

# Electromagnetic Compatibility Test Report

*Prepared in accordance with*  
**FCC Part 15 Subpart B: 2019**  
**On**

**September 18<sup>th</sup>, 2019**  
**Prepared for:**

**JAET2L Holdings  
8555 Hollyhock St.  
Lafayette, CO 80026**

**Prepared by:**

**TUV Rheinland of North America, Inc.  
5015 Brandin Ct. Fremont CA 94538 USA**

## Revisions

Note: Latest revision report will replace all previous reports.

## ATTESTATION OF TEST RESULTS

<b>Client:</b>	JAET2L Holdings 8555 Hollyhock St. Lafayette, CO 80026		Isaac Davenport isaac@isaacdavenport.com
<b>Model Name:</b>	Accelerometer Sensor	<b>Serial Number:</b>	N/A
<b>Model Numbers:</b>	A, ISS001US	<b>Date(s) Tested:</b>	August 14th, 2019 to August 23rd, 2019
<b>Test Location:</b>	TUV Rheinland of North America Inc. 5015 Brandin Ct. Fremont CA 94538 USA		
<b>Test Specifications:</b>	Emissions:	FCC Part 15 Subpart B: 2019	
	Immunity:	N/A	
<b>Test Result:</b>	The above product was found to be Compliant to the above test standard(s)		
<b>Prepared by:</b> Osvaldo Casorla		<b>Reviewed by:</b>	
9/23/2019 Osvaldo Casorla _____ Date Name Signature		9/23/2019 Josie Sabado _____ Date Name Signature	
<b>Other aspects:</b>	None		
<b>FREMONT</b>			
<b>FC</b> US1131	 Testing Cert #3331.02	<b>INDUSTRY CANADA</b> 2932D	 1097 (A-0268)

## TABLE of CONTENTS

<b>1 GENERAL INFORMATION .....</b>	<b>5</b>
1.1 SCOPE .....	5
1.2 PURPOSE .....	5
1.3 SUMMARY OF TEST RESULTS .....	6
<b>LABORATORY INFORMATION .....</b>	<b>7</b>
1.4 ACCREDITATIONS & ENDORSEMENTS.....	7
1.5 TEST FACILITIES AND EMC SOFTWARE.....	8
1.6 MEASUREMENT UNCERTAINTY.....	10
1.7 CALIBRATION TRACEABILITY .....	12
1.8 MEASUREMENT EQUIPMENT USED .....	12
<b>2 PRODUCT INFORMATION .....</b>	<b>12</b>
2.1 PRODUCT DESCRIPTION.....	12
2.2 EQUIPMENT MODIFICATIONS .....	12
2.3 TEST PLAN.....	12
<b>3 EMISSIONS.....</b>	<b>13</b>
3.1 RADIATED EMISSIONS .....	13
<b>APPENDIX A .....</b>	<b>18</b>
<b>4 TEST PLAN.....</b>	<b>18</b>
4.1 GENERAL INFORMATION .....	18
4.2 EUT DESIGNATION.....	18
4.3 EUT DESCRIPTION .....	18
4.4 EQUIPMENT UNDER TEST (EUT) DESCRIPTION .....	19
4.5 PRODUCT ENVIRONMENT(S) .....	19
4.6 APPLICABLE DOCUMENTS.....	19
4.7 EUT ELECTRICAL POWER INFORMATION .....	19
4.8 EUT CLOCK/OSCILLATOR FREQUENCIES .....	20
4.9 ELECTRICAL SUPPORT EQUIPMENT.....	20
4.10 NON - ELECTRICAL SUPPORT EQUIPMENT N/A .....	20
4.11 EUT EQUIPMENT/CABLING INFORMATION N/A .....	20
4.12 EUT TEST PROGRAM.....	21
4.13 EUT MODES OF OPERATION .....	21
4.14 MONITORING OF EUT DURING TESTING .....	21
4.15 EUT CONFIGURATION.....	21
4.16 DESCRIPTION .....	21
4.17 SUBASSEMBLIES .....	21
4.18 EMISSIONS .....	23
<b>APPENDIX B .....</b>	<b>25</b>
<b>5 MODIFICATION(S).....</b>	<b>25</b>

## **1 General Information**

### **1.1 Scope**

This report is intended to document the status of conformance with the listed standards based on the results of testing performed on August 14th, 2019 to August 23rd, 2019 on the nrf52810 manufactured by JAET2L Holdings. This report only applies to the specific samples tested under the stated test conditions. It is the responsibility of the manufacturer to assure that additional production units of this model are manufactured with identical or EMI equivalent electrical and mechanical components. This report is further intended to document changes and modifications to the EUT throughout its life cycle. All documentation will be included as a supplement.

### **1.2 Purpose**

Testing was performed to evaluate the EMC performance of the EUT (Equipment Under Test) in accordance with the applicable requirements, procedures, and criteria defined in the application of regulations and application of standards listed in this report.

