

RF TEST REPORT

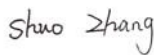
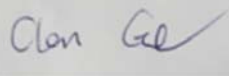


Report No.: FCC_IC RF_SL15090101-SLX-021_DTS

Supersede Report No.:

Applicant	:	Solectria Renewables LLC
Product Name	:	802.11a/b/g/n module
Model No.	:	SX-PCEAN2
Test Standard	:	47 CFR 15.247 RSS-247
Test Method	:	ANSI C63.10: 2013 RSS Gen Iss 4: Nov 2014 558074 D01 DTS Meas Guidance v03r05
FCC ID	:	2AKA9-SXPCEAN2
IC ID	:	22112- SXPCEAN2
Dates of test	:	10/27/2016 to 11/04/2016
Issue Date	:	11/04/2016
Test Result	:	☒ Pass ☐ Fail
Equipment complied with the specification [X] Equipment did not comply with the specification []		

This Test Report is Issued Under the Authority of:

	
Shuo Zhang	Chen Ge
Test Engineer	Engineer Reviewer

Issued By:
SIEMIC Laboratories
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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/RAA, NIST	EMI, EMS, RF, Telecom, Safety
Japan	VCCI, JATE, TELEC, RFT	EMI, RF/Wireless, Telecom
Mexico	NOM, COFETEL, Caniety	Safety, EMC, RF/Wireless, Telecom
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 & R&TTE Directive
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_SL15090101-SLX-021_DTS	None	Original	11/07/2016

2 Executive Summary

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

Company: Solectria Renewables LLC
Product: 802.11a/b/g/n module
Model: SX-PCEAN2

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	:	Solectria Renewables LLC
Applicant Address	:	360 Merrimack Street, Bldg 9 FL 2, Lawrence, MA 01843
Manufacturer Name	:	Solectria Renewables LLC
Manufacturer Address	:	360 Merrimack Street, Bldg 9 FL 2, Lawrence, MA 01843

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

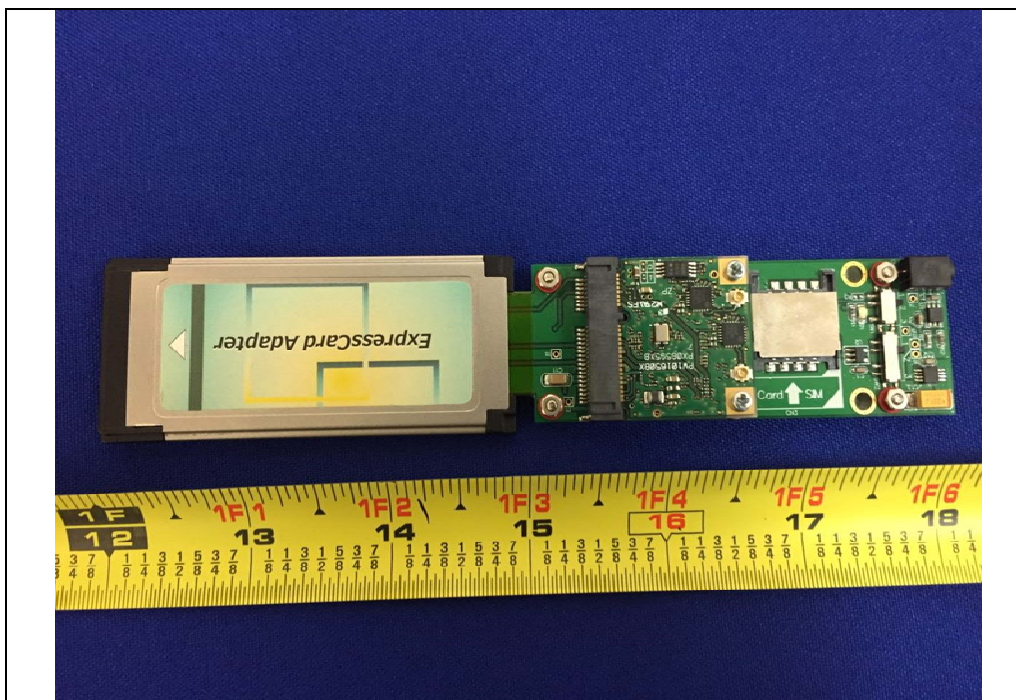
6.1 EUT Description

Product Name	802.11a/b/g/n module
Model No.	SX-PCEAN2
Trade Name	Solectria Renewables LLC
Serial No.	N/A
Host Model No.	N/A
Input Power	3.3VDC
Power Adapter Manu/Model	N/A
Power Adapter SN	N/A
Date of EUT received	10/26/2016
Equipment Class/ Category	DTS
Clock Frequencies	40 MHz
Port/Connectors	PCIe

