

RF TEST REPORT



Report No.: FCC_RF_SL13092401-AVE-031_WLAN Rev1.0
Supersede Report No.: FCC_RF_SL13092401-AVE-031_WLAN

Applicant	Avery Dennison
Product Name	SDIO Wireless Module
Model No.	SX-SDMAN
Test Standard	47CFR15.247, RSS-210 Issue8: 2010
Test Method	ANCI C63.4:2009 47CFR15.247, RSS-210 Issue8: 2010
FCC ID	GU6-SDMAN
IC ID	1502A-SDMAN
Date of test	12/09/2013 - 12/31/2013
Issue Date	7/18/2014
Test Result	<u>Pass</u> Fail
Equipment complied with the specification	[x]
Equipment did not comply with the specification	[]
	
David Zhang	Nima Molaei
Test Engineer	Engineer Reviewer
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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/RRR, 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

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
HongKong	OFTA (US002)	RF , Telecom

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1 Report Revision History

Report No.	Report Version	Description	Issue Date
FCC_RF_SL13092401-AVE-031_WLAN	None	Original	1/6/2014
FCC_RF_SL13092401-AVE-031_WLAN Rev1.0	Rev1.0	Update EUT model	7/18/2014

2 Executive Summary

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

Company: Avery Dennison
Product: SDIO Wireless Module
Model: SX-SDMAN

, which is FCC certified radio module (FCC ID: GU6-SDMAN, IC ID: 1502A-SDMAN), to be installed into a printer host (Printer Model: ADTP1, ADTP1CT, ADTP1CR) and simultaneously transmission with FCC certified RFID radio module (FCC ID: GU6-RS500GX, IC ID: 1502A-RS500GX), 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	Avery Dennison
Applicant Address	170 Monarch Lane, Miamisburg, OH, 45342
Manufacturer Name	Avery Dennison
Manufacturer Address	170 Monarch Lane, Miamisburg, OH, 45342

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	SDIO Wireless Module
Model No.	SX-SDMAN
Trade Name	Monarch / Avery Dennison
Serial No.	N/A
Input Power	3.3 VDC
Power Adapter Manu/Model	N/A
Power Adapter SN	-
Hardware version	N/A
Software version	N/A
Date of EUT received	11/18/2013
Equipment Class/ Category	DTS, UNII
Clock Frequencies	2.4GHz, 5GHz band
Port/Connectors	SDIO
Remark	ADTP1 - Basic model with 140W power supply ADTP1CT - Extended model with 300W power supply that allows cutter to be added. ADTP1CR - DC version (Cart Ready) The testing was performed on ADTP1 as the worst case representative.

6.2 Radio Description

Spec for Radio -

Radio Type	802.11b	802.11g	802.11a	802.11n-20M	802.11n-40M
Operating Frequency	2412-2462MHz	2412-2462MHz	5180-5320MHz 5470-5725MHz 5725-5825MHz	2412-2462MHz 5180-5320MHz 5470-5725MHz 5725-5825MHz	5190-5310MHz 5510-5670MHz 5755-5795MHz
Modulation	DSSS (CCK, DQPSK, DBPSK)	OFDM-CCK (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)
Channel Spacing	5MHz	5MHz	20MHz	5MHz(2.4GHz), 20MHz (5GHz)	40MHz
Number of Channels	11	11	21	11(2.4GH) 21 (5GHz)	7 (2.4GH) 9 (5GHz)
Antenna Type	Sleeve antenna: Sansei				
Antenna Gain	Sleeve antenna: 1.0 dBi (2.4GHz), 1.1 dBi (5GHz)				
Antenna Connector Type	U.FL connector				

6.3 EUT test modes/configuration Description

Test mode

Final Test Mode		Note
Final_test_mode_1	Below 1GHz-Mode1:UHF RFID hopping + WLAN @ 802.11b-2437MHz	-
Final_test_mode_2	Above 1GHz-Mode1: UHF RFID hopping + WLAN @ 802.11b-2437MHz	-
Final_test_mode_3		-
Final_test_mode_4		-
Final_test_mode_5		-
Final_test_mode_6	-	-
Final_test_mode_7	-	-
Final_test_mode_8	-	-
Final_test_mode_9	-	-
Remark:		

