TEST REPORT

Report Number: R14662781-E1

Applicant	:	Ademco Inc. 2 Corporate Center Dr. Melville, NY 11747, U.S.A.
Model	:	SIXPIRA
FCC ID	:	CFS8DLLMD500A
IC	:	573F-LMD500A
EUT Description	:	2.4 GHz Infrared Motion Sensor
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART C: 2023 ISED RSS-247 ISSUE 2: 2017 ISED RSS-GEN ISSUE 5 + A2:2021

Date Of Issue:
2023-06-14

Prepared by:
UL LLC
12 Laboratory Dr.
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CERT #0751.06

REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2023-02-24	Initial Issue	Charles Moody
V2	2023-06-14	Updated antenna gain	Charles Moody

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Ademco Inc.
2 Corporate Center Dr.
Melville, NY 11747, U.S.A.

EUT DESCRIPTION: 2.4 GHz Infrared Motion Sensor

MODEL: SIXPIRA

SERIAL NUMBER: 8A:CB:A4:01:00:5E:25:39, 8A:CB:A4:01:00:5E:23:DC

SAMPLE RECEIPT DATE: 2023-01-18, 2023-01-26

DATE TESTED: 2023-02-01 TO 2023-02-03

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	Refer to Section 2
ISED RSS-247 Issue 2	Refer to Section 2
ISED RSS-GEN Issue 5 + A2	Refer to 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.

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Approved & Released For
UL LLC By:

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Staff Engineer
Consumer, Medical, and IT Segment
UL LLC

Prepared By:

Charles Moody
Electrical Engineer
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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.

Data provided by the client:

- Antenna Type and Gain (Section 6.3)
- Cable Loss (Section 9.4 and 9.5)

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	Reporting purposes only	ANSI C63.10 Section 6.9.3.
15.247 (a) (2)	RSS-247 5.2 (a)	6dB BW	Complies	None.
15.247 (b) (3)	RSS-247 5.4 (d)	Output Power	Complies	None.
See Comment		Average power	Reporting purposes only	Per ANSI C63.10, Section 11.9.2.3.2.
15.247 (e)	RSS-247 5.2 (b)	PSD	Complies	None.
15.247 (d)	RSS-247 5.5	Conducted Spurious Emissions	Complies	None.
15.209, 15.205	RSS-Gen 8.9, 8.10	Radiated Emissions	Complies	None.
15.207 (a)	RSS-Gen 8.8	AC Power Lines Conducted Measurements	Not Performed	EUT is battery powered and AC Lines testing is not required

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, 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
☒	Building 2800 Suite Perimeter Park Dr. Suite B Morrisville, NC 27560, U.S.A	US0067	27265	825374

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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}
Radio Frequency (Spectrum Analyzer)	141.2 Hz
Occupied Channel Bandwidth	1.22%
RF output power, conducted	1.3 dB (PK) 0.45 dB (AV)
Power Spectral Density, conducted	2.47 dB
Unwanted Emissions, conducted	1.94 dB
All emissions, radiated	6.01 dB
Conducted Emissions (0.150-30MHz) - LISN	3.40 dB
Temperature	0.57°C
Humidity	3.39%
DC Supply voltages	1.70%

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 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

MAINS CONDUCTED EMISSIONS
Where relevant, the following sample calculation is provided:
Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.
36.5 dBuV + 0 dB +10.1 dB+ 0 dB = 46.6 dBuV

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6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is 2.4 GHz transceiver that operates as a wireless infrared motion sensor. This report covers full emissions testing on the ZigBee radio. The radio operates from 2405 to 2475 MHz.

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2405-2475	Zigbee	19.14	82.04

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

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

Antenna 1: The radio utilizes a PCB antenna, with a maximum gain of 1.93 dBi.

Antenna 2: The radio utilizes a PCB antenna, with a maximum gain of 2.08 dBi

6.4. SOFTWARE AND FIRMWARE

The firmware installed on the EUT to allow for control of the radio card was Version 6.3.1.

6.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 1GHz and above 18GHz were performed with the EUT set to transmit at the channel with highest power spectral density as worst-case scenario.

The EUT was set to transmit at the highest power on low and high channels for Band Edge as well as mid channel for Radiated emissions between 1 and 18 GHz. This was done at the EUT's only data rate, 250kbps.

The fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that X orientation was worst-case orientation for both Antenna 1 and Antenna 2; therefore, all final radiated testing was performed with the EUT in X orientation.

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6.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
None.				

I/O CABLES

I/O Cable List						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
None.						

TEST SETUP

The EUT is controlled using built-in switches which allows the lab to select the transmitting channel and antenna. Only the EUT was present in the chamber for final emissions testing.

SETUP DIAGRAMS

Please refer to R14662781-EP1 for setup diagrams

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7. MEASUREMENT METHOD

On time and Duty Cycle: ANSI C63.10 subclause 11.6

6 dB BW: ANSI C63.10 Subclause -11.8.1

Occupied BW (99%): ANSI C63.10-2013 Section 6.9.3

Output Power: ANSI C63.10 Subclause -11.9.1.3 Method PKPM1 Peak-reading power meter
Output Power: ANSI C63.10 Subclause -11.9.2.3.2 Method AVGPM-G (Measurement using a gated RF average-reading power meter)

PSD: ANSI C63.10 Subclause -11.10.2 Method PKPSD (peak PSD)

Radiated emissions non-restricted frequency bands: ANSI C63.10 Subclause -11.11 and 6.10.4

Radiated emissions restricted frequency bands: ANSI C63.10 Subclause -11.12.1 and 6.10.5

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

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8. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	Common Equipment				
	Conducted Room 2				
SA0025	Spectrum Analyzer	Keysight Technologies	N9030A	2022-05-02	2023-05-02
PWM005	RF Power Meter	Keysight Technologies	N1911A	2022-09-02	2024-09-02
PWS001	Peak and Avg Power Sensor, 50MHz to 18GHz	Keysight Technologies	N1921A	2022-07-07	2023-07-07
HI0090	Environmental Meter	Fisher Scientific	15-077-963	2022-07-20	2023-07-20
SOFTEMI	Antenna Port Software	UL	Version 2022.8.16		
	Additional Equipment used				
226563	SMA Coaxial 10dB Attenuator 25MHz-18GHz	CentricRF	C18S2-10	2022-05-03	2023-05-03

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

Equip. ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
	0.009-30MHz				
AT0059	Active Loop Antenna	ETS-Lindgren	6502	2022-09-29	2023-09-29
	30-1000 MHz				
AT0074	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2022-09-07	2023-09-07
	1-18 GHz				
206211	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2022-03-21	2023-03-21
	18-40 GHz				
204704	Horn Antenna, 18-26.5GHz	Com-Power	AH-626	2022-07-11	2023-07-11
	Gain-Loss Chains				
C2-SAC01	Gain-loss string: 0.009-30MHz	Various	Various	2022-05-10	2023-05-10
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
C2-SAC04	Gain-loss string: 18-40GHz	Various	Various	2022-05-10	2023-05-10
	Receiver & Software				
197955	Spectrum Analyzer	Rohde & Schwarz	ESW44	2022-03-08	2023-03-08
SA0020	Spectrum Analyzer	Agilent	E4446A	2022-06-08	2023-06-08
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
	Additional Equipment used				
210642	Environmental Meter	Fisher Scientific	15-077-963 s/n 210701942	2021-08-16	2023-08-16
A45	10dB, DC-18GHz, 5W	Mini-Circuits	BW-N10W5	2022-10-21	2023-10-21

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9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

9.1.1. Antenna 1

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)
2.4GHz Band						
802.15.4	100.0	100.0	1.000	100.00%	0.00	0.010

*Note: The operational duty cycle, as stated in the filing, will be 6.016%. Using KDB 558074 D01 Answer 3 (a), a duty cycle correction will be subtracted from the Peak reading to derive an Average reading. See calculation below.

Duty Cycle Correction Factor = 20*log(1/DC) = 20*log(1/0.06016) = 24.41dB

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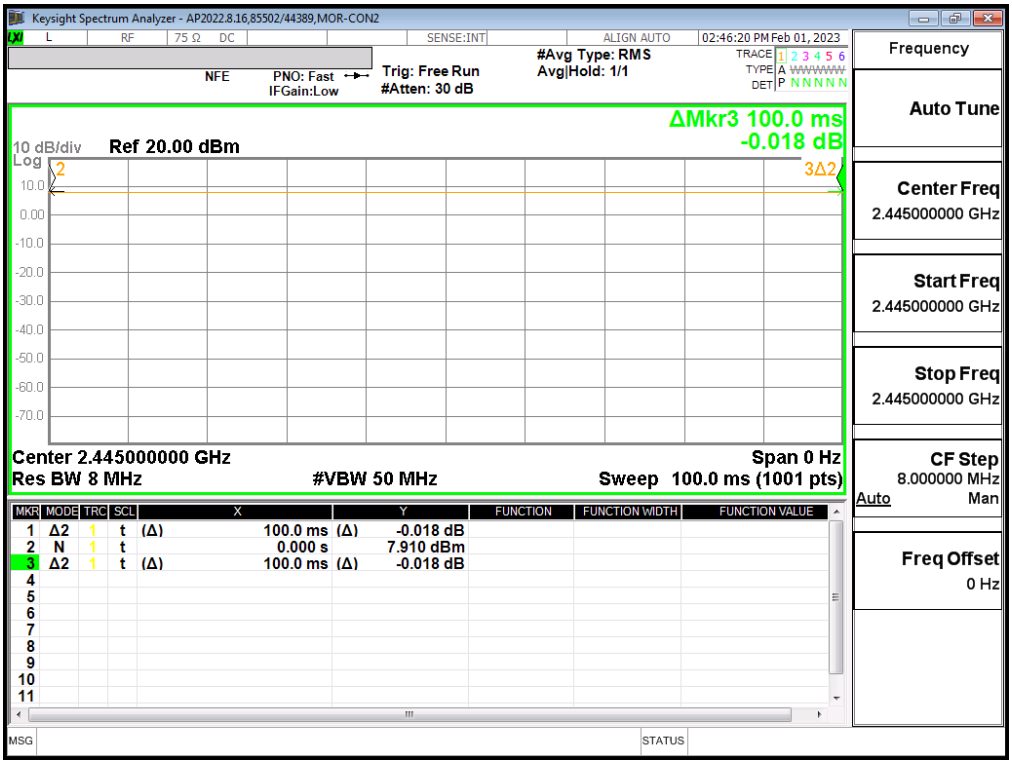
DUTY CYCLE PLOTS



DUTY CYCLE 802.15.4

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9.1.2. Antenna 2

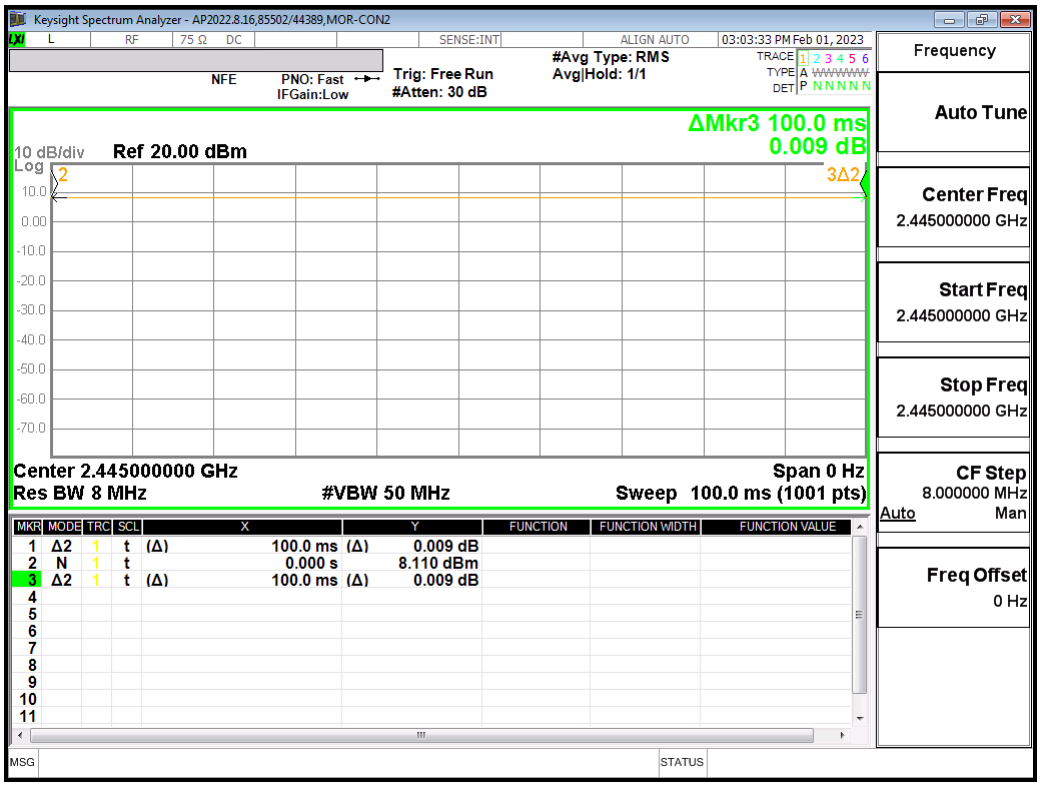
ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
2.4GHz Band						
802.15.4	100.0	100.0	1.000	100.00%	0.00	0.010

*Note: The operational duty cycle, as stated in the filing, will be 6.016%. Using KDB 558074 D01 Answer 3 (a), a duty cycle correction will be subtracted from the Peak reading to derive an Average reading. See calculation below.

Duty Cycle Correction Factor = 20*log(1/DC) = 20*log(1/0.06016) = 24.41dB

DUTY CYCLE PLOTS



DUTY CYCLE 802.15.4

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9.2. 99% BANDWIDTH

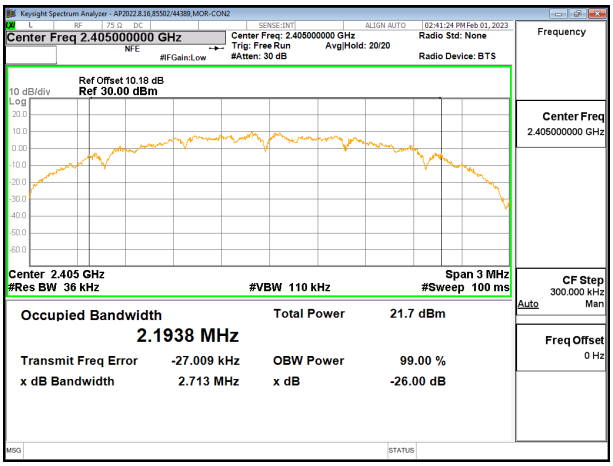
LIMITS

None; for reporting purposes only.

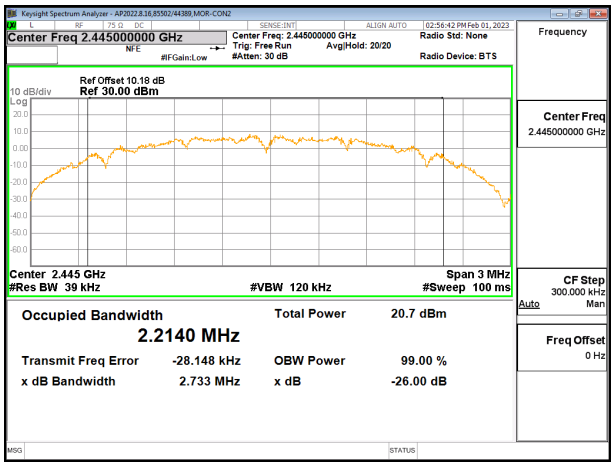
RESULTS

9.2.1. Antenna 1

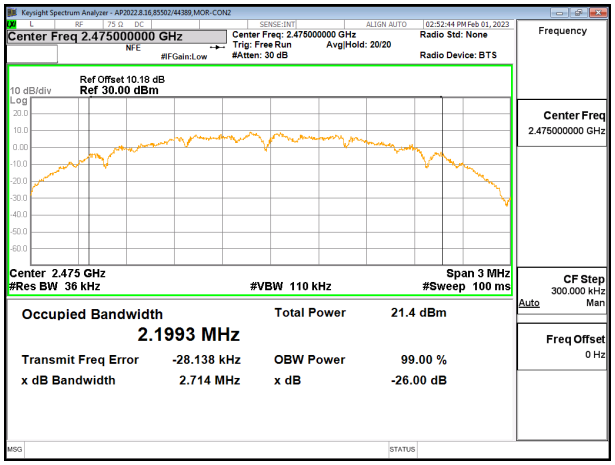
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2405	2.1938
Middle	2445	2.2140
High	2475	2.1993



LOW CHANNEL



MID CHANNEL



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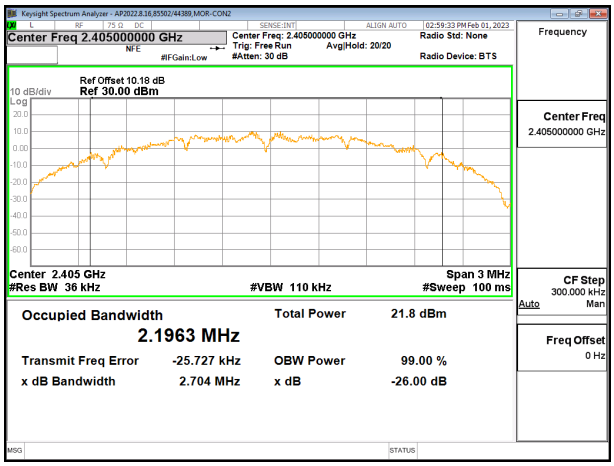
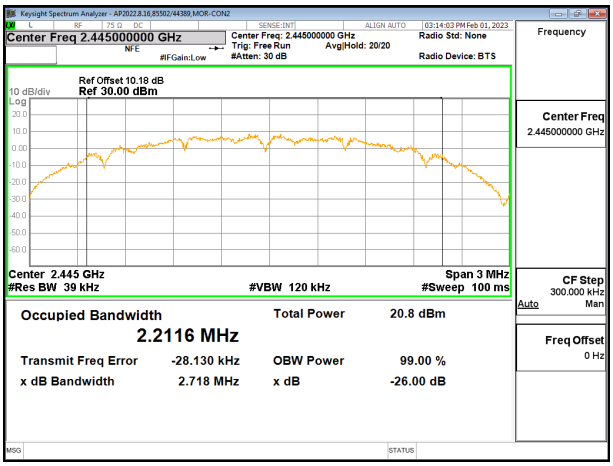
9.2.2. Antenna 2

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2405	2.1963
Middle	2445	2.2116
High	2475	2.1964



LOW CHANNEL



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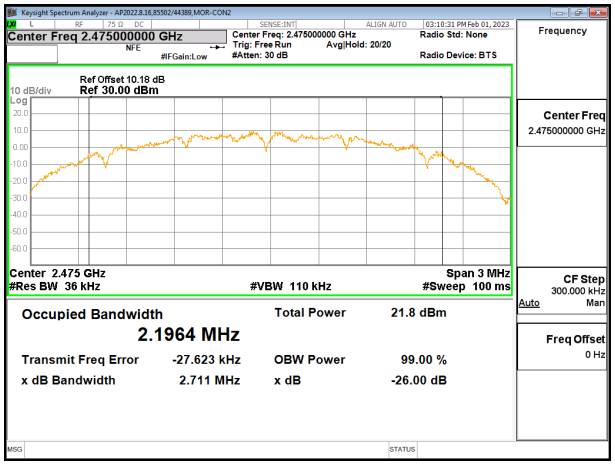

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9.3. 6 dB BANDWIDTH

LIMITS

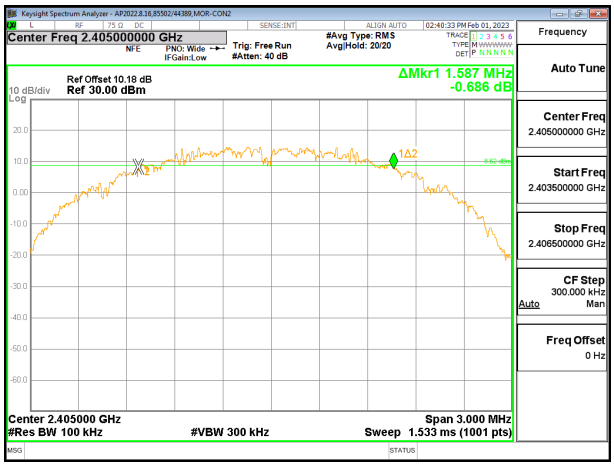
FCC §15.247 (a) (2)
RSS-247 5.2 (a)

The minimum 6 dB bandwidth shall be at least 500 kHz.

