

RF TEST REPORT



Report No.: FCC_IC_RF_SL18032202-SLX-018R1_UNII
Supersede Report No.: None

Applicant	:	Silex Technology, Inc
Product Name	:	SDIO Wireless Module
Model No.	:	SX-SDMAC
Test Standard	:	47 CFR 15.407 RSS-247 Issue 2, February 2017
Test Method	:	ANSI C63.10: 2013 RSS-Gen Issue 4, Nov 2014
FCC ID	:	N6C-SDMAC
IC ID	:	4908A-SDMAC
Dates of test	:	06/06/2018 – 06/18/2018
Issue Date	:	06/21/2018
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:	
	
Gary Chou	Chen Ge
Test Engineer	Engineer Reviewer
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Issued By:
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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.



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

CONTENTS

1	REPORT REVISION HISTORY	4
2	EXECUTIVE SUMMARY	5
3	CUSTOMER INFORMATION	5
4	TEST SITE INFORMATION	5
5	MODIFICATION	5
6	EUT INFORMATION	6
6.1	EUT Description	6
6.2	Radio Description	6
7	SUPPORTING EQUIPMENT/SOFTWARE AND CABLING DESCRIPTION	7
7.1	Supporting Equipment	7
7.2	Cabling Description	7
7.3	Test Software Description	7
8	TEST SUMMARY	8
9	MEASUREMENT UNCERTAINTY	9
9.1	Conducted Emissions	9
9.2	Radiated Emissions (30MHz to 1GHz)	9
9.3	Radiated Emissions (1GHz to 40GHz)	10
9.4	RF conducted measurement	10
10	MEASUREMENTS, EXAMINATION AND DERIVED RESULTS	11
10.1	Antenna Requirement	11
10.2	Radiated Emissions below 1GHz	12
10.3	Radiated Spurious Emissions above 1GHz	14
ANNEX A. TEST INSTRUMENT		31
ANNEX B. SIEMIC ACCREDITATION		32

1 Report Revision History

Report No.	Report Version	Description	Issue Date
FCC_IC_RF_SL18032202-SLX-018R1_UNII	None	Original	06/21/2018

2 Executive Summary

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

Company: Silex Technology, Inc
Product Name: SDIO Wireless Module
Model No.: SX-SDMAC

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	Silex Technology, Inc
Applicant Address	2-3-1 Hikaridai, Seika-cho, Kyoto 619-0237, Japan
Manufacturer Name	Silex Technology, Inc
Manufacturer Address	2-3-1 Hikaridai, Seika-cho, Kyoto 619-0237, Japan

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-SDMAC
Trade Name	Silex
Serial No.	N/A
Input Power	100-240VAC,50/60Hz
Power Adapter Manu/Model	WB-10E05R
Power Adapter SN	N/A
Product Hardware version	N/A
Product Software version	v19.07
Radio Hardware version	A
Radio Software version	v1.0.0
Date of EUT received	03/09/2018
Equipment Class/ Category	DTS,UNII
Port/Connectors	RJ45,USB,Serial port
Remark	None

6.2 Radio Description

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,5690MHz 5775MHz
Modulation	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Channel Spacing	20MHz	20MHz	40MHz	80MHz
Number of Channels	24	24	11	5
Antenna Type	Ethertronics-1004075			
Antenna Gain (Peak)	2.5dBi (5GHz)			
Antenna Connector Type	U.FL. connector			
Note	2.4GHz and 5GHz Radio does not transmit simultaneously			

7 Supporting Equipment/Software and Cabling Description

7.1 Supporting Equipment

Item	Supporting Equipment Description	Model	Serial Number	Manufacturer	Note
1	Laptop	Latitude E6510	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	
Serial to USB	Serial	EUT	USB	Laptop	2	Unshielded	-
RJ45	RJ45	EUT	RJ45	Laptop	2	Unshielded	-

7.3 Test Software Description

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

8 Test Summary

Test Item	Test standard		Test Method/Procedure		Pass / Fail
Antenna Requirement	FCC	15.203	FCC	ANSI C63.10 – 2013	☒ Pass
	IC	-	IC	558074 D01 DTS Meas. Guidance v03r02	☐ N/A
Restricted Band of Operation	FCC	15.205	FCC	ANSI C63.4 – 2014	☒ Pass
	IC	RSS 247 (2.2)	IC	789033 D02 General UNII Test Procedures New Rules v01r02	☐ N/A
AC Conducted Emissions Voltage	FCC	15.207(a)	FCC	ANSI C63.4 – 2014	☒ Pass*
	IC	RSS Gen 8.8	IC	RSS Gen Issue 4.0, Nov 2014 (8.8)	☐ N/A

Test Item	Test standard		Test Method/Procedure		Pass / Fail
99% Bandwidth	FCC	-	FCC	-	☒ Pass*
	IC	RSS 247 (A6.2)	IC	RSS Gen Issue 4.0, Nov 2014 (6.6)	☐ N/A
26 & 6 dB Emission Bandwidth	FCC	15.407 (a) (2)	FCC	789033 D02 General UNII Test Procedures New Rules v01r02	☒ Pass*
	IC	RSS 247 (A6.2)	IC		☐ N/A
Maximum conducted Output Power	FCC	15.407 (a) (2)	FCC	789033 D02 General UNII Test Procedures New Rules v01r02	☒ *Pass
	IC	RSS247 (5.4.4)	IC		☐ N/A
Power reduction (Antenna Gain > 6 dBi)	FCC	15.407 (a) (2)	FCC	-	☒ Pass*
	IC	-	IC		☐ N/A
Band Edge and Radiated Spurious Emissions	FCC	15.407(b)(2), 15.407(b)(6)	FCC	ANSI C63.4 – 2014	☒ Pass
	IC	RSS 247(A6.3)	IC	789033 D02 General UNII Test Procedures New Rules v01r02	☐ N/A
Power Spectral Density	FCC	15.407 (a) (2)	FCC	789033 D02 General UNII Test Procedures New Rules v01r02	☒ Pass*
	IC	RSS 247 (A6.2)	IC		☐ N/A

Remark	- 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 FCC ID: N6C-SDMAC test report.
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9 Measurement Uncertainty

9.1 Conducted Emissions

The test is to measure the conducted emissions to the mains port of the EUT.

Some error sources that can contribute to the total uncertainty:

- Uncertainty of the receiver
- Uncertainty of the LISN
- Uncertainty of cables
- Uncertainty due to the mismatches
- Etc, see the below table for details

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
LISN Insertion Loss	0.40	Normal	2	1	0.20
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 LISN - Receiver	0.25	U-Shape	1.414	1	0.1768033
LISN Impedance	2.5	Triangular	2.449	1	1.0208248
Combined Standard Uncertainty					1.928133
Expanded Uncertainty (K=2)					3.856266

The total derived measurement uncertainty is +/- 3.86 dB.

9.2 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.

9.3 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.

9.4 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.

