TEST REPORT

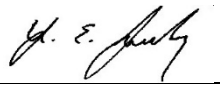
Applicant	Yardi Systems Inc.
Address	430 South Fairview Ave Goleata, CA 93117

FCC ID	2BAL9YDITRZB
ISED IC	30221-YDITRZB
Product Description	Wireless Gecko Multi-Protocol Connectivity Module
Model/HVIN	YDI210P32
Additional Models & Model Difference	None
Date of tests	Jul 7 to Oct 11, 2023
FCC Test Firm DN Canada CABID	US1028 US0106

The tests have been carried out according to the requirements of the following standard:

☒ **FCC Part 15, Subpart C, Section 15.247**
☒ **RSS-247 Issue 2**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Ryan M. Brown Sr. EMC/Wireless Engineer	Approved by Yunus Faziloglu Wireless Manager
	
Report Issue Date: Nov 21, 2023	Issue Number: 2

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
1	Original release	Oct 19, 2023
2	1-18GHz plots and data tables revised to show peak measurement data passing average limits. In Section 3.2, test mode description revised to remove “Continuous” phrase. In Section 3.2, worst-case orientation determination method clarified.	Nov 21, 2023

1 SUMMARY OF TEST RESULTS

EUT was tested against the following requirements:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247), RSS-247				
STANDARD SECTION		TEST TYPE AND LIMIT	APPLICABLE	RESULT
47CFR15	RSS			
15.207	Gen 8.8	AC Power Line Conducted Emissions	N/A (Note 1)	N/A
15.205 15.209	247 3.3 247 5.5 Gen 8.9 Gen 8.10	Radiated Spurious Emissions	Y	Pass
15.247(d)	247 5.5	Conducted Spurious Emissions	N/A (Note 1)	N/A
15.247(a)(2)	247 5.2(a)	6dB Bandwidth	N/A (Note 1)	N/A
--	Gen 6.7	99% Occupied Bandwidth	N/A (Note 1)	N/A
15.247(b)(3)	247 5.4(d)	Conducted Output Power	N/A (Note 1)	N/A
15.247(e)	247 5.2(b)	Power Spectral Density	N/A (Note 1)	N/A
15.203	Gen 6.8	Antenna Requirement	N/A (Note 1)	N/A

Note 1: Class II Permissive change testing to add a new antenna. Testing for Radiated Spurious Emissions and Radiated Band Edges only.

2 MEASUREMENT UNCERTAINTY

The listed uncertainties are the worst-case uncertainty for the entire range of measurement. Please note that the uncertainty values are provided for informational purposes only and are not used in determining the PASS/FAIL results. Values for measurement uncertainty are calculated per ETSI TR 100 028 (2001).

Measurement	Expanded Uncertainty k=2	Maximum allowable uncertainty
Radio frequency (@ 2.4GHz)	3.23×10^{-8}	1×10^{-7}
RF power, conducted	0.40dB	0.75dB
Maximum frequency deviation: Within 300Hz and 6kHz of audio frequency / Within 6kHz and 25kHz of audio frequency	3.4% 0.3dB	5% 3dB
Adjacent channel power	1.9dB	3dB
Conducted spurious emission of transmitter, valid up to 12.75GHz	2.39dB	3dB
Conducted emission of receivers	1.3dB	3dB
Radiated emission of transmitter, valid up to 26.5GHz	3.9dB	6dB
Radiated emission of transmitter, valid up to 80GHz	3.3dB	6dB
Radiated emission of receiver, valid up to 26.5GHz	3.9dB	6dB
Radiated emission of receiver, valid up to 80GHz	3.3dB	6dB
Humidity	2.37%	5%
Temperature	0.7°C	1.0°C
Time	4.1%	10%
RF Power Density, Conducted	0.4dB	3dB
DC and low frequency voltages	1.3%	3%
Voltage (AC, <10kHz)	1.3%	2%
Voltage (DC)	0.62%	1%
The above reflects a 95% confidence level		

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

NOMINAL VOLTAGE	3VDC
MODULATION TECHNOLOGY	DTS
MODULATION TYPES	O-QPSK
DATA RATES	250kbps (O-QPSK)
OPERATING FREQUENCY	2405 – 2480MHz
EUT Power Setting	CH11 to CH25: 20dBm (Default) CH26: 11dBm (Default)
ANTENNA TYPE	FPC antenna with 2.5dBi peak gain in 2.4GHz band (Customer supplied information)

NOTES:

1. For a more detailed description of the EUT, please refer to the manufacturer's specifications or the user's manual.
2. For photos of the EUT, please refer to External and Internal Photos exhibits.

3.2 DESCRIPTION OF TEST MODES

EUT can operate 16 channels:

Channel	FREQ. (MHz)	Channel	FREQ. (MHz)
11	2405	19	2445
12	2410	20	2450
13	2415	21	2455
14	2420	22	2460
15	2425	23	2465
16	2430	24	2470
17	2435	25	2475
18	2440	26	2480

Module was mounted on an evaluation board during testing. EUT configuration modes:

TEST MODE	DESCRIPTION
A	Transmit at 250kbps (Duty-cycle: 66%)

Following channels/modes were selected for the applicable tests below.

TEST	TEST MODE	AVAILABLE CHANNELS	TESTED CHANNEL	MODULATION TYPE	DATA RATE (Kbps)	Notes
RSE<1G	A	11 to 26	25	O-QPSK	250	1, 2
RSE≥1G	A	11 to 26	11,18,25,26	O-QPSK	250	2
RBE	A	11 to 26	11,25,26	O-QPSK	250	3

Note 1: Testing below 1GHz was limited to 1 channel only since all emissions detected in this range were related to the evaluation board that the EUT was mounted on.
Note 2: For radiated emissions, worst-case orientation was found when the EUT (module) was positioned on X axis (flat on the table) and external antenna was in X-axis (flat) as shown in the Test Setup Photos exhibit. Worst-case orientation determination is based on maximizing the fundamental on center channel. EUT (module) was maximized on 3 axis (X, Y and Z) and on each EUT axis external antenna was also maximized on 3 axis (X, Y and Z) for a total of 9 combinations.
Note 3: Tested at worst-case EUT (module) orientation as described in Note 2 at 3 axis of the external antenna.

RSE<1G: Radiated Spurious Emissions Below 1GHz
RSE≥1G: Radiated Spurious Emissions Above 1GHz
RBE: Radiated Band-edge

TEST CONDITIONS:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY	DATE OF TEST
RBE	22.5°C, 46.8% RH, 1012 mbar	3VDC	RMB	Jul 7, 2023
RE<1G	23°C, 46.1% RH, 1010 mbar	3VDC	RMB	Aug 1, 2023
RE≥1G	23°C, 46.1% RH, 1010 mbar 23.5°C, 44.5% RH, 1008 mbar 25.2°C, 51.0% RH, 1002 mbar	3VDC	RMB	Aug 1, 2023 Aug 3, 2023 Oct 11, 2023

3.3 MEASUREMENT PROCEDURES USED

All tests were performed in accordance with the following measurement procedures:

FCC KDB 558074 D01 15.247 Meas Guidance v05r02
ANSI C63.10-2013

3.4 DESCRIPTION OF SUPPORT EQUIPMENT

Customer supplied a laptop computer to setup test modes for the module.

4 TEST RESULTS

4.1 RADIATED EMISSIONS MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSIONS MEASUREMENT

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emissions limits specified in Section 15.209(a).

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.
4. Limit conversion below 30MHz is done by using the square of an inverse linear distance extrapolation factor (40 dB/decade) as allowed in FCC 15.31(f)(2).

   Limit(3m) = Limit(30m) + 40*log(30/3) = Limit(30m) + 40

   Limit (3m) = Limit (300m) + 40*log(300/3) = Limit (300m) + 80
5. RSS-GEN Table 6 H-field limits are 51.5dB lower than FCC 15.209(a) E-field limits. Measurements are performed in terms of magnetic field and converted to electric field using the free space impedance of 377Ω (E-field = H-field +51.5). Therefore resulting pass/fail margin would be the same if an E-field reading is compared to an E-field limit or an H-field reading is compared to an H-field limit.

4.1.2 TEST INSTRUMENTS

0.009KHz – 18000MHz: Jul 7 to Aug 3, 2023

Rev. 6/27/2023

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Rental MXE EMI Receiver(1170725)	20Hz-26.5GHz	N9038A	Agilent	MY51210151	1170725	I	2/21/2024	2/21/2023
Radiated Emissions Sites	**FCC Code**	**IC Code**	**VCCI Code**	**Range**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
EMI Chamber 1	719150	2762A-6	A-0015	30-1000MHz	1685	I	11/29/2024	11/29/2022
EMI Chamber 1	719150	2762A-6	A-0015	1-18GHz	1685	I	12/29/2024	12/29/2022
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
8447F Rental PA	9KHz-1.3GHz	84477F	HP	3113A05395		II	10/17/2023	10/17/2022
8449B HF Preamp	1-18GHz	8449B	Agilent	1149055		II	11/1/2023	11/1/2022
2116 BRF	0.009-18000MHz	BRM50702	Micro-Tronics	G226	2116	II	11/16/2023	11/16/2022
Antennas	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Small Loop	10kHz-30MHz	PLA-130/A	ARA	1024	755	I	9/12/2024	9/12/2022
Large Loop	20Hz-5MHz	6511	EMCO	9704-1154	67	I	8/22/2024	8/22/2022
Red-White Bilog	30-2000MHz	JB1	Sunol	A091604-1	1105	I	10/25/2023	10/25/2021
Blue Horn	1-18Ghz	3117	ETS	157647	1861	I	3/27/2025	3/27/2023
Meteorological Meters/Chambers		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Asset 2707		SD700	EXTECH	A.115171	2707	I	1/13/2025	1/13/2023
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**	**Calibrated on**
Asset #2474	9KHz-18GHz		MegaPhase			II	11/1/2023	11/1/2022
Asset #2610	9KHz-18GHz		Pasternack			II	3/3/2024	3/3/2023
Asset #2681	9KHz-18GHz		Pasternack			II	12/13/2023	12/13/2022
Asset #2466	9KHz-18GHz		MegaPhase			II	11/1/2023	11/1/2022

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

18-25GHz: October 11, 2023

Rev. 10/4/2023

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
2093 MXE EMI Receiver	20Hz-26.5GHz	N9038A	Agilent	MY51210181	2093	I	3/30/2024	3/30/2023
Radiated Emissions Sites	**FCC Code**	**IC Code**	**VCCI Code**	**Range**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
EMI Chamber 1	719150	2762A-6	A-0015	1-18GHz	1685	I	12/29/2024	12/29/2022
Antennas	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
3116C Horn / PA	18-40GHz	3116C	ETS	258845	2709	I	3/7/2024	3/7/2023
Meteorological Meters/Chambers		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Asset 2707		SD700	EXTECH	A.115171	2707	I	1/13/2025	1/13/2023
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**	**Calibrated on**
Asset #2690	1-40GHz		Pasternack			II	8/22/2024	8/22/2023

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

4.1.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 1.5 meters (above 1GHz) and 0.8 meters (below 1GHz) above the ground at a 3 meters semi-anechoic chamber.

b. For below 30MHz, a loop antenna with its lowest point 1m above the ground was placed 3m away from the EUT and it was rotated 0 and 90 degrees around its vertical axis.

c. In 30MHz-1GHz range, a biconilog antenna was mounted on a variable-height antenna tower and placed 3m away from the EUT. Antenna height was varied from 1 meter to 4 meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were investigated. The table was rotated 360 degrees to determine the position of the highest radiation.

d. In 1GHz-6GHz range, a horn antenna was mounted on a variable-height antenna tower and placed 3m away from the EUT. Antenna height was varied from 1 meter to 4 meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were investigated. The table was rotated 360 degrees to determine the position of the highest radiation. Using the same antenna, the measurement distance was reduced to 1m in 6-18GHz range.

e. In 18-25GHz a smaller horn antenna was used to make measurements at 1m away from the EUT.

f. Following bandwidths were used during emissions testing:

Freq. (MHz)	RBW	VBW	Pre-scan	Final
0.009-0.15	200Hz	1kHz	Peak	Quasi Peak and RMS Power Avg (Trace Avg)
0.15-30	9kHz	30kHz	Peak	Quasi Peak and RMS Power Avg (Trace Avg)
30-1000	120kHz	300kHz	Peak	Quasi Peak
>1000	1MHz	3MHz	Peak	Peak Max Hold and RMS Power Avg (Trace Avg)

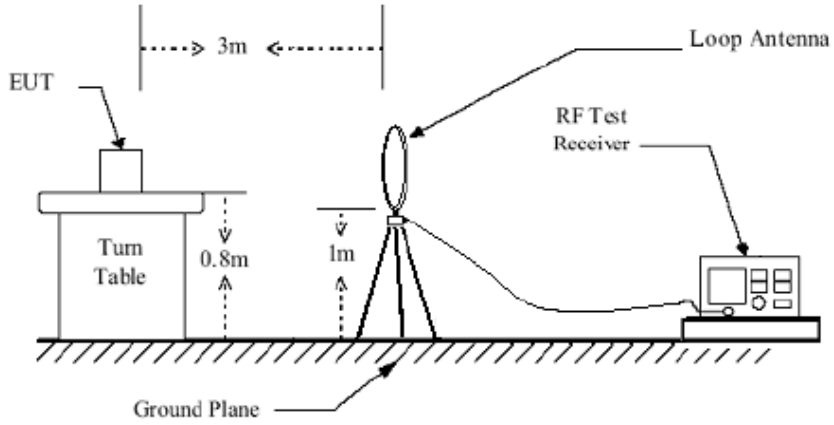
Per FCC §15.209(d), limits §15.209(a) are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. If peak measurements in these frequency bands were below the applicable limits, QPk and RMS measurements were not performed.

4.1.4 DEVIATION FROM TEST STANDARD

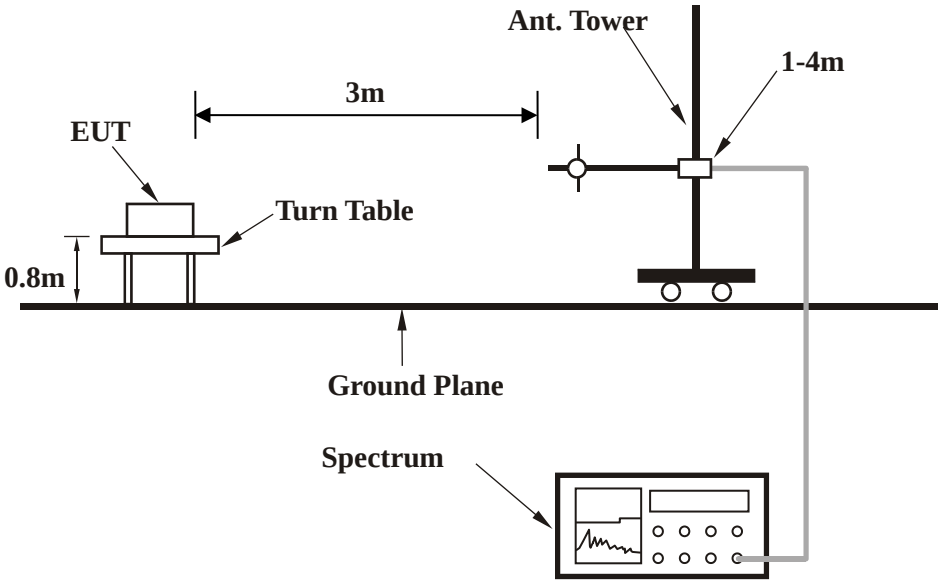
No deviation.

