



RF TEST REPORT



Report No.: FCC_IC_RF_SL18040201-RIO-001_Co-Location
Supersede Report No.:

1	Applicant	Resin.io
	Product Name	Raspberry Compute Module 3 Lite
	Model No.	Balena Fin
	Test Standard	FCC 15.247; FCC 15.407 RSS247 Issue 2, 2017 RSS-210 Issue 9: 2016
	Test Method	FCC 15.247; FCC 15.407 ANSI C63.10 2013 RSS Gen Issue 5, April 2018
	FCC ID	2APW6BLN-FN-1-00001
	IC ID	24038-BLNFN100001
	Dates of test	05/10/2018 – 06/29/2018
	Issue Date	06/29/2018
	Test Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

This Test Report is Issued Under the Authority of:

	
Benjamin Jing	Chen Ge
RF 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:
SIEMIC Laboratories
775 Montague Expressway, Milpitas, CA 95035



775 Montague Expressway, Milpitas, CA 95035, USA • Phone: (+1) 408 526 1188 • Facsimile (+1) 408 526 1088

Visit us at: www.siemic.com; Follow us at:



Laboratory Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.



In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

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/RRR, 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 & RED Directive
Japan	MIC (RCB 208)	RF, Telecom
Hong Kong	OFTA (US002)	RF, Telecom

CONTENTS

1.....	1
2 REPORT REVISION HISTORY	4
3 EXECUTIVE SUMMARY	4
4 CUSTOMER INFORMATION	4
5 TEST SITE INFORMATION	4
6 MODIFICATION	4
7 EUT INFORMATION	5
7.1 EUT Description	5
7.2 Radio Description	5
8 SUPPORTING EQUIPMENT/SOFTWARE AND CABLING DESCRIPTION	7
8.1 Supporting Equipment	7
8.2 Cabling Description	7
8.3 Test Software Description	7
9 TEST SUMMARY	8
10 MEASUREMENT UNCERTAINTY	9
10.1 Radiated Emissions (30MHz to 1GHz)	9
10.2 Radiated Emissions (1GHz to 40GHz)	9
10.3 RF conducted measurement	10
11 MEASUREMENTS, EXAMINATION AND DERIVED RESULTS	11
11.1 Radiated Measurements	11
11.1.1 Radiated Measurements 30MHz to 1GHz	11
11.1.2 Radiated Spurious Emissions between 1GHz-40GHz	14
ANNEX A. TEST INSTRUMENT	16
ANNEX A. SIEMIC ACCREDITATION	17

2 Report Revision History

Report No.	Report Version	Description	Issue Date
FCC_IC_SL18040201-RIO-001_Co-Location	None	Original	06/29/2018

3 Executive Summary

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

Company: Resin.io
Product: Raspberry Compute Module 3 Lite
Model: Balena Fin

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

4 Customer information

Applicant Name	Resin.io .
Applicant Address	7 Winkley Street, London E2 6PY, UK
Manufacturer Name	Resin.io.
Manufacturer Address	7 Winkley Street, London E2 6PY, UK

5 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

6 Modification

Index	Item	Description	Note
-	-	-	-
-	-	-	-

7 EUT Information

7.1 EUT Description

Product Name	Raspberry Compute Module 3 Lite
Model No.	Falena Fin
Trade Name	Resin.in
Serial No.	N/A
Input Power	120VAC/60Hz
Power Adapter Manu/Model	VEL36US120-US-JA
Power Adapter SN	E317867
Date of EUT received	4/15 /2018
Equipment Class/ Category	DTS, DSS, UNII
Port/Connectors	1 X RJ45, 2 X USB, 1 X mini USB, 1 X HDMI

7.2 Radio Description

Specs for BT

Radio Type	Bluetooth
Operating Frequency	2402MHz-2480MHz
Modulation	FHSS (BDR/EDR)
Channel Spacing	1MHz (BDR, EDR)
Antenna Type	External antenna : ¼ Dipole - Omni Embedded antenna : SMD
Antenna Gain	External antenna : 2 dBi ; Embedded antenna : 1 dBi
Antenna Connector Type	U.FL -