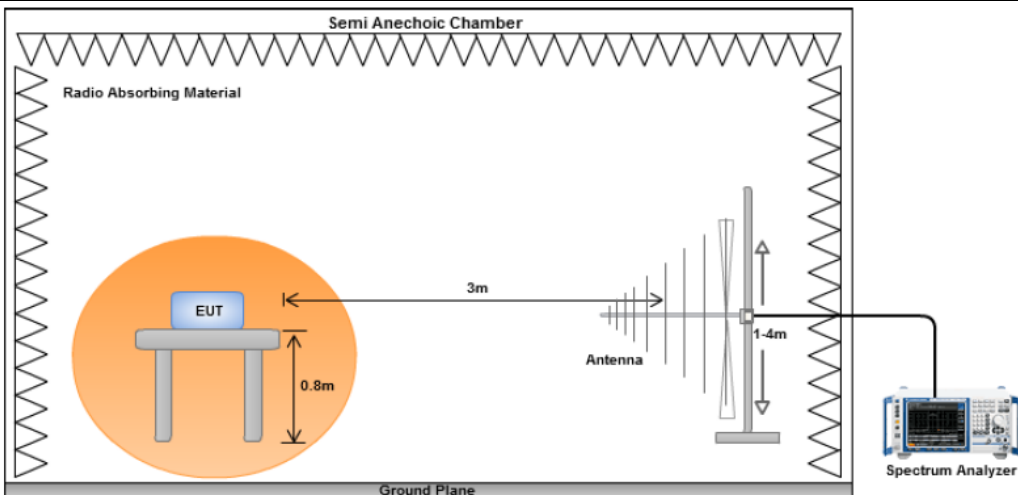
10 Measurements, Examination and Derived Results

10.1 Antenna Requirement

Spec	Requirement	Applicable
§15.203	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. Antenna requirement must meet at least one of the following: 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.	☒
Remark	The EUT uses a u.fl connector for antenna connection which meet the requirement.	
Result	☒ PASS ☐ FAIL	

10.2 Radiated Emissions below 1GHz

Requirement(s):

Spec	Requirement	Applicable										
47CFR§ 15.407(b) 15.209 (a) RSS Gen	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><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											
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	The EUT was scanned up to 1GHz. Both horizontal and vertical polarities were investigated. The results show only the worst case.											
Result	☒ Pass ☐ Fail											

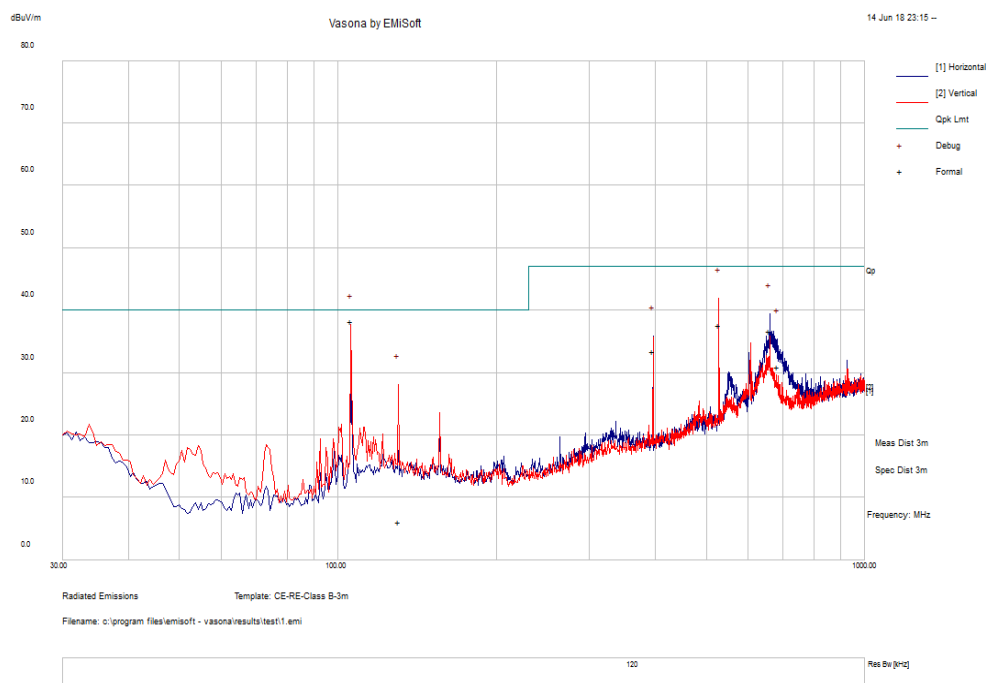
Test Data ☒ Yes (See below) ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test was done by Gary Chou at 10m chamber.

Radiated Emission Test Results (Below 1GHz)

Test specification	Below 1GHz			
Environmental Conditions:	Temp (°C):	23	Result	Pass
	Humidity (%)	46		
	Atmospheric (mbar):	1017		
Mains Power:	120VAC, 60Hz			
Tested by:	Gary Chou			
Test Date:	06/14/2018			
Remarks:	802.11n40-5795			



Quasi Max Measurement

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
105.70	50.75	11.92	-24.45	38.22	Quasi Max	V	338	338	40	-1.78	Pass
527.98	41.23	14.45	-18.08	37.6	Quasi Max	V	164	220	47	-9.4	Pass
659.99	38.33	15.04	-16.64	36.73	Quasi Max	H	126	86	47	-10.27	Pass
396.00	40.76	13.68	-20.94	33.5	Quasi Max	H	102	256	47	-13.5	Pass
683.12	32.44	14.97	-16.44	30.98	Quasi Max	H	131	81	47	-16.02	Pass
130.26	16.97	12.18	-23	6.15	Quasi Max	V	107	209	40	-33.85	Pass

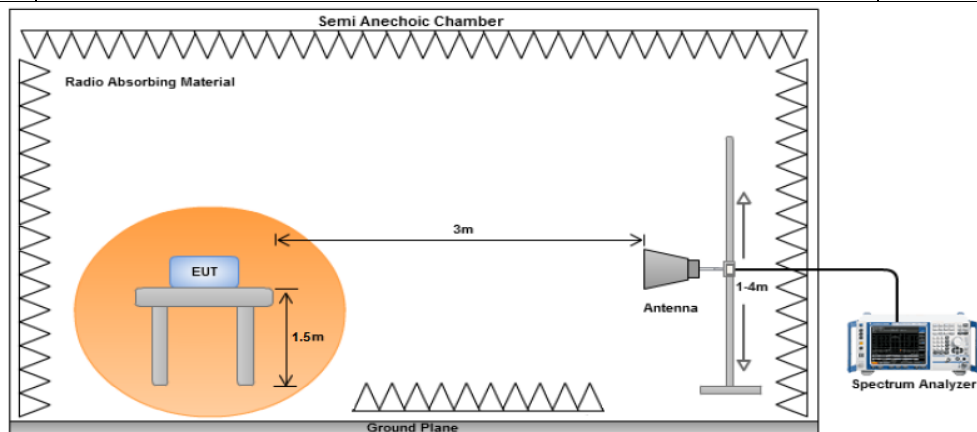
Note: Both horizontal and vertical polarities were investigated. The results above show only the worst case.

10.3 Radiated Spurious Emissions above 1GHz

Requirement(s):

Spec	Item	Requirement	Applicable
47CFR§ 15.407(b)(2), 15.407(b)(6) RSS 247 Issue 2, 2017	(1)	For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.	☒
	(2)	For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band.	☒
	(3)	For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.	☒
	(4)	For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz.	☒
	(5)	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.