6.4 EUT Photos - External



EUT – Top View



EUT – Bottom View



Antenna – Top View



Antenna – Port View

6.5 EUT Photos - Internal



Radio module – Top

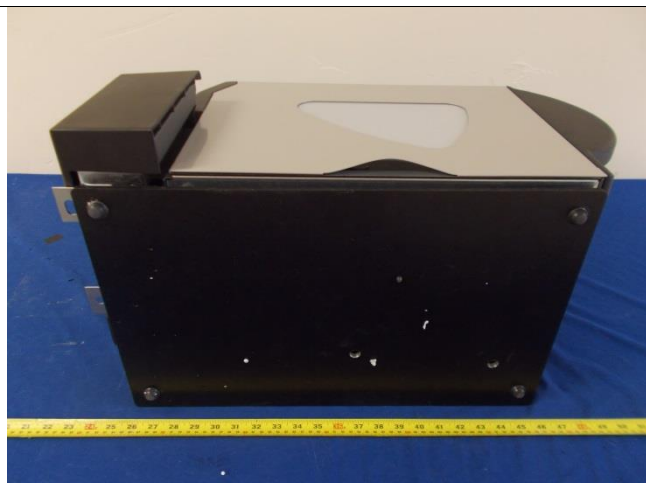


Radio module – Bottom

6.6 Host Photos - External



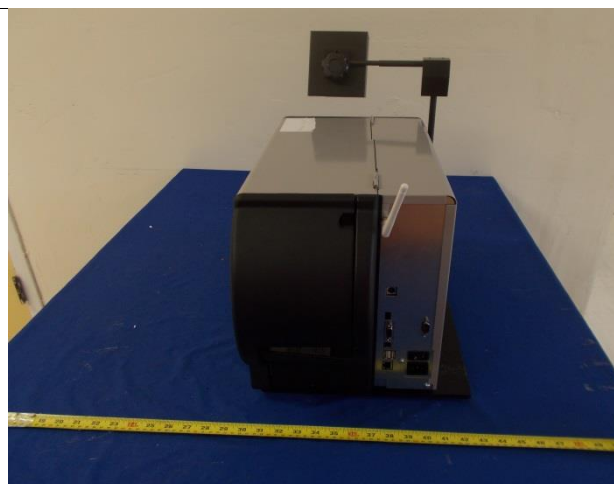
Top Side View



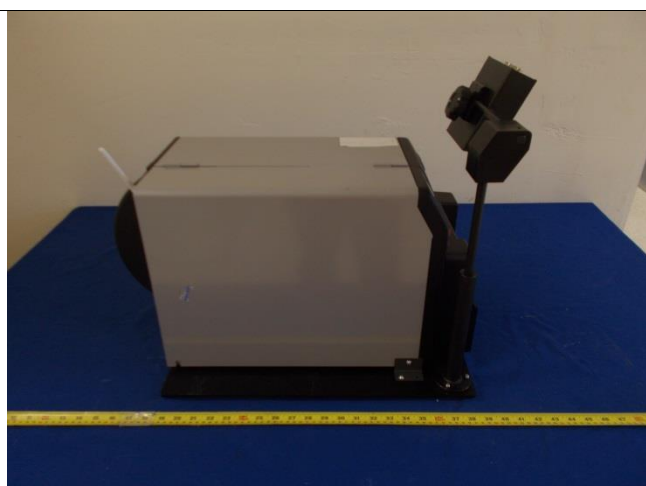
Bottom Side View



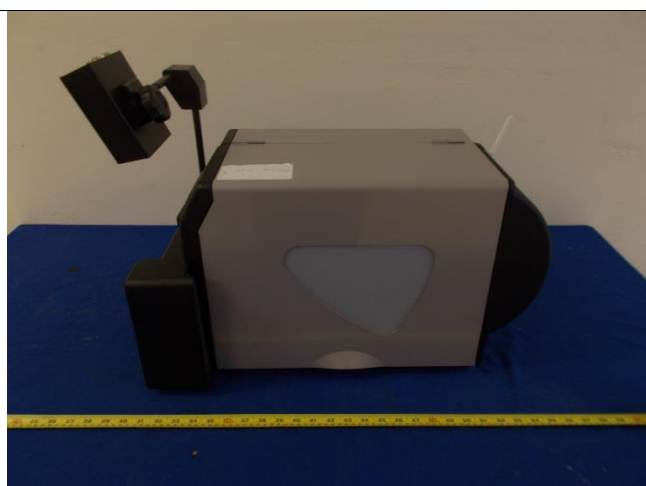
Front Side View Side



Rear View Side



Left Side View

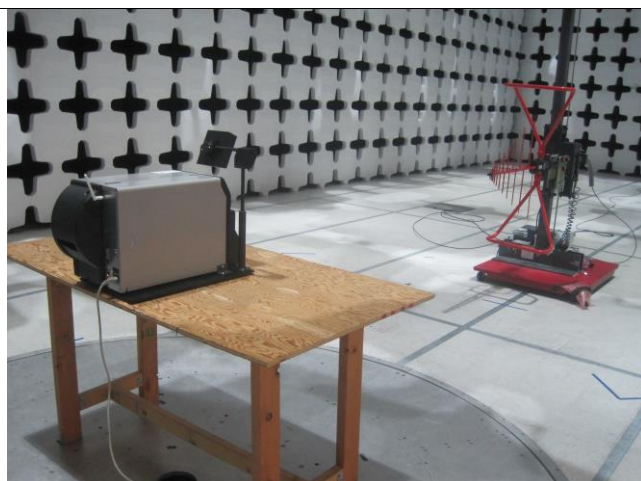


Right Side View

6.7 EUT Test Setup Photos



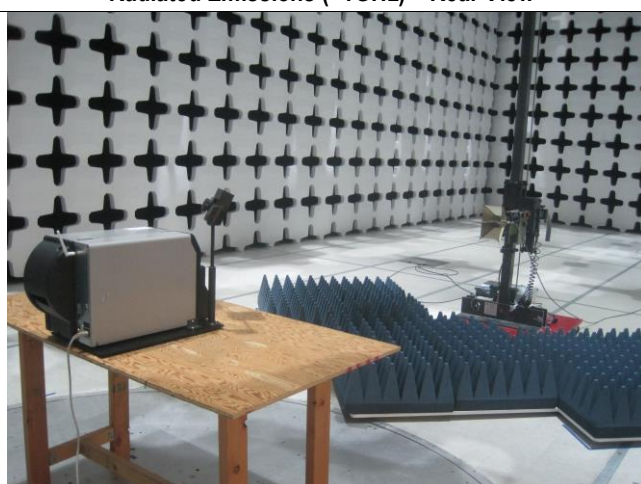
Radiated Emissions (<1GHz) – Front View



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	D600	Laptop PC	9444352681	Dell	
2	PA-1650-05D2	AC Power Adapter	F7970	Dell	

7.2 Test Software Description

Test Item	Software	Description
-	-	-

8 Test Summary

Spurious Emissions			
Test Item	Test standard	Test Method/Procedure	Pass / Fail
AC Conducted Emissions Voltage	15.207(a)	ANSI C63.4 – 2009	☒ Pass ☐ Fail
	RSS Gen (7.2.2)	RSS-Gen Issue 3: 2010	☒ Pass ☐ Fail
Radiated Spurious Emissions<1GHz	FCC-15.247	ANSI C63.4: 2009 558074 D01 DTS Meas Guidance v03r01	☒ Pass ☐ Fail
	IC-RSS 210	RSS-Gen Issue 3: 2010	☒ Pass ☐ Fail
Radiated Spurious Emissions>1GHz	FCC-15.247	ANSI C63.4: 2009 558074 D01 DTS Meas Guidance v03r01	☒ Pass ☐ Fail
	IC-RSS 210	RSS-Gen Issue 3: 2010	☒ Pass ☐ Fail