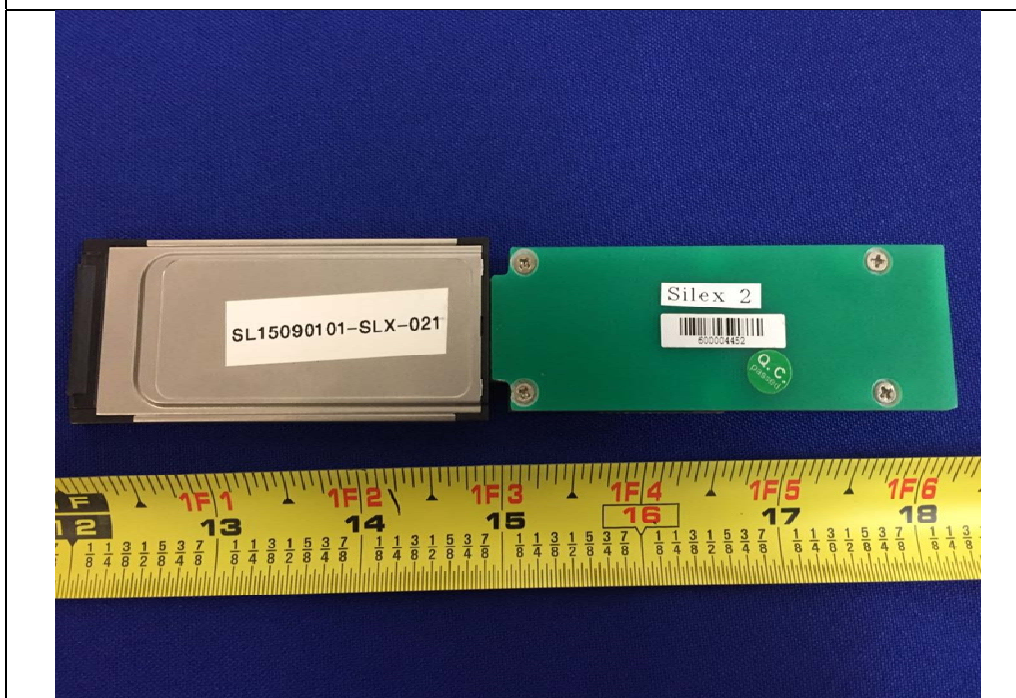
6.2 Radio Description

Radio Type	802.11b	802.11g	802.11n-20M	802.11n-40M
Operating Frequency	2412-2462MHz	2412-2462MHz	2412-2462MHz	2422-2452MHz
Modulation	DSSS (CCK, DQPSK, DBPSK)	OFDM-CCK (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)
Channel Spacing	5MHz	5MHz	5MHz	5MHz
Number of Channels	11	11	11	7
Antenna Type	External Omni Antenna			
Antenna Gain (Peak)	2.4GHz: 5 dBi			
Antenna Connector Type	U.FL			
Note	2.4GHz and 5GHz Radio transmit simultaneously			

