

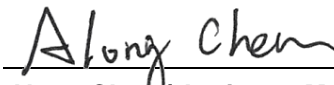
FCC C2PC Test Report

FCC ID : SQG-LWB5PLUS
Equipment : Sterling-LWB5+ WiFi 5 + Bluetooth 5.2 USB Adapter PCBA
Model No. : Sterling LWB5+
Brand Name : Laird Connectivity
Applicant : Laird Connectivity LLC
Address : W66N220 Commerce Court, Cedarburg, WI 53012 United States Of America
Standard : 47 CFR FCC Part 15.247
Received Date : Nov. 21, 2022
Tested Date : Nov. 23 ~ Dec. 01, 2022

We, International Certification Corporation, would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:

Approved by:



Along Chen / Assistant Manager



Gary Chang / Manager

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Release Record

Report No.	Version	Description	Issued Date
FR061103-09AC	Rev. 01	Initial issue	Dec. 16, 2022

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	AC Power Line Conducted Emission	[dBuV]: 0.345MHz 33.42 (Margin -15.67dB) - AV	Pass
15.247(d) 15.209	Unwanted Emissions	[dBuV/m at 3m]: 51.34MHz 33.19 (Margin -6.81dB) - PK	Pass
15.247(b)(3)	Conducted Output Power	Max Power [dBm]: 24.63	Pass

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Information

This report is prepared for FCC class II change.

This report is issued as a duplicate report to original ICC report no. FR061103AC. The modification is concerned with following items:

- ✧ Adding a carrier board
- ✧ Changing product name and applicant
- ✧ Changing antenna model name

Therefore, related test items had been performed and presented in the following sections.

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS
2400-2483.5	b	2412-2462	1-11 [11]	1	1-11 Mbps
2400-2483.5	g	2412-2462	1-11 [11]	1	6-54 Mbps
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	1	MCS 0-7
2400-2483.5	n (HT40)	2422-2452	3-9 [7]	1	MCS 0-7

Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.
 Note 2: DSSS-DBPSK, DQPSK, CCK modulation
 OFDM - BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.

1.1.2 Antenna Details

Ant. No.	Manufacturer	Model	Laird Part Number	Type	Connector	Antenna Gain (dBi)
1	ACX	AD1608-A2455AA_LF	NA	Chip Antenna	N/A	1.0

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	5Vdc
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1.1.4 Accessories

N/A

1.1.5 Channel List

Frequency band (MHz)		2400~2483.5	
802.11 b / g / n HT20		802.11n HT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2412	3	2422
2	2417	4	2427
3	2422	5	2432
4	2427	6	2437
5	2432	7	2442
6	2437	8	2447
7	2442	9	2452
8	2447	---	---
9	2452	---	---
10	2457	---	---
11	2462	---	---

1.1.6 Test Tool

Test Tool	Putty, Version: 0.60.0.0		
Duty Cycle and Duty Factor	Mode	Duty Cycle (%)	Duty Factor (dB)
	11b	100.00%	0.00
	11g	99.66%	0.01
	HT20	99.64%	0.02
	HT40	98.14%	0.08

