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Test report No:
2520726R-RF-US-P06V01

FCC & ISED C2PC TEST REPORT

Product Name	LED Lamp
Trademark	PHILIPS, hue, Signify
Model and /or type reference	9290024687
FCC ID	2AGBW9290024687X
IC	20812-24687X
Applicant´s name / address	Signify (China) Investment Co., Ltd No.9, Lane 888, Tian Lin Road, 200233, Shanghai, China
Test method requested, standard	47 CFR FCC Part 15 (Section 15.247) ANSI C63.10: 2013 RSS-Gen Issue 5 RSS-247 Issue 3
Verdict Summary	IN COMPLIANCE
Documented by (name / position & signature)	Tim Cao/ Project Manager
Approved by (name / position & signature)	Frank He/ Technical Manager
Date of issue	2025-04-28
Report Version	V1.0
Report template No	Template_C2PC-RF-V1.0

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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.
In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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GENERAL CONDITIONS

Test Location	Location A: No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
	Location B: No. 8213, Fanhua Avenue, Baohe District, Hefei City, Anhui Province, China
Date (receive sample)	Feb. 14, 2025
Date (start test)	Feb. 19, 2025
Date (finish test)	Feb. 19, 2025

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT : Equipment Under Test
QP : Quasi-Peak
CAV : CISPR Average
AV : Average
CDN : Coupling Decoupling Network
SAC : Semi-Anechoic Chamber
OATS : Open Area Test Site
BW : Bandwidth
AM : Amplitude Modulation
PM : Pulse Modulation
HCP : Horizontal Coupling Plane
VCP : Vertical Coupling Plane
U_N : Nominal voltage
*T*x : Transmitter
*R*x : Receiver
N/A : Not Applicable
N/M : Not Measured

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
2520726R-RF-US-P06V01	V1.0	Initial issue of report.	2025-04-28

REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with Class II Permissive Change requirements.
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, it is not necessary to account the uncertainty associated with the measurement result.
4. The test results presented in this report relate only to the object tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:

- Chapter 1.1 General Description of the Item(s);
- Chapter 1.2 Antenna Informaion;
- Chapter 1.3 Channel List.

USED EQUIPMENT

Test Location A :

Conducted Test/ TR8

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Wireless Connectivity Tester	R&S	CMW 270	102593	2024.05.15	2025.05.14
Coaxial Cable	N/A	N/A	2477	2024.06.11	2025.06.10
Coaxial Cable	N/A	N/A	2478	2024.06.11	2025.06.10
High and low temperature and fast temperature change test box	ASTUOD	ASTD-FBT-225K	N/A	2024.04.21	2025.04.20
Temperature/Humidity Meter	RTS	RTS-8S	RF07	2024.07.04	2025.07.03
Test system					
Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
MAX Signal Analyzer	Keysight	N9010A	MY48030494	2024.10.26	2025.10.25
RF Control Unit	Tonscend	JS0806-2	22G8060594	2025.01.26	2026.01.25
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY61252529	2024.05.12	2025.05.11
Frequency extender for EXG or MXG	Keysight	N5182BX07	MY59362500	2024.05.12	2025.05.11
EXG-B MW Analog Signal Generator	Keysight	N5173B	MY61252566	2024.07.06	2025.07.05
Test Software	Tonscend	TS1120	JS1120-3	N/A	N/A

Radiated Emission (1GHz-40GHz) / AC5

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date	Firmware Versiom	Software version
EXA Spectrum Analyzer	Keysight	N9020B	MY60112218	2024.11.02	2025.11.01	A.31.05	N/A
Pre-Amplifier	SKET	LNPA_0118G-45	SK2021090101	2024.04.27	2025.04.26	N/A	N/A
Preamplifier	CHENGYI	EMC184045SE	980263	2024.07.06	2025.07.05	N/A	N/A
DRG Horn	ETS-Lindgren	3117	123988	2024.08.29	2025.08.28	N/A	N/A
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2024.05.30	2025.05.29	N/A	N/A
Filter Switch Box	MVE	MSW-F196	C070001S	2024.04.20	2025.04.19	N/A	N/A
Temperature/ Humidity Meter	RTS	RTS-1909	THM-024	2024.05.17	2025.05.16	N/A	N/A
Cable	Rosenberger	LA1-C390-2000	0001	2024.05.26	2025.05.25	N/A	N/A

Cable	Rosenberger	LA1-C011-1000	0523	2024.05.26	2025.05.25	N/A	N/A
Cable	Rosenberger	LA1-C011-1000	0623	2024.05.26	2025.05.25	N/A	N/A
Dekra test software	Dekra	N/A	N/A	N/A	N/A	N/A	3