### 1.3 Summary of Test Results

<b>Applicant</b>	JAET2L Holdings 8555 Hollyhock St. Lafayette, CO 80026
<b>Description</b>	Bluetooth BLE
<b>Model Name</b>	Accelerometer Sensor
<b>Model Number</b>	A, ISS001US
<b>Serial Number</b>	N/A
<b>Input Power</b>	3 VDC
<b>Test Date(s)</b>	August 14th, 2019 to August 23rd, 2019

Standards	Description	Severity Level or Limit	Criteria	Test Result
FCC Part 15 Subpart B: 2019	Radiated Emissions	Class B 30 MHz - 18 GHz	Limit	Complies

## Laboratory Information

### 1.4 Accreditations & Endorsements

#### 1.4.1 US Federal Communications Commission



TUV Rheinland of North America EMC test facilities located at 1279 Quarry Lane, Ste. A, Pleasanton, CA, 94566, and 5015 Brandin Ct, Fremont, CA 94538, are recognized by the Commission for performing testing services for the general public on a fee basis. These laboratory test facilities have been fully described in reports submitted to and accepted by the FCC (Registration No. US1131). The laboratory Scopes of Accreditation include Title 47 CFR Parts 15, 18 and 90. The accreditations are updated every three years.

#### 1.4.2 A2LA



TUV Rheinland of North America EMC test facilities are accredited by the American Association for Laboratory Accreditation (A2LA). The laboratories have been assessed and accredited by A2LA in accordance with ISO Standard 17025:2017 (Testing Certificate #3331.02). The Scope of Laboratory Accreditation includes emission and immunity testing. The accreditations are updated annually.

#### 1.4.3 Industry Canada



Industry Canada

The Pleasanton 5-meter Semi-Anechoic Chamber, Registration No. 2932M-1, has been accepted by Industry Canada to perform testing to 3 and 5 meters based on the test procedures described in ANSI C63.4-2009. The Fremont 10-meter Semi-Anechoic Chamber, Registration No. 2932D-1, has been accepted by Industry Canada to perform testing to 3 and 10 meters based on the test procedures described in ANSI C63.4-2009.

#### 1.4.4 Japan – VCCI



The Voluntary Control Council for Interference by Information Technology Equipment (VCCI) is a group that consists of Information Technology Equipment (ITE) manufacturers and EMC test laboratories. The purpose of the Council is to take voluntary control measures against electromagnetic interference from Information Technology Equipment, and thereby contribute to the development of a socially beneficial and responsible state of affairs in the realm of Information Technology Equipment in Japan. TUV Rheinland of North America EMC test facilities located at 1279 Quarry Lane, Ste. A, Pleasanton, CA, 94566, and 5015 Brandin Ct, Fremont, CA 94538, have been assessed and approved in accordance with the Regulations for Voluntary Control Measures.

VCCI Registration No. for Pleasanton: A-0268

VCCI Registration No. for Fremont: A-0268

## **1.5 Test Facilities and EMC Software**

Test facilities are located at 1279 Quarry Lane, Ste. A, Pleasanton, California 94566, U.S.A. and 5015 Brandin Ct. Fremont CA 94538 USA (Fremont is the Pleasanton Annex).

### **1.5.1 Emission Test Facility**

The Semi-Anechoic Chambers and AC Line Conducted measurement facilities used to collect radiated and conducted emissions data have been constructed in accordance with ANSI C63.7:1992. The Fremont 10 meter semi-anechoic chamber has been measured in accordance with and verified to comply with the theoretical volumetric normalized site attenuation of ANSI C63.4:2014 and SVSWR requirements of CISPR 16-1-4 Consol. Ed. 3.0 (2010-04), at test distances of 3 and 10 meters. This site has been described in reports dated November 1st, 2006, submitted to the FCC, and accepted by letter dated November 28, 2006. The site is listed with the FCC and accredited by A2LA (Testing Certificate #3331.02). The Pleasanton 5 meter semi-anechoic chamber has been verified to comply with the theoretical volumetric normalized site attenuation of ANSI C63.4:2009 and SVSWR requirements of CISPR 16-1-4 Consol. Ed. 3.0 (2010-04) at a test distance of 3 meters. This site has been described in reports dated November 1st, 2006, submitted to the FCC, and accepted by letter dated November 28, 2006. The site is listed with the FCC and accredited by A2LA (Testing Certificate #3331.02).

### **1.5.2 Immunity Test Facility**

ESD, EFT, Surge, PQF: These tests are performed in an environmentally controlled room with a 3.7 m x 3.7 m x 3.175 mm thick aluminum floor connected to PE ground. For ESD testing, tabletop equipment is placed on an insulated mat with a surface resistivity of  $10^9$  Ohms/square on a 1.6 m x 0.8 m x 0.8 m high non-conductive table with a 3.175 mm aluminum top (Horizontal Coupling Plane). The HCP is connected to the main ground plane via a low impedance ground strap through two 470 k $\Omega$  resistors. The Vertical Coupling Plane consists of an aluminum plate 50 cm x 50 cm x 3.175 mm thick. The VCP is connected to the main ground plane via a low impedance ground strap through two 470 k $\Omega$  resistors. For each of the other tests, the HCP is removed.