Result

☒ Pass ☐ Fail

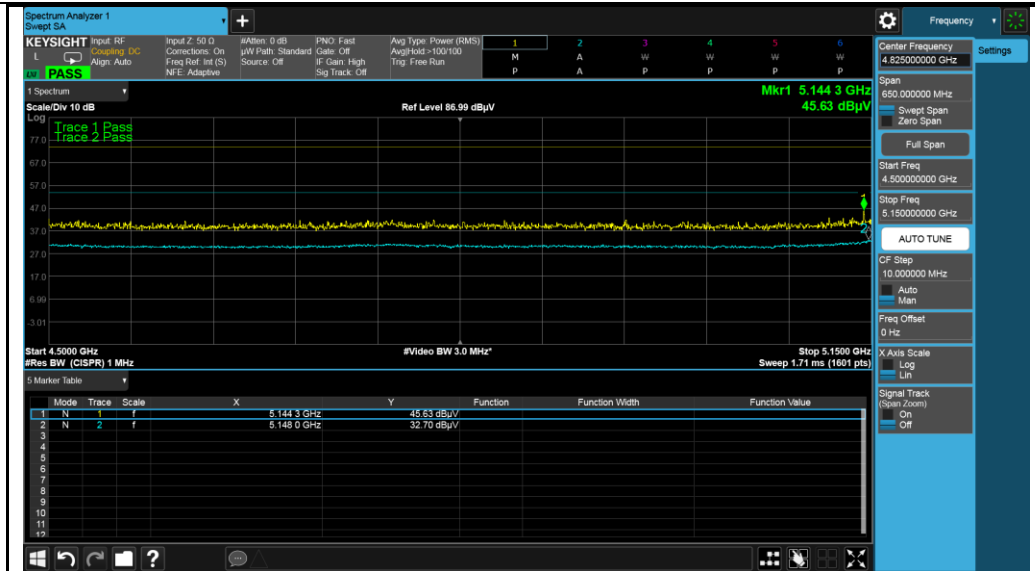
Test Data ☐ Yes (See below) ☒ N/A

Test Plot ☒ Yes (See below) ☐ N/A

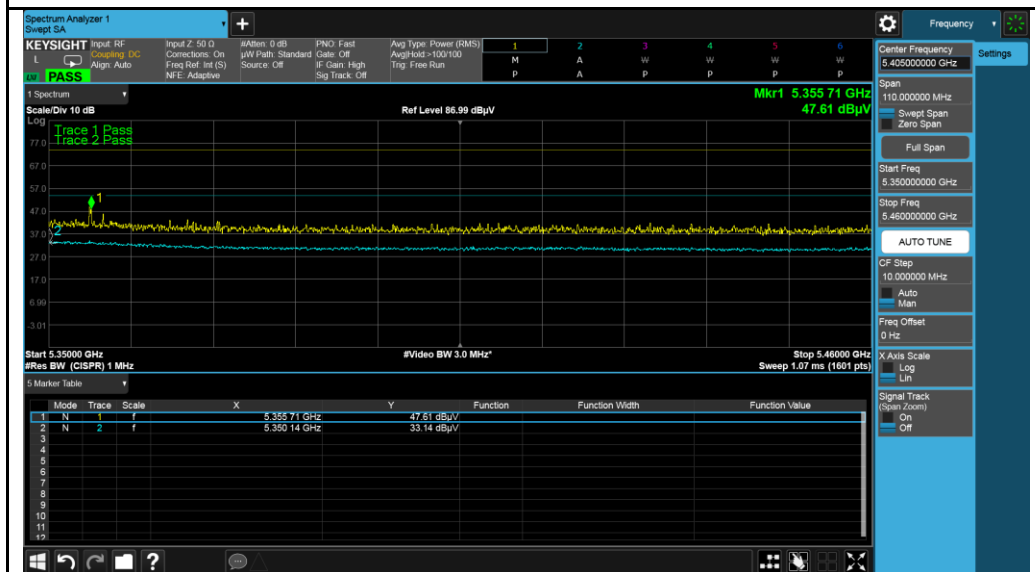
Test was done by Gary Chou at 10m chamber.

Restricted Band Measurement Plots:

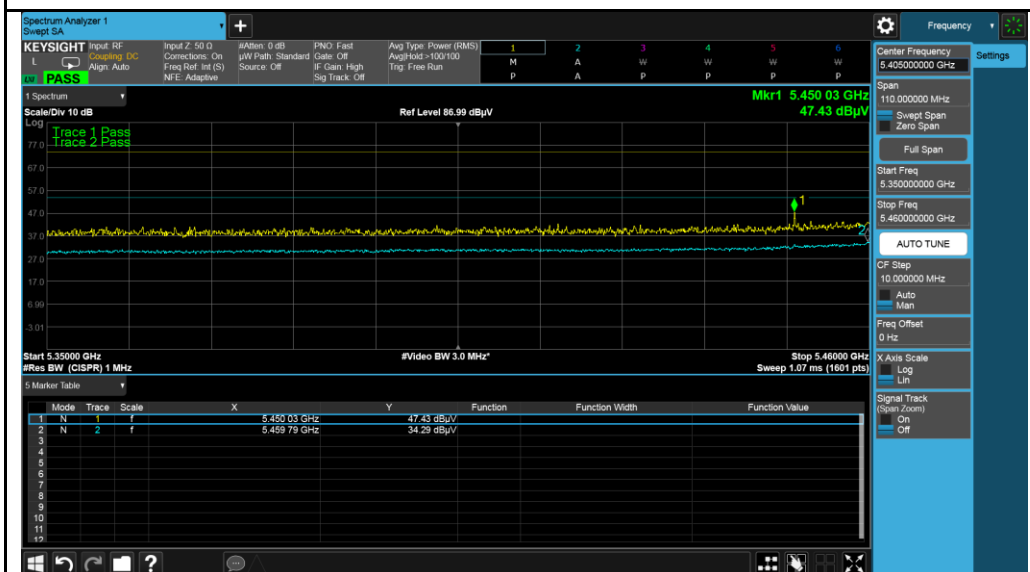
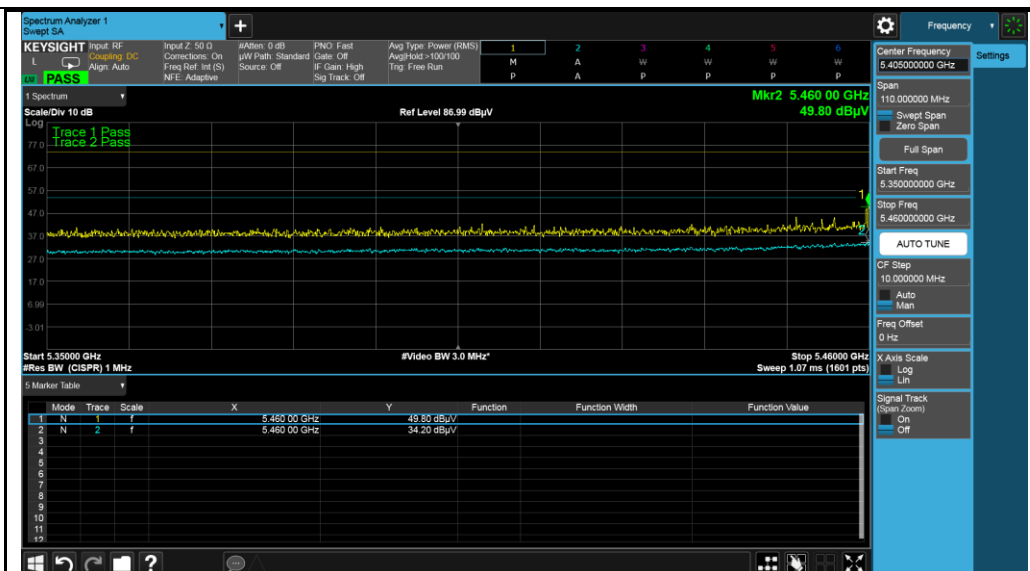