4.1.5 TEST SETUP

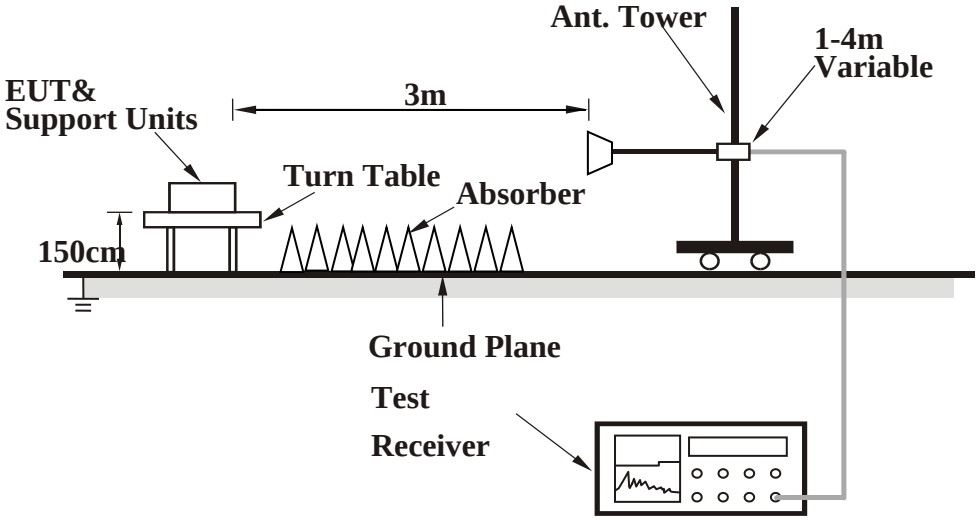
Below 30MHz test setup



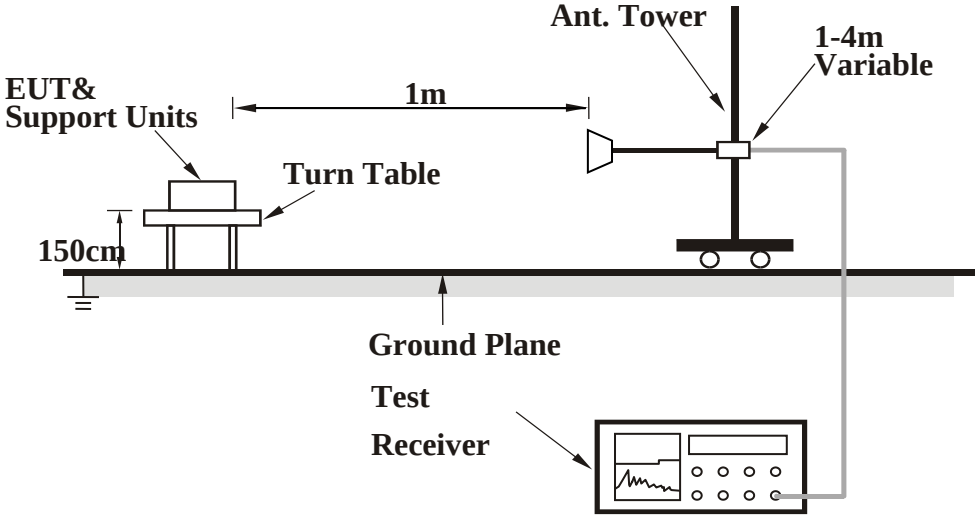
30MHz - 1GHz Test Setup



1GHz – 6GHz Test Setup



6GHz – 18GHz Test Setup



Note: For the actual test configuration, please refer to the Test Setup Photos exhibit.

4.1.6 EUT OPERATING CONDITIONS

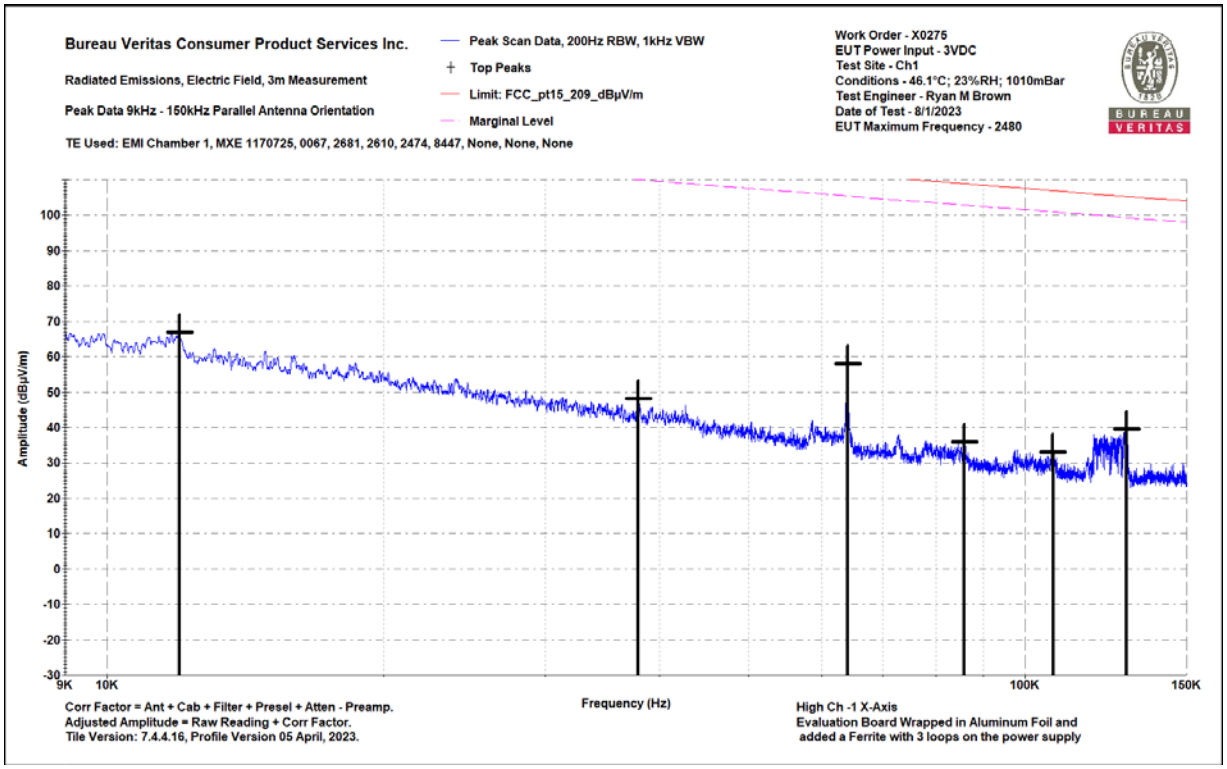
EUT was operated according to the manufacturer's specifications.

4.1.7 TEST RESULTS

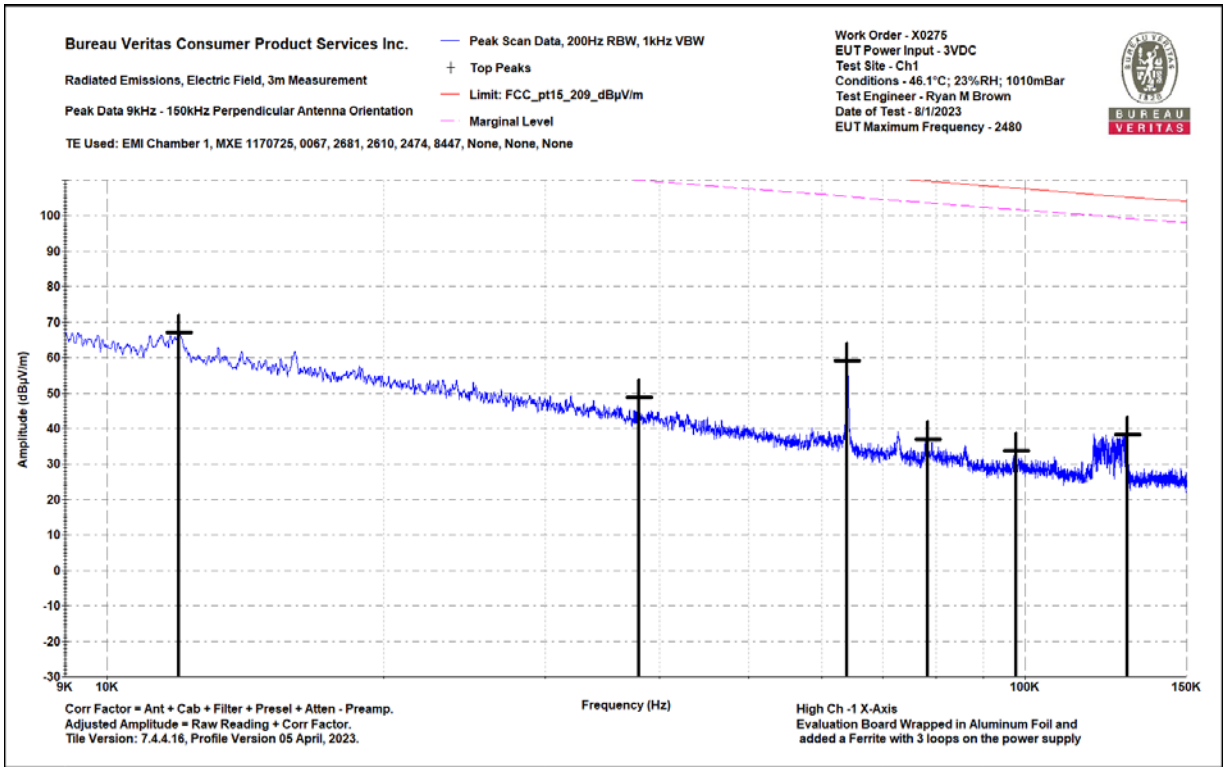
Emissions below 1GHz

Results for Channel 25

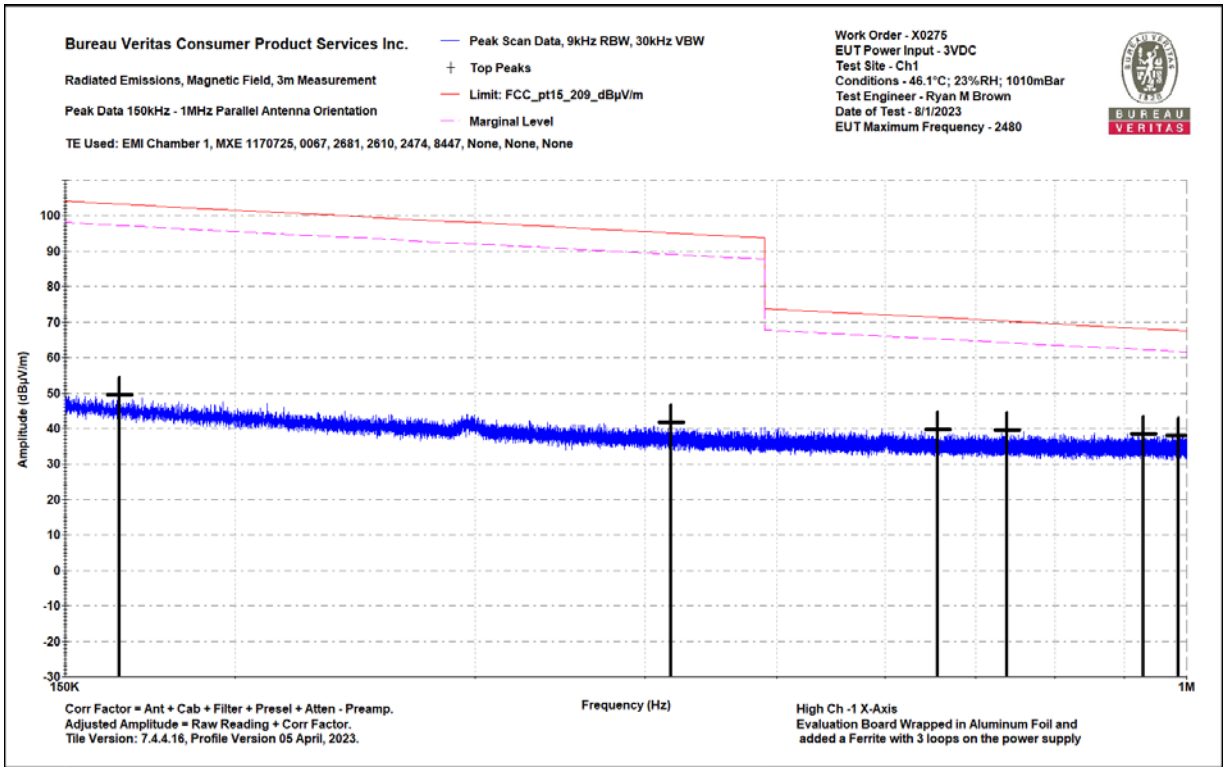
No emissions within 10dB of the limit were identified in 9kHz-30MHz range. Only plots shown below.