Specs for BLE

Radio Type	Bluetooth
Operating Frequency	2402MHz-2480MHz
Modulation	GFSK (LE)
Channel Spacing	2MHz (LE)
Antenna Type	External antenna : ¼ Dipole - Omni Embedded antenna : SMD
Antenna Gain	External antenna : 2 dBi ; Embedded antenna : 1 dBi
Antenna Connector Type	U.FL -

Specs for 2.4 GHz WLAN

Radio Type	802.11b	802.11g	802.11n-20M	802.11n-40M
Operating Frequency	2412-2462MHz	2412-2462MHz	2412-2462MHz	2422-2462MHz
Modulation	DSSS (CCK, DQPSK, BPSK)	OFDM-CCK (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)
Channel Spacing	5MHz	5MHz	5MHz(2.4GHz)	40MHz
Number of Channels	11	11	11(2.4GH)	7(2.4GH)
Antenna Type	External antenna : ¼ Dipole - Omni Embedded antenna : SMD			
Antenna Gain (Peak)	External antenna : 2 dBi ; Embedded antenna : 1 dBi			
Antenna Connector Type	U.FL -			
Remarks	2.4GHz and 5GHz Radio does not transmit simultaneously			

Specs for 5 GHz WLAN

Radio Type	802.11a	802.11n-20M	802.11n-40M	802.11ac-80M
Operating Frequency	5180-5240MHz 5260-5320MHz 5500-5700MHz 5745-5825MHz	5180-5240MHz 5260-5320MHz 5500-5700MHz 5745-5825MHz	5190-5230MHz 5270-5310MHz 5510-5670MHz 5755-5795MHz	5210MHz, 5290MHz 5530MHz, 5610MHz, 5690MHz, 5775MHz
Modulation	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)
Channel Spacing	20MHz	20MHz (5GHz)	40MHz	80MHz
Number of Channels	22	22 (5GHz)	10 (5GHz)	6 (5GHz)
Antenna Type	External antenna : ¼ Dipole - Omni Embedded antenna : SMD			
Antenna Gain	External antenna : 2 dBi Embedded antenna : 1 dBi			
Antenna Connector Type	U.FL -			
Remarks	2.4GHz and 5GHz Radio does not transmit simultaneously			

EUT test modes/configuration Description

Mode	Note
RF test	EUT is set to continuously transmit
Note: None	

Test Item	Operating mode	Tested antenna port
Antenna Requirement	N/A	-
Conducted Emissions Voltage	N/A	-
Radiated Spurious Emission	Continuous Transmit	-
Frequency Stability	N/A	-
Occupied Bandwidth	N/A	-

8 Supporting Equipment/Software and cabling Description

8.1 Supporting Equipment

Item	Supporting Equipment Description	Model	Serial Number	Manufacturer	Note
1	Laptop	LATITUDE 3550	N/A	Dell	-
2	Router	WNR2000	N/A	Netgear	

8.2 Cabling Description

Name	Connection Start		Connection Stop		Length / shielding Info		Note
	From	I/O Port	To	I/O Port	Length (m)	Shielding	
Ethernet	RJ-45	EUT	RJ-45	Laptop	Ethernet 1 m	no	Unshielded

8.3 Test Software Description

Test Item	Software	Description
RF Testing	Dut Labtool	Set the EUT to transmit continuously
-	-	-

9 Test Summary

Test Item	Test standard		Test Method/Procedure		Pass / Fail
Radiated Spurious Emission	FCC	15.209,15.247(d) 15.407(b)	FCC	ANSI C63.10-2013	<input checked="" type="checkbox"/> Pass
	IC	RSS210(A8.5)	IC	RSS Gen Issue 5, April 2018	<input type="checkbox"/> N/A
Remark	<div>1. All measurement uncertainties are not taken into consideration for all presented test result.</div> <div>2. 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.</div> <div>3. Only Radiated Spurious Emission for colocation has been tested for this report</div>				

10 Measurement Uncertainty

10.1 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.