9 Measurement Uncertainty

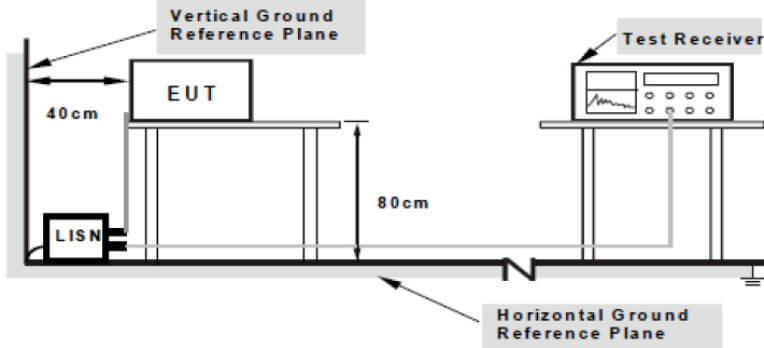
Emissions			
Test Item	Frequency Range	Description	Uncertainty
Conducted Emissions	150KHz – 30MHz	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2	±3.5dB
Radiated Spurious Emissions	30MHz – 1GHz	Confidence level of approximately 95% (in the 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
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 Conducted Emissions

Conducted Emission Limit

Frequency ranges (MHz)	Limit (dBuV)	
	QP	Average
0.15 ~ 0.5	66 – 56	56 – 46
0.5 ~ 5	56	46
5 ~ 30	60	50

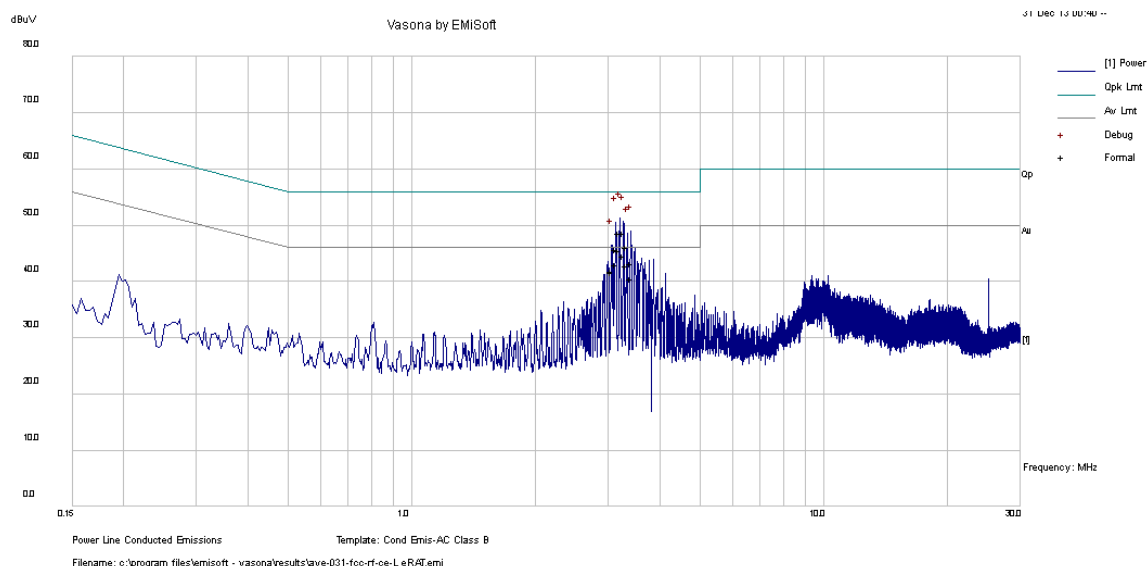
Spec	Item	Requirement	Applicable
47CFR§15.207, RSS210(A8.1)	a)	For Low-power radio-frequency devices that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 [μ]H/50 ohms line impedance stabilization network (LISN). The lower limit applies at the boundary between the frequency ranges.	☒
Test Setup		 Note: 1.Support units were connected to second LISN. 2.Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.	
Procedure		- The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table, as shown in Annex B. - The power supply for the EUT was fed through a 50Ω/50μH EUT LISN, connected to filtered mains. - The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable. - All other supporting equipment were powered separately from another main supply.	
Remark		NONE	
Result		☒ Pass ☐ Fail	

