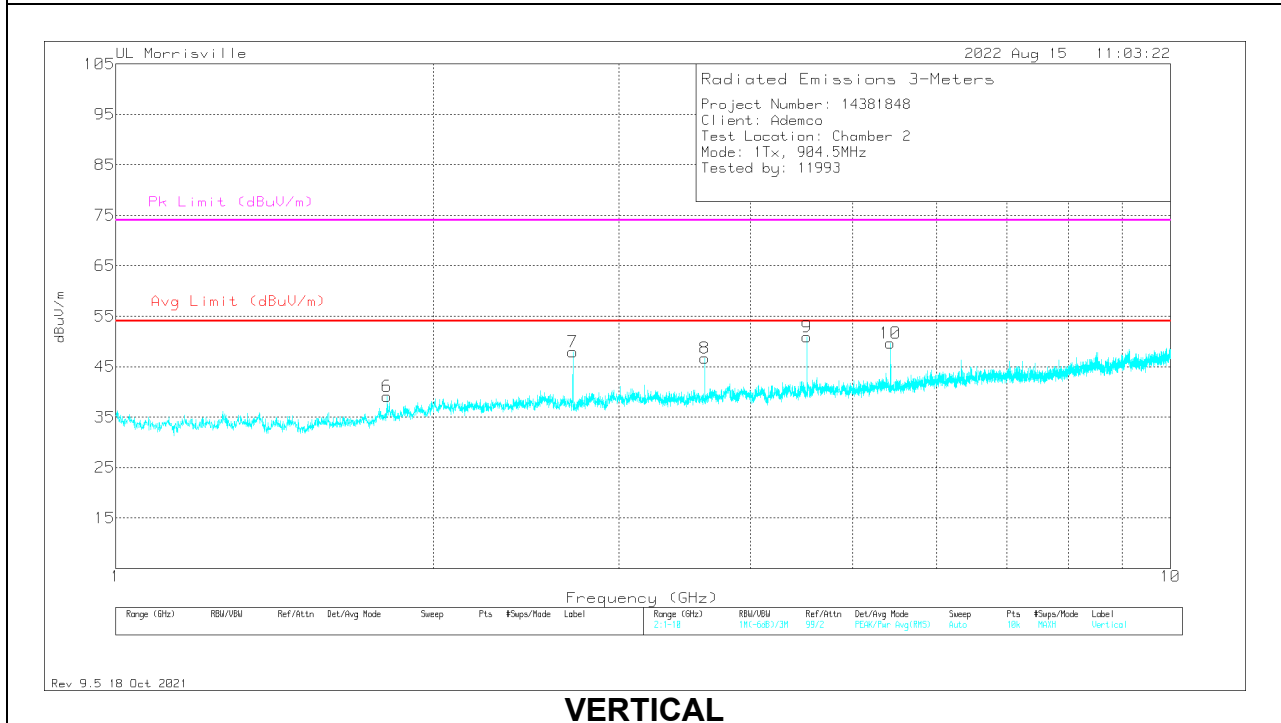
10.2.2. Streaming Mode (300kbps)

TX HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	Filter (dB)	Corrected Reading dBuV/m	Avg Limit (dBuV/m)	Margin (dB)	Pk Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	** 1.8091	44.01	Pk	30	-34.2	.4	40.21	54	-13.79	74	-33.79	0-360	101	H
2	*** 2.71379	52.77	PK2	31.7	-34	.4	50.87	-	-	74	-23.13	242	108	H
	*** 2.71339	49.13	ADV	31.7	-34	.4	47.23	54	-6.77	-	-	242	108	H
3	*** 3.61828	49.76	PK2	33	-33.2	.1	49.66	-	-	74	-24.34	160	119	H
	*** 3.6182	44.13	ADV	33	-33.2	.1	44.03	54	-9.97	-	-	160	119	H
4	*** 4.52298	49.95	PK2	34	-32.1	.4	52.25	-	-	74	-21.75	98	302	H
	*** 4.52274	43.8	ADV	34	-32.2	.4	46	54	-8	-	-	98	302	H
5	*** 5.42762	47.36	PK2	34.4	-30.8	.2	51.16	-	-	74	-22.84	116	343	H
	*** 5.42639	39.95	ADV	34.4	-30.8	.2	43.75	54	-10.25	-	-	116	343	H
6	** 1.8091	42.88	Pk	30	-34.2	.4	39.08	54	-14.92	74	-34.92	0-360	200	V
7	*** 2.7127	49.67	Pk	31.7	-33.9	.4	47.87	54	-6.13	74	-26.13	0-360	400	V
8	*** 3.6172	46.81	Pk	33	-33.2	.1	46.71	54	-7.29	74	-27.29	0-360	300	V
9	*** 4.52303	49.85	PK2	34	-32.1	.4	52.15	-	-	74	-21.85	85	104	V
	*** 4.5227	43.74	ADV	34	-32.2	.4	45.94	54	-8.06	-	-	85	104	V
10	*** 5.42632	48.58	PK2	34.4	-30.8	.2	52.38	-	-	74	-21.62	89	250	V
	*** 5.42646	41.7	ADV	34.4	-30.8	.2	45.5	54	-8.5	-	-	89	250	V

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

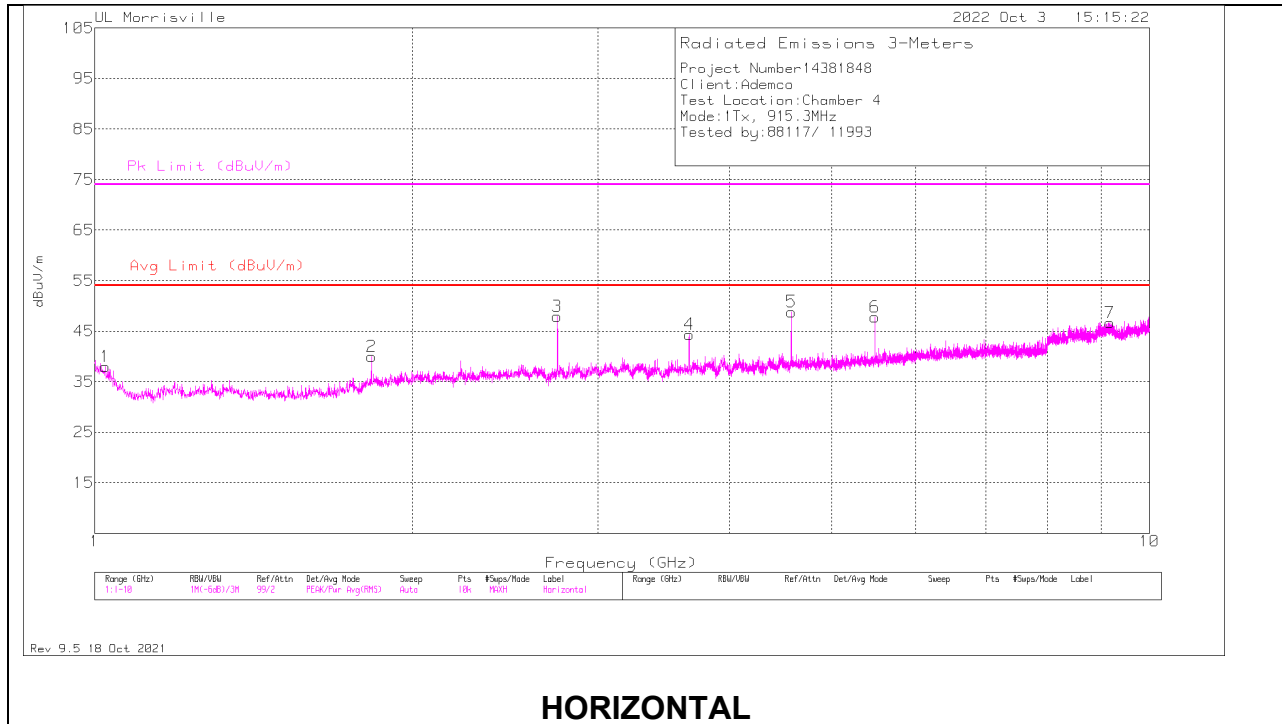
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