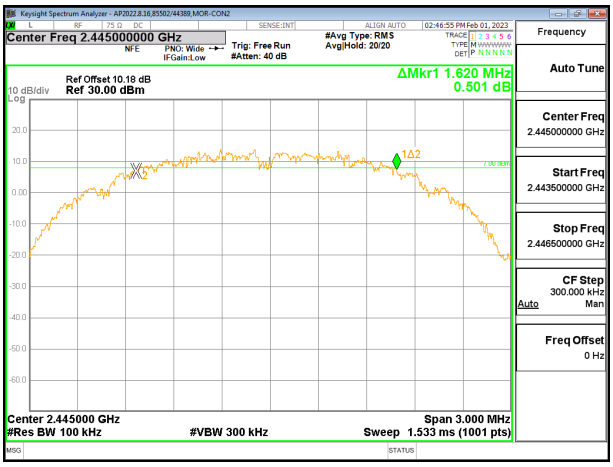
RESULTS

9.3.1. Antenna 1

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2405	1.587	0.5
Middle	2445	1.620	0.5
High	2475	1.593	0.5



LOW CHANNEL



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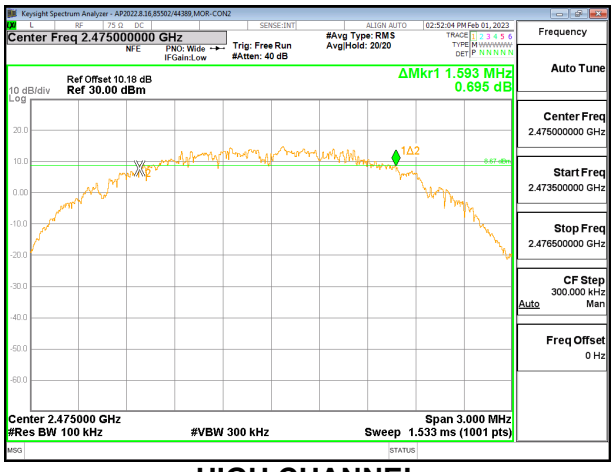

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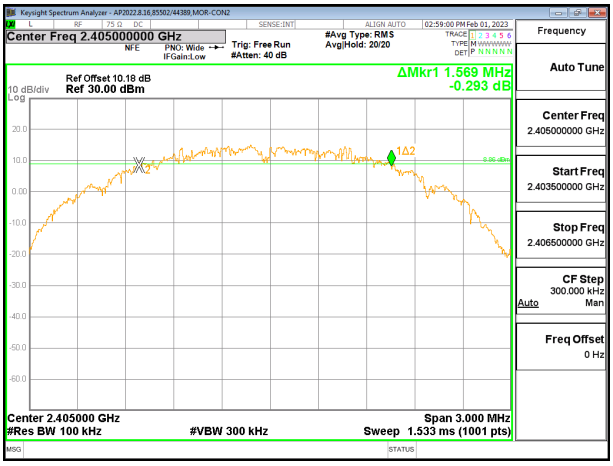
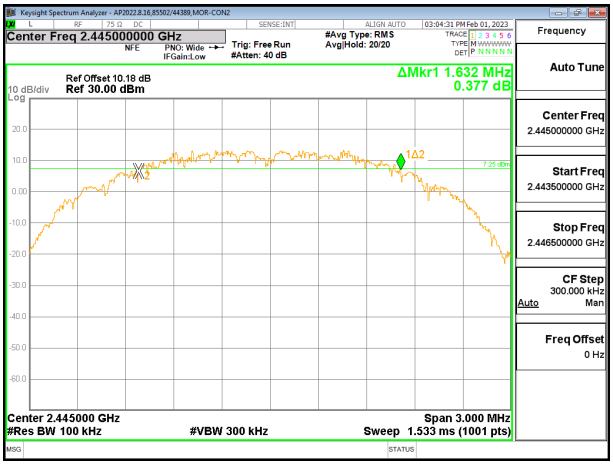
9.3.2. Antenna 2

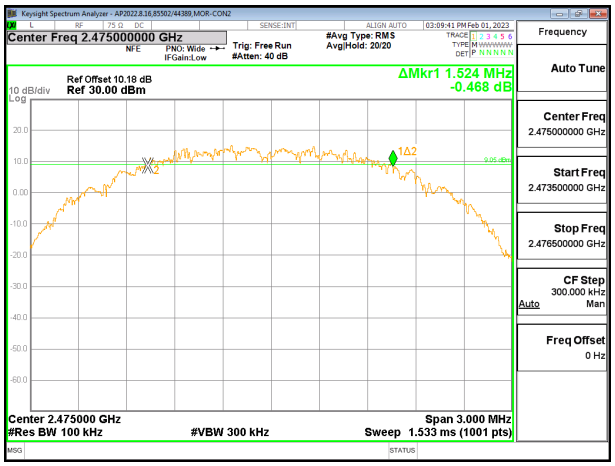
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2405	1.569	0.5
Middle	2445	1.632	0.5
High	2475	1.524	0.5



LOW CHANNEL



MID CHANNEL



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9.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)
RSS-247 5.4 (d)

The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE
The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10.18 dB (including 9.68 dB pad and 0.5 dB cable) was entered as an offset in the power meter.

RESULTS

9.4.1. Antenna 1

Tested By:	85502/44389
Date:	2023-02-01

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	18.93	30	-11.070
Middle	2445	17.96	30	-12.040
High	2475	18.57	30	-11.430

9.4.2. Antenna 2

Tested By:	85502/44389
Date:	2023-02-01

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	19.14	30	-10.860
Middle	2445	18.13	30	-11.870
High	2475	18.93	30	-11.070

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9.5. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE
The transmitter output is connected to a gated average power meter.

The cable assembly insertion loss of 10.18 dB (including 9.68 dB pad and 0.5 dB cable) was entered as an offset in the power meter.

RESULTS

9.5.1. Antenna 1

Tested By:	85502/44389
Date:	2023-02-01

Channel	Frequency (MHz)	AV power (dBm)
Low	2405	18.82
Middle	2445	17.81
High	2475	18.46

9.5.2. Antenna 2

Tested By:	85502/44389
Date:	2023-02-01

Channel	Frequency (MHz)	AV power (dBm)
Low	2405	19.03
Middle	2445	18.01
High	2475	18.23

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9.6. POWER SPECTRAL DENSITY

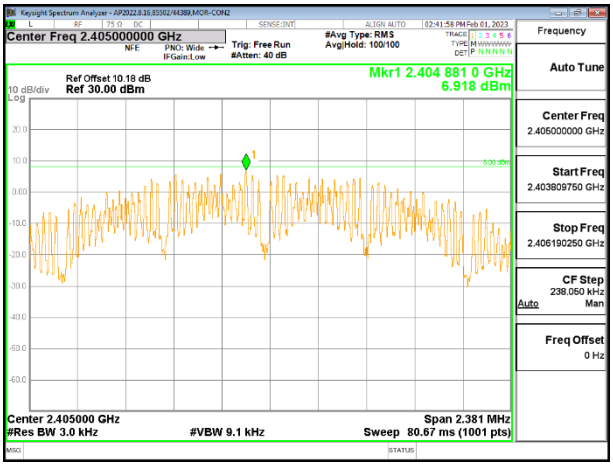
LIMITS

FCC §15.247 (e)
RSS-247 (5.2) (b)
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

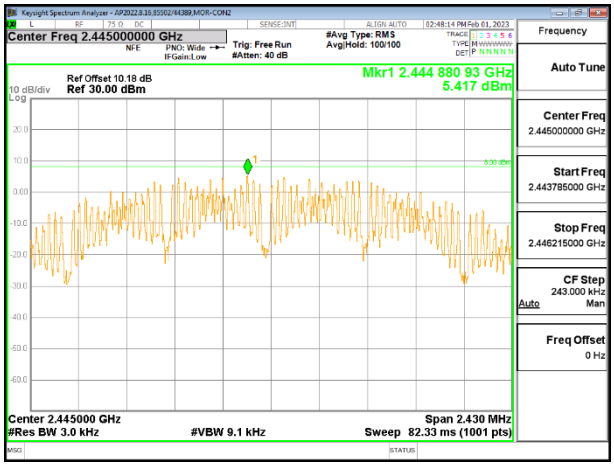
RESULTS

9.6.1. Antenna 1

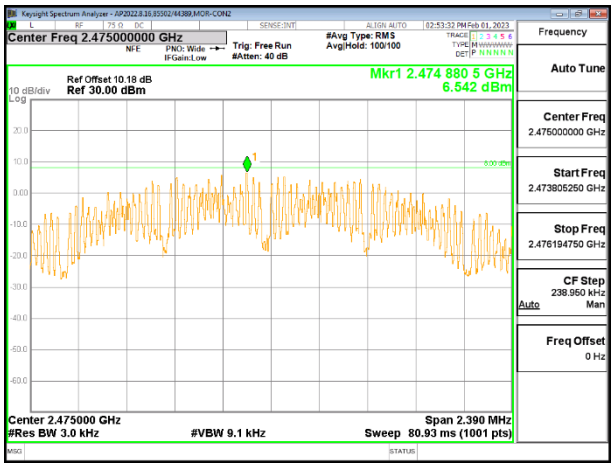
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2405	6.918	8	-1.08
Middle	2445	5.417	8	-2.58
High	2475	6.542	8	-1.46



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

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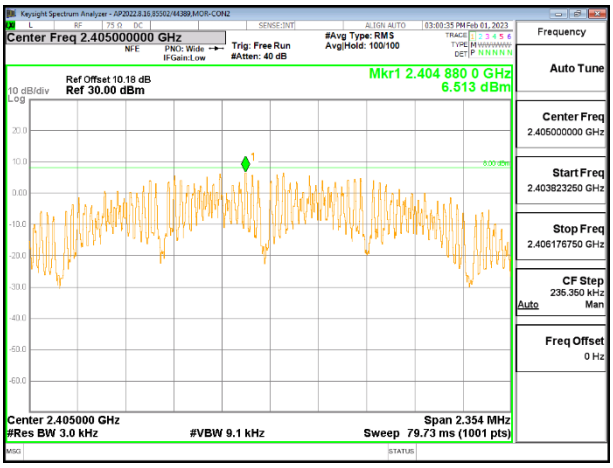
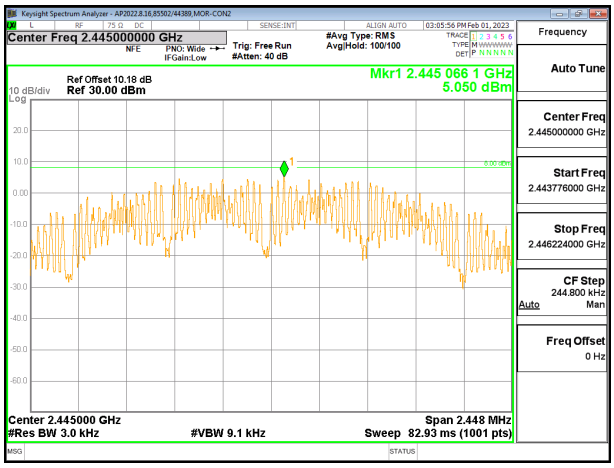
9.6.2. Antenna 2

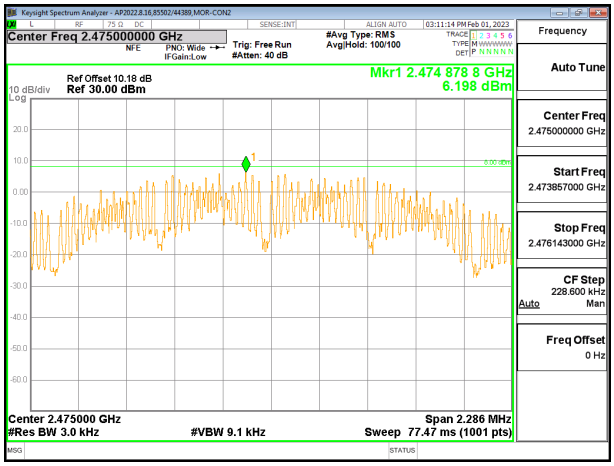
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2405	6.513	8	-1.49
Middle	2445	5.050	8	-2.95
High	2475	6.198	8	-1.80



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

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9.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)
RSS-247 5.5

Output power was measured based on the use of a peak measurement; therefore the required attenuation is -20 dBc.

RESULTS

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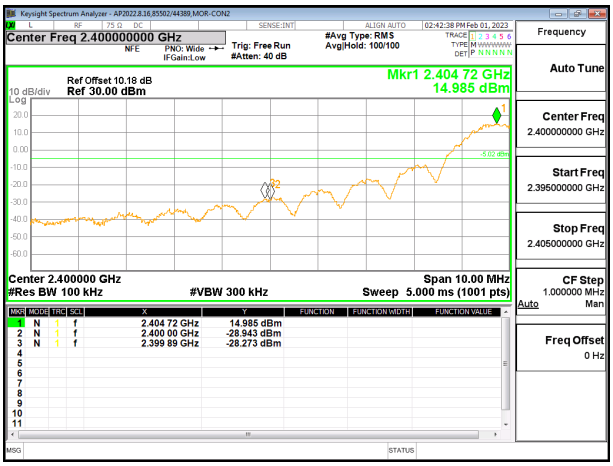
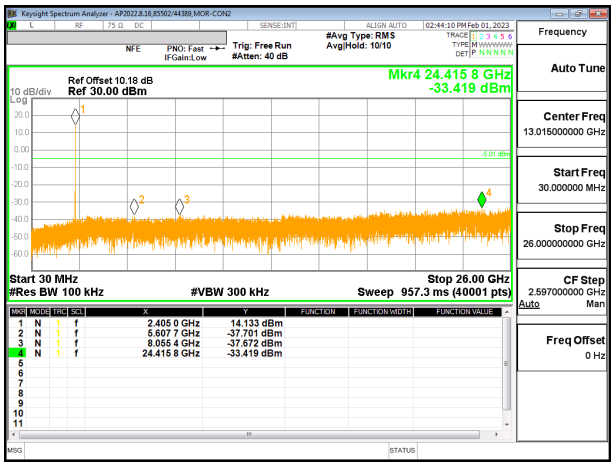
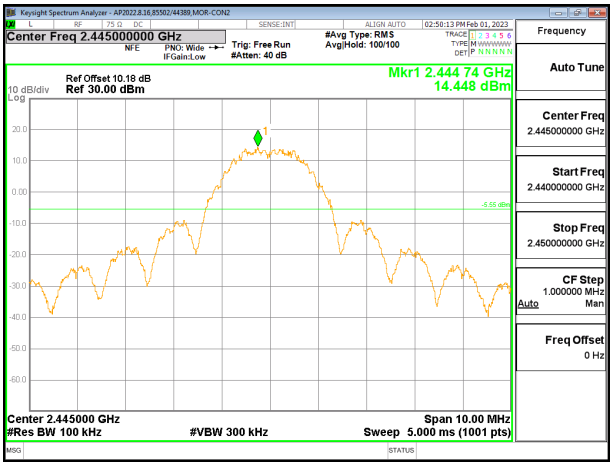
9.7.1. Antenna 1



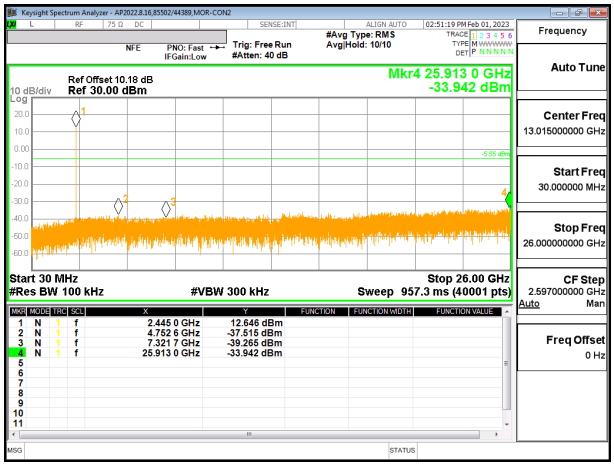
LOW CHANNEL BANDEDGE



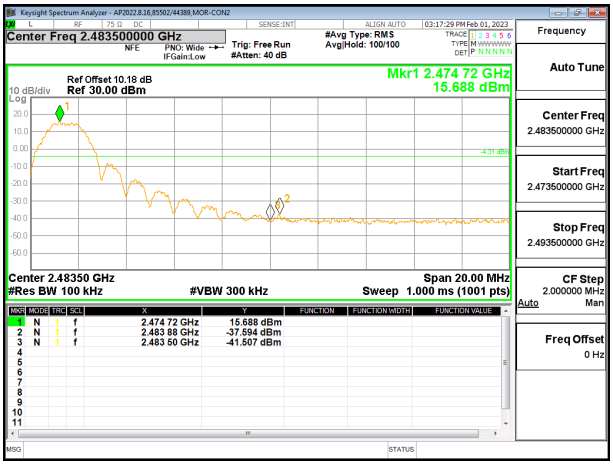
OUT-OF-BAND LOW CHANNEL



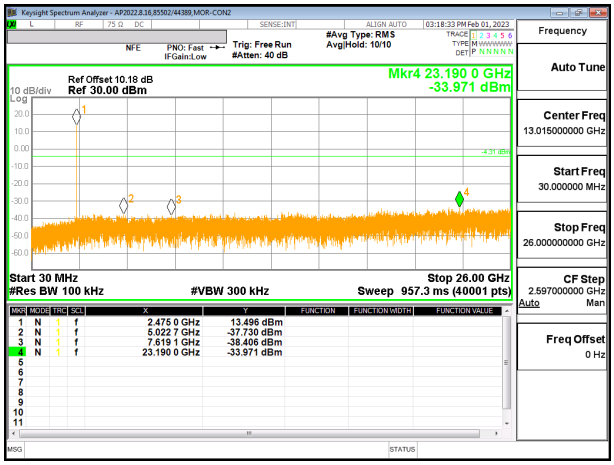
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

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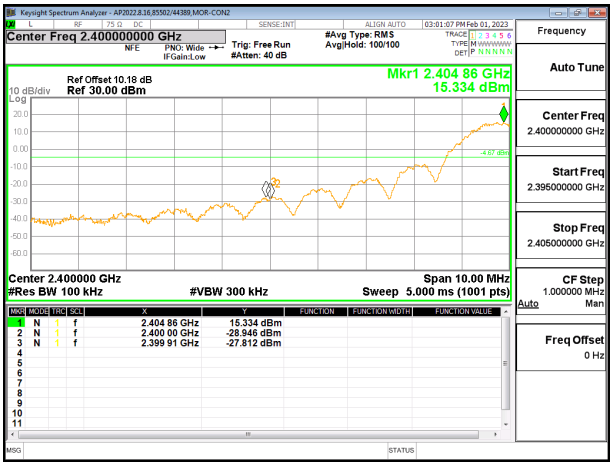
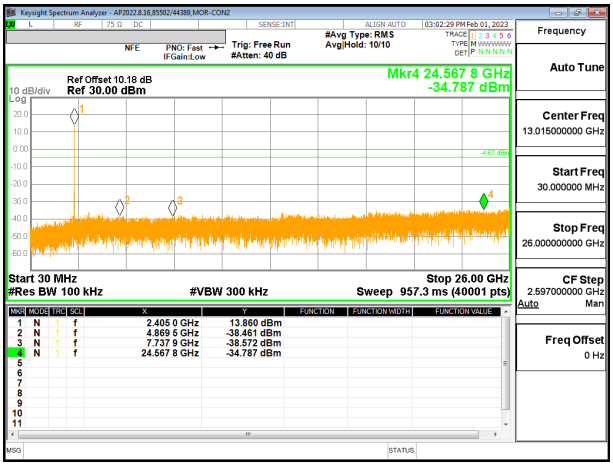
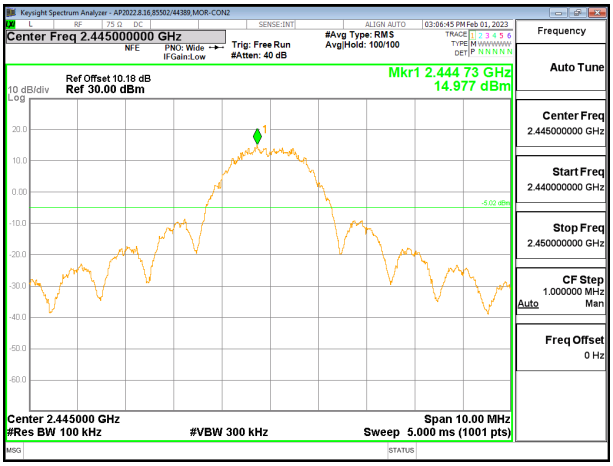
9.7.2. Antenna 2