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

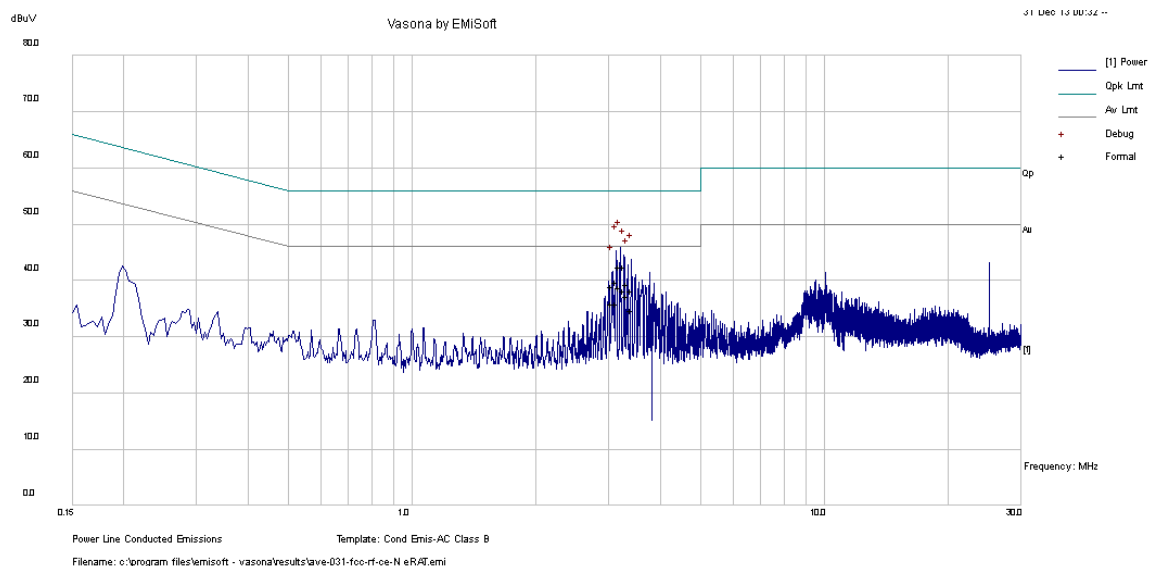
Conducted Emission Test Results (AC Line Test Result)

Environmental Conditions:	Temp (°C):	21	Result
	Humidity (%)	44	
	Atmospheric (mPa):		
Mains Power:	120 VAC/ 60Hz/ Live Line		
Tested by:	David Zhang		
Test Date:	31-Dec-13		
Remarks:	With host ADTP1		



Frequency MHz	Raw dBuV	Cable Loss	Factors dB	Level dBuV	Measurement Type	Line	Limit dBuV	Margin dB	Pass /Fail
3.190	37.64	10.03	1	48.67	Quasi Peak	Live	56	-7.33	Pass
3.259	37.57	10.03	1.01	48.61	Quasi Peak	Live	56	-7.39	Pass
3.122	34.81	10.03	0.99	45.83	Quasi Peak	Live	56	-10.17	Pass
3.398	32.23	10.03	1.02	43.28	Quasi Peak	Live	56	-12.72	Pass
3.329	35.09	10.03	1.01	46.13	Quasi Peak	Live	56	-9.87	Pass
3.051	30.83	10.03	0.98	41.84	Quasi Peak	Live	56	-14.16	Pass
3.190	34.54	10.03	1	45.57	Average	Live	46	-0.43	Pass
3.259	33.56	10.03	1.01	44.59	Average	Live	46	-1.41	Pass
3.122	32.12	10.03	0.99	43.14	Average	Live	46	-2.86	Pass
3.398	29.47	10.03	1.02	40.52	Average	Live	46	-5.48	Pass
3.329	31.84	10.03	1.01	42.88	Average	Live	46	-3.12	Pass
3.051	30.61	10.03	0.98	41.62	Average	Live	46	-4.38	Pass