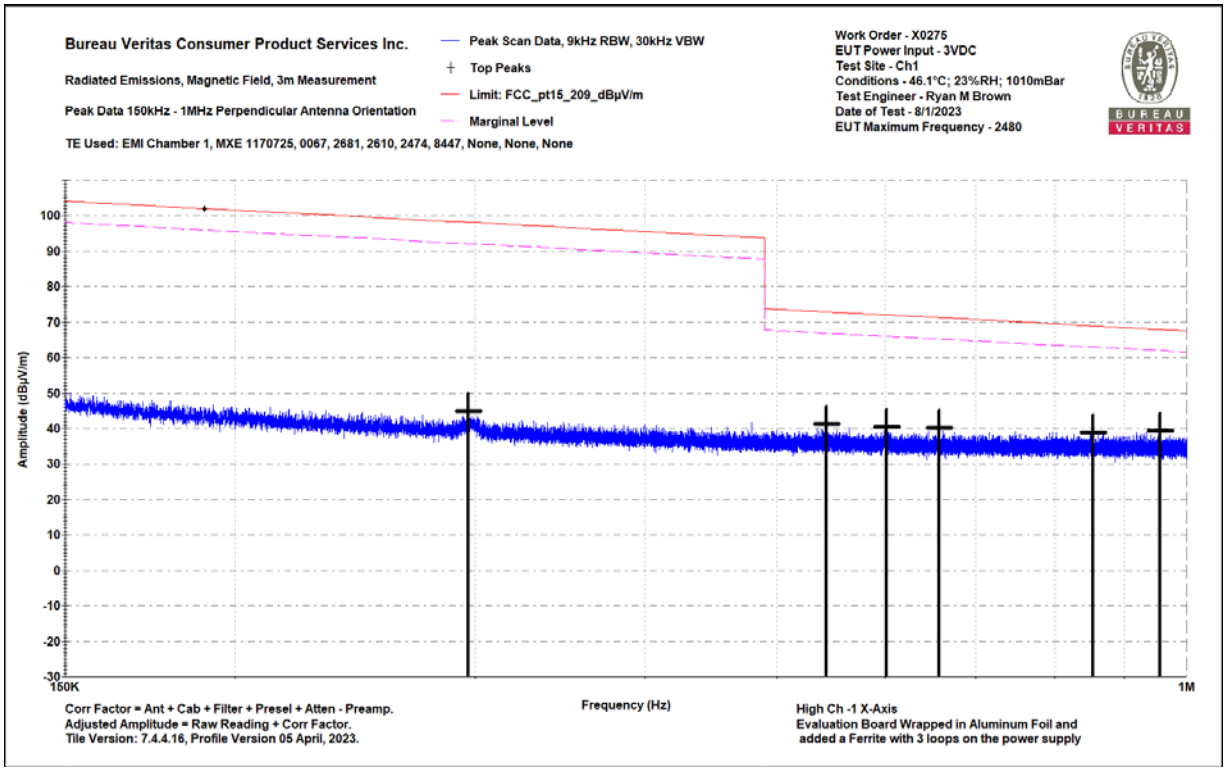
0.009-0.15MHz Parallel



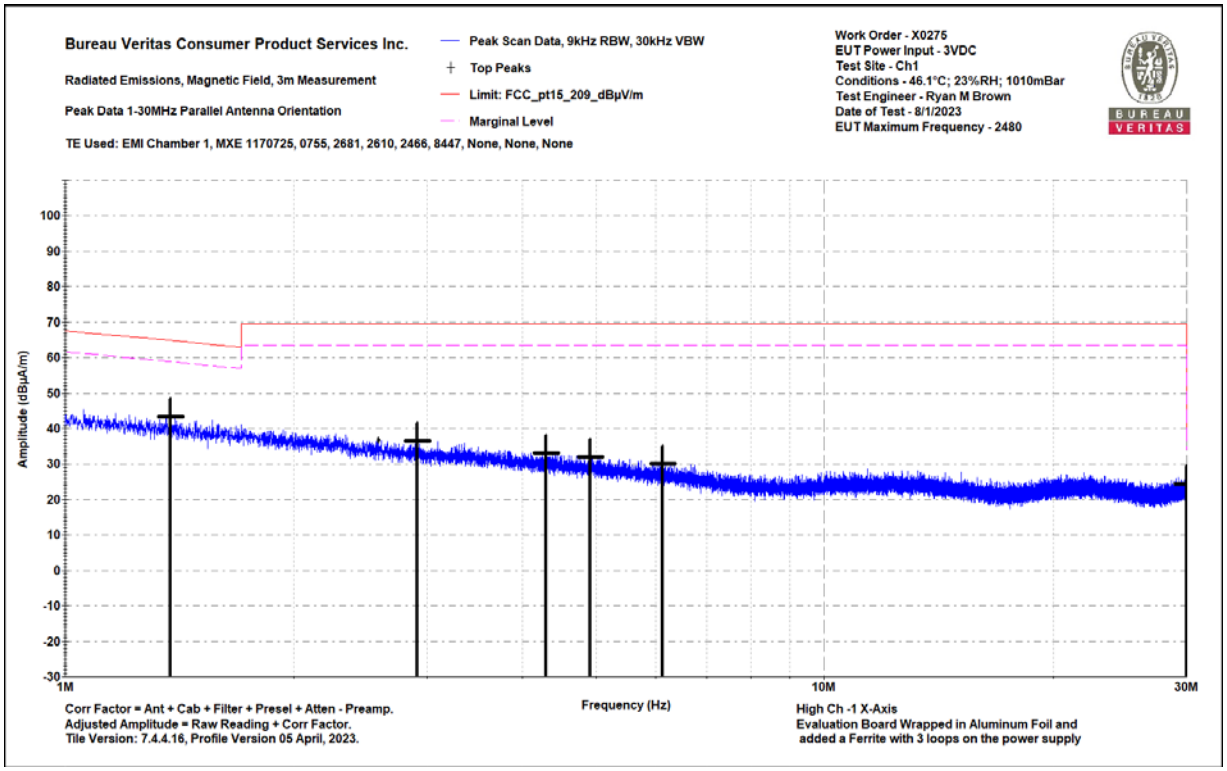
0.009-0.15MHz Perpendicular



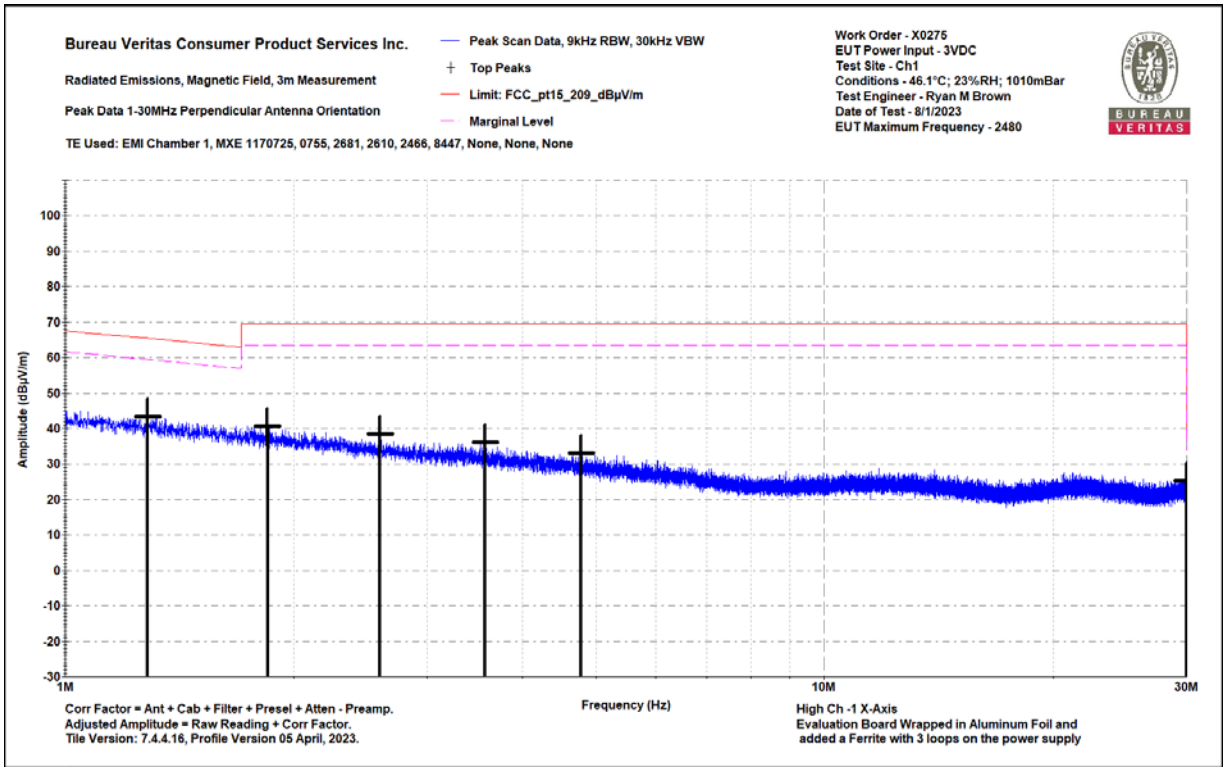
0.15-1MHz Parallel



0.15-1MHz Perpendicular



1-30MHz Parallel



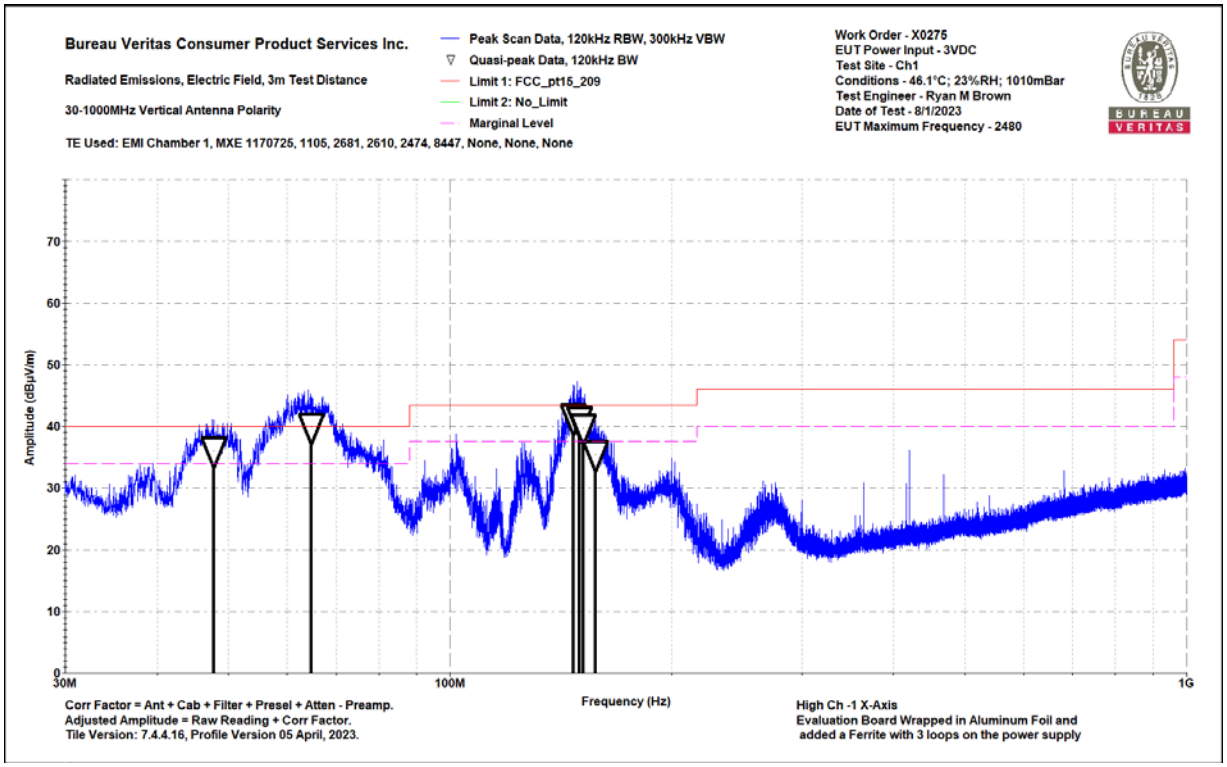
1-30MHz Perpendicular

30-1000MHz Vertical Data
Notes:
High Ch -1 X-Axis
Evaluation Board Wrapped in Aluminum Foil and
added a Ferrite with 3 loops on the power supply

Test Site - Ch1
Conditions - 46.1°C; 23%RH; 1010mBar
Test Engineer - Ryan M Brown
Date of Test - 8/1/2023

Frequency (MHz)	Raw QP Reading (dBµV)	Correction Factor (dB/m)	Adjusted QP Amplitude (dBµV/m)	Lim1: FCC_pt15_209 (dBµV/m)	Margin to Lim1 (dB)	Test Results Lim1 (Pass/Fail)	Worst Margin Lim1 (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
47.731	47.7	-11.6	36.1	40	-3.9	PASS		104	115
64.723	53.6	-13.7	39.9	40	-0.1	PASS	-0.1	125	167
147.009	49.2	-7.9	41.3	43.5	-2.2	PASS		100	10
149.65	48.9	-8	40.9	43.5	-2.6	PASS		108	1
151.631	47.8	-8	39.7	43.5	-3.8	PASS		125	4
157.326	43.8	-8.3	35.4	43.5	-8.1	PASS		100	41

30-1000MHz Vertical

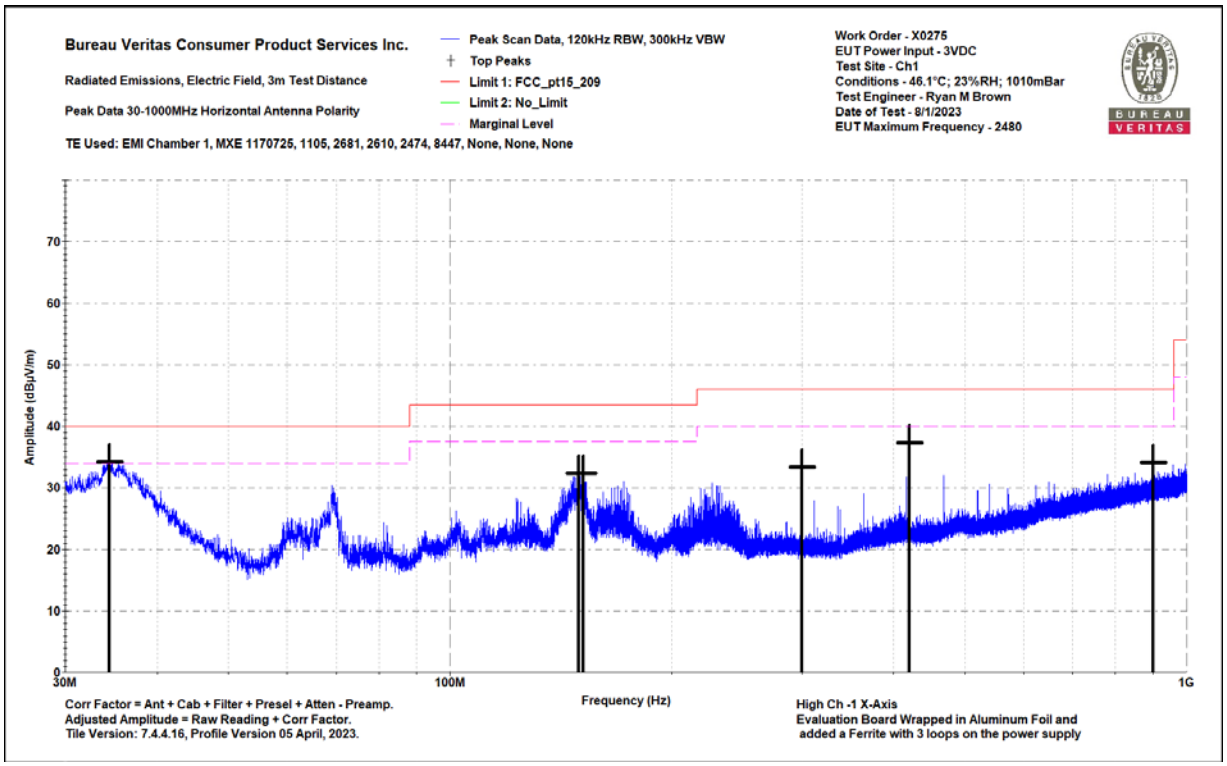


30-1000MHz Vertical

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 3VDC
Top Peaks Horizontal 30-1000MHz	Test Site - Ch1
Notes:	Conditions - 46.1°C; 23%RH; 1010mBar
High Ch -1 X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and added a Ferrite with 3 loops on the power supply	Date of Test - 8/1/2023

Frequency (MHz)	Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Lim1: FCC_pt15_209 (dBµV/m)	Lim1 Margin (dB)	Lim1 Test Results (Pass/Fail)	Worst Margin Lim1 (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
34.413	36.9	-2.7	34.2	40	-5.8	PASS	-5.8	250	135
149.528	40.4	-8	32.4	43.5	-11.1	PASS		150	45
151.42	40.3	-8	32.3	43.5	-11.2	PASS		200	225
300.024	39.8	-6.4	33.4	46	-12.6	PASS		100	270
420.013	41.5	-4.3	37.2	46	-8.8	PASS		100	90
900.042	30.7	3.5	34.1	46	-11.9	PASS		100	270