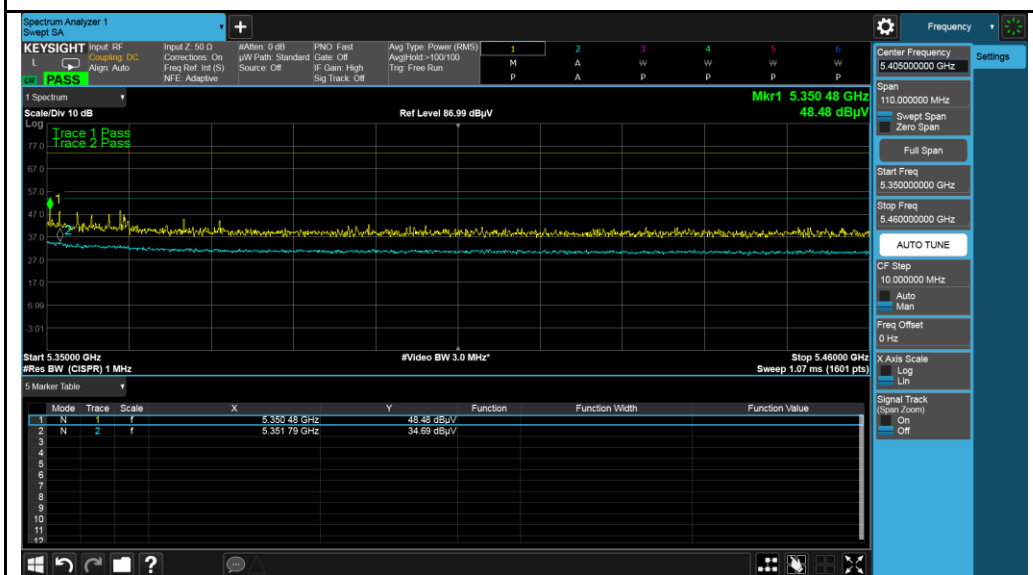
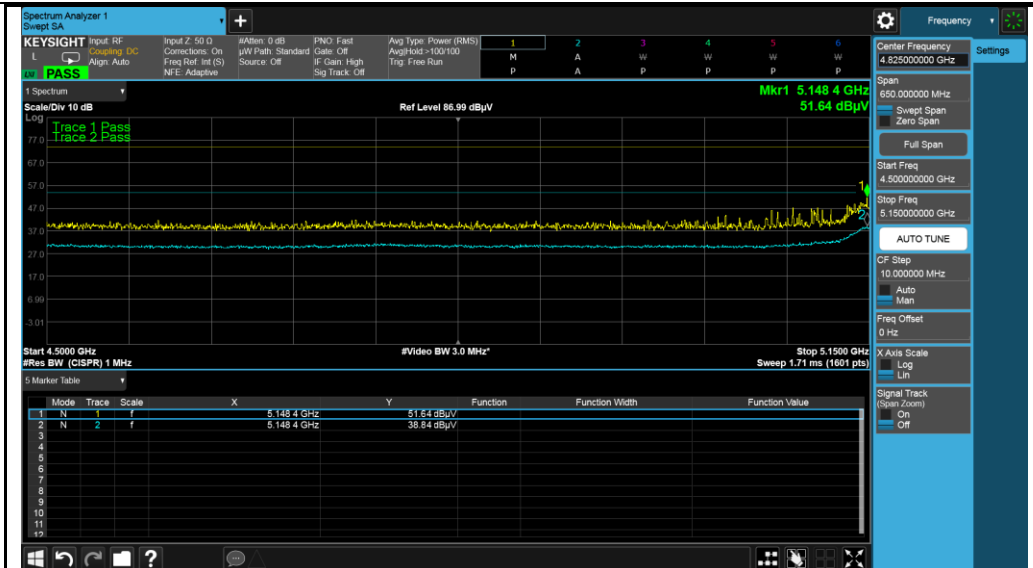