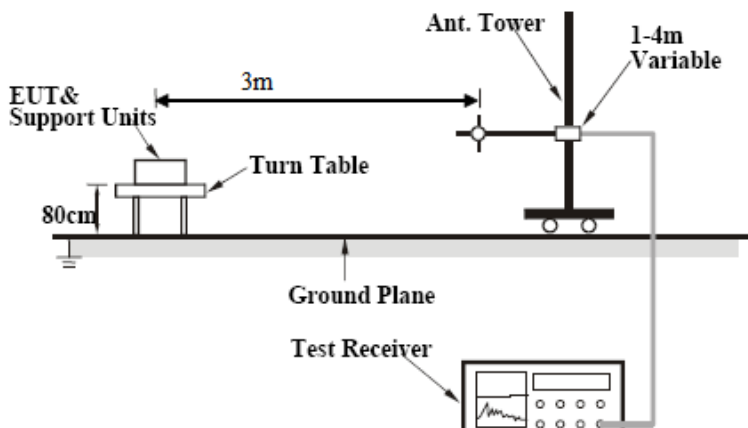
Environmental Conditions:	Temp (°C):	21	Result
	Humidity (%)	44	
	Atmospheric (mPa):		
Mains Power:	120 VAC/ 60Hz/ Neutral Line		
Tested by:	David Zhang		
Test Date:	31-Dec-13		
Remarks:	With host ADTP1		



Frequency MHz	Raw dBuV	Cable Loss	Factors dB	Level dBuV	Measurement Type	Line	Limit dBuV	Margin dB	Pass /Fail
3.192	31.39	10.03	1	42.41	Quasi Peak	Neutral	56	-13.59	Pass
3.122	28.79	10.03	0.99	39.81	Quasi Peak	Neutral	56	-16.19	Pass
3.259	31.39	10.03	1.01	42.42	Quasi Peak	Neutral	56	-13.58	Pass
3.398	27.14	10.03	1.02	38.19	Quasi Peak	Neutral	56	-17.81	Pass
3.331	28.43	10.03	1.01	39.47	Quasi Peak	Neutral	56	-16.53	Pass
3.061	27.95	10.03	0.99	38.96	Quasi Peak	Neutral	56	-17.04	Pass
3.192	27.77	10.03	1	38.8	Average	Neutral	46	-7.2	Pass
3.122	24.91	10.03	0.99	35.93	Average	Neutral	46	-10.07	Pass
3.259	27.2	10.03	1.01	38.23	Average	Neutral	46	-7.77	Pass
3.398	23.75	10.03	1.02	34.8	Average	Neutral	46	-11.2	Pass
3.331	26.16	10.03	1.01	37.2	Average	Neutral	46	-8.8	Pass
3.061	24.91	10.03	0.99	35.92	Average	Neutral	46	-10.08	Pass

10.2 Radiated Emissions below 1GHz

Requirement(s):