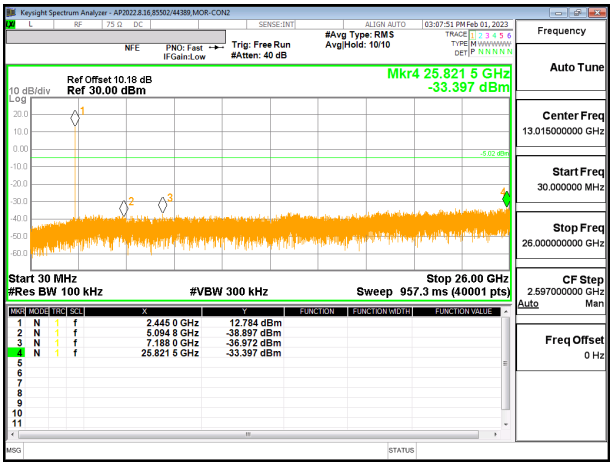
LOW CHANNEL BANDEDGE



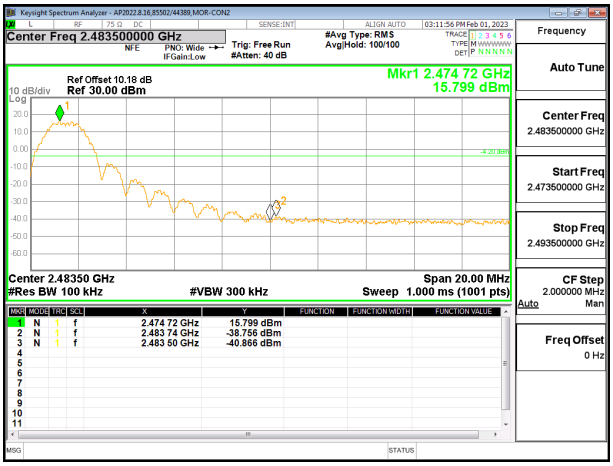
OUT-OF-BAND LOW CHANNEL



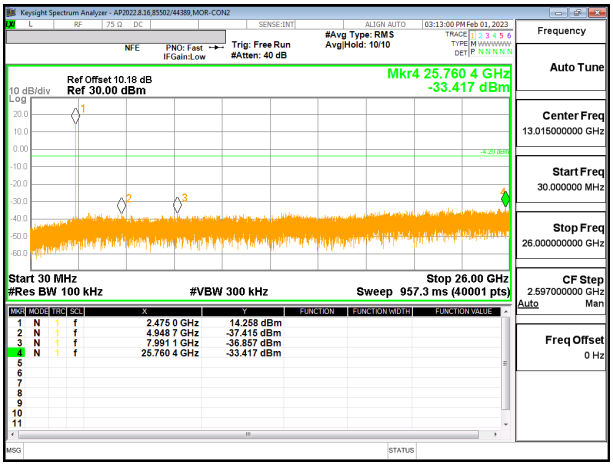
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

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10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

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	6.37/F(kHz) @ 30 m	-
1.705 - 30	.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.

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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. AV measurements were calculated as a PK measurement. The 24.41 dB duty cycle correction value was subtracted from the peak measurement as stated in section 9.1 based on the 6.016% duty cycle.

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 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.

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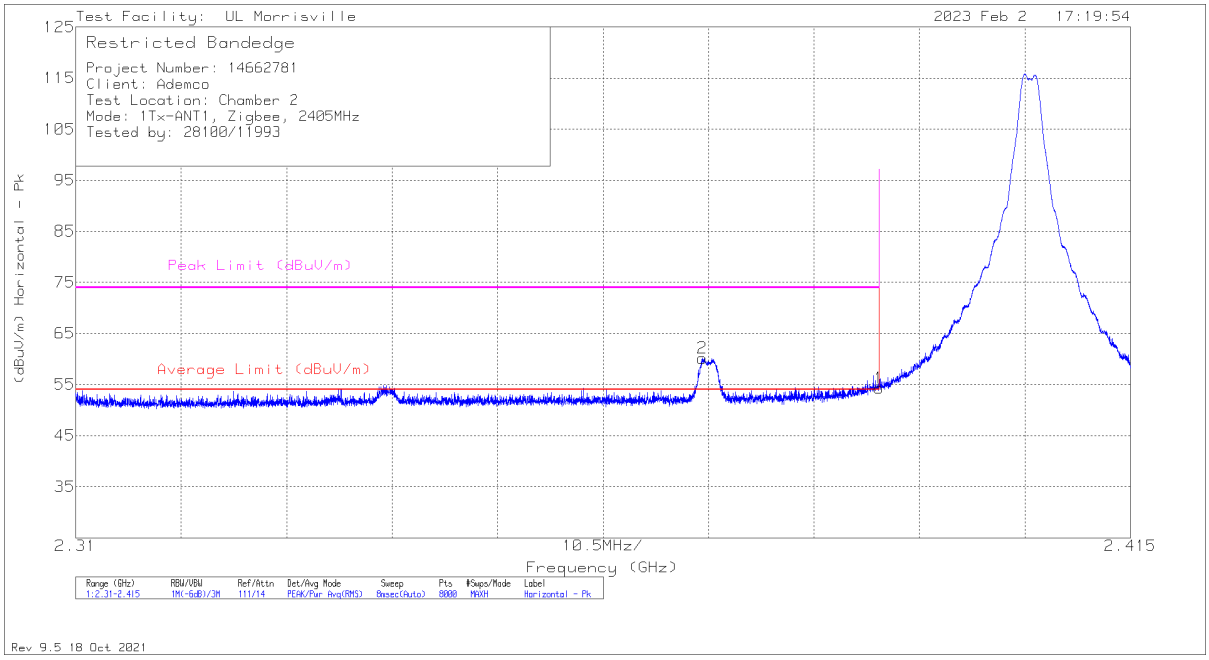
10.2. TRANSMITTER ABOVE 1 GHz

10.2.1. ZigBee

Antenna 1

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	Pad (dB)	DCCF	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	36.12	Pk	32	-23.8	10	0	54.32	-	-	74	-19.68	279	109	H
	* 2.39	36.12	Pk	32	-23.8	10	-24.41	29.91	54	-24.09	-	-	279	109	H
2	* 2.37241	42.13	Pk	32	-24	10	0	60.13	-	-	74	-13.87	279	109	H
	* 2.37241	42.13	Pk	32	-24	10	-24.41	35.72	54	-18.28	-	-	279	109	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Note: Average reading is calculated by subtracting the 24.41 dB duty cycle correction (based on declared duty cycle of 6.976%) from the Peak measurement.

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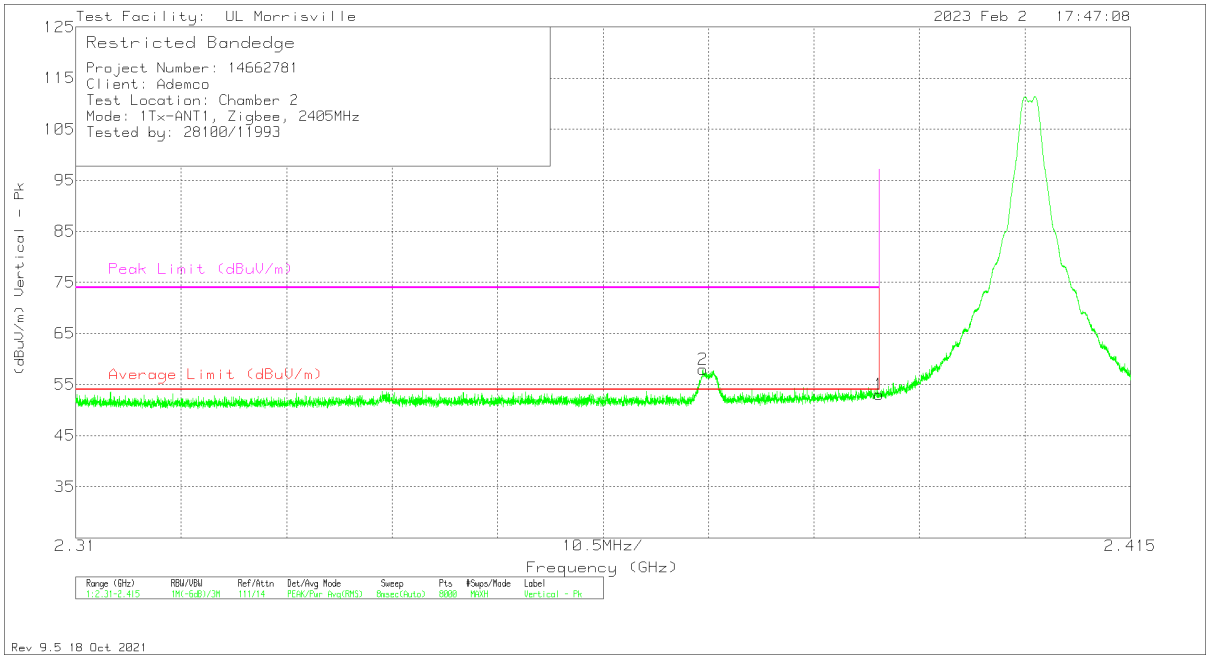
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	Pad (dB)	DCCF	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	34.81	Pk	32	-23.8	10	0	53.01	-	-	74	-20.99	328	389	V
	* 2.39	34.81	Pk	32	-23.8	10	-24.41	28.6	54	-25.4	-	-	328	389	V
2	* 2.37247	39.99	Pk	32	-24	10	0	57.99	-	-	74	-16.01	328	389	V
	* 2.37247	39.99	Pk	32	-24	10	-24.41	33.58	54	-20.42	-	-	328	389	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Note: Average reading is calculated by subtracting the 24.41 dB duty cycle correction (based on declared duty cycle of 6.016%) from the Peak measurement.

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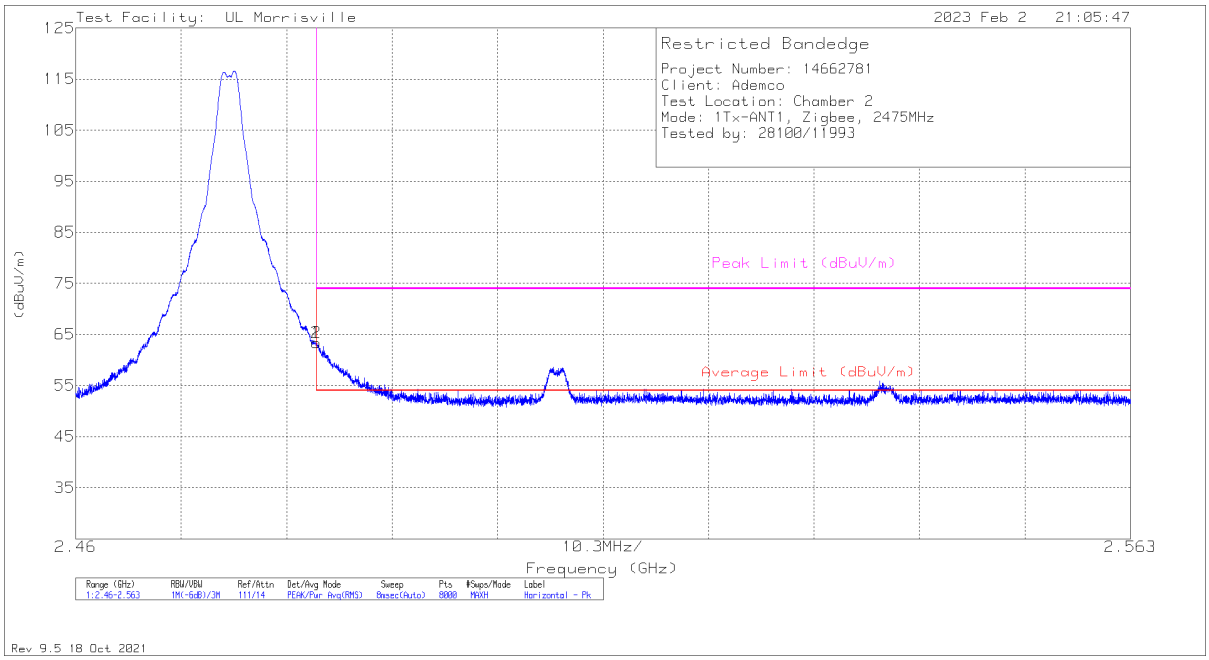
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	Pad (dB)	DCCF	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	45.34	Pk	32.3	-24.3	10	0	63.34	-	-	74	-10.66	103	105	H
	* 2.4835	45.34	Pk	32.3	-24.3	10	-24.41	38.93	54	-15.07	-	-	103	105	H
2	* 2.48351	45.42	Pk	32.3	-24.3	10	0	63.42	-	-	74	-10.58	103	105	H
	* 2.48351	45.42	Pk	32.3	-24.3	10	-24.41	39.01	54	-14.99	-	-	103	105	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Note: Average reading is calculated by subtracting the 24.41 dB duty cycle correction (based on declared duty cycle of 6.016%) from the Peak measurement.

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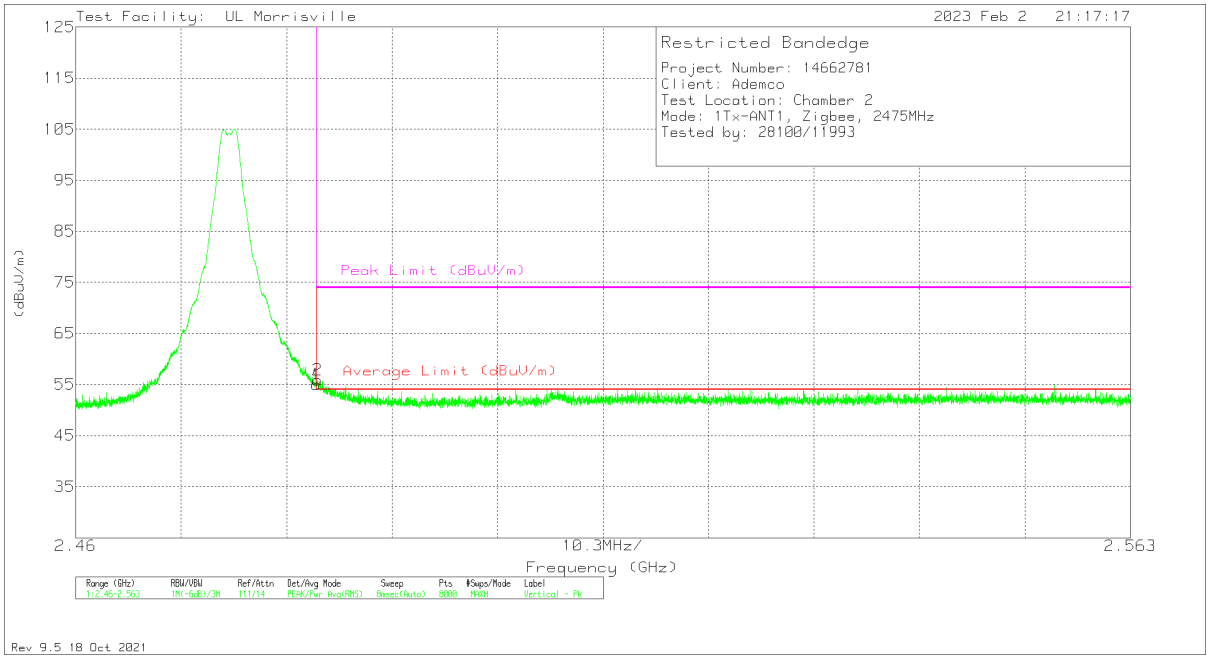
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	Pad (dB)	DCCF	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	37.02	Pk	32.3	-24.3	10	0	55.02	-	-	74	-18.98	234	355	V
	* 2.4835	37.02	Pk	32.3	-24.3	10	-24.41	30.61	54	-23.39	-	-	234	355	V
2	* 2.4836	37.84	Pk	32.3	-24.3	10	0	55.84	-	-	74	-18.16	234	355	V
	* 2.4836	37.84	Pk	32.3	-24.3	10	-24.41	31.43	54	-22.57	-	-	234	355	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Note: Average reading is calculated by subtracting the 24.41 dB duty cycle correction (based on declared duty cycle of 6.016%) from the Peak measurement.