10.2 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.

10.3 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

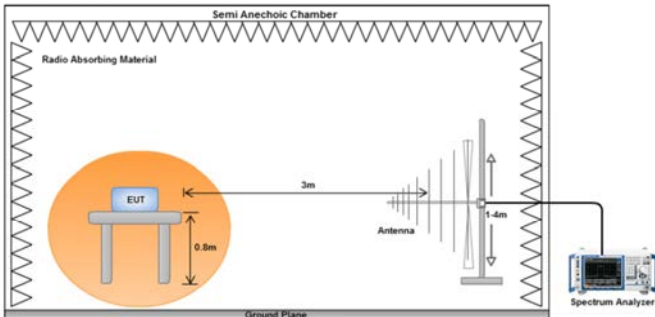
The total derived measurement uncertainty is +/- 0.95 dB.

11 Measurements, examination and derived results

11.1 Radiated Measurements

11.1.1 Radiated Measurements 30MHz to 1GHz

Requirement(s):

Spec	Requirement	Applicable										
47 CFR 15.247(d) 15.407(b) §RSS-210 (B.6) RSS-247	<div>Except higher limit as specified elsewhere in other section, the emissions from the low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges</div> <table><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	<div>☒</div>
Frequency range (MHz)	Field Strength (uV/m)											
30 – 88	100											
88 – 216	150											
216 960	200											
Above 960	500											
Test Setup	<div></div>											
Procedure	<div><div>1. The EUT was switched on and allowed to warm up to its normal operating condition.</div><div>2. 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:<div><div>a. Vertical or horizontal polarisation (whichever gave the higher emission level over a full rotation of the EUT) was chosen.</div><div>b. The EUT was then rotated to the direction that gave the maximum emission.</div><div>c. Finally, the antenna height was adjusted to the height that gave the maximum emission.</div></div></div><div>3. A Quasi-peak measurement was then made for that frequency point.</div><div>4. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.</div></div>											
Test Date	05/10/2018 – 06/29/2018	<div>Environmental conditions</div> <div>Temperature20.1°C</div> <div>Relative Humidity36%</div> <div>Atmospheric Pressure1026mbar</div>										
Remark	BT , BLE , and WLAN WiFi transmit simultaneously .											
Result	<div><div>☒ Pass</div><div>☐ Fail</div></div>											