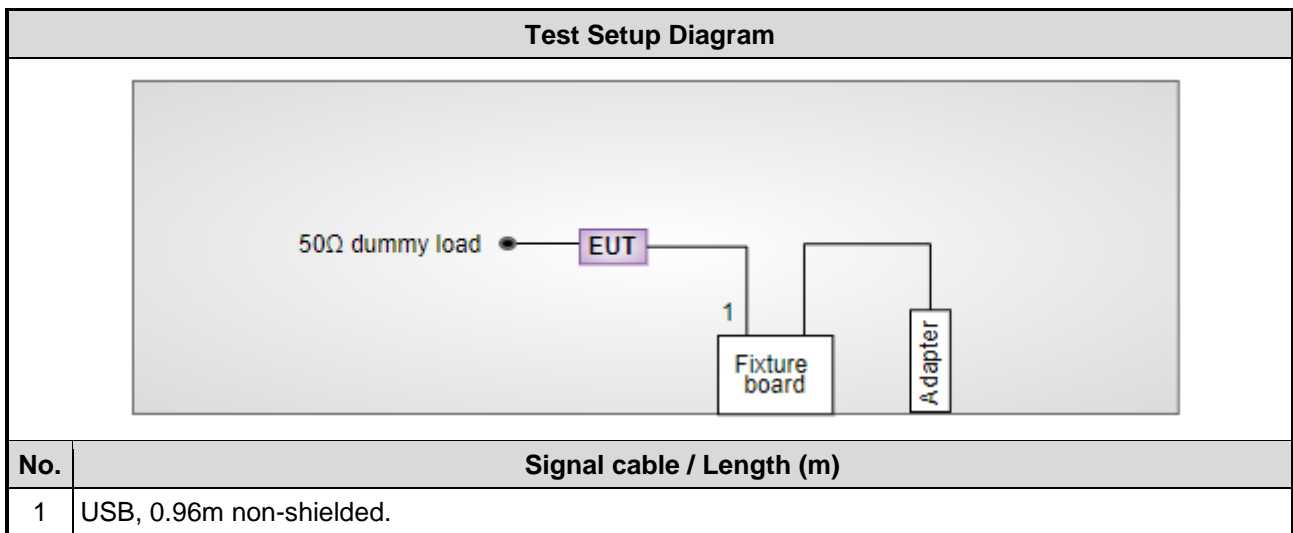
1.1.7 Power Index of Test Tool

Modulation Mode	Test Frequency (MHz)	Power Index
11b	2412	60
11b	2437	68
11b	2462	58
11g	2412	42
11g	2437	66
11g	2462	46
HT20	2412	38
HT20	2437	66
HT20	2462	40
HT40	2422	32
HT40	2437	40
HT40	2452	34

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Fixture board	Laird	SU60-SOMC	---	Provided by applicant.
2	Fixture board adapter	I.T.E POWER SUPPLY	MU12AY12010 0-A1	---	Provided by applicant.
3	50Ω terminator	---	---	---	---

1.3 Test Setup Chart



1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Dec. 01, 2022				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101658	Feb. 16, 2022	Feb. 15, 2023
LISN	R&S	ENV216	101579	Apr. 21, 2022	Apr. 20, 2023
LISN (Support Unit)	SCHWARZBECK	Schwarzbeck 8127	8127667	Jan .07, 2022	Jan .06, 2023
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 17, 2022	Oct. 16, 2023
50 ohm terminal (Support Unit)	NA	50	01	May 10, 2022	May 09, 2023
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Nov. 28, 2022				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101657	Mar. 15, 2022	Mar. 14, 2023
Spectrum Analyzer	R&S	FSV40	101498	Nov. 21, 2022	Nov. 20, 2023
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 01, 2022	Oct. 31, 2023
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 03, 2022	Aug. 02, 2023
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1095	Sep. 16, 2022	Sep. 15, 2023
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Oct. 27, 2022	Oct. 26, 2023
Preamplifier	EMC	EMC02325	980225	Jun. 28, 2022	Jun. 27, 2023
Preamplifier	EMC	EMC118A45SE	980898	Jul. 16, 2022	Jul. 15, 2023
Preamplifier	EMC	EMC184045SE	980903	Jul. 16, 2022	Jul. 15, 2023
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 04, 2022	Oct. 03, 2023
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 04, 2022	Oct. 03, 2023
LF cable 11M	EMC	EMCCFD400-NW-N W-11000	200801	Oct. 04, 2022	Oct. 03, 2023
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	160502	Oct. 04, 2022	Oct. 03, 2023
RF Cable	EMC	EMC104-35M-35M- 8000	210920	Oct. 04, 2022	Oct. 03, 2023
RF Cable	EMC	EMC104-35M-35M- 3000	210922	Oct. 04, 2022	Oct. 03, 2023
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Nov. 23, 2022				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101910	Apr. 08, 2022	Apr. 07, 2023
Power Meter	Anritsu	ML2495A	1241002	Nov. 23, 2022	Nov. 22, 2023
Power Sensor	Anritsu	MA2411B	1207366	Nov. 23, 2022	Nov. 22, 2023
Measurement Software	Sporton	SENSE-15247_DTS	V5.10.8.7.3	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

47 CFR FCC Part 15.247
ANSI C63.10-2013

1.6 Reference Guidance

FCC KDB 558074 D01 15.247 Meas Guidance v05r02

1.7 Deviation from Test Standard and Measurement Procedure

None

1.8 Measurement Uncertainty

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor ($k=2$)).