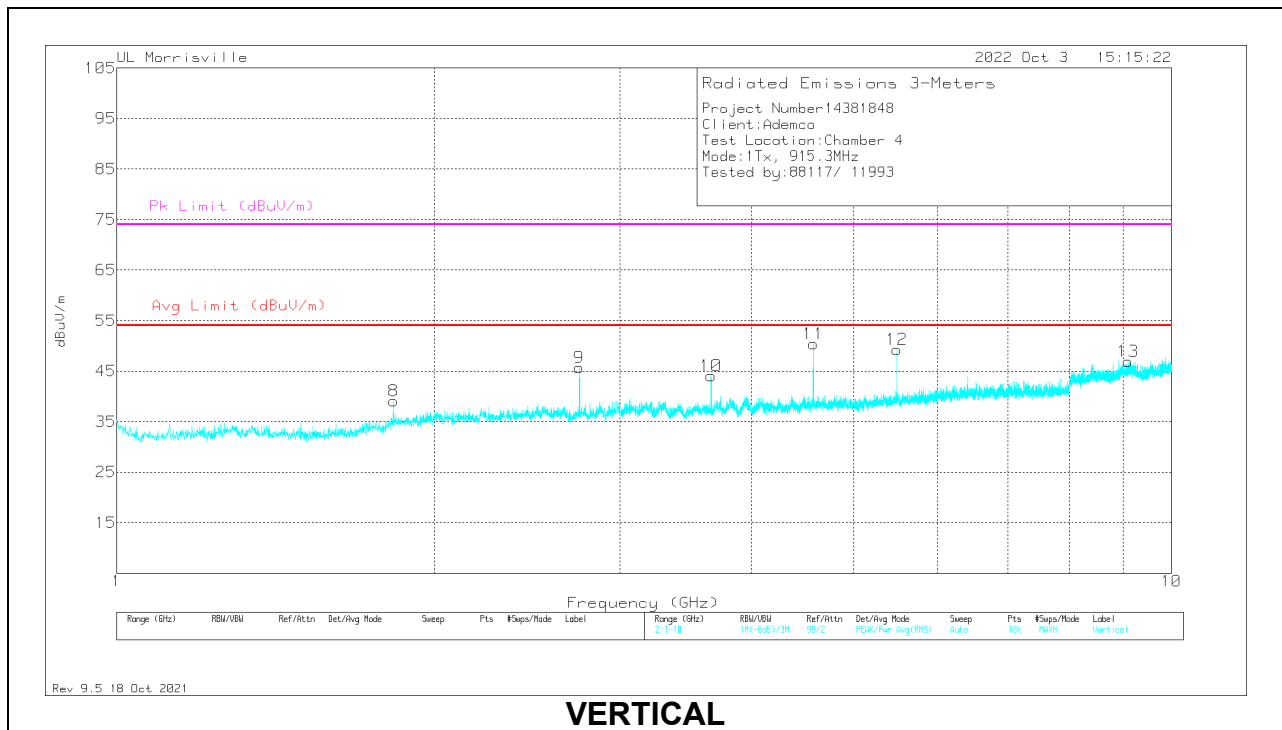
PK2 - Maximum Peak

ADV - Linear Voltage Average

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Gain/Loss (dB)	Filter (dB)	Corrected Reading dBuV/m	Avg Limit (dBuV/m)	Margin (dB)	Pk Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarit y
1	* ** 1.0234	44.3	Pk	27.3	-35.5	1.9	38	54	-16	74	-36	0-360	100	H
2	** 1.8307	44.74	Pk	30.8	-36.1	.5	39.94	54	-14.06	74	-34.06	0-360	100	H
3	* ** 2.746	51.01	Pk	32.4	-36	.5	47.91	54	-6.09	74	-26.09	0-360	100	H
4	* ** 3.6613	44.98	Pk	33.2	-34.3	.5	44.38	54	-9.62	74	-29.62	0-360	100	H
5	* ** 4.576	50.71	PK2	34.1	-32.4	.2	52.61	-	-	74	-21.39	90	100	H
	* ** 4.5768	44.65	ADV	34.1	-32.4	.2	46.55	54	-7.45	-	-	90	100	H
7	* ** 9.172	36.58	Pk	36.2	-26.5	.4	46.68	54	-7.32	74	-27.32	0-360	100	H
8	** 1.8298	43.95	Pk	30.8	-36.2	.5	39.05	54	-14.95	74	-34.95	0-360	200	V
9	* ** 2.746	48.74	Pk	32.4	-36	.5	45.64	54	-8.36	74	-28.36	0-360	200	V
10	* ** 3.6604	44.62	Pk	33.2	-34.3	.5	44.02	54	-9.98	74	-29.98	0-360	400	V
11	* ** 4.57691	51.32	PK2	34.1	-32.4	.2	53.22	-	-	74	-20.78	241	244	V
	* ** 4.57621	45.54	ADV	34.1	-32.4	.2	47.44	54	-6.56	-	-	241	244	V
13	* ** 9.0928	36.72	Pk	36.2	-26.6	.6	46.92	54	-7.08	74	-27.08	0-360	200	V
12	5.491	46.18	Pk	34.6	-31.9	.4	49.28	-	-	-	-	0-360	200	V
6	5.4928	44.81	Pk	34.6	-31.9	.3	47.81	-	-	-	-	0-360	200	H

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

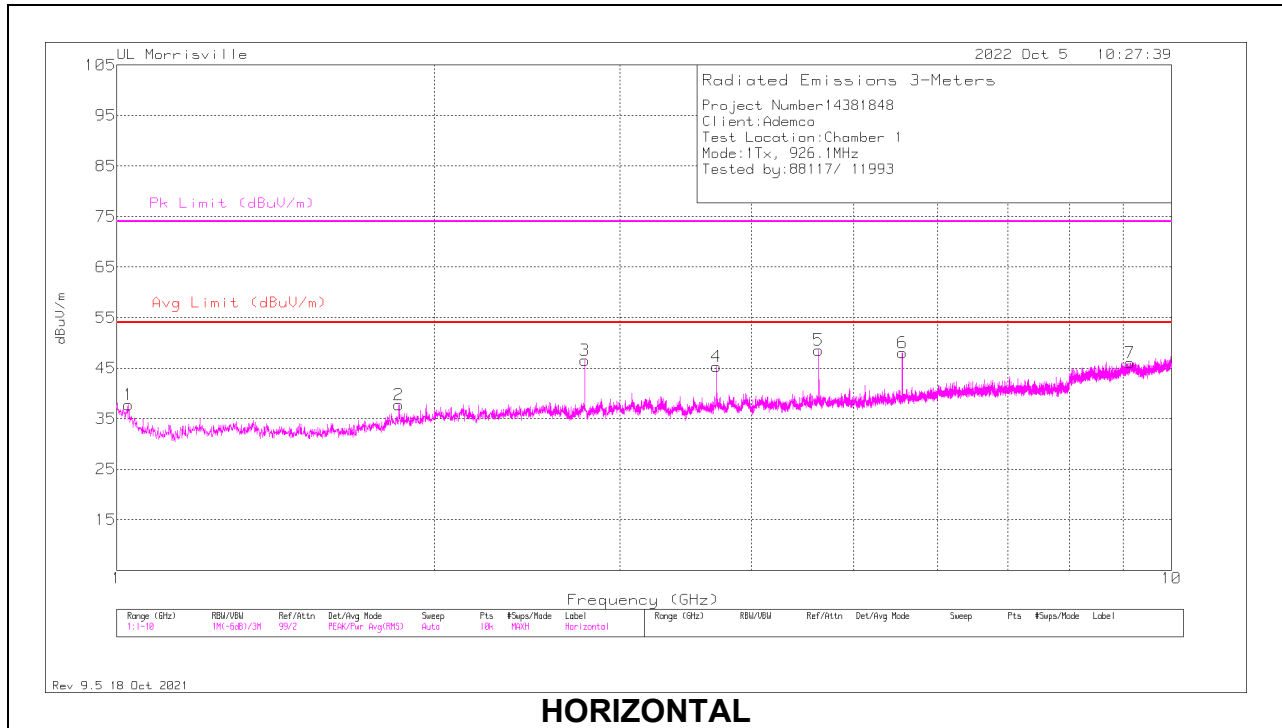
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

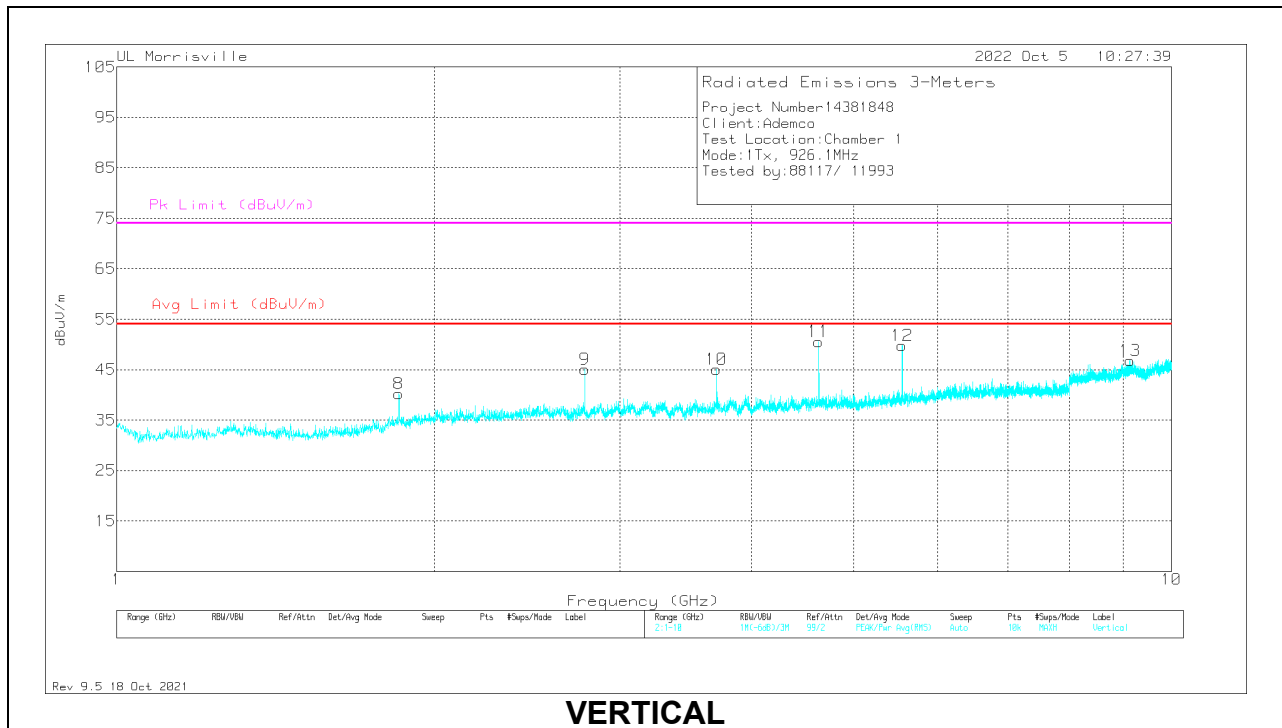
PK2 - Maximum Peak

ADV - Linear Voltage Average

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Gain/Loss (dB)	Filter (dB)	Corrected Reading dBuV/m	Avg Limit (dBuV/m)	Margin (dB)	Pk Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 1.0261	44.19	Pk	27.2	-35.5	1.8	37.69	54	-16.31	74	-36.31	0-360	100	H
2	** 1.8514	42.49	Pk	31.1	-36.2	.4	37.79	54	-16.21	74	-36.21	0-360	100	H
3	*** 2.7784	49.42	Pk	32.5	-35.9	.5	46.52	54	-7.48	74	-27.48	0-360	100	H
4	*** 3.7045	45.27	Pk	33.3	-33.9	.6	45.27	54	-8.73	74	-28.73	0-360	100	H
5	*** 4.63107	49.1	PK2	34.1	-32.4	.5	51.3	-	-	74	-22.7	266	391	H
	*** 4.6308	42.74	ADV	34.1	-32.4	.5	44.94	54	-9.06	-	-	266	391	H
7	*** 9.1369	35.84	Pk	36.2	-26.4	.4	46.04	54	-7.96	74	-27.96	0-360	200	H
8	** 1.8514	44.88	Pk	31.1	-36.2	.4	40.18	-	-	-	-	0-360	200	V
9	*** 2.7784	47.97	Pk	32.5	-35.9	.5	45.07	54	-8.93	74	-28.93	0-360	200	V
10	*** 3.7045	45.02	Pk	33.3	-33.9	.6	45.02	54	-8.98	74	-28.98	0-360	400	V
11	*** 4.63105	51.02	PK2	34.1	-32.4	.5	53.22	-	-	74	-20.78	244	237	V
	*** 4.63083	44.67	ADV	34.1	-32.4	.5	46.87	54	-7.13	-	-	244	237	V
13	*** 9.1414	36.61	Pk	36.2	-26.4	.4	46.81	54	-7.19	74	-27.19	0-360	400	V
12	5.5558	46.63	Pk	34.7	-31.7	.2	49.83	-	-	-	-	0-360	200	V
6	5.5567	44.83	Pk	34.7	-31.7	.2	48.03	-	-	-	-	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

