



## **Exigent Sensors LLC**

**Omni 2.0**

**Models Tested: OSSCO20AC, OSCO20, OSH20**

**Related Family Models: OSSCO20, OSS20AC, OSS20\***  
(\*See product description for details)

**FCC 15.207:2025**

**FCC 15.247:2025**

**RSS-Gen Issue 5:2018+A1:2019+A2:2021, RSS-247 Issue 3:2023**  
**Other Wideband DTS Transceiver**

**Report: EXIG0024.2 Rev. 1, Issue Date: January 10, 2025**



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# CERTIFICATE OF TEST

**Last Date of Test: August 21, 2024**  
**Exigent Sensors LLC**  
**EUT: Omni 2.0**  
**Models Tested: OSSCO20AC, OSCO20, OSH20**

**Related Family Models: OSSCO20, OSS20AC, OSS20\***  
 (\*See product description for details)

## Radio Equipment Testing

### Standards

Specification	Method
FCC 15.207:2025	ANSI C63.10:2013
FCC 15.247:2025	
RSS-247 Issue 3:2023	
RSS-Gen Issue 5:2018+A1:2019+A2:2021	

### Guidance

FCC KDB 558074 v05r02:2019
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*Note: FCC 15.207 and FCC 15.247 have been updated superseding prior issues. The changes between the specifications do not affect the results of the prior testing*

### Results

Test Description	Result	FCC Section(s)	RSS Section(s)	ANSI C63.10 Section(s)	Comments
Powerline Conducted Emissions (Transmitter)	Pass	15.207	RSS-Gen 8.8	6.2	
Spurious Radiated Emissions	Pass	15.247(d), KDB 558074 -8.6, 8.7	RSS-247 5.5	6.5, 6.6, 11.12.1, 11.13.2	
Duty Cycle	N/A	15.247, KDB 558074 -6.0	RSS-Gen 3.2	11.6	
Carrier Frequency Separation	N/A	15.247(a)(1)	RSS-247 5.1(b)	7.8.2	Not required for DTS devices.
Number of Hopping Frequencies	N/A	15.247(a)(1)	RSS-247 5.1(d)	7.8.3	
Dwell Time	N/A	15.247(a)(1)	RSS-247 5.1(d)	7.8.4	
Output Power	Pass	15.247(b), KDB 558074 -8.3	RSS-247 5.4(d)	11.9.1.1	
Equivalent Isotropic Radiated Power (EIRP)	Pass	15.247(b), KDB 558074 -8.3	RSS-247 5.4(d)	11.9.1.1	
Band Edge Compliance	Pass	15.247(d), KDB 558074 -8.5	RSS-247 5.5	11.11	
Band Edge Compliance - Hopping Mode	N/A	15.247(d)	RSS-247 5.5	7.8.6	Not required for DTS devices.
DTS Bandwidth (6 dB)	Pass	15.247(a), KDB 558074 -8.2	RSS-247 5.2(a)	11.8.2	
Occupied Bandwidth (99%)	Pass	KDB 558074 -2.1	RSS-Gen 6.7	6.9.3	
Spurious Conducted Emissions	Pass	15.247(d), KDB 558074 -8.5	RSS-247 5.5	11.11	
Power Spectral Density	Pass	15.247(e), KDB 558074 -8.4	RSS-247 5.2(b)	11.10.2	

### Deviations From Test Standards

*Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information. As indicated in the Statement of Work sent with the quotation, Element's standard process is to always use the latest published version of the test methods even when earlier versions are cited in the test specification. Issuance of a purchase order was de facto acceptance of this approach. Otherwise, the client would have advised Element in writing of the specific version of the test methods they wanted applied to the subject testing.*

# CERTIFICATE OF TEST

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None

## Approved By:



Johnny Candelas, Operations Manager  
Signed for and on behalf of Element

*Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information. As indicated in the Statement of Work sent with the quotation, Element's standard process is to always use the latest published version of the test methods even when earlier versions are cited in the test specification. Issuance of a purchase order was de facto acceptance of this approach. Otherwise, the client would have advised Element in writing of the specific version of the test methods they wanted applied to the subject testing.*

# REVISION HISTORY

Revision Number	Description	Date (yyyy-mm-dd)	Page Number
01	Added Spurious Radiated Emissions data taken under EXIG0025	2024-12-18	39-47
	Updated test dates	2024-12-18	3, 12, 16
	Added configuration EXIG0025-1	2024-12-18	15
	Added models tested and model variant information	2024-12-20	1, 3
	Updated measurement uncertainty values for all labs	2024-12-20	8
	Updated product description to include model variant descriptions.	2024-12-20	12
	Added configurations EXIG0024-2	2024-12-20	14
	Added power settings page	2024-12-20	13
	Added all missing equipment to SRE	2024-12-20	26
	Separated SRE data by config/SN	2024-12-20	28-36
	Changed Conclusion to N/A	2024-12-20	62
	Replaced LoRa CCS with 2-FSK throughout	2024-12-20	18, 20, 22, 24, 28, 30, 33, 35, 40, 42, 44, 46, 50, 53, 56, 59, 62, 65, 68, 71

# ACCREDITATIONS AND AUTHORIZATIONS



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## United States

**FCC** - Designated by the FCC as a Telecommunications Certification Body (TCB). Certification chambers, Open Area Test Sites, and conducted measurement facilities are listed with the FCC.

**A2LA** - Each laboratory is accredited by A2LA to ISO / IEC 17025, and as a product certifier to ISO / IEC 17065 which allows Element to certify transmitters to FCC and IC specifications.

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## Canada

**ISED** - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB) and as a CAB for the acceptance of test data.

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## European Union

**European Commission** – Recognized as an EU Notified Body validated for the EMCD and RED Directives.

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## United Kingdom

**BEIS** – Recognized by the UK as an Approved Body under the UK Radio Equipment and UK EMC Regulations.

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## Australia/New Zealand

**ACMA** - Recognized by ACMA as a CAB for the acceptance of test data.

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## Korea

**MSIT / RRA** - Recognized by KCC's RRA as a CAB for the acceptance of test data.

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## Japan

**VCCI** - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

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## Taiwan

**BSMI** – Recognized by BSMI as a CAB for the acceptance of test data.

**NCC** - Recognized by NCC as a CAB for the acceptance of test data.

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## Singapore

**IDA** – Recognized by IDA as a CAB for the acceptance of test data.

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## Israel

**MOC** – Recognized by MOC as a CAB for the acceptance of test data.

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## Hong Kong

**OFCA** – Recognized by OFCA as a CAB for the acceptance of test data.

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## Vietnam

**MIC** – Recognized by MIC as a CAB for the acceptance of test data.

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## SCOPE

For details on the Scopes of our Accreditations, please visit:

[California](#)

[Minnesota](#)

[Oregon](#)

[Texas](#)

[Washington](#)

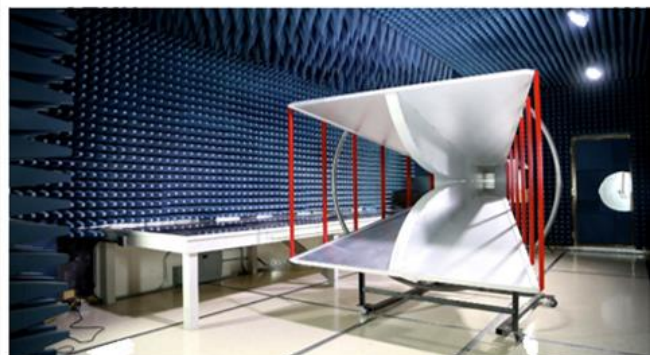
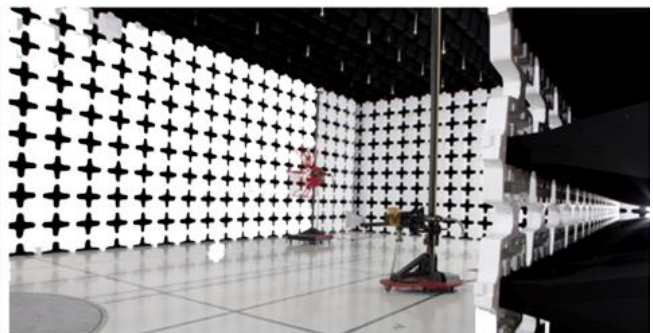
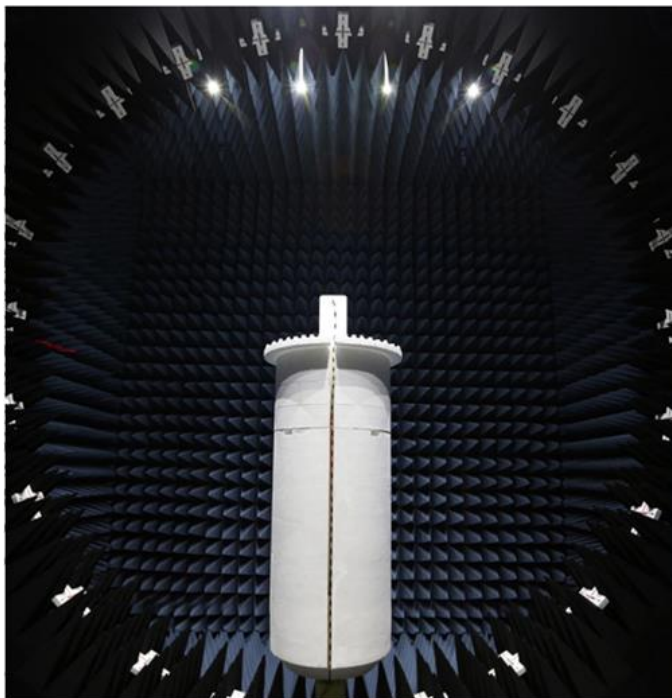
# FACILITIES

Testing was performed at the following location(s)

	Location	Labs <sup>(1)</sup>	Address	A2LA <sup>(2)</sup>	ISED <sup>(3)</sup>	BSMI <sup>(4)</sup>	VCCI <sup>(5)</sup>	CAB <sup>(6)</sup>	FDA <sup>(7)</sup>
<input checked="" type="checkbox"/>	California	OC01-17	41 Tesla Irvine, CA 92618 (949) 861-8918	3310.04	2834B	SL2-IN-E-1154R	A-0029	US0158	TL-55
<input type="checkbox"/>	Minnesota	MN01-11	9349 W Broadway Ave. Brooklyn Park, MN 55445 (612) 638-5136	3310.05	2834E	SL2-IN-E-1152R	A-0109	US0175	TL-57
<input type="checkbox"/>	Oregon	EV01-12	6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	3310.02	2834D	SL2-IN-E-1017	A-0108	US0017	TL-56
<input type="checkbox"/>	Plano Texas	PT01-15	1701 E Plano Pkwy, Ste 150 Plano, TX 75074 (972) 509-2566	214.19	32637	SL2-IN-E-057R	A-0426	US0054	N/A
<input type="checkbox"/>	Texas	TX01-09	3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	3310.03	2834G	SL2-IN-E-1158R	N/A	US0191	TL-54
<input type="checkbox"/>	Washington	NC01-05	19201 120th Ave NE Bothell, WA 98011 (425) 984-6600	3310.06	2834F	SL2-IN-E-1153R	A-0110	US0157	TL-67
<input type="checkbox"/>	Offsite	N/A	See Product Description	N/A	N/A	N/A	N/A	N/A	N/A

See data sheets for specific labs

- (1) The lab designations denote individual rooms within each location. (OC01, OC02, OC03, etc.)
- (2) A2LA Certificate No.
- (3) ISED Company No.
- (4) BSMI No.
- (5) VCCI Site Filing No.
- (6) CAB Identifier. Recognized Phase I CAB for ISED, ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA
- (7) FDA ASCA No.





# MEASUREMENT UNCERTAINTY

## Measurement Uncertainty

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error qualified by a probability distribution.

A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty ( $k=2$ ) can be found in the table below. A lab specific value may also be found in the applicable test description section. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable) and are available upon request.

The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

### Field Strength Measurements (dB):

Range	OC07 (+/-)
10kHz-30MHz	1.8
30MHz-1GHz 3m	4.7
1GHz-6GHz	5.1
6GHz-40GHz	5.1

### AC Powerline Conducted Emissions Measurements (dB):

Range	OC06 (+/-)
9kHz-150kHz LISN	3.6
150kHz-30MHz LISN	3.2
150kHz-30MHz CVP	3
150kHz-30MHz Telecom-LSN	4.4

### Various Measurements:

Test	All Labs (+/-)
Frequency Accuracy (%)	0.0007
Amplitude Accuracy (dB)	1.2
Conducted Power (dB)	1.2
Radiated Power via Substitution (dB)	0.7
Temperature (degrees C)	0.7
Humidity (% RH)	2.5
Voltage (AC) (%)	1
Voltage (DC) (%)	0.7



# TEST SETUP BLOCK DIAGRAMS

## Measurement Bandwidths

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

Unless otherwise stated, measurements were made using the bandwidths and detectors specified. No video filter was used.

## Antenna Port Conducted Measurements



## Sample Calculation (logarithmic units)

Measured Value		Measured Level		Reference Level Offset
71.2	=	42.6	+	28.6

## Near Field Test Fixture Measurements



## Sample Calculation (logarithmic units)

Measured Value		Measured Level		Reference Level Offset
71.2	=	42.6	+	28.6

# TEST SETUP BLOCK DIAGRAMS

## Emissions Measurements



## Sample Calculation (logarithmic units)

### Radiated Emissions:

Measured Level (Amplitude)	Factor			Distance Adjustment Factor	External Attenuation	Field Strength
	Antenna Factor	Cable Factor	Amplifier Gain			
42.6	28.6	3.1	40.8	0.0	0.0	33.5

### Conducted Emissions:

Measured Level (Amplitude)	Factor		External Attenuation	Adjusted Level
	Transducer Factor	Cable Factor		
26.7	0.3	0.1	20.0	47.1

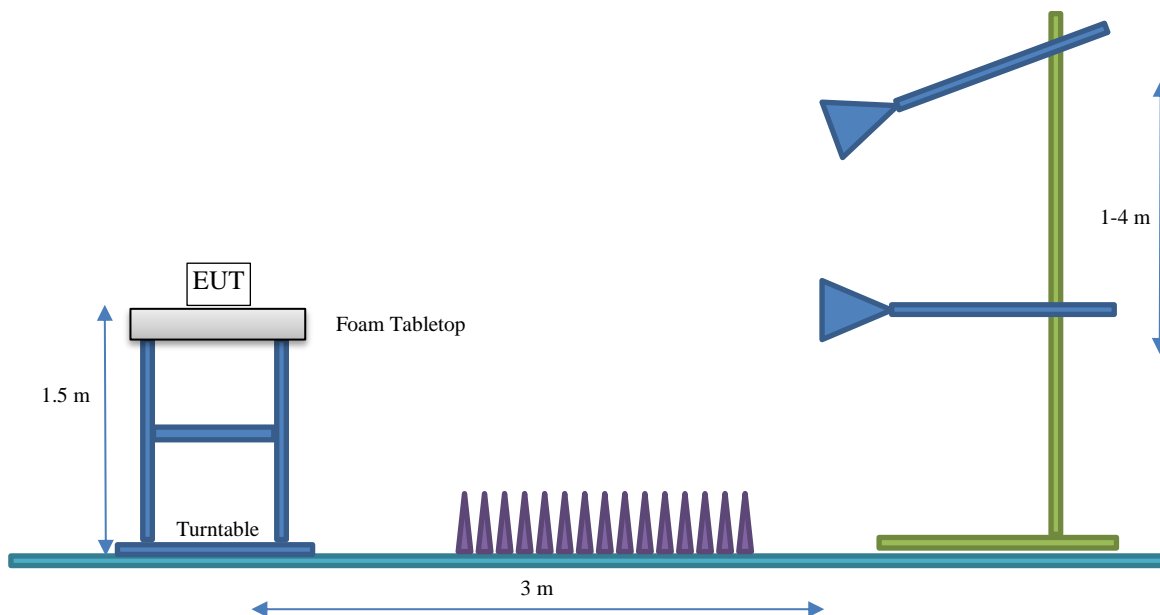
### Radiated Power (ERP/EIRP) – Substitution Method:

Measured Level into Substitution Antenna (Amplitude dBm)	Substitution Antenna Factor (dBi)	EIRP to ERP (if applicable)	Measured power (dBm ERP/EIRP)
10.0	6.0	2.15	13.9/16.0

# TEST SETUP BLOCK DIAGRAMS

## Bore Sighting (>1GHz)

The diameter of the illumination area is the dimension of the line tangent to the EUT formed by 3 dB beamwidth of the measurement antenna at the measurement distance. At a 3 meter test distance, the diameter of the illumination area was 3.8 meters at 1 GHz and greater than 2.1 meters up to 6 GHz. Above 1 GHz, when required by the measurement standard, the antenna is pointed for both azimuth and elevation to maintain the receive antenna within the cone of radiation from the EUT. The specified measurement detectors were used for comparison of the emissions to the peak and average specification limits.



# PRODUCT DESCRIPTION

## Client and Equipment under Test (EUT) Information

<b>Company Name:</b>	Exigent Sensors LLC
<b>Address:</b>	11441 Markon Dr #1402
<b>City, State, Zip:</b>	Garden Grove, CA 92841
<b>Test Requested By:</b>	Chad Christensen
<b>EUT:</b>	Omni 2.0
<b>First Date of Test:</b>	August 19, 2024
<b>Last Date of Test:</b>	December 17, 2024
<b>Receipt Date of Samples:</b>	August 19, 2024
<b>Equipment Design Stage:</b>	Production
<b>Equipment Condition:</b>	No Damage
<b>Purchase Authorization:</b>	Verified

## Information Provided by the Party Requesting the Test

### Functional Description of the EUT:

Omni 2.0 is a photoelectric smoke and carbon monoxide alarm with a supplemental heat detector, designed for residential environments to detect dangerous levels of smoke, carbon monoxide, and heat. The device includes wireless interconnectivity, allowing it to alert nearby alarms. It operates using a proprietary radio protocol in the 902 - 928 MHz frequency band.

The device family consists of six model variants:

OSSCO20AC, OSSCO20, OSS20AC, OSS20, OSH20, OSCO20

The differences between these models are summarized in the table below:

Model	Smoke Sensor	Heat Sensor	CO Sensor	Power Supply
OSSCO20AC	Yes	Yes	Yes	AC + Battery
OSSCO20	Yes	Yes	Yes	Battery
OSS20AC	Yes	Yes	No	AC + Battery
OSS20	Yes	Yes	No	Battery
OSH20	No	Yes	No	Battery
OSCO20	No	Yes	Yes	Battery

### Testing Objective:

Seeking to demonstrate compliance of the Other Wideband radio with operation under FCC 15.247:2024 and RSS-Gen Issue 5:2018+A1:2019+A2:2021, RSS-247 Issue 3:2023 specifications under technology category Other.