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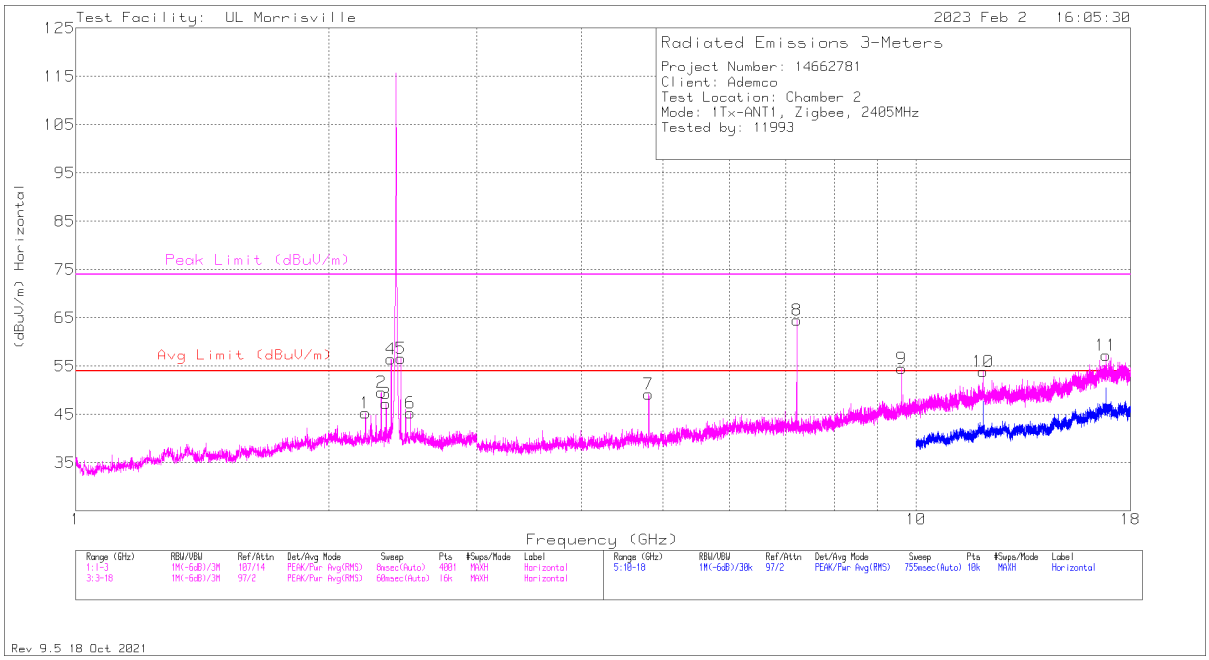
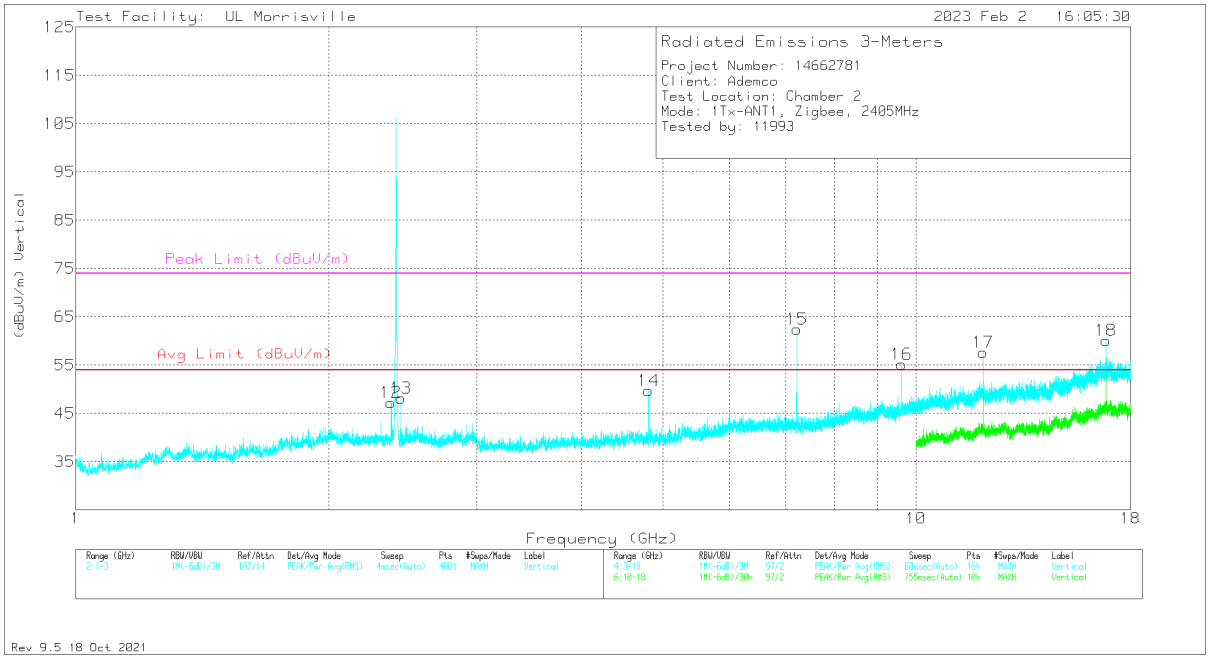
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	DCCF	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.2125	36.96	Pk	31.8	-23.4	0	45.36	54	-8.64	74	-28.64	0-360	101	H
2	* 2.30946	43.44	PK2	31.7	-23.7	0	51.44	-	-	74	-22.56	25	129	H
	* 2.30946	43.44	PK2	31.7	-23.7	-24.41	27.03	54	-26.97	-	-	25	129	H
3	* 2.3405	39.21	Pk	31.9	-23.9	0	47.21	54	-6.79	74	-26.79	0-360	101	H
4	* 2.37254	48.82	PK2	32	-24	0	56.82	-	-	74	-17.18	208	140	H
	* 2.37254	48.82	PK2	32	-24	-24.41	32.41	54	-21.59	-	-	208	140	H
6	2.501	37.77	Pk	32.4	-24.8	0	45.37	-	-	-	-	0-360	101	H
12	* 2.37275	39.26	Pk	32	-24	0	47.26	54	-6.74	74	-26.74	0-360	101	V
7	* 4.80899	48.57	PK2	34	-30.7	0	51.87	-	-	74	-22.13	114	288	H
	* 4.80899	48.57	PK2	34	-30.7	-24.41	27.46	54	-26.54	-	-	114	288	H
10	* 12.02235	41.86	PK2	38.6	-22.4	0	58.06	-	-	74	-15.94	179	357	H
	* 12.02235	41.86	PK2	38.6	-22.4	-24.41	33.65	54	-20.35	-	-	179	357	H
14	* 4.80895	49.67	PK2	34	-30.7	0	52.97	-	-	74	-21.03	233	332	V
	* 4.80895	49.67	PK2	34	-30.7	-24.41	28.56	54	-25.44	-	-	233	332	V
17	*12.02231	44.78	PK2	38.6	-22.5	0	60.88	-	-	74	-13.12	281	203	V
	*12.02231	44.78	PK2	38.6	-22.5	-24.41	36.47	54	-17.53	-	-	281	203	V
5	2.4365	49.02	Pk	32.1	-24.5	0	56.62	-	-	-	-	0-360	101	H
13	2.4365	40.54	Pk	32.1	-24.5	0	48.14	-	-	-	-	0-360	200	V
8	7.21313	56.79	Pk	35.6	-27.9	0	64.49	-	-	-	-	0-360	101	H
15	7.21688	54.51	Pk	35.6	-27.7	0	62.41	-	-	-	-	0-360	200	V
16	9.61781	43.99	Pk	36.7	-25.5	0	55.19	-	-	-	-	0-360	101	V
9	9.62156	43.33	Pk	36.7	-25.5	0	54.53	-	-	-	-	0-360	200	H
11	16.83844	37.43	Pk	41.9	-22.1	0	57.23	-	-	-	-	0-360	101	H
18	16.83844	40.29	Pk	41.9	-22.1	0	60.09	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
Note: Average reading is calculated by subtracting the 24.41 dB duty cycle correction (based on declared duty cycle of 6.016%) from the Peak measurement.

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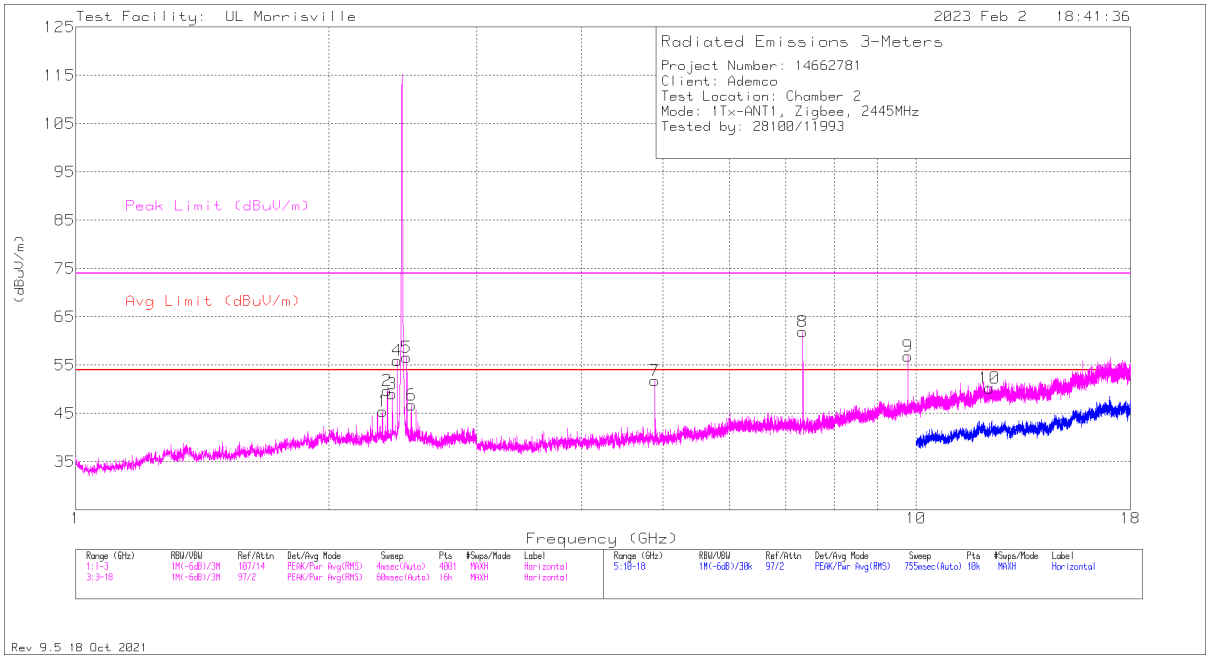
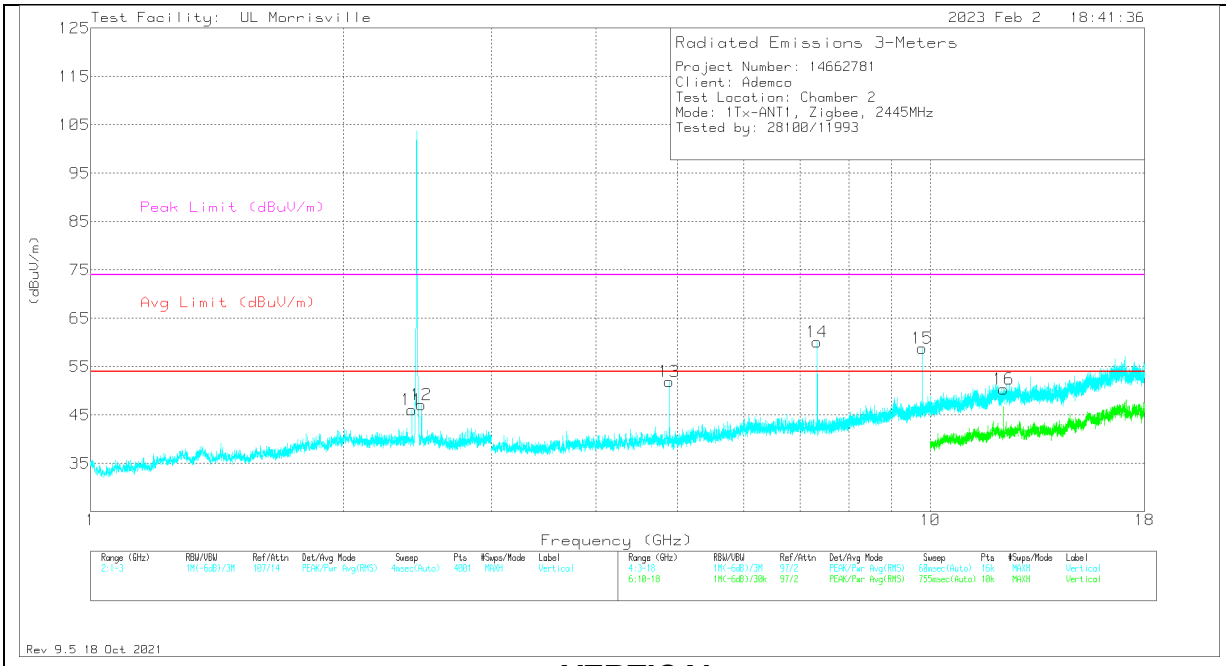
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	DCCF	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.318	37.63	Pk	31.7	-23.9	0	45.43	54	-8.57	74	-28.57	0-360	101	H
2	* 2.34853	44.03	PK2	31.9	-23.9	0	52.03	-	-	74	-21.97	204	138	H
	* 2.34853	44.03	PK2	31.9	-23.9	-24.41	52.03	54	-26.38	-	-	204	138	H
3	* 2.38139	42.66	PK2	32.1	-23.9	0	50.86	-	-	74	-23.14	210	207	H
	* 2.38139	42.66	PK2	32.1	-23.9	-24.41	26.45	54	-27.55	-	-	210	207	H
6	2.509	38.89	Pk	32.4	-24.6	0	46.69	-	-	-	-27.31	0-360	101	H
7	* 4.89103	51.43	PK2	33.9	-30.5	0	54.83	-	-	74	-19.17	127	306	H
	* 4.89103	51.43	PK2	33.9	-30.5	-24.41	30.42	54	-23.58	-	-	127	306	H
8	* 7.33639	54.5	PK2	35.6	-27.6	0	62.5	-	-	74	-11.5	107	110	H
	* 7.33639	54.5	PK2	35.6	-27.6	-24.41	38.09	54	-15.91	-	-	107	110	H
10	* 12.22233	38.15	PK2	38.8	-23.8	0	53.15	-	-	74	-20.85	150	310	H
	* 12.22233	38.15	PK2	38.8	-23.8	-24.41	28.74	54	-25.26	-	-	150	310	H
13	* 4.89105	50.83	PK2	33.9	-30.5	0	54.23	-	-	74	-19.77	272	103	V
	* 4.89105	50.83	PK2	33.9	-30.5	-24.41	29.82	54	-24.18	-	-	272	103	V
14	* 7.33338	53.09	PK2	35.6	-27.4	0	61.29	-	-	74	-12.71	176	238	V
	* 7.33338	53.09	PK2	35.6	-27.4	-24.41	36.88	54	-17.12	-	-	176	238	V
16	* 12.22242	39.47	PK2	38.8	-23.8	0	54.47	-	-	74	-19.53	254	230	V
	* 12.22242	39.47	PK2	38.8	-23.8	-24.41	30.06	54	-23.94	-	-	254	230	V
4	2.4135	48.46	Pk	32	-24.5	0	55.96	-	-	-	-	0-360	200	H
11	2.4135	38.63	Pk	32	-24.5	0	46.13	-	-	-	-	0-360	200	V
5	2.4775	48.75	Pk	32.3	-24.5	0	56.55	-	-	-	-	0-360	101	H
12	2.47775	39.3	Pk	32.3	-24.5	0	47.1	-	-	-	-	0-360	200	V
9	9.77813	45.36	Pk	36.8	-25.3	0	56.86	-	-	-	-	0-360	200	H
15	9.77813	47.26	Pk	36.8	-25.3	0	58.76	-	-	-	-	0-360	200	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
Note: Average reading is calculated by subtracting the 24.41 dB duty cycle correction (based on declared duty cycle of 6.016%) from the Peak measurement.

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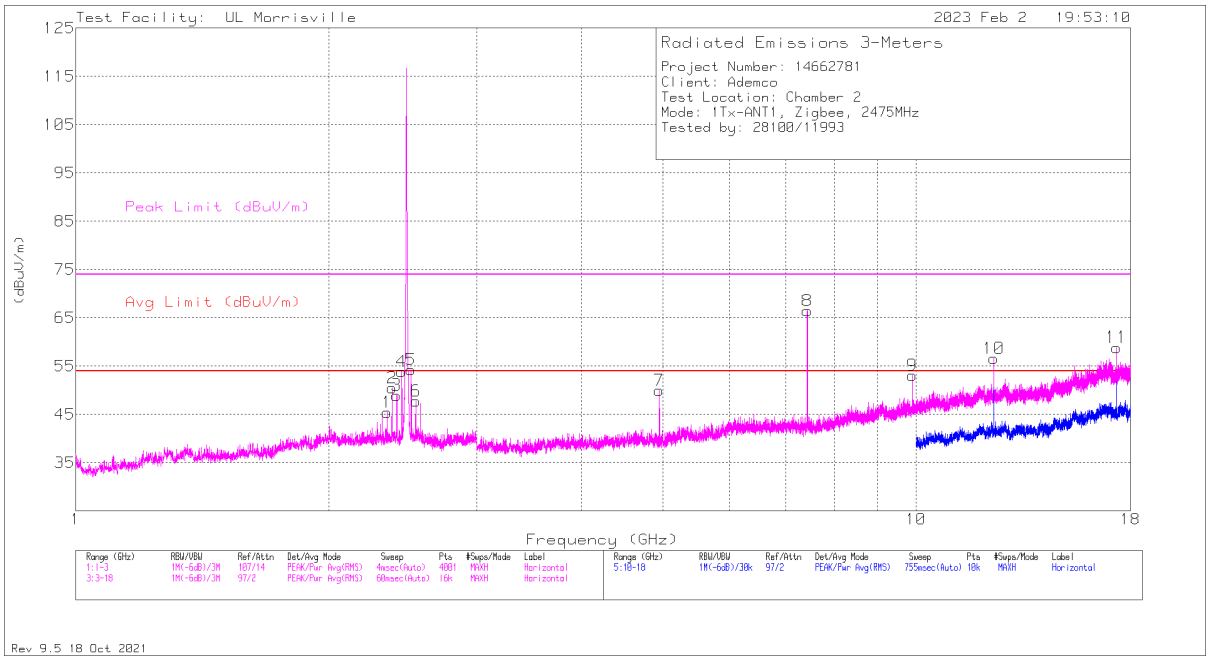
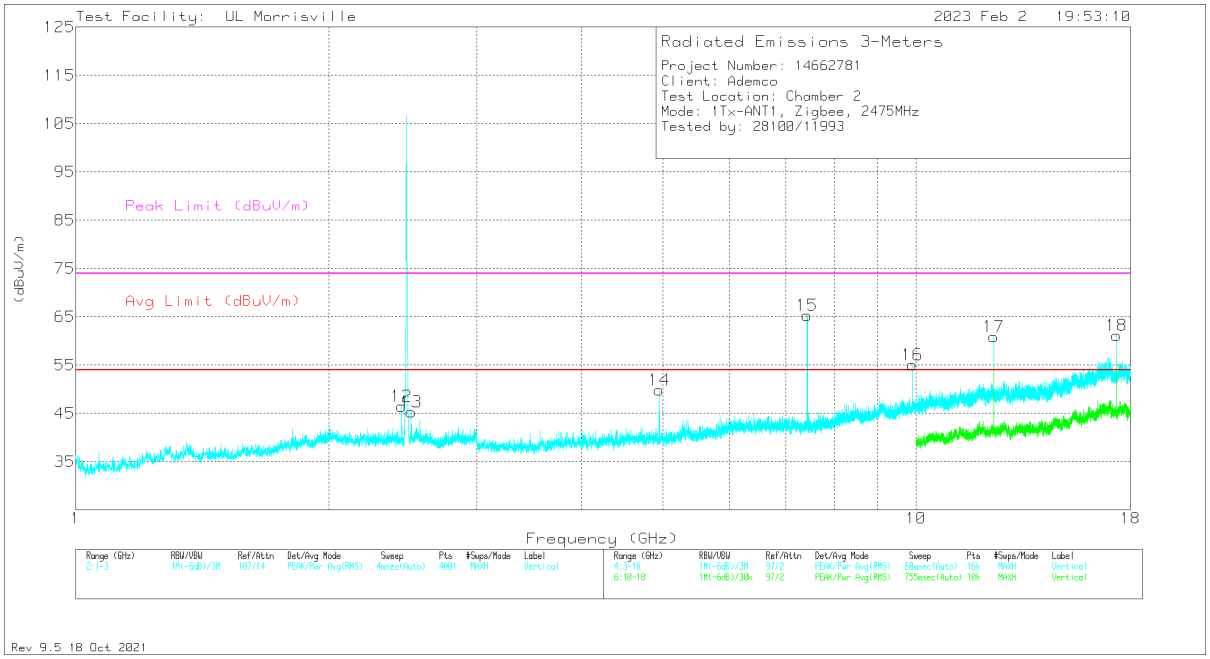
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	DCCF	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.347	37.48	Pk	31.9	-23.9	0	45.48	54	-8.52	74	-28.52	0-360	200	H
2	* 2.37936	43.99	PK2	32.1	-23.9	0	52.19	-	-	74	-21.81	33	236	H
	* 2.37936	43.99	PK2	32.1	-23.9	-24.41	27.78	54	-26.22	-	-	33	236	H
5	2.5065	46.46	Pk	32.4	-24.6	0	54.26	-	-	-	-	0-360	101	H
6	2.539	40.03	Pk	32.6	-24.8	0	47.83	-	-	-	-	0-360	101	H
13	2.508	37.46	Pk	32.4	-24.6	0	45.26	-	-	-	-	0-360	200	V
7	* 4.95098	50.04	PK2	33.9	-31.1	0	52.84	-	-	74	-21.16	298	239	H
	* 4.95098	50.04	PK2	33.9	-31.1	-24.41	28.43	54	-25.57	-	-	298	239	H
8	* 7.42645	59.64	PK2	35.6	-27.4	0	67.84	-	-	74	-6.16	298	215	H
	* 7.42645	59.64	PK2	35.6	-27.4	-24.41	43.43	54	-10.57	-	-	298	215	H
10	* 12.37746	43.48	PK2	38.8	-23.9	0	58.38	-	-	74	-15.62	4	101	H
	* 12.37746	43.48	PK2	38.8	-23.9	-24.41	33.97	54	-20.03	-	-	4	101	H
14	* 4.95101	49.97	PK2	33.9	-31.1	0	52.77	-	-	74	-21.23	297	258	V
	* 4.95101	49.97	PK2	33.9	-31.1	-24.41	28.36	54	-25.64	-	-	297	258	V
15	* 7.42343	55.45	PK2	35.6	-27.4	0	63.65	-	-	74	-10.35	0	108	V
	* 7.42343	55.45	PK2	35.6	-27.4	-24.41	39.24	54	-14.76	-	-	0	108	V
17	* 12.37742	47.73	PK2	38.8	-23.9	0	62.63	-	-	74	-11.37	91	101	V
	* 12.37742	47.73	PK2	38.8	-23.9	-24.41	38.22	54	-15.78	-	-	91	101	V
3	2.4105	41.51	Pk	32	-24.5	0	49.01	-	-	-	-	0-360	101	H
4	2.443	46.22	Pk	32.1	-24.4	0	53.92	-	-	-	-	0-360	101	H
12	2.443	38.81	Pk	32.1	-24.4	0	46.51	-	-	-	-	0-360	200	V
9	9.89813	41.16	Pk	37	-25.1	0	53.06	-	-	-	-	0-360	199	H
16	9.89813	43.13	Pk	37	-25.1	0	55.03	-	-	-	-	0-360	199	V
11	17.32875	39.68	Pk	41.1	-21.9	0	58.88	-	-	-	-	0-360	101	H
18	17.32875	41.95	Pk	41.1	-21.9	0	61.15	-	-	-	-	0-360	199	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
Note: Average reading is calculated by subtracting the 24.41 dB duty cycle correction (based on declared duty cycle of 6.016%) from the Peak measurement.