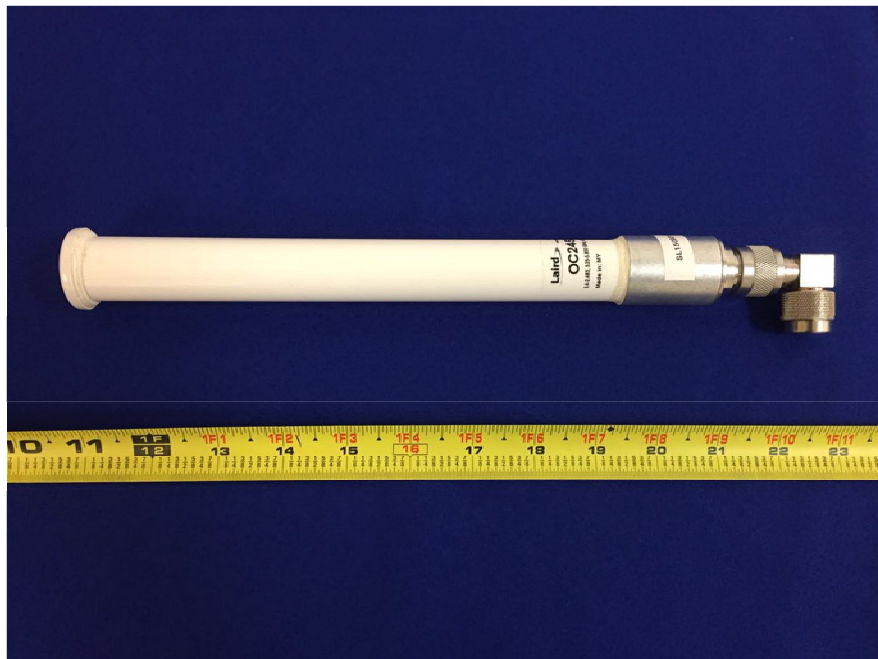
6.3 EUT Photos - Internal



Radio Module & Antenna – Top view



Radio Module & Antenna – Bottom view



Laird OC24528 antenna



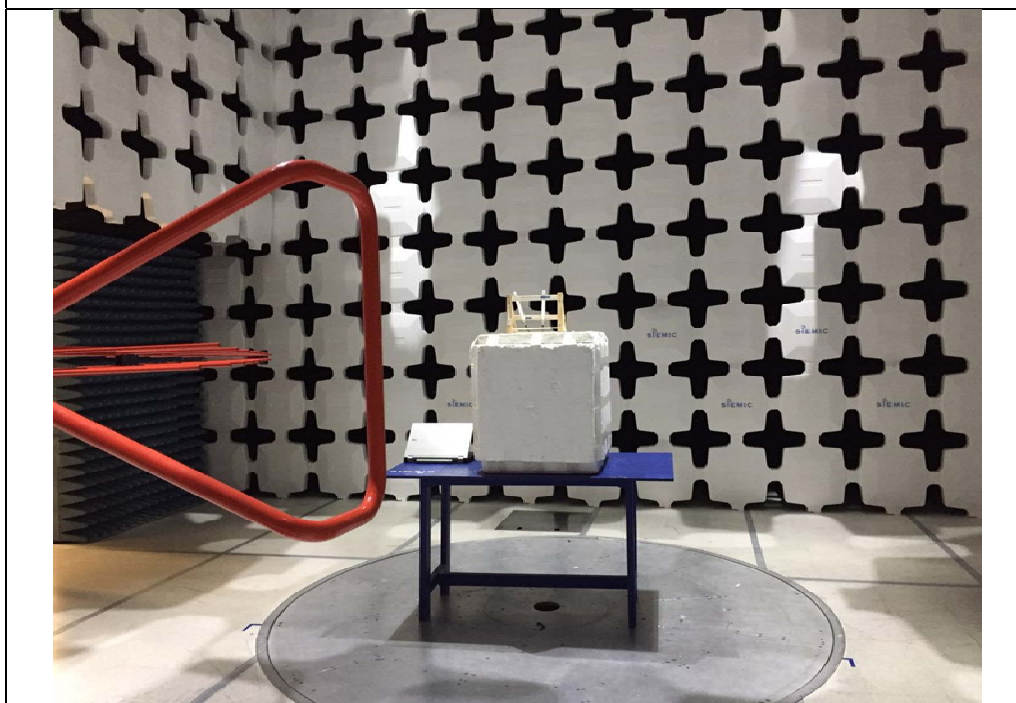
Trendnet TEW-AO57 antenna

S

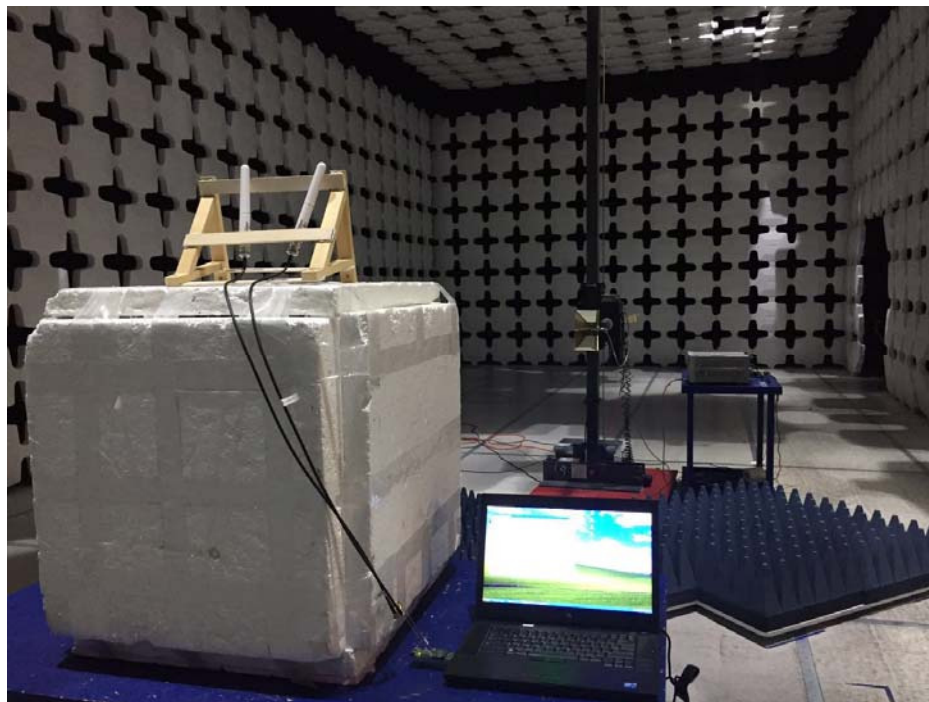
6.4 EUT Test Setup Photos



Radiated Emissions (<1GHz) – Front View



Radiated Emissions (<1GHz) – Rear View



Radiated Emissions (>1GHz) – Front View



Radiated Emissions (>1GHz) – Rear View

7 Supporting Equipment/Software and cabling Description

7.1 Supporting Equipment

Item	Supporting Equipment Description	Model	Serial Number	Manufacturer	Note
1	Laptop	DELL/E56510	N/A	Dell	-

7.2 Cabling Description

Name	Connection Start		Connection Stop		Length / shielding Info		Note
	From	I/O Port	To	I/O Port	Length (m)	Shielding	
EC	EUT	EC	Laptop	EC	0	Unshielded	-

7.3 Test Software Description

Test Item	Software	Description
RF Testing	Command Line in windows	Set the EUT to transmit continuously in diferent test mode

8 Test Summary

Test Item	Test standard		Test Method/Procedure		Pass / Fail
* 99% Occupied Bandwidth	-	-	-	-	☒ Pass
	IC	RSS Gen 6.6	IC	RSS Gen Issue 4: 2014 -	☐ N/A
* 6dB Bandwidth	FCC	15.247(a)(2)	FCC	558074 D01 DTS Meas Guidance v03r05	☒ Pass