# POWER SETTINGS AND ANTENNAS



The power settings, antenna gain value(s) and cable loss (if applicable) used for the testing contained in this report were provided by the customer and will affect the validity of the results. Element assumes no responsibility for the accuracy of this information. The power settings below reflect the maximum power that the EUT is allowed to transmit at during normal operation.

## ANTENNA GAIN (dBi)

Type	Provided by:	Frequency Range (MHz)	Gain (dBi)
PCB	Exigent Sensors	902-915 MHz	2.85

The EUT was tested using the power settings provided by the manufacturer which were based upon:

- ☒ Test software settings      Test software/firmware installed on EUT: FCC TEST 1.0
- ☐ Rated power settings

## SETTINGS FOR ALL TESTS IN THIS REPORT

Modulation Type	Data Rate	Position (if multiple channels)	Power Setting
FSK	10 kbps	Low Channel (905.2 MHz)	0XC0 (12dBm)
		High Channel (913.2 MHz)	0XC0 (12dBm)

# CONFIGURATIONS



## Configuration EXIG0024-1

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
OMNI 2.0	Exigent Sensors LLC	OSSCO20AC	E1

## Configuration EXIG0024-2

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
OMNI 2.0	Exigent Sensors LLC	OSSCO20AC	E5

## Configuration EXIG0024-3

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
OMNI 2.0	Exigent Sensors LLC	OSSCO20AC	E4

# CONFIGURATIONS



## Configuration EXIG0025-1

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Heat Variant	Exigent Sensors	OSH20	F50

## Configuration EXIG0025-2

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
CO Variant	Exigent Sensors	OSCO20	F60



# MODIFICATIONS



## Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2024-08-19	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
2	2024-08-20	Powerline Conducted Emissions (Transmitter)	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
3	2024-08-21	Duty Cycle	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
4	2024-08-21	Power Spectral Density	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
5	2024-08-21	Spurious Conducted Emissions	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
6	2024-08-21	Equivalent Isotropic Radiated Power (EIRP)	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
7	2024-08-21	Occupied Bandwidth (99%)	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
8	2024-08-21	Band Edge Compliance	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
9	2024-08-21	DTS Bandwidth (6 dB)	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
10	2024-08-21	Output Power	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
11	2024-12-17	Spurious Radiated Emissions	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

# POWERLINE CONDUCTED EMISSIONS (TRANSMITTER)

## TEST DESCRIPTION

Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Per the standard, an insulating material was also added to ground plane between the EUT's power and remote I/O cables. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 50ohm measuring port is terminated by a 50ohm EMI meter or a 50ohm resistive load. All 50ohm measuring ports of the LISN are terminated by 50ohm. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Receiver	Gauss Instruments	TDEMI 30M	ARO	2024-05-07	2025-05-07
LISN	Solar Electronics	9252-50-24-BNC	LIA	2023-09-12	2024-09-12
Power Supply	Pacific Power	3120AFX-2L	SMT	NCR	NCR
Cable - Conducted Cable Assembly	Northwest EMC	OCP, HFP, AWC	OCPA	2024-03-06	2025-03-06

## CONFIGURATIONS INVESTIGATED

EXIG0024-2

## MODES INVESTIGATED

Transmitting High Channel 913.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0  
Transmitting Low Channel 905.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0

# POWERLINE CONDUCTED EMISSIONS (TRANSMITTER)

EUT:	Omni 2.0	Work Order:	EXIG0024
Serial Number:	E5	Date:	2024-08-20
Customer:	Exigent Sensors LLC	Temperature:	23.1°C
Attendees:	Kevin Tain	Relative Humidity:	41.5%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mb
Tested By:	Matthew Ng	Job Site:	OC06
Power:	110VAC/60Hz	Configuration:	EXIG0024-2

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	5	Line:	High Line	Add. Ext. Attenuation (dB):	0
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## COMMENTS

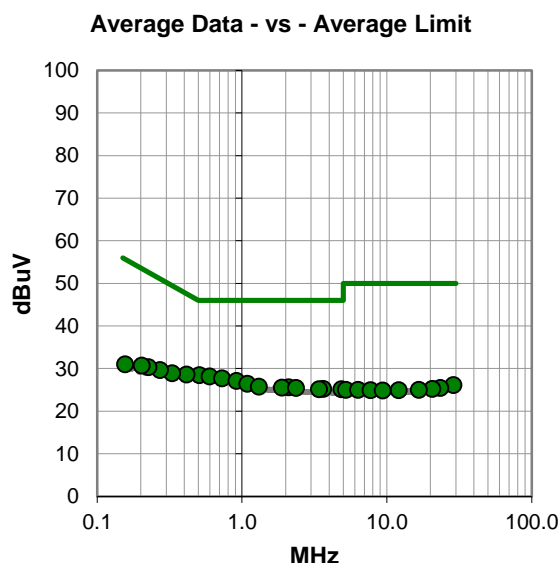
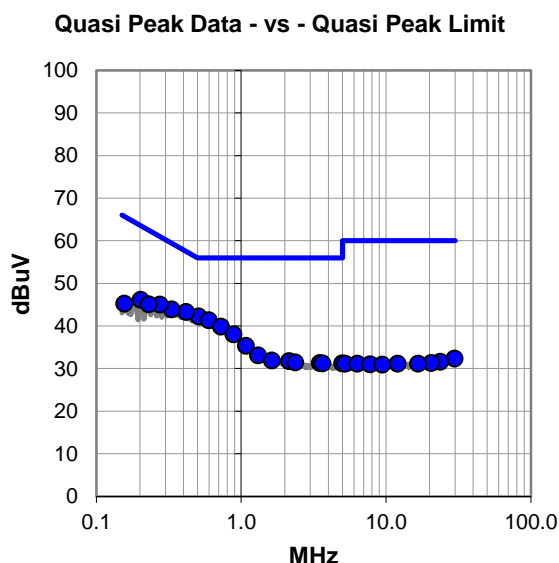
None

## EUT OPERATING MODES

Transmitting Low Channel 905.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS (TRANSMITTER)

## RESULTS - Run #5

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.509	22.3	19.9	42.2	56.0	-13.8
0.417	23.4	19.9	43.3	57.5	-14.2
0.597	21.4	19.9	41.3	56.0	-14.7
0.332	23.9	20.0	43.9	59.4	-15.5
0.275	25.0	20.0	45.0	61.0	-16.0
0.727	19.8	20.0	39.8	56.0	-16.2
0.202	26.1	20.0	46.1	63.5	-17.4
0.229	25.1	20.0	45.1	62.5	-17.4
0.884	18.0	20.0	38.0	56.0	-18.0
0.156	25.0	20.2	45.2	65.7	-20.5
1.078	15.3	20.0	35.3	56.0	-20.7
1.311	13.0	20.1	33.1	56.0	-22.9
1.627	11.8	20.1	31.9	56.0	-24.1
2.147	11.6	20.1	31.7	56.0	-24.3
2.367	11.2	20.2	31.4	56.0	-24.6
3.488	11.1	20.2	31.3	56.0	-24.7
3.644	10.9	20.3	31.2	56.0	-24.8
4.999	10.8	20.4	31.2	56.0	-24.8
29.735	9.9	22.4	32.3	60.0	-27.7
23.663	9.8	21.8	31.6	60.0	-28.4
20.553	9.8	21.5	31.3	60.0	-28.7
5.222	10.7	20.4	31.1	60.0	-28.9
6.351	10.6	20.5	31.1	60.0	-28.9
12.048	10.2	20.9	31.1	60.0	-28.9
16.658	9.8	21.3	31.1	60.0	-28.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.507	8.5	19.9	28.4	46.0	-17.6
0.597	8.2	19.9	28.1	46.0	-17.9
0.728	7.7	20.0	27.7	46.0	-18.3
0.415	8.7	19.9	28.6	47.5	-18.9
0.917	7.1	20.0	27.1	46.0	-18.9
1.090	6.4	20.0	26.4	46.0	-19.6
1.311	5.6	20.1	25.7	46.0	-20.3
2.098	5.5	20.1	25.6	46.0	-20.4
1.885	5.4	20.1	25.5	46.0	-20.5
0.330	8.9	20.0	28.9	49.5	-20.6
2.369	5.2	20.2	25.4	46.0	-20.6
3.633	4.9	20.3	25.2	46.0	-20.8
3.406	4.9	20.2	25.1	46.0	-20.9
4.865	4.7	20.4	25.1	46.0	-20.9
0.272	9.6	20.0	29.6	51.1	-21.5
0.226	10.3	20.0	30.3	52.6	-22.3
0.203	10.7	20.0	30.7	53.5	-22.8
28.934	3.6	22.5	26.1	50.0	-23.9
23.435	3.6	21.8	25.4	50.0	-24.6
0.156	10.8	20.2	31.0	55.7	-24.7
20.634	3.6	21.6	25.2	50.0	-24.8
5.217	4.6	20.4	25.0	50.0	-25.0
6.342	4.5	20.5	25.0	50.0	-25.0
16.655	3.7	21.3	25.0	50.0	-25.0
7.715	4.3	20.6	24.9	50.0	-25.1

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS (TRANSMITTER)



EUT:	Omni 2.0	Work Order:	EXIG0024
Serial Number:	E5	Date:	2024-08-20
Customer:	Exigent Sensors LLC	Temperature:	23.1°C
Attendees:	Kevin Tain	Relative Humidity:	41.5%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mb
Tested By:	Matthew Ng	Job Site:	OC06
Power:	110VAC/60Hz	Configuration:	EXIG0024-2

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	6	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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## COMMENTS

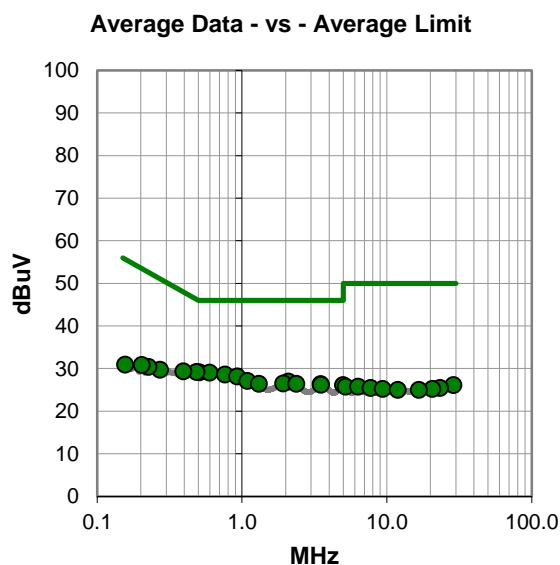
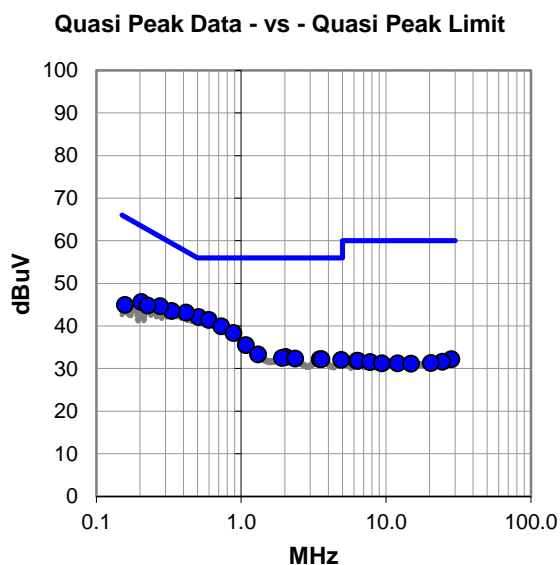
None

## EUT OPERATING MODES

Transmitting Low Channel 905.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS (TRANSMITTER)

## RESULTS - Run #6

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.507	22.2	19.9	42.1	56.0	-13.9
0.417	23.2	19.9	43.1	57.5	-14.4
0.597	21.5	19.9	41.4	56.0	-14.6
0.332	23.5	20.0	43.5	59.4	-15.9
0.728	19.9	20.0	39.9	56.0	-16.1
0.277	24.6	20.0	44.6	60.9	-16.3
0.884	18.3	20.0	38.3	56.0	-17.7
0.205	25.6	20.0	45.6	63.4	-17.8
0.226	24.8	20.0	44.8	62.6	-17.8
1.081	15.5	20.0	35.5	56.0	-20.5
0.158	24.7	20.2	44.9	65.6	-20.7
1.311	13.2	20.1	33.3	56.0	-22.7
2.025	12.6	20.1	32.7	56.0	-23.3
1.914	12.4	20.1	32.5	56.0	-23.5
2.365	12.1	20.2	32.3	56.0	-23.7
3.492	12.0	20.2	32.2	56.0	-23.8
3.585	12.0	20.2	32.2	56.0	-23.8
4.909	11.6	20.4	32.0	56.0	-24.0
28.322	9.8	22.4	32.2	60.0	-27.8
6.319	11.3	20.5	31.8	60.0	-28.2
6.406	11.3	20.5	31.8	60.0	-28.2
24.494	9.7	21.9	31.6	60.0	-28.4
7.765	10.9	20.6	31.5	60.0	-28.5
20.405	9.8	21.5	31.3	60.0	-28.7
9.401	10.5	20.7	31.2	60.0	-28.8

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.507	9.2	19.9	29.1	46.0	-16.9
0.597	9.1	19.9	29.0	46.0	-17.0
0.486	9.3	19.9	29.2	46.2	-17.0
0.765	8.6	20.0	28.6	46.0	-17.4
0.925	8.1	20.0	28.1	46.0	-17.9
0.394	9.4	19.9	29.3	48.0	-18.7
1.088	7.1	20.0	27.1	46.0	-18.9
2.095	6.8	20.1	26.9	46.0	-19.1
1.931	6.4	20.1	26.5	46.0	-19.5
1.311	6.3	20.1	26.4	46.0	-19.6
2.372	6.2	20.2	26.4	46.0	-19.6
3.496	6.1	20.2	26.3	46.0	-19.7
3.519	6.0	20.2	26.2	46.0	-19.8
0.272	9.7	20.0	29.7	51.1	-21.4
0.226	10.4	20.0	30.4	52.6	-22.2
0.203	10.8	20.0	30.8	53.5	-22.7
5.002	5.7	20.4	26.1	50.0	-23.9
28.934	3.6	22.5	26.1	50.0	-23.9
5.202	5.3	20.4	25.7	50.0	-24.3
6.336	5.2	20.5	25.7	50.0	-24.3
7.739	4.8	20.6	25.4	50.0	-24.6
23.295	3.6	21.8	25.4	50.0	-24.6
9.395	4.5	20.7	25.2	50.0	-24.8
20.614	3.6	21.6	25.2	50.0	-24.8
0.156	10.7	20.2	30.9	55.7	-24.8

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS (TRANSMITTER)

EUT:	Omni 2.0	Work Order:	EXIG0024
Serial Number:	E5	Date:	2024-08-20
Customer:	Exigent Sensors LLC	Temperature:	23.1°C
Attendees:	Kevin Tain	Relative Humidity:	41.5%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mb
Tested By:	Matthew Ng	Job Site:	OC06
Power:	110VAC/60Hz	Configuration:	EXIG0024-2

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	9	Line:	High Line	Add. Ext. Attenuation (dB):	0
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## COMMENTS

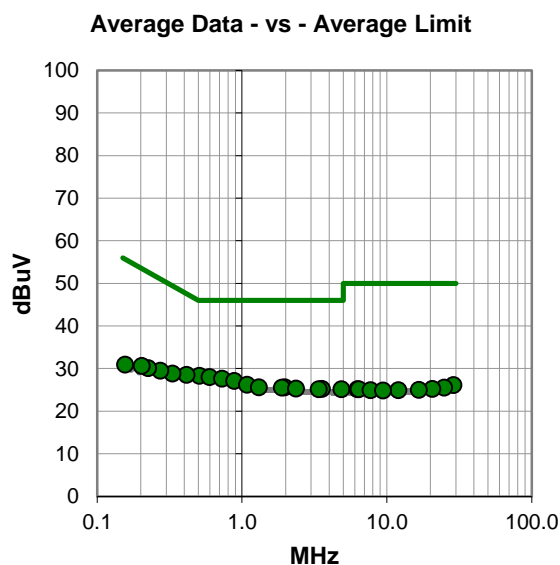
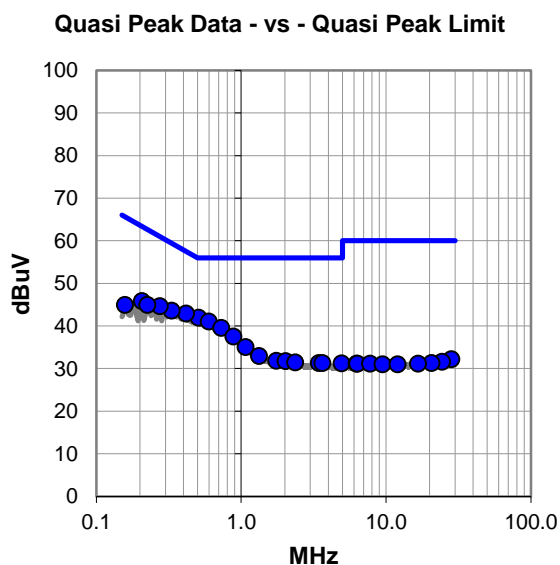
None

## EUT OPERATING MODES

Transmitting High Channel 913.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0