30-1000MHz Horizontal



30-1000MHz Horizontal

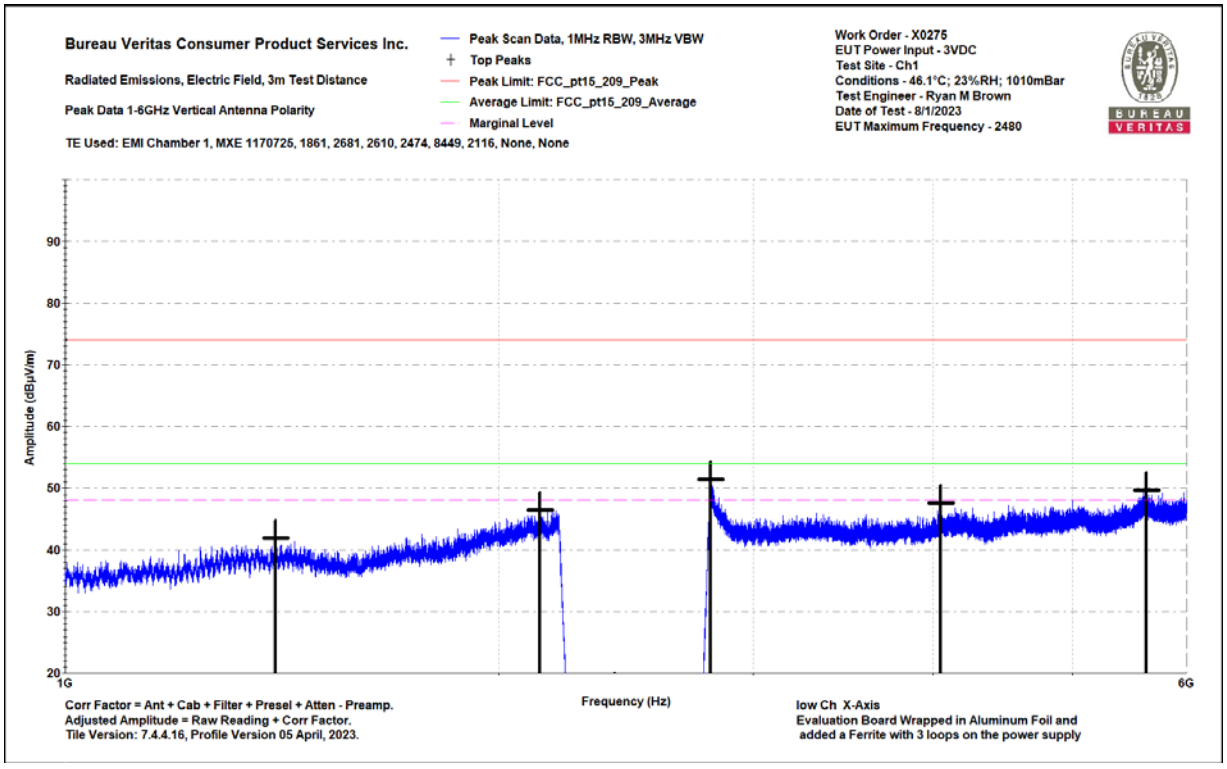
Emissions above 1GHz

Results for Channel 11

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 3VDC
Top Peaks Vertical 1-6GHz	Test Site - Ch1
Notes:	Conditions - 46.1°C; 23%RH; 1010mBar
low Ch X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and added a Ferrite with 3 loops on the power supply	Date of Test - 8/1/2023

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Average Limit (dB)	Average Limit Test Result (Pass/Fail)	Average Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
1400	48.9	-7	41.9	74	-32.1	PASS		54	-12.1	PASS		200	91
2134.5	Not in the Restricted Band												
2405	Fundamental												
2802.5	47.4	3.9	51.4	74	-22.6	PASS	-22.6	54	-2.6	PASS	-2.6	100	109
4051.88	46.7	0.9	47.6	74	-26.4	PASS		54	-6.4	PASS		300	223
5624.75	Not in the Restricted Band												

1-6GHz Vertical

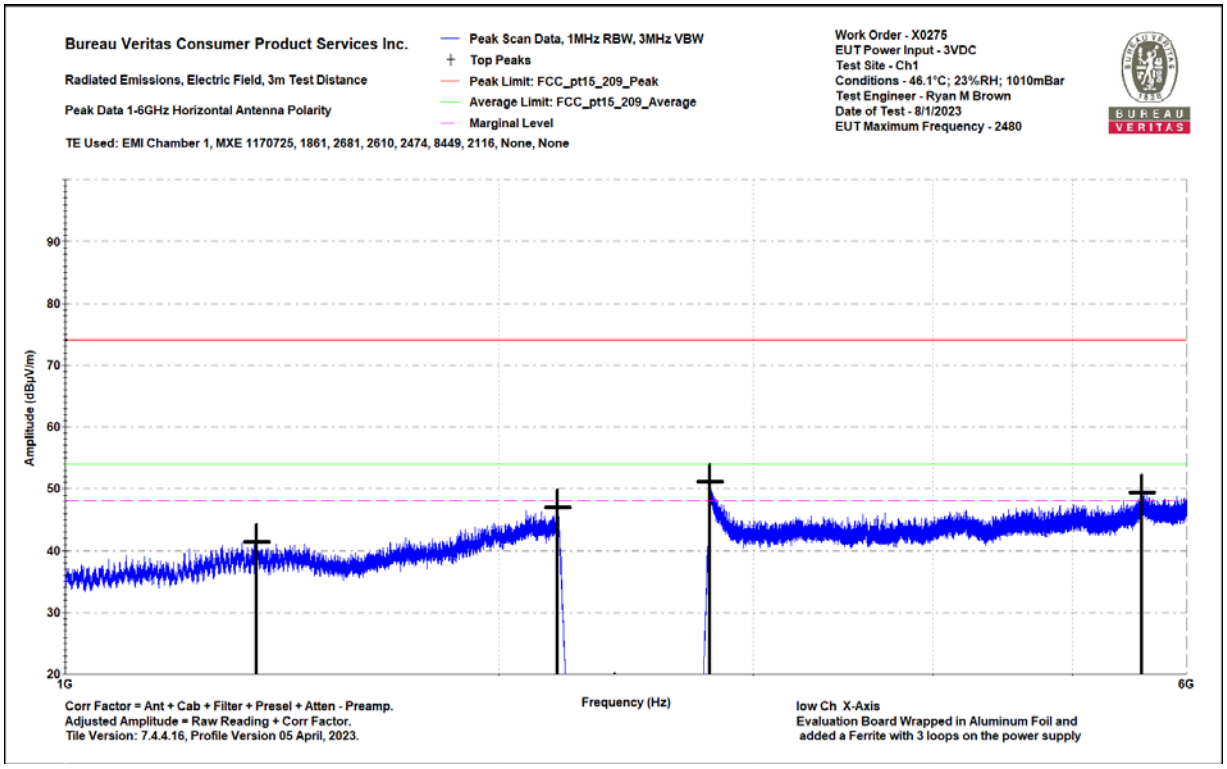


1-6GHz Vertical

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 3VDC
Top Peaks Horizontal 1-6GHz	Test Site - Ch1
Notes:	Conditions - 46.1°C; 23%RH; 1010mBar
low Ch X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and	Date of Test - 8/1/2023
added a Ferrite with 3 loops on the power supply	

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Results (Pass/Fail)	Avg Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
1357.13	48.2	-6.8	41.4	74	-32.6	PASS		54	-12.6	PASS		100	0
2195.88	Not in the Restricted Band												
2404.38	Fundamental												
2800.13	47.1	4.1	51.2	74	-22.8	PASS	-22.8	54	-2.8	PASS	-2.8	200	206
5586.5	Not in the Restricted Band												

1-6GHz Horizontal

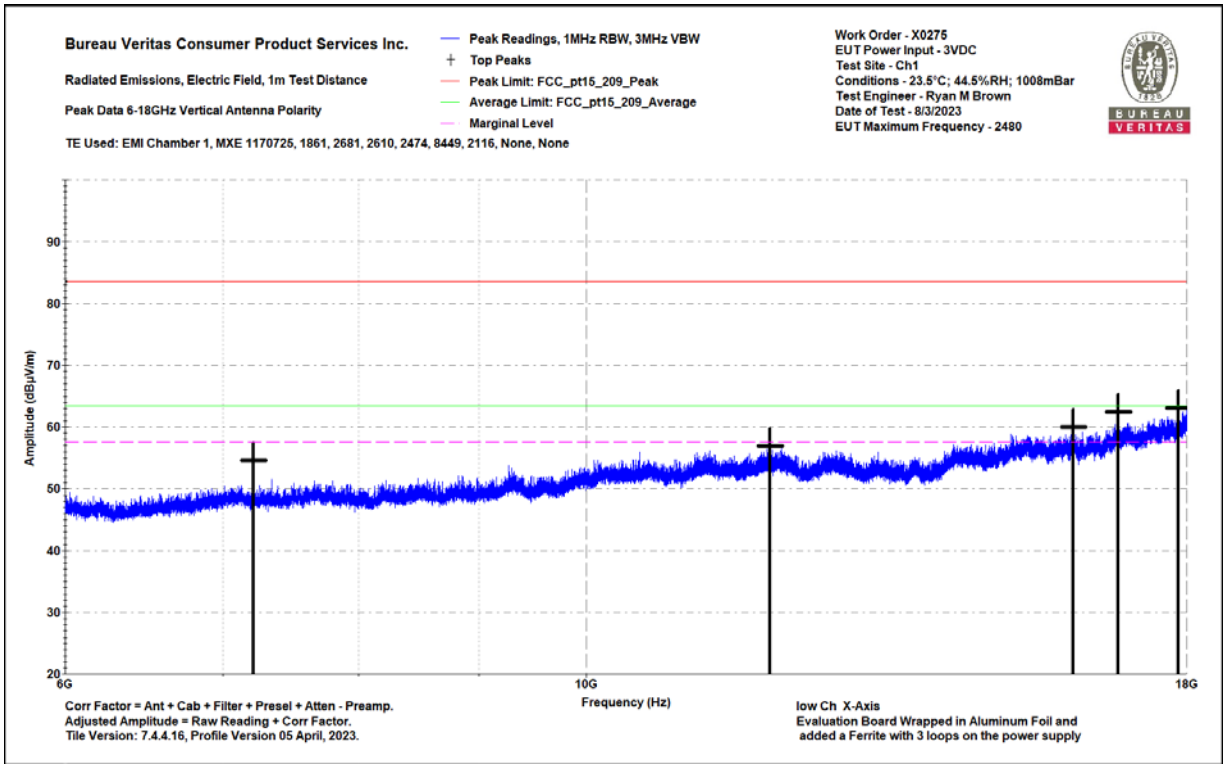


1-6GHz Horizontal

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 1m Distance	EUT Power Input - 3VDC
Top Peaks Vertical 6-18GHz	Test Site - Ch1
Notes:	Conditions - 23.5°C; 44.5%RH; 1008mBar
low Ch X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and	Date of Test - 8/3/2023
added a Ferrite with 3 loops on the power supply	

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7213.5	Not in the Restricted Band												
11970.9	47.4	9.5	56.9	83.5	-26.6	PASS		63.5	-6.6	PASS		175	168
16109.7	47.8	12.2	60	83.5	-23.5	PASS		63.5	-3.5	PASS		200	71
16835.7	Not in the Restricted Band												
17857.2	47.8	15.3	63.1	83.5	-20.4	PASS	-20.4	63.5	-0.4	PASS	-0.4	150	70

6-18GHz Vertical

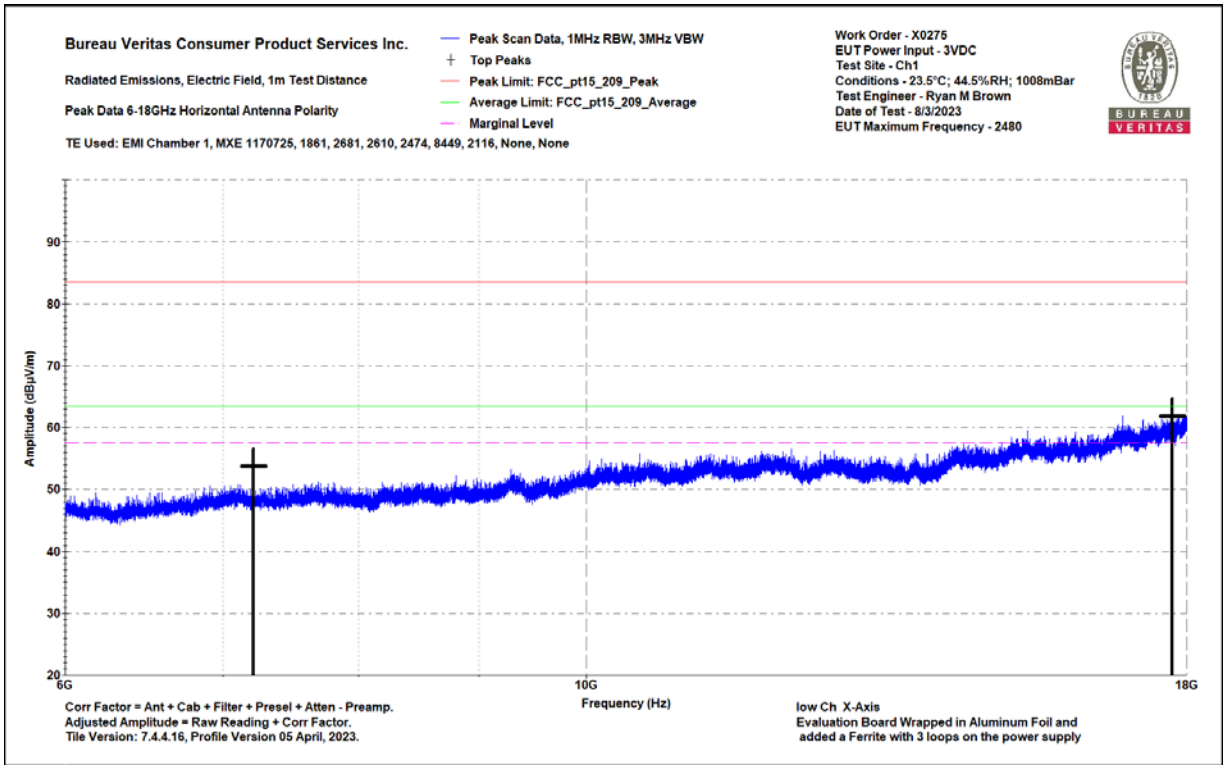


6-18GHz Vertical

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 1m Distance	EUT Power Input - 3VDC
Top Peaks Horizontal 6-18GHz	Test Site - Ch1
Notes:	Conditions - 23.5°C; 44.5%RH; 1008mBar
low Ch X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and	Date of Test - 8/3/2023
added a Ferrite with 3 loops on the power supply	

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7216.5	Not in the Restricted Band												
17749.5	46.6	15.2	61.9	83.5	-21.6	PASS	-21.6	63.5	-1.6	PASS	-1.6	175	245

6-18GHz Horizontal



6-18GHz Horizontal

Radiated Emissions Table

Date: 11-Oct-23 **Company:** Yardi **Work Order:** X0275
Engineer: Ryan M. Brown **EUT Desc:** Zigbee Modual **EUT Operating Voltage/Frequency:**
Temp: 25.2 **Humidity:** 51% **Pressure:** 1002
Frequency Range: 18-25GHz **Measurement Distance:** 1 m
Notes: CH 11 Power Setting 20dBm **EUT Max Freq:** 2480