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	± 34.130 Hz
Conducted power	± 0.808 dB
Power density	± 0.583 dB
Conducted emission	± 2.715 dB
AC conducted emission	± 2.92 dB
Unwanted Emission ≤ 1 GHz	± 3.41 dB
Unwanted Emission > 1 GHz	± 4.59 dB

2 Test Configuration

2.1 Testing Facility

Test Laboratory	International Certification Corporation
Test Site	CO01-WS, 03CH01-WS, TH01-WS
Address of Test Site	No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

- FCC Designation No.: TW2732
- FCC site registration No.: 181692
- ISED#: 10807A
- CAB identifier: TW2732

2.2 The Worst Test Modes and Channel Details

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate	Test Configuration
AC Power Line Conducted Emission	11g	2437	6 Mbps	---
Unwanted Emissions ≤ 1GHz	11g	2437	6 Mbps	---
Unwanted Emissions >1GHz	11b	2437	1 Mbps	---
Conducted Output Power	11b	2412 / 2437 / 2462	1 Mbps	---
	11g	2412 / 2437 / 2462	6 Mbps	
	HT20	2412 / 2437 / 2462	MCS 0	
	HT40	2422 / 2437 / 2452	MCS 0	

NOTE:

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Y-plane** results were found as the worst case and were shown in this report.
2. 50Ω terminator was connected to antenna port of EUT for radiated emission measurement.

3 Transmitter Test Results

3.1 Conducted Output Power

3.1.1 Limit of Conducted Output Power

Conducted power shall not exceed 1Watt.

Antenna gain \leq 6dBi, no any corresponding reduction is in output power limit.

Antenna gain $>$ 6dBi

Non Fixed, point to point operations.

The conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB

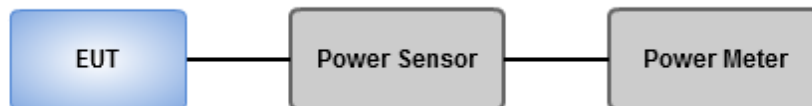
Fixed, point to point operations

Systems operating in the 2400–2483.5 MHz band that are used exclusively for fixed, point-to-point Operations, maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

3.1.2 Test Procedures

A broadband RF power meter is used for output power measurement. The video bandwidth of power meter is greater than DTS bandwidth of EUT. If duty cycle of test signal is not 100 %, trigger and gating function of power meter will be enabled to capture transmission burst for measuring output power.

3.1.3 Test Setup



3.1.4 Test Results

Ambient Condition	22°C / 64%	Tested By	Akun Chung
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Refer to Appendix A.

3.2 Unwanted Emissions into Restricted Frequency Bands

3.2.1 Limit of Unwanted Emissions into Restricted Frequency Bands

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1:
Quasi-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit

Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

3.2.2 Test Procedures

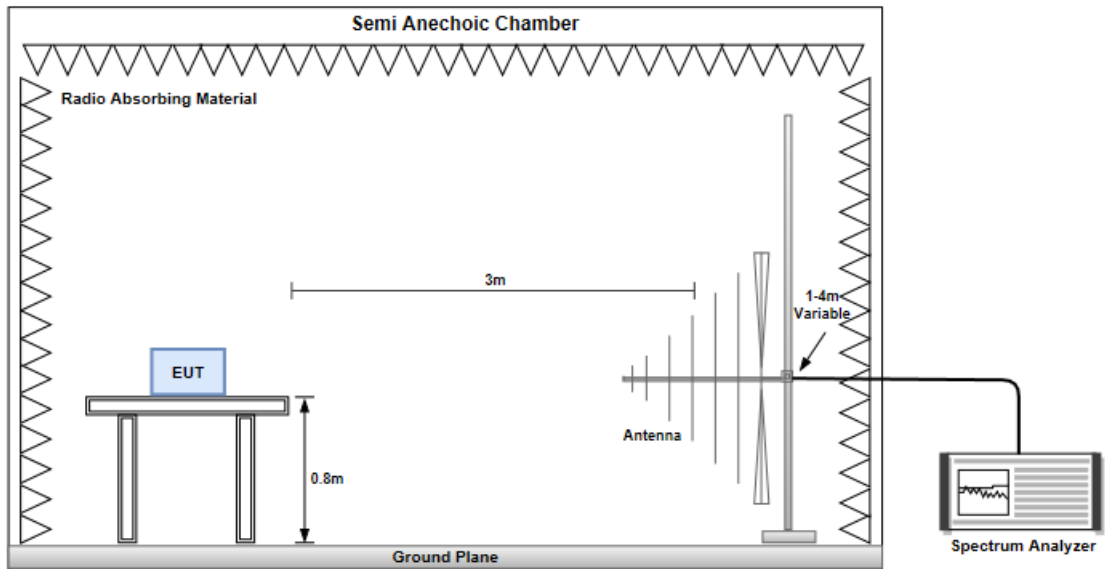
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