## DEVIATIONS FROM TEST STANDARD

None





# POWERLINE CONDUCTED EMISSIONS (TRANSMITTER)

## RESULTS - Run #9

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.509	22.0	19.9	41.9	56.0	-14.1
0.417	23.0	19.9	42.9	57.5	-14.6
0.597	21.1	19.9	41.0	56.0	-15.0
0.332	23.6	20.0	43.6	59.4	-15.8
0.275	24.6	20.0	44.6	61.0	-16.4
0.728	19.5	20.0	39.5	56.0	-16.5
0.206	25.8	20.0	45.8	63.3	-17.5
0.225	24.9	20.0	44.9	62.6	-17.7
0.884	17.5	20.0	37.5	56.0	-18.5
0.158	24.7	20.2	44.9	65.6	-20.7
1.076	15.0	20.0	35.0	56.0	-21.0
1.329	12.8	20.1	32.9	56.0	-23.1
1.749	11.7	20.1	31.8	56.0	-24.2
2.031	11.6	20.1	31.7	56.0	-24.3
2.369	11.2	20.2	31.4	56.0	-24.6
3.447	11.1	20.2	31.3	56.0	-24.7
3.635	11.0	20.3	31.3	56.0	-24.7
4.950	10.8	20.4	31.2	56.0	-24.8
28.368	9.8	22.4	32.2	60.0	-27.8
24.383	9.7	21.9	31.6	60.0	-28.4
20.614	9.7	21.6	31.3	60.0	-28.7
6.261	10.6	20.5	31.1	60.0	-28.9
6.349	10.6	20.5	31.1	60.0	-28.9
7.767	10.5	20.6	31.1	60.0	-28.9
16.641	9.8	21.3	31.1	60.0	-28.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.507	8.4	19.9	28.3	46.0	-17.7
0.597	8.1	19.9	28.0	46.0	-18.0
0.728	7.6	20.0	27.6	46.0	-18.4
0.884	7.1	20.0	27.1	46.0	-18.9
0.415	8.6	19.9	28.5	47.5	-19.0
1.087	6.2	20.0	26.2	46.0	-19.8
1.311	5.5	20.1	25.6	46.0	-20.4
1.978	5.5	20.1	25.6	46.0	-20.4
1.885	5.4	20.1	25.5	46.0	-20.5
0.332	8.8	20.0	28.8	49.4	-20.6
2.365	5.1	20.2	25.3	46.0	-20.7
3.562	5.0	20.2	25.2	46.0	-20.8
3.383	4.9	20.2	25.1	46.0	-20.9
4.862	4.7	20.4	25.1	46.0	-20.9
0.274	9.5	20.0	29.5	51.0	-21.5
0.225	10.1	20.0	30.1	52.6	-22.5
0.203	10.6	20.0	30.6	53.5	-22.9
28.934	3.6	22.5	26.1	50.0	-23.9
24.882	3.6	21.9	25.5	50.0	-24.5
20.608	3.6	21.6	25.2	50.0	-24.8
0.156	10.7	20.2	30.9	55.7	-24.8
6.270	4.6	20.5	25.1	50.0	-24.9
6.415	4.6	20.5	25.1	50.0	-24.9
16.645	3.7	21.3	25.0	50.0	-25.0
7.723	4.3	20.6	24.9	50.0	-25.1

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS (TRANSMITTER)



EUT:	Omni 2.0	Work Order:	EXIG0024
Serial Number:	E5	Date:	2024-08-20
Customer:	Exigent Sensors LLC	Temperature:	23.1°C
Attendees:	Kevin Tain	Relative Humidity:	41.5%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mb
Tested By:	Matthew Ng	Job Site:	OC06
Power:	110VAC/60Hz	Configuration:	EXIG0024-2

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	10	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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## COMMENTS

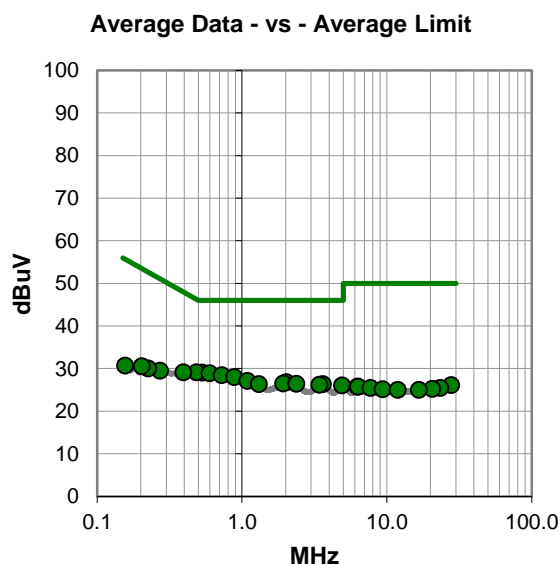
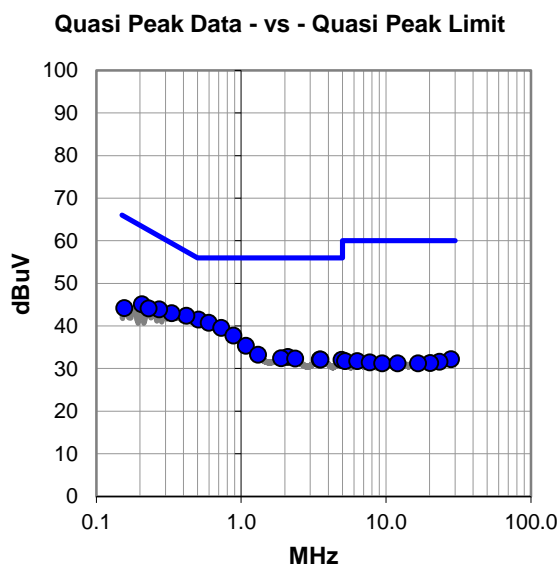
None

## EUT OPERATING MODES

Transmitting High Channel 913.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS (TRANSMITTER)

## RESULTS - Run #10

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.507	21.6	19.9	41.5	56.0	-14.5
0.419	22.5	19.9	42.4	57.5	-15.1
0.597	20.8	19.9	40.7	56.0	-15.3
0.332	23.0	20.0	43.0	59.4	-16.4
0.728	19.5	20.0	39.5	56.0	-16.5
0.272	23.9	20.0	43.9	61.1	-17.2
0.206	25.1	20.0	45.1	63.3	-18.2
0.884	17.7	20.0	37.7	56.0	-18.3
0.229	24.1	20.0	44.1	62.5	-18.4
1.079	15.3	20.0	35.3	56.0	-20.7
0.156	24.0	20.2	44.2	65.7	-21.5
1.311	13.1	20.1	33.2	56.0	-22.8
2.097	12.6	20.1	32.7	56.0	-23.3
1.888	12.3	20.1	32.4	56.0	-23.6
2.365	12.1	20.2	32.3	56.0	-23.7
3.495	11.9	20.2	32.1	56.0	-23.9
3.525	11.9	20.2	32.1	56.0	-23.9
4.932	11.6	20.4	32.0	56.0	-24.0
28.193	9.8	22.4	32.2	60.0	-27.8
5.214	11.3	20.4	31.7	60.0	-28.3
6.339	11.2	20.5	31.7	60.0	-28.3
23.483	9.8	21.8	31.6	60.0	-28.4
7.749	10.8	20.6	31.4	60.0	-28.6
20.228	9.8	21.5	31.3	60.0	-28.7
9.424	10.5	20.7	31.2	60.0	-28.8

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.531	9.1	19.9	29.0	46.0	-17.0
0.486	9.2	19.9	29.1	46.2	-17.1
0.597	9.0	19.9	28.9	46.0	-17.1
0.727	8.4	20.0	28.4	46.0	-17.6
0.884	8.0	20.0	28.0	46.0	-18.0
0.394	9.2	19.9	29.1	48.0	-18.9
1.091	7.1	20.0	27.1	46.0	-18.9
2.027	6.7	20.1	26.8	46.0	-19.2
1.932	6.4	20.1	26.5	46.0	-19.5
2.372	6.2	20.2	26.4	46.0	-19.6
1.311	6.2	20.1	26.3	46.0	-19.7
3.626	6.0	20.3	26.3	46.0	-19.7
3.429	6.0	20.2	26.2	46.0	-19.8
4.907	5.6	20.4	26.0	46.0	-20.0
0.272	9.5	20.0	29.5	51.1	-21.6
0.225	10.0	20.0	30.0	52.6	-22.6
0.203	10.5	20.0	30.5	53.5	-23.0
27.933	3.7	22.4	26.1	50.0	-23.9
6.270	5.2	20.5	25.7	50.0	-24.3
6.336	5.2	20.5	25.7	50.0	-24.3
7.744	4.8	20.6	25.4	50.0	-24.6
23.434	3.6	21.8	25.4	50.0	-24.6
20.610	3.6	21.6	25.2	50.0	-24.8
9.399	4.4	20.7	25.1	50.0	-24.9
11.941	4.1	20.9	25.0	50.0	-25.0

## CONCLUSION

Pass



Tested By

# SPURIOUS RADIATED EMISSIONS

## TEST DESCRIPTION

The highest gain antenna of each type to be used with the EUT was tested. The EUT was configured for the required transmit frequencies and the modes as showed in the data sheets.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These “pre-scans” are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis if required, and adjusting the measurement antenna height and polarization (per ANSI C63.10). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector  
PK = Peak Detector  
AV = RMS Detector

Measurements were made to satisfy the specific requirements of the test specification for out of band emissions as well as the restricted band requirements.

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

Measurements within 2 MHz of the allowable band may have been taken using the integration method from ANSI C63.10 clause 11.13.3. This procedure uses the channel power feature of the spectrum analyzer to integrate the power of the emission within a 1 MHz bandwidth.

Where the radio test software does not provide for a duty cycle at continuous transmit conditions (> 98%) and the RMS (power average) measurements were made across the on and off times of the EUT transmissions, a duty cycle correction is added to the measurements using the formula of  $10 \cdot \log(1/dc)$ .

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFJ	2024-02-14	2025-02-14
Antenna - Biconilog	EMCO	3142	AXA	2024-01-05	2026-01-05
Cable	ESM Cable Corp.	30-1GHz Cables	OCW	2023-12-29	2024-12-29
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	PAD	2023-12-29	2024-12-29
Antenna - Double Ridge	EMCO	3115	AHB	2024-04-16	2026-04-16
Cable	ESM Cable Corp.	1-8GHz Cables	OCX	2024-02-23	2025-02-23
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVJ	2024-03-20	2025-03-20
Antenna - Standard Gain	ETS Lindgren	3160-07	AHX	NCR	NCR
Cable	ESM Cable Corp.	8-18GHz Cables	OCY	2024-02-22	2025-02-22
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVL	2024-03-20	2025-03-20
Antenna - Standard Gain	ETS Lindgren	3160-08	AHK	NCR	NCR
Amplifier - Pre-Amplifier	Miteq	AMF-3D-0-30-10P	AVP	2024-03-20	2025-03-20
Antenna - Double Ridge	A.H. Systems, Inc.	SAS-574	AXV	2024-08-16	2026-08-16
Cable	Cable	None	OC4	2024-02-29	2025-02-28
Amplifier - Pre-Amplifier	Narda Miteq	LNA-40-1800-4000-33-5P	AXVA	2024-02-29	2026-02-28
Filter - Low Pass	Micro-Tronics	LPM50004	HGK	2023-12-13	2024-12-13
Antenna - Loop	EMCO	6502	AZB	2023-09-06	2025-09-06
Filter - High Pass	Micro-Tronics	HPM50108	HGP	2024-12-05	2025-12-05

# SPURIOUS RADIATED EMISSIONS

## FREQUENCY RANGE INVESTIGATED

9 kHz TO 26500 MHz

## POWER INVESTIGATED

Battery

## CONFIGURATIONS INVESTIGATED

EXIG0024-1

EXIG0024-2

## MODES INVESTIGATED

Transmitting Low Channel 905.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0, Duty Cycle: 100%

Transmitting High Channel 913.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0, Duty Cycle: 100%

# SPURIOUS RADIATED EMISSIONS

EUT:	Omni 2.0	Work Order:	EXIG0024
Serial Number:	E1	Date:	2024-08-19
Customer:	Exigent Sensors LLC	Temperature:	22.7°C
Attendees:	Kevin	Relative Humidity:	41.8%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mb
Tested By:	Nolan De Ramos, Matthew Ng	Job Site:	OC07
Power:	Battery	Configuration:	EXIG0024-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021, RSS-247 Issue 3:2023	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	9	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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## COMMENTS

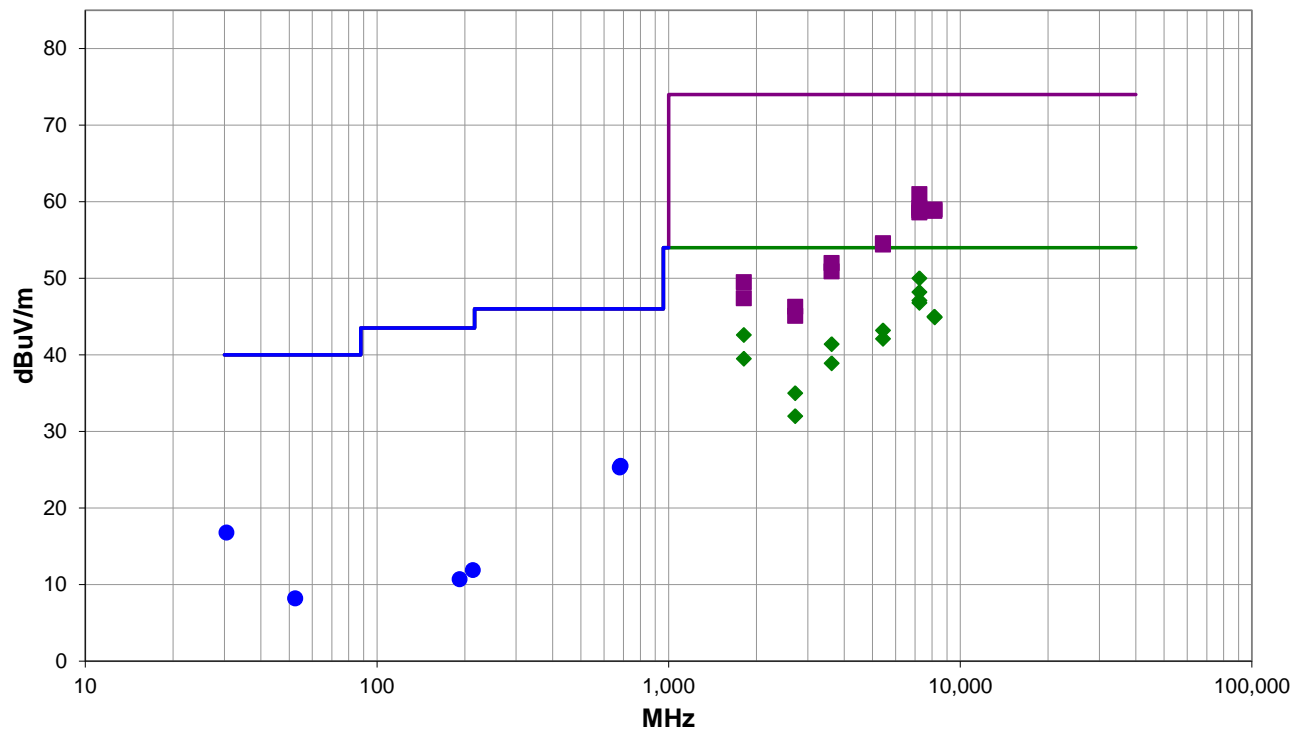
Normal operation of EUT will never transmit more than 50% of the time, therefore DCCF = -3.0dB  
[DCCF =  $10 \cdot \log(1/\text{Duty Cycle} = 50.0\%) = -3.010 \text{ dB}$ ]

## EUT OPERATING MODES

Transmitting Low Channel 905.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0

## DEVIATIONS FROM TEST STANDARD

None



Run #: 9

■ PK ◆ AV ● QP

# SPURIOUS RADIATED EMISSIONS

## RESULTS - Run #9

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7240.508	38.0	13.2	1.5	257.0	-3.0	0.0	Horz	AV	0.0	48.2	54.0	-5.8	Tx Low Ch, EUT On Side
7240.458	36.6	13.2	1.5	357.0	-3.0	0.0	Vert	AV	0.0	46.8	54.0	-7.2	Tx Low Ch, EUT Horz
8153.717	32.0	16.0	1.5	132.0	-3.0	0.0	Horz	AV	0.0	45.0	54.0	-9.0	Tx Low Ch, EUT On Side
8172.667	31.9	16.0	1.5	197.0	-3.0	0.0	Vert	AV	0.0	44.9	54.0	-9.1	Tx Low Ch, EUT Horz
5432.467	36.5	9.7	1.2	96.0	-3.0	0.0	Horz	AV	0.0	43.2	54.0	-10.8	Tx Low Ch, EUT On Side
1810.450	48.5	-2.9	1.5	197.0	-3.0	0.0	Horz	AV	0.0	42.6	54.0	-11.4	Tx Low Ch, EUT On Side
5432.492	35.4	9.7	1.5	9.0	-3.0	0.0	Vert	AV	0.0	42.1	54.0	-11.9	Tx Low Ch, EUT Horz
3621.633	38.0	6.4	3.5	107.0	-3.0	0.0	Horz	AV	0.0	41.4	54.0	-12.6	Tx Low Ch, EUT On Side
1810.417	45.4	-2.9	1.5	276.0	-3.0	0.0	Vert	AV	0.0	39.5	54.0	-14.5	Tx Low Ch, EUT Horz
7240.633	46.0	13.2	1.5	257.0	0.0	0.0	Horz	PK	0.0	59.2	74.0	-14.8	Tx Low Ch, EUT On Side
8170.658	43.0	16.0	1.5	197.0	0.0	0.0	Vert	PK	0.0	59.0	74.0	-15.0	Tx Low Ch, EUT Horz
3621.667	35.5	6.4	1.3	89.0	-3.0	0.0	Vert	AV	0.0	38.9	54.0	-15.1	Tx Low Ch, EUT Horz
8153.833	42.8	16.0	1.5	132.0	0.0	0.0	Horz	PK	0.0	58.8	74.0	-15.2	Tx Low Ch, EUT On Side
7240.192	45.4	13.2	1.5	357.0	0.0	0.0	Vert	PK	0.0	58.6	74.0	-15.4	Tx Low Ch, EUT Horz
2716.167	38.4	-0.4	3.3	75.0	-3.0	0.0	Horz	AV	0.0	35.0	54.0	-19.0	Tx Low Ch, EUT On Side
5432.450	44.9	9.7	1.2	96.0	0.0	0.0	Horz	PK	0.0	54.6	74.0	-19.4	Tx Low Ch, EUT On Side
5430.500	44.7	9.7	1.5	9.0	0.0	0.0	Vert	PK	0.0	54.4	74.0	-19.6	Tx Low Ch, EUT Horz
684.276	15.5	10.0	2.0	94.0	0.0	0.0	Horz	QP	0.0	25.5	46.0	-20.5	Tx Low Ch, EUT Horz
679.659	15.5	9.8	1.1	197.0	0.0	0.0	Horz	QP	0.0	25.3	46.0	-20.7	Tx Low Ch, EUT Horz
2716.125	35.4	-0.4	3.6	37.0	-3.0	0.0	Vert	AV	0.0	32.0	54.0	-22.0	Tx Low Ch, EUT Horz
3620.208	45.6	6.4	3.5	107.0	0.0	0.0	Horz	PK	0.0	52.0	74.0	-22.0	Tx Low Ch, EUT On Side
3620.275	44.5	6.4	1.3	89.0	0.0	0.0	Vert	PK	0.0	50.9	74.0	-23.1	Tx Low Ch, EUT Horz
30.457	15.5	1.3	1.5	135.0	0.0	0.0	Horz	QP	0.0	16.8	40.0	-23.2	Tx Low Ch, EUT Horz
1810.725	52.5	-3.0	1.5	197.0	0.0	0.0	Horz	PK	0.0	49.5	74.0	-24.5	Tx Low Ch, EUT On Side
1810.033	50.3	-2.9	1.5	276.0	0.0	0.0	Vert	PK	0.0	47.4	74.0	-26.6	Tx Low Ch, EUT Horz
2716.233	46.7	-0.4	3.3	75.0	0.0	0.0	Horz	PK	0.0	46.3	74.0	-27.7	Tx Low Ch, EUT On Side
2716.075	45.5	-0.4	3.6	37.0	0.0	0.0	Vert	PK	0.0	45.1	74.0	-28.9	Tx Low Ch, EUT Horz
213.010	15.8	-3.9	1.7	0.0	0.0	0.0	Vert	QP	0.0	11.9	43.5	-31.6	Tx Low Ch, EUT Horz
52.426	15.9	-7.7	2.8	283.0	0.0	0.0	Horz	QP	0.0	8.2	40.0	-31.8	Tx Low Ch, EUT Horz
191.956	15.4	-4.7	1.4	348.0	0.0	0.0	Horz	QP	0.0	10.7	43.5	-32.8	Tx Low Ch, EUT Horz