RF Field Immunity testing is performed in a 10m semi-anechoic chamber with absorber added to floor.

RF Conducted and Magnetic Field Immunity testing is performed on a 4.9 m x 3.7 m x 3.175 mm thick aluminum ground plane which is connected to one end of the anechoic chamber.

All test areas allow a minimum distance of 1 meter from the EUT to walls or conducting objects.

### 1.5.3 EMC Software - Fremont

Manufacturer	Name	Version	Test Type
EMISoft	Vasona	5.0	Radiated & Conducted Emissions
ETS-Lindgren	TILE	4.2.A	Radiated Emissions > 1 GHz
ETS-Lindgren	TILE	V.3.4.K.22	Radiated & Conducted Immunity
Haefely	WinFEAT	1.6.3	Surge
Thermo Electron - Keytek	CEWare32	3.0	EFT/Surge/Voltage Dips & Interrupt
Voltech	IEC61000-3	1.15.07RC	Harmonic & Flicker

### 1.5.4 EMC Software - Pleasanton

Manufacturer	Name	Version	Test Type
ETS-Lindgren	TILE	3.4.K.14 @ 4.0.A.5	Radiated & Conducted Emissions
EMISoft	Vasona	5.0	Radiated & Conducted Emissions
Agilent	Agilent MXE	A.11.02	Radiated & Conducted Emissions
ETS-Lindgren	TILE	3.4.K.14	Radiated & Conducted Immunity
Thermo Electron - Keytek	CEWare32	4.00	EFT/Surge/Voltage Dips & Interrupt
Voltech	IEC61000-3	1.21.07RC2	Harmonic & Flicker

## 1.6 Measurement Uncertainty

Two types of measurement uncertainty are expressed in this report, per *ISO Guide To The Expression Of Uncertainty In Measurement*, 1<sup>st</sup> Edition, 1995.

*The Combined Standard Uncertainty* is the standard uncertainty of the result of a measurement when that result is obtained from the values of a number of other quantities, equal to the positive square root of a sum of terms, the terms being the variances or co-variances of these other quantities weighted according to how the measurement result varies with changes in these quantities. The term standard uncertainty is the result of a measurement expressed as a standard deviation.

*The Expanded Uncertainty* defines an interval about the result of a measurement that may be expected to encompass a large fraction of the distribution of values that could reasonably be attributed to the measurement and the fraction may be viewed as the coverage probability or level of confidence of the interval.

### 1.6.1 Sample Calculation – radiated & conducted emissions

The field strength is calculated by subtracting the Amplifier Gain and adding the Cable Loss and Antenna Correction Factor to the measured reading. The basic equation is as follows:

$$\text{Field Strength (dB}\mu\text{V/m)} = \text{RAW} - \text{AMP} + \text{CBL} + \text{ACF}$$

Where: RAW = Measured level before correction (dB $\mu$ V)

AMP = Amplifier Gain (dB)

CBL = Cable Loss (dB)

ACF = Antenna Correction Factor (dB/m)

$$\mu\text{V/m} = 10^{\frac{\text{dB}\mu\text{V/m}}{20}}$$

#### Sample radiated emissions calculation @ 30 MHz

**Measurement +Antenna Factor–Amplifier Gain+Cable loss=Radiated Emissions (dBuV/m)**

$$25 \text{ dBuV/m} + 17.5 \text{ dB} - 20 \text{ dB} + 1.0 \text{ dB} = 23.5 \text{ dBuV/m}$$

### 1.6.2 Measurement Uncertainty Emissions

Per CISPR 16-4-2	$U_{lab}$	$U_{cisp}$
<b>Radiated Disturbance @ 10 meters</b>		
30 – 1,000 MHz	2.25 dB	4.51 dB
<b>Radiated Disturbance @ 3 meters</b>		
30 – 1,000 MHz	2.26 dB	4.52 dB
1 – 6 GHz	2.12 dB	4.25 dB
6 – 18 GHz	2.47 dB	4.93 dB
<b>Conducted Disturbance @ Mains Terminals</b>		
150 kHz – 30 MHz	1.09 dB	2.18 dB
<b>Disturbance Power</b>		

#### Voltech PM6000A

The estimated combined standard uncertainty for harmonic current and flicker measurements is $\pm 5.0\%$ .	Per CISPR 16-4-2
--	------------------

### 1.6.3 Measurement Uncertainty Immunity

The estimated expanded uncertainty for ESD immunity measurements is $\pm 8.2\%$ .	Per IEC 61000-4-2
The estimated expanded uncertainty for radiated immunity measurements is $\pm 4.10$ dB.	Per IEC 61000-4-3
The estimated expanded uncertainty for EFT fast transient immunity measurements is $\pm 5.84\%$ .	Per IEC 61000-4-4
The estimated expanded uncertainty for surge immunity measurements is $\pm 5.84\%$ .	Per IEC 61000-4-4
The estimated expanded uncertainty for conducted immunity measurements with CDN is $\pm 3.66$ dB	Per IEC 61000-4-6
The estimated expanded uncertainty for power frequency magnetic field immunity is $\pm 11.6\%$ .	Per IEC 61000-4-8
The estimated expanded uncertainty for voltage variation and interruption measurements is $\pm 3.48\%$ .	Per IEC 61000-4-11

The expanded uncertainty at a level of 95% confidence is obtained by multiplying the combined standard uncertainty by a coverage factor of 2. Compliance criteria are not based on measurement uncertainty.