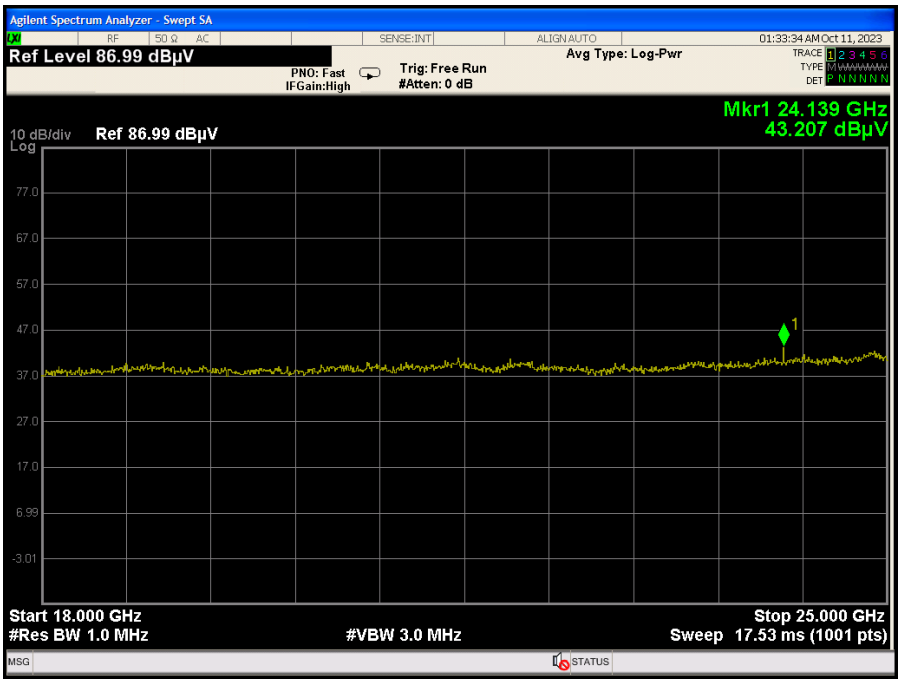
Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC Class B High Frequency - Peak Limit (dBµV/m)	FCC Class B High Frequency - Peak Margin (dB)	FCC Class B High Frequency - Peak Result (Pass/Fail)	FCC Class B High Frequency - Average Limit (dBµV/m)	FCC Class B High Frequency - Average Margin (dB)	FCC Class B High Frequency - Average Result (Pass/Fail)
H	24139.0	43.2	43.2	0.0	5.2	11.6	60.0	60.0	83.5	-23.5	Pass	63.5	-3.5	Pass

Table Result: Pass by -3.5 dB ***Worst Freq:*** 24139.0 MHz

Test Site: EMI Chamber 1 **Cable 1:** Asset #2690 **Cable 2:** --- **Cable 3:** ---
Analyzer: 2093 **Preamp:** None **Antenna:** 2709 **Preselector:** ---
CSsoft Radiated Emissions Calculator v 1.017.225

Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

18-25GHz



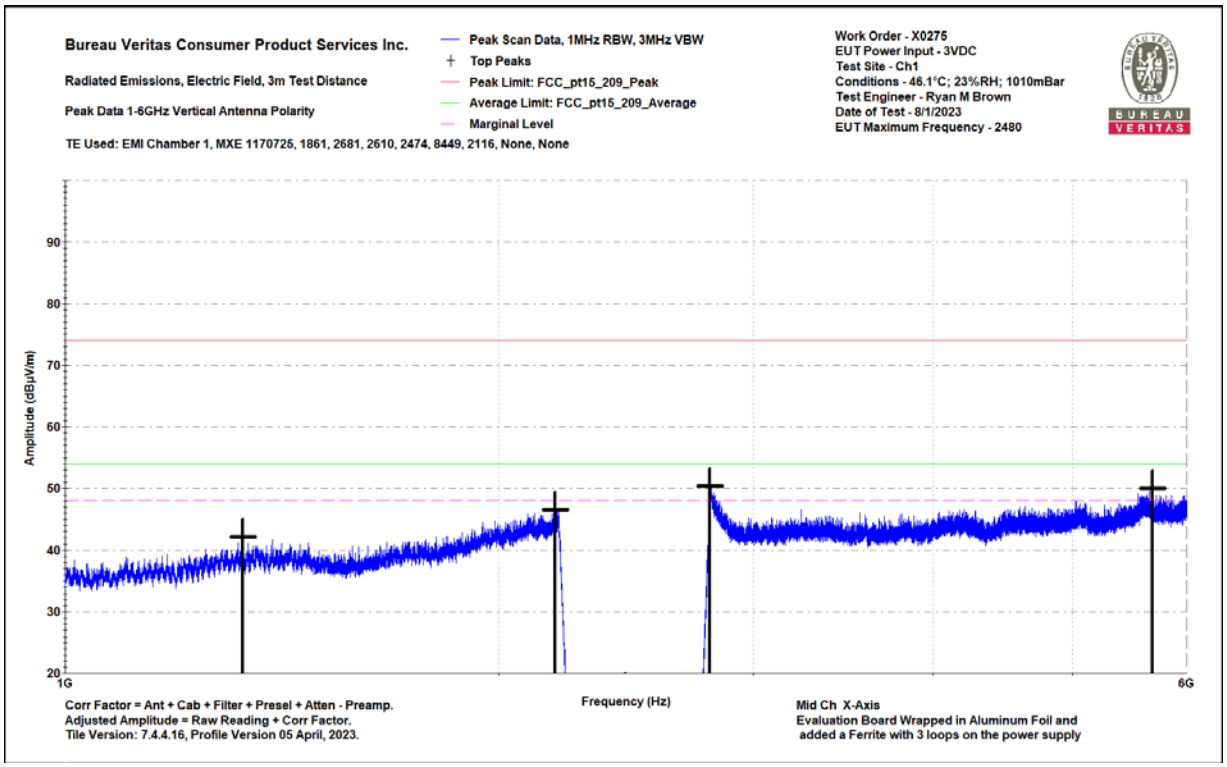
18-25GHz

Results for Channel 18

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 3VDC
Top Peaks Vertical 1-6GHz	Test Site - Ch1
Notes:	Conditions - 46.1°C; 23%RH; 1010mBar
Mid Ch X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and added a Ferrite with 3 loops on the power supply	Date of Test - 8/1/2023

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Average Limit (dB)	Average Limit Test Result (Pass/Fail)	Average Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
1327.88	48.9	-6.7	42.2	74	-31.8	PASS		54	-11.8	PASS		100	0
2188.75	Not in the Restricted Band												
2445.25	Fundamental												
2800.13	46.3	4.1	50.4	74	-23.6	PASS	-23.6	54	-3.6	PASS	-3.6	200	207
5681.13	Not in the Restricted Band												

1-6GHz Vertical

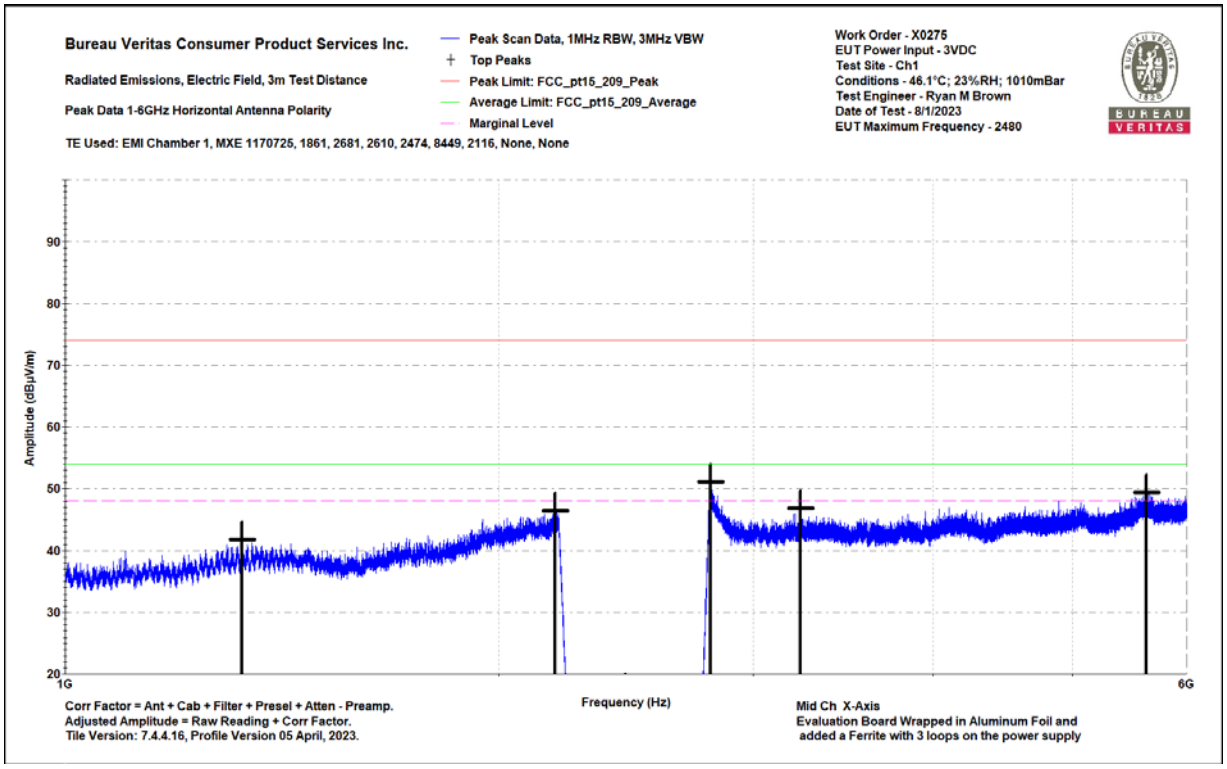


1-6GHz Vertical

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 3VDC
Top Peaks Horizontal 1-6GHz	Test Site - Ch1
Notes:	Conditions - 46.1°C; 23%RH; 1010mBar
Mid Ch X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and	Date of Test - 8/1/2023
added a Ferrite with 3 loops on the power supply	

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Results (Pass/Fail)	Avg Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
1326.25	48.5	-6.8	41.8	74	-32.2	PASS		54	-12.2	PASS		100	147
2188.63	Not in the Restricted Band												
2445.5	Fundamental												
2804.63	47.3	3.8	51.1	74	-22.9	PASS	-22.9	54	-2.9	PASS	-2.9	100	296
3237.13	Not in the Restricted Band												
5628.88	Not in the Restricted Band												

1-6GHz Horizontal

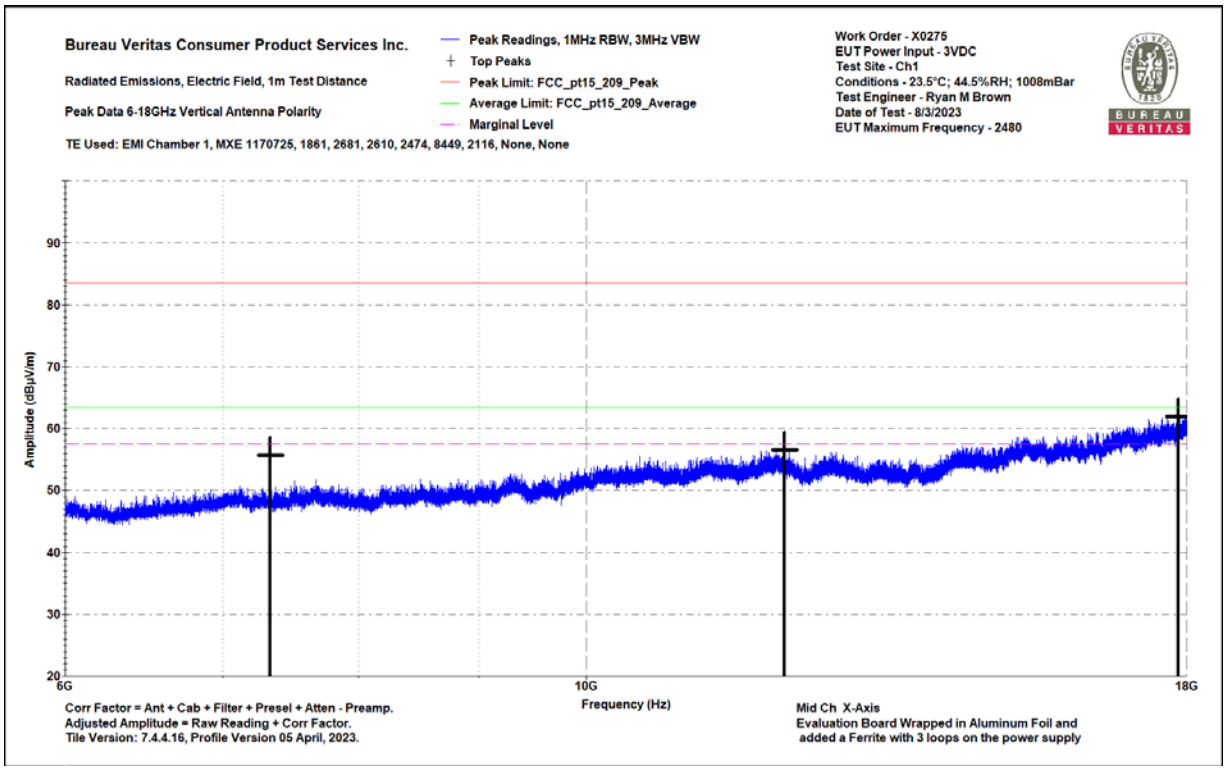


1-6GHz Horizontal

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 1m Distance	EUT Power Input - 3VDC
Top Peaks Vertical 6-18GHz	Test Site - Ch1
Notes:	Conditions - 23.5°C; 44.5%RH; 1008mBar
Mid Ch X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and added a Ferrite with 3 loops on the power supply	Date of Test - 8/3/2023

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7336.5	50.3	5.3	55.7	83.5	-27.8	PASS		63.5	-7.8	PASS		200	183
12134.4	46.9	9.7	56.6	83.5	-26.9	PASS		63.5	-6.9	PASS		200	183
17853.3	46.6	15.3	62	83.5	-21.5	PASS	-21.5	63.5	-1.5	PASS	-1.5	200	0

6-18GHz Vertical

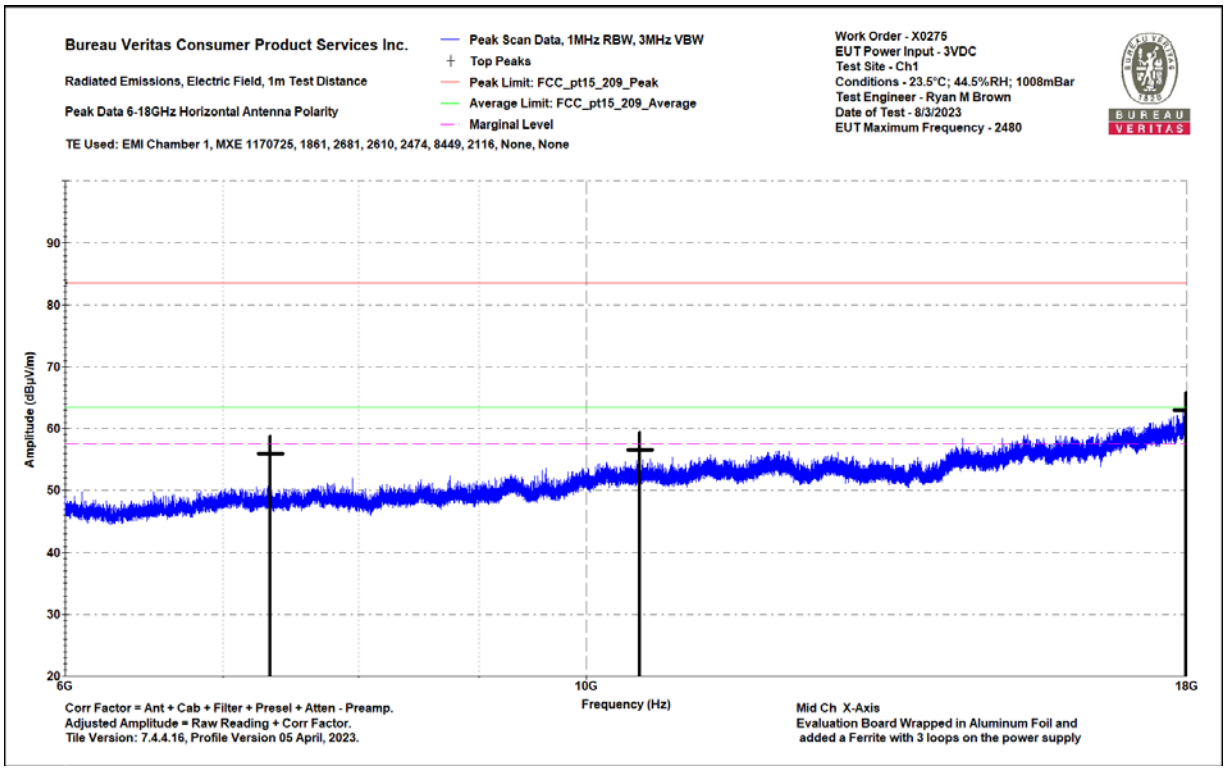


6-18GHz Vertical

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 1m Distance	EUT Power Input - 3VDC
Top Peaks Horizontal 6-18GHz	Test Site - Ch1
Notes:	Conditions - 23.5°C; 44.5%RH; 1008mBar
Mid Ch X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and added a Ferrite with 3 loops on the power supply	Date of Test - 8/3/2023