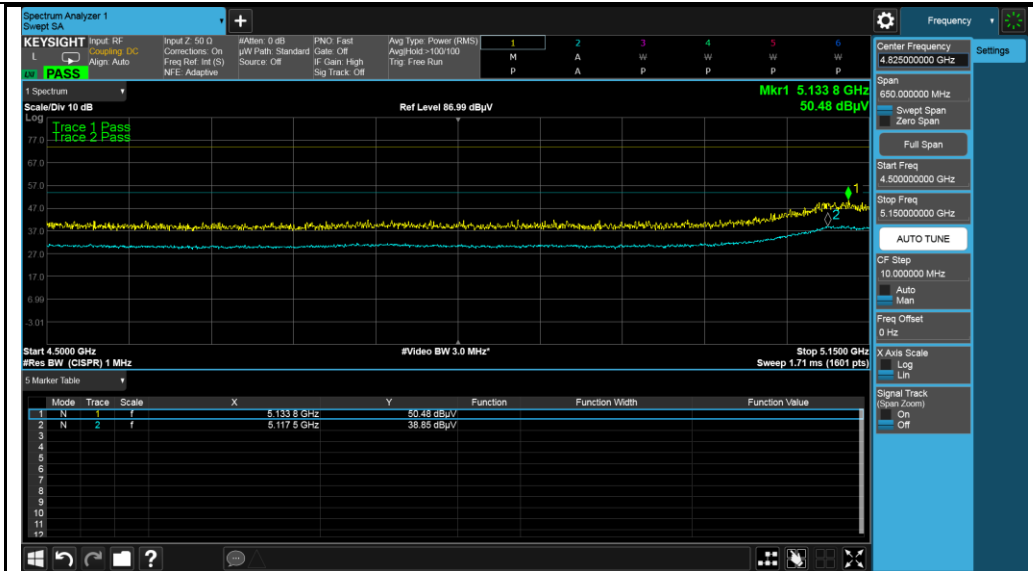
802.11n-HT20-5180MHz

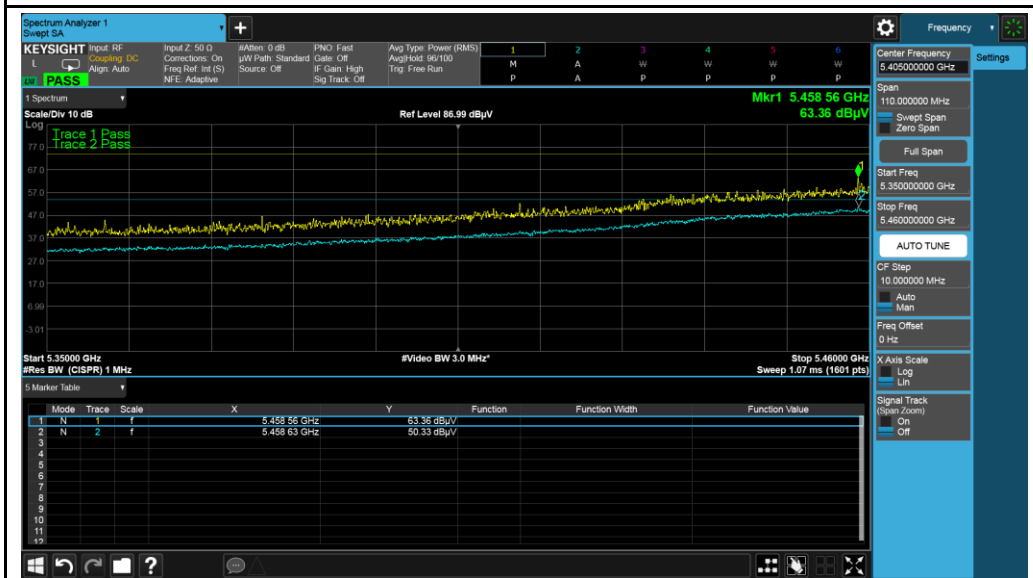
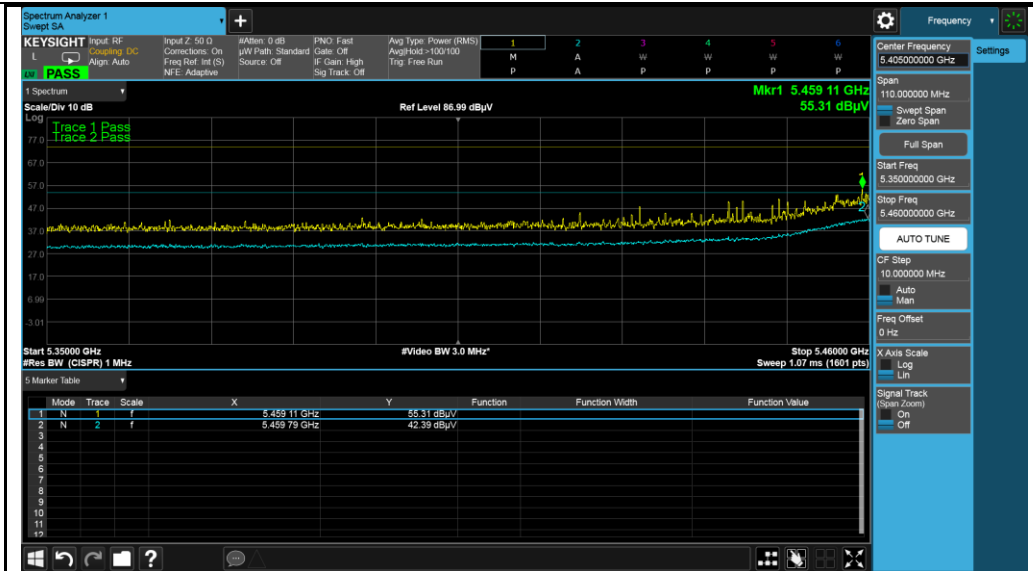


802.11n-HT20-5320MHz









Radiated Emission Test Results (Above 1GHz)

1GHz-40GHz – 802.11a – 5180MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
15953.37	38.49	7.8	5.95	52.24	Peak Max	V	183	231	74	-21.76	Pass
1535.41	51.52	2.38	-6.31	47.59	Peak Max	H	101	330	74	-26.41	Pass
1000.01	53.64	1.88	-7.85	47.67	Peak Max	H	160	356	74	-26.33	Pass
15953.37	26.33	7.8	5.95	40.08	Average Max	V	183	231	54	-13.92	Pass
1535.41	48.37	2.38	-6.31	44.44	Average Max	H	101	330	54	-9.56	Pass
1000.01	48.72	1.88	-7.85	42.75	Average Max	H	160	356	54	-11.25	Pass

1GHz-40GHz – 802.11a – 5200MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
10402.72	39.33	6.03	1.51	46.87	Peak Max	V	167	36	74	-27.13	Pass
1533.44	40.27	2.37	-6.32	36.32	Peak Max	V	114	64	74	-37.68	Pass
1000.02	48.64	1.88	-7.85	42.67	Peak Max	V	117	76	74	-31.33	Pass
10402.72	27.45	6.03	1.51	34.99	Average Max	V	167	36	54	-19.01	Pass
1533.44	27.52	2.37	-6.32	23.57	Average Max	V	114	64	54	-30.43	Pass
1000.02	41.33	1.88	-7.85	35.36	Average Max	V	117	76	54	-18.64	Pass

1GHz-40GHz – 802.11a – 5240MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
10475.66	42.55	6.07	1.54	50.16	Peak Max	V	104	74	74	-23.84	Pass
1535.50	47.27	2.38	-6.31	43.34	Peak Max	H	130	62	74	-30.66	Pass
3493.15	45.36	3.58	-1.75	47.19	Peak Max	V	184	133	74	-26.81	Pass
10475.66	29.19	6.07	1.54	36.80	Average Max	V	104	74	54	-17.2	Pass
1535.50	43.54	2.38	-6.31	39.61	Average Max	H	130	62	54	-14.39	Pass
3493.15	38.62	3.58	-1.75	40.45	Average Max	V	184	133	54	-13.55	Pass

1GHz-40GHz – 802.11a – 5260MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17948.59	38.80	7.92	8.7	55.42	Peak Max	H	133	189	74	-18.58	Pass
10521.52	44.12	6.09	1.58	51.79	Peak Max	H	159	90	74	-22.21	Pass
1529.83	41.24	2.37	-6.34	37.27	Peak Max	H	101	216	74	-36.73	Pass
17948.59	26.49	7.92	8.7	43.11	Average Max	H	133	189	54	-10.89	Pass
10521.52	30.27	6.09	1.58	37.94	Average Max	H	159	90	54	-16.06	Pass
1529.83	28.06	2.37	-6.34	24.09	Average Max	H	101	216	54	-29.91	Pass

1GHz-40GHz – 802.11a – 5280MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
10560.18	40.35	6.09	1.59	48.03	Peak Max	H	263	108	74	-25.97	Pass
14744.95	38.48	7.34	5.63	51.45	Peak Max	H	223	99	74	-22.55	Pass
3512.47	41.52	3.58	-1.74	43.36	Peak Max	H	105	188	74	-30.64	Pass
10560.18	26.64	6.09	1.59	34.32	Average Max	H	263	108	54	-19.68	Pass
14744.95	26.72	7.34	5.63	39.69	Average Max	H	223	99	54	-14.31	Pass
3512.47	28.33	3.58	-1.74	30.17	Average Max	H	105	188	54	-23.83	Pass

1GHz-40GHz – 802.11a – 5320MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16012.37	38.48	7.82	6.01	52.31	Peak Max	H	193	40	74	-21.69	Pass
10640.98	38.66	5.93	1.37	45.96	Peak Max	H	220	92	74	-28.04	Pass
3096.26	39.90	3.35	-1.42	41.83	Peak Max	H	228	114	74	-32.17	Pass
16012.37	26.41	7.82	6.01	40.24	Average Max	H	193	40	54	-13.76	Pass
10640.98	26.61	5.93	1.37	33.91	Average Max	H	220	92	54	-20.09	Pass
3096.26	27.41	3.35	-1.42	29.34	Average Max	H	228	114	54	-24.66	Pass

1GHz-40GHz – 802.11a – 5500MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17703.23	38.40	8.17	8.01	54.58	Peak Max	V	175	58	74	-19.42	Pass
11002.25	38.18	6.13	2.08	46.39	Peak Max	V	140	338	74	-27.61	Pass
1937.02	40.25	2.7	-2.74	40.21	Peak Max	V	217	55	74	-33.79	Pass
17703.23	26.19	8.17	8.01	42.37	Average Max	V	175	58	54	-11.63	Pass
11002.25	26.36	6.13	2.08	34.57	Average Max	V	140	338	54	-19.43	Pass
1937.02	28.56	2.7	-2.74	28.52	Average Max	V	217	55	54	-25.48	Pass