## 1.7 Calibration Traceability

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST). Measurement method complies with ANSI/NCSL Z540-1-1994 and ISO Standard 17025:2017. Equipment calibration records are kept on file at the test facility.

## 1.8 Measurement Equipment Used

Equipment	Manufacturer	Model #	Serial/Inst #	Last Cal mm/dd/yyyy	Next Cal mm/dd/yyyy
Spectrum Analyzer	Rohde & Schwarz	FSU26.5	200050	11/20/2018	11/20/2019
Spectrum Analyzer	Rohde & Schwarz	FSU8	101358	12/07/2018	12/07/2019
EMI Receiver	Rohde & Schwarz	ESIB40	100180	05/31/2018	05/31/2020
L.I.S.N.	Com-Power	LI-215	192000	01/16/2019	01/16/2020
Transient Limiter	Com-Power	LIT-930	531582	01/16/2019	01/16/2020
EMI Receiver	Agilent	MXE N9038A	MY51210195	01/16/2019	01/16/2020
Preamplifier, 9 kHz – 1 GHz	Sonoma	310N	213221	01/16/2019	01/16/2020
Bilog Antenna	Sunol Sciences	JB3	A060502	05/27/2018	05/27/2020
Amplifier	Miteq	TTA1800-30-HG	1842452	01/15/2019	01/15/2020
Horn Antenna	Sunol Sciences	DRH-118	A040806	03/05/2019	03/05/2020
Amplifier	HP	8449B	3008A01013	01/15/2019	01/15/2020
Amplifier	Sonoma	310N	185516	N/A (See Note)	
1.6 GHz Low Pass Filter	K&L Microwave	8L120-X1600-0/09135-0249	UA691-35	N/A (See Note)	
3.5 GHz High Pass Filter	Hewlett Packard	84300-80038	820004	N/A (See Note)	

Note: CE=Conducted Emissions, CI=Conducted Immunity, DP=Disturbance Power, EFT=Electrical Fast Transients, ESD=Electrostatic Discharge, FLI=Flicker, HAR=Harmonics, MF=Magnetic Field Immunity, NCR=No Calibration Required, RE=Radiated Emissions, RI=Radiated Immunity, SI=Surge Immunity, VDSI=Voltage Dips and Short Interruptions

## 2 Product Information

### 2.1 Product Description

See Section 4.

### 2.2 Equipment Modifications

No modifications were needed to bring product into compliance.

### 2.3 Test Plan

The EUT product information, test configuration, mode of operation, test types, test procedures, test levels, pass/failure criteria, in this report were carried out per the product test plan located in Appendix A of this report.

## 3 Emissions

### 3.1 Radiated Emissions

This test measures the electromagnetic levels of spurious signals generated by the EUT that radiated from the EUT and may affect the performance of other nearby electronic equipment.

#### 3.1.1 Overview of Test

<b>Results</b>	Compliant (as tested per this report)			<b>Test Date(s)</b>	August 14th, 2019 to August 23rd, 2019			
<b>Standard</b>	FCC Part 15 Subpart B: 2019							
<b>Model Number</b>	A			<b>Serial #</b>	N/A			
<b>Configuration</b>	Unintentional Radiated Emissions							
<b>Test Setup</b>	Tested in the 10-meter Semi-Anechoic chamber, placed on table: see test plan for details.							
<b>EUT Powered By</b>								
<b>Environmental Conditions</b>	August 13 <sup>th</sup> , 2019	<b>Temp</b>	21.1° C	<b>Humidity</b>	38.8%	<b>Pressure</b>	1017 mbar	
<b>Frequency Range</b>	30 MHz to 18 GHz							
<b>Perf. Criteria</b>	Class B		<b>Perf. Verification</b>	Readings under limit				
<b>Mod. to EUT</b>	None		<b>Test Performed By</b>	Osvaldo Casorla				

#### 3.1.2 Test Procedure

Unintentional Radiated emissions tests were performed using the procedures of ANSI C63.4:2014 including methods for signal maximizations and EUT configuration. The photos included with the report show the EUT in its maximized configuration.

The frequency range from 30 MHz to 18 GHz was investigated for radiated emissions.

#### 3.1.3 Deviations

There were no deviations from the test methodology listed in the test plan for the radiated emission test.