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7336.8	50.6	5.3	56	83.5	-27.5	PASS		63.5	-7.5	PASS		175	17
10531.5	Not in the Restricted Band												
17992.8	46.9	16.1	63	83.5	-20.5	PASS	-20.5	63.5	-0.5	PASS	-0.5	150	145

6-18GHz Horizontal



6-18GHz Horizontal

Radiated Emissions Table

Date: 11-Oct-23 **Company:** Yardi **Work Order:** X0275
Engineer: Ryan M. Brown **EUT Desc:** Zigbee Modual **EUT Operating Voltage/Frequency:**
Temp: 25.2 **Humidity:** 51% **Pressure:** 1002
Frequency Range: 18-25GHz **Measurement Distance:** 1 m
Notes: CH 19 Power Setting 20dBm **EUT Max Freq:** 2480

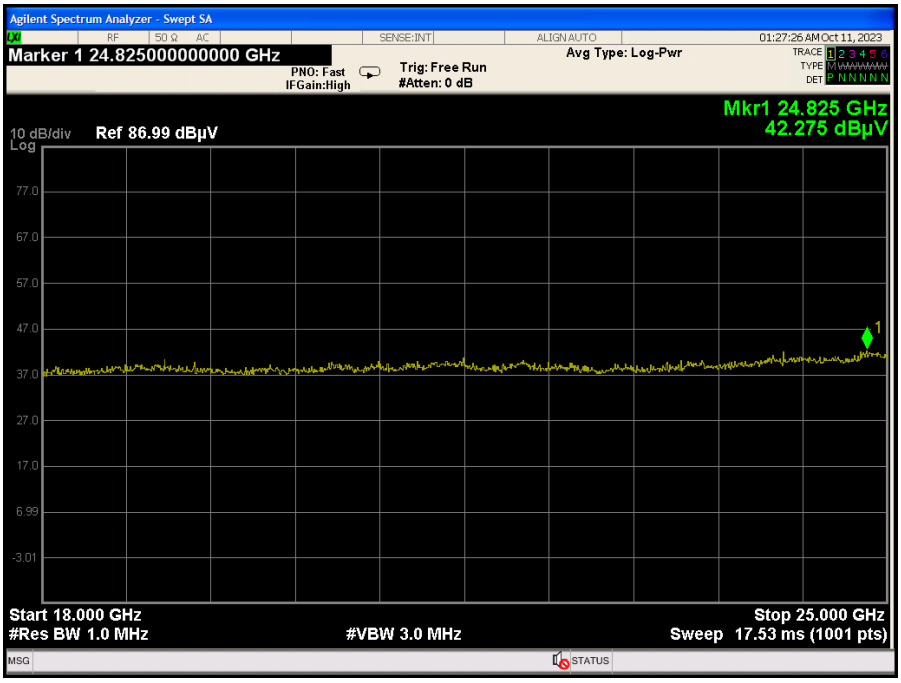
Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC Class B High Frequency - Peak			FCC Class B High Frequency - Average		
									Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
H	24825.0	42.27	42.3	0.0	4.7	11.8	58.8	58.8	83.5	-24.7	Pass	63.5	-4.7	Pass

Table Result: Pass by -4.7 dB ***Worst Freq:*** 24825.0 MHz

Test Site: EMI Chamber 1 **Cable 1:** Asset #2690 **Cable 2:** --- **Cable 3:** ---
Analyzer: 2093 **Preamp:** None **Antenna:** 2709 **Preselector:** ---
CSsoft Radiated Emissions Calculator v 1.017.225

Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

18-25GHz



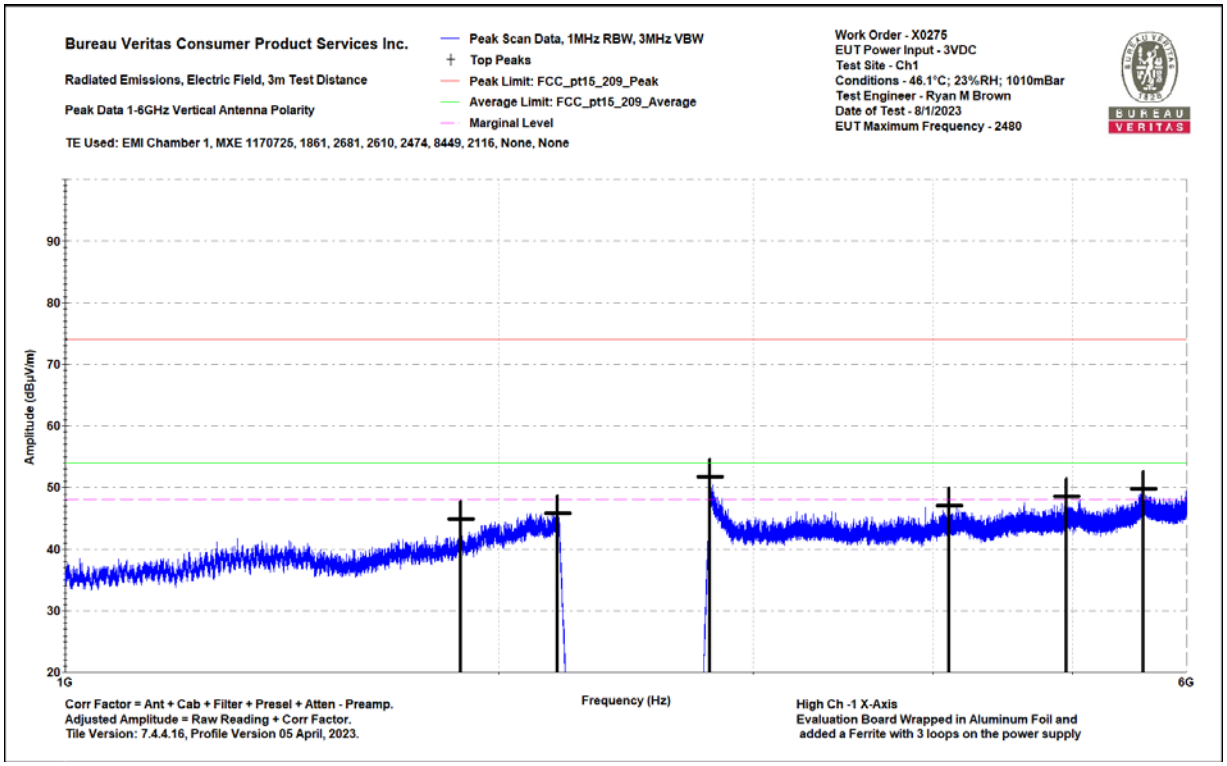
18-25GHz

Results for Channel 25

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 3VDC
Top Peaks Vertical 1-6GHz	Test Site - Ch1
Notes:	Conditions - 46.1°C; 23%RH; 1010mBar
High Ch -1 X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and added a Ferrite with 3 loops on the power supply	Date of Test - 8/1/2023

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Average Limit (dB)	Average Limit Test Result (Pass/Fail)	Average Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
1880.88	48.8	-3.9	44.9	74	-29.1	PASS		54	-9.1	PASS		300	33
2195.38	Not in the Restricted Band												
2801.25	47.7	4	51.7	74	-22.3	PASS	-22.3	54	-2.3	PASS	-2.3	300	147
4105.63	46.1	1	47.1	74	-26.9	PASS		54	-6.9	PASS		100	260
4948.63	46.9	1.7	48.6	74	-25.4	PASS		54	-5.4	PASS		200	206
5598.75	Not in the Restricted Band												

1-6GHz Vertical

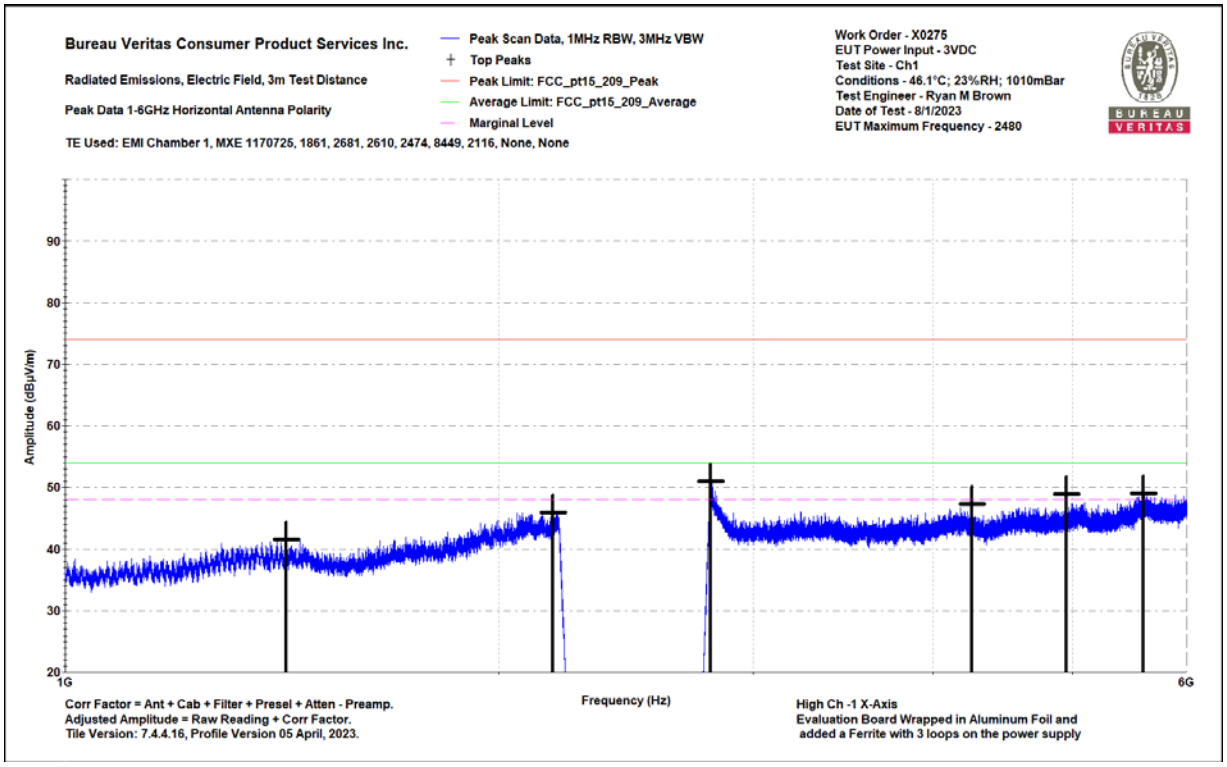


1-6GHz Vertical

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 3VDC
Top Peaks Horizontal 1-6GHz	Test Site - Ch1
Notes:	Conditions - 46.1°C; 23%RH; 1010mBar
High Ch -1 X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and	Date of Test - 8/1/2023
added a Ferrite with 3 loops on the power supply	

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Results (Pass/Fail)	Avg Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
1423.75	48.2	-6.8	41.5	74	-32.5	PASS		54	-12.5	PASS		200	282
2178.25	Not in the Restricted Band												
2803.38	47.1	3.9	51	74	-23	PASS	-23	54	-3	PASS	-3	100	147
4254.63	46.3	1.1	47.4	74	-26.6	PASS		54	-6.6	PASS		200	315
4951	47.2	1.6	48.9	74	-25.1	PASS		54	-5.1	PASS		200	15
5596.38	Not in the Restricted Band												

1-6GHz Horizontal

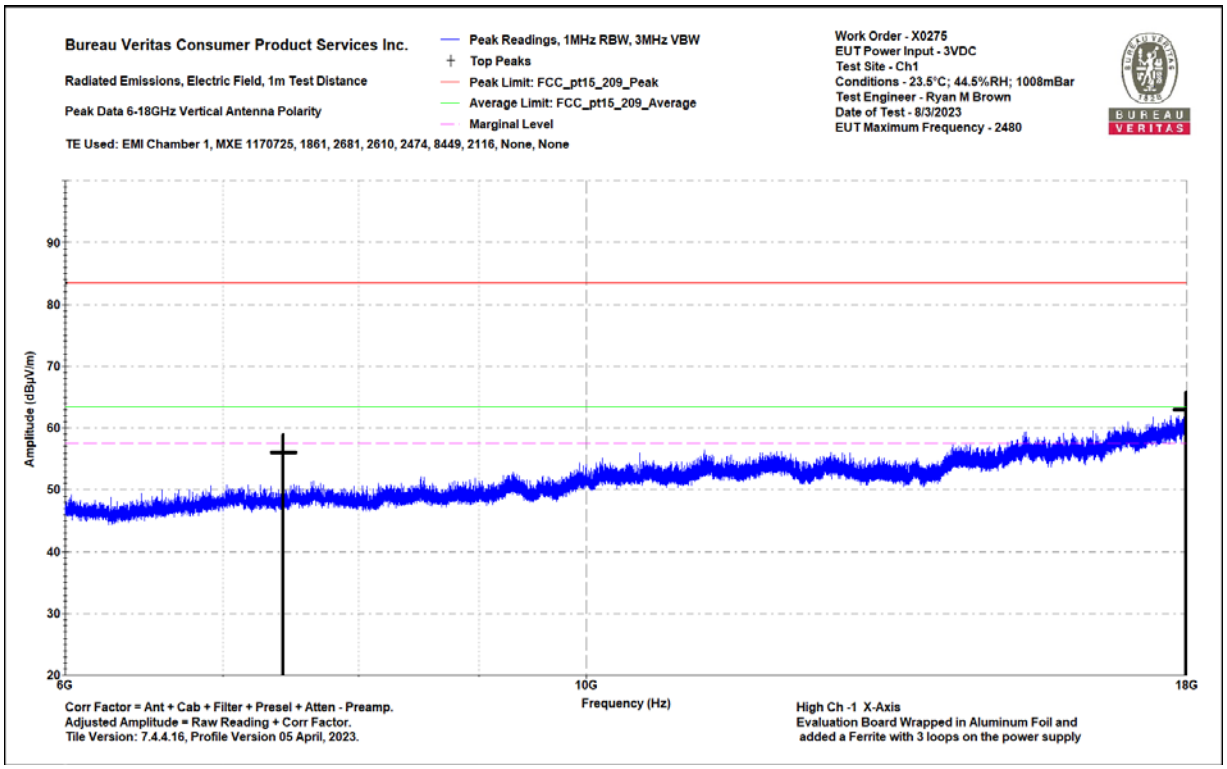


1-6GHz Horizontal

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 1m Distance	EUT Power Input - 3VDC
Top Peaks Vertical 6-18GHz	Test Site - Ch1
Notes:	Conditions - 23.5°C; 44.5%RH; 1008mBar
High Ch -1 X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and	Date of Test - 8/3/2023
added a Ferrite with 3 loops on the power supply	

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7426.5	50.9	5.2	56.1	83.5	-27.4	PASS		63.5	-7.4	PASS		175	245
17985.9	46.9	16.1	62.9	83.5	-20.6	PASS	-20.6	63.5	-0.6	PASS	-0.6	100	70