Test Data ☒ Yes (See below) ☐ N/A

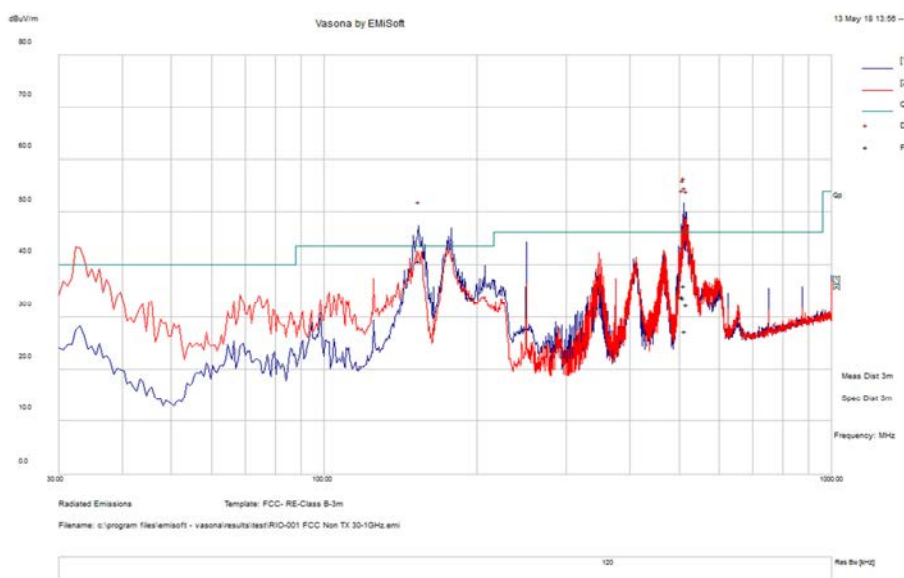
Test Plot ☒ Yes (See below) ☐ N/A

Test was done by Benjamin Jing at 10-meter chamber.

External Antenna

Test specification:	Radiated Emissions 30 – 1000 MHz			
Mains Power:	120VAC, 60Hz		Result:	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Tested by:	Benjamin Jing			
Test Date:	05/10/2018 – 06/29/2018			
Remarks:	BT , BLE , and WLAN WiFi transmit simultaneously via external antenna			

$f=30\text{MHz} - 1000\text{MHz}$ plot and 3-meter distance



Quasi Max Measurements

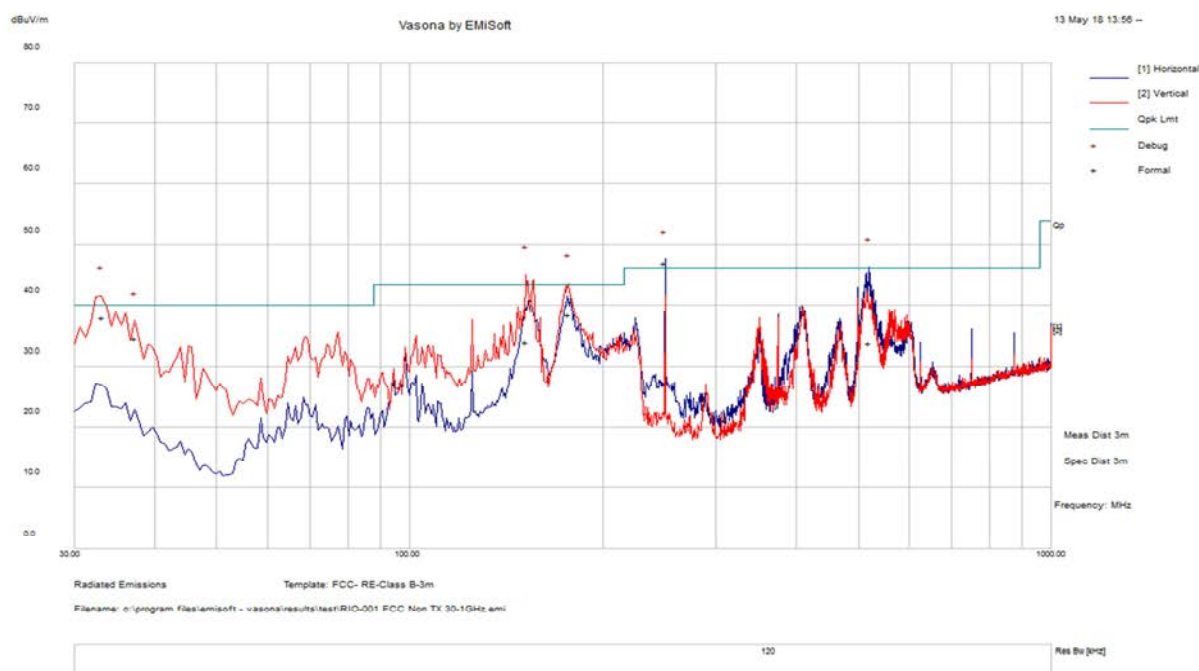
Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
511.9788	40.18	14.3	-18.4	36.08	Quasi Max	H	177	356	46	-9.92	Pass
510.0609	37.91	14.27	-18.46	33.72	Quasi Max	H	196	339	46	-12.29	Pass
514.3263	31.22	14.33	-18.32	27.22	Quasi Max	H	242	204	46	-18.78	Pass
153.5675	52.25	12.21	-23.62	40.85	Quasi Max	H	231	81	43.5	-2.65	Pass
508.5647	38.34	14.25	-18.48	34.11	Quasi Max	H	181	141	46	-11.89	Pass
518.1141	36.3	14.36	-18.25	32.42	Quasi Max	H	185	136	46	-13.58	Pass