## CONCLUSION

Pass



Tested By



# SPURIOUS RADIATED EMISSIONS

EUT:	Omni 2.0	Work Order:	EXIG0024
Serial Number:	E1	Date:	2024-08-19
Customer:	Exigent Sensors LLC	Temperature:	22.7°C
Attendees:	Kevin	Relative Humidity:	41.8%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mb
Tested By:	Nolan De Ramos, Matthew Ng	Job Site:	OC07
Power:	Battery	Configuration:	EXIG0024-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021, RSS-247 Issue 3:2023	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	7	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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## COMMENTS

Normal operation of EUT will never transmit more than 50% of the time, therefore DCCF = -3.0dB

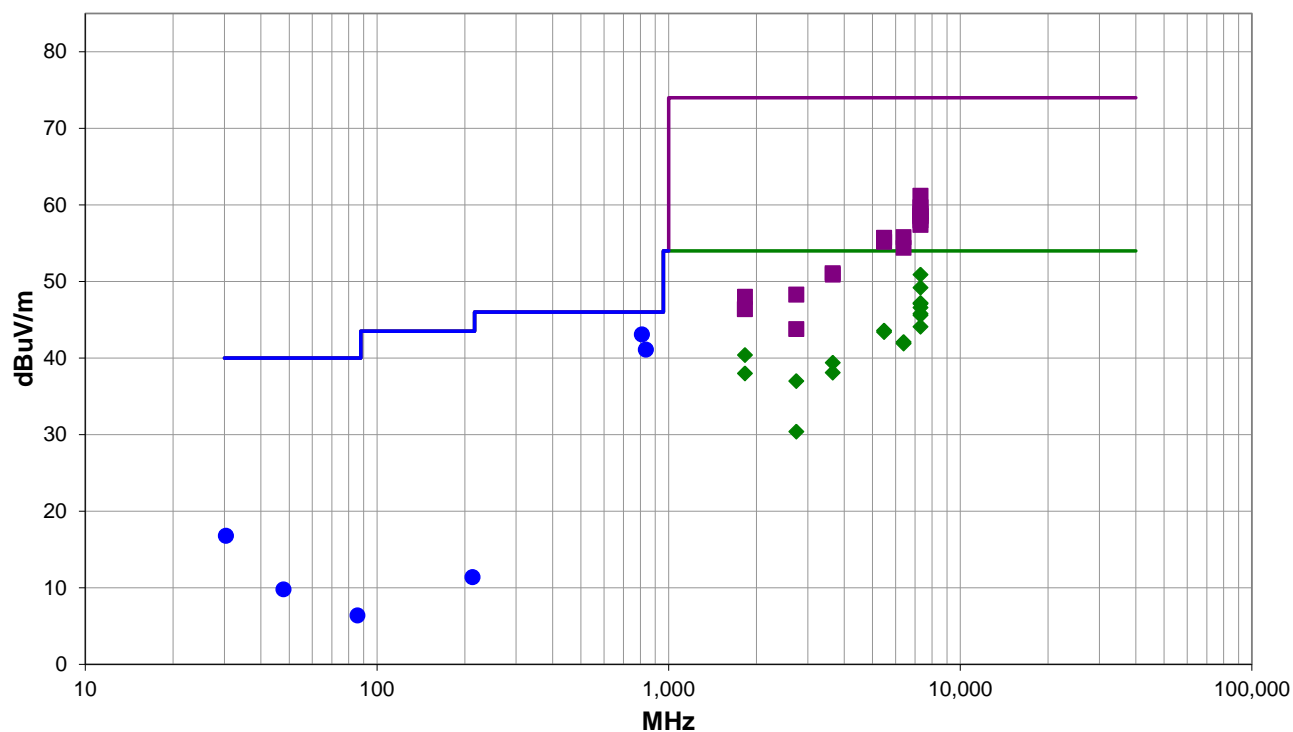
[DCCF =  $10 \cdot \log(1/\text{Duty Cycle} = 50.0\%) = -3.010 \text{ dB}$ ]

## EUT OPERATING MODES

Transmitting High Channel 913.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0

## DEVIATIONS FROM TEST STANDARD

None



Run #: 7

PK AV QP

# SPURIOUS RADIATED EMISSIONS

## RESULTS - Run #7

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
809.410	31.7	11.4	1.1	291.0	0.0	0.0	Horz	QP	0.0	43.1	46.0	-2.9	Tx High Ch, EUT Horz
7304.450	40.1	13.8	2.8	205.0	-3.0	0.0	Vert	AV	0.0	50.9	54.0	-3.1	Tx High Ch, EUT Horz
7304.400	38.4	13.8	1.5	291.0	-3.0	0.0	Horz	AV	0.0	49.2	54.0	-4.8	Tx High Ch, EUT on Side
835.408	29.2	11.9	1.2	309.0	0.0	0.0	Horz	QP	0.0	41.1	46.0	-4.9	Tx High Ch, EUT Horz
7304.350	36.4	13.8	1.5	302.0	-3.0	0.0	Horz	AV	0.0	47.2	54.0	-6.8	Tx High Ch, EUT Vert
7304.358	36.3	13.8	2.2	11.0	-3.0	0.0	Vert	AV	0.0	47.1	54.0	-6.9	Tx High Ch, EUT Vert
7304.450	34.8	13.8	1.5	332.0	-3.0	0.0	Horz	AV	0.0	45.6	54.0	-8.4	Tx High Ch, EUT Horz
7304.458	33.3	13.8	1.5	317.0	-3.0	0.0	Vert	AV	0.0	44.1	54.0	-9.9	Tx High Ch, EUT on Side
5478.333	36.6	10.0	1.5	6.0	-3.0	0.0	Vert	AV	0.0	43.6	54.0	-10.4	Tx High Ch, EUT Horz
5478.342	36.4	10.0	1.5	249.0	-3.0	0.0	Horz	AV	0.0	43.4	54.0	-10.6	Tx High Ch, EUT on Side
6391.442	33.3	11.8	1.2	230.0	-3.0	0.0	Vert	AV	0.0	42.1	54.0	-11.9	Tx High Ch, EUT Horz
6391.350	33.1	11.8	1.5	0.0	-3.0	0.0	Horz	AV	0.0	41.9	54.0	-12.1	Tx High Ch, EUT on Side
7304.333	47.4	13.8	2.8	205.0	0.0	0.0	Vert	PK	0.0	61.2	74.0	-12.8	Tx High Ch, EUT Horz
1826.467	46.3	-2.9	1.5	39.0	-3.0	0.0	Horz	AV	0.0	40.4	54.0	-13.6	Tx High Ch, EUT on Side
7304.258	45.9	13.8	1.5	291.0	0.0	0.0	Horz	PK	0.0	59.7	74.0	-14.3	Tx High Ch, EUT on Side
3653.633	35.6	6.8	1.5	111.0	-3.0	0.0	Horz	AV	0.0	39.4	54.0	-14.6	Tx High Ch, EUT on Side
7304.008	45.4	13.8	2.2	11.0	0.0	0.0	Vert	PK	0.0	59.2	74.0	-14.8	Tx High Ch, EUT Vert
7304.375	45.1	13.8	1.5	302.0	0.0	0.0	Horz	PK	0.0	58.9	74.0	-15.1	Tx High Ch, EUT Vert
3652.208	34.3	6.8	1.2	308.0	-3.0	0.0	Vert	AV	0.0	38.1	54.0	-15.9	Tx High Ch, EUT Horz
1826.442	43.9	-2.9	1.0	148.0	-3.0	0.0	Vert	AV	0.0	38.0	54.0	-16.0	Tx High Ch, EUT Horz
7304.225	44.2	13.8	1.5	332.0	0.0	0.0	Horz	PK	0.0	58.0	74.0	-16.0	Tx High Ch, EUT Horz
7304.375	43.6	13.8	1.5	317.0	0.0	0.0	Vert	PK	0.0	57.4	74.0	-16.6	Tx High Ch, EUT on Side
2739.250	40.4	-0.4	3.5	64.0	-3.0	0.0	Horz	AV	0.0	37.0	54.0	-17.0	Tx High Ch, EUT on Side
6390.992	44.0	11.8	1.5	0.0	0.0	0.0	Horz	PK	0.0	55.8	74.0	-18.2	Tx High Ch, EUT on Side
5480.525	45.7	10.0	1.5	249.0	0.0	0.0	Horz	PK	0.0	55.7	74.0	-18.3	Tx High Ch, EUT on Side
5480.617	45.2	10.0	1.5	6.0	0.0	0.0	Vert	PK	0.0	55.2	74.0	-18.8	Tx High Ch, EUT Horz
6391.633	42.6	11.8	1.2	230.0	0.0	0.0	Vert	PK	0.0	54.4	74.0	-19.6	Tx High Ch, EUT Horz
3652.442	44.3	6.8	1.5	111.0	0.0	0.0	Horz	PK	0.0	51.1	74.0	-22.9	Tx High Ch, EUT on Side
3654.133	44.1	6.8	1.2	308.0	0.0	0.0	Vert	PK	0.0	50.9	74.0	-23.1	Tx High Ch, EUT Horz
30.332	15.4	1.4	2.8	171.0	0.0	0.0	Horz	QP	0.0	16.8	40.0	-23.2	Tx High Ch, EUT Horz
2740.117	33.8	-0.4	1.8	360.0	-3.0	0.0	Vert	AV	0.0	30.4	54.0	-23.6	Tx High Ch, EUT Horz
2739.183	48.7	-0.4	3.5	64.0	0.0	0.0	Horz	PK	0.0	48.3	74.0	-25.7	Tx High Ch, EUT on Side
1826.767	50.9	-2.9	1.5	39.0	0.0	0.0	Horz	PK	0.0	48.0	74.0	-26.0	Tx High Ch, EUT on Side
1826.075	49.3	-2.9	1.0	148.0	0.0	0.0	Vert	PK	0.0	46.4	74.0	-27.6	Tx High Ch, EUT Horz
47.803	16.3	-6.5	3.6	8.0	0.0	0.0	Vert	QP	0.0	9.8	40.0	-30.2	Tx High Ch, EUT Horz
2739.108	44.2	-0.4	1.8	360.0	0.0	0.0	Vert	PK	0.0	43.8	74.0	-30.2	Tx High Ch, EUT Horz
212.393	15.4	-4.0	2.8	352.0	0.0	0.0	Horz	QP	0.0	11.4	43.5	-32.1	Tx High Ch, EUT Horz
85.679	15.5	-9.1	2.4	302.0	0.0	0.0	Vert	QP	0.0	6.4	40.0	-33.6	Tx High Ch, EUT Horz

# SPURIOUS RADIATED EMISSIONS

## CONCLUSION

Pass



Tested By

# SPURIOUS RADIATED EMISSIONS

EUT:	Omni 2.0	Work Order:	EXIG0024
Serial Number:	E5	Date:	2024-08-19
Customer:	Exigent Sensors LLC	Temperature:	22.7°C
Attendees:	Kevin	Relative Humidity:	41.8%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mb
Tested By:	Nolan De Ramos, Matthew Ng	Job Site:	OC07
Power:	110VAC/60Hz	Configuration:	EXIG0024-2

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021, RSS-247 Issue 3:2023	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	9	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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## COMMENTS

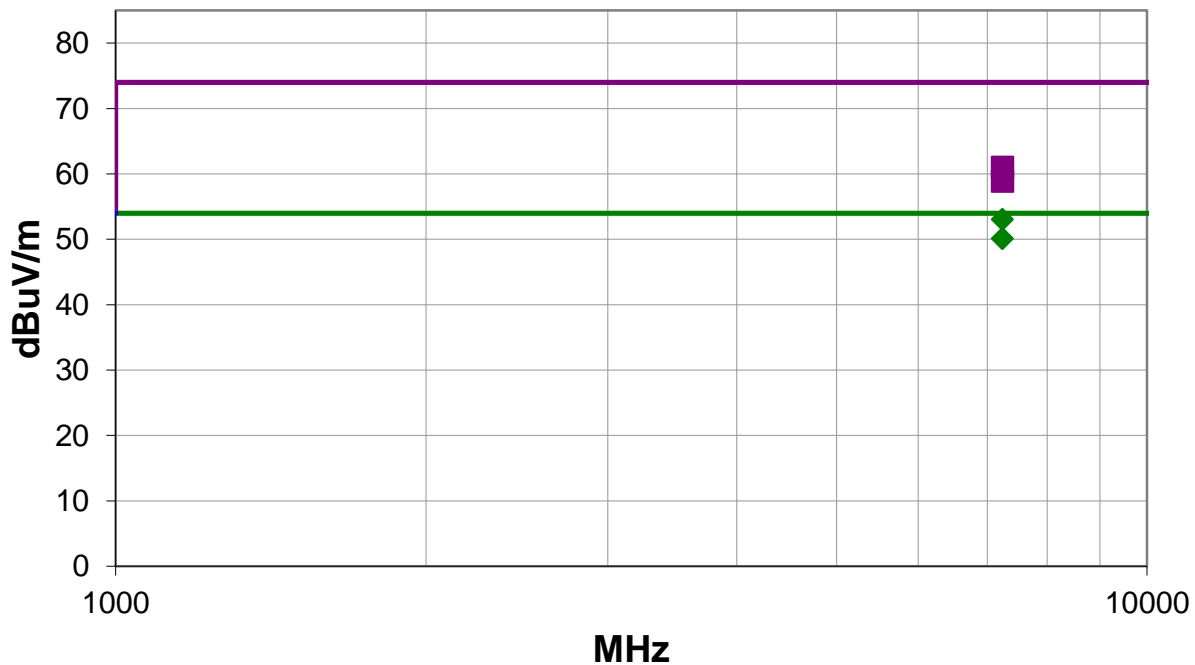
Normal operation of EUT will never transmit more than 50% of the time, therefore DCCF = -3.0dB  
[DCCF =  $10 \cdot \log(1/\text{Duty Cycle} = 50.0\%) = -3.010 \text{ dB}$ ]  
Spot checked worst case with AC Unit E5 (110VAC/60Hz)

## EUT OPERATING MODES

Transmitting Low Channel 905.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0

## DEVIATIONS FROM TEST STANDARD

None



Run #: 9

■ PK ◆ AV ● QP

# SPURIOUS RADIATED EMISSIONS

## RESULTS - Run #9

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7240.443	39.8	13.2	1.0	271.0	-3.0	0.0	Vert	AV	0.0	50.0	54.0	-4.0	Tx Low Ch, EUT Horz, AC E5
7240.435	36.9	13.2	1.5	55.0	-3.0	0.0	Horz	AV	0.0	47.1	54.0	-6.9	Tx Low Ch, EUT On Side, AC E5
7240.527	47.8	13.2	1.0	271.0	0.0	0.0	Vert	PK	0.0	61.0	74.0	-13.0	Tx Low Ch, EUT Horz, AC E5
7240.102	45.7	13.2	1.5	55.0	0.0	0.0	Horz	PK	0.0	58.9	74.0	-15.1	Tx Low Ch, EUT On Side, AC E5

## CONCLUSION

Pass



Tested By

# SPURIOUS RADIATED EMISSIONS

EUT:	Omni 2.0	Work Order:	EXIG0024
Serial Number:	E5	Date:	2024-08-19
Customer:	Exigent Sensors LLC	Temperature:	22.7°C
Attendees:	Kevin	Relative Humidity:	41.8%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mb
Tested By:	Nolan De Ramos, Matthew Ng	Job Site:	OC07
Power:	110VAC/60Hz	Configuration:	EXIG0024-2

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021, RSS-247 Issue 3:2023	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	7	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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## COMMENTS

Normal operation of EUT will never transmit more than 50% of the time, therefore DCCF = -3.0dB

[DCCF =  $10 \cdot \log(1/\text{Duty Cycle} = 50.0\%) = -3.010 \text{ dB}$ ]

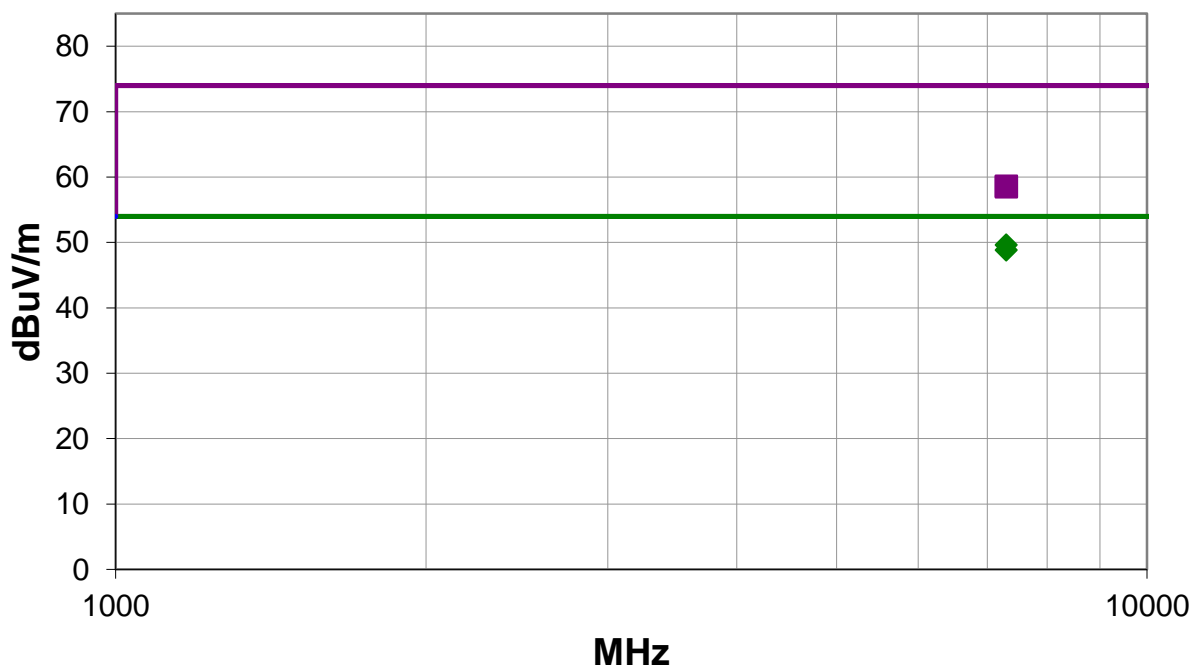
Spot checked worst case with AC Unit E5 (110VAC/60Hz)