1GHz-40GHz – 802.11a – 5580MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17895.53	38.25	7.98	8.63	54.86	Peak Max	V	132	89	74	-19.14	Pass
11159.45	40.48	6.07	2.13	48.68	Peak Max	V	120	162	74	-25.32	Pass
1128.34	41.52	2	-7.27	36.25	Peak Max	H	154	201	74	-37.75	Pass
17895.53	26.43	7.98	8.63	43.04	Average Max	V	132	89	54	-10.96	Pass
11159.45	27.71	6.07	2.13	35.91	Average Max	V	120	162	54	-18.09	Pass
1128.34	28.29	2	-7.27	23.02	Average Max	H	154	201	54	-30.98	Pass

1GHz-40GHz – 802.11a – 5700MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
18000.36	80.42	7.86	-32.54	55.74	Peak Max	V	101	135	74	-18.26	Pass
11402.81	44.00	6.06	2.29	52.35	Peak Max	H	216	117	74	-21.65	Pass
1127.69	40.82	2	-7.28	35.54	Peak Max	H	326	325	74	-38.46	Pass
18000.36	67.86	7.86	-32.54	43.18	Average Max	V	101	135	54	-10.82	Pass
11402.81	29.83	6.06	2.29	38.18	Average Max	H	216	117	54	-15.82	Pass
1127.69	28.21	2	-7.28	22.93	Average Max	H	326	325	54	-31.07	Pass

1GHz-40GHz – 802.11a – 5745MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
11483.13	52.78	6.07	2.32	61.17	Peak Max	V	105	130	74	-12.83	Pass
1535.49	50.82	2.38	-6.31	46.89	Peak Max	H	103	331	74	-27.11	Pass
3829.77	45.53	3.66	-0.74	48.45	Peak Max	V	133	356	74	-25.55	Pass
11483.13	36.64	6.07	2.32	45.03	Average Max	V	105	130	54	-8.97	Pass
1535.49	48.29	2.38	-6.31	44.36	Average Max	H	103	331	54	-9.64	Pass
3829.77	39.46	3.66	-0.74	42.38	Average Max	V	133	356	54	-11.62	Pass

1GHz-40GHz – 802.11a – 5785MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
11572.76	54.31	6.13	2.44	62.88	Peak Max	V	177	126	74	-11.12	Pass
17828.50	38.73	8.06	8.41	55.20	Peak Max	H	213	329	74	-18.8	Pass
3856.69	47.25	3.69	-0.65	50.29	Peak Max	V	149	95	74	-23.71	Pass
11572.76	38.46	6.13	2.44	47.03	Average Max	V	177	126	54	-6.97	Pass
17828.50	26.16	8.06	8.41	42.63	Average Max	H	213	329	54	-11.37	Pass
3856.69	43.34	3.69	-0.65	46.38	Average Max	V	149	95	54	-7.62	Pass

1GHz-40GHz – 802.11a – 5825MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
11650.16	41.39	6.14	2.46	49.99	Peak Max	V	100	156	74	-24.01	Pass
17513.47	38.82	8.26	7.78	54.86	Peak Max	V	269	70	74	-19.14	Pass
1533.06	40.73	2.37	-6.32	36.78	Peak Max	V	269	139	74	-37.22	Pass
11650.16	28.64	6.14	2.46	37.24	Average Max	V	100	156	54	-16.76	Pass
17513.47	26.25	8.26	7.78	42.29	Average Max	V	269	70	54	-11.71	Pass
1533.06	27.89	2.37	-6.32	23.94	Average Max	V	269	139	54	-30.06	Pass

1GHz-40GHz – 802.11n-20M – 5180MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
1535.51	49.27	2.38	-6.31	45.34	Peak Max	H	141	117	74	-28.66	Pass
1000.00	45.53	1.88	-7.85	39.56	Peak Max	H	102	31	74	-34.438	Pass
10382.62	38.46	6.01	1.5	45.97	Peak Max	V	100	186	74	-28.03	Pass
1535.51	46.89	2.38	-6.31	42.96	Average Max	H	141	117	54	-11.04	Pass
1000.00	40.33	1.88	-7.85	34.36	Average Max	H	102	31	54	-19.64	Pass
10382.62	26.78	6.01	1.5	34.29	Average Max	V	100	186	54	-19.71	Pass

1GHz-40GHz – 802.11n-20M – 5200MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
1535.51	51.53	2.38	-6.31	47.60	Peak Max	H	101	328	74	-26.4	Pass
10411.80	38.27	6.03	1.51	45.81	Peak Max	V	104	241	74	-28.19	Pass
1000.00	40.46	1.88	-7.85	34.49	Peak Max	V	165	191	74	-39.51	Pass
1535.51	48.33	2.38	-6.31	44.40	Average Max	H	101	328	54	-9.6	Pass
10411.80	26.85	6.03	1.51	34.39	Average Max	V	104	241	54	-19.61	Pass
1000.00	34.49	1.88	-7.85	28.52	Average Max	V	165	191	54	-25.48	Pass

1GHz-40GHz – 802.11n-20M – 5240MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
1535.32	50.27	2.38	-6.31	46.34	Peak Max	H	105	330	74	-27.66	Pass
3493.39	46.35	3.58	-1.75	48.18	Peak Max	V	186	131	74	-25.82	Pass
10482.88	39.43	6.07	1.54	47.04	Peak Max	V	104	112	74	-26.96	Pass
1535.32	47.56	2.38	-6.31	43.63	Average Max	H	105	330	54	-10.37	Pass
3493.39	40.61	3.58	-1.75	42.44	Average Max	V	186	131	54	-11.56	Pass
10482.88	26.29	6.07	1.54	33.90	Average Max	V	104	112	54	-20.1	Pass

1GHz-40GHz – 802.11n-20M – 5260MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
10519.95	47.18	6.11	1.64	54.93	Peak Max	V	256	129	74	-19.07	Pass
16771.08	38.29	8.05	6.65	52.99	Peak Max	V	336	126	74	-21.01	Pass
3522.44	40.51	3.58	-1.73	42.36	Peak Max	V	298	247	74	-31.64	Pass
10519.95	32.84	6.11	1.64	40.59	Average Max	V	256	129	54	-13.41	Pass
16771.08	26.15	8.05	6.65	40.85	Average Max	V	336	126	54	-13.15	Pass
3522.44	27.83	3.58	-1.73	29.68	Average Max	V	298	247	54	-24.32	Pass

1GHz-40GHz – 802.11n-20M – 5280MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
10560.94	46.38	6.11	1.64	54.13	Peak Max	V	202	35	74	-19.87	Pass
17820.91	38.67	8.07	8.39	55.13	Peak Max	V	102	114	74	-18.87	Pass
1529.30	40.60	2.37	-6.34	36.63	Peak Max	V	293	357	74	-37.37	Pass
10560.94	32.95	6.11	1.64	40.70	Average Max	V	202	35	54	-13.30	Pass
17820.91	26.34	8.07	8.39	42.80	Average Max	V	102	114	54	-11.20	Pass
1529.30	27.80	2.37	-6.34	23.83	Average Max	V	293	357	54	-30.17	Pass

1GHz-40GHz – 802.11n-20M – 5320MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
15133.74	38.79	7.39	5.33	51.51	Peak Max	V	225	229	74	-22.49	Pass
10640.22	39.62	6.13	1.71	47.46	Peak Max	V	119	321	74	-26.54	Pass
1126.71	41.34	2	-7.3	36.04	Peak Max	V	298	79	74	-37.96	Pass
15133.74	26.18	7.39	5.33	38.90	Average Max	V	225	229	54	-15.10	Pass
10640.22	26.27	6.13	1.71	34.11	Average Max	V	119	321	54	-19.89	Pass
1126.71	28.36	2	-7.3	23.06	Average Max	V	298	79	54	-30.94	Pass