Note: Both horizontal and vertical polarities were investigated. The results above show only the worst case .

Embedded Antenna

Test specification:	Radiated Emissions			
Mains Power:	120VAC, 60Hz		Result:	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Tested by:	Benjamin Jing			
Test Date:	05/10/2018 – 06/29/2018			
Remarks:	BT, BLE, and WLAN WiFi transmit simultaneously via embedded antenna			

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

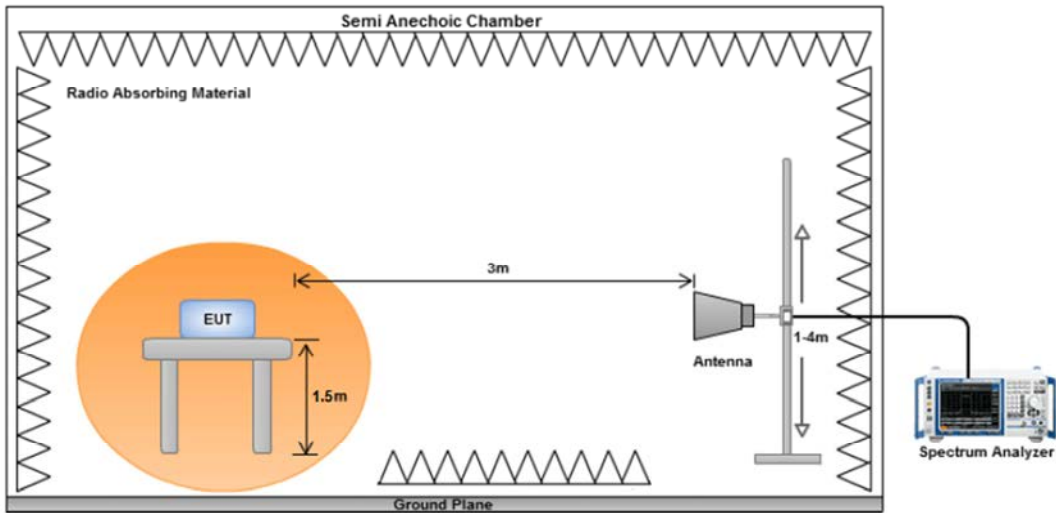


Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
511.9788	40.18	14.3	-18.4	36.08	Quasi Max	H	177	356	46	-9.92	Pass
33.17156	42.59	11.16	-15.83	37.92	Quasi Max	V	123	254	40	-2.08	Pass
152.0084	45.37	12.21	-23.64	33.94	Quasi Max	V	108	331	43.5	-9.56	Pass
519.8013	37.57	14.38	-18.21	33.73	Quasi Max	H	144	253	46	-12.27	Pass
176.6131	50.99	12.4	-24.9	38.49	Quasi Max	V	111	335	43.5	-5.01	Pass
37.37313	42.54	11.25	-19.26	34.52	Quasi Max	V	101	134	40	-5.48	Pass

Note: Both horizontal and vertical polarities were investigated. The results above show only the worst case .