	IC	RSS247 (5.2.1)	IC		☐ N/A
*Band Edge and Radiated Spurious Emissions	FCC	15.247(d)	FCC	ANSI C63.10:2013 558074 D01 DTS Meas Guidance v03r05	☒ Pass
	IC	RSS247 (5.5)	IC		☐ N/A
*Output Power	FCC	15.247(b)	FCC	558074 D01 DTS Meas Guidance v03r05	☒ Pass
	IC	RSS247 (5.4.4)	IC		☐ N/A
*Receiver Spurious Emissions	IC	RSS Gen (4.8)	IC	RSS Gen Issue 4: 2014	☐ Pass ☒ N/A
*Antenna Gain > 6 dBi	FCC	15.247(e)	FCC	-	☐ Pass
	IC	-	IC	-	☒ N/A
*Power Spectral Density	FCC	15.247(e)	FCC	558074 D01 DTS Meas Guidance v03r05	☒ Pass
	IC	RSS247 (5.2.2)	IC		☐ N/A
*RF Exposure requirement	FCC	15.247(i)	FCC	-	☐ Pass
	IC	RSS Gen(5.5)	IC	RSS Gen Issue 4: 2014	☒ N/A
Remark	- All measurement uncertainties do not take into consideration for all presented test results. - 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. - Note:* for 2.4GHz please refer 10604551H-A-R2				

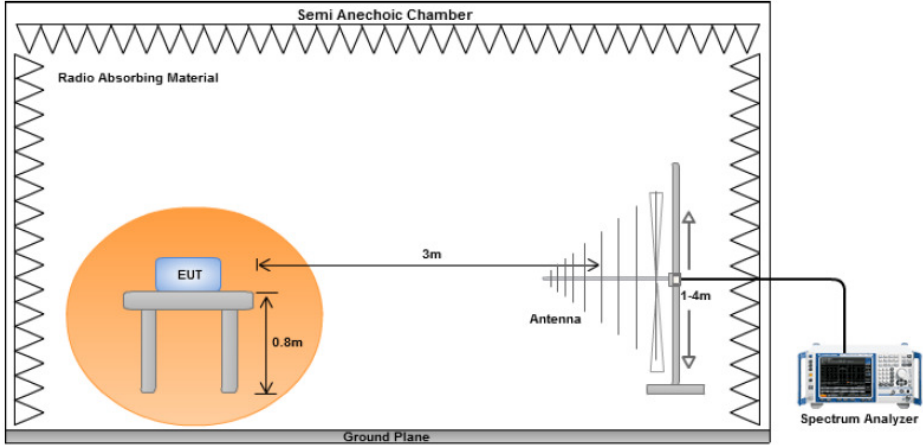
9 Measurement Uncertainty

Emissions			
Test Item	Frequency Range	Description	Uncertainty
Band Edge and Radiated Spurious Emissions	30MHz – 1GHz	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+5.6dB/-4.5dB
Band Edge and Radiated Spurious Emissions	1GHz – 40GHz	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+4.3dB/-4.1dB