6-18GHz Vertical

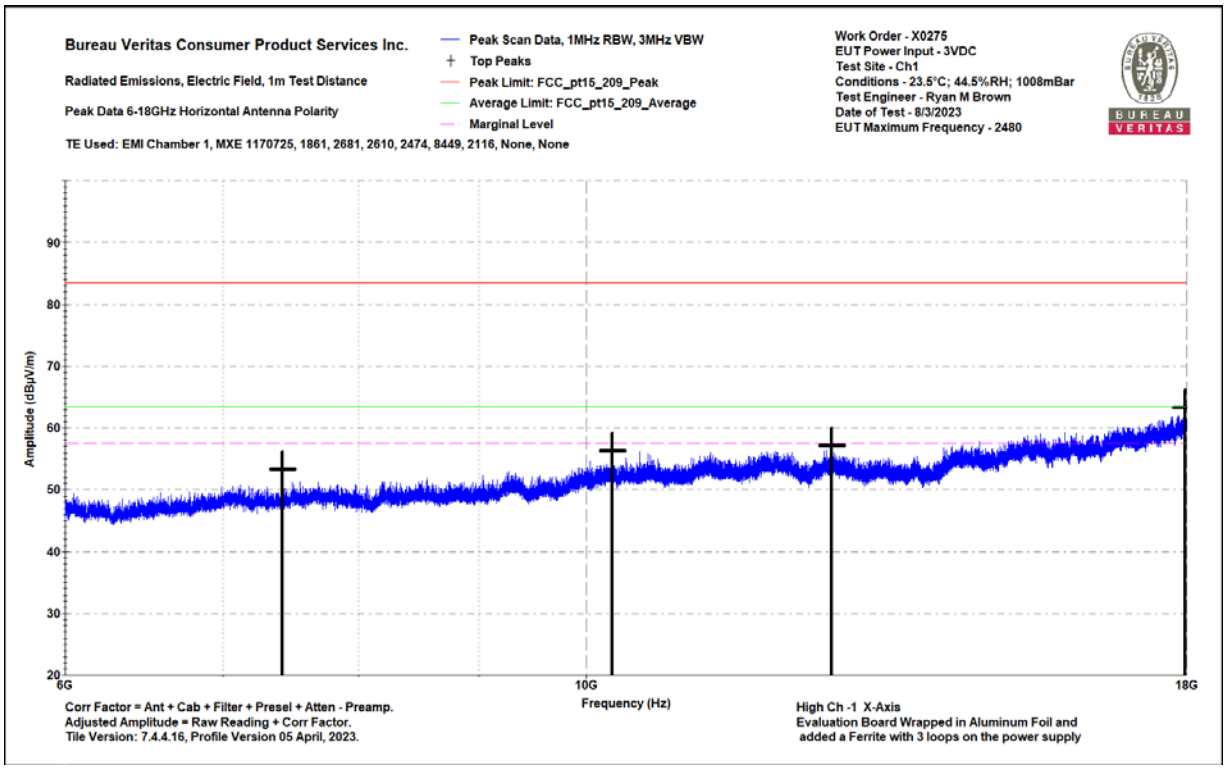


6-18GHz Vertical

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 1m Distance	EUT Power Input - 3VDC
Top Peaks Horizontal 6-18GHz	Test Site - Ch1
Notes:	Conditions - 23.5°C; 44.5%RH; 1008mBar
High Ch -1 X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and	Date of Test - 8/3/2023
added a Ferrite with 3 loops on the power supply	

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7423.5	48.1	5.2	53.3	83.5	-30.2	PASS		63.5	-10.2	PASS		150	185
10253.1	Not in the Restricted Band												
12711.6	47.1	10	57.1	83.5	-26.4	PASS		63.5	-6.4	PASS		150	147
17978.7	47.3	16	63.4	83.5	-20.1	PASS	-20.1	63.5	-0.1	PASS	-0.1	175	131

6-18GHz Horizontal



6-18GHz Horizontal

Radiated Emissions Table

Date: 11-Oct-23 **Company:** Yardi **Work Order:** X0275
Engineer: Ryan M. Brown **EUT Desc:** Zigbee Modual **EUT Operating Voltage/Frequency:**
Temp: 25.2 **Humidity:** 51% **Pressure:** 1002
Frequency Range: 18-25GHz **Measurement Distance:** 1 m
Notes: CH 25 Power Setting 20dBm **EUT Max Freq:** 2480

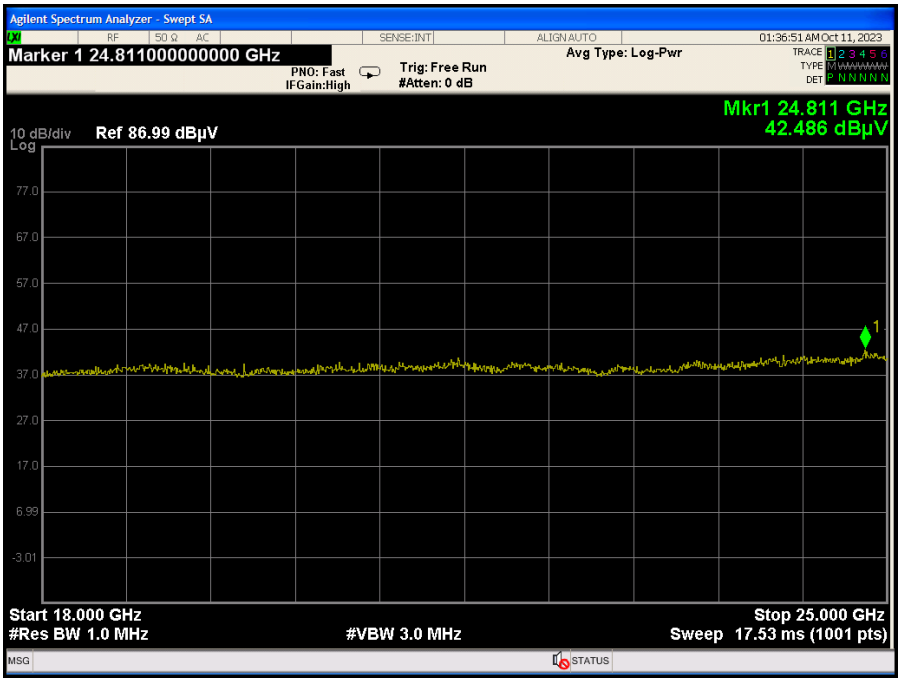
Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC Class B High Frequency - Peak Limit (dBµV/m)	FCC Class B High Frequency - Peak Margin (dB)	FCC Class B High Frequency - Peak Result (Pass/Fail)	FCC Class B High Frequency - Average Limit (dBµV/m)	FCC Class B High Frequency - Average Margin (dB)	FCC Class B High Frequency - Average Result (Pass/Fail)
H	24811.0	42.48	42.5	0.0	4.6	11.8	58.9	58.9	83.5	-24.6	Pass	63.5	-4.6	Pass

Table Result: Pass by -4.6 dB ***Worst Freq:*** 24811.0 MHz

Test Site: EMI Chamber 1 **Cable 1:** Asset #2690 **Cable 2:** --- **Cable 3:** ---
Analyzer: 2093 **Preamp:** None **Antenna:** 2709 **Preselector:** ---
CSsoft Radiated Emissions Calculator v 1.017.225

Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

18-25GHz



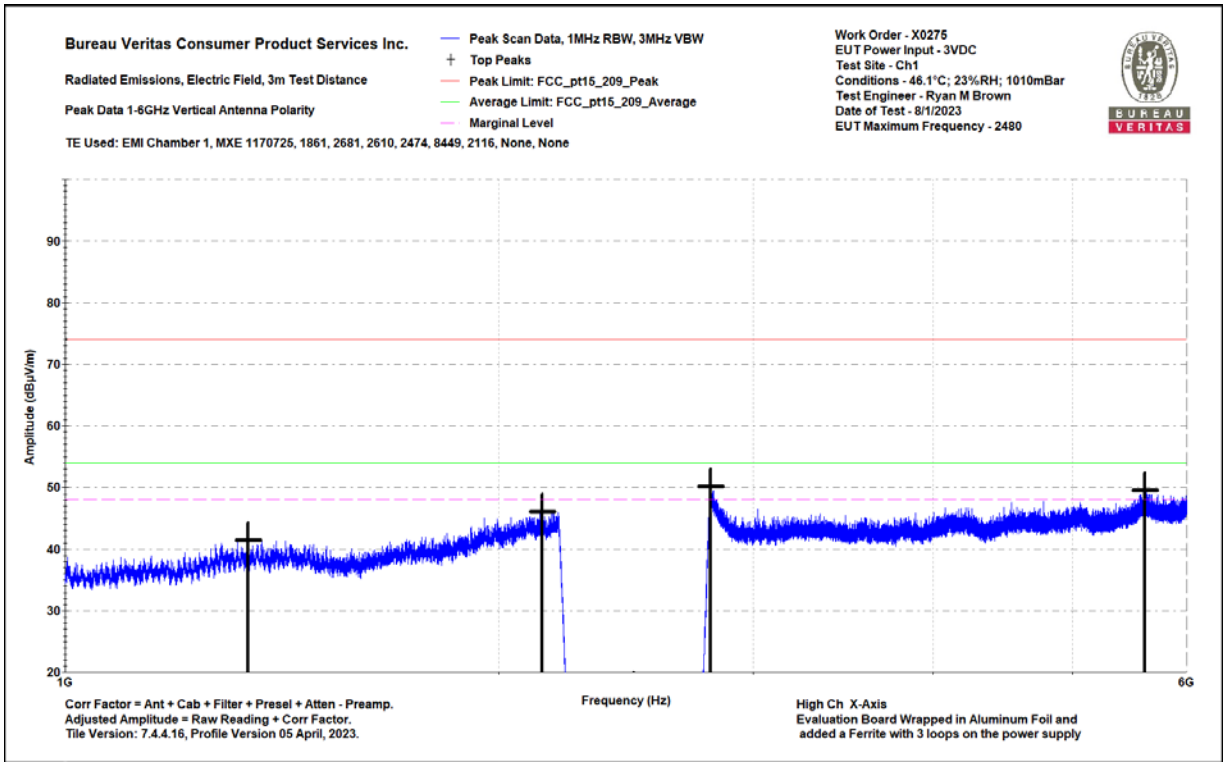
18-25GHz

Results for Channel 26

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 3VDC
Top Peaks Vertical 1-6GHz	Test Site - Ch1
Notes:	Conditions - 46.1°C; 23%RH; 1010mBar
High Ch X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and	Date of Test - 8/1/2023
added a Ferrite with 3 loops on the power supply	

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Average Limit (dB)	Average Limit Test Result (Pass/Fail)	Average Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
1339	48.1	-6.7	41.4	74	-32.6	PASS		54	-12.6	PASS		100	262
2141.75	Not in the Restricted Band												
2479.63	Fundamental												
2804.63	46.3	3.8	50.1	74	-23.9	PASS	-23.9	54	-3.9	PASS	-3.9	100	300
5611.88	Not in the Restricted Band												

1-6GHz Vertical

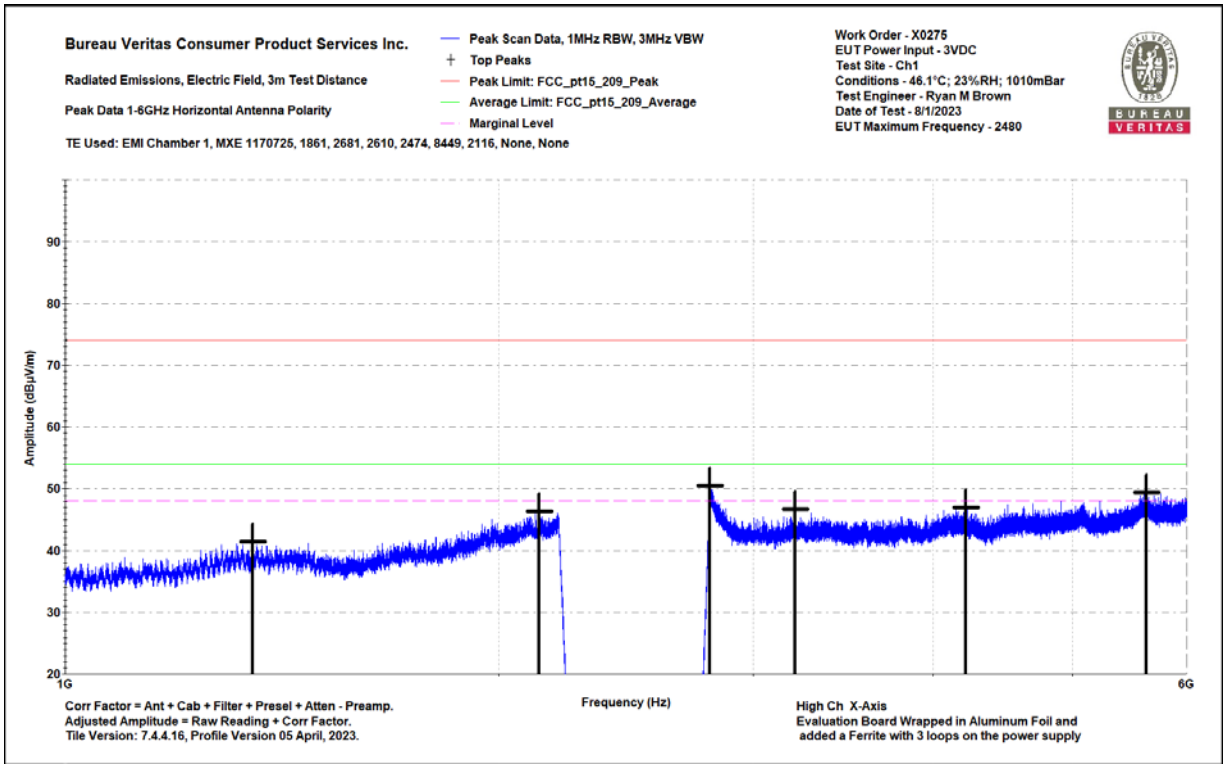


1-6GHz Vertical

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 3m Distance	EUT Power Input - 3VDC
Top Peaks Horizontal 1-6GHz	Test Site - Ch1
Notes:	Conditions - 46.1°C; 23%RH; 1010mBar
High Ch X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and	Date of Test - 8/1/2023
added a Ferrite with 3 loops on the power supply	

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Results (Pass/Fail)	Avg Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
1349.25	48.1	-6.7	41.4	74	-32.6	PASS		54	-12.6	PASS		200	167
2131.13	Not in the Restricted Band												
2800.75	46.5	4	50.6	74	-23.4	PASS	-23.4	54	-3.4	PASS	-3.4	100	186
3211.5	Not in the Restricted Band												
4214	45.6	1.3	46.9	74	-27.1	PASS		54	-7.1	PASS		300	146
5629	Not in the Restricted Band												