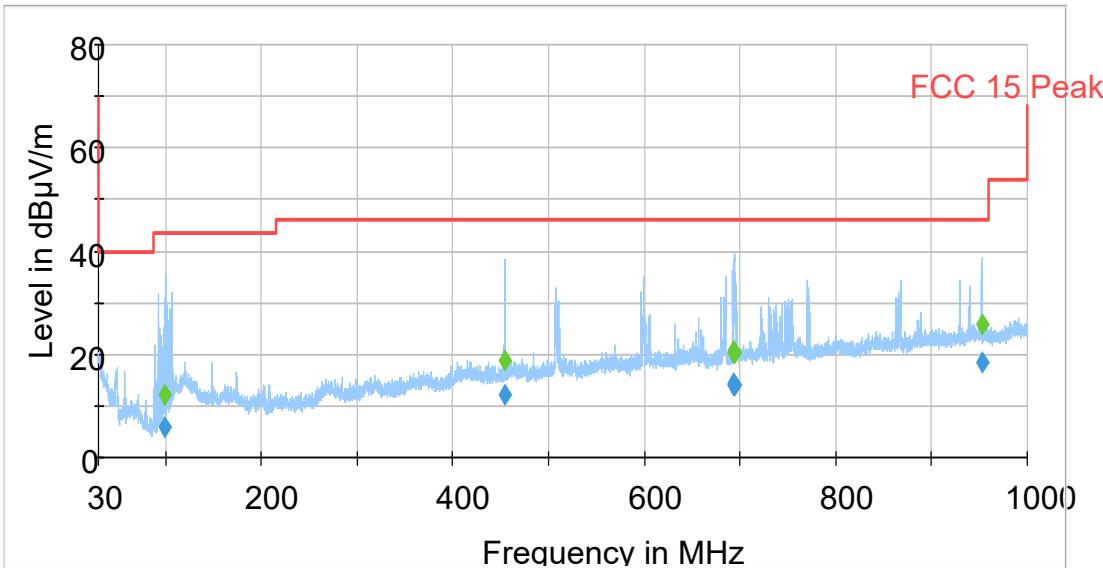
#### 3.1.4 Final Test

All final radiated emissions measurements were below the specification limits.

### 3.1.5 Plots

NOTES:

**Radiated Emissions Full Scan**  
**30 MHz – 1000 MHz**  
**Vertical / Horizontal**



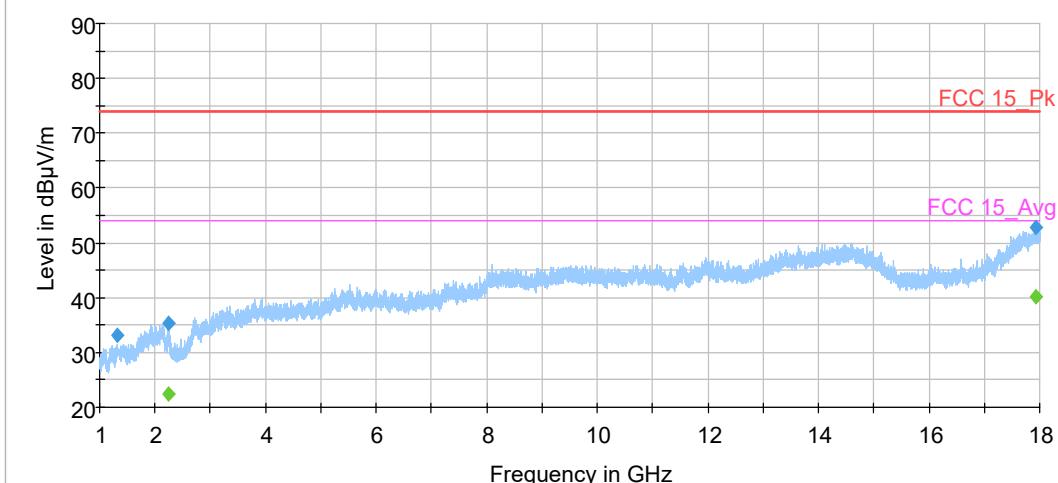
### 3.1.6 Final Tabulated Data

30 MHz – 1000 MHz

Frequency (MHz)	QuasiPeak (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
99.79	5.95	43.52	37.57	1000.0	120.000	155.0	V	175.0	-16.2
454.39	12.25	46.00	33.75	1000.0	120.000	101.0	V	180.0	-8.4
693.25	14.30	46.00	31.70	1000.0	120.000	200.0	V	179.0	-5.1
693.76	13.95	46.00	32.05	1000.0	120.000	101.0	V	175.0	-5.1
694.25	14.06	46.00	31.94	1000.0	120.000	100.0	V	175.0	-5.0
952.62	18.56	46.00	27.44	1000.0	120.000	200.0	V	180.0	-0.2

NOTES:

**Radiated Emissions Full Scan**  
**1000 MHz – 18,000 MHz**  
**Vertical / Horizontal**



### 3.1.1 Final Tabulated Data

1000 MHz – 18,000 MHz

Frequency (MHz)	MaxPeak (dB $\mu$ V/m)	Average (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1313.60	33.05	---	74.00	40.95	1000.0	1000.000	200.0	V	-28.0	-35.4
1313.60	---	19.62	54.00	34.38	1000.0	1000.000	200.0	V	-28.0	-35.4
2247.07	35.42	---	74.00	38.58	1000.0	1000.000	250.0	H	-180.0	-31.6
2247.067	---	22.42	54.00	31.58	1000.0	1000.000	250.0	H	-180.0	-31.6
17941.11	---	40.14	54.00	13.86	1000.0	1000.000	150.0	V	97.0	-6.9
17941.11	52.77	---	74.00	21.23	1000.0	1000.000	150.0	V	97.0	-6.9