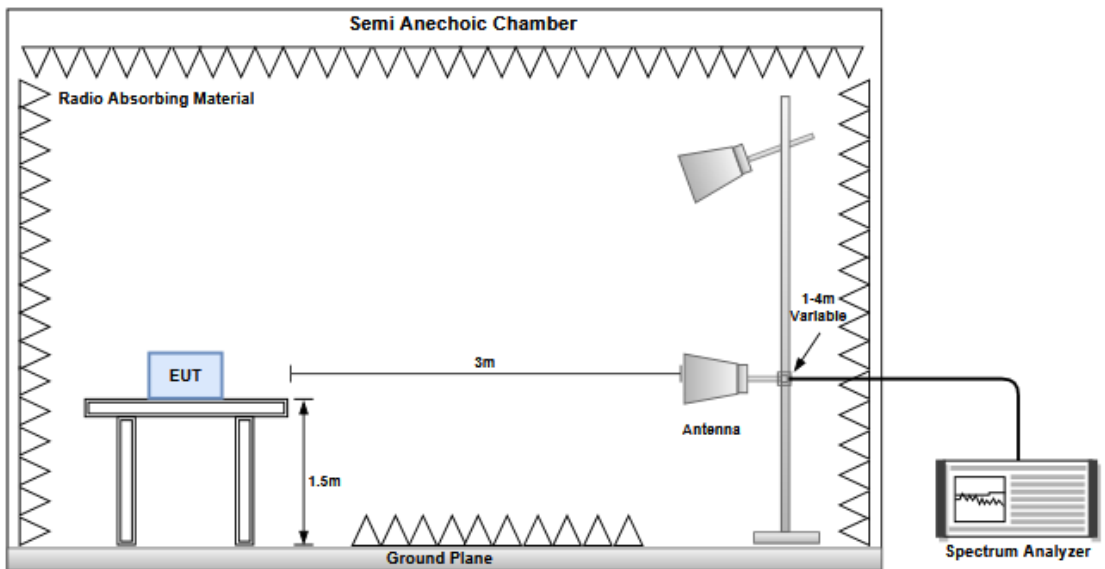
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

3.2.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



3.2.4 Test Results

Refer to Appendix B.

3.3 AC Power Line Conducted Emissions

3.3.1 Limit of AC Power Line Conducted Emissions

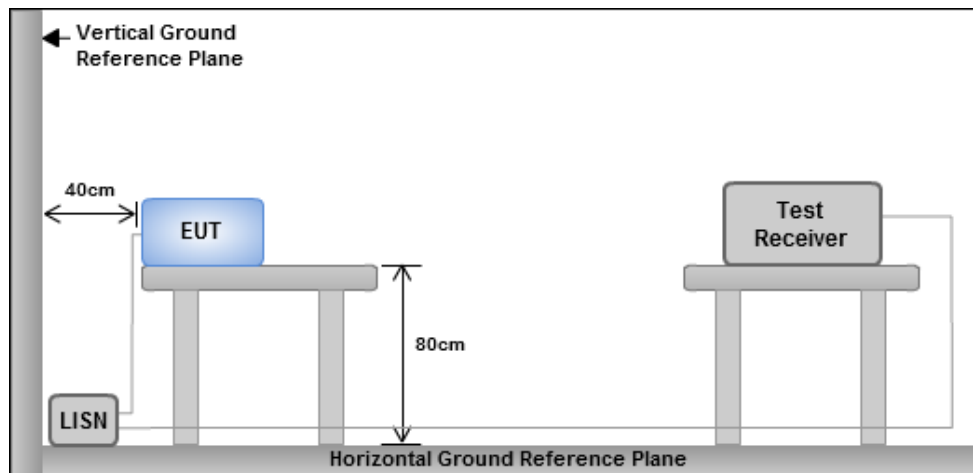
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

3.3.2 Test Procedures

1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50 Ω LISN port.
3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
4. This measurement was performed with AC 120V / 60Hz.

3.3.3 Test Setup



- Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.3.4 Test Results

Refer to Appendix C.

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corporation (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

Linkou

Tel: 886-2-2601-1640

No.30-2, Ding Fwu Tsuen, Lin Kou
District, New Taipei City, Taiwan
(R.O.C.)

Kwei Shan

Tel: 886-3-271-8666

No.3-1, Lane 6, Wen San 3rd
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City 33381, Taiwan (R.O.C.)
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St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)

Kwei Shan Site II

Tel: 886-3-271-8640

No.14-1, Lane 19, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 333, Taiwan (R.O.C.)

If you have any suggestion, please feel free to contact us as below information.