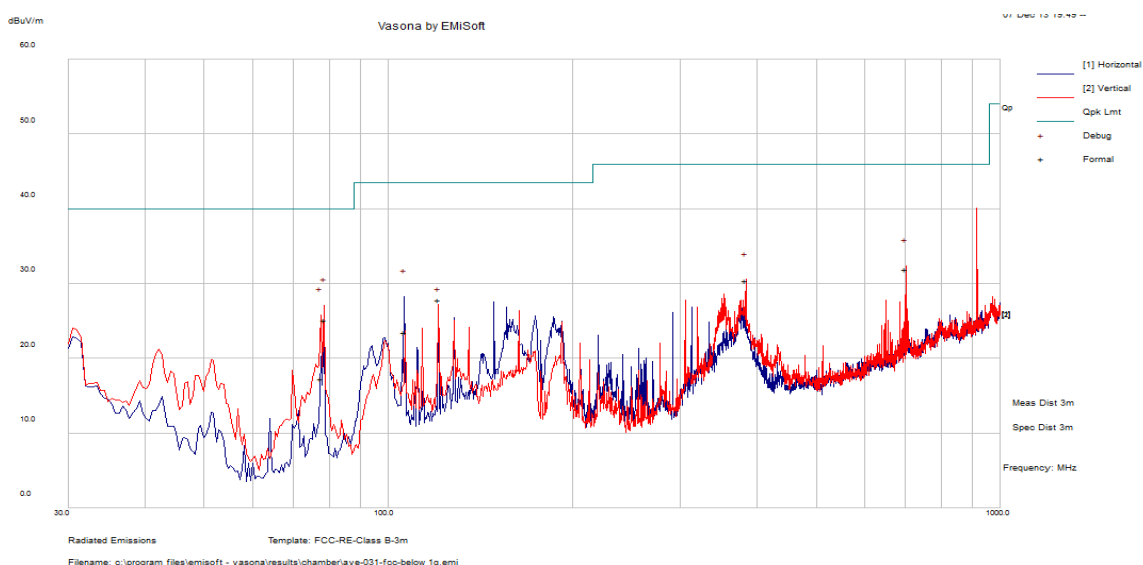
Spec	Item	Requirement	Applicable										
47CFR§15.247(d), RSS210(A8.5)	a)	Except higher limit as specified elsewhere in other section, the emissions from the low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions 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. The EUT was switched on and allowed to warm up to its normal operating condition. 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: 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		NONE											
Result		☒ Pass ☐ Fail											

Test Data ☒ Yes (See below) ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Radiated Emission Test Results (Below 1GHz)

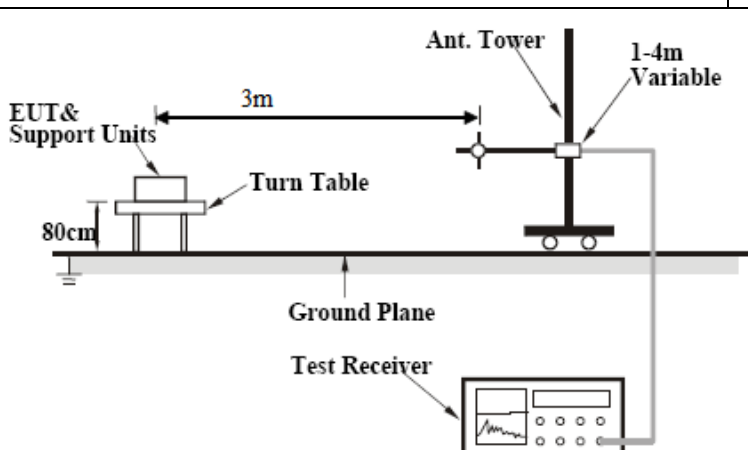
Test specification	below 1GHz			
Environmental Conditions:	Temp (°C):	18.9	Result	PASS
	Humidity (%)	22		
	Atmospheric (mPa):			
Mains Power:	110VAC, 60Hz			
Tested by:	Teody Manansala			
Test Date:	9-Dec-13			
Remarks:	Avery ADTP1, RFID + WLAN TX simultaneously			



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
78.541	42.23	1.36	-18.43	25.17	Quasi Max	V	113	189	40	-14.83	Pass
700.01	34.05	4.67	-6.77	31.95	Quasi Max	V	100	3	46	-14.05	Pass
77.813	34.23	1.35	-18.35	17.23	Quasi Max	H	196	189	40	-22.77	Pass
106.18	36.33	1.73	-14.62	23.44	Quasi Max	V	197	213	43.5	-20.06	Pass
384.05	39.31	3.36	-12.27	30.41	Quasi Max	V	100	231	46	-15.59	Pass
120.75	38.47	1.88	-12.53	27.82	Quasi Max	H	184	105	43.5	-15.68	Pass