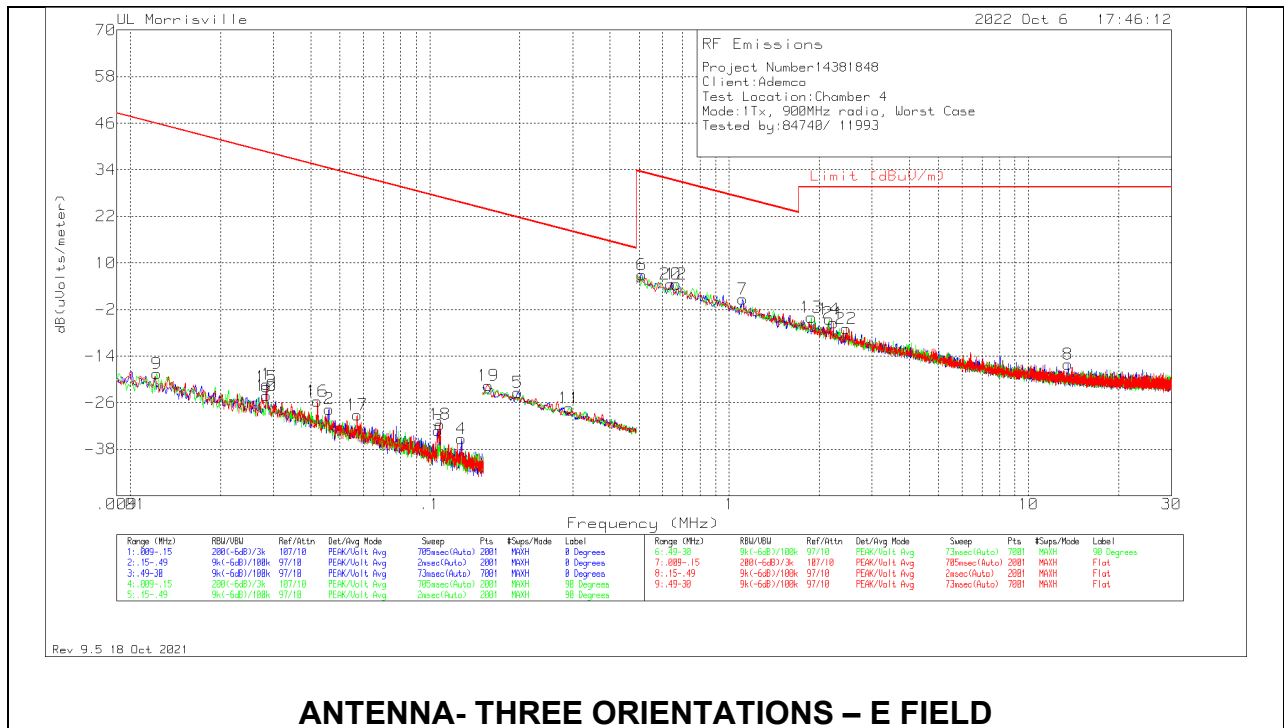
ADV - Linear Voltage Average

10.3. WORST CASE BELOW 30MHZ

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)

Note: 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).

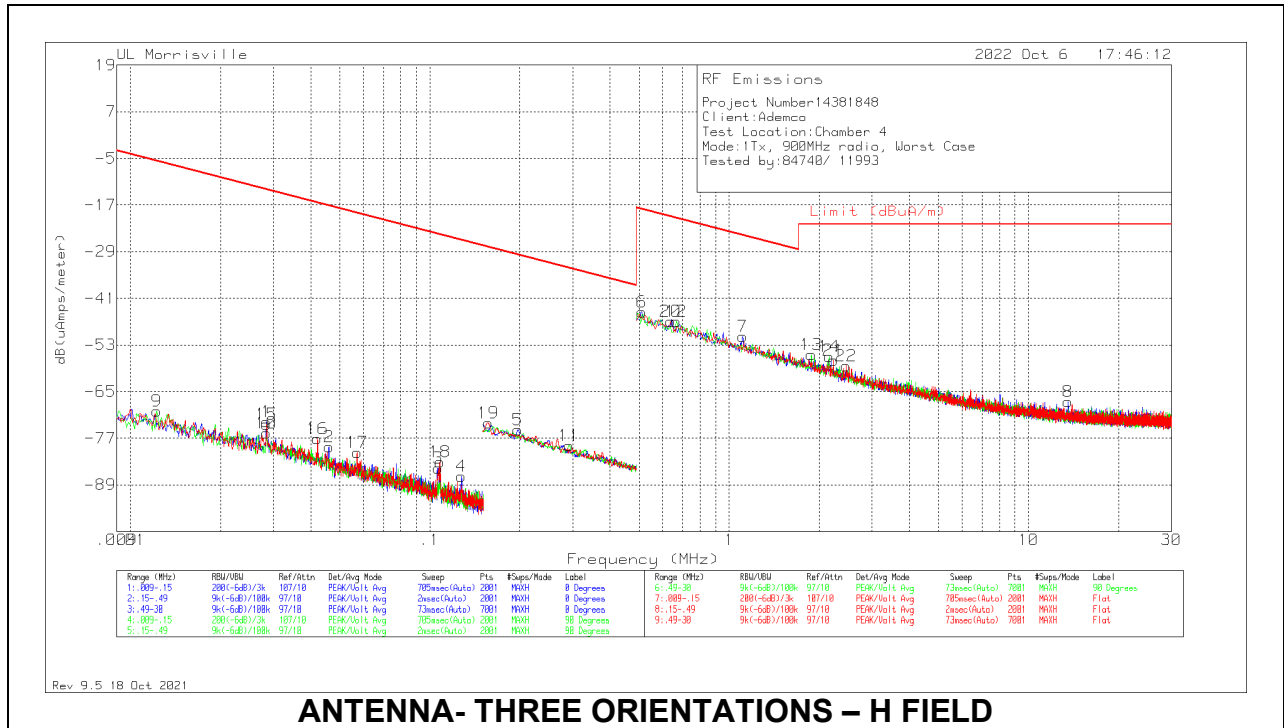
10.3.1. Wiselink Mode (38.672kbps)



Below 30MHz Data E FIELD

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	QP/AV Limit (dBuV/m)	PK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Loop Angle
1	.02853	45.27	Pk	13.5	0	-80	-21.23	38.5	58.5	-59.73	0-360	400	0 degs
2	.04599	40.45	Pk	11.9	0	-80	-27.65	34.35	54.35	-62	0-360	400	0 degs
3	.10684	35.65	Pk	11.1	.1	-80	-33.15	27.03	-	-60.18	0-360	400	0 degs
4	.12757	33.49	Pk	11.1	.1	-80	-35.31	25.49	45.49	-60.8	0-360	400	0 degs
5	.19701	45.4	Pk	11.1	.1	-80	-23.4	21.71	41.71	-45.11	0-360	400	0 degs
6	.51108	35.75	Pk	11.1	.1	-40	6.95	33.43	-	-26.48	0-360	400	0 degs
7	1.10975	29.12	Pk	11.4	.2	-40	.72	26.7	-	-25.98	0-360	400	0 degs
8	13.5596	12.39	Pk	10.8	.7	-40	-16.11	29.54	-	-45.65	0-360	400	0 degs
9	.01227	44.08	Pk	17.4	0	-80	-18.52	45.83	65.83	-64.35	0-360	400	90 degs
10	.02853	42.27	Pk	13.5	0	-80	-24.23	38.5	58.5	-62.73	0-360	400	90 degs
11	.29263	41.5	Pk	11	.1	-80	-27.4	18.28	38.28	-45.68	0-360	400	90 degs
12	.66707	33.36	Pk	11.1	.1	-40	4.56	31.12	-	-26.56	0-360	400	90 degs
13	1.88128	24.41	Pk	11.4	.2	-40	-3.99	29.54	-	-33.53	0-360	400	90 degs
14	2.15532	23.79	Pk	11.4	.3	-40	-4.51	29.54	-	-34.05	0-360	400	90 degs
15	.02853	44.62	Pk	13.5	0	-80	-21.88	38.5	58.5	-60.38	0-360	400	Flat
16	.04216	42.15	Pk	12.2	0	-80	-25.65	35.11	55.11	-60.76	0-360	400	Flat
17	.05714	39.07	Pk	11.7	.1	-80	-29.13	32.47	52.47	-61.6	0-360	400	Flat
18	.10805	37.22	Pk	11.1	.1	-80	-31.58	26.93	-	-58.51	0-360	400	Flat
19	.1568	47.19	Pk	11.1	.1	-80	-21.61	23.7	43.7	-45.31	0-360	400	Flat
20	.63756	33.31	Pk	11.1	.1	-40	4.51	31.51	-	-27	0-360	400	Flat
21	2.23121	22.8	Pk	11.4	.3	-40	-5.5	29.54	-	-35.04	0-360	400	Flat
22	2.45887	21.41	Pk	11.4	.3	-40	-6.89	29.54	-	-36.43	0-360	400	Flat

