

RF TEST REPORT



Report No.: FCC_IC_RF_SL17080301-SHU-008_MXC620-F
Supersede Report No.: NONE

Applicant	:	Shure Incorporated
Product Name	:	6000 Wired Discussion System
Model No.	:	MXC620-F
Test Standard	:	FCC 15.225 RSS-210 Issue 9: 2016
Test Method	:	FCC 15.225 ANSI C63.10 2013 RSS Gen Issue 4 2014
FCC ID	:	DD4MXCNFC1
IC ID	:	616A-MXCNFC1
Dates of test	:	12/12/2017 – 12/15/2017
Issue Date	:	02/12/2018
Test Result	:	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Equipment complied with the specification		[X]
Equipment did not comply with the specification		[]

This Test Report is Issued Under the Authority of:

Rachana Khanduri	Chen Ge
Test Engineer	Engineer Reviewer
This test report may be reproduced in full only Test result presented in this test report is applicable to the tested sample only	

Issued By:

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Laboratory Introduction

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Accreditations for Conformity Assessment

Country/Region	Accreditation Body	Scope
USA	FCC, A2LA	EMC, RF/Wireless, Telecom
Canada	IC, A2LA, NIST	EMC, RF/Wireless, Telecom
Taiwan	BSMI, NCC, NIST	EMC, RF, Telecom, Safety
Hong Kong	OFTA, NIST	RF/Wireless, Telecom
Australia	NATA, NIST	EMC, RF, Telecom, Safety
Korea	KCC/RRA, NIST	EMI, EMS, RF, Telecom, Safety
Japan	VCCI, JATE, TELEC, RFT	EMI, RF/Wireless, Telecom
Mexico	NOM, COFETEL, Caniety	EMC, RF/Wireless, Telecom, Safety
Europe	A2LA, NIST	EMC, RF, Telecom, Safety
Israel	MOC, NIST	EMC, RF, Telecom, Safety

Accreditations for Product Certifications

Country	Accreditation Body	Scope
USA	FCC TCB, NIST	EMC, RF, Telecom
Canada	IC FCB, NIST	EMC, RF, Telecom
Singapore	iDA, NIST	EMC, RF, Telecom
EU	NB	EMC & Radio Equipment Directive (RED)
Japan	MIC (RCB 208)	RF, Telecom
Hong Kong	OFTA (US002)	RF, Telecom

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1 Report Revision History

Report No.	Report Version	Description	Issue Date
FCC_IC_RF_SL17080301-SHU-008_MXC620-F	None	Original	02/12/2018

2 Executive Summary

The purpose of this test program was to demonstrate compliance of following product

Company: Shure Incorporated
Product: 6000 Wired Discussion System
Model: MXC620-F

against the current Stipulated Standards. The specified model product stated above has demonstrated compliance with the Stipulated Standard listed on 1st page.

3 Customer information

Applicant Name	:	Shure Incorporated
Applicant Address	:	5800 Touhy Ave, Niles, IL 60714 USA
Manufacturer Name	:	Shure Incorporated
Manufacturer Address	:	5800 Touhy Ave, Niles, IL 60714 USA

4 Test site information

Lab performing tests	:	SIEMIC Laboratories
Lab Address	:	775 Montague Expressway, Milpitas, CA 95035
FCC Test Site No.	:	881796
IC Test Site No.	:	4842D-2
VCCI Test Site No.	:	A0133

5 Modification

Index	Item	Description	Note
-	-	-	-

6 EUT Information

6.1 EUT Description

Product Name	:	6000 Wired Discussion System
Model No.	:	MXC620-F
Trade Name	:	SHURE
Serial No.	:	N/A
Input Power	:	3.6VDC
Hardware version	:	N/A
Software version	:	N/A
Date of EUT received	:	11/12/2017
Equipment Class/ Category	:	DCD
Working Frequencies	:	13.56MHz
Port/Connectors	:	Microphone Connector, RJ45 (input and output), 3.5mm audio jack

6.2 Radio Description

Specifications for Radio:

Radio Type	RFID
Operating Frequency	13.56MHz
Modulation	ASK (13.56MHz)
Channel Spacing	None
Antenna Type	PCB
Antenna Gain	-39.9 dBi (NFC Coupler)
Antenna Connector Type	N/A

Channel List:

Type	Mode	Channel No.	Frequency (MHz)	Available (Y/N)
RFID	13.56MHz	1	13.56	Y

6.3 EUT test modes/configuration Description

Mode	Note
RF test	EUT is set to continuously transmit at 13.56MHz.
Note: None	

Test Item	Operating mode	Tested antenna port	Test frequencies
Antenna Requirement	N/A	-	13.56MHz
Conducted Emissions Voltage	Continuous Transmit	-	
Limit in the band of 13.553 – 13.567 MHz	Continuous Transmit	-	
Limit in the band of 13.410 – 13.553 MHz and 13.567 – 13.710 MHz	Continuous Transmit	-	
Limit in the band of 13.110 – 13.410 MHz and 13.710 – 14.010 MHz	Continuous Transmit	-	
Limit outside the band of 13.110 – 14.010 MHz	Continuous Transmit	-	
Frequency Stability	Continuous Transmit	-	
Occupied Bandwidth	Continuous Transmit	-	

Note: EUT uses a PCB trace antenna attached to the PCB board. Only radiated measurements were performed during the test.

6.4 EUT Photos – External



EUT with Microphone



EUT – Microphone Detached View



EUT – Top View



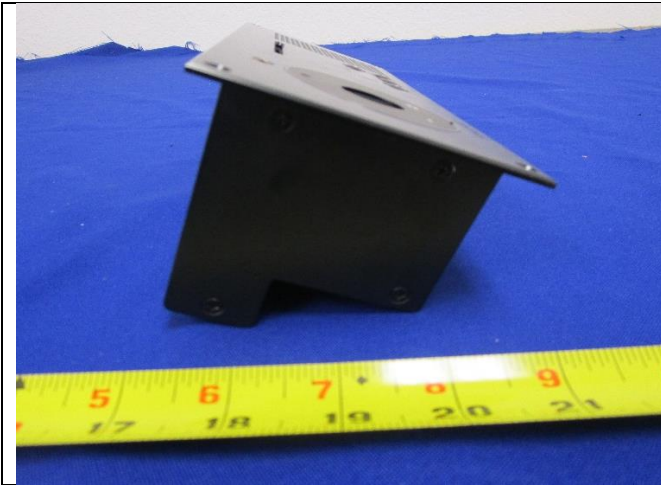
EUT – Bottom View



EUT – Front View



EUT – Rear View



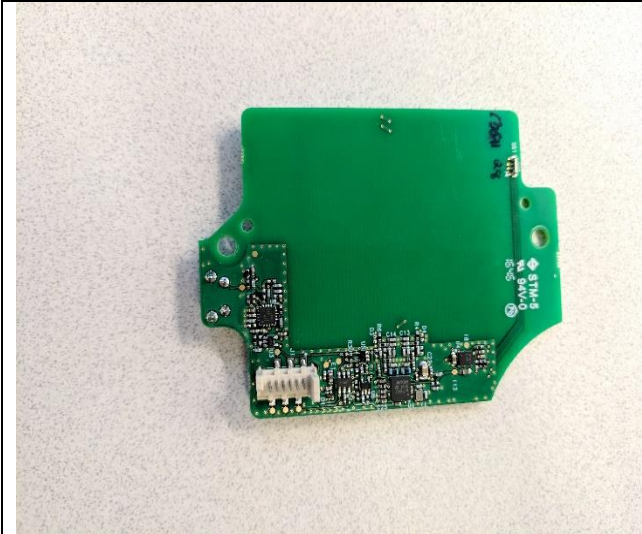
EUT – Left side View



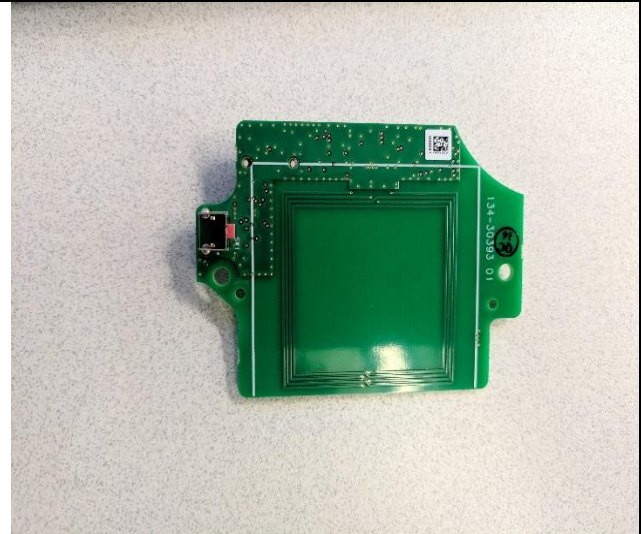
EUT – Right side View

6.5 EUT Photos – Internal

Module:

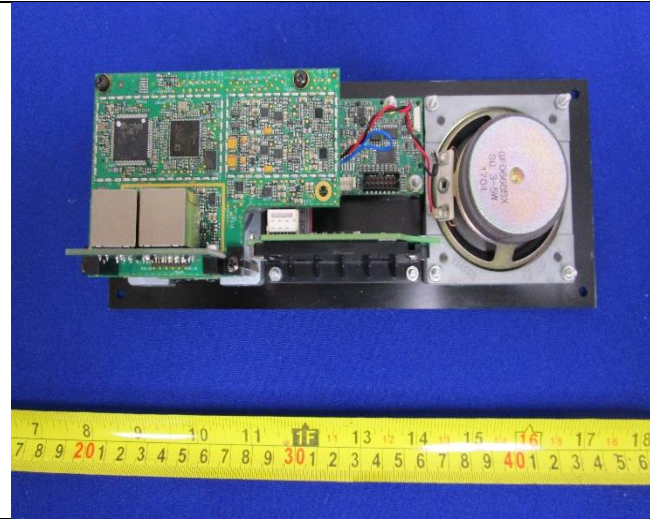


NFC PCBA -Top View

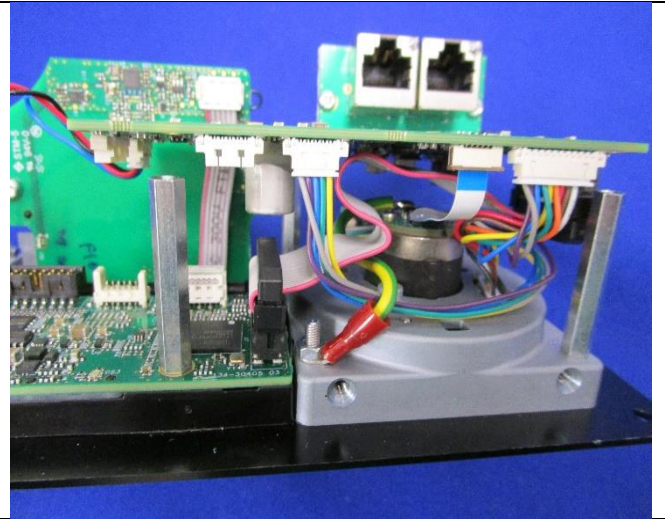


NFC PCBA-Bottom View

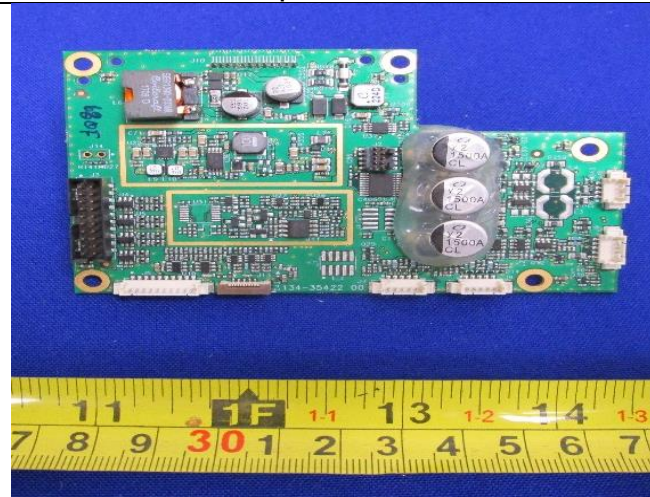
Host:



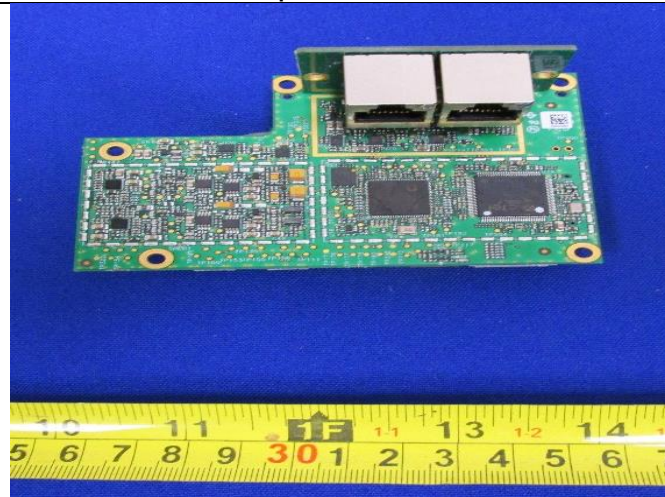
EUT Open Case View 1



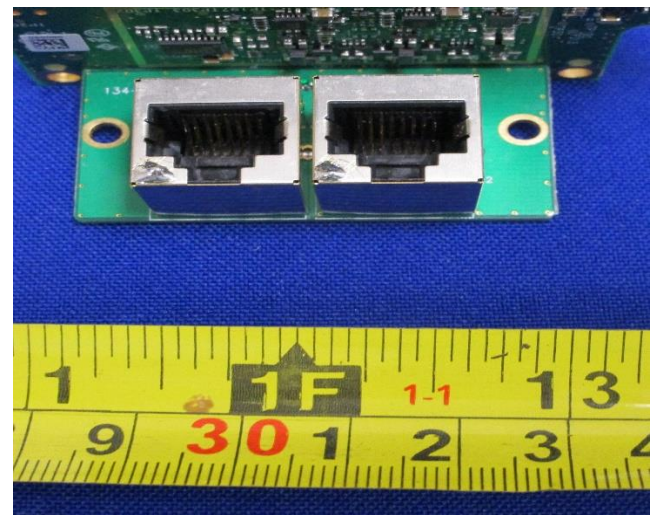
EUT Open Case View 2



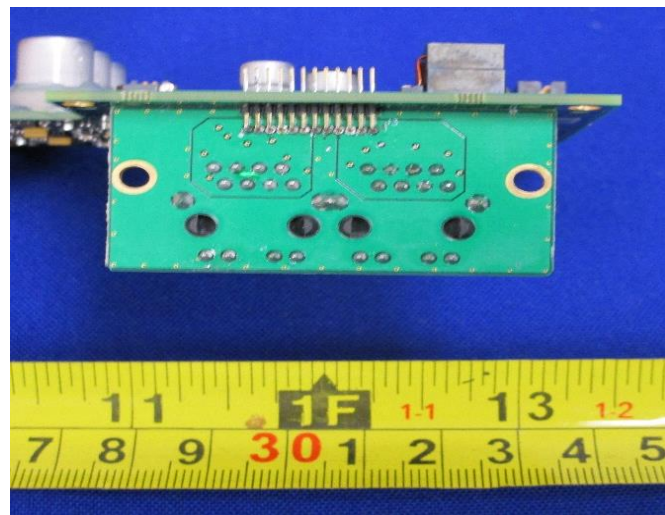
PCB Board 1 Top View



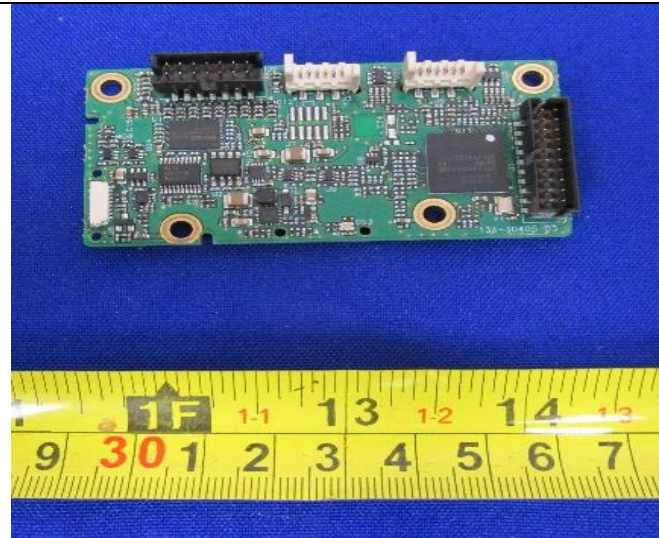
PCB Board 1 Bottom View



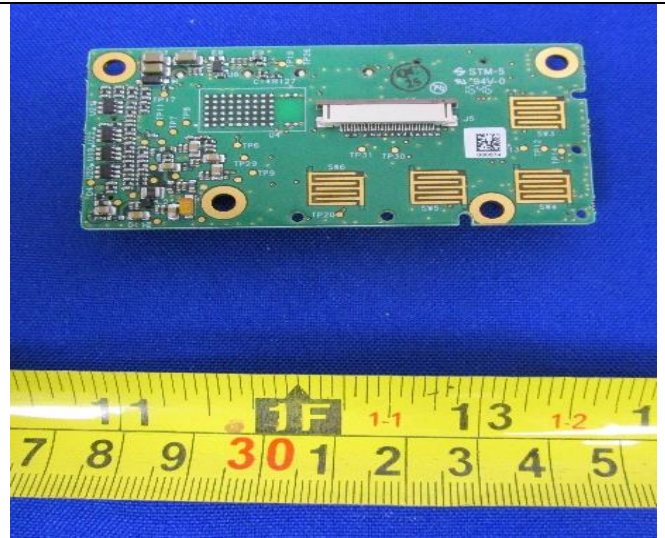
PCB Board 2 Top View



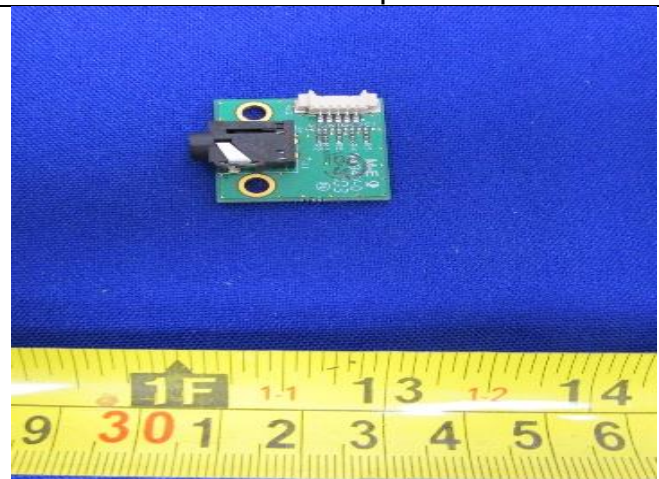
PCB Board 2 Bottom View



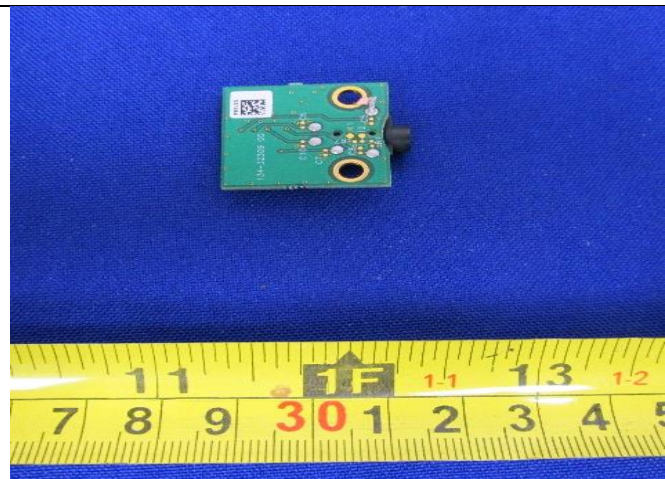
PCB Board 3 Top View



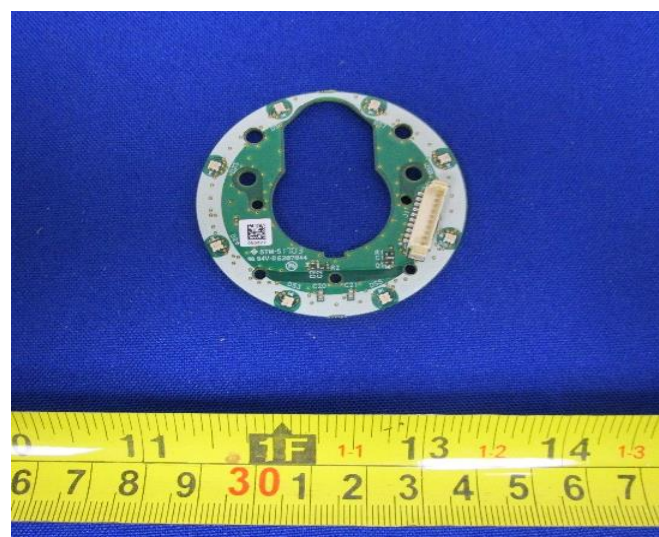
PCB Board 3 Bottom View



PCB Board 4 Top View



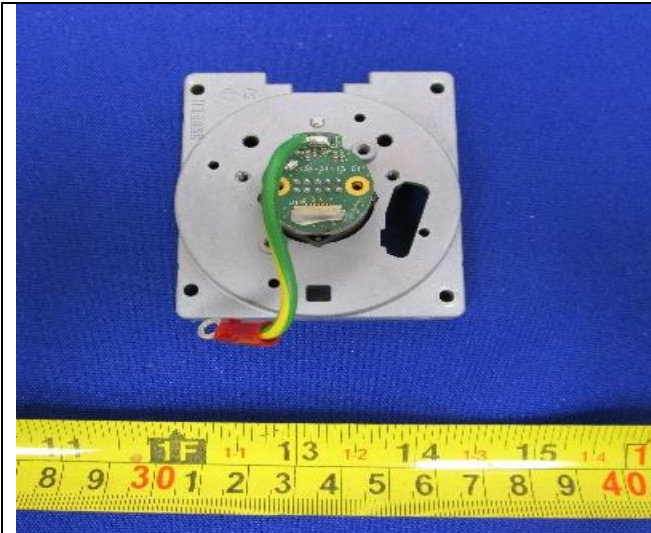
PCB Board 4 Bottom View



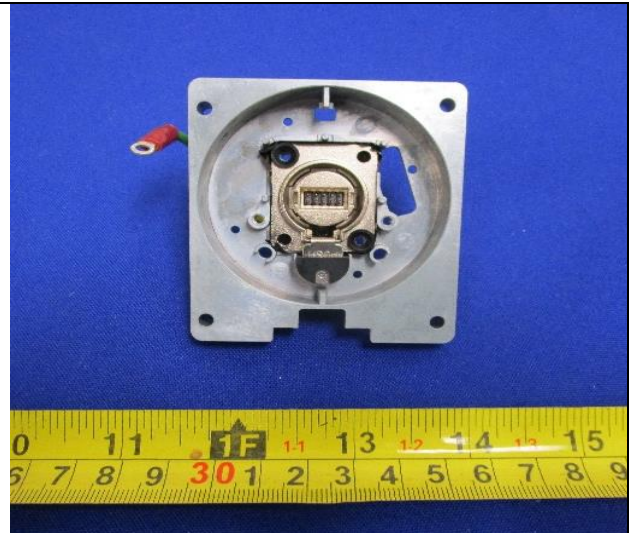
PCB Board 5 Top View



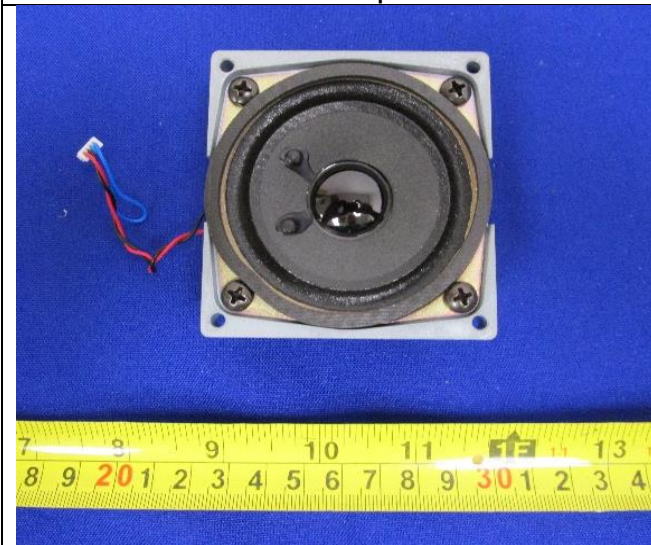
PCB Board 5 Bottom View



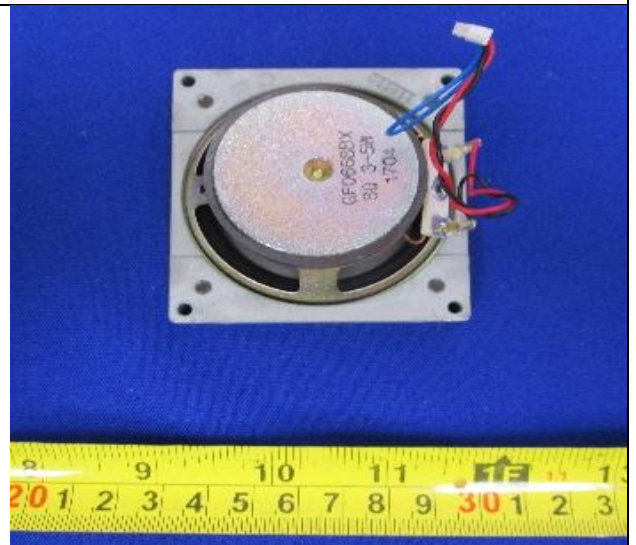
PCB Board 6 Top View



PCB Board 6 Bottom View

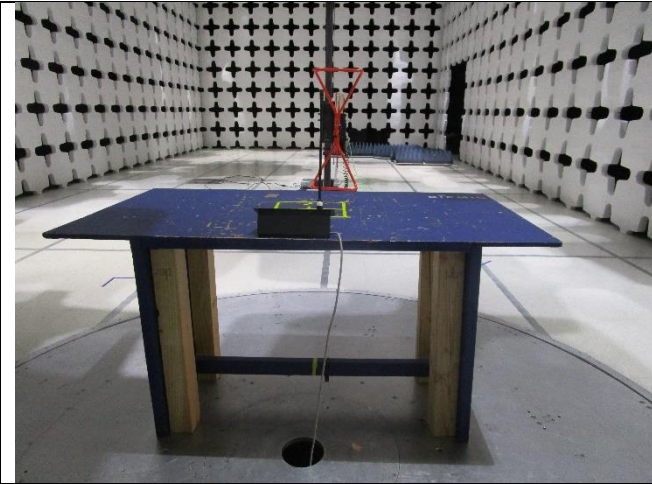


Speaker Top View

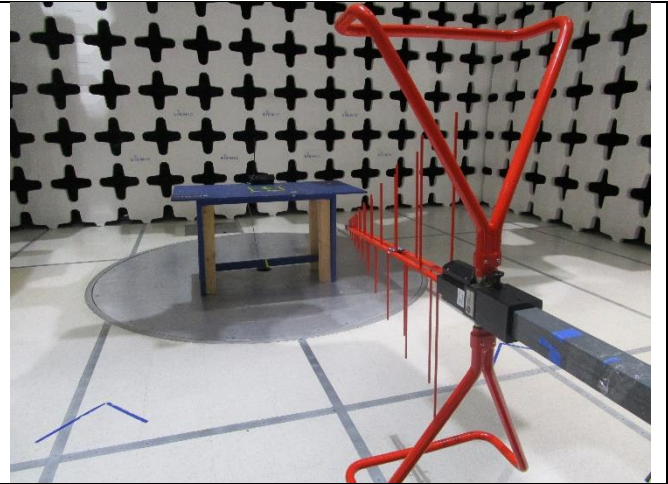


Speaker Bottom View

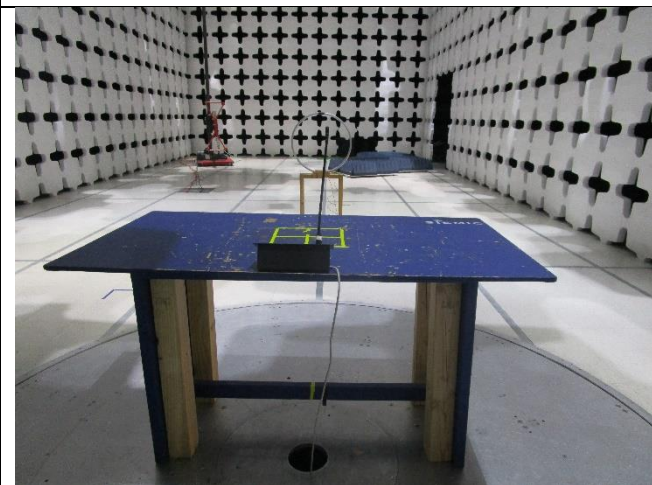
6.6 EUT Test Setup Photos



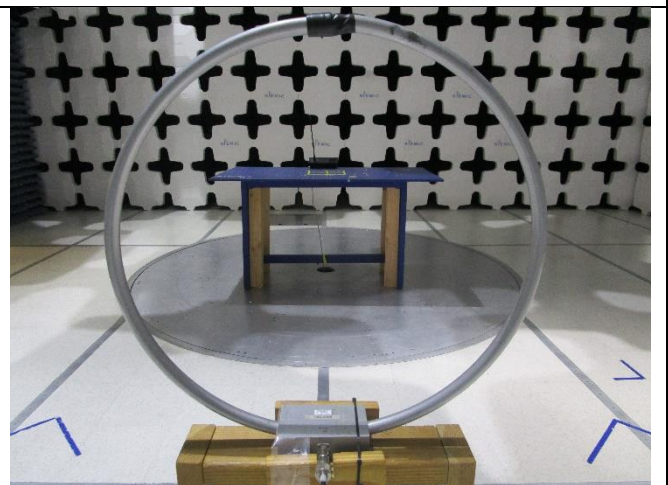
Radiated Emissions (<1GHz) – Front View



Radiated Emissions (<1GHz) – Rear View