## EUT OPERATING MODES

Transmitting High Channel 913.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0

## DEVIATIONS FROM TEST STANDARD

None



Run #: 7

PK AV QP

# SPURIOUS RADIATED EMISSIONS

## RESULTS - Run #7

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7304.467	35.8	13.8	1.5	72.0	-3.0	0.0	Horz	AV	0.0	46.6	54.0	-7.4	Tx High Ch, EUT On Side, AC E5
7304.408	35.0	13.8	1.5	259.0	-3.0	0.0	Vert	AV	0.0	45.8	54.0	-8.2	Tx High Ch, EUT Horz, AC E5
7304.458	44.8	13.8	1.5	259.0	0.0	0.0	Vert	PK	0.0	58.6	74.0	-15.4	Tx High Ch, EUT Horz, AC E5
7304.675	44.7	13.8	1.5	72.0	0.0	0.0	Horz	PK	0.0	58.5	74.0	-15.5	Tx High Ch, EUT On Side, AC E5

## CONCLUSION

Pass



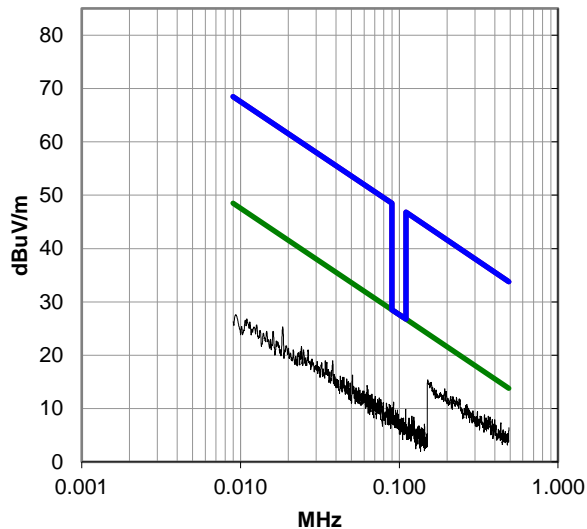
Tested By

# SPURIOUS RADIATED EMISSIONS

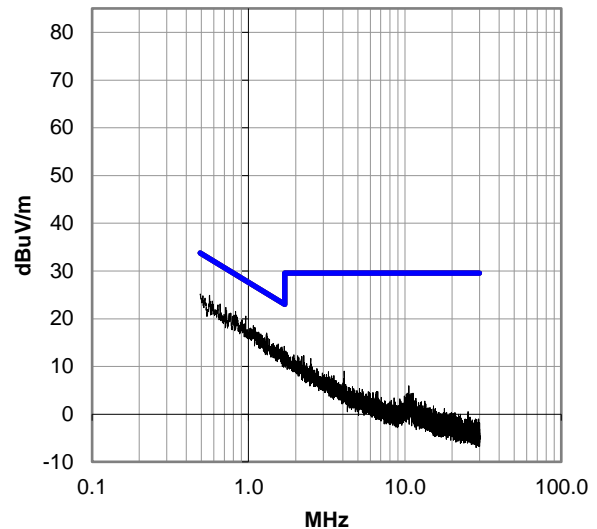
## PRESCAN DATA

Radiated spurious emissions from the EUT are initially reviewed with Pre-scans (Preview scans). Pre-scans are performed, with the EUT transmitting on the lowest applicable data rate, for both vertical and horizontal polarizations. The Pre-scan plots below are shown with a peak detector and RBW for the following frequency ranges: 9 kHz RBW (< 30 MHz); 120 kHz RBW (30 - 1000 MHz); 1 MHz RBW (> 1 GHz). In the case where unintentional emissions are observed, an ambient or idle pre-scan with the radio off, will be shown for comparison.

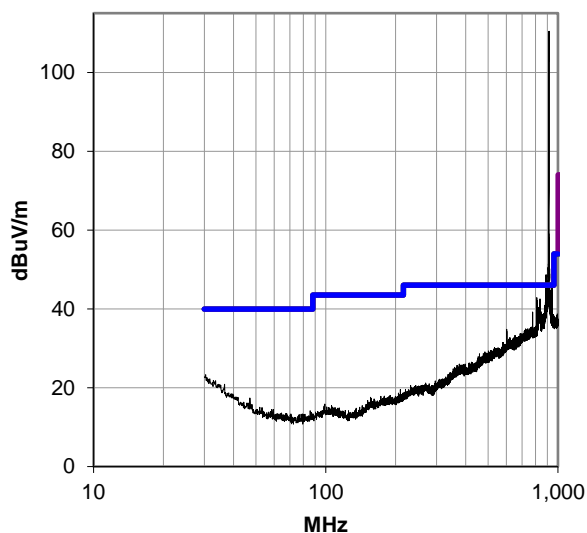
0.009-0.49 MHz, Run 13



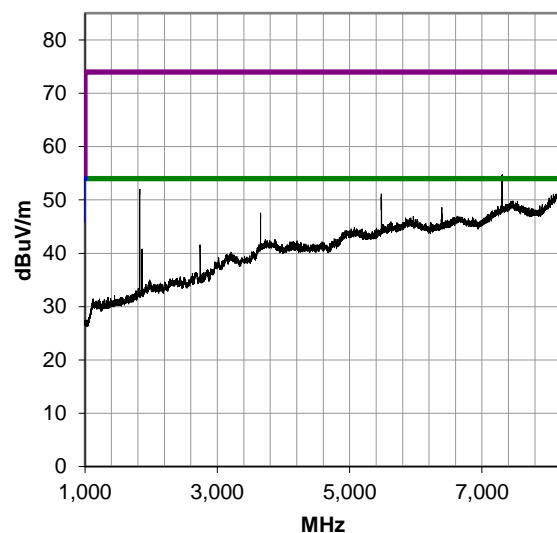
0.49-30 MHz, Run 14



30-1000 MHz, Run 12



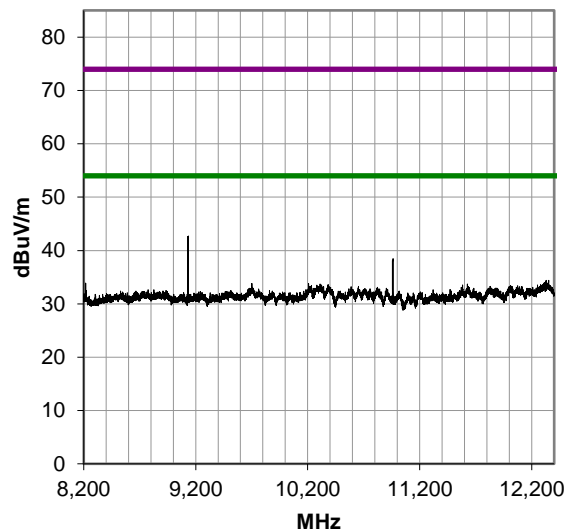
1000-8200 MHz, Run 4



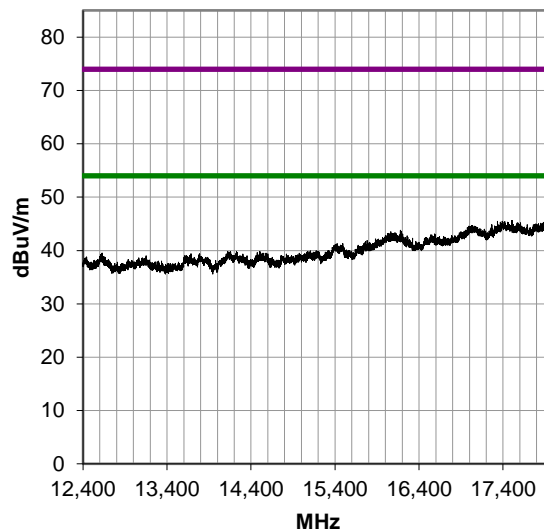


# SPURIOUS RADIATED EMISSIONS

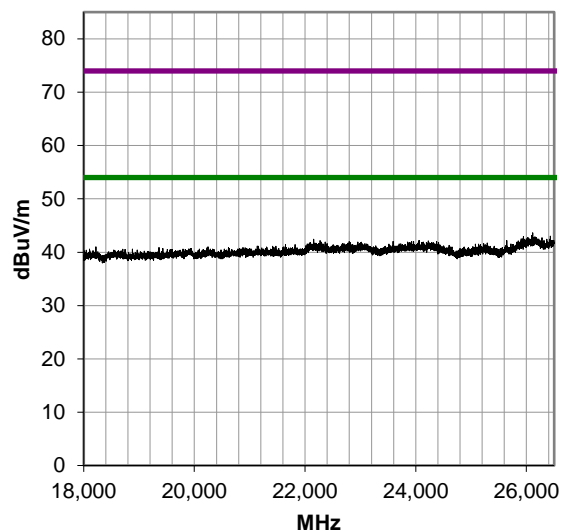
8200-12400 MHz, Run 5



12400-18000 MHz, Run 6



18000-26500 MHz, Run 18



# SPURIOUS RADIATED EMISSIONS

## TEST DESCRIPTION

Using the mode of operation and configuration noted within this report, a final radiated emissions test was performed. The frequency range investigated (scanned), is also noted in this report. Radiated emissions measurements were made at the EUT azimuth and antenna height such that the maximum radiated emissions level was detected. This required the use of a turntable and an antenna positioner. The preferred method of a continuous azimuth search was utilized for frequency scans of the EUT field strength with both polarities of the measuring antenna. A calibrated, linearly polarized antenna was positioned at the specified distance from the periphery of the EUT. Tests were made with the antenna positioned in both the horizontal and vertical planes of polarization. The antenna was varied in height above the conducting ground plane to obtain the maximum signal strength. Though specified in the report, the measurement distance was 3 meters or 10 meters (from antenna to boundary of EUT). At any measurement distance, the antenna height was varied from 1 meter to 4 meters. These height scans apply for both horizontal and vertical polarization, except that for vertical polarization the minimum height of the center of the antenna was increased so that the lowest point of the bottom of the antenna cleared the ground surface by at least 25 cm.

The EUT arrangement is configured as equivalent to that occurring in normal use. Tabletop equipment is placed on a 0.8 meter high non-conductive table & for Floor-standing equipment, it is placed on, but insulated from a ground reference plane by the use of its own rollers or stand-off supports. If measurements above 1 GHz were required, the test setup was modified to meet the regulatory requirements for higher frequency measurements. If required, RF absorber was placed on the floor between the measurement antenna and EUT. If required, per the standard, an insulating material was also added to ground plane between the EUT's power and remote I/O cables.

The diameter of the illumination area is the dimension of the line tangent to the EUT formed by 3 dB beamwidth of the measurement antenna at the measurement distance. At a 3 meter test distance, the diameter of the illumination area was 3.8 meters at 1 GHz and greater than 2.1 meters up to 6 GHz. Above 1 GHz, when required by the measurement standard, the antenna is pointed for both azimuth and elevation to maintain the receive antenna within the cone of radiation from the EUT. The specified measurement detectors were used for comparison of the emissions to the peak and average specification limits.

The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFJ	2024-02-14	2025-02-14
Antenna - Biconilog	EMCO	3142	AXA	2024-01-05	2026-01-05
Cable	ESM Cable Corp.	30-1GHz Cables	OCW	2023-12-29	2024-12-29
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	PAD	2023-12-29	2024-12-29
Antenna - Double Ridge	EMCO	3115	AHB	2024-04-16	2026-04-16
Cable	ESM Cable Corp.	1-8GHz Cables	OCX	2024-02-23	2025-02-23
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVJ	2024-03-20	2025-03-20
Antenna - Standard Gain	ETS Lindgren	3160-07	AHX	NCR	NCR
Cable	ESM Cable Corp.	8-18GHz Cables	OCY	2024-02-22	2025-02-22
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVL	2024-03-20	2025-03-20
Antenna - Standard Gain	ETS Lindgren	3160-08	AHK	NCR	NCR
Amplifier - Pre-Amplifier	Miteq	AMF-3D-0-30-10P	AVP	2024-03-20	2025-03-20
Filter - Low Pass	Micro-Tronics	LPM50004	HGK	2023-12-13	2024-12-13
Filter - High Pass	Micro-Tronics	HPM50108	HGP	2024-12-05	2025-12-05

# SPURIOUS RADIATED EMISSIONS

**FREQUENCY RANGE INVESTIGATED**

30 MHz TO 18000 MHz

**POWER INVESTIGATED**

Battery

**CONFIGURATIONS INVESTIGATED**

EXIG0025-1  
EXIG0025-2

**MODES INVESTIGATED**

Transmitting Low Channel 905.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0, Duty Cycle: 100%  
Transmitting High Channel 913.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0, Duty Cycle: 100%

# SPURIOUS RADIATED EMISSIONS



EUT:	Omni 2.0	Work Order:	EXIG0025
Serial Number:	F50	Date:	2024-12-17
Customer:	Exigent Sensors LLC	Temperature:	20.1°C
Attendees:	None	Relative Humidity:	41.6%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Matthew Ng	Job Site:	OC07
Power:	Battery	Configuration:	EXIG0025-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021, RSS-247 Issue 3:2023	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	2	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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## COMMENTS

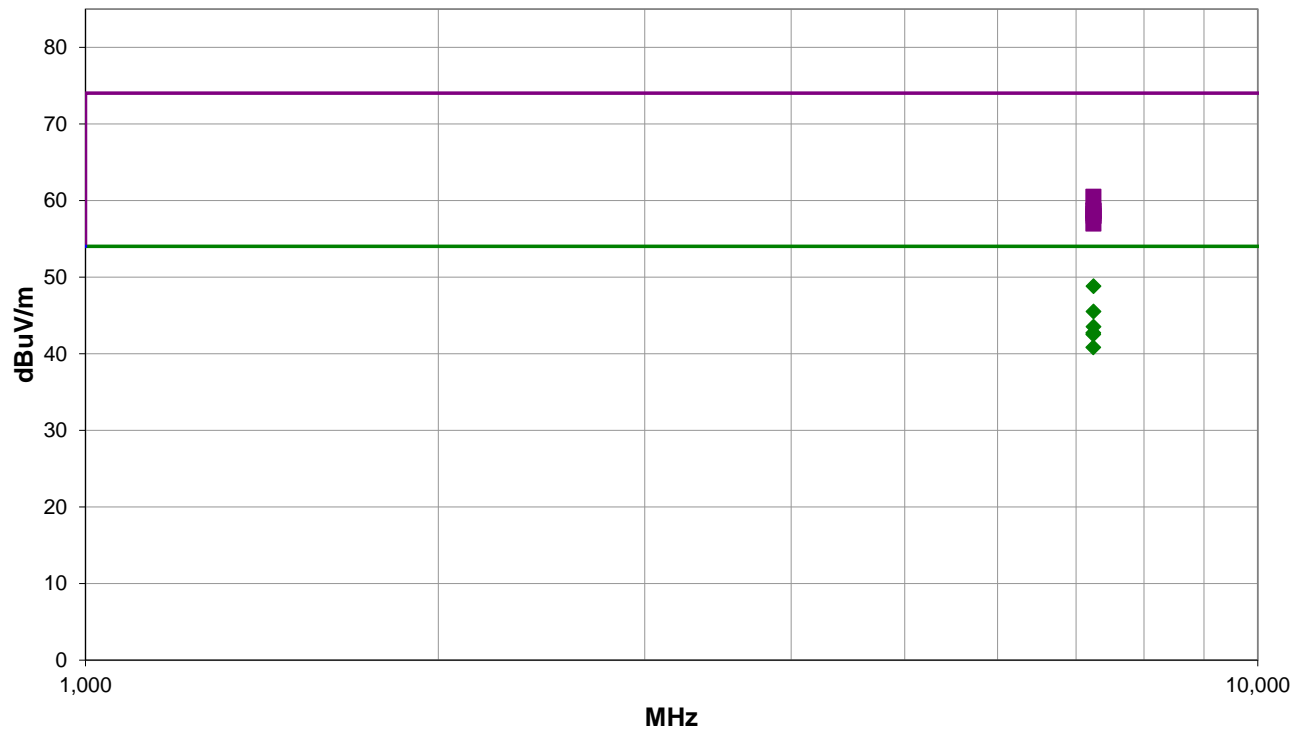
Normal operation of EUT will never transmit more than 50% of the time, therefore DCCF = -3.0dB [DCCF = 10*log(1/Duty Cycle = 50.0%) = -3.010 dB]
---

## EUT OPERATING MODES

Transmitting Low Channel 905.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0 Spot checks based on EXIG0024 worst case
---