10 Measurements, Examination and Derived Results

10.1 Radiated Spurious Emissions below 1GHz

Requirement(s):

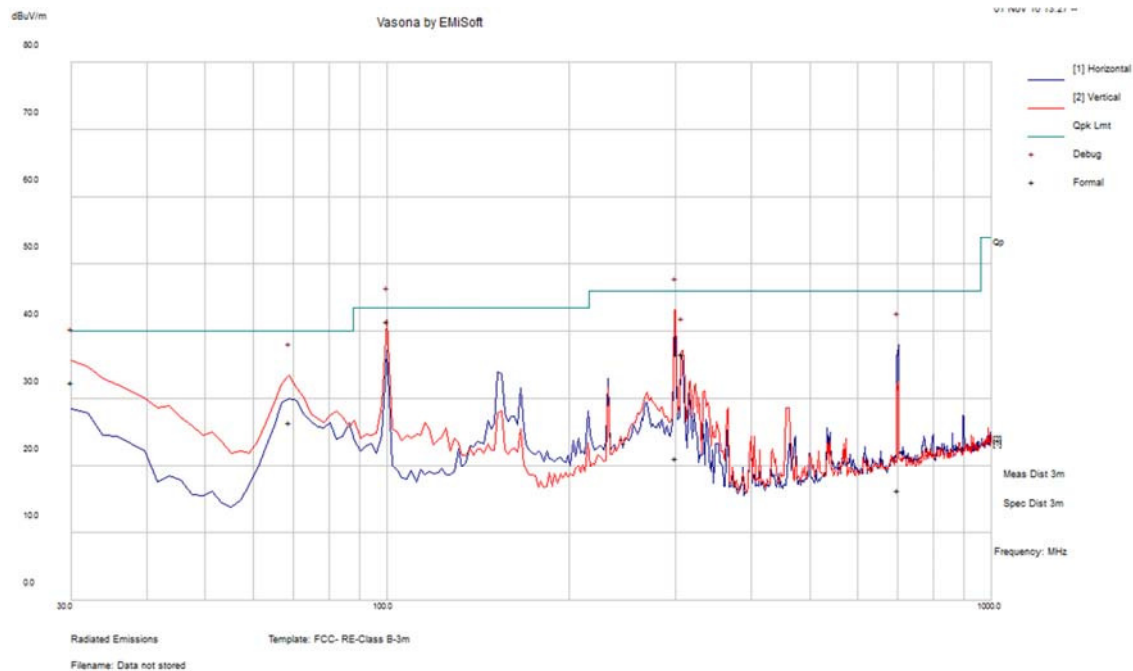
Spec	Item	Requirement	Applicable										
47CFR§15.209(d) RSS-GEN (5.5)	a)	Except higher limit as specified elsewhere in other section, the emissions from the low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges <table><tr><th>Frequency range (MHz)</th><th>Field Strength (uV/m)</th></tr><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></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												
Test Setup													
Procedure	1. 2. 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: a. Vertical or horizontal polarisation (whichever gave the higher emission level over a full rotation of the EUT) was chosen. b. The EUT was then rotated to the direction that gave the maximum emission. c. Finally, the antenna height was adjusted to the height that gave the maximum emission. 3. A Quasi-peak measurement was then made for that frequency point. 4. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.												
Remark	The EUT was scanned up to 1GHz. Both horizontal and vertical polarities were investigated. The results show only the worst case.												
Result	☒ Pass ☐ Fail												

Test Data ☒ Yes (See below) ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test was done by Shuo Zhang at 10m chamber.

Radiated Emission Test Results (Below 1GHz)