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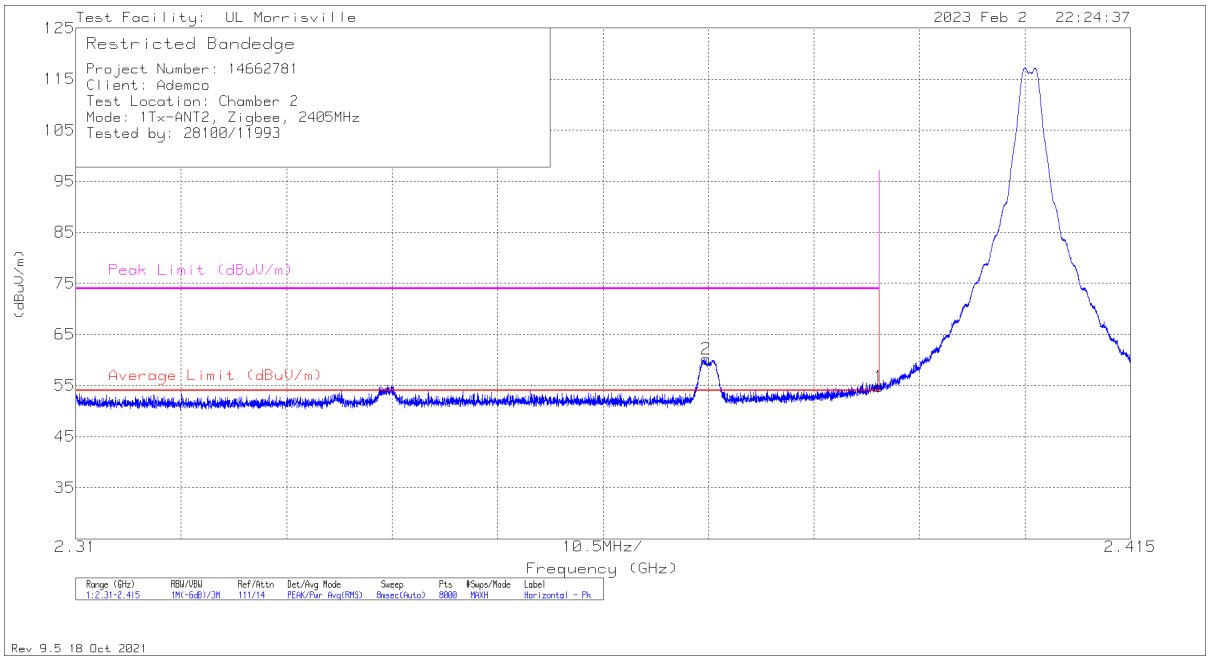
Antenna 2

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	Pad (dB)	DCCF	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	36.56	Pk	32	-23.8	10	0	54.76	-	-	74	-19.24	132	111	H
	* 2.39	36.56	Pk	32	-23.8	10	-24.41	30.35	54	-23.65	-	-	132	111	H
2	* 2.37273	42.22	Pk	32	-24	10	0	60.22	-	-	74	-13.78	132	111	H
	* 2.37273	42.22	Pk	32	-24	10	-24.41	35.81	54	-18.19	-	-	132	111	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Note: Average reading is calculated by subtracting the 24.41 dB duty cycle correction (based on declared duty cycle of 6.016%) from the Peak measurement.

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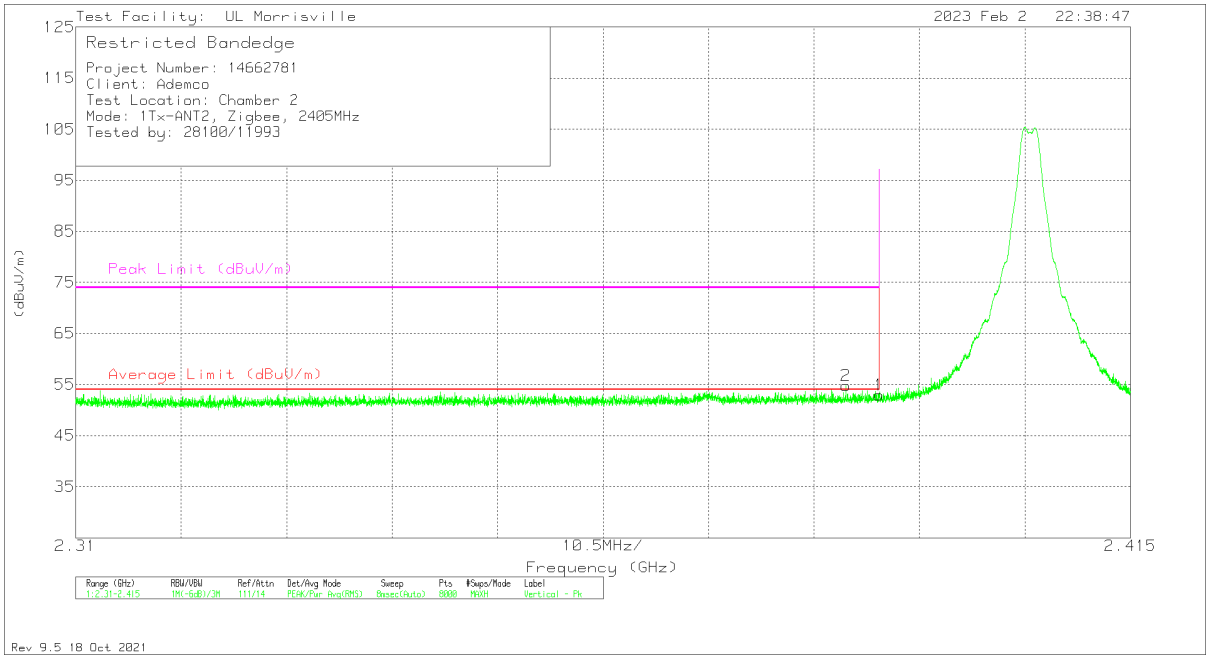
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	Pad (dB)	DCCF	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	34.72	Pk	32	-23.8	10	0	52.92	-	-	74	-21.08	158	389	V
	* 2.39	34.72	Pk	32	-23.8	10	-24.41	28.51	54	-25.49	-	-	158	389	V
2	* 2.38667	36.59	Pk	32	-23.8	10	0	54.79	-	-	74	-19.21	158	389	V
	* 2.38667	36.59	Pk	32	-23.8	10	-24.41	30.38	54	-23.62	-	-	158	389	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Note: Average reading is calculated by subtracting the 24.41 dB duty cycle correction (based on declared duty cycle of 6.016%) from the Peak measurement.

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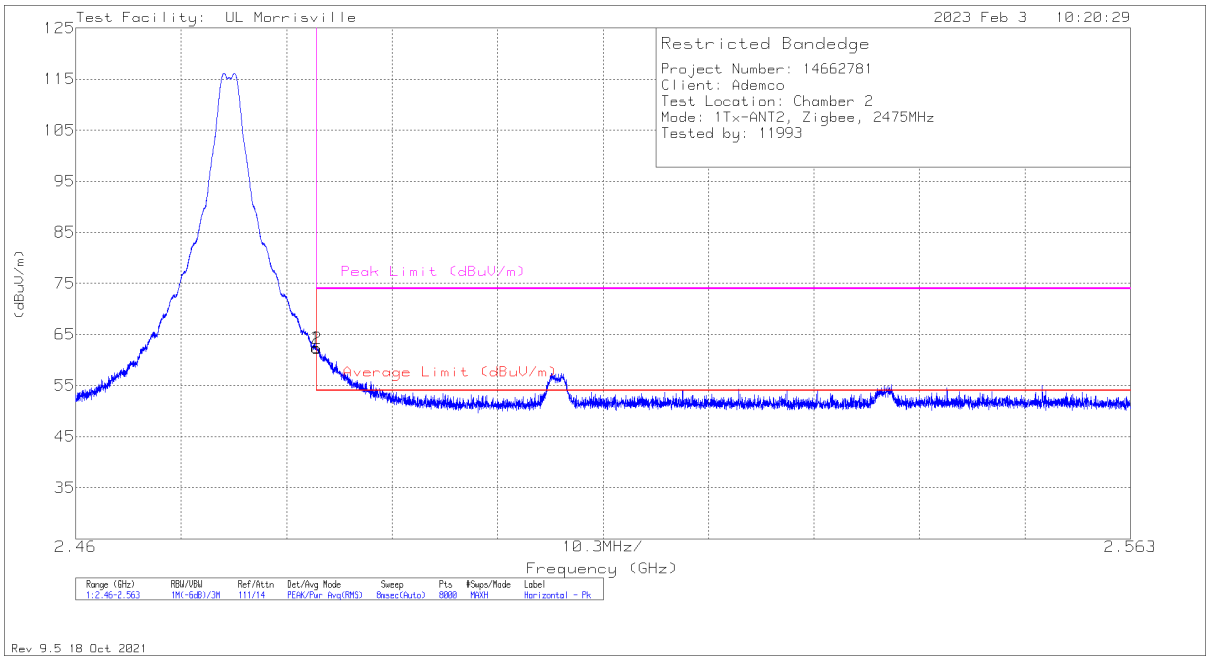
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	Pad (dB)	DCCF	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	44.39	Pk	32.3	-24.3	10	0	62.39	-	-	74	-11.61	127	124	H
	* 2.4835	44.39	Pk	32.3	-24.3	10	-24.41	37.98	54	-16.02	-	-	127	124	H
2	* 2.48356	44.29	Pk	32.3	-24.3	10	0	62.29	-	-	74	-11.71	127	124	H
	* 2.48356	44.29	Pk	32.3	-24.3	10	-24.41	37.88	54	-16.12	-	-	127	124	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Note: Average reading is calculated by subtracting the 24.41 dB duty cycle correction (based on declared duty cycle of 6.016%) from the Peak measurement.

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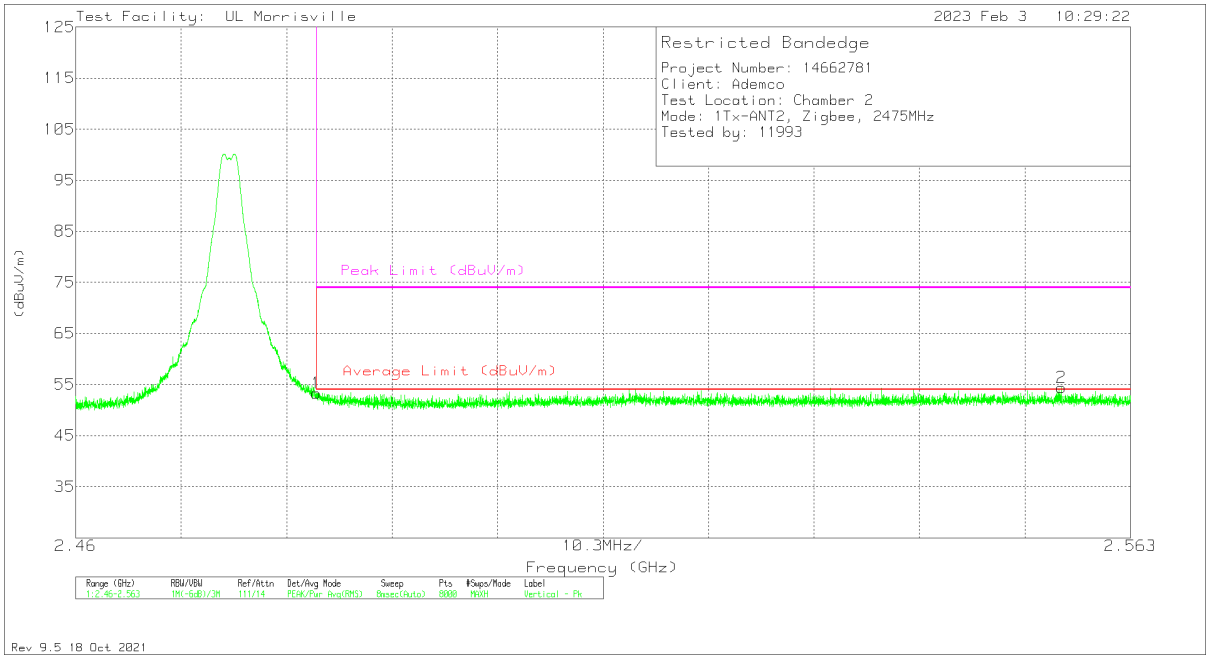
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	Pad (dB)	DCCF	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	35.28	Pk	32.3	-24.3	10	0	53.28	-	-	74	-20.72	114	319	V
	* 2.4835	35.28	Pk	32.3	-24.3	10	-24.41	28.87	54	-25.13	-	-	114	319	V
2	* 2.55627	36.57	Pk	32.5	-24.7	10	0	54.37	-	-	74	-19.63	114	319	V
	* 2.55627	36.57	Pk	32.5	-24.7	10	-24.41	29.96	54	-24.04	-	-	114	319	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Note: Average reading is calculated by subtracting the 24.41 dB duty cycle correction (based on declared duty cycle of 6.016%) from the Peak measurement.

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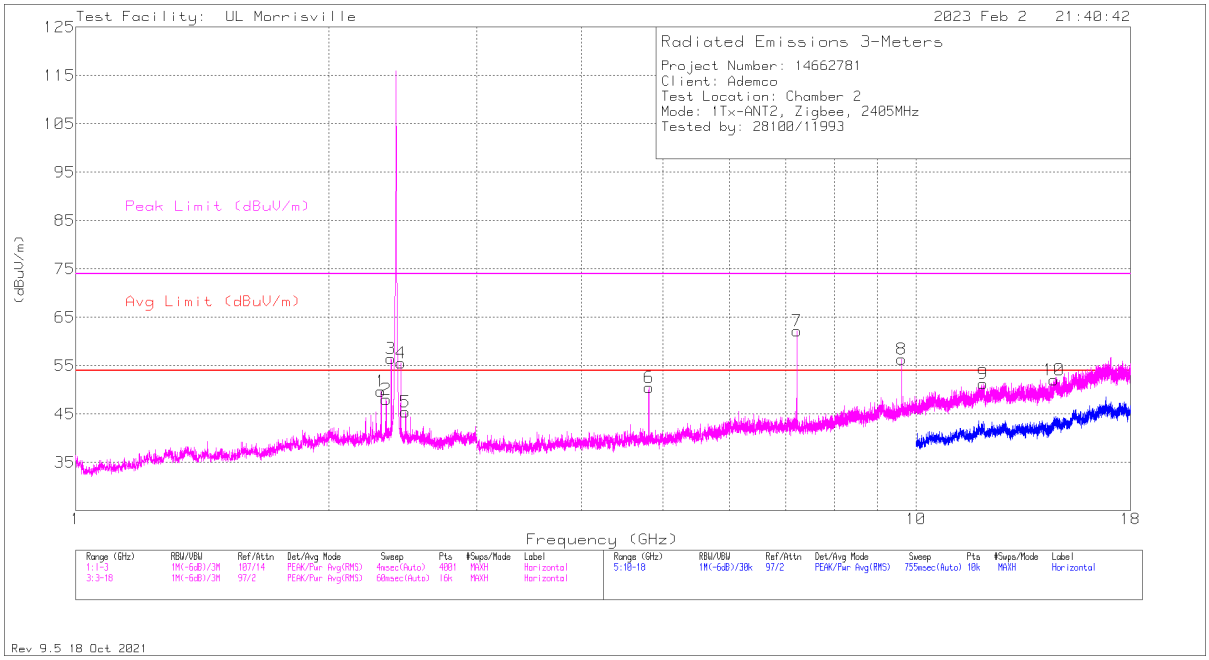
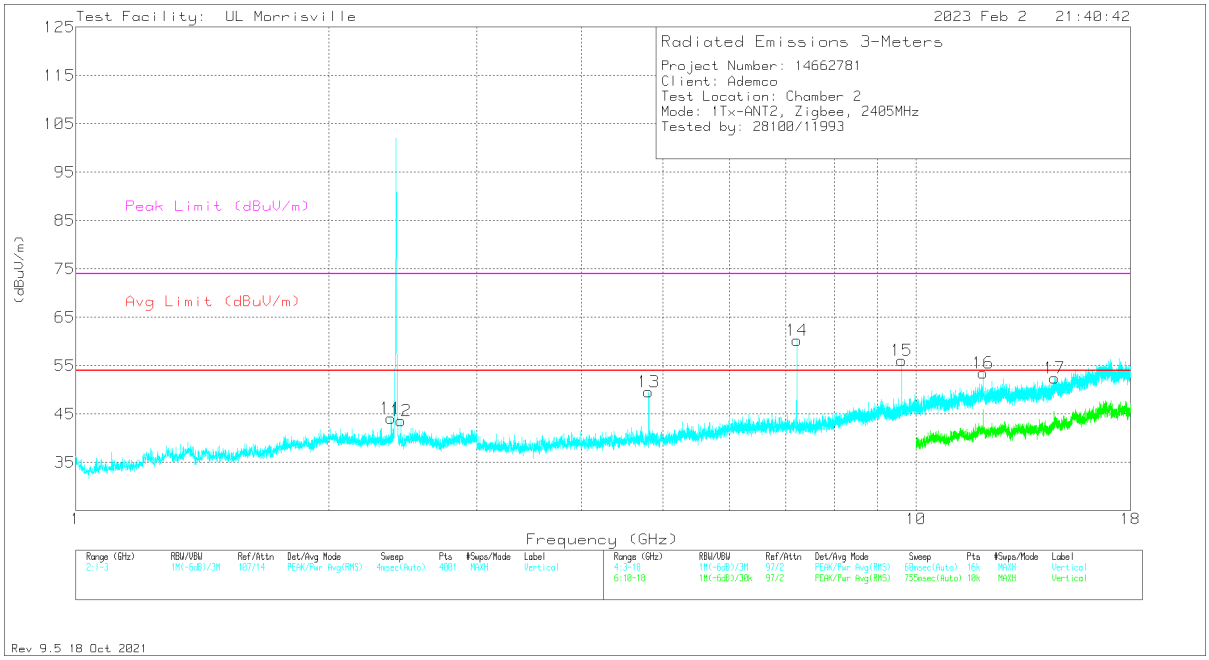
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	DCCF	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.3415	39.99	Pk	31.9	-23.9	0	47.99	54	-6.01	74	-26.01	0-360	101	H
3	* 2.3725	50.03	PK2	32	-24	0	58.03	-	-	74	-15.97	134	113	H
	* 2.3725	50.03	PK2	32	-24	-24.41	33.62	54	-20.38	-	-	134	113	H
11	* 2.3735	36.18	Pk	32	-24	0	44.18	54	-9.82	74	-29.82	0-360	101	V
6	* 4.81097	49.41	PK2	34	-30.5	0	52.91	-	-	74	-21.09	353	246	H
	* 4.81097	49.41	PK2	34	-30.5	-24.41	28.5	54	-25.5	-	-	353	246	H
9	* 12.02226	38.38	PK2	38.6	-22.5	0	54.48	-	-	74	-19.52	126	235	H
	* 12.02226	38.38	PK2	38.6	-22.5	-24.41	30.07	54	-23.93	-	-	126	235	H
13	* 4.8089	50.18	PK2	34	-30.7	0	53.48	-	-	74	-20.52	235	375	V
	* 4.8089	50.18	PK2	34	-30.7	-24.41	29.07	54	-24.93	-	-	235	375	V
16	* 12.02224	40.12	PK2	38.6	-22.5	0	56.22	-	-	74	-17.78	265	104	V
	* 12.02224	40.12	PK2	38.6	-22.5	-24.41	31.81	54	-22.19	-	-	265	104	V
1	2.3085	41.67	Pk	31.7	-23.6	0	49.77	-	-	-	-	0-360	101	H
12	2.4365	35.99	Pk	32.1	-24.5	0	43.59	-	-	-	-	0-360	200	V
4	2.4375	48.01	Pk	32.1	-24.5	0	55.61	-	-	-	-	0-360	200	H
5	2.4695	37.8	Pk	32.3	-24.7	0	45.4	-	-	-	-	0-360	200	H
7	7.21313	54.5	Pk	35.6	-27.9	0	62.2	-	-	-	-	0-360	101	H
14	7.21594	52.38	Pk	35.6	-27.7	0	60.28	-	-	-	-	0-360	200	V
8	9.62156	45.2	Pk	36.7	-25.5	0	56.4	-	-	-	-	0-360	101	H
15	9.62156	44.84	Pk	36.7	-25.5	0	56.04	-	-	-	-	0-360	101	V
10	14.58656	35.22	Pk	39.4	-22.5	0	52.12	-	-	-	-	0-360	200	H
17	14.61281	35.62	Pk	39.4	-22.6	0	52.42	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
Note: Average reading is calculated by subtracting the 24.41 dB duty cycle correction (based on declared duty cycle of 6.016%) from the Peak measurement.