Pk - Peak detector



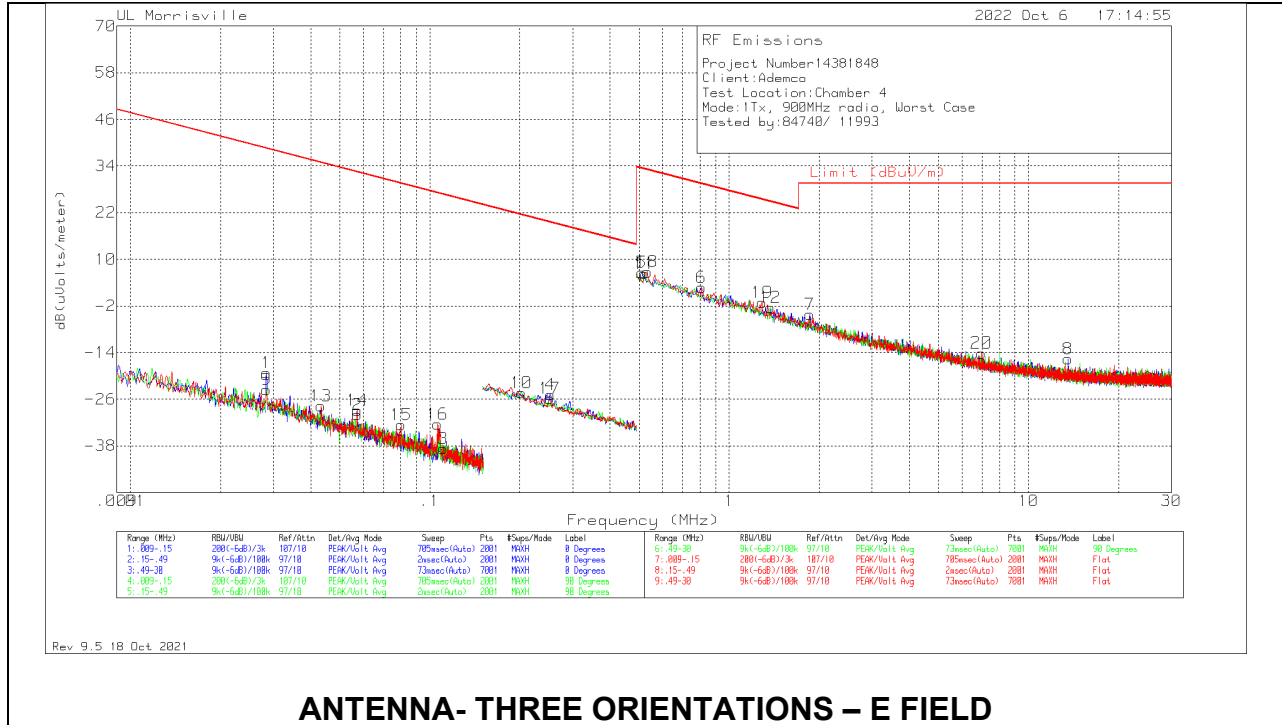
ANTENNA- THREE ORIENTATIONS – H FIELD

Below 30MHz Data H FIELD

Marker	Frequency (MHz)	Meter Reading (dBuA)	Det	AT0079 (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uAmps/meter)	QP/AV Limit (dBuA/m)	PK Limit (dBuA/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Loop Angle
1	.02853	45.27	Pk	-38	0	-80	-72.73	-13	7	-59.73	0-360	400	0 degs
2	.04599	40.45	Pk	-39.6	0	-80	-79.15	-17.15	2.85	-62	0-360	400	0 degs
3	.10684	35.65	Pk	-40.4	.1	-80	-84.65	-24.47	-	-60.18	0-360	400	0 degs
4	.12757	33.49	Pk	-40.4	.1	-80	-86.81	-26.01	-6.01	-60.8	0-360	400	0 degs
5	.19701	45.4	Pk	-40.4	.1	-80	-74.9	-29.79	-9.79	-45.11	0-360	400	0 degs
6	.51108	35.75	Pk	-40.4	.1	-40	-44.55	-18.07	-	-26.48	0-360	400	0 degs
7	1.10975	29.12	Pk	-40.1	.2	-40	-50.78	-24.8	-	-25.98	0-360	400	0 degs
8	13.5596	12.39	Pk	-40.7	.7	-40	-67.61	-21.96	-	-45.65	0-360	400	0 degs
9	.01227	44.08	Pk	-34.1	0	-80	-70.02	-5.67	14.33	-64.35	0-360	400	90 degs
10	.02853	42.27	Pk	-38	0	-80	-75.73	-13	7	-62.73	0-360	400	90 degs
11	.29263	41.5	Pk	-40.5	.1	-80	-78.9	-33.22	-13.22	-45.68	0-360	400	90 degs
12	.66707	33.36	Pk	-40.4	.1	-40	-46.94	-20.38	-	-26.56	0-360	400	90 degs
13	1.88128	24.41	Pk	-40.1	.2	-40	-55.49	-21.96	-	-33.53	0-360	400	90 degs
14	2.15532	23.79	Pk	-40.1	.3	-40	-56.01	-21.96	-	-34.05	0-360	400	90 degs
15	.02853	44.62	Pk	-38	0	-80	-73.38	-13	7	-60.38	0-360	400	Flat
16	.04216	42.15	Pk	-39.3	0	-80	-77.15	-16.39	3.61	-60.76	0-360	400	Flat
17	.05714	39.07	Pk	-39.8	.1	-80	-80.63	-19.03	0.97	-61.6	0-360	400	Flat
18	.10805	37.22	Pk	-40.4	.1	-80	-83.08	-24.57	-	-58.51	0-360	400	Flat
19	.1568	47.19	Pk	-40.4	.1	-80	-73.11	-27.8	-7.8	-45.31	0-360	400	Flat
20	.63756	33.31	Pk	-40.4	.1	-40	-46.99	-19.99	-	-27	0-360	400	Flat
21	2.23121	22.8	Pk	-40.1	.3	-40	-57	-21.96	-	-35.04	0-360	400	Flat
22	2.45887	21.41	Pk	-40.1	.3	-40	-58.39	-21.96	-	-36.43	0-360	400	Flat

Pk - Peak detector

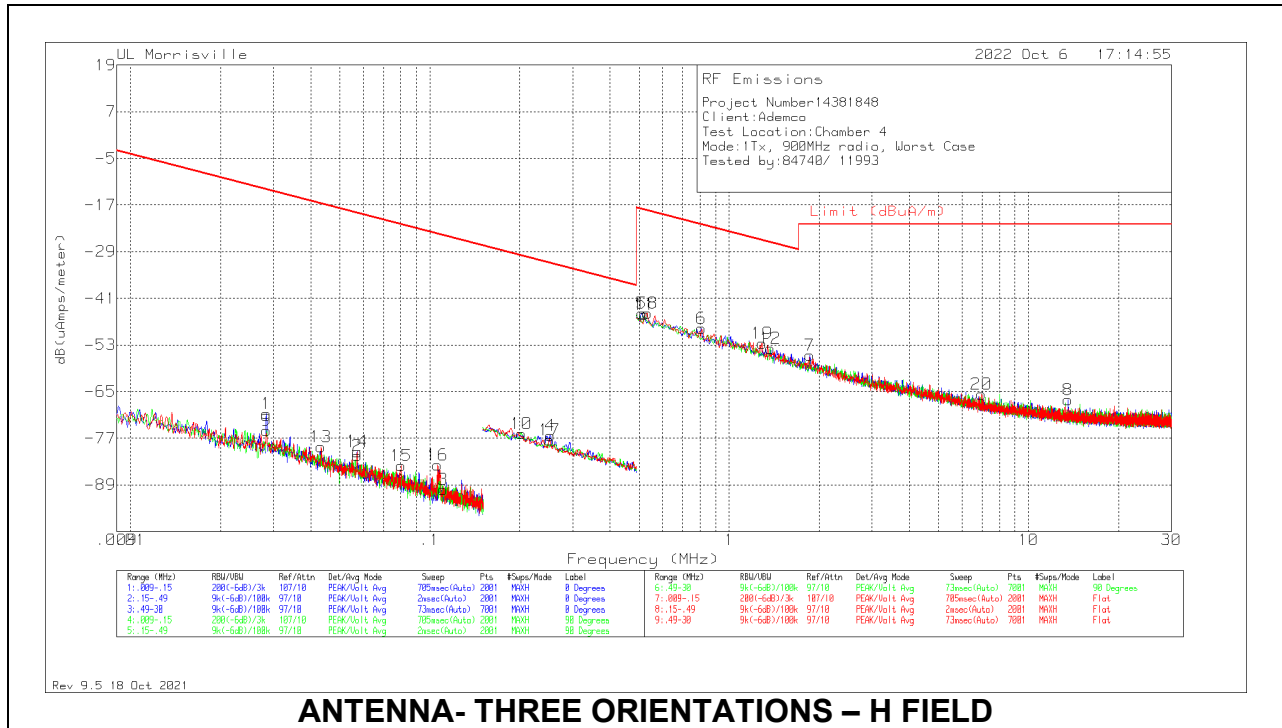
10.3.2. Streaming Mode (300kbps)



Below 30MHz Data E FIELD

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	QP/AV Limit (dBuV/m)	PK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Loop Angle
1	.02845	47.2	Pk	13.6	0	-80	-19.2	38.52	58.52	-57.72	0-360	400	0 degs
2	.05721	38.24	Pk	11.7	.1	-80	-29.96	32.46	52.46	-62.42	0-360	400	0 degs
3	.1106	30.16	Pk	11.1	.1	-80	-38.64	26.73	46.73	-65.37	0-360	400	0 degs
4	.25226	44.05	Pk	11	.1	-80	-24.85	19.57	39.57	-44.42	0-360	400	0 degs
5	.51108	35.44	Pk	11.1	.1	-40	6.64	33.43	-	-26.79	0-360	400	0 degs
6	.8062	31.47	Pk	11.1	.2	-40	2.77	29.48	-	-26.71	0-360	400	0 degs
7	1.8602	24.26	Pk	11.4	.2	-40	-4.14	29.54	-	-33.68	0-360	400	0 degs
8	13.5596	12.84	Pk	10.8	.7	-40	-15.66	29.54	-	-45.2	0-360	400	0 degs
9	.02853	42.94	Pk	13.5	0	-80	-23.56	38.5	58.5	-62.06	0-360	400	90 degs
10	.20253	44.48	Pk	11.1	.1	-80	-24.32	21.47	41.47	-45.79	0-360	400	90 degs
11	.51951	35.1	Pk	11.1	.1	-40	6.3	33.29	-	-26.99	0-360	400	90 degs
12	1.37114	26.02	Pk	11.4	.2	-40	-2.38	24.86	-	-27.24	0-360	400	90 degs
13	.04336	40.21	Pk	12.1	0	-80	-27.69	34.86	54.86	-62.55	0-360	400	Flat
14	.05714	39.27	Pk	11.7	.1	-80	-28.93	32.47	52.47	-61.4	0-360	400	Flat
15	.08036	35.99	Pk	11.3	.1	-80	-32.61	29.5	49.5	-62.11	0-360	400	Flat
16	.10634	36.44	Pk	11.1	.1	-80	-32.36	27.07	-	-59.43	0-360	400	Flat
17	.25115	43.03	Pk	11	.1	-80	-25.87	19.61	39.61	-45.48	0-360	400	Flat
18	.53216	35.52	Pk	11.1	.1	-40	6.72	33.08	-	-26.36	0-360	400	Flat
19	1.28682	27.33	Pk	11.4	.2	-40	-1.07	25.41	-	-26.48	0-360	400	Flat
20	6.96999	14.3	Pk	11.1	.5	-40	-14.1	29.54	-	-43.64	0-360	400	Flat