Tel: 886-3-271-8666

Fax: 886-3-318-0345

Email: ICC_Service@icertifi.com.tw

==END==



Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	20.36	0.10864
802.11g_Nss1,(6Mbps)_1TX	24.63	0.29040
802.11n HT20_Nss1,(MCS0)_1TX	24.59	0.28774
802.11n HT40_Nss1,(MCS0)_1TX	19.81	0.09572

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Port 1 (dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	1.00	19.08	30.00	20.08	36.00	19.08
2437MHz	Pass	1.00	20.36	30.00	21.36	36.00	20.36
2462MHz	Pass	1.00	18.42	30.00	19.42	36.00	18.42
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	1.00	21.67	30.00	22.67	36.00	21.67
2437MHz	Pass	1.00	24.63	30.00	25.63	36.00	24.63
2462MHz	Pass	1.00	22.19	30.00	23.19	36.00	22.19
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	1.00	20.28	30.00	21.28	36.00	20.28
2437MHz	Pass	1.00	24.59	30.00	25.59	36.00	24.59
2462MHz	Pass	1.00	20.86	30.00	21.86	36.00	20.86
802.11n HT40_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
2422MHz	Pass	1.00	17.79	30.00	18.79	36.00	17.79
2437MHz	Pass	1.00	19.81	30.00	20.81	36.00	19.81
2452MHz	Pass	1.00	18.26	30.00	19.26	36.00	18.26

DG = Directional Gain; Port X = Port X output power



Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	17.58	0.05728
802.11g_Nss1,(6Mbps)_1TX	18.19	0.06592
802.11n HT20_Nss1,(MCS0)_1TX	18.15	0.06531
802.11n HT40_Nss1,(MCS0)_1TX	11.16	0.01306

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Port 1 (dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	1.00	16.28	30.00	17.28	-	16.28
2437MHz	Pass	1.00	17.58	30.00	18.58	-	17.58
2462MHz	Pass	1.00	15.58	30.00	16.58	-	15.58
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	1.00	12.55	30.00	13.55	-	12.55
2437MHz	Pass	1.00	18.19	30.00	19.19	-	18.19
2462MHz	Pass	1.00	13.33	30.00	14.33	-	13.33
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
2412MHz	Pass	1.00	11.45	30.00	12.45	-	11.45
2437MHz	Pass	1.00	18.15	30.00	19.15	-	18.15
2462MHz	Pass	1.00	11.90	30.00	12.90	-	11.9
802.11n HT40_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
2422MHz	Pass	1.00	9.10	30.00	10.10	-	9.1
2437MHz	Pass	1.00	11.16	30.00	12.16	-	11.16
2452MHz	Pass	1.00	9.59	30.00	10.59	-	9.59

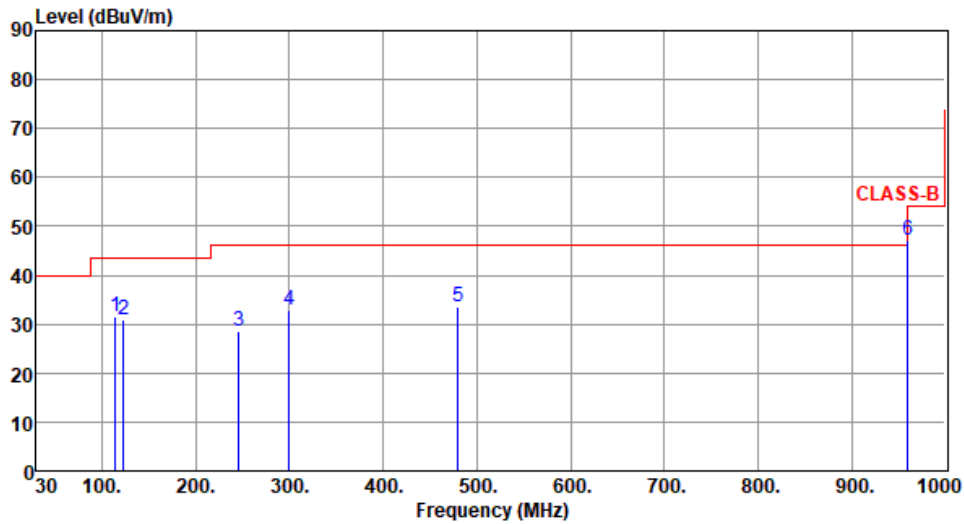
DG = Directional Gain; Port X = Port X output power
Note : Conducted average output power is for reference



Unwanted Emissions (Below 1GHz)

Modulation	11g	Test Freq. (MHz)	2437
Polarization	Horizontal		

Test By :Akun Chung- Temperature(°C):24 Humidity(%):66



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	114.39	31.56	43.50	-11.94	43.05	-11.49	Peak	---	---
2	123.12	30.93	43.50	-12.57	41.85	-10.92	Peak	---	---
3	246.31	28.68	46.00	-17.32	38.83	-10.15	Peak	---	---
4	299.66	33.03	46.00	-12.97	41.23	-8.20	Peak	---	---
5	480.08	33.67	46.00	-12.33	37.36	-3.69	Peak	---	---
6	960.23	47.13	54.00	-6.87	41.92	5.21	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