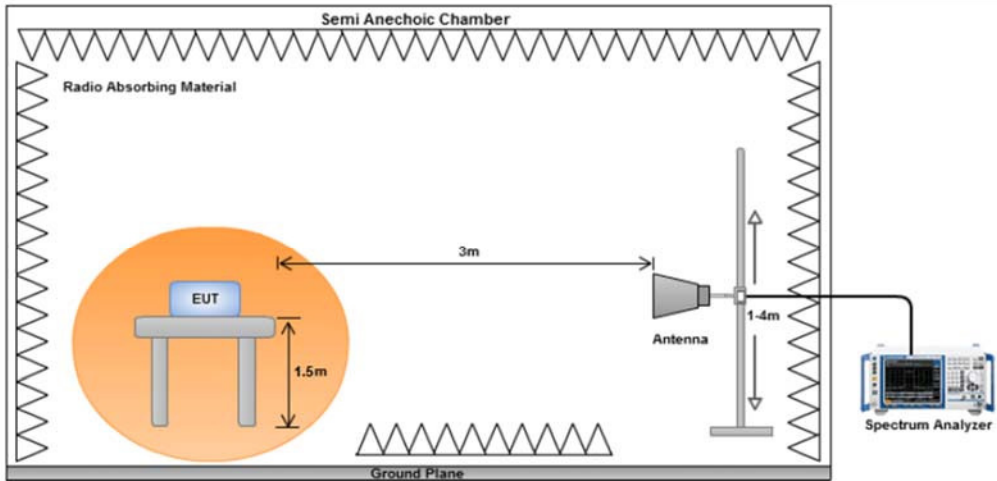


Frequency MHz	Raw dBuV/m	CL dB	AF dB	Level dBuV/m	Measurement Type	Po l	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
99.89	69.37	1.65	-29.47	41.55	Quasi Max	V	106	110	43.52	-1.97	Pass
300.15	44.55	2.89	-26.33	21.12	Quasi Max	V	138	300	46.02	-24.9	Pass
30.00	47.69	0.99	-16.29	32.4	Quasi Max	V	98	320	40	-7.6	Pass
68.80	56.08	1.47	-31.12	26.43	Quasi Max	V	142	195	40	-13.57	Pass
700.45	31.44	4.29	-19.35	16.38	Quasi Max	H	149	235	46.02	-29.64	Pass
308.08	59.82	2.93	-26.06	36.68	Quasi Max	V	177	331	46.02	-9.34	Pass

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

10.2 Radiated Spurious Emissions between 1GHz – 40GHz

Requirement(s):

Spec	Item	Requirement	Applicable
47CFR§15.247(d) RSS247(A8.5)	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 ☐ 20 dB down ☒ 30 dB down	☒
47CFR§15.407 RSS247(A8.5)	b)	or restricted band, emission must also comply with the radiated emission limits specified in 15.209	☒
Test Setup			
Procedure	- 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: - 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	The EUT was scanned up to 40GHz. Both horizontal and vertical polarities were investigated. The results show only the worst case. There isn't outstanding emission found at the edge of restricted frequency.		
Result	☒ Pass ☐ Fail		

Test Data ☒ Yes (See below) ☐ N/A

Test Plot ☐ Yes (See below) ☒ N/A

Test was done by Shuo Zhang at 10m chamber.

Radiated Emission Test Results (Above 1GHz)

W24:

Above 1GHz-25GHz – 802.11b – 2412MHz

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
7236.44	40.78	5.89	0.02	46.68	Peak Max	V	119	34	74	-27.32	Pass
1434.04	61.23	2.63	-14.74	49.12	Peak Max	H	174	9	74	-24.88	Pass
4824.16	47.38	4.68	-5	47.06	Peak Max	H	250	123	74	-26.95	Pass
1869.77	51.89	3.13	-12.49	42.53	Peak Max	H	210	306	74	-31.47	Pass
7236.44	28.08	5.89	0.02	33.99	Average Max	V	119	34	54	-20.02	Pass
1434.04	36.95	2.63	-14.74	24.84	Average Max	H	174	9	54	-29.16	Pass
4824.16	33.48	4.68	-5	33.16	Average Max	H	250	123	54	-20.84	Pass
1869.77	33.08	3.13	-12.49	23.72	Average Max	H	210	306	54	-30.28	Pass

Above 1GHz-25GHz- 802.11b - 2437MHz

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
4872.79	46.17	4.63	-5.09	45.71	Peak Max	H	200	229	74	-28.29	Pass
7312.16	40.09	5.92	0.06	46.07	Peak Max	H	132	119	74	-27.93	Pass
1423.70	59.34	2.62	-14.7	47.27	Peak Max	H	208	19	74	-26.73	Pass
1871.10	52.24	3.13	-12.48	42.89	Peak Max	H	144	308	74	-31.11	Pass
4872.79	34.27	4.63	-5.09	33.8	Average Max	H	200	229	54	-20.2	Pass
7312.16	27.95	5.92	0.06	33.92	Average Max	H	132	119	54	-20.08	Pass
1423.70	36.21	2.62	-14.7	24.13	Average Max	H	208	19	54	-29.87	Pass
1871.10	33.28	3.13	-12.48	23.93	Average Max	H	144	308	54	-30.07	Pass

Above 1GHz-25GHz – 802.11b – 2462MHz

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
4923.99	45.14	4.57	-5.14	44.57	Peak Max	H	163	229	74	-29.43	Pass
7383.53	40.82	5.95	-0.24	46.53	Peak Max	H	181	74	74	-27.47	Pass
1774.72	51.11	3.03	-13.23	40.91	Peak Max	H	254	325	74	-33.09	Pass
1595.46	54.39	2.82	-15.06	42.15	Peak Max	V	112	126	74	-31.86	Pass
4923.99	33.95	4.57	-5.14	33.38	Average Max	H	163	229	54	-20.62	Pass
7383.53	28.28	5.95	-0.24	33.99	Average Max	H	181	74	54	-20.01	Pass
1774.72	34.1	3.03	-13.23	23.9	Average Max	H	254	325	54	-30.1	Pass
1595.46	39.75	2.82	-15.06	27.51	Average Max	V	112	126	54	-26.49	Pass