Radiated Emissions (<30MHz) – Front View



Radiated Emissions (<30MHz) – Rear View

7 Supporting Equipment/Software and cabling Description

7.1 Supporting Equipment

Index	Supporting Equipment Description	Model	Serial No	Manu	Note
1	Laptop	PP01L Latitude E5440	F1WPF12	Dell	-
2	Central Control Unit	DIS-CCU	1723-02D	SHURE	-

7.2 Cabling Description

Name	Connection Start		Connection Stop		Length / shielding Info		Note
	From	I/O Port	To	I/O Port	Length (m)	Shielding	
RJ45	Central Control Unit	RJ45	EUT	RJ45	2	Unshielded	-

7.3 Test Software Description

Test Item	Software	Description
RF Testing	Tera Term	Set the EUT to transmit continuously in different test mode

8 Test Summary

Test Item	Test standard		Test Method/Procedure	Pass / Fail
Antenna Requirement	FCC	15.203	ANSI C63.10 – 2013 558074 D01 DTS Meas. Guidance v03r02	<input checked="" type="checkbox"/> Pass
	IC			<input type="checkbox"/> N/A
AC Conducted Emissions Voltage	FCC	15.225(a)	ANSI C63.10 2013 RSS Gen. 8.8	<input checked="" type="checkbox"/> Pass*
	IC	RSS Gen (7.2.2)		<input type="checkbox"/> N/A
Remark	1. AC Line tests were performed on the support equipment's power adapter, laptop.			