1-6GHz Horizontal

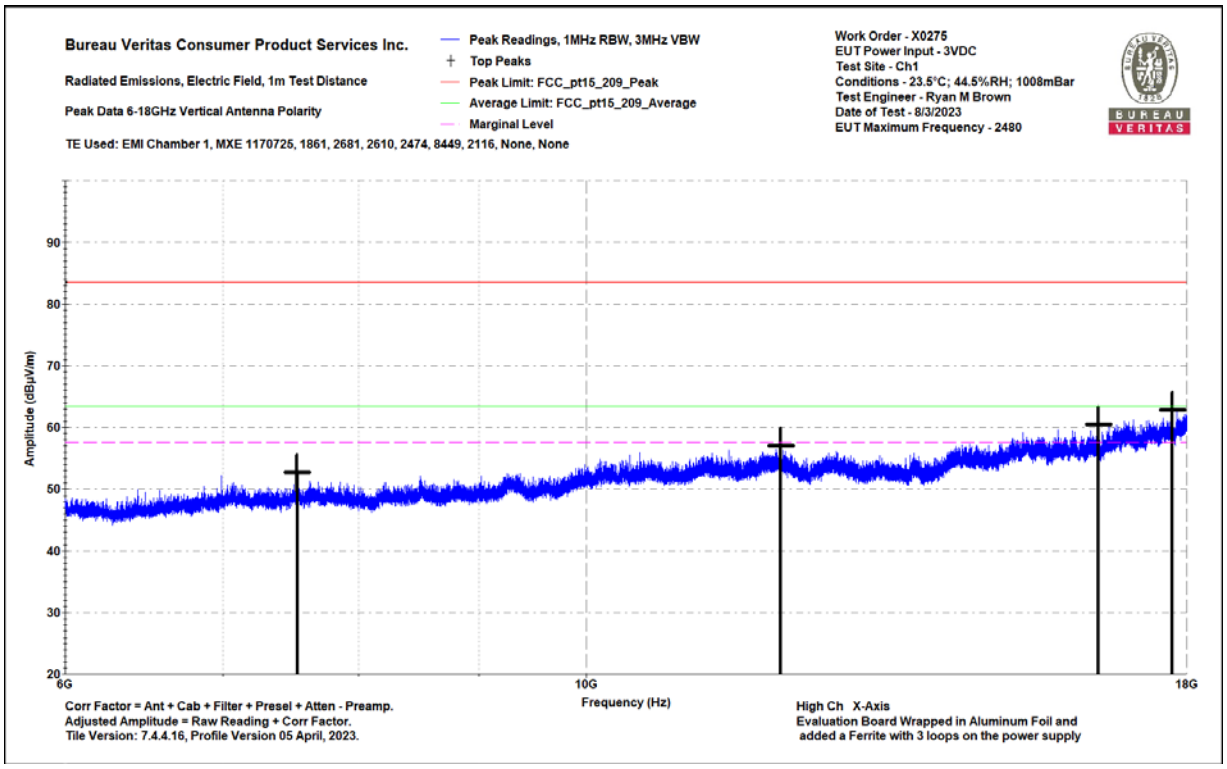


1-6GHz Horizontal

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 1m Distance	EUT Power Input - 3VDC
Top Peaks Vertical 6-18GHz	Test Site - Ch1
Notes:	Conditions - 23.5°C; 44.5%RH; 1008mBar
High Ch X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and added a Ferrite with 3 loops on the power supply	Date of Test - 8/3/2023

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
7530.9	47.5	5.3	52.8	83.5	-30.7	PASS		63.5	-10.7	PASS		100	147
12090.6	47.5	9.6	57.1	83.5	-26.4	PASS		63.5	-6.4	PASS		100	0
16508.1	Not in the Restricted Band												
17748.6	47.6	15.2	62.9	83.5	-20.6	PASS	-20.6	63.5	-0.6	PASS	-0.6	200	109

6-18GHz Vertical

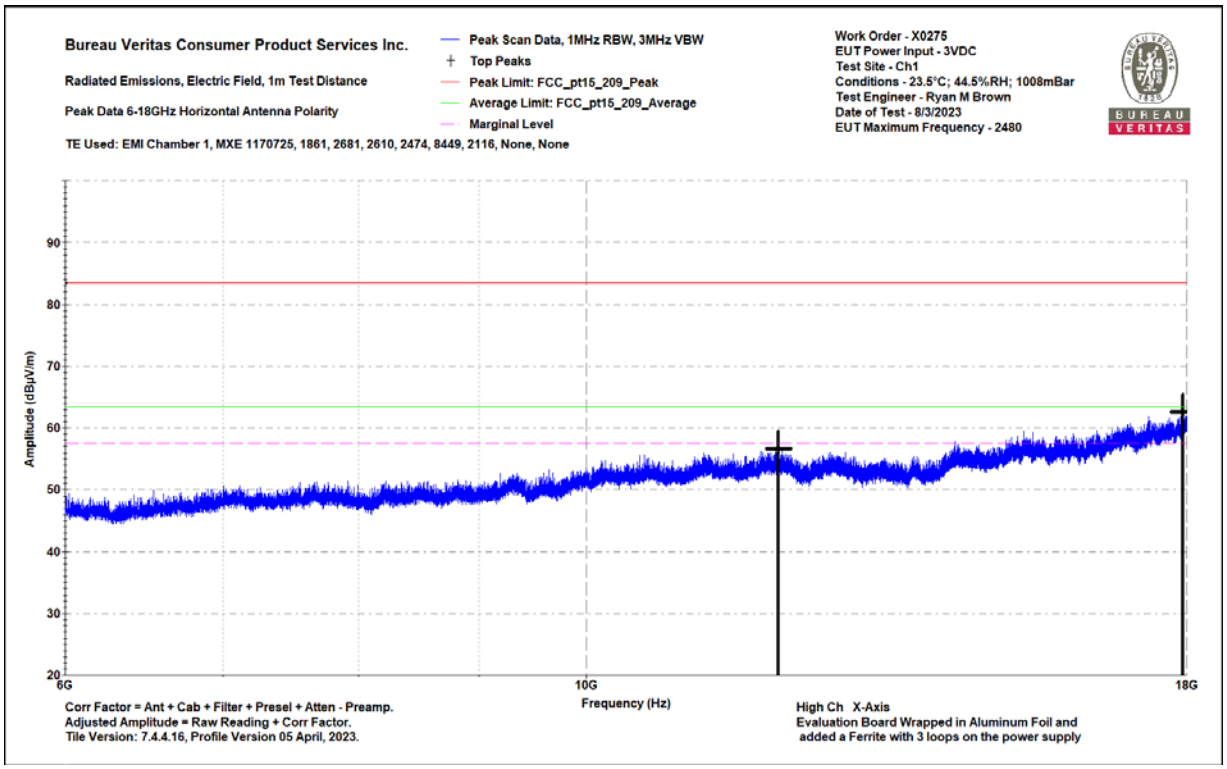


6-18GHz Vertical

Bureau Veritas Consumer Product Services Inc.	Work Order - X0275
Radiated Emissions Electric Field 1m Distance	EUT Power Input - 3VDC
Top Peaks Horizontal 6-18GHz	Test Site - Ch1
Notes:	Conditions - 23.5°C; 44.5%RH; 1008mBar
High Ch X-Axis	Test Engineer - Ryan M Brown
Evaluation Board Wrapped in Aluminum Foil and	Date of Test - 8/3/2023
added a Ferrite with 3 loops on the power supply	

Frequency (MHz)	Raw Peak Reading (dBµV)	Correction Factor (dB/m)	Adjusted Peak Amplitude (dBµV/m)	Pk Lim: FCC_pt15_209_Peak (dBµV/m)	Margin to Peak Limit (dB)	Peak Limit Test Results (Pass/Fail)	Peak Limit Worst Margin (dB)	Av Lim: FCC_pt15_209_Average (dBµV/m)	Margin to Avg Limit (dB)	Avg Limit Test Results (Pass/Fail)	Avg Limit Worst Margin (dB)	Antenna Height (cm)	EUT Azimuth (degrees)
12062.7	47.1	9.5	56.7	83.5	-26.8	PASS		63.5	-6.8	PASS		150	261
17931.3	46.9	15.6	62.6	83.5	-20.9	PASS	-20.9	63.5	-0.9	PASS	-0.9	150	108

6-18GHz Horizontal



6-18GHz Horizontal

Radiated Emissions Table

Date: 11-Oct-23 **Company:** Yardi **Work Order:** X0275
Engineer: Ryan M. Brown **EUT Desc:** Zigbee Modual **EUT Operating Voltage/Frequency:**
Temp: 25.2 **Humidity:** 51% **Pressure:** 1002
Frequency Range: 18-25GHz **Measurement Distance:** 1 m
Notes: CH 26 Power Setting 11dBm **EUT Max Freq:** 2480

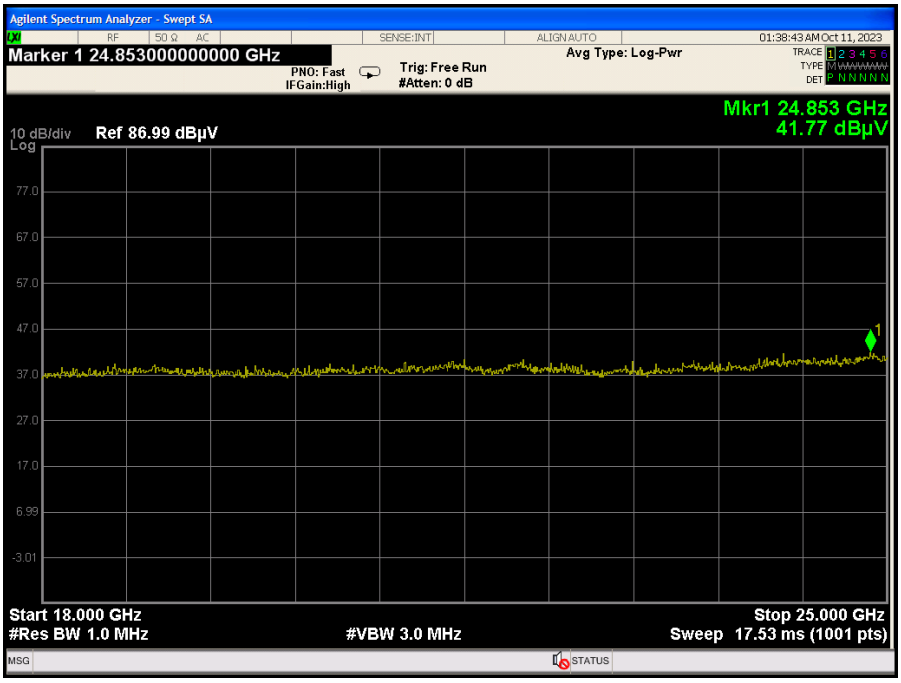
Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC Class B High Frequency - Peak			FCC Class B High Frequency - Average		
									Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
H	24853.0	41.77	41.8	0.0	4.7	11.8	58.3	58.3	83.5	-25.2	Pass	63.5	-5.2	Pass

Table Result: Pass by -5.2 dB ***Worst Freq:*** 24853.0 MHz

Test Site: EMI Chamber 1 **Cable 1:** Asset #1507 **Cable 2:** --- **Cable 3:** ---
Analyzer: Gold **Preamp:** None **Antenna:** 18-26.5GHz Horn **Preselector:** ---
CSsoft Radiated Emissions Calculator v 1.017.225

Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

18-25GHz



18-25GHz

Radiated Band-edge:

Radiated Emissions Table

Date: 07-Jul-23 **Company:** Yardi **Work Order:** X0275
Engineer: Ryan M. Brown **EUT Desc:** Zigbee Module **EUT Operating Voltage/Frequency:**
Temp: 22.5C **Humidity:** 47% **Pressure:** 1012
Frequency Range: Band Edge **Measurement Distance:** 1 m
Notes: CH 11 Power Setting 20dBm CH 26 Power Setting 11dBm **EUT Max Freq:** 2480
CH 25 Power Setting 20dBm
Duty-Cycle: 66%, DCCF = 10*log(1/0.66) = 1.8dB, Average readings below are RMS (power averaged) over 200 traces with trace averaging.
1.8dB DCCF added to the RMS readings (already reflected in the readings below).

Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC 15.209 - Peak Limit (dBµV/m)	FCC 15.209 - Peak Margin (dB)	FCC 15.209 - Peak Result (Pass/Fail)	FCC 15.209 - Average Limit (dBµV/m)	FCC 15.209 - Average Margin (dB)	FCC 15.209 - Average Result (Pass/Fail)
X- Axis Band Edge Low				---	---	---	---	---	---	---	---	---	---	---
V	2390.0	31.5	23.5	0.0	32.6	3.2	67.3	59.3	83.5	-16.2	Pass	63.5	-4.2	Pass
H	2390.0	33.2	23.3	0.0	32.6	3.2	69.0	59.1	83.5	-14.5	Pass	63.5	-4.4	Pass
				---	---	---	---	---	---	---	---	---	---	---
X- Axis Band Edge High				---	---	---	---	---	---	---	---	---	---	---
V	2483.5	31.6	24.9	0.0	32.8	3.0	67.4	60.7	83.5	-16.1	Pass	63.5	-2.8	Pass
H	2483.5	33.0	27.5	0.0	32.8	3.0	68.8	63.3	83.5	-14.7	Pass	63.5	-0.2	Pass
				---	---	---	---	---	---	---	---	---	---	---
Y- Axis Band Edge Low				---	---	---	---	---	---	---	---	---	---	---
V	2390.0	31.1	23.8	0.0	32.6	3.2	66.9	59.6	83.5	-16.6	Pass	63.5	-3.9	Pass
H	2390.0	32.0	23.2	0.0	32.6	3.2	67.8	59.0	83.5	-15.7	Pass	63.5	-4.5	Pass
				---	---	---	---	---	---	---	---	---	---	---
Y- Axis Band Edge High				---	---	---	---	---	---	---	---	---	---	---
V	2483.5	32.1	24.9	0.0	32.8	3.0	67.9	60.7	83.5	-15.6	Pass	63.5	-2.8	Pass
H	2483.5	33.4	26.4	0.0	32.8	3.0	69.2	62.2	83.5	-14.3	Pass	63.5	-1.3	Pass
				---	---	---	---	---	---	---	---	---	---	---
Z- Axis Band Edg				---	---	---	---	---	---	---	---	---	---	---
V	2390.0	31.6	23.6	0.0	32.6	3.2	67.4	59.4	83.5	-16.1	Pass	63.5	-4.1	Pass
H	2390.0	31.2	23.5	0.0	32.6	3.2	67.0	59.3	83.5	-16.5	Pass	63.5	-4.2	Pass
				---	---	---	---	---	---	---	---	---	---	---
Z- Axis Band Edge High				---	---	---	---	---	---	---	---	---	---	---
V	2483.5	36.2	27.5	0.0	32.8	3.0	72.0	63.3	83.5	-11.5	Pass	63.5	-0.2	Pass
H	2483.5	31.5	25.4	0.0	32.8	3.0	67.3	61.2	83.5	-16.2	Pass	63.5	-2.3	Pass
				---	---	---	---	---	---	---	---	---	---	---
				---	---	---	---	---	---	---	---	---	---	---
X- Axis Band Edge High -1				---	---	---	---	---	---	---	---	---	---	---
V	2483.5	31.3	23.3	0.0	32.8	3.0	67.1	59.1	83.5	-16.4	Pass	63.5	-4.4	Pass
H	2483.5	32.6	24.7	0.0	32.8	3.0	68.4	60.5	83.5	-15.1	Pass	63.5	-3.0	Pass
				---	---	---	---	---	---	---	---	---	---	---

Table Result: Pass by -0.2 dB ***Worst Freq:*** 2483.5 MHz

Test Site: EMI Chamber 1 **Cable 1:** Asset #2681 **Cable 2:** Asset #2610 **Cable 3:** ---
Analyzer: MXE 1170725 **Preamp:** None **Antenna:** Blue Horn **Preselector:** ---
CSsoft Radiated Emissions Calculator v 1.017.225
Adjusted Reading = Reading - Preamp Factor + Antenna Factor + Cable Factor

Notch filter range: 2.2GHz to 2.8GHz notch filter range was checked for emissions and no emissions were found. No differences observed between horizontal or vertical antenna polarizations.

4 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the Test Setup Photos exhibit.

5 APPENDIX A – MODIFICATIONS

No modifications were made to the EUT during testing.

---END OF REPORT---