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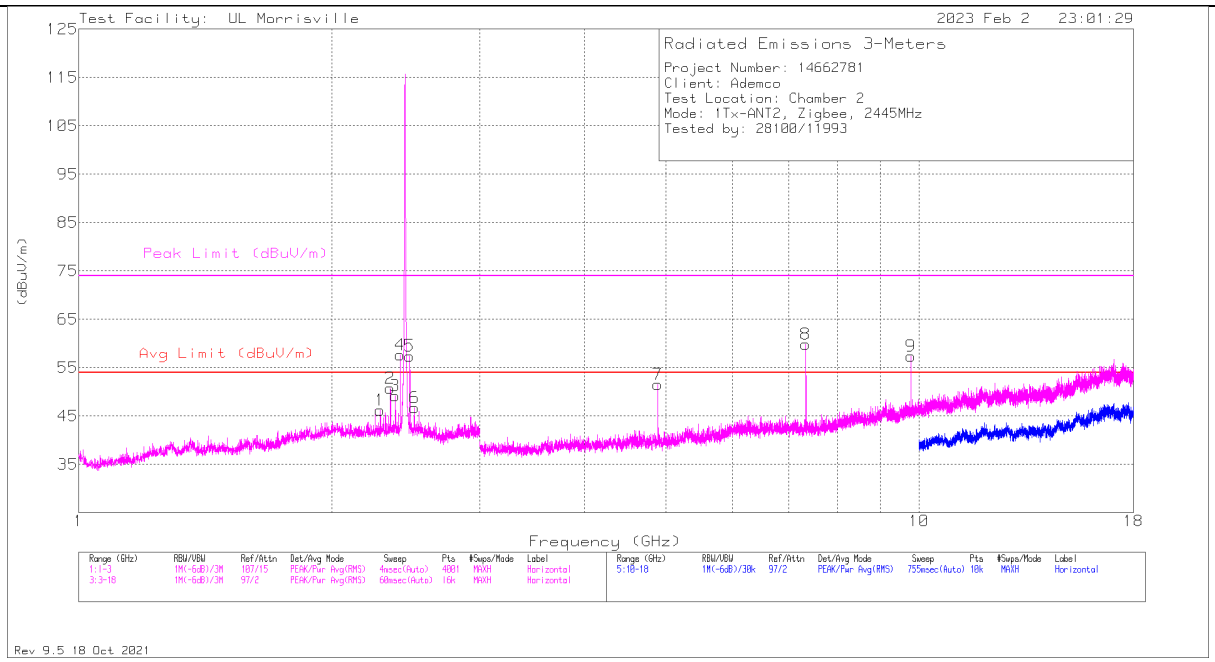
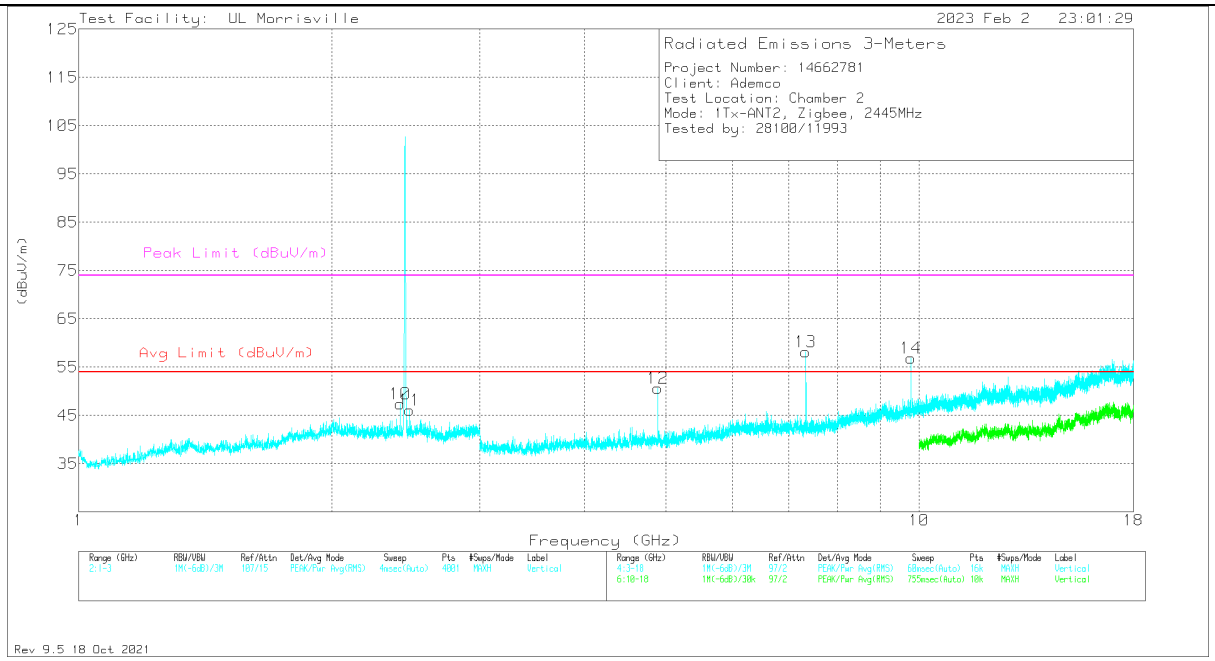
MID CHANNEL RESULTS



HORIZONTAL



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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	DCCF	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.2845	37.98	Pk	31.7	-23.5	0	46.18	54	-7.82	74	-27.82	0-360	199	H
2	* 2.34854	45.36	PK2	31.9	-23.9	0	53.36	-	-	74	-20.64	309	139	H
	* 2.34854	45.36	PK2	31.9	-23.9	-24.41	28.95	54	-25.05	-	-	309	139	H
3	* 2.38139	43.46	PK2	32.1	-23.9	0	51.66	-	-	74	-22.34	313	112	H
	* 2.38139	43.46	PK2	32.1	-23.9	-24.41	27.25	54	-26.75	-	-	313	112	H
6	2.509	38.99	Pk	32.4	-24.6	0	46.79	-	-	-	-	0-360	101	H
7	* 4.8909	50.55	PK2	33.9	-30.5	0	53.95	-	-	74	-20.05	172	133	H
	* 4.8909	50.55	PK2	33.9	-30.5	-24.41	29.54	54	-24.46	-	-	172	133	H
8	* 7.33338	52.74	PK2	35.6	-27.4	0	60.94	-	-	74	-13.06	290	213	H
	* 7.33338	52.74	PK2	35.6	-27.4	-24.41	36.53	54	-17.46	-	-	290	213	H
12	* 4.89094	49.37	PK2	33.9	-30.5	0	52.77	-	-	74	-21.23	283	252	V
	* 4.89094	49.37	PK2	33.9	-30.5	-24.41	28.36	54	-25.64	-	-	283	252	V
13	* 7.33345	51.96	PK2	35.6	-27.4	0	60.16	-	-	74	-13.84	9	252	V
	* 7.33345	51.96	PK2	35.6	-27.4	-24.41	35.75	54	-18.25	-	-	9	252	V
4	2.413	50.11	Pk	32	-24.5	0	57.61	-	-	-	-	0-360	199	H
10	2.413	39.86	Pk	32	-24.5	0	47.36	-	-	-	-	0-360	199	V
5	2.477	49.65	Pk	32.3	-24.5	0	57.45	-	-	-	-	0-360	101	H
11	2.478	38.25	Pk	32.3	-24.5	0	46.05	-	-	-	-	0-360	199	V
14	9.77813	45.34	Pk	36.8	-25.3	0	56.84	-	-	-	-	0-360	101	V
9	9.78188	45.73	Pk	36.8	-25.2	0	57.33	-	-	-	-	0-360	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
PK2 - Maximum Peak
Note: Average reading is calculated by subtracting the 24.41 dB duty cycle correction (based on declared duty cycle of 6.016%) from the Peak measurement.

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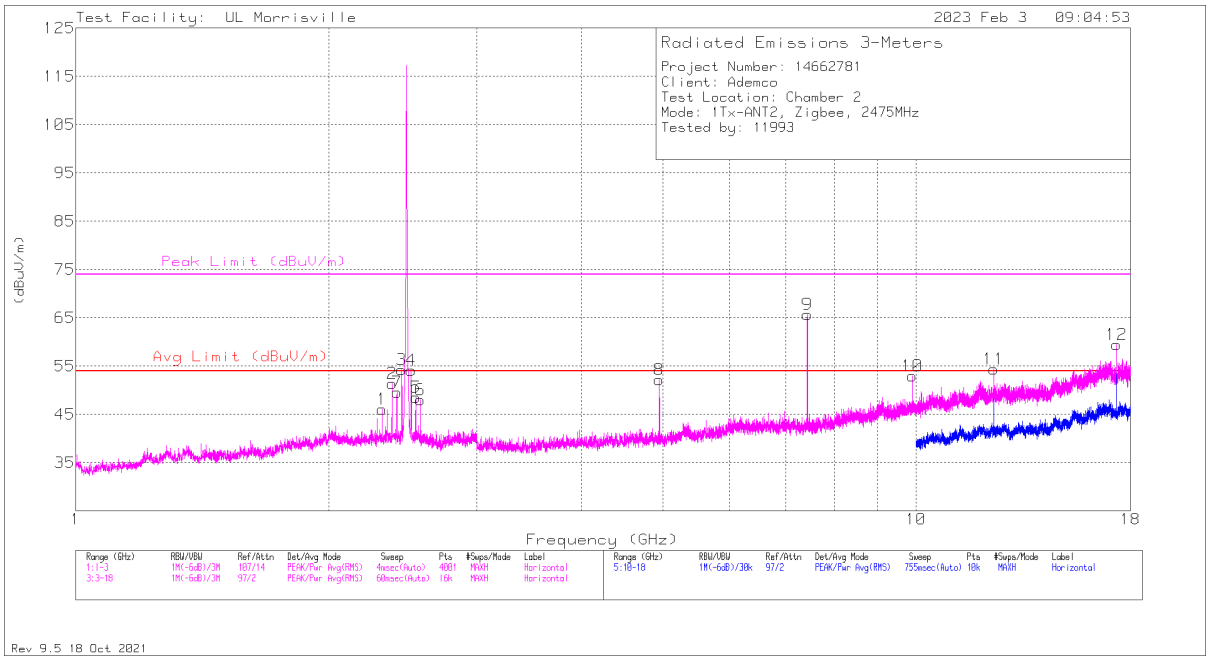
HIGH CHANNEL RESULTS



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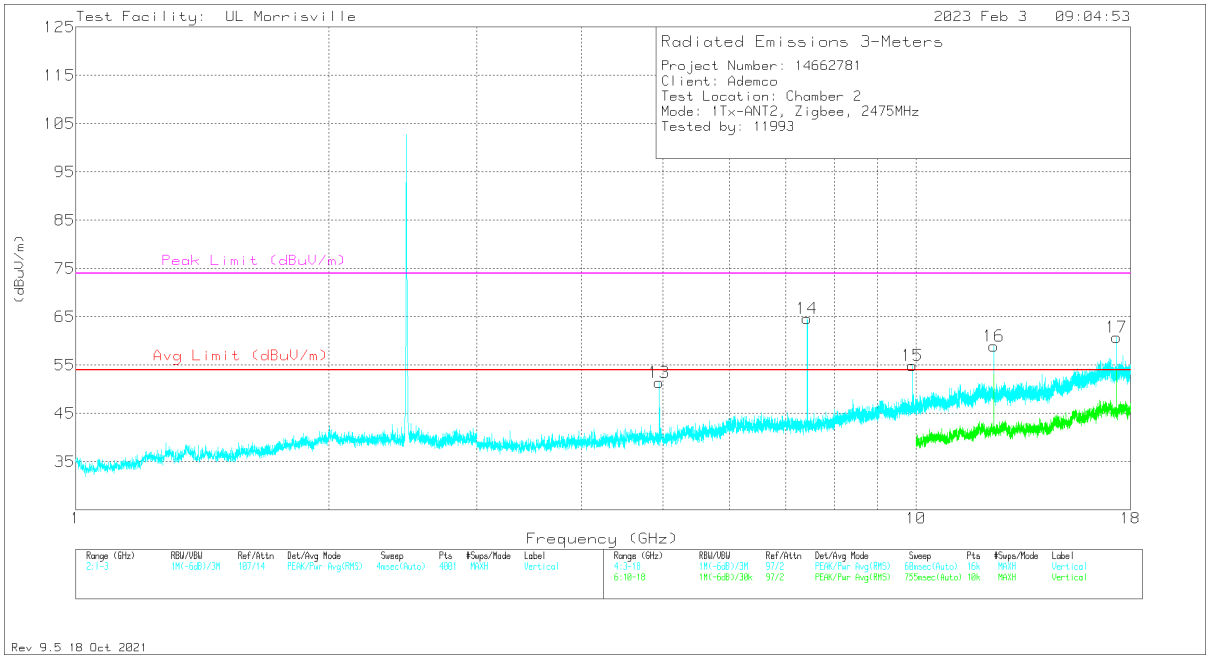

VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206211 (dB/m)	Gain/Loss (dB)	DCCF	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.3155	38.34	Pk	31.7	-23.9	0	46.14	54	-7.86	74	-27.86	0-360	199	H
2	* 2.37958	44.53	PK2	32.1	-23.9	0	52.73	-	-	74	-21.27	117	207	H
	* 2.37958	44.53	PK2	32.1	-23.9	-24.41	28.32	54	-25.68	-	-	117	207	H
8	* 4.95098	51.14	PK2	33.9	-31.1	0	53.94	-	-	74	-20.06	345	102	H
	* 4.95098	51.14	PK2	33.9	-31.1	-24.41	29.53	54	-24.47	-	-	345	102	H
9	* 7.42647	57.79	PK2	35.6	-27.4	0	65.99	-	-	74	-8.01	119	215	H
	* 7.42647	57.79	PK2	35.6	-27.4	-24.41	41.58	54	-12.42	-	-	119	215	H
11	* 12.37237	40.94	PK2	38.8	-23.8	0	55.94	-	-	74	-18.06	122	109	H
	* 12.37237	40.94	PK2	38.8	-23.8	-24.41	31.53	54	-22.47	-	-	122	109	H
13	* 4.95098	51.31	PK2	33.9	-31.1	0	54.11	-	-	74	-19.89	106	275	V
	* 4.95098	51.31	PK2	33.9	-31.1	-24.41	29.7	54	-24.3	-	-	106	275	V
14	* 7.42344	55.8	PK2	35.6	-27.4	0	64	-	-	74	-10	176	222	V
	* 7.42344	55.8	PK2	35.6	-27.4	-24.41	39.59	54	-14.41	-	-	176	222	V
16	* 12.37233	44.75	PK2	38.8	-23.8	0	59.75	-	-	74	-14.25	268	101	V
	* 12.37233	44.75	PK2	38.8	-23.8	-24.41	35.34	54	-18.66	-	-	268	101	V
7	2.4115	42.15	Pk	32	-24.5	0	49.65	-	-	-	-	0-360	199	H
3	2.4435	46.67	Pk	32.1	-24.5	0	54.27	-	-	-	-	0-360	199	H
10	9.89813	41.02	Pk	37	-25.1	0	52.92	-	-	-	-	0-360	101	H
15	9.90188	43.19	Pk	37	-25.3	0	54.89	-	-	-	-	0-360	101	V
12	17.32875	40.29	Pk	41.1	-21.9	0	59.49	-	-	-	-	0-360	101	H
17	17.32875	41.56	Pk	41.1	-21.9	0	60.76	-	-	-	-	0-360	200	V
4	2.50744	47.65	PK2	32.4	-24.6	0	55.45	-	-	-	-	132	143	H
5	2.53941	42.78	PK2	32.6	-24.8	0	50.58	-	-	-	-	128	120	H
6	2.57144	41.97	PK2	32.4	-25.2	0	49.17	-	-	-	-	109	263	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
PK2 - KDB558074 Method: Maximum Peak
Note: Average reading is calculated by subtracting the 24.41 dB duty cycle correction (based on declared duty cycle of 6.016%) from the Peak measurement.

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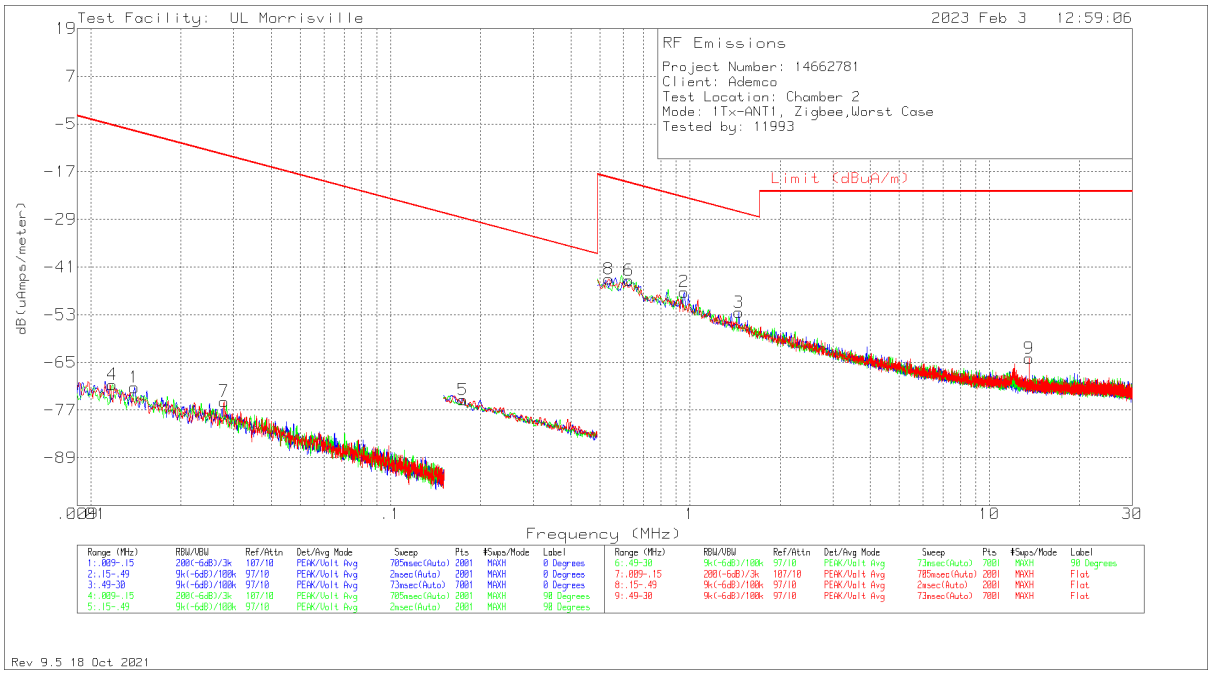
10.3. WORST CASE BELOW 30MHZ

Antenna 1

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).