Pk - Peak detector



ANTENNA- THREE ORIENTATIONS – H FIELD

Below 30MHz Data H FIELD

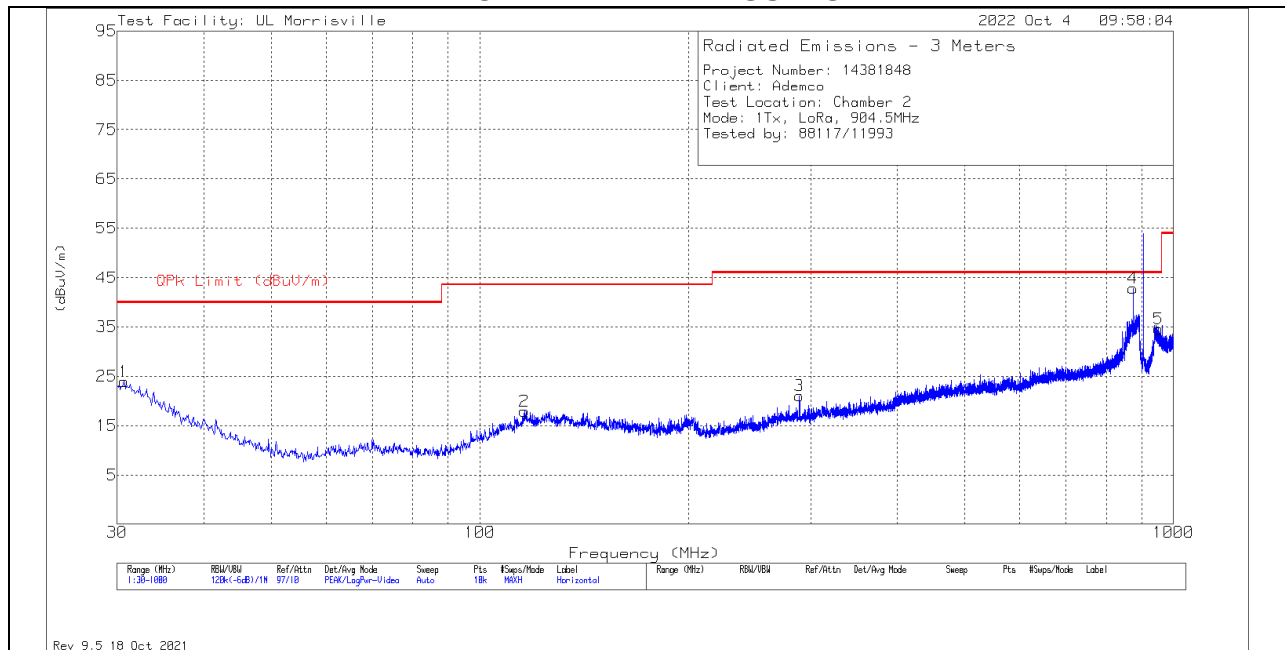
Marker	Frequency (MHz)	Meter Reading (dBuA)	Det	AT0079 (dB/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uAmps/meter)	QP/AV Limit (dBuA/m)	PK Limit (dBuA/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Loop Angle
1	.02845	47.2	Pk	-37.9	0	-80	-70.7	-12.98	7.02	-57.72	0-360	400	0 degs
2	.05721	38.24	Pk	-39.8	.1	-80	-81.46	-19.04	0.96	-62.42	0-360	400	0 degs
3	.1106	30.16	Pk	-40.4	.1	-80	-90.14	-24.77	-4.77	-65.37	0-360	400	0 degs
4	.25226	44.05	Pk	-40.5	.1	-80	-76.35	-31.93	-11.93	-44.42	0-360	400	0 degs
5	.51108	35.44	Pk	-40.4	.1	-40	-44.86	-18.07	-	-26.79	0-360	400	0 degs
6	.8062	31.47	Pk	-40.4	.2	-40	-48.73	-22.02	-	-26.71	0-360	400	0 degs
7	1.8602	24.26	Pk	-40.1	.2	-40	-55.64	-21.96	-	-33.68	0-360	400	0 degs
8	13.5596	12.84	Pk	-40.7	.7	-40	-67.16	-21.96	-	-45.2	0-360	400	0 degs
9	.02853	42.94	Pk	-38	0	-80	-75.06	-13	7	-62.06	0-360	400	90 degs
10	.20253	44.48	Pk	-40.4	.1	-80	-75.82	-30.03	-10.03	-45.79	0-360	400	90 degs
11	.51951	35.1	Pk	-40.4	.1	-40	-45.2	-18.21	-	-26.99	0-360	400	90 degs
12	1.37114	26.02	Pk	-40.1	.2	-40	-53.88	-26.64	-	-27.24	0-360	400	90 degs
13	.04336	40.21	Pk	-39.4	0	-80	-79.19	-16.64	3.36	-62.55	0-360	400	Flat
14	.05714	39.27	Pk	-39.8	.1	-80	-80.43	-19.03	0.97	-61.4	0-360	400	Flat
15	.08036	35.99	Pk	-40.2	.1	-80	-84.11	-22	-2	-62.11	0-360	400	Flat
16	.10634	36.44	Pk	-40.4	.1	-80	-83.86	-24.43	-	-59.43	0-360	400	Flat
17	.25115	43.03	Pk	-40.5	.1	-80	-77.37	-31.89	-11.89	-45.48	0-360	400	Flat
18	.53216	35.52	Pk	-40.4	.1	-40	-44.78	-18.42	-	-26.36	0-360	400	Flat
19	1.28682	27.33	Pk	-40.1	.2	-40	-52.57	-26.09	-	-26.48	0-360	400	Flat
20	6.96999	14.3	Pk	-40.4	.5	-40	-65.6	-21.96	-	-43.64	0-360	400	Flat

Pk - Peak detector

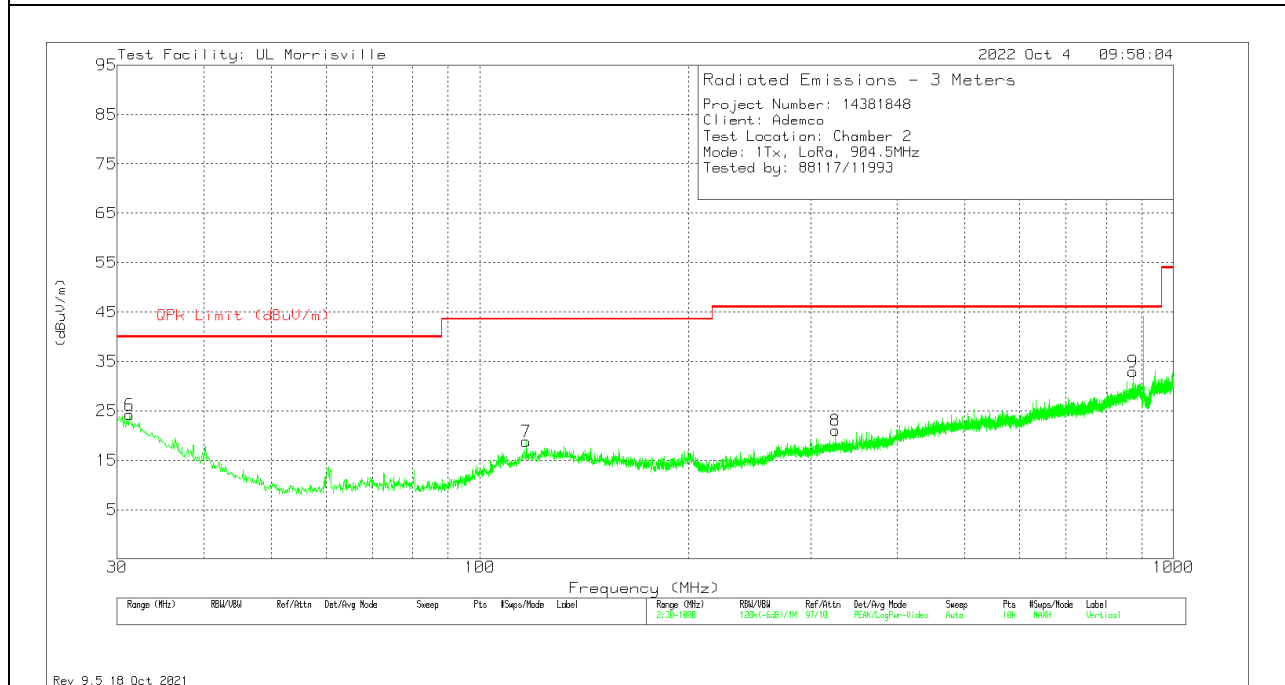
10.4. TRANSMITTER BELOW 1 GHZ

TX SPURIOUS EMISSIONS 30 TO 1000 MHz Wiselink Mode (38.672kbps)

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Filter (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 115.942	28.35	Pk	19.7	-30.4	.3	17.95	43.52	-25.57	0-360	100	H
4	** 874.6067	36.78	Qp	28.5	-25.8	1.2	40.68	46.02	-5.34	345	102	H
5	** 951.888	28.85	Pk	29.4	-24.8	1.2	34.65	46.02	-11.37	0-360	100	H
7	* ** 116.621	29.09	Pk	19.8	-30.4	.3	18.79	43.52	-24.73	0-360	100	V
8	* ** 325.656	29.17	Pk	20.4	-28.9	.4	21.07	46.02	-24.95	0-360	200	V
9	** 874.676	29.05	Pk	28.5	-25.8	1.2	32.95	46.02	-13.07	0-360	100	V
1	30.679	28.96	Pk	26.6	-31.7	.1	23.96	40	-16.04	0-360	300	H
6	31.261	29.67	Pk	26.2	-31.8	.1	24.17	40	-15.83	0-360	100	V
3	288.893	30.14	Pk	19.7	-29.2	.4	21.04	46.02	-24.98	0-360	300	H

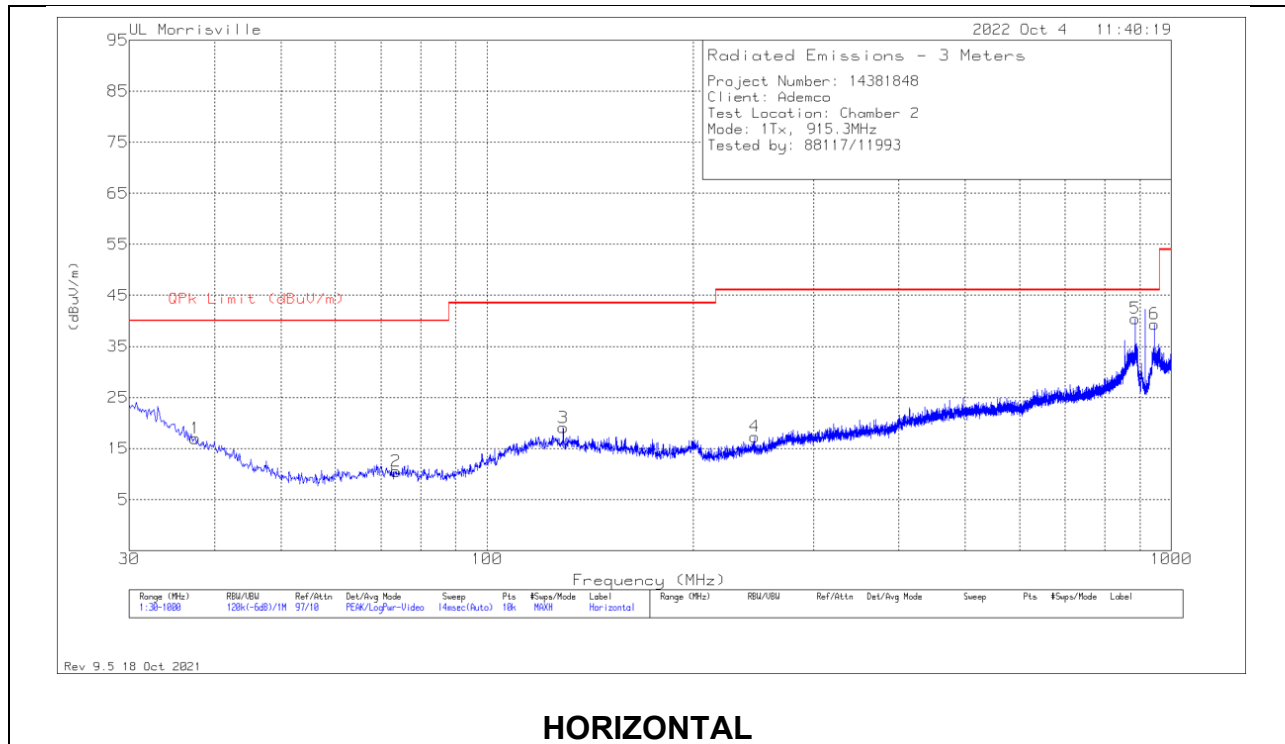
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