Test Item	Test standard		Test Method/Procedure	Pass / Fail	
Limit in the band of 13.553 – 13.567 MHz	FCC	15.225(a)	FCC	ANSI C63.10 2013	<input checked="" type="checkbox"/> Pass
	IC	RSS210(A2.6)	IC	RSS Gen 6.13	<input type="checkbox"/> N/A
Limit in the band of 13.410 – 13.553 MHz and 13.567 – 13.710 MHz	FCC	15.225(b)	FCC	ANSI C63.10 2013	<input checked="" type="checkbox"/> Pass
	IC	RSS210(A2.6)	IC	RSS Gen 6.13	<input type="checkbox"/> N/A
Limit in the band of 13.110 – 13.410 MHz and 13.710 – 14.010 MHz	FCC	15.225(c)	FCC	ANSI C63.10 2013	<input checked="" type="checkbox"/> Pass
	IC	RSS210(A2.6)	IC	RSS Gen 6.13	<input type="checkbox"/> N/A
Limit outside the band of 13.110 – 14.010 MHz	FCC	15.225(d), 15.209	FCC	ANSI C63.10 2013	<input checked="" type="checkbox"/> Pass
	IC	RSS210(A2.6)	IC	RSS Gen 6.13	<input type="checkbox"/> N/A
Receiver Spurious Emission	IC	-	IC	RSS Gen 7.1	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Frequency Stability	FCC	15.225(e)	FCC	-	<input checked="" type="checkbox"/> Pass*
	IC	RSS210(A2.6)	IC	RSS Gen 6.11	<input type="checkbox"/> N/A
Occupied Bandwidth	FCC	-	FCC	-	<input checked="" type="checkbox"/> Pass*
	IC	RSS-210(5.9.1)	IC	RSS Gen 6.6	<input type="checkbox"/> N/A
Remark	<ol style="list-style-type: none"> All measurement uncertainties are not taken into consideration for all presented test result. The applicant shall ensure frequency stability by showing that an emission is maintained within the band of operation under all normal operating conditions as specified in the user's manual. Pass* - Please refer to test report FCC_IC_RF_SL17080301-SHU-008_MXC620. 				

9 Measurement Uncertainty

9.1 Radiated Emissions (30MHz to 1GHz)

The test is to measure the radiated emissions of the EUT.

Some error sources that can contribute to the total uncertainty:

- Uncertainty of the receiver
- Uncertainty of the antenna
- Uncertainty of cables
- Uncertainty due to the mismatches
- NSA Calibration
- Etc., details see the below table

Source of Uncertainty	Value (dB)	Probability Distribution	Division	Sensitivity Coefficient	Expanded Uncertainty
Receiver Reading	0.12	Rectangular	1.732	1	0.069284
Cable Insertion Loss	0.21	Normal	2	1	0.105
Filter Insertion Loss	0.25	Normal	2	1	0.125
Antenna Factor	0.65	Normal	2	1	0.325
Receiver CW accuracy	0.5	Rectangular	1.732	1	0.2886836
Pulse Amplitude Response	1.5	Rectangular	1.732	1	0.86605081
PRF Response	1.5	Rectangular	1.732	1	0.86605081
Mismatch Filter - Receiver	0.25	U-Shape	1.414	1	0.1768033
NSA Calibration	4.0	U-Shape	1.414	1	2.8288543
Combined Standard Uncertainty					3.0059131
Expanded Uncertainty (K=2)					6.0118262

The total derived measurement uncertainty is +/- 6.00 dB.

9.2 Radiated Emissions (1GHz to 40GHz)

The test is to measure the radiated emissions of the EUT.

Some error sources that can contribute to the total uncertainty:

- Uncertainty of the receiver
- Uncertainty of the antenna
- Uncertainty of cables
- Uncertainty due to the mismatches
- VSWR Calibration
- Etc., details see the below table

Source of Uncertainty	Value (dB)	Probability Distribution	Division	Sensitivity Coefficient	Expanded Uncertainty
Receiver Reading	0.12	Rectangular	1.732	1	0.0692840
Cable Insertion Loss	0.21	Normal	2	1	0.1050000
Filter Insertion Loss	0.25	Normal	2	1	0.1250000
Antenna Factor	0.65	Normal	2	1	0.3250000
Receiver CW accuracy	0.5	Rectangular	1.732	1	0.2886836
Pulse Amplitude Response	1.5	Rectangular	1.732	1	0.8660508
PRF Response	1.5	Rectangular	1.732	1	0.8660508
Mismatch Filter - Receiver	0.25	U-Shape	1.414	1	0.1768033
VSWR Calibration	2.0	U-Shape	1.414	1	1.4144272
Combined Standard Uncertainty					4.2363
Expanded Uncertainty (K=2)					8.4726

The total derived measurement uncertainty is +/- 8.47 dB.

9.3 RF conducted measurement

The test is to measure the RF output power from the EUT.

Some error sources that can contribute to the total uncertainty:

- Uncertainty of the Reference Level Uncertainty
- Uncertainty of variable attenuators
- Uncertainty of cables
- Uncertainty due to the mismatches

Source of Uncertainty	Value (dB)	Probability Distribution	Division	Sensitivity Coefficient	Expanded Uncertainty
Reference Level	0.12	Rectangular	1.732	1	0.069284
Cable Insertion Loss	0.21	Normal	2	1	0.105
Attenuator	0.25	Normal	2	1	0.125
Mismatch	0.25	U-Shape	1.414	1	0.1768033
Combined Standard Uncertainty					0.476087
Expanded Uncertainty (K=2)					0.952174

The total derived measurement uncertainty is +/- 0.95 dB.

10 Measurements, examination and derived results

10.1 Antenna Requirement

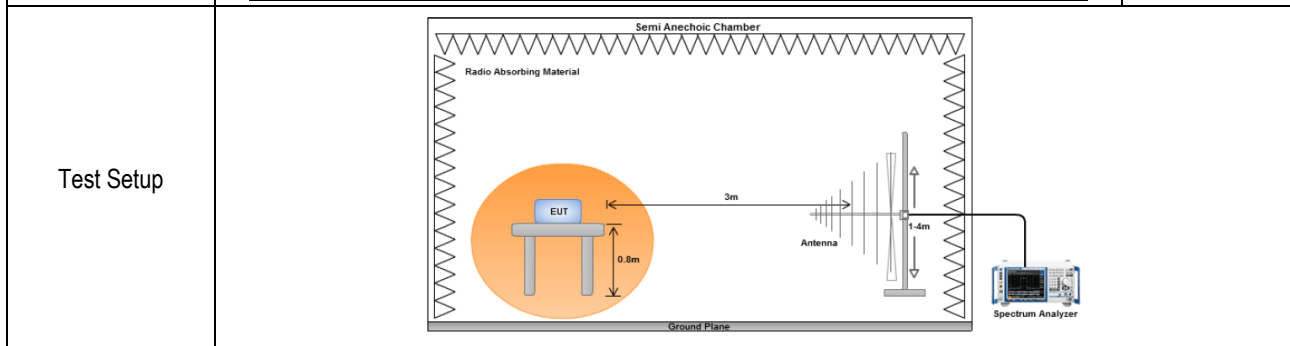
Spec	Requirement	Applicable
§15.203	<p>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.</p> <p>Antenna requirement must meet at least one of the following:</p> <p>a) Antenna must be permanently attached to the device. b) The antenna must use a unique type of connector to attach to the device. c) Device must be professionally installed. The installer shall be responsible for ensuring that the correct antenna is employed by the device.</p>	<input checked="" type="checkbox"/>
Remark	The NFC antenna is integral to the PCB board permanently to the device which meets the requirement (See Internal Photographs submitted as another Exhibit).	
Result	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	

10.2 Radiated Measurements

10.2.1 Radiated Measurements 30MHz to 1GHz

Requirement(s):