11.1.2 Radiated Spurious Emissions between 1GHz-40GHz

Requirement(s):

Spec	Item	Requirement	Applicable
47CFR§15.247(d), 15.407(b) RSS210(A8.5) RSS-247	a)	For non-restricted band, In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB or 30dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, determined by the measurement method on output power to be used. Attenuation below the general limits specified in § 15.209(a) is not required <input type="checkbox"/> 20 dB down <input checked="" type="checkbox"/> 30 dB down	<input checked="" type="checkbox"/>
	b)	or restricted band, emission must also comply with the radiated emission limits specified in 15.209	<input type="checkbox"/>
Test Setup			
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. An average 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. 		
Remark	BT , BLE , and WLAN WiFi transmit simultaneously .		
Result	<input checked="" type="checkbox"/> Pass		

Test Data ☒ Yes (See below) ☐ N/A

Test Plot ☐ Yes (See below) ☒ N/A

Test was done by Benjamin Jing at 10-meter chamber.

External Antenna

Test specification:	Radiated Emissions 1 – 40 GHz			
Mains Power:	120VAC, 60Hz		Result:	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Tested by:	Benjamin Jing			
Test Date:	05/10/2018 – 06/29/2018			
Remarks:	BT , BLE , and WLAN WiFi transmit simultaneously via external antenna			

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17966.68	38.33	7.9	8.72	54.94	Peak Max	V	175	4	74	-19.06	Pass
12487.7	38.36	6.54	4.15	49.05	Peak Max	V	105	278	74	-24.96	Pass
2560.119	42.3	3.04	-3.31	42.03	Peak Max	V	193	91	74	-31.97	Pass
17966.68	26.63	7.9	8.72	43.25	Average Max	V	175	4	54	-10.75	Pass
12487.7	26.01	6.54	4.15	36.7	Average Max	V	105	278	54	-17.3	Pass
2560.119	29.23	3.04	-3.31	28.96	Average Max	V	193	91	54	-25.04	Pass

Note: Both horizontal and vertical polarities were investigated. The results above show only the worst case .

Embedded Antenna

Test specification:	Radiated Emissions			
Mains Power:	120VAC, 60Hz		Result:	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Tested by:	Benjamin Jing			
Test Date:	05/10/2018 – 06/29/2018			
Remarks:	BT, BLE, and WLAN WiFi transmit simultaneously via embedded antenna			
















Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17927.58	38.55	7.94	8.67	55.17	Peak Max	V	102	50	74	-18.83	Pass
1926.358	41.81	2.69	-2.7	41.8	Peak Max	H	347	344	74	-32.2	Pass
1394.72	43.32	2.24	-6.25	39.32	Peak Max	H	331	121	74	-34.69	Pass
17927.58	26.75	7.94	8.67	43.37	Average Max	V	102	50	54	-10.64	Pass
1926.358	29.76	2.69	-2.7	29.75	Average Max	H	347	344	54	-24.25	Pass
1394.72	30.85	2.24	-6.25	26.85	Average Max	H	331	121	54	-27.15	Pass








Note: Both horizontal and vertical polarities were investigated. The results above show only the worst case .

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Cycle	Cal Due	In use
Radiated Emissions						
Keysight EXA 44GHz Spectrum Analyzer	N9030B(PXA)	MY57140374	09/06/2017	1 Year	09/06/2018	<input checked="" type="checkbox"/>
Bi-Log antenna (30MHz~2GHz)	JB1	A030702	03/09/2018	2 Year	03/09/2020	<input checked="" type="checkbox"/>
Horn Antenna (1GHz~18GHz)	3115	100059	11/09/2017	1 Year	11/09/2018	<input checked="" type="checkbox"/>
Horn Antenna (18GHz~40GHz)	PA-840	181251	06/23/2017	1 Year	06/23/2018	<input checked="" type="checkbox"/>
Preamplifier (100KHz-7GHz)	LPA-6-30	11170602	05/09/2017	1 Year	05/09/2018	<input checked="" type="checkbox"/>
Pre-Amplifier (1-26.5GHz)	8449B	3008A00715	08/16/2017	1 Year	08/16/2018	<input checked="" type="checkbox"/>

Annex A. 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 Measurement</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