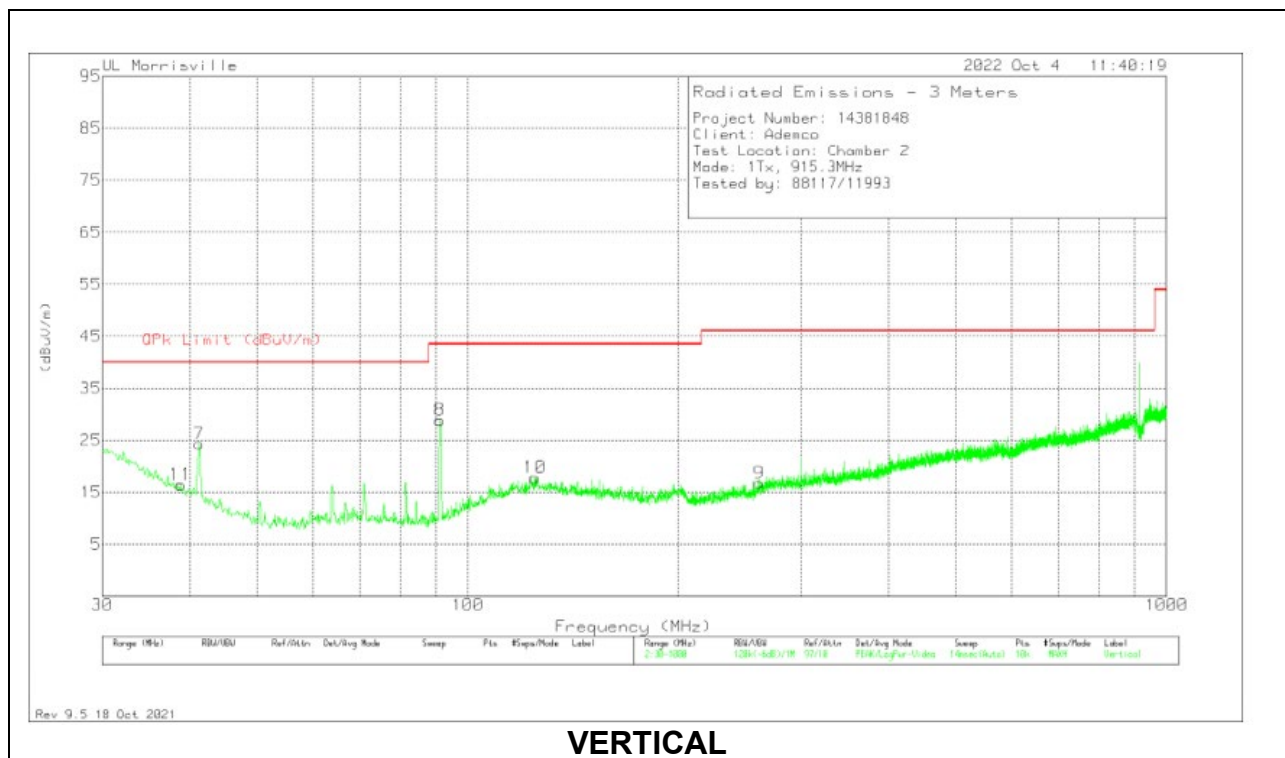
Pk - Peak detector

Qp - Quasi-Peak detector

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Filter (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 73.65	27.14	Pk	14.3	-31.1	.2	10.54	40	-29.46	0-360	100	H
3	* ** 129.231	29.07	Pk	20.1	-30.5	.4	19.07	43.52	-24.45	0-360	200	H
4	* ** 246.116	28.03	Pk	18.1	-29.3	.5	17.33	46.02	-28.69	0-360	100	H
5	** 885.4349	34.66	Qp	28.7	-25.6	1.2	38.96	46.02	-7.06	162	165	H
6	** 945.292	33.58	Pk	29.3	-24.7	1.2	39.38	46.02	-6.64	0-360	100	H
9	* ** 261.248	27.16	Pk	18.6	-29.4	.4	16.76	46.02	-29.26	0-360	200	V
10	* ** 124.769	27.62	Pk	20.2	-30.4	.4	17.82	43.52	-25.7	0-360	100	V
1	37.469	26.68	Pk	21.9	-31.7	.1	16.98	40	-23.02	0-360	200	H
11	38.827	27.27	Pk	20.8	-31.7	.1	16.47	40	-23.53	0-360	100	V
7	41.252	36.71	Pk	19	-31.5	.1	24.31	40	-15.69	0-360	100	V
8	91.207	45.39	Pk	14.2	-30.9	.2	28.89	43.52	-14.63	0-360	100	V

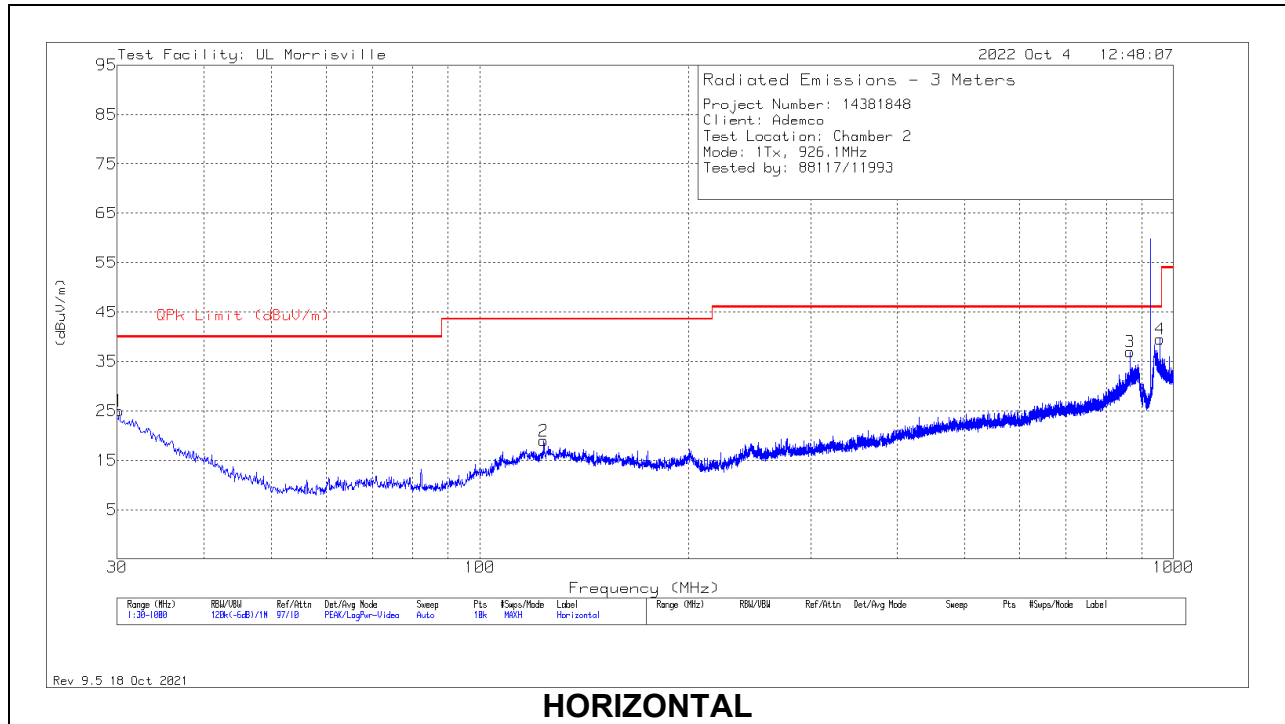
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

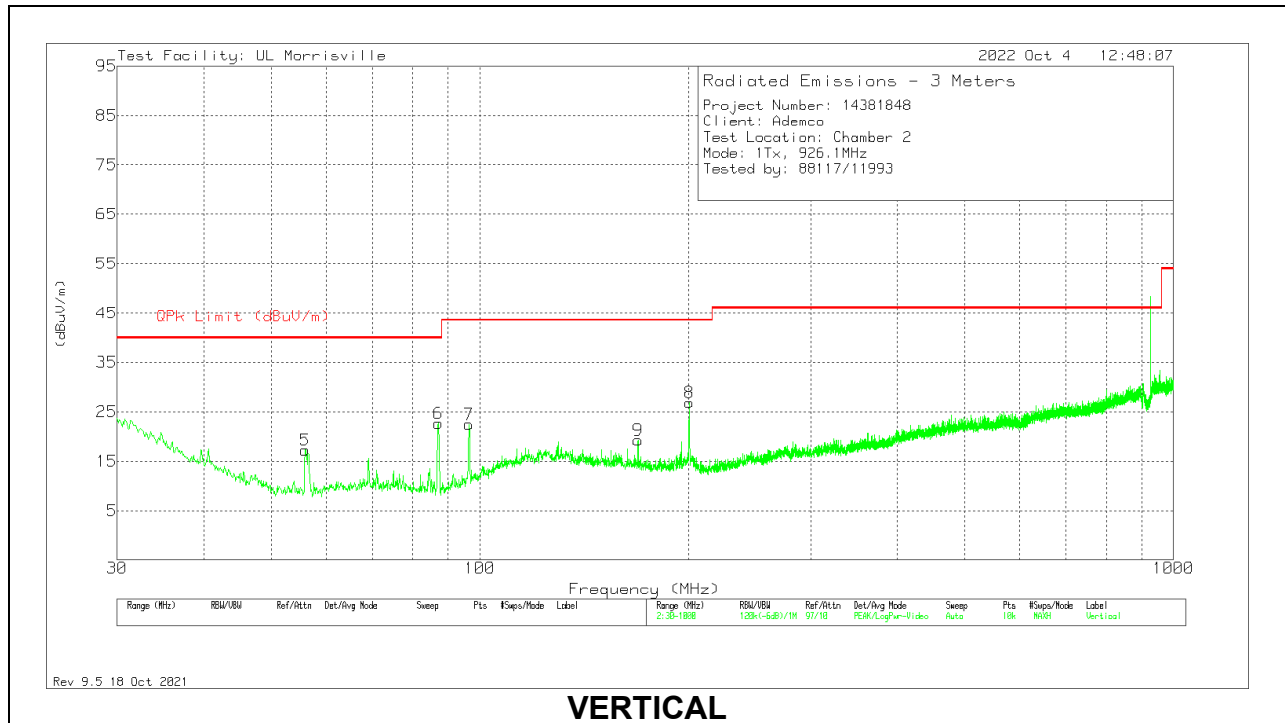
Pk - Peak detector

Qp - Quasi-Peak detector

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Filter (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 123.605	28.85	Pk	20.2	-30.5	.4	18.95	43.52	-24.57	0-360	300	H
3	** 866.043	33.25	Pk	28.5	-25.8	1	36.95	46.02	-9.07	0-360	100	H
4	** 956.253	33.47	Pk	29.6	-24.6	1.1	39.57	46.02	-6.45	0-360	100	H
9	* ** 169.098	30.95	Pk	18.1	-30.1	.3	19.25	43.52	-24.27	0-360	100	V
1	30.194	29.49	Pk	27.1	-31.7	.1	24.99	40	-15.01	0-360	100	H
5	55.996	35.3	Pk	13.3	-31.4	.1	17.3	40	-22.7	0-360	200	V
6	87.133	39.91	Pk	13.6	-31	.2	22.71	40	-17.29	0-360	100	V
7	96.445	37.55	Pk	15.5	-30.8	.2	22.45	43.52	-21.07	0-360	200	V
8	200.429	37.77	Pk	18.6	-29.9	.4	26.87	43.52	-16.65	0-360	100	V