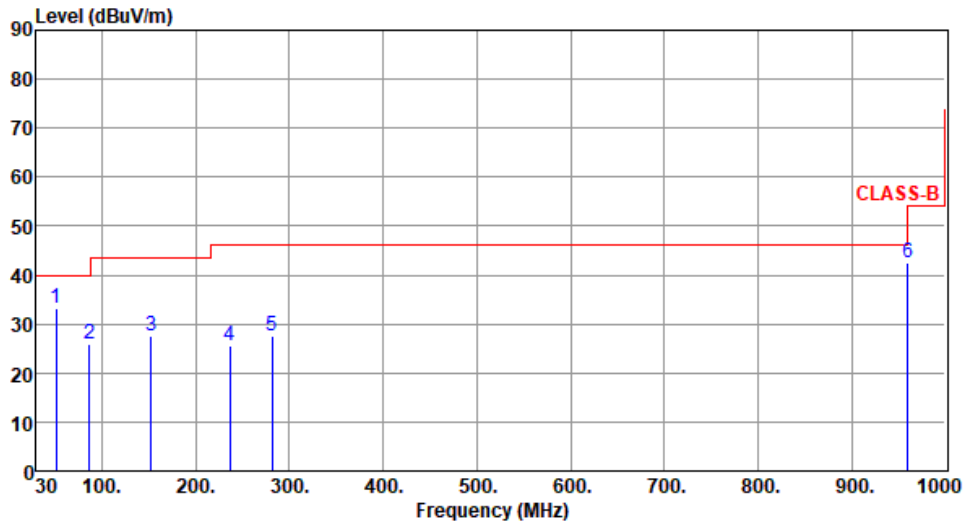
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.



Modulation	11g	Test Freq. (MHz)	2437
Polarization	Vertical		

Test By :Akun Chung- Temperature(°C):24 Humidity(%):66



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	51.34	33.19	40.00	-6.81	41.39	-8.20	Peak	---	---
2	86.26	25.85	40.00	-14.15	40.58	-14.73	Peak	---	---
3	152.22	27.44	43.50	-16.06	36.34	-8.90	Peak	---	---
4	236.61	25.54	46.00	-20.46	36.37	-10.83	Peak	---	---
5	281.23	27.64	46.00	-18.36	36.27	-8.63	Peak	---	---
6	960.23	42.63	54.00	-11.37	37.42	5.21	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

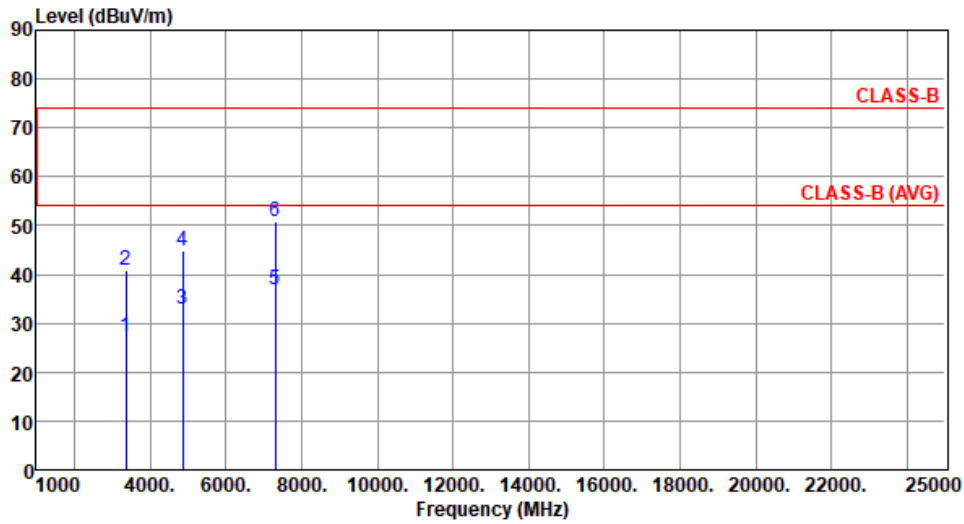
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.