1GHz-40GHz – 802.11n-20M – 5500MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17627.50	38.46	8.21	7.91	54.58	Peak Max	H	110	117	74	-19.42	Pass
11000.56	39.73	6.13	2.08	47.94	Peak Max	V	305	238	74	-26.06	Pass
1350.47	41.18	2.2	-5.81	37.57	Peak Max	V	215	268	74	-36.43	Pass
17627.50	26.58	8.21	7.91	42.70	Average Max	H	110	117	54	-11.30	Pass
11000.56	26.29	6.13	2.08	34.50	Average Max	V	305	238	54	-19.50	Pass
1350.47	29.44	2.2	-5.81	25.83	Average Max	V	215	268	54	-28.17	Pass

1GHz-40GHz – 802.11n-20M – 5580MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16989.56	38.16	8.14	6.64	52.94	Peak Max	V	215	206	74	-21.06	Pass
11159.95	39.71	6.07	2.13	47.91	Peak Max	V	111	44	74	-26.09	Pass
1499.86	42.83	2.34	-6.48	38.69	Peak Max	V	238	349	74	-35.31	Pass
16989.56	25.81	8.14	6.64	40.59	Average Max	V	215	206	54	-13.41	Pass
11159.95	27.48	6.07	2.13	35.68	Average Max	V	111	44	54	-18.32	Pass
1499.86	31.48	2.34	-6.48	27.34	Average Max	V	238	349	54	-26.66	Pass

1GHz-40GHz – 802.11n-20M – 5700MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16011.33	38.72	7.82	6.01	52.55	Peak Max	V	302	61	74	-21.45	Pass
11401.28	43.33	6.06	2.29	51.68	Peak Max	V	103	90	74	-22.32	Pass
1340.81	41.28	2.19	-5.85	37.62	Peak Max	V	162	242	74	-36.38	Pass
16011.33	26.40	7.82	6.01	40.23	Average Max	V	302	61	54	-13.77	Pass
11401.28	29.54	6.06	2.29	37.89	Average Max	V	103	90	54	-16.11	Pass
1340.81	29.37	2.19	-5.85	25.71	Average Max	V	162	242	54	-28.29	Pass

1GHz-40GHz – 802.11n-20M – 5745MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
11489.62	49.42	6.13	2.44	57.99	Peak Max	H	209	127	74	-16.01	Pass
16011.94	38.31	7.82	6.01	52.14	Peak Max	H	239	290	74	-21.86	Pass
3861.45	39.24	3.7	-0.64	42.30	Peak Max	H	183	95	74	-31.7	Pass
11489.62	34.26	6.13	2.44	42.83	Average Max	H	209	127	54	-11.17	Pass
16011.94	26.46	7.82	6.01	40.29	Average Max	H	239	290	54	-13.71	Pass
3861.45	26.53	3.7	-0.64	29.59	Average Max	H	183	95	54	-24.41	Pass

1GHz-40GHz – 802.11n-20M – 5785MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
11571.19	54.27	6.13	2.44	62.84	Peak Max	V	205	135	74	-11.16	Pass
17988.57	38.89	7.87	8.75	55.51	Peak Max	V	286	291	74	-18.49	Pass
1529.83	41.43	2.37	-6.34	37.46	Peak Max	H	101	202	74	-36.54	Pass
11571.19	38.53	6.13	2.44	47.10	Average Max	V	205	135	54	-6.9	Pass
17988.57	26.24	7.87	8.75	42.86	Average Max	V	286	291	54	-11.14	Pass
1529.83	28.67	2.37	-6.34	24.70	Average Max	H	101	202	54	-29.3	Pass

1GHz-40GHz – 802.11n-20M – 5825MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
11649.56	49.44	6.13	2.44	58.01	Peak Max	H	173	195	74	-15.99	Pass
14893.53	38.52	7.25	5.62	51.39	Peak Max	H	256	153	74	-22.61	Pass
1530.19	41.79	2.37	-6.34	37.82	Peak Max	H	332	234	74	-36.18	Pass
11649.56	34.64	6.13	2.44	43.21	Average Max	H	173	195	54	-10.79	Pass
14893.53	26.27	7.25	5.62	39.14	Average Max	H	256	153	54	-14.86	Pass
1530.19	28.51	2.37	-6.34	24.54	Average Max	H	332	234	54	-29.46	Pass

1GHz-40GHz – 802.11n-40M – 5190MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
1535.48	51.41	2.38	-6.31	47.48	Peak Max	H	103	326	74	-26.52	Pass
10386.39	38.27	6.02	1.5	45.79	Peak Max	V	108	201	74	-28.21	Pass
1119.96	41.56	1.99	-7.41	36.14	Peak Max	H	159	184	74	-37.86	Pass
1535.48	48.44	2.38	-6.31	44.51	Average Max	H	103	326	54	-9.49	Pass
10386.39	26.39	6.02	1.5	33.91	Average Max	V	108	201	54	-20.09	Pass
1119.96	29.63	1.99	-7.41	24.21	Average Max	H	159	184	54	-29.79	Pass

1GHz-40GHz – 802.11n-40M – 5230MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
1535.41	50.87	2.38	-6.31	46.94	Peak Max	H	104	332	74	-27.06	Pass
3486.35	44.92	3.57	-1.75	46.74	Peak Max	V	168	71	74	-27.26	Pass
10454.43	38.43	6.06	1.53	46.02	Peak Max	V	175	346	74	-27.98	Pass
1535.41	47.46	2.38	-6.31	43.53	Average Max	H	104	332	54	-10.47	Pass
3486.35	36.29	3.57	-1.75	38.11	Average Max	V	168	71	54	-15.89	Pass
10454.43	26.72	6.06	1.53	34.31	Average Max	V	175	346	54	-19.69	Pass

1GHz-40GHz – 802.11n-40M – 5270MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17615.66	38.32	8.21	7.9	54.43	Peak Max	V	143	31	74	-19.57	Pass
10541.15	42.61	6.1	1.61	50.32	Peak Max	V	223	55	74	-23.68	Pass
1530.77	41.29	2.37	-6.33	37.33	Peak Max	V	201	111	74	-36.67	Pass
17615.66	26.42	8.21	7.9	42.53	Average Max	V	143	31	54	-11.47	Pass
10541.15	29.40	6.1	1.61	37.11	Average Max	V	223	55	54	-16.89	Pass
1530.77	27.82	2.37	-6.33	23.86	Average Max	V	201	111	54	-30.14	Pass

1GHz-40GHz – 802.11n-40M – 5310MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17456.20	38.18	8.23	7.61	54.02	Peak Max	V	259	288	74	-19.98	Pass
1531.16	40.39	2.37	-6.33	36.43	Peak Max	V	337	252	74	-37.57	Pass
10623.79	40.44	6.13	1.71	48.28	Peak Max	V	339	184	74	-25.72	Pass
17456.20	26.53	8.23	7.61	42.37	Average Max	V	259	288	54	-11.63	Pass
1531.16	27.26	2.37	-6.33	23.30	Average Max	V	337	252	54	-30.70	Pass
10623.79	26.19	6.13	1.71	34.03	Average Max	V	339	184	54	-19.97	Pass