## DEVIATIONS FROM TEST STANDARD

None
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Run #: 2

■ PK    ◆ AV    ● QP

# SPURIOUS RADIATED EMISSIONS

## RESULTS - Run #2

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity/Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7243.275	38.5	13.3	3.6	285.0	-3.0	0.0	Horz	AV	0.0	48.8	54.0	-5.2	Tx Low Ch, EUT on Side
7243.283	35.2	13.3	1.5	333.0	-3.0	0.0	Vert	AV	0.0	45.5	54.0	-8.5	Tx Low Ch, EUT Horz
7243.275	33.2	13.3	1.5	27.0	-3.0	0.0	Vert	AV	0.0	43.5	54.0	-10.5	Tx Low Ch, EUT Vert
7243.258	32.4	13.3	1.5	133.0	-3.0	0.0	Horz	AV	0.0	42.7	54.0	-11.3	Tx Low Ch, EUT Vert
7240.408	32.3	13.2	1.5	344.0	-3.0	0.0	Horz	AV	0.0	42.5	54.0	-11.5	Tx Low Ch, EUT Horz
7240.500	30.6	13.2	1.5	0.0	-3.0	0.0	Vert	AV	0.0	40.8	54.0	-13.2	Tx Low Ch, EUT on Side
7243.050	47.2	13.3	3.6	285.0	0.0	0.0	Horz	PK	0.0	60.5	74.0	-13.5	Tx Low Ch, EUT on Side
7243.108	45.4	13.3	1.5	333.0	0.0	0.0	Vert	PK	0.0	58.7	74.0	-15.3	Tx Low Ch, EUT Horz
7243.525	45.3	13.3	1.5	27.0	0.0	0.0	Vert	PK	0.0	58.6	74.0	-15.4	Tx Low Ch, EUT Vert
7240.342	45.1	13.2	1.5	344.0	0.0	0.0	Horz	PK	0.0	58.3	74.0	-15.7	Tx Low Ch, EUT Horz
7243.375	44.7	13.3	1.5	133.0	0.0	0.0	Horz	PK	0.0	58.0	74.0	-16.0	Tx Low Ch, EUT Vert
7242.817	43.7	13.3	1.5	0.0	0.0	0.0	Vert	PK	0.0	57.0	74.0	-17.0	Tx Low Ch, EUT on Side

## CONCLUSION

Pass



Tested By

# SPURIOUS RADIATED EMISSIONS



EUT:	Omni 2.0	Work Order:	EXIG0025
Serial Number:	F50	Date:	2024-12-17
Customer:	Exigent Sensors LLC	Temperature:	20.1°C
Attendees:	None	Relative Humidity:	41.6%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Matthew Ng	Job Site:	OC07
Power:	Battery	Configuration:	EXIG0025-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021, RSS-247 Issue 3:2023	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	4	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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## COMMENTS

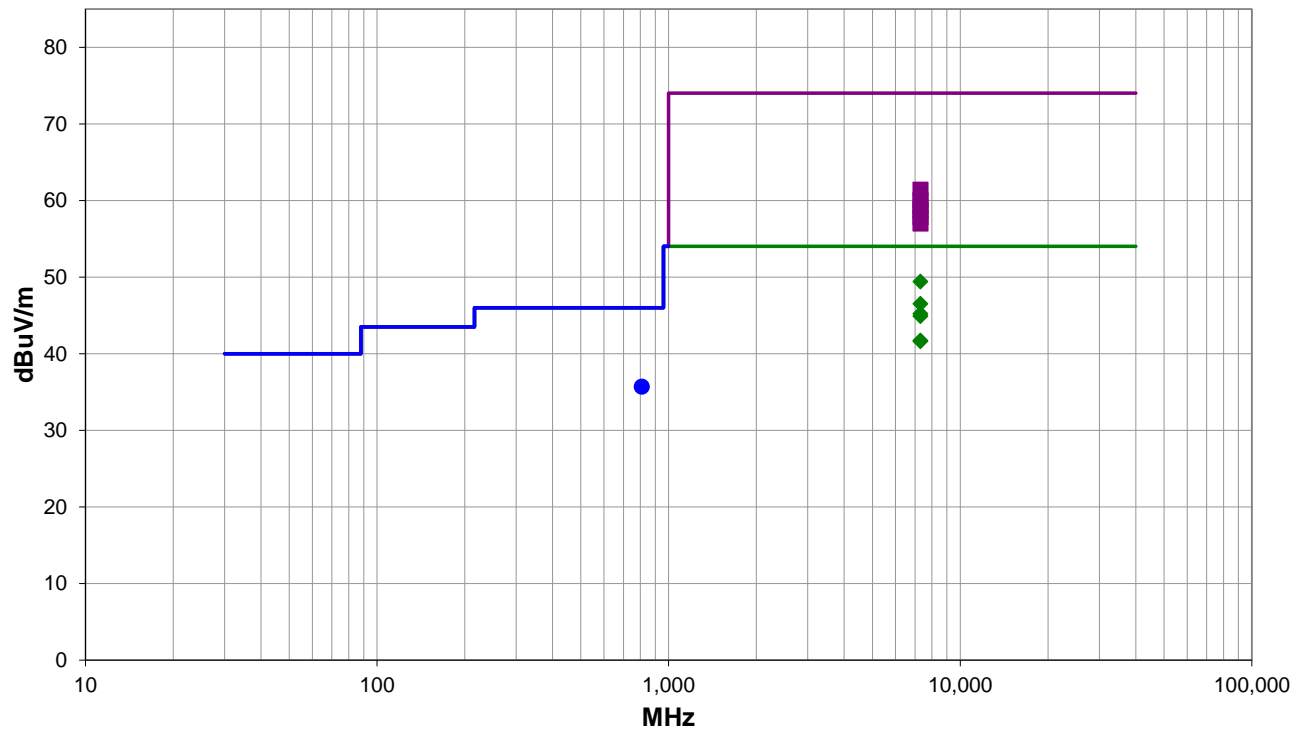
Normal operation of EUT will never transmit more than 50% of the time, therefore DCCF = -3.0dB [DCCF = 10*log(1/Duty Cycle = 50.0%) = -3.010 dB]
---

## EUT OPERATING MODES

Transmitting High Channel 913.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0 Spot checks based on EXIG0024 worst case
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## DEVIATIONS FROM TEST STANDARD

None
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Run #: 4

PK AV QP

# SPURIOUS RADIATED EMISSIONS

## RESULTS - Run #4

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity/Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7307.250	38.6	13.8	3.7	99.0	-3.0	0.0	Horz	AV	0.0	49.4	54.0	-4.6	Tx High Ch, EUT on Side
7307.242	35.7	13.8	1.5	340.0	-3.0	0.0	Vert	AV	0.0	46.5	54.0	-7.5	Tx High Ch, EUT Horz
7307.242	34.4	13.8	2.1	210.0	-3.0	0.0	Vert	AV	0.0	45.2	54.0	-8.8	Tx High Ch, EUT Vert
7307.258	34.1	13.8	1.9	259.0	-3.0	0.0	Horz	AV	0.0	44.9	54.0	-9.1	Tx High Ch, EUT Vert
809.406	24.4	11.3	1.2	235.0	3.0	0.0	Horz	QP	0.0	35.7	46.0	-10.3	Tx High Ch, EUT Horz
7307.250	30.9	13.8	1.5	122.0	-3.0	0.0	Horz	AV	0.0	41.7	54.0	-12.3	Tx High Ch, EUT Horz
7304.500	30.8	13.8	1.5	56.0	-3.0	0.0	Vert	AV	0.0	41.6	54.0	-12.4	Tx High Ch, EUT on Side
7307.333	47.6	13.8	3.7	99.0	0.0	0.0	Horz	PK	0.0	61.4	74.0	-12.6	Tx High Ch, EUT on Side
7307.350	46.3	13.8	1.5	340.0	0.0	0.0	Vert	PK	0.0	60.1	74.0	-13.9	Tx High Ch, EUT Horz
7304.550	45.5	13.8	2.1	210.0	0.0	0.0	Vert	PK	0.0	59.3	74.0	-14.7	Tx High Ch, EUT Vert
7307.383	44.9	13.8	1.9	259.0	0.0	0.0	Horz	PK	0.0	58.7	74.0	-15.3	Tx High Ch, EUT Vert
7307.383	44.0	13.8	1.5	122.0	0.0	0.0	Horz	PK	0.0	57.8	74.0	-16.2	Tx High Ch, EUT Horz
7304.842	43.2	13.8	1.5	56.0	0.0	0.0	Vert	PK	0.0	57.0	74.0	-17.0	Tx High Ch, EUT on Side

## CONCLUSION

Pass



Tested By

# SPURIOUS RADIATED EMISSIONS



EUT:	Omni 2.0	Work Order:	EXIG0025
Serial Number:	F60	Date:	2024-12-17
Customer:	Exigent Sensors LLC	Temperature:	20.1°C
Attendees:	None	Relative Humidity:	41.6%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Matthew Ng	Job Site:	OC07
Power:	Battery	Configuration:	EXIG0025-2

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021, RSS-247 Issue 3:2023	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	6	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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## COMMENTS

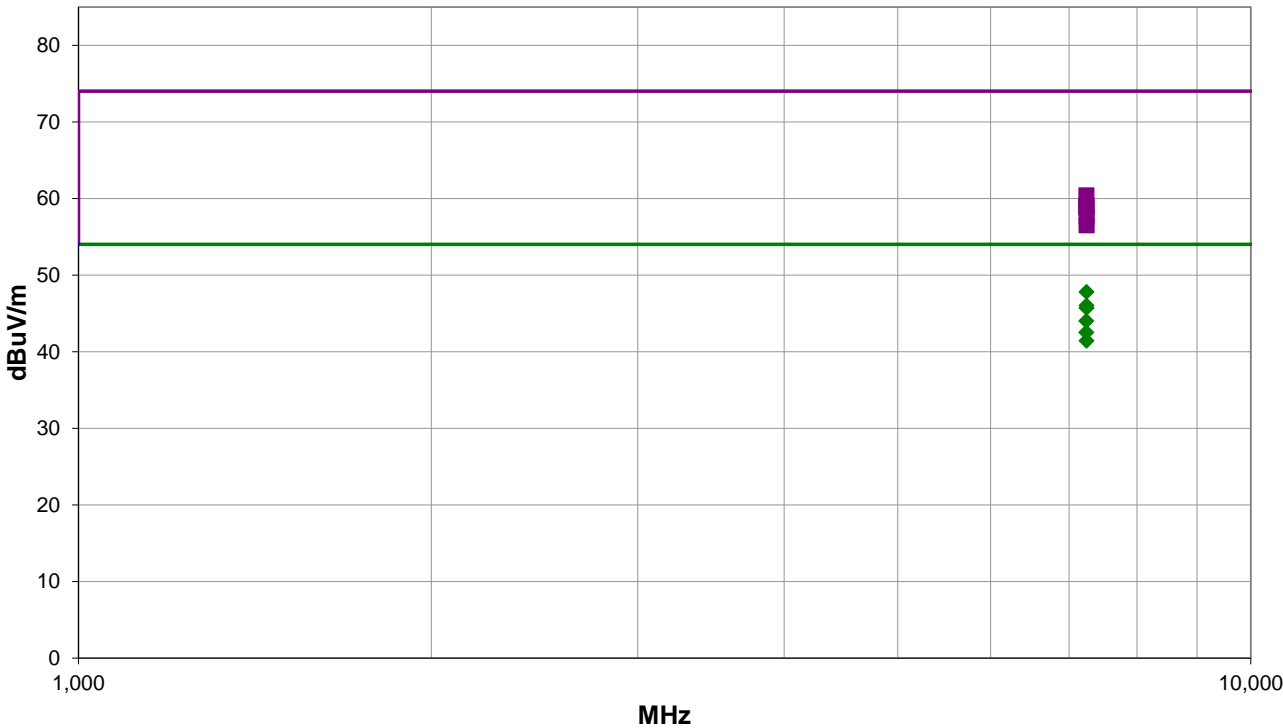
Normal operation of EUT will never transmit more than 50% of the time, therefore DCCF = -3.0dB [DCCF = 10*log(1/Duty Cycle = 50.0%) = -3.010 dB]
---

## EUT OPERATING MODES

Transmitting Low Channel 905.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0 Spot checks based on EXIG0024 worst case
---

## DEVIATIONS FROM TEST STANDARD

None
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Run #: 6

■ PK ◆ AV ● QP



# SPURIOUS RADIATED EMISSIONS

## RESULTS - Run #6

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity/Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7243.308	37.5	13.3	1.1	39.0	-3.0	0.0	Vert	AV	0.0	47.8	54.0	-6.2	Tx Low Ch, EUT Horz
7243.300	35.7	13.3	2.7	360.0	-3.0	0.0	Vert	AV	0.0	46.0	54.0	-8.0	Tx Low Ch, EUT on Side
7243.300	35.4	13.3	1.0	321.0	-3.0	0.0	Horz	AV	0.0	45.7	54.0	-8.3	Tx Low Ch, EUT on Side
7240.392	33.8	13.2	1.4	94.0	-3.0	0.0	Horz	AV	0.0	44.0	54.0	-10.0	Tx Low Ch, EUT Horz
7243.267	32.2	13.3	1.5	180.0	-3.0	0.0	Horz	AV	0.0	42.5	54.0	-11.5	Tx Low Ch, EUT Vert
7243.283	31.1	13.3	1.5	0.0	-3.0	0.0	Vert	AV	0.0	41.4	54.0	-12.6	Tx Low Ch, EUT Vert
7243.158	47.1	13.3	1.1	39.0	0.0	0.0	Vert	PK	0.0	60.4	74.0	-13.6	Tx Low Ch, EUT Horz
7243.242	45.8	13.3	1.0	321.0	0.0	0.0	Horz	PK	0.0	59.1	74.0	-14.9	Tx Low Ch, EUT on Side
7240.533	45.7	13.2	1.4	94.0	0.0	0.0	Horz	PK	0.0	58.9	74.0	-15.1	Tx Low Ch, EUT Horz
7240.775	45.6	13.2	2.7	360.0	0.0	0.0	Vert	PK	0.0	58.8	74.0	-15.2	Tx Low Ch, EUT on Side
7243.308	44.3	13.3	1.5	180.0	0.0	0.0	Horz	PK	0.0	57.6	74.0	-16.4	Tx Low Ch, EUT Vert
7243.592	43.2	13.3	1.5	0.0	0.0	0.0	Vert	PK	0.0	56.5	74.0	-17.5	Tx Low Ch, EUT Vert

## CONCLUSION

Pass



Tested By

# SPURIOUS RADIATED EMISSIONS

EUT:	Omni 2.0	Work Order:	EXIG0025
Serial Number:	F60	Date:	2024-12-17
Customer:	Exigent Sensors LLC	Temperature:	20.1°C
Attendees:	None	Relative Humidity:	41.6%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Matthew Ng	Job Site:	OC07
Power:	Battery	Configuration:	EXIG0025-2

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021, RSS-247 Issue 3:2023	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	8	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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## COMMENTS

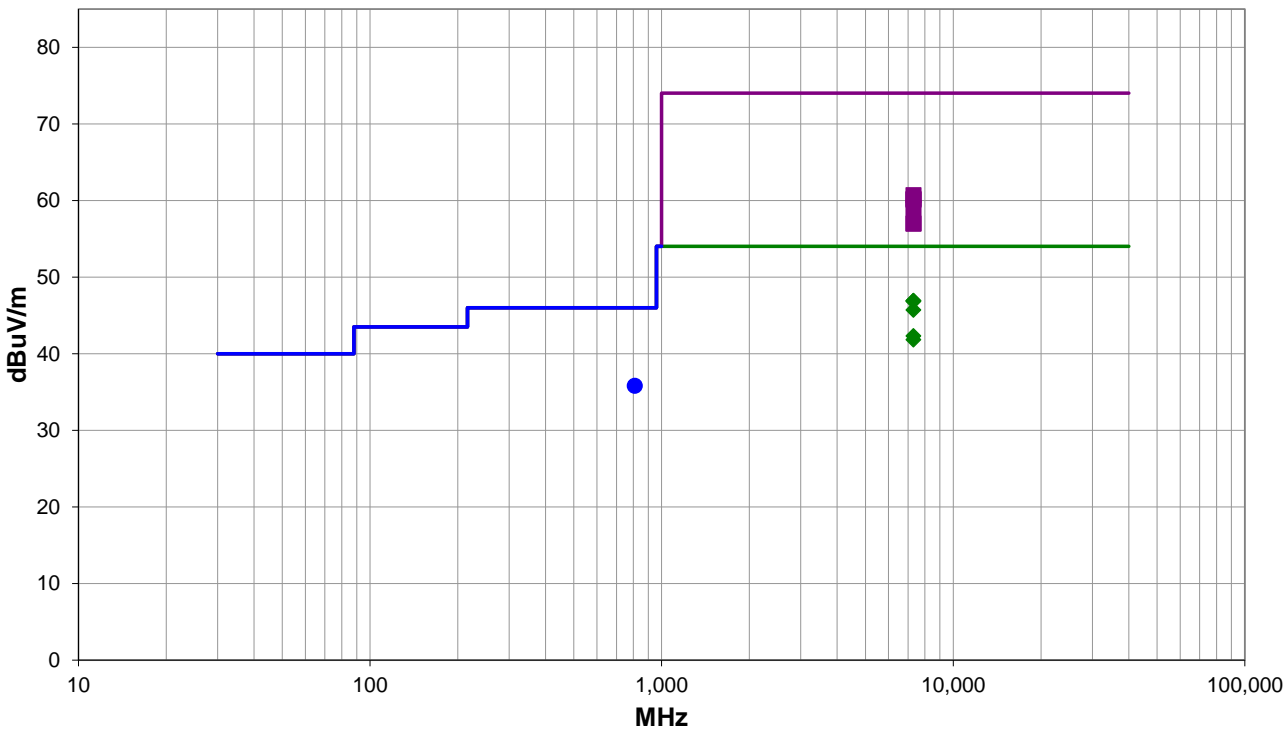
Normal operation of EUT will never transmit more than 50% of the time, therefore DCCF = -3.0dB [DCCF = 10*log(1/Duty Cycle = 50.0%) = -3.010 dB]
---

## EUT OPERATING MODES

Transmitting High Channel 913.2 MHz, Data Rate: 2-FSK 10 kbps, Power Setting: 0XC0 Spot checks based on EXIG0024 worst case
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## DEVIATIONS FROM TEST STANDARD