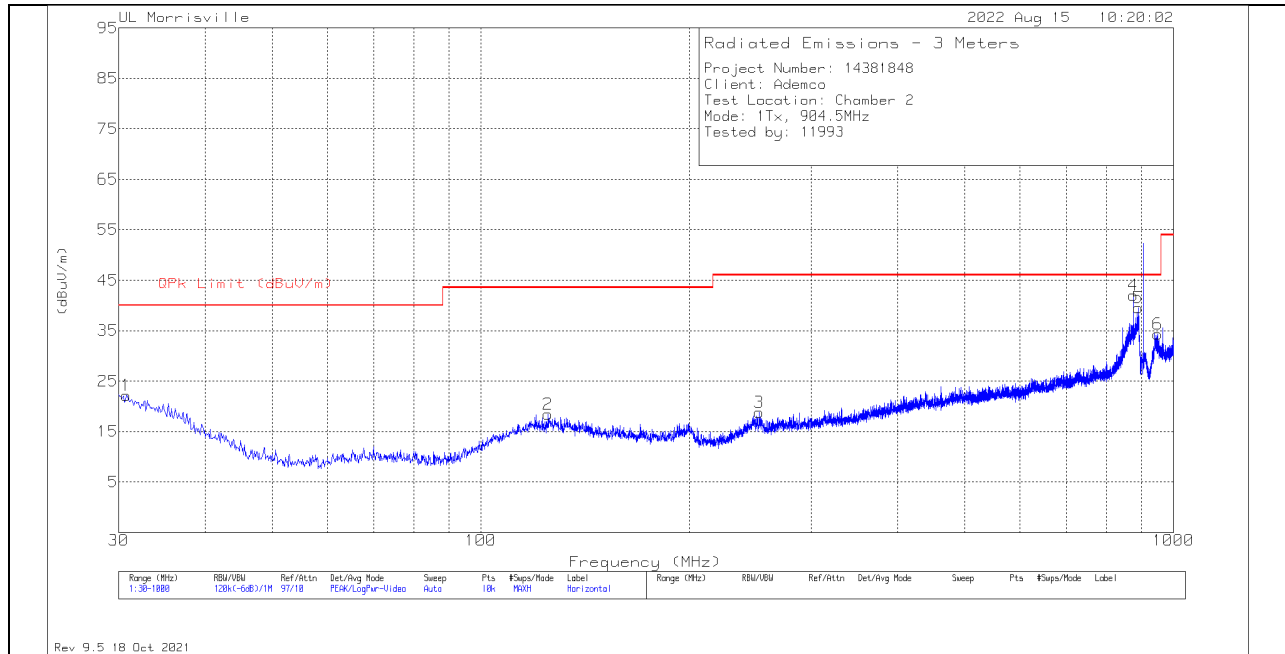
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

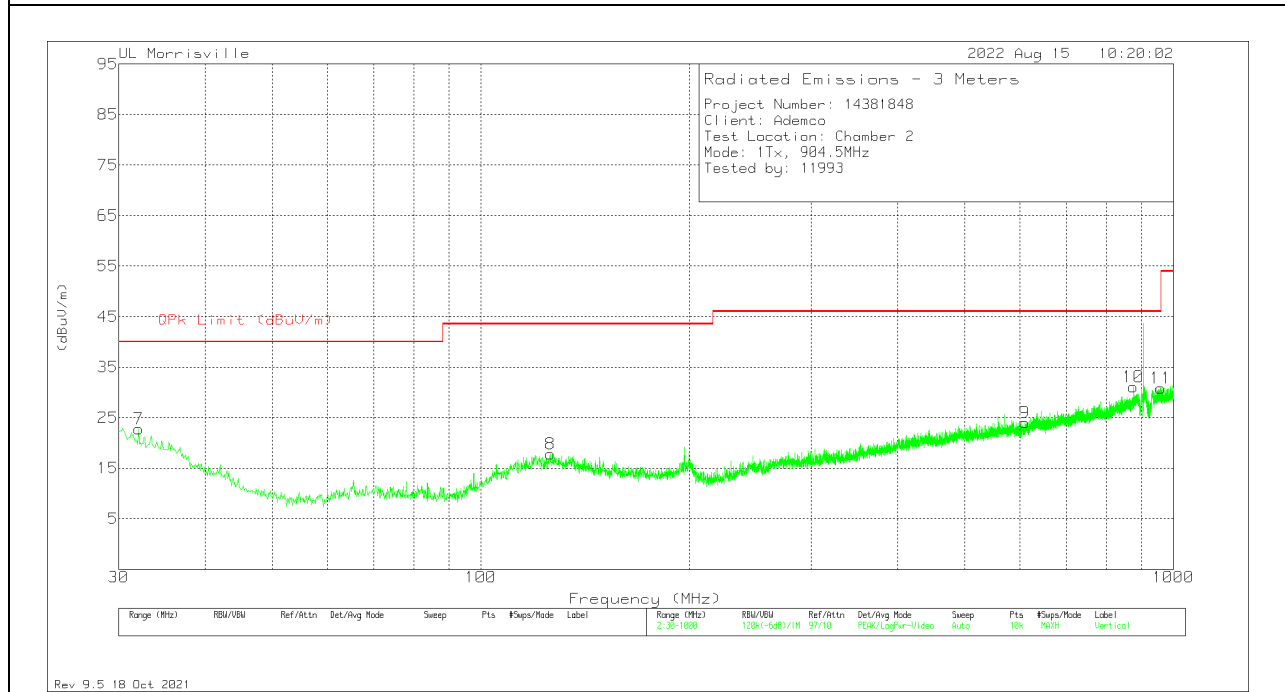
Pk - Peak detector

TX SPURIOUS EMISSIONS 30 TO 1000 MHz Streaming Mode (300kbps)

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0073 (dB/m)	Gain/Loss (dB)	Filter (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 124.963	28.18	Pk	19.9	-30.1	.4	18.38	43.52	-25.14	0-360	101	H
3	* ** 252.324	29.72	Pk	17.6	-28.9	.4	18.82	46.02	-27.2	0-360	101	H
4	** 874.6041	36.96	Qp	28.1	-25.6	1.2	40.66	46.02	-5.36	317	173	H
5	** 890.196	35.39	Pk	28.3	-25.4	1.2	39.49	46.02	-6.53	0-360	101	H
6	** 948.881	28.76	Pk	28.9	-24.5	1.2	34.36	46.02	-11.66	0-360	101	H
8	* ** 126.03	27.62	Pk	19.9	-30.1	.4	17.82	43.52	-25.7	0-360	101	V
9	* ** 610.254	25.51	Pk	24.8	-27	.7	24.01	46.02	-22.01	0-360	199	V
10	** 874.676	27.37	Pk	28.1	-25.6	1.2	31.07	46.02	-14.95	0-360	101	V
11	** 959.357	25.19	Pk	29.1	-24.4	1	30.89	46.02	-15.13	0-360	199	V
1	30.776	27.15	Pk	26.3	-31.4	.1	22.15	-	-	0-360	101	H
7	32.037	28.69	Pk	25.5	-31.5	.1	22.79	-	-	0-360	101	V

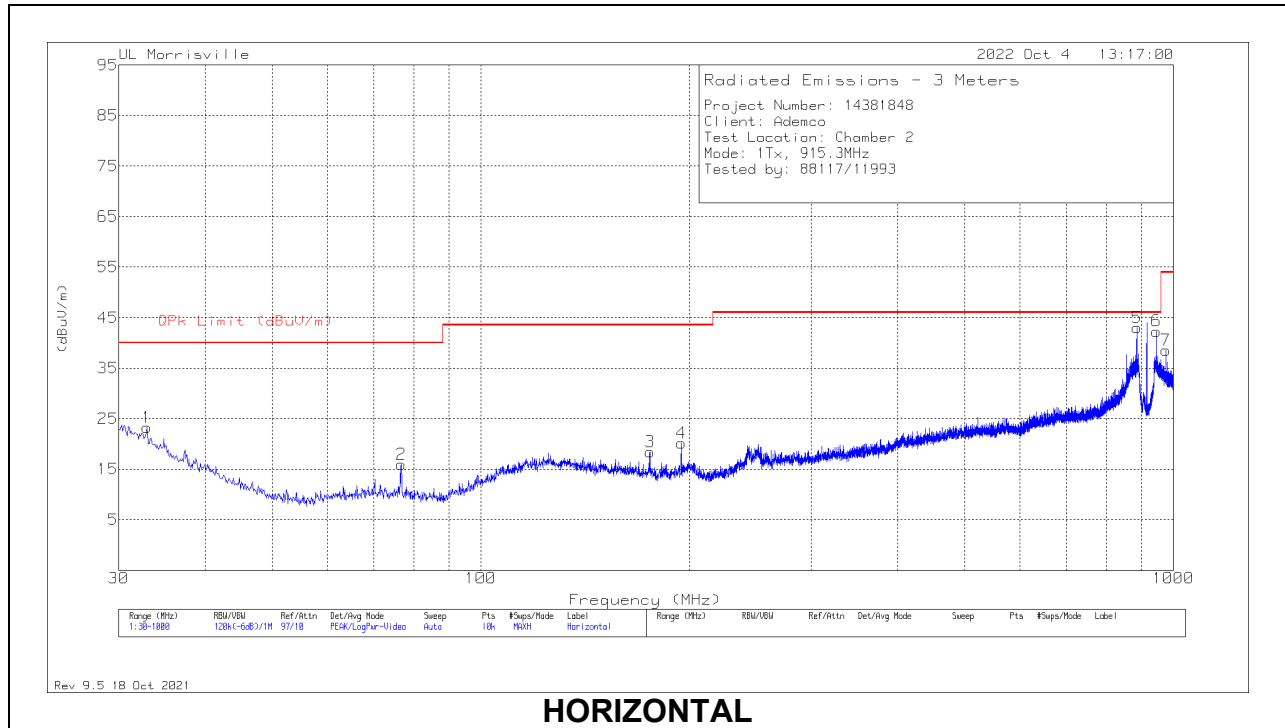
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