Test Location B:
Radiated Emission Band Edge / AC103

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal analyzer	keysight	N9020B	MY63490118	2024.07.26	2025.07.25
Bilog Antenna	TESEQ	CBL6112D	64164	2024.11.23	2025.11.22
Horn Antenna	RF SPIN	DRH18-E	KV2D11A18ES	2024.11.02	2025.11.01
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	01312	2024.10.28	2025.10.27
Amplifier	ESE	LNA0118	LNA23100009	2024.08.10	2025.08.09
Amplifier	Tonscend	TAP01018048S	AP23J8060307	2024.11.16	2025.11.15
Band Reject Filter Group	Tonscend	JS0806-F	23G806F0701	2024.11.20	2025.11.19
Temperature/Humidity Meter	RTS	RTS-8S	026	2024.09.04	2025.09.03
Test Software	Tonscend	JS36	N/A	N/A	N/A

UNCERTAINTY

Uncertainties have been calculated according to the DEKRA internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95% .

Test item	Uncertainty
Peak Power Output	± 1.27 dB
Radiated Emission(1GHz~26.5GHz)	Horizontal: 1GHz~18GHz: 5.00 dB Vertical: 1GHz~18GHz: 4.80 dB Horizontal: 18GHz~26.5GHz: 5.30 dB Vertical: 18GHz~26.5GHz: 4.90 dB
Radiated Emission Band Edge	± 3.9 dB

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Product Name.....:	LED Lamp
Model No. .....:	9290024687
Trademark. .....:	PHILIPS, hue, Signify
FCC ID.....:	2AGBW9290024687X
IC .....:	20812-24687X
Manufacturer .....:	Signify (China) Investment Co., Ltd
Manufacturer Address .....:	No.9, Lane 888, Tian Lin Road, 200233, Shanghai, China
Product Change Description.....:	Add alternative inductance.

Wireless specifiction .....:	Bluetooth (LE)					
Operating frequency range(s)	2402~2480MHz					
Type of Modulation .....:	GFSK					
PHYs .....:	☒	LE 1M	☒	LE 2M	☒	LE Coded S=2/8
Data Rate .....:	☒	1Mbit/s	☒	2Mbit/s	☒	500/125 Kbit/s
Number of channel .....:	40					

Wireless specifiction .....:	Zigbee
Operating frequency range(s)	2400~2483.5MHz
Type of Modulation .....:	DSSS-OQPSK
Number of channel .....:	16
Date Rate .....:	250kbps max

Rated power supply .....:	Voltage and Frequency	
	☐	AC: 220 - 240 Vac, 50/60 Hz
	☒	AC: 110~130 Vac, 50/60 Hz
	☐	DC: 24 Vdc
	☐	Poe:
	☐	Adapter:
Mounting position .....:	☐	Tabletop equipment
	☒	Wall/Ceiling mounted equipment
	☐	Floor standing equipment
	☐	Hand-held/Portable equipment
	☐	Other:

1.2 Antenna Information

Antenna model / type number .....:	N/A			
Antenna serial number .....:	N/A			
Antenna Delivery .....:	☒	1TX + 1RX		
	☐	2TX + 2RX		
	☐	Others: ……		
Antenna technology.....:	☒	SISO		
	☐	MIMO	☐	CDD
			☐	Beam-forming
Antenna Type .....:	☐	External	☐	Dipole
			☐	Sectorized
	☒	Internal	☐	Ceramic Chip
			☐	PIFA
			☒	PCB
			☐	Others……..
Antenna Gain.....:	-0.7 dBi			

1.3 Channel List

Bluetooth Working Frequency of Each Channel: (For LE)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2404 MHz	02	2406 MHz	03	2408 MHz
04	2410 MHz	05	2412 MHz	06	2414 MHz	07	2416 MHz
08	2418 MHz	09	2420 MHz	10	2422 MHz	11	2424 MHz
12	2426 MHz	13	2428 MHz	14	2430 MHz	15	2432 MHz
16	2434 MHz	17	2436 MHz	18	2438 MHz	19	2440 MHz
20	2442 MHz	21	2444 MHz	22	2446 MHz	23	2448 MHz
24	2450 MHz	25	2452 MHz	26	2454 MHz	27	2456 MHz
28	2458 MHz	29	2460 MHz	30	2462 MHz	31	2464 MHz
32	2466 MHz	33	2468 MHz	34	2470 MHz	35	2472 MHz
36	2474 MHz	37	2476 MHz	38	2478 MHz	39	2480 MHz

Working Frequency of Each Channel: For Zigbee							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
11	2405 MHz	12	2410 MHz	13	2415 MHz	14	2420 MHz
15	2425 MHz	16	2430 MHz	17	2435 MHz	18	2440 MHz
19	2445 MHz	20	2450 MHz	21	2455 MHz	22	2460 MHz
23	2465 MHz	24	2470 MHz	25	2475 MHz	26	2480 MHz

Note: The General Description of the Item, antenna information and Channel List for the EUT in clause 1 are provided and confirmed by the client.