None
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Run #: 8

PK AV QP

# SPURIOUS RADIATED EMISSIONS

## RESULTS - Run #8

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity/Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7307.275	36.1	13.8	1.5	339.0	-3.0	0.0	Vert	AV	0.0	46.9	54.0	-7.1	Tx High Ch, EUT Horz
7304.500	36.1	13.8	3.7	237.0	-3.0	0.0	Horz	AV	0.0	46.9	54.0	-7.1	Tx High Ch, EUT Vert
7307.275	36.0	13.8	2.0	187.0	-3.0	0.0	Vert	AV	0.0	46.8	54.0	-7.2	Tx High Ch, EUT on Side
7307.292	34.9	13.8	1.4	136.0	-3.0	0.0	Horz	AV	0.0	45.7	54.0	-8.3	Tx High Ch, EUT on Side
809.407	24.5	11.3	1.2	229.0	3.0	0.0	Horz	QP	0.0	35.8	46.0	-10.2	Tx High Ch, EUT Horz
7307.283	31.5	13.8	1.5	91.0	-3.0	0.0	Horz	AV	0.0	42.3	54.0	-11.7	Tx High Ch, EUT Horz
7304.500	31.0	13.8	1.5	225.0	-3.0	0.0	Vert	AV	0.0	41.8	54.0	-12.2	Tx High Ch, EUT Vert
7307.367	46.9	13.8	1.5	339.0	0.0	0.0	Vert	PK	0.0	60.7	74.0	-13.3	Tx High Ch, EUT Horz
7307.175	46.4	13.8	3.7	237.0	0.0	0.0	Horz	PK	0.0	60.2	74.0	-13.8	Tx High Ch, EUT Vert
7307.142	46.3	13.8	2.0	187.0	0.0	0.0	Vert	PK	0.0	60.1	74.0	-13.9	Tx High Ch, EUT on Side
7307.475	45.2	13.8	1.4	136.0	0.0	0.0	Horz	PK	0.0	59.0	74.0	-15.0	Tx High Ch, EUT on Side
7307.508	43.2	13.8	1.5	91.0	0.0	0.0	Horz	PK	0.0	57.0	74.0	-17.0	Tx High Ch, EUT Horz
7307.133	43.2	13.8	1.5	225.0	0.0	0.0	Vert	PK	0.0	57.0	74.0	-17.0	Tx High Ch, EUT Vert

## CONCLUSION

Pass

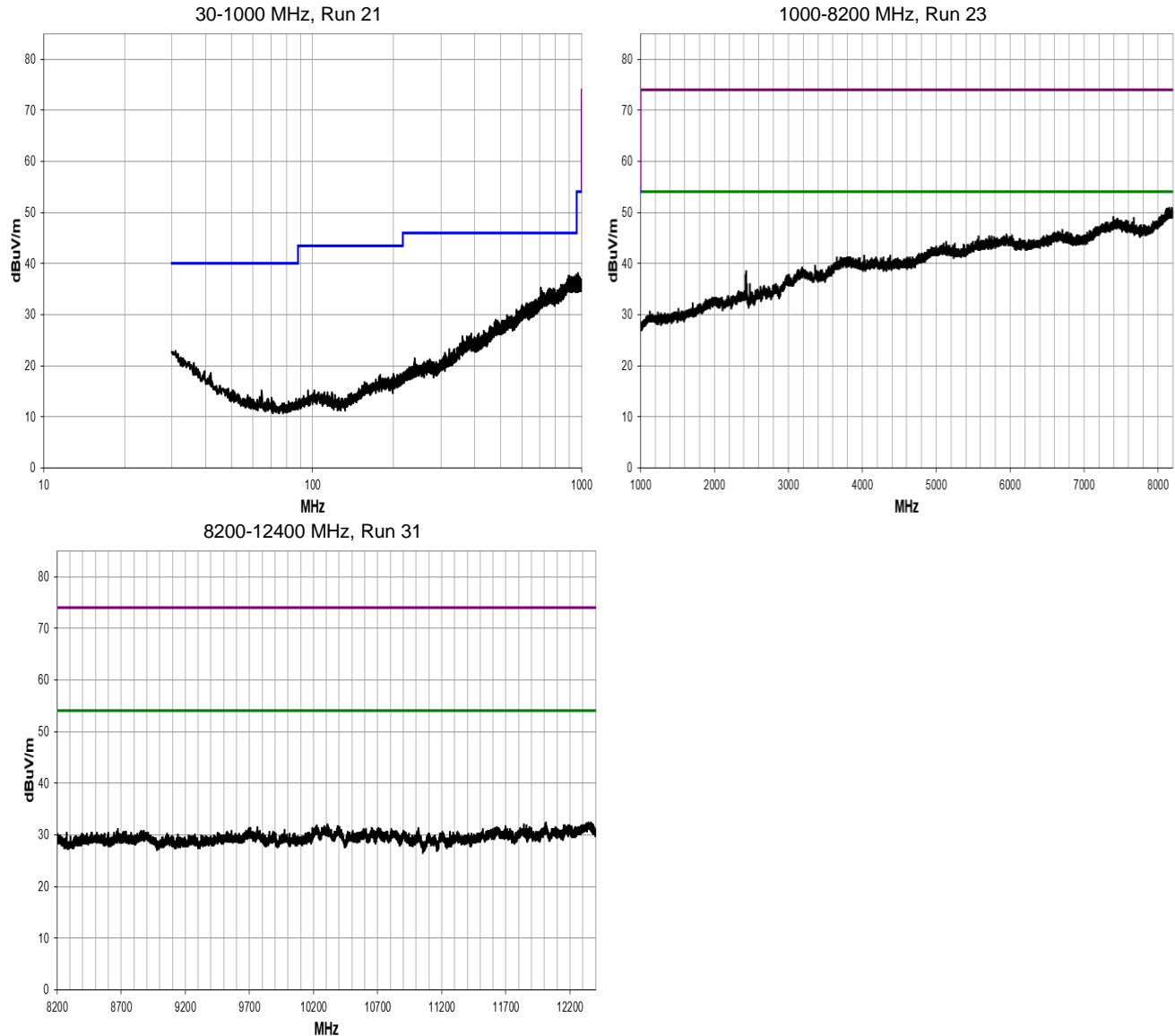


Tested By

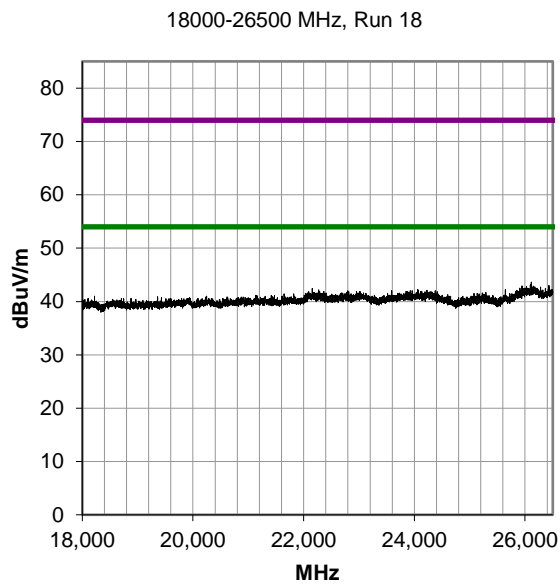
# SPURIOUS RADIATED EMISSIONS

## PRESCAN DATA (Idle mode)

Radiated spurious emissions from the EUT are initially reviewed with Pre-scans (Preview scans). Pre-scans are performed, with the EUT transmitting on the lowest applicable data rate, for both vertical and horizontal polarizations. The Pre-scan plots below are shown with a peak detector and RBW for the following frequency ranges: 9 kHz RBW (< 30 MHz); 120 kHz RBW (30 - 1000 MHz); 1 MHz RBW (> 1 GHz). In the case where unintentional emissions are observed, an ambient or idle pre-scan with the radio off, will be shown for comparison.



# SPURIOUS RADIATED EMISSIONS



# DUTY CYCLE

## TEST DESCRIPTION

The Duty Cycle (x) of the single channel operation of the radio as controlled by the provided test software was measured for each of the EUT operating modes.

There is no compliance requirement to be met by this test, so therefore no Pass / Fail criteria.

The measurements were made using a zero span on the spectrum analyzer to see the pulses in the time domain. The transmit power was set to its default maximum.

The test software provided for operation in a fixed, single channel mode allows the EUT to operate continuously at 100% Duty Cycle.

# OUTPUT POWER

## TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum.

Prior to measuring peak transmit power the DTS bandwidth (B) was measured.

The method found in ANSI C63.10:2013 Section 11.9.1.1 was used because the RBW on the analyzer was greater than the DTS Bandwidth of the radio.

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	2023-12-05	2024-12-05
Attenuator	Fairview Microwave	SA18H-20	UAX	2024-07-11	2025-07-11
Block - DC	Aeroflex	INMET 8535	AMO	2023-12-29	2024-12-29
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Generator - Signal	Agilent	E8257D	TGU	2023-11-08	2026-11-08

# OUTPUT POWER

EUT:	Omni 2.0	Work Order:	EXIG0024
Serial Number:	E4	Date:	2024-08-21
Customer:	Exigent Sensors LLC	Temperature:	24.4°C
Attendees:	Kevin Tain	Relative Humidity:	45%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mbar
Tested By:	Nolan De Ramos	Job Site:	OC13
Power:	Battery	Configuration:	EXIG0024-3

## TEST SPECIFICATIONS

Specification:	Method:
RSS-247 Issue 3:2023	ANSI C63.10:2013
FCC 15.247:2024	ANSI C63.10:2013

## COMMENTS

None

## DEVIATIONS FROM TEST STANDARD

None

## CONCLUSION

Pass



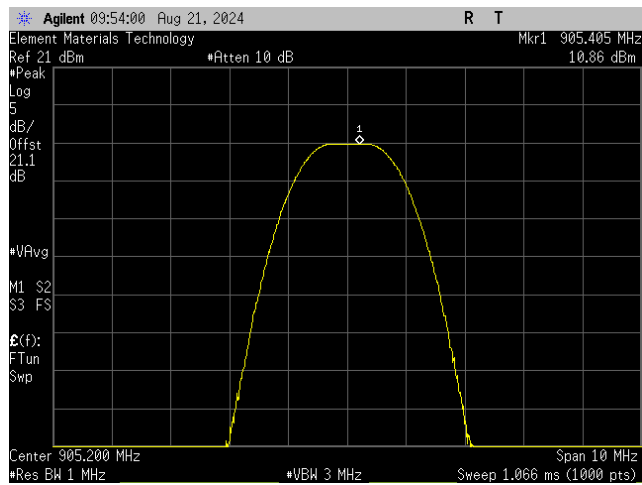
Tested By

## TEST RESULTS

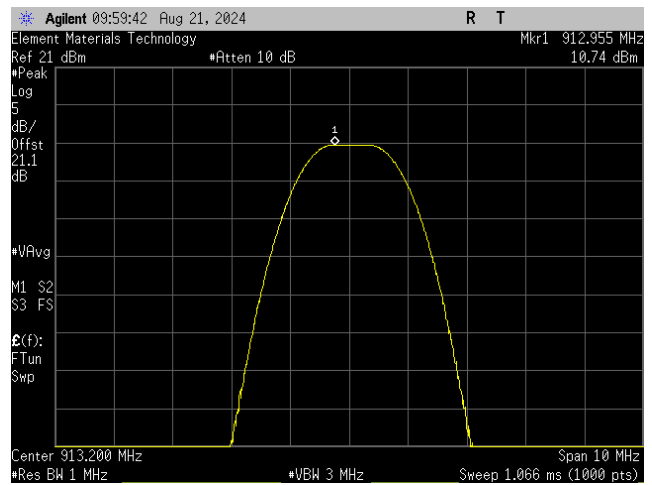
		Out Pwr (dBm)	Limit (dBm)	Result
2-FSK				
	Low Channel, 905.2 MHz	10.857	30	Pass
	High Channel, 913.2 MHz	10.745	30	Pass



# OUTPUT POWER



**2-FSK**  
**Low Channel, 905.2 MHz**



**2-FSK**  
**High Channel, 913.2 MHz**

# EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

## TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum.

Prior to measuring peak transmit power the DTS bandwidth (B) was measured.

The method found in ANSI C63.10:2013 Section 11.9.1.1 was used because the RBW on the analyzer was greater than the DTS Bandwidth of the radio.

Equivalent Isotropic Radiated Power (EIRP) = Max Measured Power + Antenna gain (dBi)

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	2023-12-05	2024-12-05
Attenuator	Fairview Microwave	SA18H-20	UAX	2024-07-11	2025-07-11
Block - DC	Aeroflex	INMET 8535	AMO	2023-12-29	2024-12-29
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Generator - Signal	Agilent	E8257D	TGU	2023-11-08	2026-11-08

# EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



EUT:	Omni 2.0	Work Order:	EXIG0024
Serial Number:	E4	Date:	2024-08-21
Customer:	Exigent Sensors LLC	Temperature:	24.4°C
Attendees:	Kevin Tain	Relative Humidity:	45%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mbar
Tested By:	Nolan De Ramos	Job Site:	OC13
Power:	Battery	Configuration:	EXIG0024-3

## TEST SPECIFICATIONS

Specification:	Method:
RSS-247 Issue 3:2023	ANSI C63.10:2013
FCC 15.247:2024	ANSI C63.10:2013

## COMMENTS

None

## DEVIATIONS FROM TEST STANDARD

None

## CONCLUSION

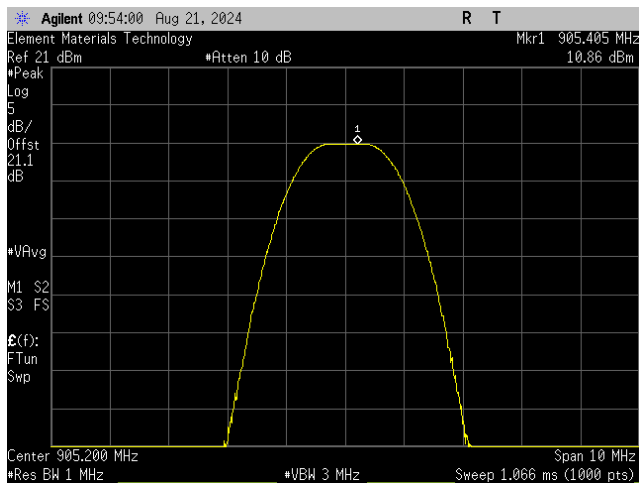
Pass

Tested By

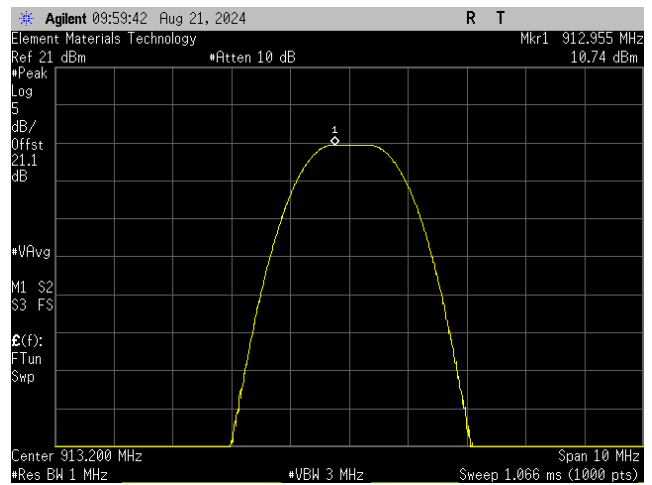
## TEST RESULTS

	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
2-FSK					
Low Channel, 905.2 MHz	10.857	2.85	13.707	36	Pass
High Channel, 913.2 MHz	10.745	2.85	13.595	36	Pass

# EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



**2-FSK**  
**Low Channel, 905.2 MHz**



**2-FSK**  
**High Channel, 913.2 MHz**

# BAND EDGE COMPLIANCE

## TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in each available band. The channels closest to the band edges were selected. The EUT was transmitting at the data rate(s) listed in the datasheet.

The spectrum was scanned below the lower band edge and above the higher band edge. The analyzer screen captures for this test show an example of the emission mask for the test mode also used during the radiated spurious emissions at the restricted band edges test.

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	2023-12-05	2024-12-05
Attenuator	Fairview Microwave	SA18H-20	UAX	2024-07-11	2025-07-11
Block - DC	Aeroflex	INMET 8535	AMO	2023-12-29	2024-12-29
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Generator - Signal	Agilent	E8257D	TGU	2023-11-08	2026-11-08

# BAND EDGE COMPLIANCE

EUT:	Omni 2.0	Work Order:	EXIG0024
Serial Number:	E4	Date:	2024-08-21
Customer:	Exigent Sensors LLC	Temperature:	24.4°C
Attendees:	Kevin Tain	Relative Humidity:	45%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mbar
Tested By:	Nolan De Ramos	Job Site:	OC13
Power:	Battery	Configuration:	EXIG0024-3

## TEST SPECIFICATIONS

Specification:	Method:
RSS-247 Issue 3:2023	ANSI C63.10:2013
FCC 15.247:2024	ANSI C63.10:2013

## COMMENTS

None

## DEVIATIONS FROM TEST STANDARD

None

## CONCLUSION

Pass

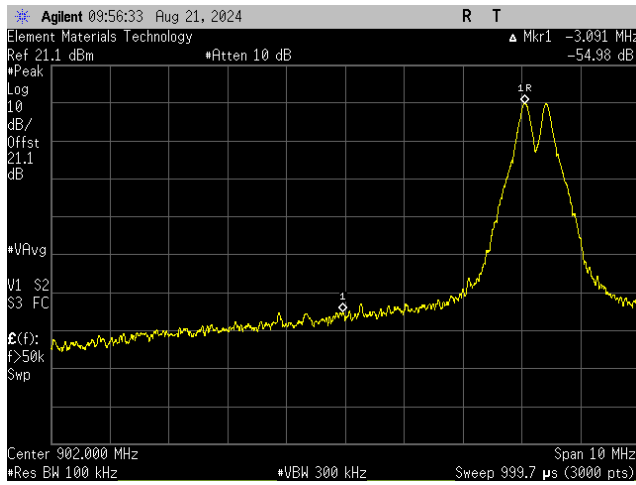


Tested By

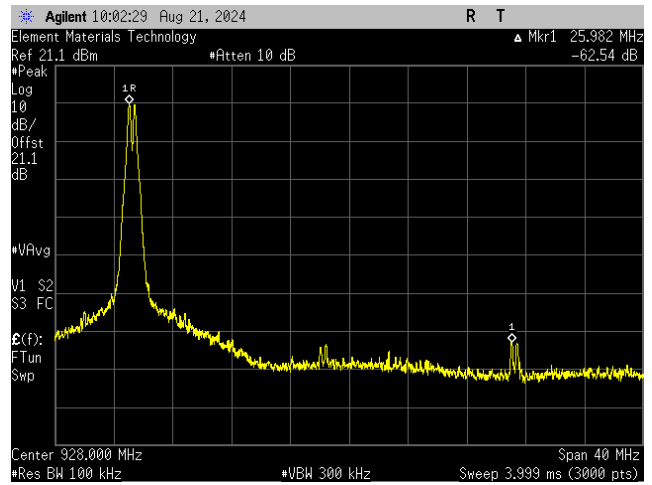
## TEST RESULTS

	Value (dBc)	Limit ≤ (dBc)	Result
2-FSK			
Low Channel, 905.2 MHz	-54.98	-20	Pass
High Channel, 913.2 MHz	-62.54	-20	Pass

# BAND EDGE COMPLIANCE



**2-FSK**  
**Low Channel, 905.2 MHz**



**2-FSK**  
**High Channel, 913.2 MHz**

# DTS BANDWIDTH

## TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The EUT was set to the channels and modes listed in the datasheet.