Above 1GHz-25GHz- 802.11g - 2412MHz

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
7236.45	40.35	5.89	0.02	46.25	Peak Max	V	118	40	74	-27.75	Pass
3222.63	43.8	4.07	-8.26	39.61	Peak Max	V	198	357	74	-34.39	Pass
4825.61	41.86	4.68	-5.01	41.54	Peak Max	H	379	276	74	-32.46	Pass
7236.45	27.99	5.89	0.02	33.9	Average Max	V	118	40	54	-20.1	Pass
3222.63	31.39	4.07	-8.26	27.2	Average Max	V	198	357	54	-26.8	Pass
4825.61	29.5	4.68	-5.01	29.17	Average Max	H	379	276	54	-24.83	Pass

Above 1GHz-25GHz – 802.11g – 2437MHz

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
1593.34	55.27	2.81	-15.06	43.02	Peak Max	V	146	142	74	-30.98	Pass
4873.78	52.64	7.09	33.32	42.77	Peak Max	V	115	174	74	-31.23	Pass
7310.18	51.89	7.4	36.85	47.56	Peak Max	H	110	356	74	-26.44	Pass
1593.34	39.26	2.81	-15.06	27.02	Average Max	V	146	142	54	-26.99	Pass
4873.91	43.05	7.09	33.32	33.18	Average Max	H	110	356	54	-20.82	Pass
7310.18	41.79	7.4	36.85	37.46	Average Max	H	110	356	54	-16.54	Pass

Above 1GHz-25GHz- 802.11g - 2462MHz

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
4925.17	41.15	4.57	-5.14	40.58	Peak Max	H	226	113	74	-33.42	Pass
7385.44	40.62	5.95	-0.24	46.33	Peak Max	H	158	308	74	-27.67	Pass
3284.89	42.92	4.12	-8.03	39.01	Peak Max	V	370	207	74	-34.99	Pass
4925.17	29.49	4.57	-5.14	28.92	Average Max	H	226	113	54	-25.08	Pass
7385.44	28.53	5.95	-0.24	34.24	Average Max	H	158	308	54	-19.76	Pass
3284.89	31.16	4.12	-8.03	27.26	Average Max	V	370	207	54	-26.75	Pass

Above 1GHz-25GHz- 802.11n20 - 2412MHz

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
4823.55	41.83	4.68	-5	41.51	Peak Max	V	277	257	74	-32.49	Pass
7235.91	40.14	5.88	0.02	46.05	Peak Max	V	306	305	74	-27.96	Pass
1808.60	48.17	3.07	-12.93	38.31	Peak Max	H	272	232	74	-35.69	Pass
4823.55	29.39	4.68	-5	29.07	Average Max	V	277	257	54	-24.93	Pass
7235.91	28.34	5.88	0.02	34.24	Average Max	H	314	174	54	-19.76	Pass
1808.60	33.69	3.07	-12.93	23.83	Average Max	H	272	232	54	-30.17	Pass

Above 1GHz-25GHz – 802.11n20 – 2437MHz

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
4876.64	41.91	4.62	-5.1	41.44	Peak Max	H	241	308	74	-32.56	Pass
7313.60	40.76	5.92	0.05	46.73	Peak Max	V	263	132	74	-27.27	Pass
1222.02	54.77	2.43	-15.87	41.33	Peak Max	V	136	357	74	-32.68	Pass
4876.64	29.87	4.62	-5.1	29.39	Average Max	V	132	335	54	-24.61	Pass
7313.60	28.28	5.92	0.05	34.25	Average Max	H	149	291	54	-19.75	Pass
1222.02	36.02	2.43	-15.87	22.58	Average Max	V	136	357	54	-31.42	Pass

Above 1GHz-25GHz- 802.11n20 - 2462MHz

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
4927.28	40.61	4.57	-5.13	40.04	Peak Max	V	367	126	74	-33.96	Pass
7386.68	40.59	5.95	-0.25	46.29	Peak Max	V	354	326	74	-27.71	Pass
1595.97	53.86	2.82	-15.06	41.61	Peak Max	V	99	151	74	-32.39	Pass
4927.28	28.61	4.57	-5.13	28.04	Average Max	V	367	126	54	-25.96	Pass
7386.68	28.66	5.95	-0.25	34.36	Average Max	H	366	29	54	-19.64	Pass
1595.97	38.49	2.82	-15.06	26.25	Average Max	V	99	151	54	-27.75	Pass