2 DESCRIPTION OF TEST SETUP

2.1 Operating mode(s) used for tests

During the tests the following operating mode(s) has(have) been used.

Test Items	Wireless specification	Test Mode
Maximum conducted output power	Bluetooth	LE_1Mbps CH0 2402MHz, CH19 2440MHz, CH39 2480MHz
		LE_2Mbps CH0 2402MHz, CH19 2440MHz, CH39 2480MHz
		LE_Coded S=2 CH0 2402MHz, CH19 2440MHz, CH39 2480MHz
		LE_Coded S=8 CH0 2402MHz, CH19 2440MHz, CH39 2480MHz
	Zigbee	Zigbee CH11 2405MHz, CH18 2440MHz 1~18GHz, CH26 2480MHz
Band edge measurements	Bluetooth	LE_2Mbps CH39 2480MHz
	Zigbee	Zigbee CH26 2480MHz
Emissions in restricted frequency bands	Bluetooth	LE_1Mbps CH39 2480MHz 1~18GHz
	Zigbee	Zigbee CH18 2440MHz 1~18GHz
Note: This product has two crystal oscillators. In the original certification report, the test results of the two crystal oscillators are similar. This time, crystal oscillator 1 is selected for testing because the worst values in the original certification report are mostly measured under this crystal oscillator.		

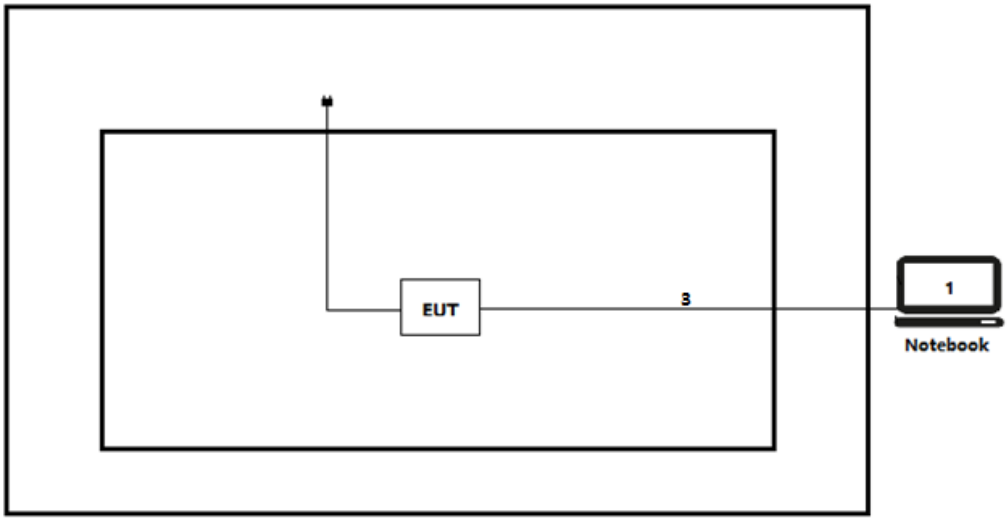
2.2 Auxiliary equipment / Test software for the EUT

Auxiliary equipment	Type / Version	Manufacturer	Supplied by
(1) Notebook	Think pad x220	Lenovo	Adapter
(2) USB Control Cable	N/A	N/A	N/A
(3) USB Control Cable	N/A	N/A	N/A
Software	Type / Version	Manufacturer	Supplied by
ApprobationTool	N/A	N/A	N/A

Accessories Information	Cable		
	Length used during test [m]	Attached during test	Shielded
(2)USB Control Cable	1	☒	☒
(3)USB Control Cable	8	☒	☒

2.3 Test Configuration / Block diagram used for tests

Test setup Diagram- Radiated Emission



2.4 Testing process

1	Setup the EUT shown in Section 2.3.
2	Execute the [ApprobationTool] on the notebook.
3	Configure the test mode, the test channel, and the data rate.
4	Verify that the EUT works properly.

3 VERDICT SUMMARY SECTION

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

3.1 Standards

Standard	Year	Description
CFR 47, FCC Part 15 C	2024	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.
ANSI C63.10	2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
RSS-Gen Issue 5 Amendment 2	2021	General Requirements for Compliance of Radio Apparatus
RSS-247 Issue 3	2023	Digital Transmission Systems (DTSs),Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

3.2 Deviation(s) from the Standard(s) / Test Specification(s)

The following deviation(s) was / were made from the published requirements of the listed standards: N/A.