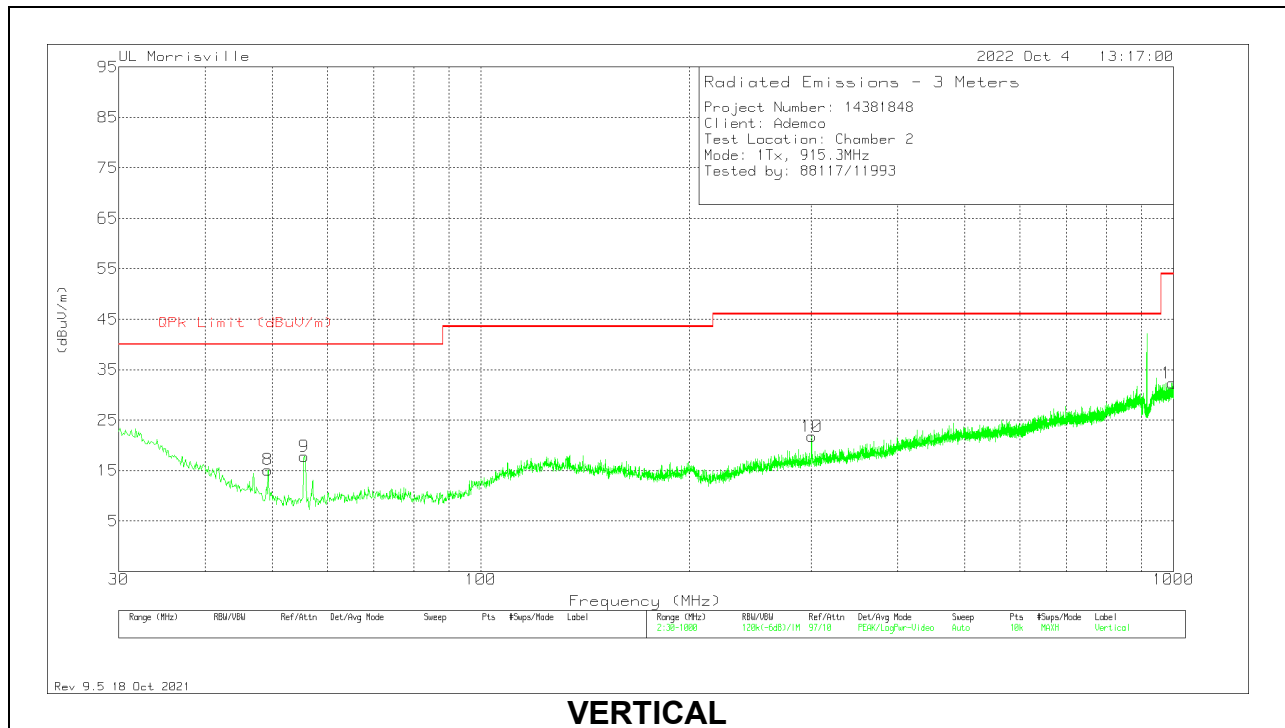
Pk - Peak detector

Qp - Quasi-Peak detector

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Filter (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	** 885.4162	36.26	Qp	28.7	-25.6	1.2	40.56	46.02	-5.46	159	162	H
6	** 945.1825	35.05	Qp	29.3	-24.7	1.2	40.85	46.02	-5.17	163	154	H
7	* ** 975.265	32.57	Pk	29.6	-24.5	.9	38.57	53.97	-15.4	0-360	100	H
11	* ** 996.314	25.52	Pk	29.9	-24.1	1	32.32	53.97	-21.65	0-360	100	V
1	32.91	29.56	Pk	25.2	-31.6	.1	23.26	40	-16.74	0-360	200	H
8	49.206	32.14	Pk	14.3	-31.4	.1	15.14	40	-24.86	0-360	100	V
9	55.608	35.74	Pk	13.3	-31.3	.1	17.84	40	-22.16	0-360	100	V
2	76.754	32.8	Pk	14.1	-31.3	.3	15.9	40	-24.1	0-360	100	H
3	175.403	30.34	Pk	17.8	-30	.3	18.44	43.52	-25.08	0-360	100	H
4	194.706	31.82	Pk	17.9	-29.9	.4	20.22	43.52	-23.3	0-360	200	H
10	300.242	30.7	Pk	19.8	-29.2	.5	21.8	46.02	-24.22	0-360	100	V

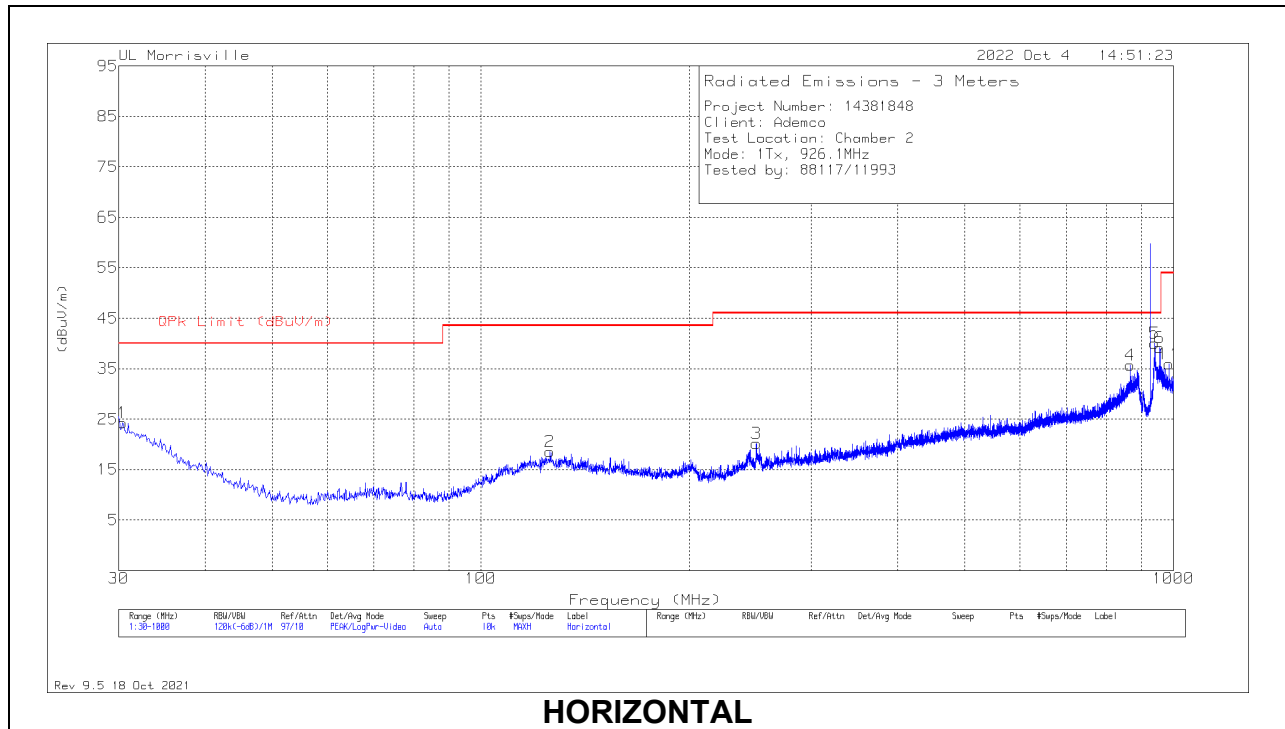
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

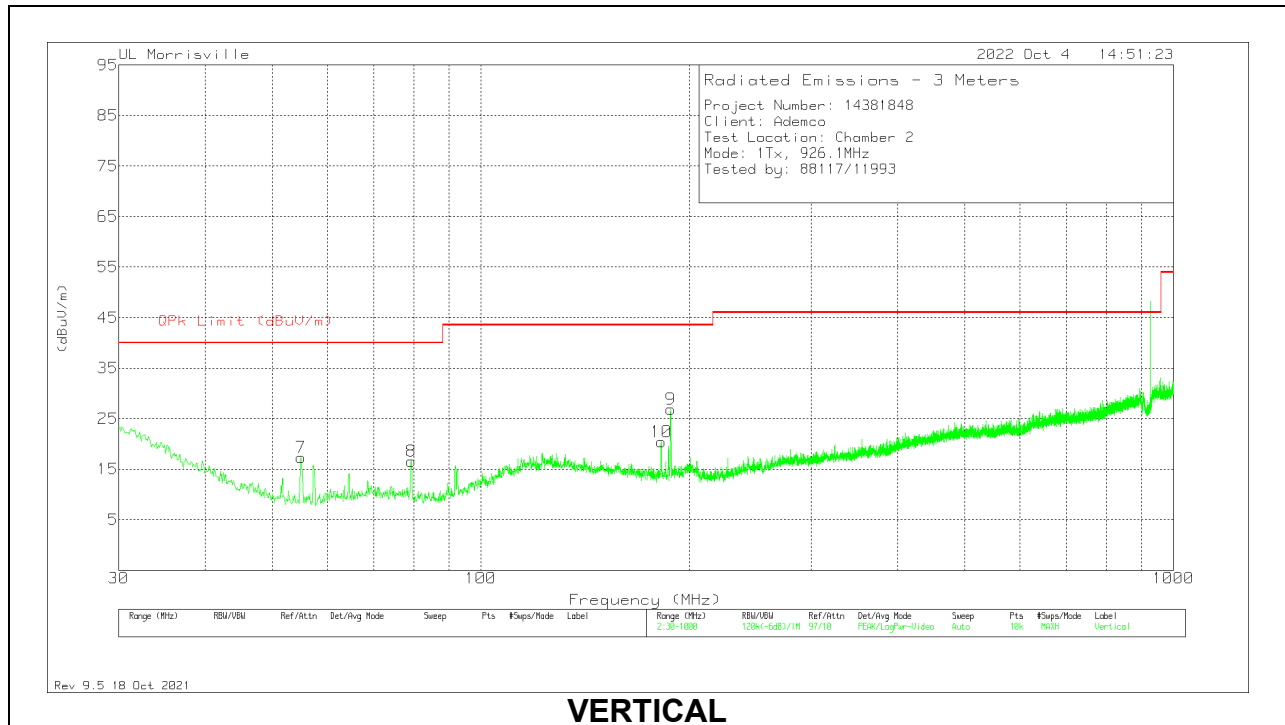
Pk - Peak detector

Qp - Quasi-Peak detector

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 (dB/m)	Gain/Loss (dB)	Filter (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 125.739	28.41	Pk	20.2	-30.4	.4	18.61	43.52	-24.91	0-360	100	H
3	* ** 249.899	31.24	Pk	17.9	-29.4	.4	20.14	46.02	-25.88	0-360	100	H
4	** 866.043	31.97	Pk	28.5	-25.8	1	35.67	46.02	-10.35	0-360	100	H
5	** 940.0756	28.77	Qp	29.2	-24.9	1.2	34.27	46.02	-11.75	186	151	H
6	** 956.059	33.07	Pk	29.6	-24.6	1.1	39.17	46.02	-6.85	0-360	100	H
11	* ** 986.226	29.41	Pk	29.7	-24.1	.9	35.91	53.97	-18.06	0-360	100	H
1	30.388	28.98	Pk	26.9	-31.7	.1	24.28	40	-15.72	0-360	100	H
7	55.026	35.45	Pk	13.2	-31.4	.1	17.35	40	-22.65	0-360	100	V
8	79.373	33.43	Pk	13.9	-31.1	.3	16.53	40	-23.47	0-360	100	V
10	182.096	32.3	Pk	17.5	-29.8	.4	20.4	43.52	-23.12	0-360	100	V
9	187.916	38.82	Pk	17.5	-29.9	.4	26.82	43.52	-16.7	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

Qp - Quasi-Peak detector

11. SETUP PHOTOS

Please refer to R14381848-EP1 for setup photos.

END OF TEST REPORT