1GHz-40GHz – 802.11n-40M – 5510MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17828.53	38.39	8.06	8.41	54.86	Peak Max	V	242	153	74	-19.14	Pass
11022.45	39.07	6.12	2.09	47.28	Peak Max	V	200	53	74	-26.72	Pass
1703.19	39.92	2.54	-4.8	37.66	Peak Max	V	278	80	74	-36.34	Pass
17828.53	26.17	8.06	8.41	42.64	Average Max	V	242	153	54	-11.36	Pass
11022.45	26.12	6.12	2.09	34.33	Average Max	V	200	53	54	-19.67	Pass
1703.19	27.97	2.54	-4.8	25.71	Average Max	V	278	80	54	-28.29	Pass

1GHz-40GHz – 802.11n-40M – 5550MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
16384.37	39.29	8.14	5.83	53.26	Peak Max	V	335	323	74	-20.74	Pass
11100.20	40.46	6.09	2.11	48.66	Peak Max	V	200	344	74	-25.34	Pass
1533.20	40.33	2.37	-6.32	36.38	Peak Max	V	170	174	74	-37.62	Pass
16384.37	26.52	8.14	5.83	40.49	Average Max	V	335	323	54	-13.51	Pass
11100.20	28.68	6.09	2.11	36.88	Average Max	V	200	344	54	-17.12	Pass
1533.20	27.39	2.37	-6.32	23.44	Average Max	V	170	174	54	-30.56	Pass

1GHz-40GHz – 802.11n-40M – 5670MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17386.28	38.51	8.18	7.37	54.06	Peak Max	V	306	313	74	-19.94	Pass
11339.80	39.75	6.04	2.22	48.01	Peak Max	V	104	304	74	-25.99	Pass
3071.02	40.68	3.33	-1.44	42.57	Peak Max	V	192	277	74	-31.43	Pass
17386.28	26.26	8.18	7.37	41.81	Average Max	V	306	313	54	-12.19	Pass
11339.80	27.62	6.04	2.22	35.88	Average Max	V	104	304	54	-18.12	Pass
3071.02	29.48	3.33	-1.44	31.37	Average Max	V	192	277	54	-22.63	Pass

1GHz-40GHz – 802.11n-40M – 5755MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
11548.49	46.42	6.11	2.4	54.93	Peak Max	V	203	133	74	-19.07	Pass
16269.63	38.65	8.17	5.86	52.68	Peak Max	V	231	342	74	-21.32	Pass
1530.25	40.27	2.37	-6.34	36.30	Peak Max	V	146	333	74	-37.7	Pass
11548.49	32.83	6.11	2.4	41.34	Average Max	V	203	133	54	-12.66	Pass
16269.63	26.49	8.17	5.86	40.52	Average Max	V	231	342	54	-13.48	Pass
1530.25	27.25	2.37	-6.34	23.28	Average Max	V	146	333	54	-30.72	Pass

1GHz-40GHz – 802.11n-40M – 5795MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
11589.88	51.46	6.13	2.44	60.03	Peak Max	V	204	123	74	-13.97	Pass
17533.56	39.27	8.25	7.8	55.32	Peak Max	V	316	318	74	-18.68	Pass
3856.81	46.35	3.69	-0.65	49.39	Peak Max	V	165	100	74	-24.61	Pass
11589.88	34.44	6.13	2.44	43.01	Average Max	V	204	123	54	-10.99	Pass
17533.56	26.26	8.25	7.8	42.31	Average Max	V	316	318	54	-11.69	Pass
3856.81	41.87	3.69	-0.65	44.91	Average Max	V	165	100	54	-9.09	Pass

1GHz-40GHz – 802.11ac-80M – 5210MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
6950.86	38.64	5.07	-0.36	43.35	Peak Max	V	351	320	74	-30.65	Pass
1530.17	40.29	2.37	-6.34	36.32	Peak Max	H	340	19	74	-37.68	Pass
12964.051	37.36	6.86	4.81	49.03	Peak Max	V	105	349	74	-24.97	Pass
6950.86	26.37	5.07	-0.36	31.08	Average Max	V	351	320	54	-22.92	Pass
1530.17	28.58	2.37	-6.34	24.61	Average Max	H	340	19	54	-29.39	Pass
12964.051	25.46	6.86	4.81	37.13	Average Max	V	105	349	54	-16.87	Pass

1GHz-40GHz – 802.11ac-80M – 5290MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17606.21	39.29	8.22	7.89	55.40	Peak Max	H	253	167	74	-18.6	Pass
7055.0295	38.33	5.1	-0.4	43.03	Peak Max	V	100	286	74	-30.97	Pass
10697.412	39.55	6.16	1.74	47.45	Peak Max	V	113	262	74	-26.55	Pass
17606.21	26.28	8.22	7.89	42.39	Average Max	H	253	167	54	-11.61	Pass
7055.0295	26.49	5.1	-0.4	31.19	Average Max	V	100	286	54	-22.81	Pass
10697.412	26.54	6.16	1.74	34.44	Average Max	V	113	262	54	-19.56	Pass

1GHz-40GHz – 802.11ac-80M – 5530MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17742.737	38.27	8.15	8.14	54.56	Peak Max	V	348	315	74	-19.44	Pass
1530.0835	40.36	2.37	-6.34	36.39	Peak Max	V	141	88	74	-37.61	Pass
11060.467	38.29	6.51	3.76	48.56	Peak Max	V	106	339	74	-25.44	Pass
17742.737	26.47	8.15	8.14	42.76	Average Max	V	348	315	54	-11.24	Pass
1530.0835	28.33	2.37	-6.34	24.36	Average Max	V	141	88	54	-29.64	Pass
11060.467	26.54	6.51	3.76	36.81	Average Max	V	106	339	54	-17.19	Pass

1GHz-40GHz – 802.11ac-80M – 5610MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
17923.695	38.45	7.95	8.67	55.07	Peak Max	V	100	114	74	-18.93	Pass
11379.96	49.26	6.05	2.27	57.58	Peak Max	H	163	112	74	-16.42	Pass
1530.915	40.37	2.37	-6.33	36.41	Peak Max	H	225	113	74	-37.59	Pass
17923.695	26.89	7.95	8.67	43.51	Average Max	V	100	114	54	-10.49	Pass
11379.96	30.53	6.05	2.27	38.85	Average Max	H	163	112	54	-15.15	Pass
1530.915	27.62	2.37	-6.33	23.66	Average Max	H	225	113	54	-30.34	Pass

1GHz-40GHz – 802.11ac-80M – 5775MHz

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol (V/H)	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
11386.402	43.63	6.05	2.28	51.96	Peak Max	H	142	210	74	-22.04	Pass
16385.611	39.27	8.14	5.83	53.24	Peak Max	H	241	224	74	-20.76	Pass
3789.5885	40.46	3.61	-0.88	43.19	Peak Max	H	172	349	74	-30.81	Pass
11386.402	29.55	6.05	2.28	37.88	Average Max	H	142	210	54	-16.12	Pass
16385.611	26.87	8.14	5.83	40.84	Average Max	H	241	224	54	-13.16	Pass
3789.5885	27.44	3.61	-0.88	30.17	Average Max	H	172	349	54	-23.83	Pass

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	☒
Keysight Signal Generator	MXG N5182A	MY47071065	04/12/2017	1 Year	06/28/2018	☒
Pre-Amplifier (1-26.5GHz)	8449B	3008A00715	08/16/2017	1 Year	08/16/2018	☒
RF Preamplifier (100KHz-7GHz)	LPA-6-30	11170601	07/21/2017	1 Year	07/21/2018	☒
Bi-Log antenna (30MHz~2GHz)	JB1	A030702	03/09/2018	2 Year	03/09/2020	☒
Horn Antenna (1GHz~26GHz)	3115	100059	11/09/2017	1 Year	11/09/2018	☒

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		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