Above 1GHz-25GHz- 802.11n40 - 2422MHz

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
4843.04	41.95	4.66	-5.04	41.57	Peak Max	V	341	261	74	-32.43	Pass
7264.72	40.6	5.9	0.06	46.56	Peak Max	H	105	296	74	-27.44	Pass
1595.87	56.04	2.82	-15.06	43.80	Peak Max	V	145	188	74	-30.20	Pass
4843.04	29.44	4.66	-5.04	29.07	Average Max	V	341	261	54	-24.93	Pass
7264.72	28.66	5.9	0.06	34.62	Average Max	H	105	296	54	-19.38	Pass
1595.87	40.90	2.82	-15.06	28.65	Average Max	V	145	188	54	-25.35	Pass

Above 1GHz-25GHz – 802.11n40 – 2437MHz

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
4874.30	41.45	4.63	-5.09	40.99	Peak Max	V	188	239	74	-33.01	Pass
7310.85	40.04	5.92	0.07	46.02	Peak Max	H	244	52	74	-27.98	Pass
1594.16	53	2.81	-15.06	40.76	Peak Max	V	138	180	74	-33.24	Pass
4874.30	29.34	4.63	-5.09	28.88	Average Max	V	188	239	54	-25.12	Pass
7310.85	27.81	5.92	0.07	33.79	Average Max	H	244	52	54	-20.21	Pass
1594.16	38.65	2.81	-15.06	26.40	Average Max	V	138	180	54	-27.60	Pass

Above 1GHz-25GHz- 802.11n40 - 2452MHz

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
4904.33	41.54	4.59	-5.14	40.99	Peak Max	H	392	305	74	-33.01	Pass
7358.23	39.97	5.94	-0.13	45.78	Peak Max	H	294	60	74	-28.22	Pass
1594.93	56.33	2.82	-15.06	44.08	Peak Max	V	144	187	74	-29.92	Pass
4904.33	29.21	4.59	-5.14	28.67	Average Max	H	392	305	54	-25.33	Pass
7358.23	27.92	5.94	-0.13	33.73	Average Max	V	139	350	54	-20.27	Pass
1594.93	40.76	2.82	-15.06	28.52	Average Max	V	144	187	54	-25.49	Pass

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Cycle	Cal Due	In use
Conducted Emissions						
R & S Receiver	ESIB 40	100179	06/08/2016	1 Year	06/08/2017	☒
CHASE LISN	MN2050B	1018	08/07/2016	1 Year	08/07/2017	☒
Radiated Emissions						
R & S Receiver	ESIB 40	1018	08/07/2016	1 Year	08/07/2017	☒
Bi-Log antenna (30MHz~2GHz)	JB1	A030702	08/12/2016	1 Year	08/12/2017	☒
Horn Antenna (1GHz~26GHz)	3115	100059	08/25/2016	1 Year	08/25/2017	☒
3 Meters SAC	3M	N/A	08/08/2016	1 Year	08/08/2017	☒
10 Meters SAC	10M	N/A	09/05/2016	1 Year	09/05/2017	☒
RF Conducted Measurement						
Spectrum Analyzer	N9010A	10SL0219	08/20/2016	1 Year	08/20/2017	☒
R & S Receiver	ESIB 40	100179	06/08/2016	1 Year	06/08/2017	☒
ETS-Lingren USB RF Power Sensor	7002-006	10SL0190	09/03/2016	1 Year	09/03/2017	☒

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 & Telecommunications Terminal Equipment: EN45001 – EN ISO/IEC 17025
		Electromagnetic Compatibility: EN45001 – EN ISO/IEC 17025
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		Radio: A1. Terminal equipment for purpose of calling Telecom: B1. Specified radio equipment specified in Article 38-2, Paragraph 1, Item 1 of the Radio Law
Korea CAB Accreditation		EMI: KCC Notice 2008-39, RRL Notice 2008-3: CA Procedures for EMI KN22: Test Method for EMI 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 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 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
Taiwan NCC CAB Recognition		LP0002, PSTN01, ADSL01, ID0002, IS6100, CNS14336, PLMN07, PLMN01, PLMN08
Taiwan BSMI CAB Recognition		CNS 13438
Japan VCCI		R-3083: Radiation 3 meter site C-3421: Main Ports Conducted Interference Measurement T-1597: Telecommunication Ports Conducted Interference Measurement
Australia CAB Recognition		EMC: AS/NZS CISPR 11, AS/NZS CISPR 14.1, AS/NZS CISPR22, AS/NZS 61000.6.3, AS/NZS 61000.6.4 Radio communications: 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 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
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