Spec	Requirement	Applicable										
47 CFR §15.225 RSS-210 (A2.6)	<p>Operation within the band 13.110–14.010 MHz:</p> <p>(a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.</p> <p>(b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.</p> <p>(c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.</p> <p>(d) The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in §15.209.</p> <table border="1"> <thead> <tr> <th>Frequency range (MHz)</th> <th>Field Strength (uV/m)</th> </tr> </thead> <tbody> <tr> <td>30 – 88</td> <td>100</td> </tr> <tr> <td>88 – 216</td> <td>150</td> </tr> <tr> <td>216 960</td> <td>200</td> </tr> <tr> <td>Above 960</td> <td>500</td> </tr> </tbody> </table>	Frequency range (MHz)	Field Strength (uV/m)	30 – 88	100	88 – 216	150	216 960	200	Above 960	500	☒
Frequency range (MHz)	Field Strength (uV/m)											
30 – 88	100											
88 – 216	150											
216 960	200											
Above 960	500											



Procedure	<ol style="list-style-type: none"> The EUT was switched on and allowed to warm up to its normal operating condition. The test was carried out at the selected frequency points obtained from the EUT characterisation. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: <ol style="list-style-type: none"> Vertical or horizontal polarisation (whichever gave the higher emission level over a full rotation of the EUT) was chosen. The EUT was then rotated to the direction that gave the maximum emission. Finally, the antenna height was adjusted to the height that gave the maximum emission. A Quasi-peak measurement was then made for that frequency point. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.
------------------	--

Test Date	12/13/2017	Environmental conditions	Temperature 20.1°C Relative Humidity 36% Atmospheric Pressure 1026mbar
Remark	-		
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail		

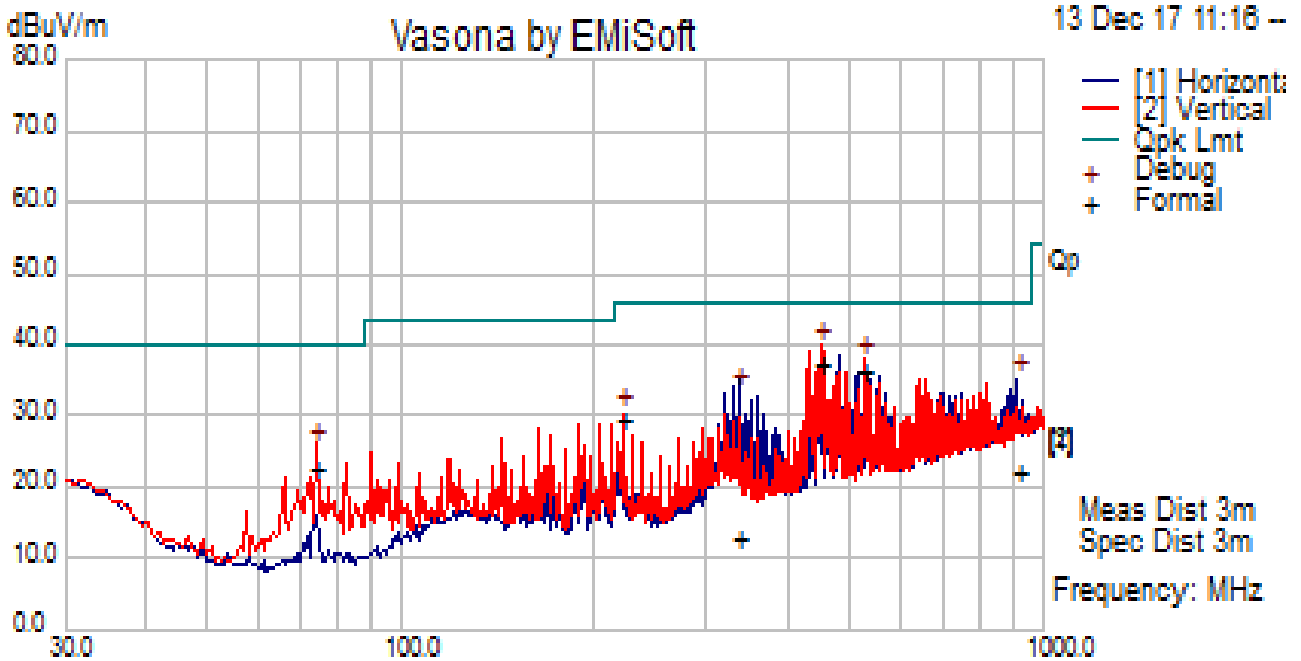
Test Data Yes (See below) N/A

Test Plot Yes (See below) N/A

Test was done by Rachana Khanduri at 10 meter chamber.

Test specification:	Radiated Emissions		
Mains Power:	120VAC, 60Hz		Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Tested by:	Rachana Khanduri		
Test Date:	12/13/2017		
Remarks:	f=30MHz – 1000MHz Measurements at 3m distance		

f=30MHz – 1000MHz plot and 3-meter distance

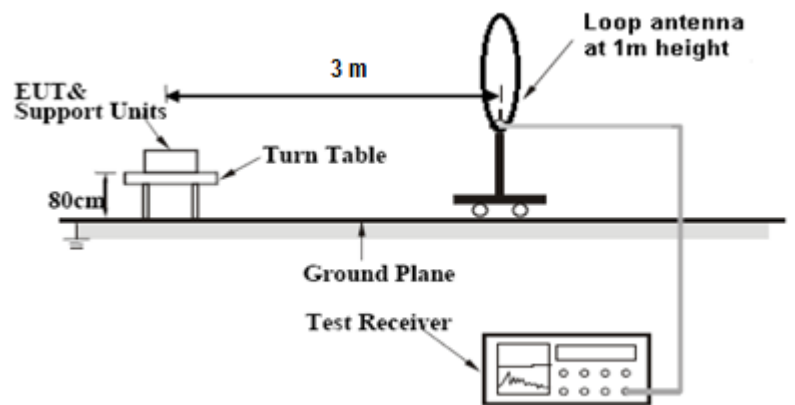


f=30MHz – 1000MHz Measurements

Frequency MHz	Raw dBμV/m	Cable Loss	AF dB	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
450.57	42.68	14.38	-19.92	37.14	Quasi Max	V	127	148	46	-8.86	Pass
524.28	40.28	14.79	-18.72	36.34	Quasi Max	V	213	338	46	-9.66	Pass
912.13	18.73	16.62	-13.10	22.26	Quasi Max	V	389	255	46	-23.74	Pass
335.39	21.42	13.70	-22.58	12.54	Quasi Max	V	153	279	46	-33.46	Pass
73.73	39.02	11.74	-28.06	22.71	Quasi Max	V	99	174	40	-17.29	Pass
221.19	41.91	13.00	-25.70	29.21	Quasi Max	V	101	66	46	-16.79	Pass

10.2.2 Radiated Measurements below 30MHz

Requirement(s):