ANTENNA- THREE ORIENTATIONS H FIELD

Below 30MHz Data H FIELD

Marker	Frequency (MHz)	Meter Reading (dBuA)	Det	AT0059 (dBuV/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)	Loop Angle
4	.01177	42.4	Pk	-33.1	.1	-80	-70.6	-5.31	14.69	-65.29	0-360	90 degs
1	.01397	42.71	Pk	-34.1	.1	-80	-71.29	-6.8	13.20	-64.49	0-360	0 degs
7	.02782	42.76	Pk	-37.7	.1	-80	-74.84	-12.78	7.22	-62.06	0-360	Flat
5	.17465	46.4	Pk	-40.9	.1	-80	-74.4	-28.74	-8.74	-45.66	0-360	90 degs
8	.53638	36.79	Pk	-40.9	.1	-40	-44.01	-18.49	-	-25.52	0-360	Flat
6	.62491	36.34	Pk	-40.9	.2	-40	-44.36	-19.81	-	-24.55	0-360	90 degs
2	.95798	33.33	Pk	-40.8	.2	-40	-47.27	-23.52	-	-23.75	0-360	0 degs
3	1.45546	28.08	Pk	-40.7	.2	-40	-52.42	-27.16	-	-25.26	0-360	0 degs
9	13.5596	15.91	Pk	-40.6	.7	-40	-63.99	-21.96	-	-42.03	0-360	Flat

Pk - Peak detector

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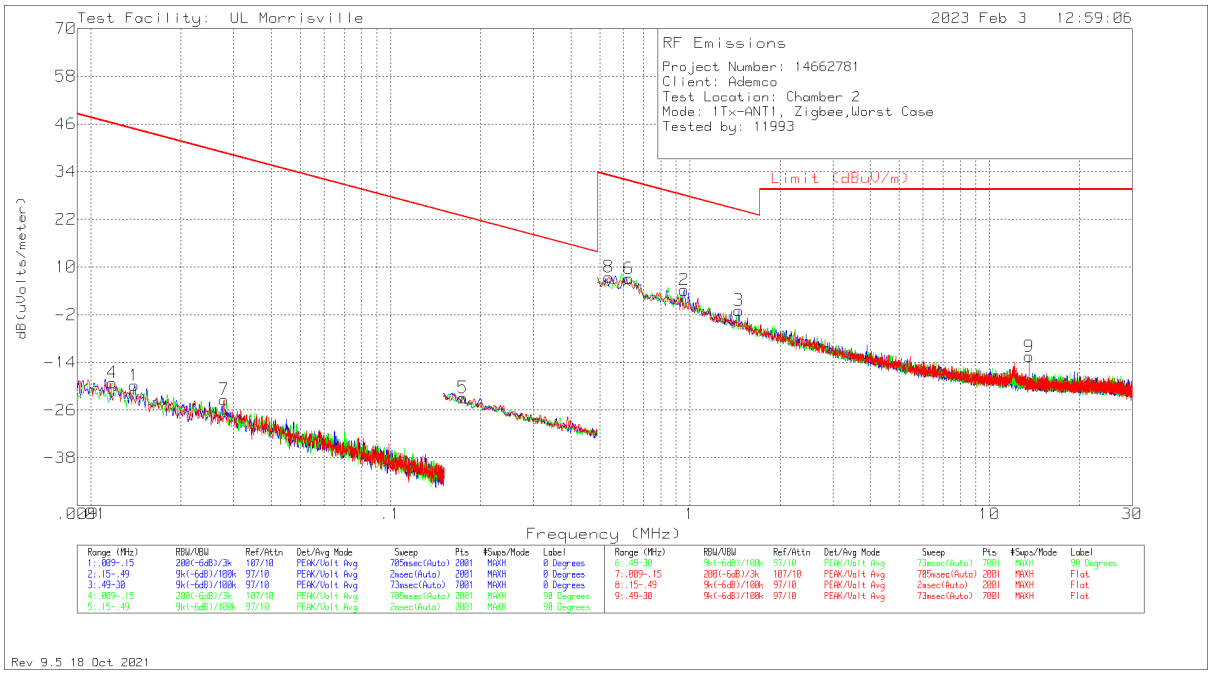

ANTENNA- THREE ORIENTATIONS E FIELD

Below 30MHz Data E FIELD

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0059 (dBuV/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)	Loop Angle
4	.01177	42.4	Pk	18.4	.1	-80	-19.1	46.19	66.19	-65.29	0-360	90 degs
1	.01397	42.71	Pk	17.4	.1	-80	-19.79	44.7	64.7	-64.49	0-360	0 degs
7	.02782	42.76	Pk	13.8	.1	-80	-23.34	38.72	58.72	-62.06	0-360	Flat
5	.17465	46.4	Pk	10.6	.1	-80	-22.9	22.76	42.76	-45.66	0-360	90 degs
8	.53638	36.79	Pk	10.6	.1	-40	7.49	33.01	-	-25.52	0-360	Flat
6	.62491	36.34	Pk	10.6	.2	-40	7.14	31.69	-	-24.55	0-360	90 degs
2	.95798	33.33	Pk	10.7	.2	-40	4.23	27.98	-	-23.75	0-360	0 degs
3	1.45546	28.08	Pk	10.8	.2	-40	-.92	24.34	-	-25.26	0-360	0 degs
9	13.5596	15.91	Pk	10.9	.7	-40	-12.49	29.54	-	-42.03	0-360	Flat

Pk - Peak detector

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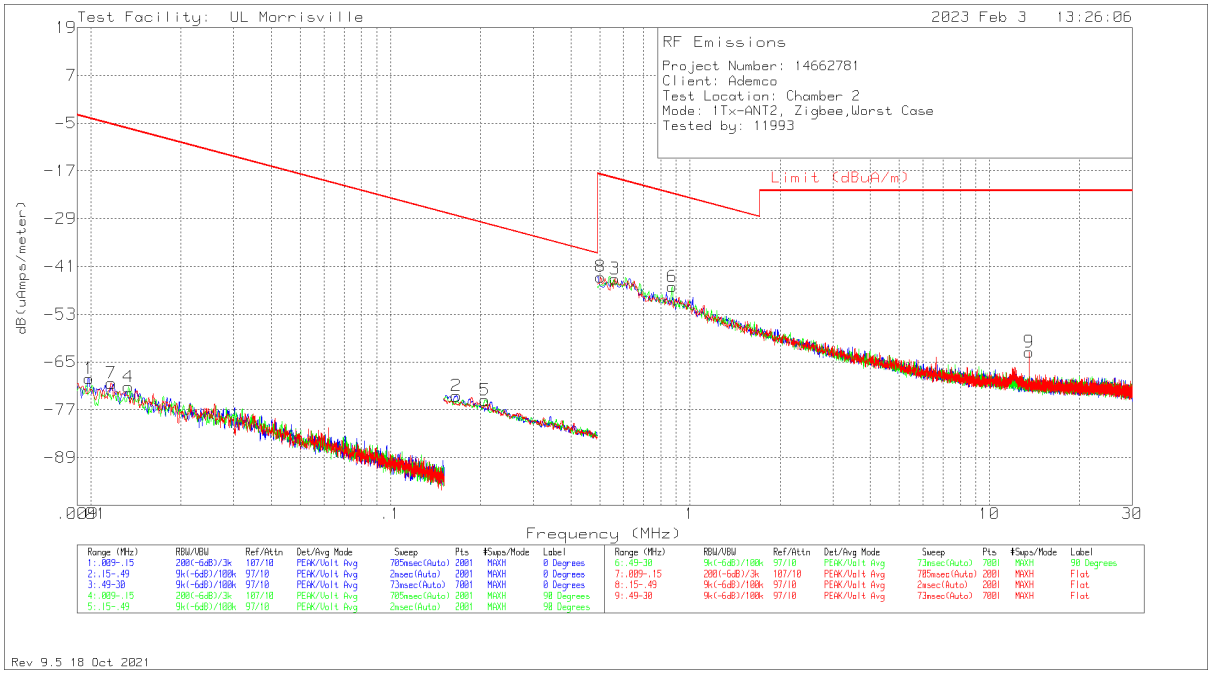
Antenna 2

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).



ANTENNA- THREE ORIENTATIONS H FIELD

Below 30MHz Data H FIELD

Marker	Frequency (MHz)	Meter Reading (dBuA)	Det	AT0059 (dBuV/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)	Loop Angle
1	.00985	42.83	Pk	-32.1	.1	-80	-69.17	-3.77	16.23	-65.4	0-360	0 degs
7	.0117	42.56	Pk	-33	.1	-80	-70.34	-5.26	14.74	-65.08	0-360	Flat
4	.01333	42.43	Pk	-33.8	.1	-80	-71.27	-6.39	13.61	-64.88	0-360	90 degs
2	.16607	47.3	Pk	-40.9	.1	-80	-73.5	-28.3	-8.30	-45.2	0-360	0 degs
5	.20678	46.19	Pk	-40.9	.1	-80	-74.61	-30.21	-10.21	-44.4	0-360	90 degs
8	.50265	37.28	Pk	-41	.1	-40	-43.62	-17.92	-	-25.7	0-360	Flat
3	.56167	36.68	Pk	-40.9	.1	-40	-44.12	-18.89	-	-25.23	0-360	0 degs
6	.87366	34.61	Pk	-40.9	.2	-40	-46.09	-22.72	-	-23.37	0-360	90 degs
9	13.5596	17.39	Pk	-40.6	.7	-40	-62.51	-21.96	-	-40.55	0-360	Flat

Pk - Peak detector

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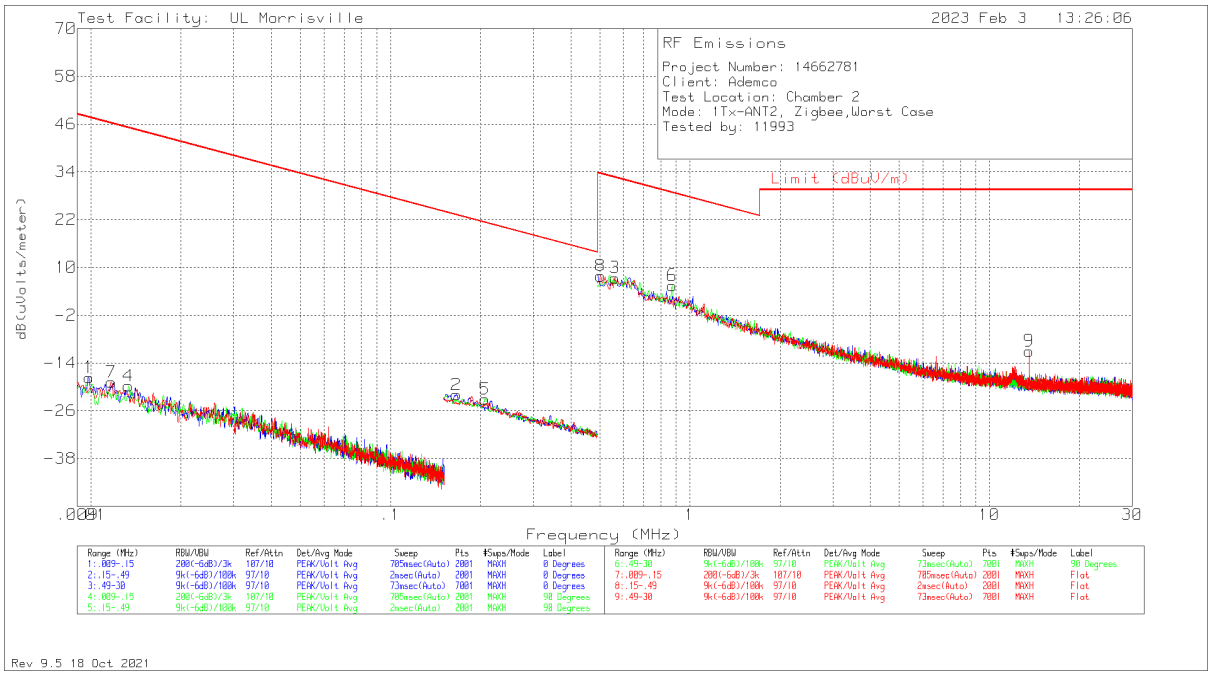

ANTENNA- THREE ORIENTATIONS E FIELD

Below 30MHz Data E FIELD

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0059 (dBuV/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)	Loop Angle
1	.00985	42.83	Pk	19.4	.1	-80	-17.67	47.73	67.73	-65.4	0-360	0 degs
7	.0117	42.56	Pk	18.5	.1	-80	-18.84	46.24	66.24	-65.08	0-360	Flat
4	.01333	42.43	Pk	17.7	.1	-80	-19.77	45.11	65.11	-64.88	0-360	90 degs
2	.16607	47.3	Pk	10.6	.1	-80	-22	23.2	43.20	-45.2	0-360	0 degs
5	.20678	46.19	Pk	10.6	.1	-80	-23.11	21.29	41.29	-44.4	0-360	90 degs
8	.50265	37.28	Pk	10.5	.1	-40	7.88	33.58	-	-25.7	0-360	Flat
3	.56167	36.68	Pk	10.6	.1	-40	7.38	32.61	-	-25.23	0-360	0 degs
6	.87366	34.61	Pk	10.6	.2	-40	5.41	28.78	-	-23.37	0-360	90 degs
9	13.5596	17.39	Pk	10.9	.7	-40	-11.01	29.54	-	-40.55	0-360	Flat

Pk - Peak detector

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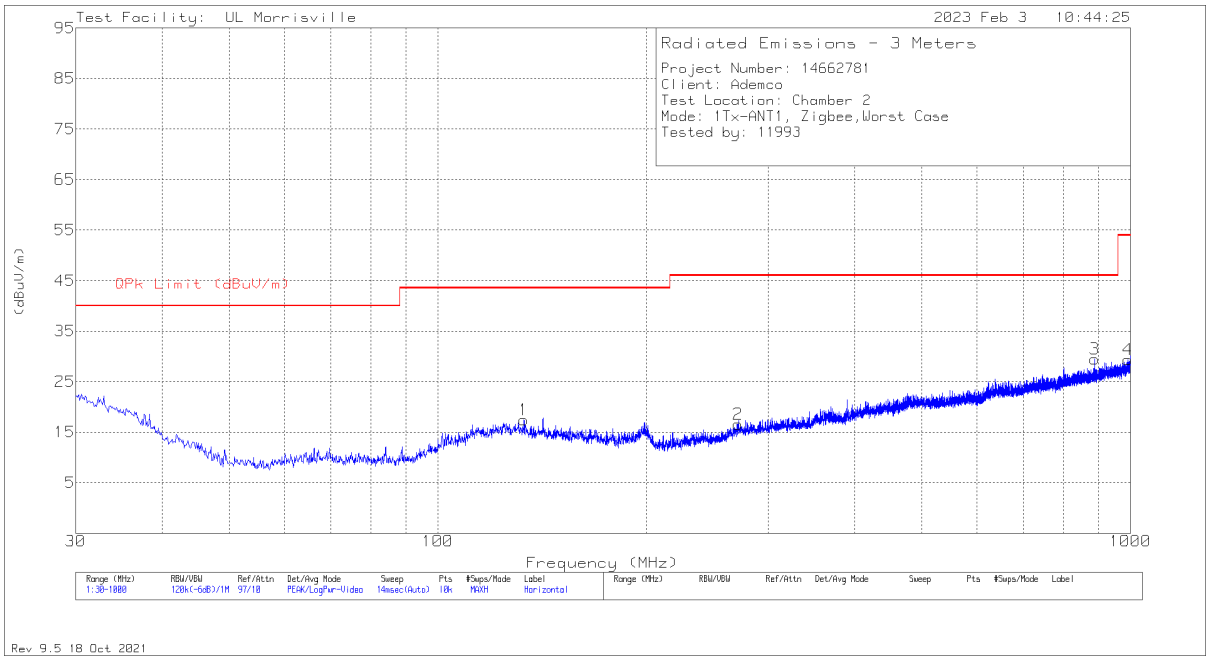
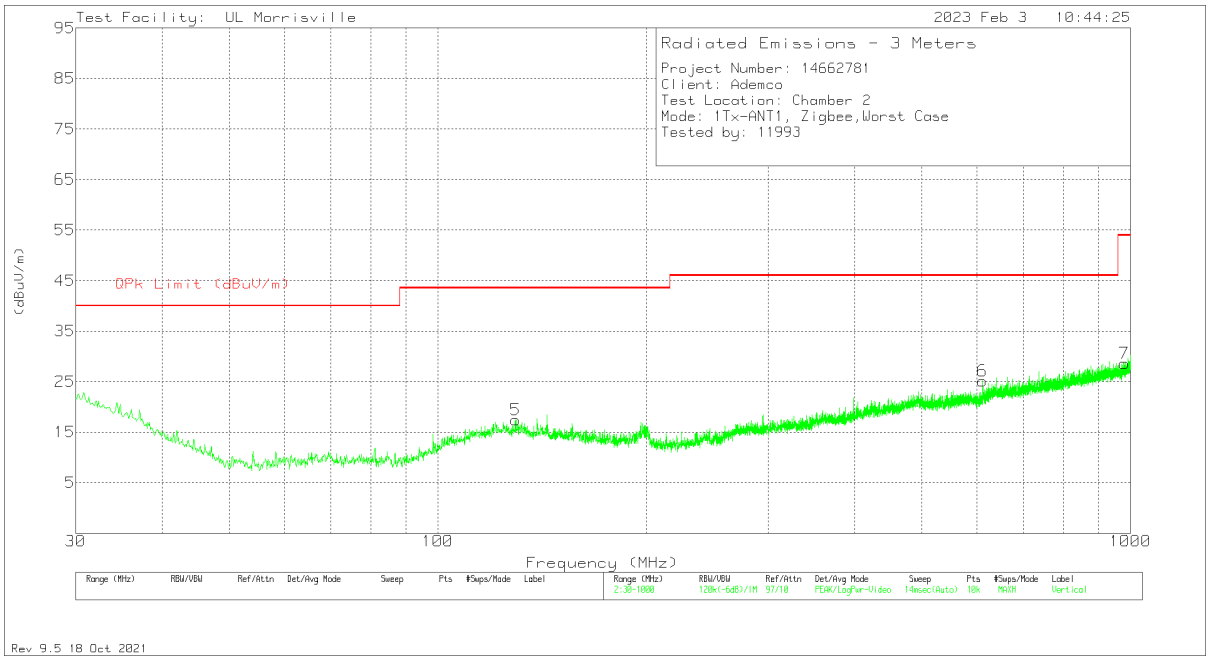
10.4. WORST CASE BELOW 1 GHZ