Unwanted Emission (Above 1GHz) for 11b

Modulation	11b	Test Freq. (MHz)	2437
Polarization	Horizontal		

Test By :Akun Chung- Temperature(°C):24 Humidity(%):66



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	3360.00	27.26	54.00	-26.74	30.83	-3.57	Average	100	36
2	3360.00	40.97	74.00	-33.03	44.54	-3.57	Peak	100	36
3	4874.00	32.98	54.00	-21.02	33.72	-0.74	Average	217	32
4	4874.00	44.93	74.00	-29.07	45.67	-0.74	Peak	217	32
5	7311.00	37.00	54.00	-17.00	32.16	4.84	Average	100	331
6	7311.00	50.80	74.00	-23.20	45.96	4.84	Peak	100	331

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

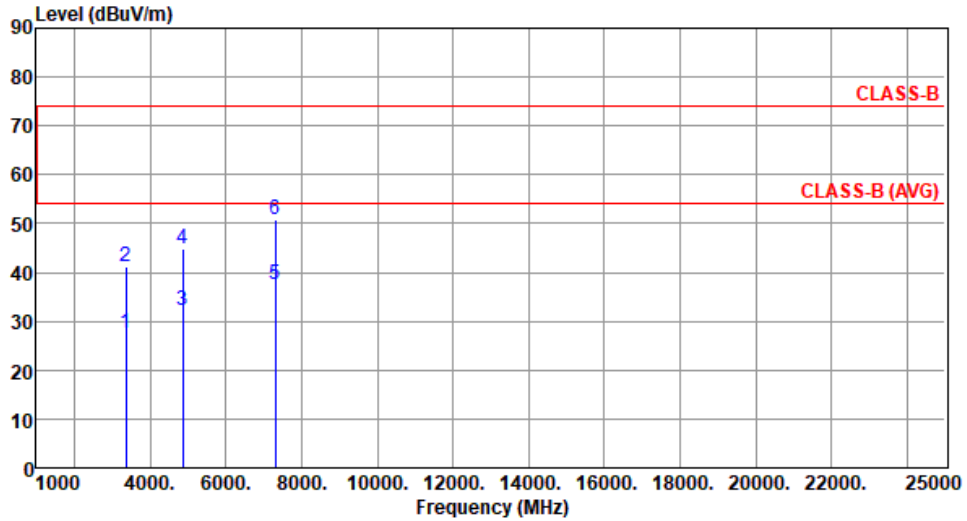
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Modulation	11b	Test Freq. (MHz)	2437
Polarization	Vertical		

Test By :Akun Chung- Temperature(°C):24 Humidity(%):66



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	3360.00	27.55	54.00	-26.45	31.12	-3.57	Average	100	63
2	3360.00	41.13	74.00	-32.87	44.70	-3.57	Peak	100	63
3	4874.00	32.08	54.00	-21.92	32.82	-0.74	Average	257	86
4	4874.00	44.82	74.00	-29.18	45.56	-0.74	Peak	257	86
5	7311.00	37.65	54.00	-16.35	32.81	4.84	Average	100	152
6	7311.00	50.66	74.00	-23.34	45.82	4.84	Peak	100	152

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

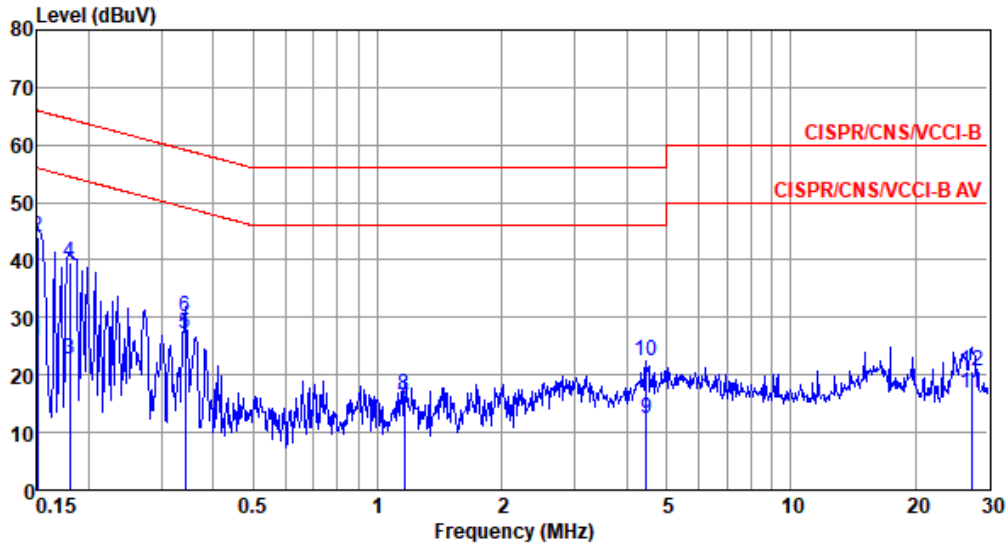
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Modulation Mode	11g	Test Freq. (MHz)	2437
Power Phase	Line		