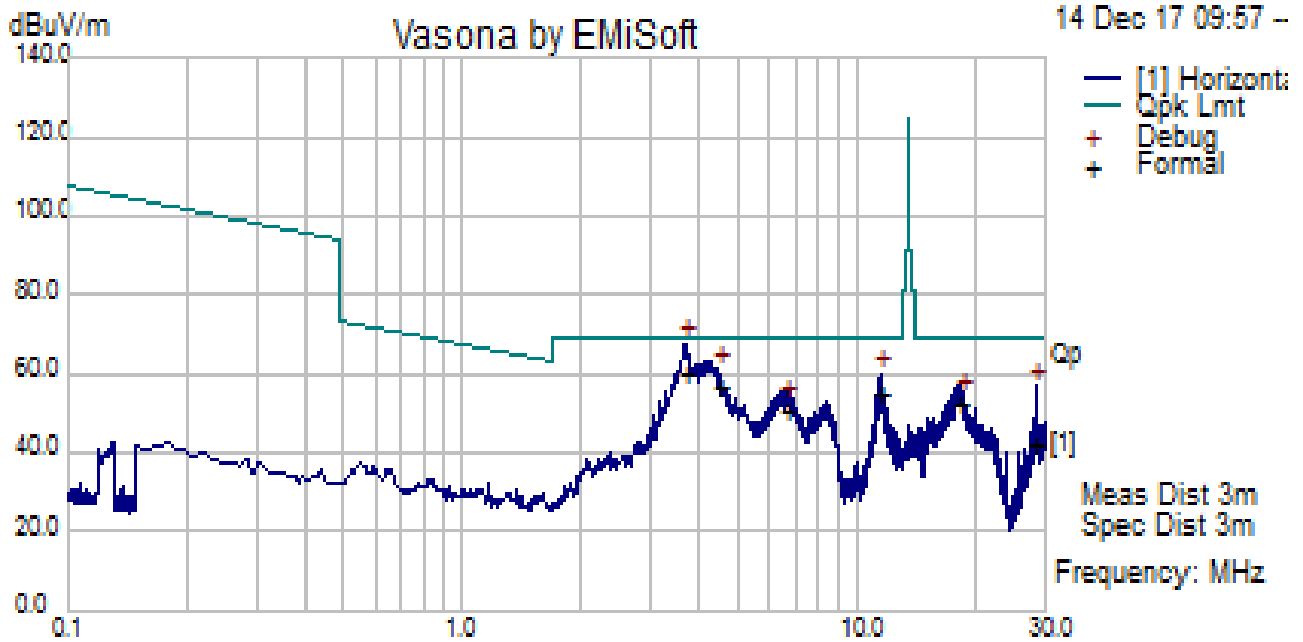
Spec	Requirement	Applicable									
47 CFR §15.225 RSS-210 (A2.6)	<p>Operation within the band 13.110–14.010 MHz</p> <p>(a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.</p> <p>(b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.</p> <p>(c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.</p> <p>(d) The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in §15.209.</p>	☒									
Test Setup											
Procedure	<p>For < 30MHz, Radiated emissions were measured according to ANSI C63.10. The EUT was set to transmit at the highest output power.</p> <p>The EUT was set 3 meter away from the measuring antenna. The loop antenna was positioned 1 meter above the ground from the center of the loop. The measuring bandwidth was set to 10 kHz.</p> <p>The limit is converted from microvolt/meter to decibel microvolt/meter.</p>										
Test Date	12/14/2017	<table border="1"> <tr> <td>Environmental conditions</td> <td>Temperature</td> <td>22°C</td> </tr> <tr> <td></td> <td>Relative Humidity</td> <td>40%</td> </tr> <tr> <td></td> <td>Atmospheric Pressure</td> <td>1026mbar</td> </tr> </table>	Environmental conditions	Temperature	22°C		Relative Humidity	40%		Atmospheric Pressure	1026mbar
Environmental conditions	Temperature	22°C									
	Relative Humidity	40%									
	Atmospheric Pressure	1026mbar									
Remark	-										
Result	☒ Pass ☐ Fail										

Test Data ☒ Yes (See below) ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test was done by Rachana Khanduri at 10 meter chamber.

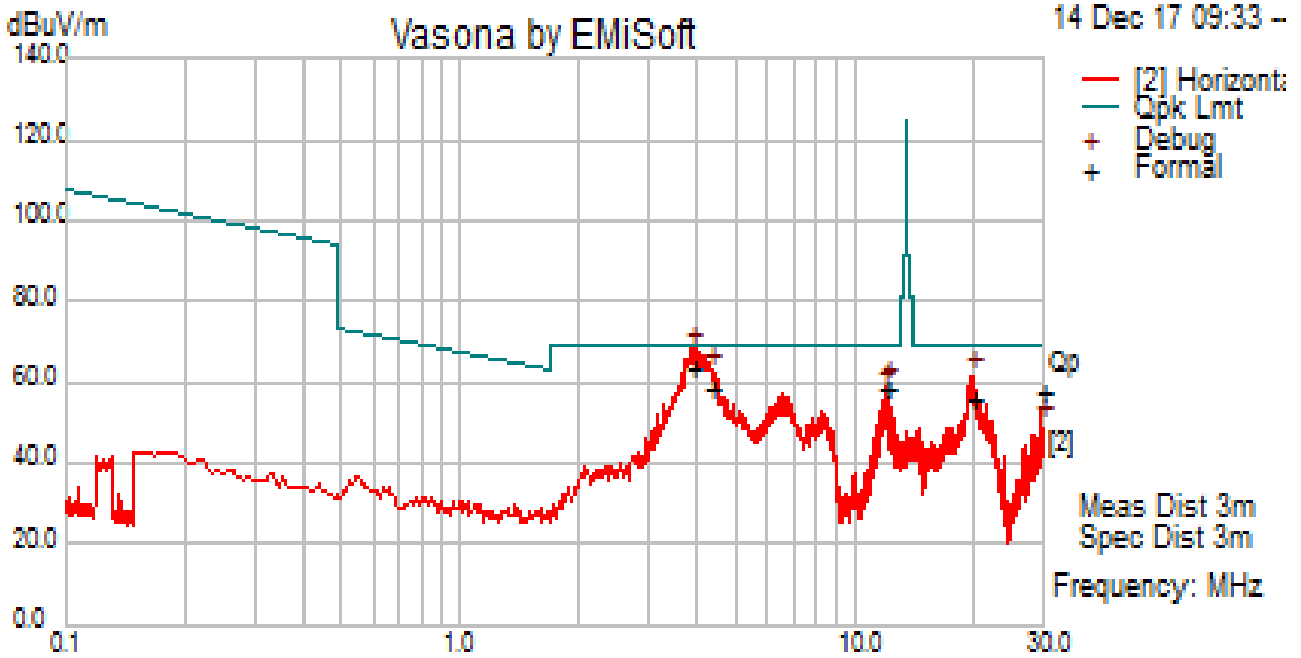
Test specification:	Radiated Spurious Emissions		
Mains Power:	120VAC, 60Hz		Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Tested by:	Rachana Khanduri		
Test Date:	12/14/2017		
Remarks:	f= 100kHz – 30MHz plot, and loop antenna at 0 degree		



Quasi Max Measurement

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (0/90)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
3.67	46.05	10.35	3.33	59.73	Quasi Max	0	100	263	69.54	-9.81	Pass
4.46	44.40	10.39	2.26	57.04	Quasi Max	0	100	31	69.54	-12.50	Pass
11.47	42.43	10.63	1.58	54.65	Quasi Max	0	100	120	69.54	-14.90	Pass
28.42	30.45	10.93	0.51	41.89	Quasi Max	0	100	159	69.54	-27.65	Pass
18.35	40.60	10.75	1.16	52.51	Quasi Max	0	100	130	69.54	-17.03	Pass
6.62	37.61	10.50	2.25	50.36	Quasi Max	0	100	245	69.54	-19.19	Pass

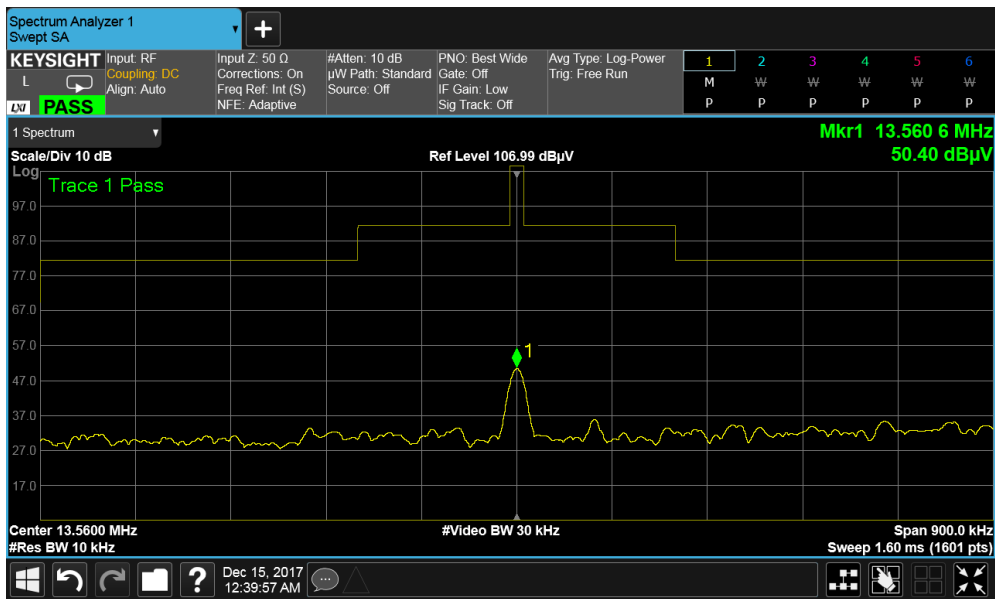
Test specification:	Radiated Spurious Emissions		
Mains Power:	120VAC, 60Hz	Result:	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Tested by:	Rachana Khanduri		
Test Date:	12/14/2017		
Remarks:	f= 100kHz – 30MHz plot, and loop antenna at 90 degree		