Antenna 1

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



HORIZONTAL



VERTICAL

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Below 1GHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0074 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 133.111	27.89	Pk	19.8	-30.2	17.49	43.52	-26.03	0-360	299	H
2	* ** 271.142	26.1	Pk	19.2	-28.7	16.6	46.02	-29.42	0-360	100	H
3	** 887.286	27.05	Pk	27.9	-25.5	29.45	46.02	-16.57	0-360	299	H
4	* ** 990.688	24.74	Pk	28.8	-24.2	29.34	53.97	-24.63	0-360	199	H
5	* ** 129.619	27.75	Pk	19.9	-30.2	17.45	43.52	-26.07	0-360	299	V
6	* ** 611.224	27.93	Pk	24.6	-27.4	25.13	46.02	-20.89	0-360	199	V
7	* ** 980.309	24.41	Pk	28.7	-24.5	28.61	53.97	-25.36	0-360	199	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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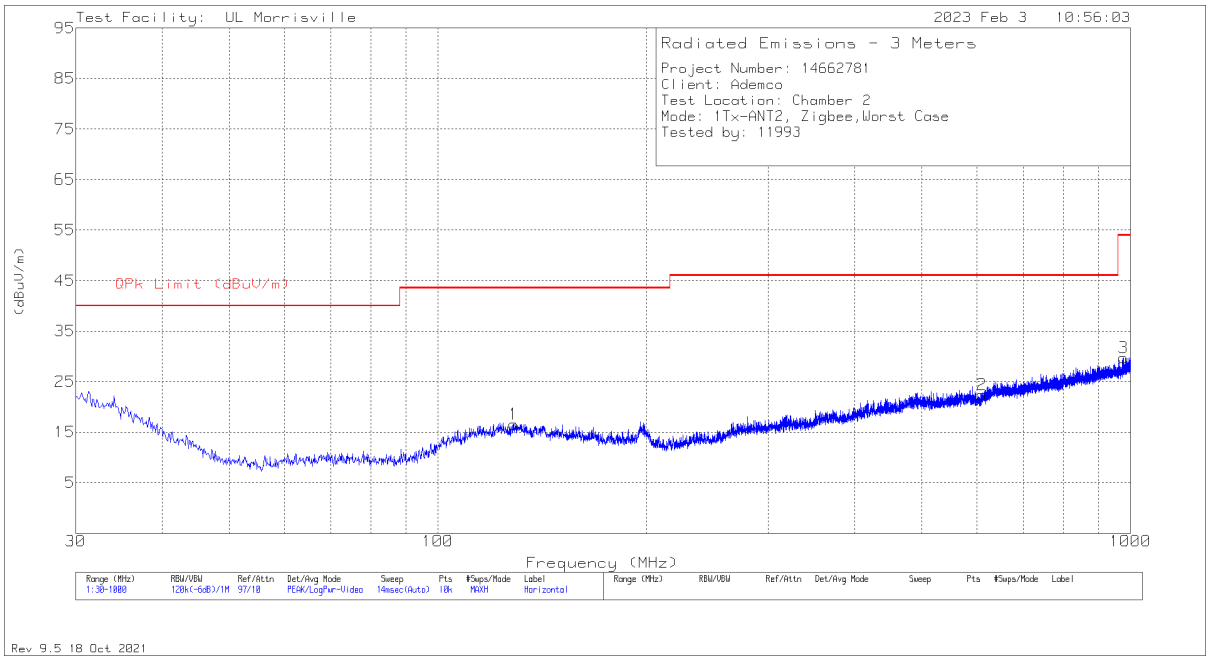
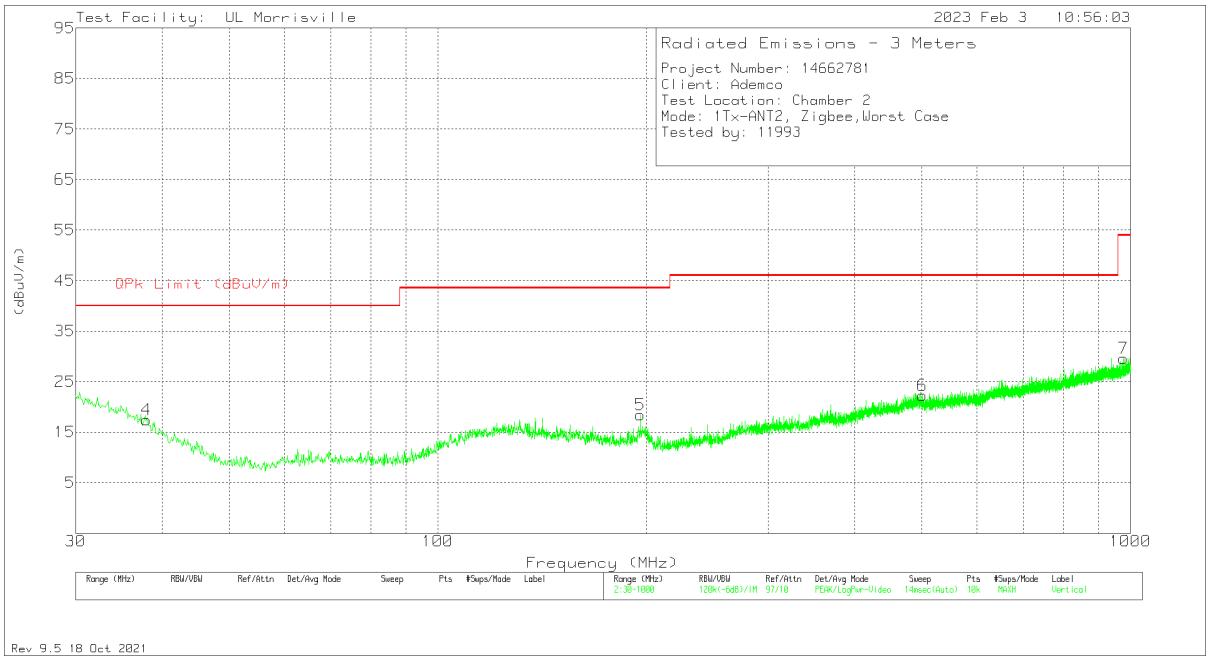
Antenna 2

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



HORIZONTAL



VERTICAL

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Below 1GHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0074 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 128.649	26.81	Pk	20	-30.2	16.61	43.52	-26.91	0-360	199	H
2	* ** 610.06	25.24	Pk	24.6	-27.4	22.44	46.02	-23.58	0-360	399	H
3	* ** 976.526	25.74	Pk	28.6	-24.6	29.74	53.97	-24.23	0-360	199	H
4	* ** 37.954	27.28	Pk	21.5	-31.3	17.48	40	-22.52	0-360	299	V
6	** 500.159	26.22	Pk	23.7	-27.6	22.32	46.02	-23.7	0-360	299	V
7	* ** 978.078	25.4	Pk	28.6	-24.4	29.6	53.97	-24.37	0-360	299	V
5	196.064	29.31	Pk	18.8	-29.7	18.41	-	-	0-360	299	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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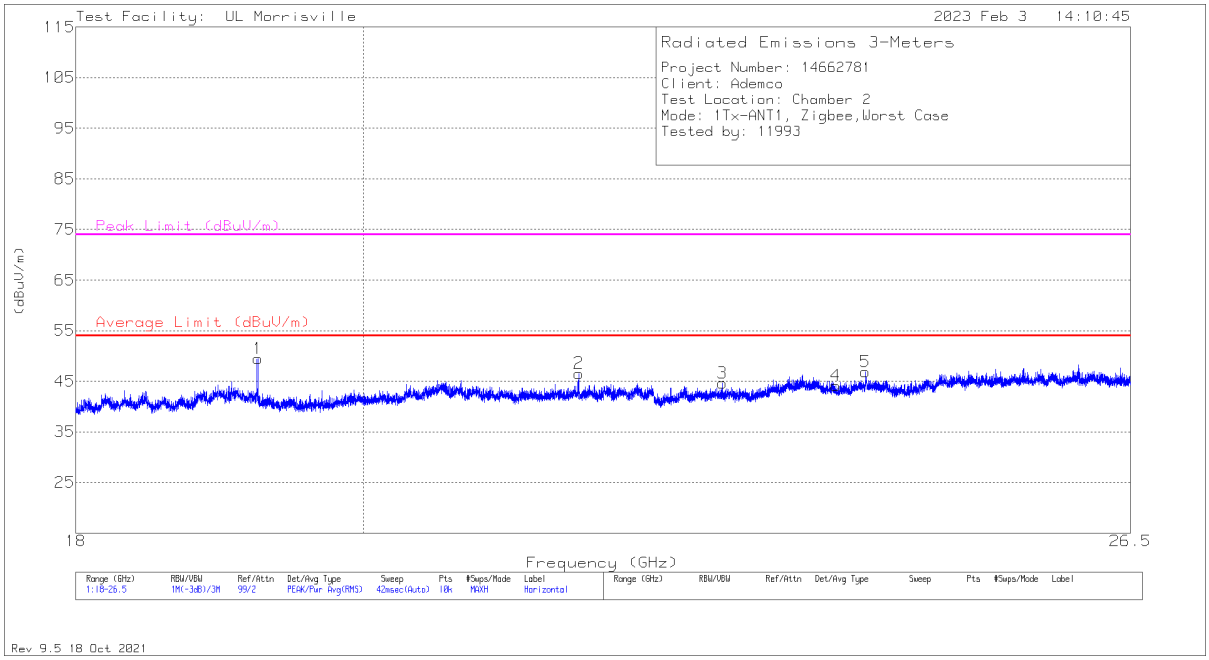
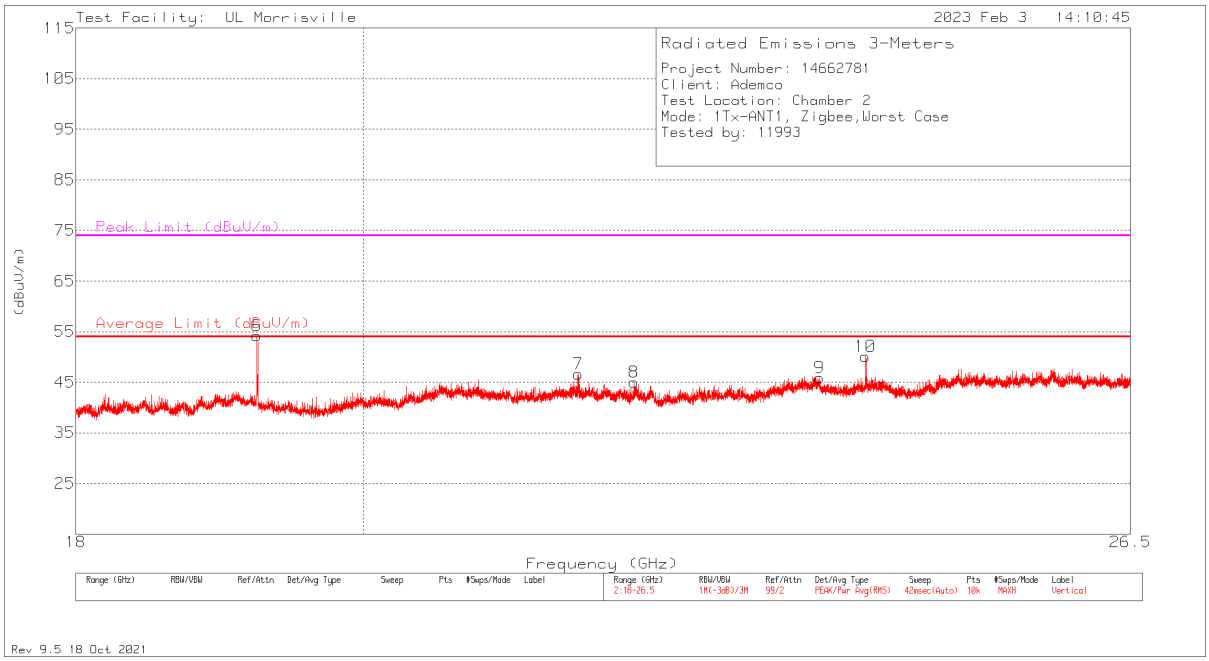
10.5. WORST CASE 18-26 GHZ

Antenna 1

SPURIOUS EMISSIONS 18-26 GHz (WORST-CASE CONFIGURATION)



HORIZONTAL



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18 – 26GHz Data

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	204704 (dB/m)	Gain/Loss (dB)	DCCF	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin(dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 19.24385	56.95	PK2	33.7	-38.4	0	52.25	-	-	74	-21.75	269	105	H
1	* ** 19.24385	56.95	PK2	33.7	-38.4	-24.41	27.84	54	-26.16	-	-	269	105	H
3	* ** 22.81987	48.52	Pk	34.4	-38.3	0	44.62	54	-9.38	74	-29.38	0-360	300	H
4	* ** 23.78707	46.67	Pk	35.1	-37.6	0	44.17	54	-9.83	74	-29.83	0-360	101	H
6	* ** 19.23562	61.57	PK2	33.7	-38.4	0	56.87	-	-	74	-17.13	330	273	V
6	* ** 19.23562	61.57	PK2	33.7	-38.4	-24.41	32.46	54	-21.54	-	-	330	273	V
8	* ** 22.09149	48.73	Pk	34.5	-38.2	0	45.03	54	-8.97	74	-28.97	0-360	101	V
9	* ** 23.64259	48.38	Pk	35.2	-37.7	0	45.88	54	-8.12	74	-28.12	0-360	300	V
7	21.64019	50.93	Pk	34.2	-38.5	0	46.63	-	-	-	-	0-360	300	V
2	21.64869	50.86	Pk	34.2	-38.5	0	46.56	-	-	-	-	0-360	101	H
10	24.0446	52.43	Pk	35.1	-37.4	0	50.13	-	-	-	-	0-360	200	V
5	24.04502	49.17	Pk	35.1	-37.4	0	46.87	-	-	-	-	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
PK2 - Maximum Peak

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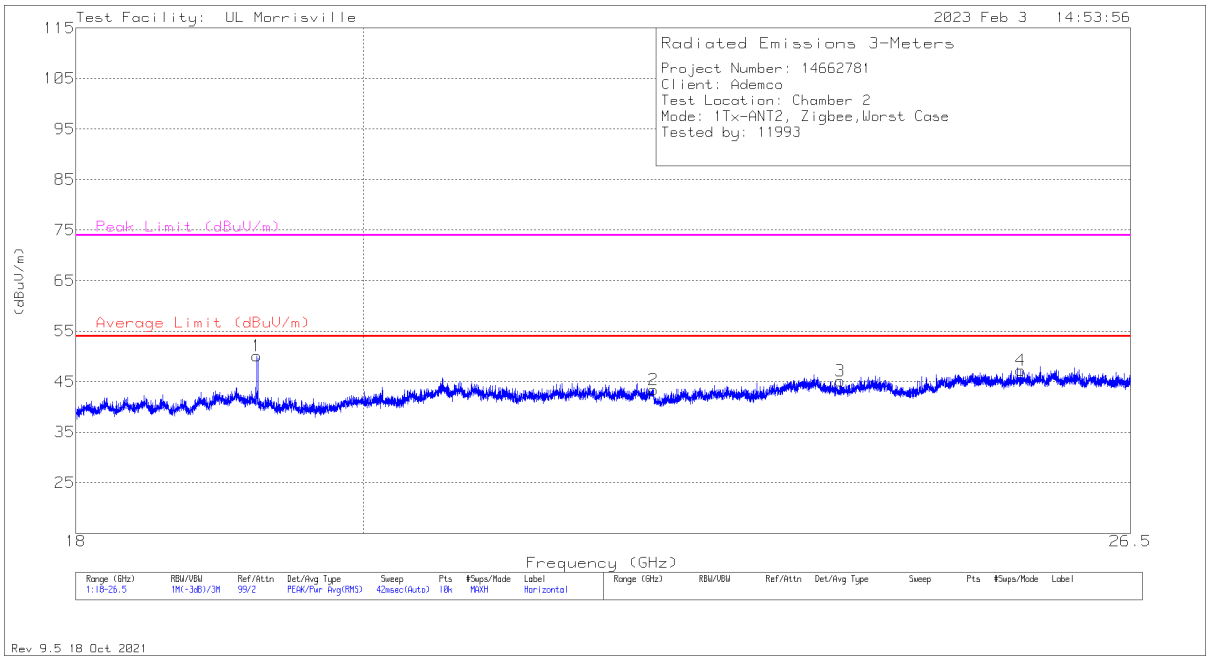
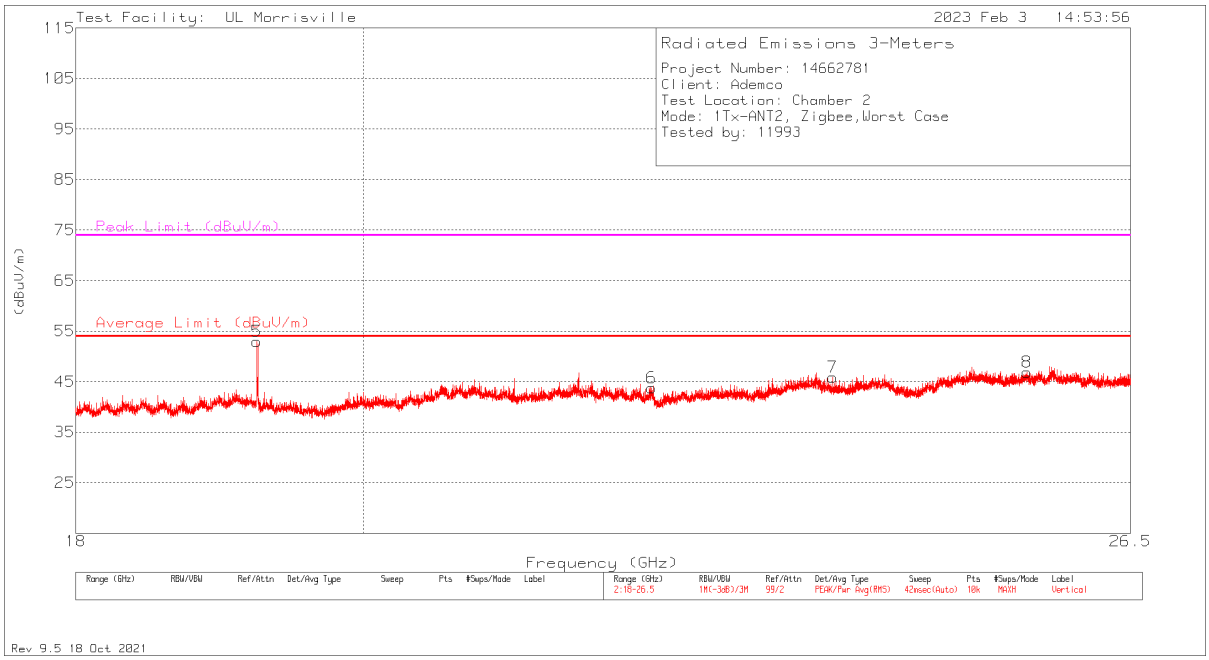
Antenna 2

SPURIOUS EMISSIONS 18-26 GHz (WORST-CASE CONFIGURATION)



HORIZONTAL



VERTICAL

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18 – 26GHz Data

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	204704 (dB/m)	Gain/Loss (dB)	DCCF	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin(dB)	Peak Limit (dBuV/m)	Margin(dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 19.23565	56.67	PK2	33.7	-38.4	0	51.97	-	-	74	-22.03	122	383	H
1	* ** 19.23565	56.67	PK2	33.7	-38.4	-24.41	27.56	54	-26.44	-	-	122	383	H
2	* ** 22.24788	47.25	Pk	34.5	-38.3	0	43.45	54	-10.55	74	-30.55	0-360	200	H
3	* ** 23.82702	47.64	Pk	35.1	-37.6	0	45.14	54	-8.86	74	-28.86	0-360	150	H
5	* ** 19.23569	60.63	PK2	33.7	-38.4	0	55.93	-	-	74	-18.07	155	282	V
5	* ** 19.23569	60.63	PK2	33.7	-38.4	-24.41	31.52	54	-22.48	-	-	155	282	V
6	* ** 22.23428	47.52	Pk	34.5	-38.3	0	43.72	54	-10.28	74	-30.28	0-360	249	V
7	* ** 23.75732	48.5	Pk	35.1	-37.7	0	45.9	54	-8.1	74	-28.1	0-360	200	V
4	25.45715	47.95	Pk	36	-36.7	0	47.25	-	-	74	-26.75	0-360	150	H
8	25.5124	47.52	Pk	36	-36.6	0	46.92	-	-	74	-27.08	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

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11. SETUP PHOTOS

Please refer to R14662781-EP1 for setup photos

END OF TEST REPORT

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