The 6dB DTS bandwidth was measured using 100 kHz resolution bandwidth and 300 kHz video bandwidth. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	2023-12-05	2024-12-05
Attenuator	Fairview Microwave	SA18H-20	UAX	2024-07-11	2025-07-11
Block - DC	Aeroflex	INMET 8535	AMO	2023-12-29	2024-12-29
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Generator - Signal	Agilent	E8257D	TGU	2023-11-08	2026-11-08



# DTS BANDWIDTH

EUT:	Omni 2.0	Work Order:	EXIG0024
Serial Number:	E4	Date:	2024-08-21
Customer:	Exigent Sensors LLC	Temperature:	24.4°C
Attendees:	Kevin Tain	Relative Humidity:	45%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mbar
Tested By:	Nolan De Ramos	Job Site:	OC13
Power:	Battery	Configuration:	EXIG0024-3

## TEST SPECIFICATIONS

Specification:	Method:
RSS-247 Issue 3:2023	ANSI C63.10:2013
FCC 15.247:2024	ANSI C63.10:2013

## COMMENTS

None

## DEVIATIONS FROM TEST STANDARD

None

## CONCLUSION

Pass

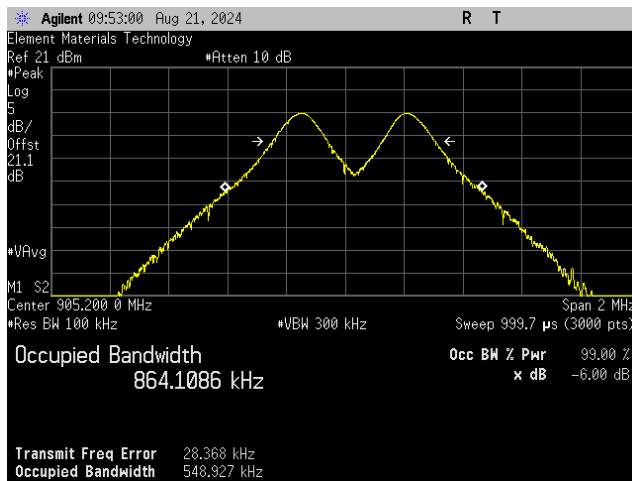


Tested By

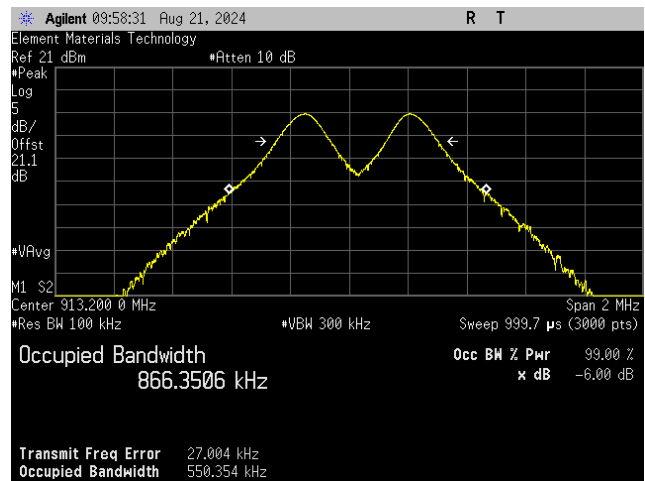
## TEST RESULTS

		Value	Limit (>)	Result
2-FSK				
	Low Channel, 905.2 MHz	548.927 kHz	500 kHz	Pass
	High Channel, 913.2 MHz	550.354 kHz	500 kHz	Pass

# DTS BANDWIDTH



2-FSK  
Low Channel, 905.2 MHz



2-FSK  
High Channel, 913.2 MHz

# OCCUPIED BANDWIDTH

## TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The 99% occupied bandwidth was measured with the EUT configured for continuous modulated operation.

Per ANSI C63.10:2013, 6.9.3, the spectrum analyzer was configured as follows:

The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.

The resolution bandwidth (RBW) of the spectrum analyzer was set to the range of 1% to 5% of the occupied bandwidth (OBW) and video bandwidth (VBW) bandwidth was set to at least 3 times the resolution bandwidth. The analyzer sweep time was set to auto to prevent video filtering or averaging. A sample detector was used unless the device was not able to be operated in a continuous transmit mode, in which case a peak detector was used.

The spectrum analyzer occupied bandwidth measurement function was used to sum the power of the transmission in linear terms to obtain the 99% bandwidth.

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	2023-12-05	2024-12-05
Attenuator	Fairview Microwave	SA18H-20	UAX	2024-07-11	2025-07-11
Block - DC	Aeroflex	INMET 8535	AMO	2023-12-29	2024-12-29
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Generator - Signal	Agilent	E8257D	TGU	2023-11-08	2026-11-08

# OCCUPIED BANDWIDTH

EUT:	Omni 2.0	Work Order:	EXIG0024
Serial Number:	E4	Date:	2024-08-21
Customer:	Exigent Sensors LLC	Temperature:	24.4°C
Attendees:	Kevin Tain	Relative Humidity:	45%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mbar
Tested By:	Nolan De Ramos	Job Site:	OC13
Power:	Battery	Configuration:	EXIG0024-3

## TEST SPECIFICATIONS

Specification:	Method:
RSS-247 Issue 3:2023	ANSI C63.10:2013
FCC 15.247:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

## COMMENTS

None

## DEVIATIONS FROM TEST STANDARD

None

## CONCLUSION

N/A

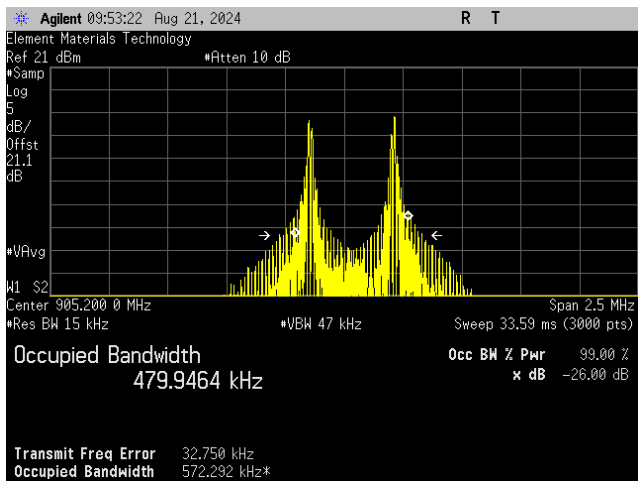


Tested By

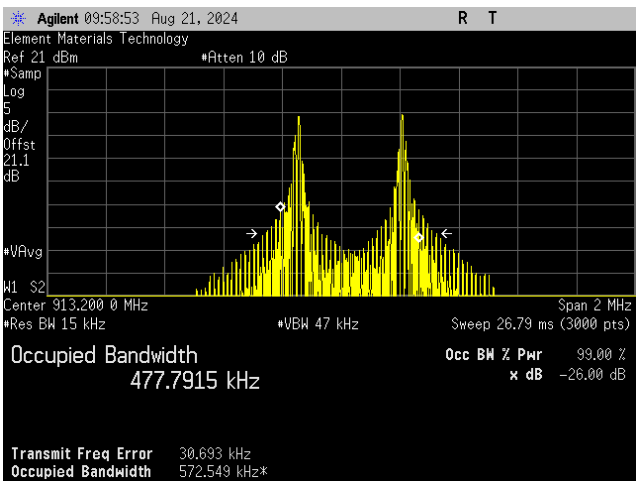
## TEST RESULTS

		Value	Limit	Result
2-FSK				
	Low Channel, 905.2 MHz	479.946 kHz	N/A	N/A
	High Channel, 913.2 MHz	477.792 kHz	N/A	N/A

# OCCUPIED BANDWIDTH



2-FSK  
Low Channel, 905.2 MHz



2-FSK  
High Channel, 913.2 MHz

# SPURIOUS CONDUCTED EMISSIONS

## TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The spurious RF conducted emissions were measured with the EUT set to low and high transmit frequencies. The EUT was transmitting at the data rate(s) listed in the datasheet. For each transmit frequency, the fundamental was measured with a 100 kHz resolution bandwidth and the highest value was recorded. The rest of the spectrum was then measured with a 100 kHz resolution bandwidth and the highest value was found. The difference between the value found on the fundamental and the rest of the spectrum was compared against the limit to determine compliance.

The reference level offset for the fundamental screen capture was based on a measured value of the loss between the spectrum analyzer and the EUT which was verified at the time of test. The remaining screen capture(s) use an internal transducer factor on the analyzer to correct the displayed trace based on the cable loss over frequency. The reference level offset for the additional screen capture(s) is then based on the expected attenuator value and any other losses.

Fundamental Offset = Ref Lvl Offset showing measured composite factor of all losses

Remaining Screen capture(s) Offset = "Internal" cable loss factor not shown on screen capture + Ref Lvl Offset showing expected attenuator value and any other losses

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	2023-12-05	2024-12-05
Attenuator	Fairview Microwave	SA18H-20	UAX	2024-07-11	2025-07-11
Block - DC	Aeroflex	INMET 8535	AMO	2023-12-29	2024-12-29
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Generator - Signal	Agilent	E8257D	TGU	2023-11-08	2026-11-08

# SPURIOUS CONDUCTED EMISSIONS

EUT:	Omni 2.0	Work Order:	EXIG0024
Serial Number:	E4	Date:	2024-08-21
Customer:	Exigent Sensors LLC	Temperature:	24.4°C
Attendees:	Kevin Tain	Relative Humidity:	45%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mbar
Tested By:	Nolan De Ramos	Job Site:	OC13
Power:	Battery	Configuration:	EXIG0024-3

## TEST SPECIFICATIONS

Specification:	Method:
RSS-247 Issue 3:2023	ANSI C63.10:2013
FCC 15.247:2024	ANSI C63.10:2013

## COMMENTS

None

## DEVIATIONS FROM TEST STANDARD

None

## CONCLUSION

Pass

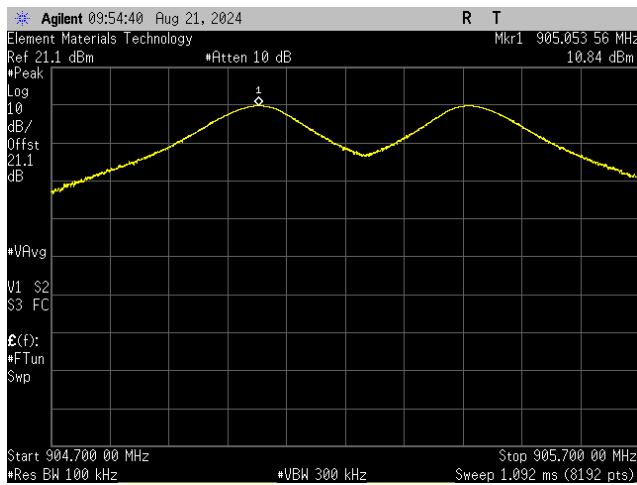


Tested By

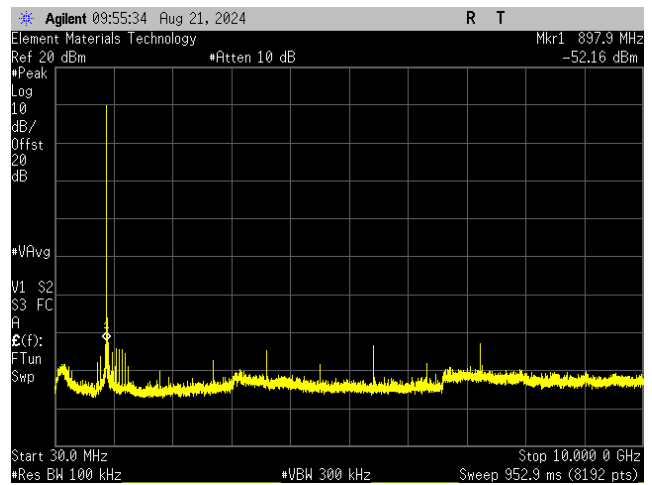
## TEST RESULTS

	Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
2-FSK					
Low Channel, 905.2 MHz	Fundamental	905.05	N/A	N/A	N/A
	30 MHz - 10 GHz	897.9	-63	-20	Pass
High Channel, 913.2 MHz	Fundamental	913.05	N/A	N/A	N/A
	30 MHz - 10 GHz	939.2	-63.55	-20	Pass

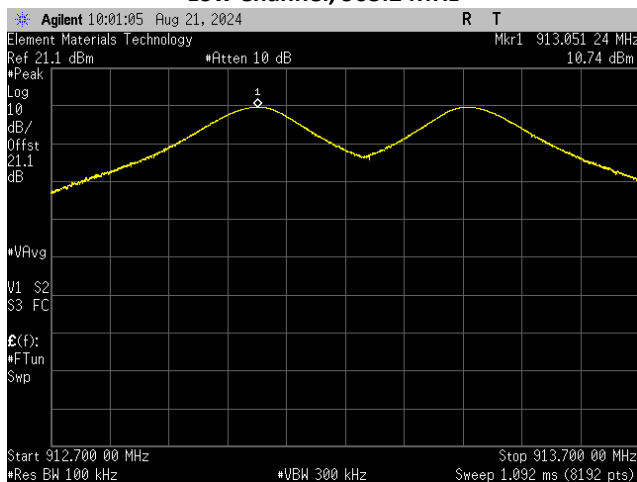
# SPURIOUS CONDUCTED EMISSIONS



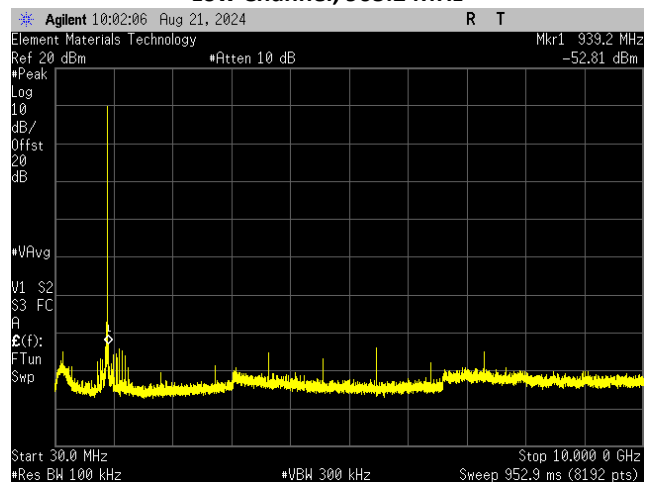
**2-FSK**  
**Low Channel, 905.2 MHz**



**2-FSK**  
**Low Channel, 905.2 MHz**



**2-FSK**  
**High Channel, 913.2 MHz**



**2-FSK**  
**High Channel, 913.2 MHz**



# POWER SPECTRAL DENSITY

## TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The maximum power spectral density measurements was measured using the channels and modes as called out on the following data sheets.

Per the procedure outlined in ANSI C63.10 the peak power spectral density was measured in a 3 kHz RBW.

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	2023-12-05	2024-12-05
Attenuator	Fairview Microwave	SA18H-20	UAX	2024-07-11	2025-07-11
Block - DC	Aeroflex	INMET 8535	AMO	2023-12-29	2024-12-29
Cable	Micro-Coax	UFD150A-1-0720-200200	OCA	2023-12-29	2024-12-29
Generator - Signal	Agilent	E8257D	TGU	2023-11-08	2026-11-08

# POWER SPECTRAL DENSITY

EUT:	Omni 2.0	Work Order:	EXIG0024
Serial Number:	E4	Date:	2024-08-21
Customer:	Exigent Sensors LLC	Temperature:	24.2°C
Attendees:	Kevin Tain	Relative Humidity:	45%
Customer Project:	None	Bar. Pressure (PMSL):	1014 mbar
Tested By:	Nolan De Ramos	Job Site:	OC13
Power:	Battery	Configuration:	EXIG0024-3

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

## COMMENTS

None

## DEVIATIONS FROM TEST STANDARD

None

## CONCLUSION

Pass

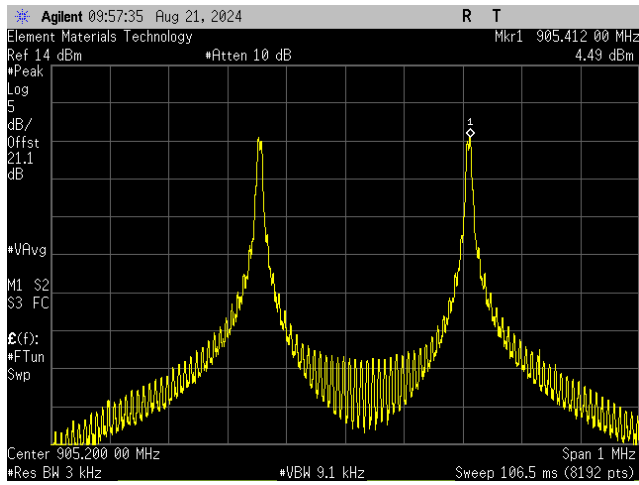


Tested By

## TEST RESULTS

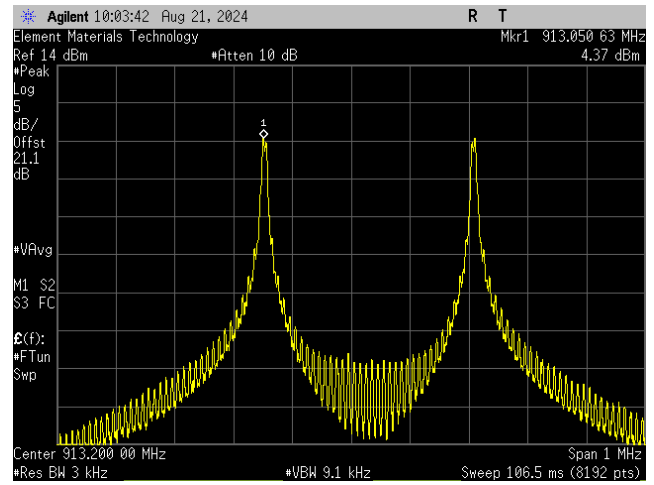
		Value dBm/3kHz	Limit ≤ (dBm/3kHz)	Results
2-FSK				
	Low Channel, 905.2 MHz	4.495	8	Pass
	High Channel, 913.2 MHz	4.370	8	Pass

# POWER SPECTRAL DENSITY



2-FSK

Low Channel, 905.2 MHz



2-FSK

High Channel, 913.2 MHz

End of Test Report