Test by : Joe Liao Temperature: 26°C Humidity: 57%

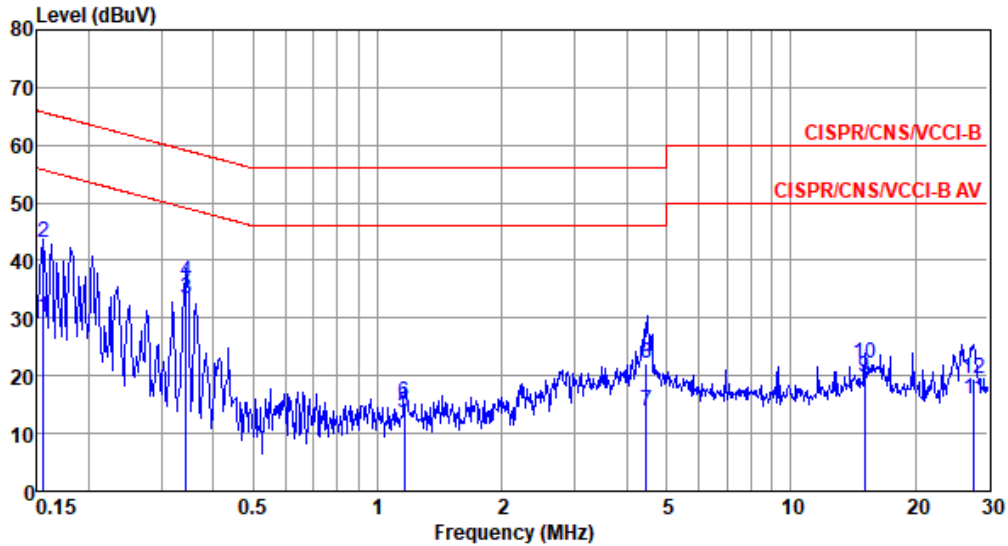


	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.150	25.88	56.00	-30.12	15.96	9.68	0.06	0.18	Average
2	0.150	44.02	66.00	-21.98	34.10	9.68	0.06	0.18	QP
3	0.180	22.60	54.50	-31.90	12.67	9.68	0.06	0.19	Average
4	0.180	39.46	64.50	-25.04	29.53	9.68	0.06	0.19	QP
5*	0.343	27.28	49.13	-21.85	17.27	9.67	0.06	0.28	Average
6	0.343	29.99	59.13	-29.14	19.98	9.67	0.06	0.28	QP
7	1.160	14.04	46.00	-31.96	3.91	9.68	0.11	0.34	Average
8	1.160	16.43	56.00	-39.57	6.30	9.68	0.11	0.34	QP
9	4.478	12.35	46.00	-33.65	2.03	9.70	0.20	0.42	Average
10	4.478	22.31	56.00	-33.69	11.99	9.70	0.20	0.42	QP
11	27.416	16.85	50.00	-33.15	5.86	9.68	0.58	0.73	Average
12	27.416	20.55	60.00	-39.45	9.56	9.68	0.58	0.73	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).
 Note 2: Over Limit (dB) = Level (dBuV) - Limit Line (dBuV).



Modulation Mode	11g	Test Freq. (MHz)	2437
Power Phase	Neutral		



	Freq MHz	Level dBUV	Limit Line dBUV	Over Limit dB	Read Level dBUV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.156	30.03	55.69	-25.66	20.18	9.61	0.06	0.18	Average
2	0.156	43.03	65.69	-22.66	33.18	9.61	0.06	0.18	QP
3*	0.345	33.42	49.09	-15.67	23.47	9.61	0.06	0.28	Average
4	0.345	36.42	59.09	-22.67	26.47	9.61	0.06	0.28	QP
5	1.160	13.52	46.00	-32.48	3.46	9.61	0.11	0.34	Average
6	1.160	15.30	56.00	-40.70	5.24	9.61	0.11	0.34	QP
7	4.468	13.84	46.00	-32.16	3.57	9.65	0.20	0.42	Average
8	4.468	22.18	56.00	-33.82	11.91	9.65	0.20	0.42	QP
9	15.086	19.91	50.00	-30.09	9.23	9.75	0.44	0.49	Average
10	15.086	22.17	60.00	-37.83	11.49	9.75	0.44	0.49	QP
11	27.708	15.98	50.00	-34.02	4.88	9.77	0.59	0.74	Average
12	27.708	19.54	60.00	-40.46	8.44	9.77	0.59	0.74	QP

Note 1: Level (dBUV) = Read Level (dBUV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).
 Note 2: Over Limit (dB) = Level (dBUV) – Limit Line (dBUV).