Quasi Max Measurement

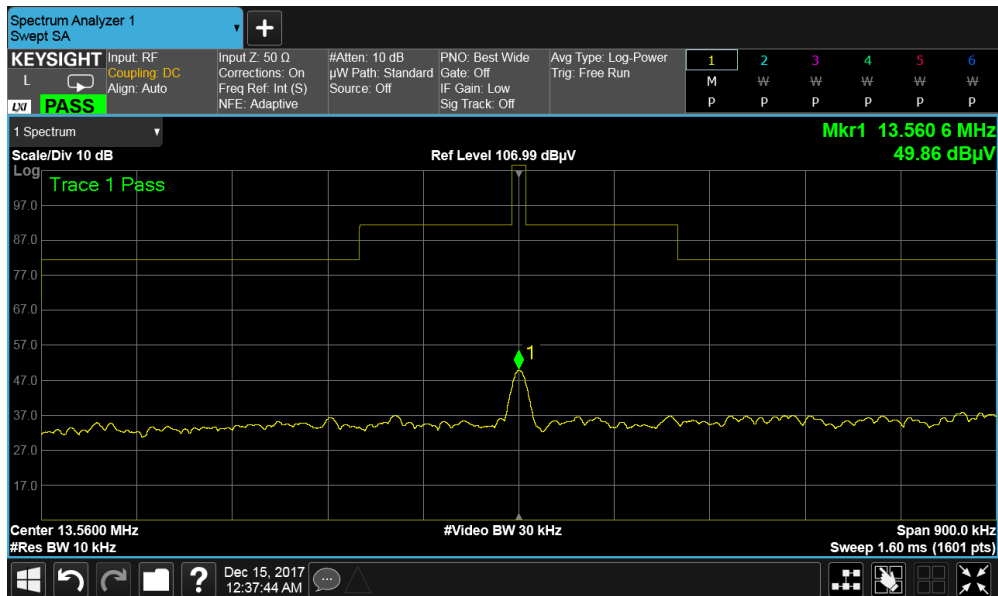
Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (0/90)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
3.90	50.56	10.36	2.95	63.87	Quasi Max	90	100	62	69.54	-5.67	Pass
4.35	45.56	10.39	2.38	58.33	Quasi Max	90	100	331	69.54	-11.21	Pass
19.92	43.68	10.82	0.94	55.44	Quasi Max	90	100	195	69.54	-14.11	Pass
12.02	46.45	10.64	1.62	58.71	Quasi Max	90	100	82	69.54	-10.83	Pass
11.95	46.48	10.64	1.59	58.71	Quasi Max	90	100	111	69.54	-10.83	Pass
30.00	46.43	10.93	0.08	57.44	Quasi Max	90	100	342	69.54	-12.10	Pass

Loop Antenna at 0 degrees



Frequency (MHz)	Amplitude (dBµV/m)
13.5606	50.40

Loop Antenna at 90 degrees


























Frequency (MHz)	Amplitude (dBµV/m)
13.5606	49.86

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Cycle	Cal Due	In use
Radiated Emissions						
Keysight EXA 44GHz Spectrum Analyzer	N9010A	MY51440112	11/08/2017	1 Year	11/08/2018	<input checked="" type="checkbox"/>
Loop Antenna	6512	49120	10/14/2017	1 Year	10/14/2018	<input checked="" type="checkbox"/>
Pre-Amplifier (1-40GHz)	SAS-474	579	04/04/2017	1 Year	04/04/2018	<input checked="" type="checkbox"/>
Preamplifier (100KHz-7GHz)	LPA-6-30	11140711	02/09/2017	1 Year	02/09/2018	<input checked="" type="checkbox"/>
Bi-Log antenna (30MHz~2GHz)	JB1	A030702	01/13/2017	1 Year	01/13/2018	<input checked="" type="checkbox"/>

Annex B. SIEMIC Accreditation

Accreditations	Document	Scope / Remark
ISO 17025 (A2LA)		Please see the documents for the detailed scope
ISO Guide 65 (A2LA)		Please see the documents for the detailed scope
TCB Designation		A1, A2, A3, A4, B1, B2, B3, B4, C
FCC DoC Accreditation		FCC Declaration of Conformity Accreditation
FCC Site Registration		3 meter site
FCC Site Registration		10 meter site
IC Site Registration		3 meter site
IC Site Registration		10 meter site
EU NB		Radio Equipment: EN45011: EN ISO/IEC 17065
		Electromagnetic Compatibility: EN45011 – EN ISO/IEC 17065
Singapore iDA CB(Certification Body)	 	Phase I, Phase II
Vietnam MIC CAB Accreditation		Please see the document for the detailed scope
Hong Kong OFCA		(Phase II) OFCA Foreign Certification Body for Radio and Telecom
		(Phase I) Conformity Assessment Body for Radio and Telecom
Industry Canada CAB		Radio: Scope A – All Radio Standard Specification in Category I
		Telecom: CS-03 Part I, II, V, VI, VII, VIII

Japan Recognized Certification Body Designation		<p>Radio: A1. Terminal equipment for purpose of calling</p> <p>Telecom: B1. Specified radio equipment specified in Article 38-2, Paragraph 1, Item 1 of the Radio Law</p>
Korea CAB Accreditation		<p>EMI: KCC Notice 2008-39, RRL Notice 2008-3: CA Procedures for EMI KN22: Test Method for EMI</p> <p>EMS: KCC Notice 2008-38, RRL Notice 2008-4: CA Procedures for EMS KN24, KN61000-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11: Test Method for EMS</p>
		<p>Radio: RRL Notice 2008-26, RRL Notice 2008-2, RRL Notice 2008-10, RRL Notice 2007-49, RRL Notice 2007-20, RRL Notice 2007-21, RRL Notice 2007-80, RRL Notice 2004-68</p> <p>Telecom: President Notice 20664, RRL Notice 2007-30, RRL Notice 2008-7 with attachments 1, 3, 5, 6; President Notice 20664, RRL Notice 2008-7 with attachment 4</p>
Taiwan NCC CAB Recognition		LP0002, PSTN01, ADSL01, ID0002, IS6100, CNS14336, PLMN07, PLMN01, PLMN08
Taiwan BSMI CAB Recognition		CNS 13438
Japan VCCI		<p>R-3083: Radiation 3 meter site</p> <p>C-3421: Main Ports Conducted Interference Measurement</p> <p>T-1597: Telecommunication Ports Conducted Interference Measuremet</p>
Australia CAB Recognition		<p>EMC: AS/NZS CISPR 11, AS/NZS CISPR 14.1, AS/NZS CISPR22, AS/NZS 61000.6.3, AS/NZS 61000.6.4</p>
		<p>Radiocommunications: AS/NZS 4281, AS/NZS 4268, AS/NZS 4280.1, AS/NZS 4280.2, AS/NZS 4295, AS/NZS 4582, AS/NZS 4583, AS/NZS 4769.1, AS/NZS 4769.2, AS/NZS 4770, AS/NZS 4771</p>
		<p>Telecommunications: AS/ACIF S002:05, AS/ACIF S003:06, AS/ACIF S004:06 AS/ACIF S006:01, AS/ACIF S016:01, AS/ACIF S031:01, AS/ACIF S038:01, AS/ACIF S040:01, AS/ACIF S041:05, AS/ACIF S043.2:06, AS/ACIF S60950.1</p>
Australia NATA Recognition		AS/ACIF S002, AS/ACIF S003, AS/ACIF S004, AS/ACIF S006, AS/ACIF S016, AS/ACIF S031, AS/ACIF S038, AS/ACIF S040, AS/ACIF S041, AS/ACIF S043.2