### 3.1.2 Photos

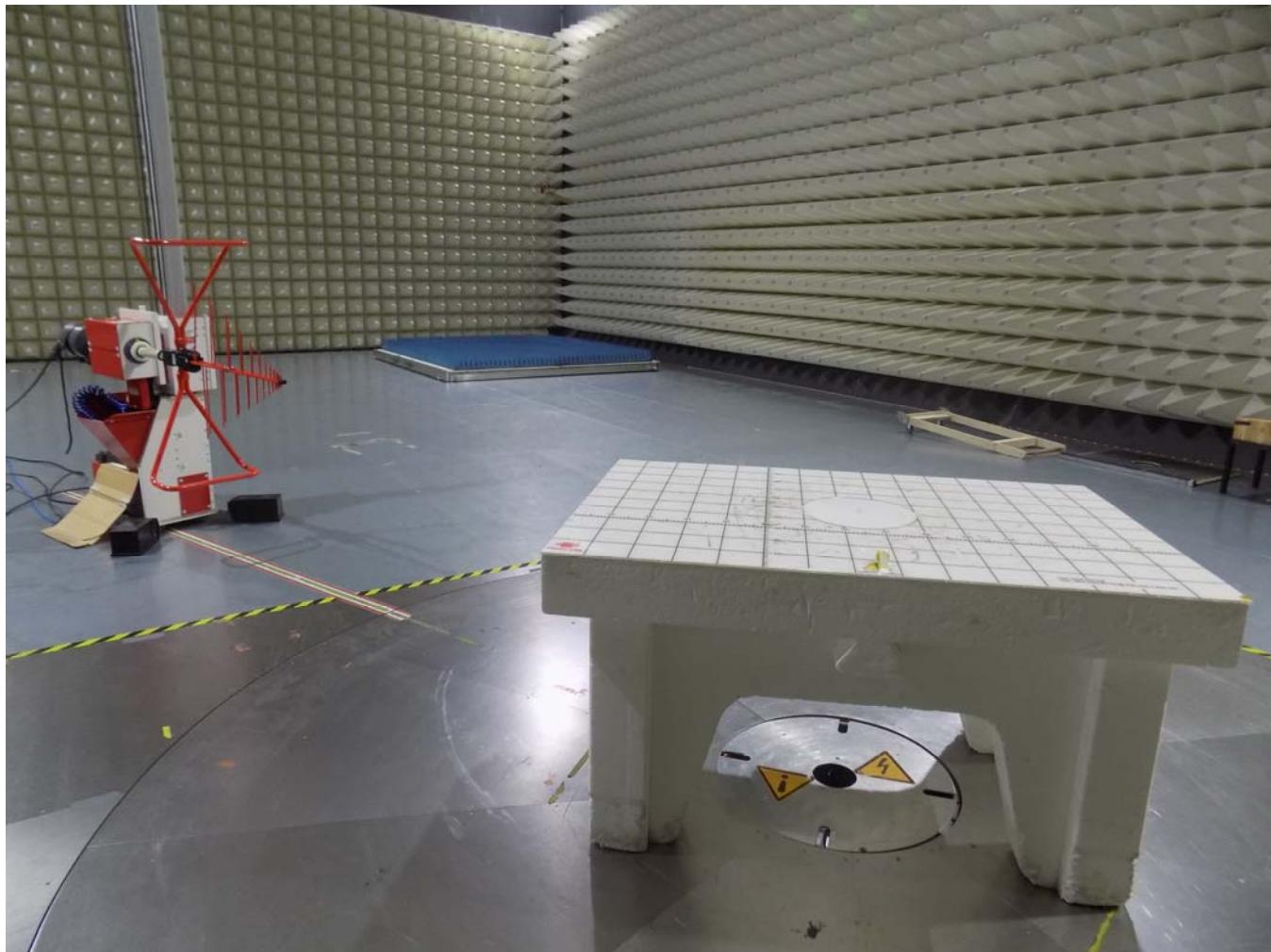


Figure 1 - Radiated Emissions Test Setup 30 - 1000 MHz – Front

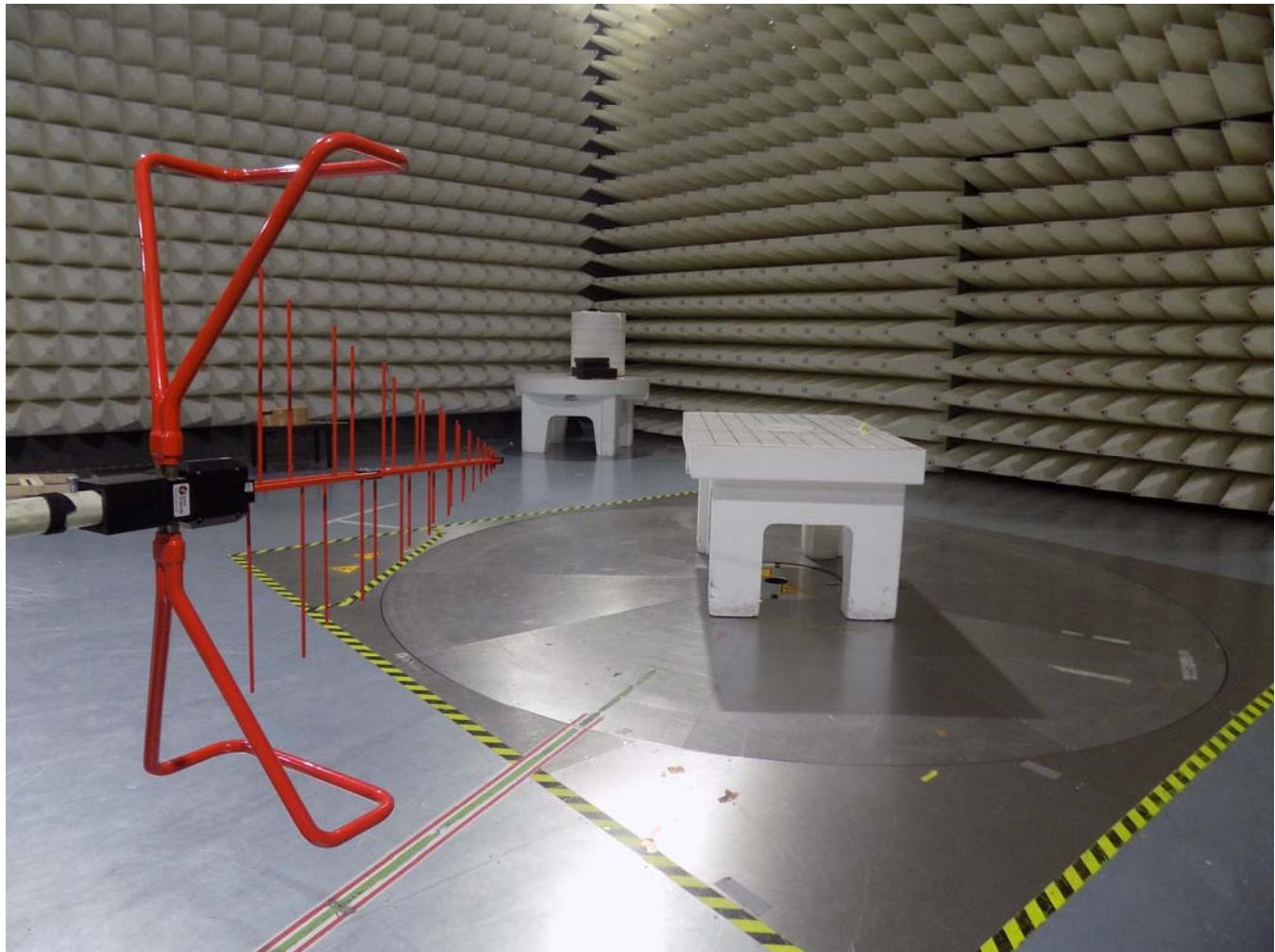


Figure 2 - Radiated Emissions Test Setup 30 - 1000 MHz - Back

## Appendix A

### 4 Test Plan

This test report is intended to follow this test plan outlined here in unless otherwise stated in this report. The following test plan will give details on product information, standards to be used, test set ups and refer to TUV test procedures. The test procedures will give the steps to be taken when performing the stated test. The product information below came via client, product manual, product itself and or the internet.

#### 4.1 General Information

<b>Client</b>	JAET2L Holdings
<b>Address</b>	8555 Hollyhock St. Lafayette, CO 80026, USA

#### 4.2 EUT Designation

<b>Model Name</b>	Accelerometer Sensor
<b>Model Number(s)</b>	A, ISS001US

#### 4.3 EUT Description

Configuration	Description
1	TX mode
<b>Notes</b>	Bluetooth BLE

#### 4.4 Equipment Under Test (EUT) Description

The EUT operates in 2.4GHz Bluetooth BLE in a continuous transmissions mode.

#### 4.5 Product Environment(s)

<input checked="" type="checkbox"/>	Domestic/Residential	<input type="checkbox"/>	Hospital
<input type="checkbox"/>	Light Industrial/Commercial	<input type="checkbox"/>	Small Clinic
<input type="checkbox"/>	Industrial	<input type="checkbox"/>	Doctor's office
<input type="checkbox"/>	Telecommunications Center	<input type="checkbox"/>	Other than Telecommunications Center
<input type="checkbox"/>	Other		