10.3 Radiated Spurious Emissions above 1GHz

Requirement(s):

Spec	Item	Requirement	Applicable
47CFR§15.247(d), RSS210(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	☒
	b)	or restricted band, emission must also comply with the radiated emission limits specified in 2.8	☒
Test Setup			
Procedure	1. 2. 3. 4.	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	None		
Result	☒ Pass ☐ Fail		

Test Data ☒ Yes (See below) ☐ N/A

Test Plot ☐ Yes (See below) ☒ N/A

Radiated Emission Test Results (Above 1GHz)

Above 1GHz-25GHz- Mode1: RFI UHF RFID hopping + Silex WLAN module @ 802.11b-2437MHz simultaneously

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
4513.711	64.25	2.46	-0.27	66.44	Peak Max	V	122	156	74	-7.56	Pass
9300.653	45.33	3.39	6.23	54.95	Peak Max	H	182	202	74	-19.05	Pass
1535.595	62.68	1.17	-6.14	57.71	Peak Max	V	129	325	74	-16.29	Pass
1327.026	48.48	1.02	-6.55	42.95	Peak Max	H	188	77	74	-31.05	Pass
4513.711	50.24	2.46	-0.27	52.43	Average Max	V	122	156	54	-1.57	Pass
9300.653	32.99	3.39	6.23	42.61	Average Max	H	182	202	54	-11.39	Pass
1535.5952	58.43	1.17	-6.14	53.46	Average Max	V	129	325	54	-0.54	Pass
1327.026	31.75	1.02	-6.55	26.21	Average Max	H	188	77	54	-27.79	Pass

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Cycle	Cal Due	In use
Conducted Emissions						
R & S Receiver	ESIB 40	100179	04/20/2013	1 Year	04/20/2014	☒
R&S LISN	ESH2-Z5	861741/013	05/18/2013	1 Year	05/18/2014	☒
CHASE LISN	MN2050B	1018	07/24/2013	1 Year	07/24/2014	☒
Sekonic Hygro Hermograph	ST-50	HE01-000092	05/25/2013	1 Year	05/25/2014	☒
Radiated Emissions						
R & S Receiver	ESL6	100178	03/01/2013	1 Year	03/01/2014	☒
R & S Receiver	ESIB 40	100179	04/20/2013	1 Year	04/20/2014	☒
ETS-Lingren Loop Antenna	6512	00049120	05/13/2013	1 Year	05/13/2014	☒
Bi-Log antenna (30MHz~2GHz)	JB1	A030702	02/09/2013	1 Year	02/09/2014	☒
Horn Antenna (1-26.5GHz)	3115	10SL0059	04/26/2013	1 Year	04/26/2014	☒
Horn Antenna (18-40 GHz)	AH-840	101013	04/23/2013	1 Year	04/23/2014	☒
Pre-Amplifier (1-26.5GHz)	8449B	3008A00715	05/30/2013	1 Year	05/30/2014	☒
Microwave Preamplifier (18-40 GHz)	PA-840	181251	05/30/2013	1 Year	05/30/2014	☒
3 Meters SAC	3M	N/A	10/13/2013	1 Year	10/13/2014	☐
10 Meters SAC	10M	N/A	06/05/2013	1 Year	06/05/2014	☒
Sekonic Hygro Hermograph	ST-50	HE01-000092	05/25/2013	1 Year	05/25/2014	☒
RF Conducted Measurement						
Spectrum Analyzer	N9010A	MY50210206	05/30/2013	1 Year	05/30/2014	☐
Spectrum Analyzer	E4407B	US88441016	05/31/2013	1 Year	05/31/2014	☐
R & S Receiver	ESIB 40	100179	04/20/2013	1 Year	04/20/2014	☐

Annex B. USER MANUAL, BLOCK & CIRCUIT DIAGRAM

Please see attachment

Annex C. 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
HongKong 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 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 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