\*Check all that apply

#### 4.6 Applicable Documents

Standards	Description
FCC Part 15 Subpart B: 2019	Radiated Emissions

#### 4.7 EUT Electrical Power Information

Name	# of Phases	Type	Input Voltage		AC Voltage Frequency	Current Max.	Power
			Min	Max			
DC powered	1 <input type="checkbox"/> 3 <input type="checkbox"/> None <input checked="" type="checkbox"/>	AC <input type="checkbox"/> DC <input checked="" type="checkbox"/> Host <input type="checkbox"/> Batteries <input type="checkbox"/>	-	3	-	-	-
Notes							

#### 4.8 EUT Clock/Oscillator Frequencies

Reference Designation	Speed (MHz)	Type
Highest oscillator	< 108	<input checked="" type="checkbox"/> Oscillator <input type="checkbox"/> Microprocessor

##### 4.8.1 Radiated Emissions, Upper Frequency

<input checked="" type="checkbox"/>	<b>Less than 108 MHz</b>	<b>Scan to 1 GHz</b>
<input type="checkbox"/>	<b>Less than 500 MHz</b>	<b>Scan to 2 GHz</b>
<input type="checkbox"/>	<b>Less than 1000 MHz</b>	<b>Scan to 5 GHz</b>
<input type="checkbox"/>	<b>Greater than 1000 MHz</b>	<b>Scan to 5<sup>th</sup> Harmonic or 40 GHz (whichever is lower)</b>

#### 4.9 Electrical Support Equipment

Reference Designation	Manufacturer	Model	Serial Number	BSMI #
N/A	N/A	N/A	N/A	N/A

#### 4.10 Non - Electrical Support Equipment N/A

Reference Designation	Manufacturer	Model	Serial Number or Description (e.g., Type of Gas or Liquid)
N/A	N/A	N/A	N/A

#### 4.11 EUT Equipment/Cabling Information N/A

EUT Port	Connected To	Cable Type			
		Length (Meters)	Shielded Yes / No	Bead Yes / No	
N/A	N/A	N/A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### **4.12 EUT Test Program**

nRFgo Studio – Direct Test Mode UART interface.

#### **4.13 EUT Modes of Operation**

Continuous transmission mode.

#### **4.14 Monitoring of EUT during Testing**

The EUT will be monitored by visual observation using a spectrum analyzer.

Prior to each tests the EUT is set to idle mode with no transmission.

#### **4.15 EUT Configuration**

EUT is configured in normal operational mode and set to a continuous data traffic using software nRFgo Studio – Direct Test Mode UART interface.

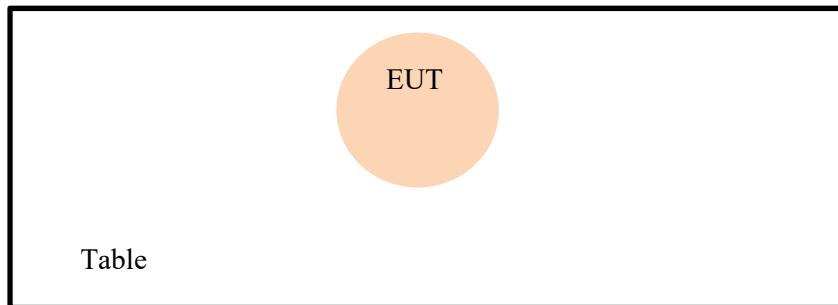
#### **4.16 Description**

Configuration	Description
Tabletop	EUT is a standalone equipment placed on tabletop
Notes	

#### **4.17 Subassemblies**

Reference Designation	Manufacturer	Model No.	Revision	Serial No.	Description
N/A					

#### **4.17.1 Block Diagram**



## 4.18 Emissions

### 4.18.1 Radiated Emissions

#### 4.18.1.1 Preliminary Radiated Emissions Test Setup

<b>Standard</b>	FCC Part 15 Subpart B: 2019		<b>Procedure</b>	ANSI C63.4	
<b>Limit</b>	Class B	<b>Emissions Verification</b>		Emissions Under Limit	
<b>Frequency Range</b>	30 MHz – 18 GHz				
<b>Scan #1</b>	Final Scan 30 – 1000 MHz	<b>Antenna Distance</b>	3m	<b>Detector</b>	Peak Scan
<b>Scan #2</b>	Final Scan 1 – 18 GHz	<b>Antenna Distance</b>	3m	<b>Detector</b>	N/A
<b>Configuration</b>	See Section 4.16				
<b>Notes</b>	None				

**4.18.1.2 Final Radiated Emissions Test Setup**

<b>Standard</b>	FCC Part 15 Subpart B: 2019		<b>Procedure</b>		ANSI C63.4
<b>Limit</b>	Class B	<b>Emissions Verification</b>		Emissions Under Limit	
<b>Frequency Range</b>	30 MHz – 18 GHz				
<b>Scan #1</b>	Final Scan 30 – 1000 MHz	<b>Antenna Distance</b>	3m	<b>Detector</b>	Quasi Peak
<b>Scan #2</b>	Final Scan 1 – 18 GHz	<b>Antenna Distance</b>	3m	<b>Detector</b>	Peak/Average
<b>Configuration</b>	See Section 4.16				
<b>Notes</b>	None				

## **Appendix B**

### **5 Modification(s)**

N/A

**END OF REPORT**