(Please define the deviations from the standard(s) if applicable)

3.3 Overview of results

Requirement – Test Item of FCC	Standard(s)	Verdict	Remark
Maximum conducted output power	15.247 (b)(3)	PASS	Test data please refer to **Appendix A**
Band edge measurements	FCC 15.247(d) FCC 15.205 FCC 15.209	PASS	Test data please refer to **Appendix B**
Emissions in Restricted Bands	FCC 15.205 FCC 15.209	PASS	Test data please refer to **Appendix C**

Requirement – Test case of ISED	Standard(s)	Verdict	Remark
Maximum conducted output power	RSS-247 Issue 3 Paragraph 5.4(d)	PASS	Test data please refer to **Appendix A**
Band edge measurements	RSS-Gen Issue 5 Paragraph 8.10	PASS	Test data please refer to **Appendix B**
Emissions in Restricted Bands	RSS-Gen Issue 5 Paragraph 8.9	PASS	Test data please refer to **Appendix C**

3.4 Power setting in test

Mode	Channel	Frequency (MHz)	Power setting
Bluetooth LE_1Mbps	00	2402	10
	19	2440	10
	39	2480	10
Zigbee	11	2402	10
	18	2440	10
	26	2480	10

3.5 Test Matrix

Test item	Model: 9290024687	
	1(#1)	2(#2)
Maximum Conducted Output Power	☒	☐
Band Edge Measurements	☐	☒
Emissions in Restricted Bands	☐	☒
Note: The only difference between sample #1 and sample #2 is whether to keep the original antenna, sample #1 is a conduction test product that removes the original antenna and is equipped with SMA wires, and sample #2 is a complete product that retains the original antenna.		

3.6 Test Facility

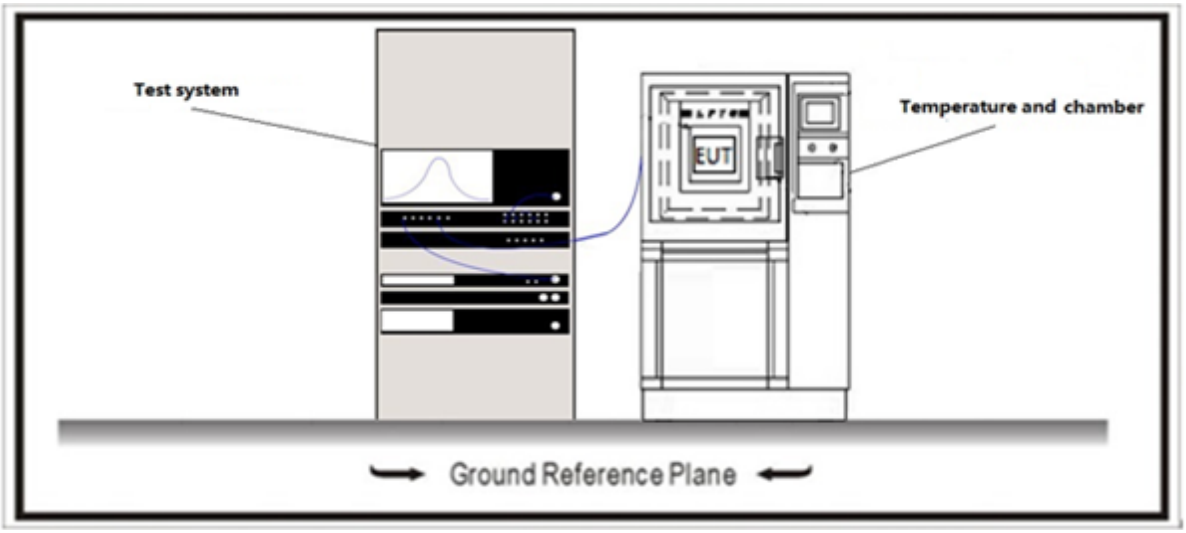
USA	**:**	**FCC Designation Number: CN1199**
CA	**:**	**ISED CAB identifier: CN0040**

4 TEST ITEMS OF LIMIT/SETUP/PROCEDURE

4.1 Maximum Conducted Output Power	VERDICT: PASS

4.1.1 Limit			
Standard		FCC Part 15 Subpart C Paragraph 15.247 (b)(3); RSS-247 Issue 3 Paragraph 5.4(d).	
☒	GTX ＜6dBi		Pout≤30dBm
☐	GTX ＞6dBi		
	☐	Non-Fix point-point	Pout≤30-(GTX -6)
	☐	Fix point-point	Pout≤30-[(GTX-6)]/3
	☐	Point-to-multipoint	Pout≤30-(GTX-6)
	☐	Overlap Beams	Pout≤30-[(GTX-6)]/3
	☐	Aggregate power transmitted simultaneously on all beams	Pout≤30-[(GTX-6)]/3
	☐	single directional beam	Pout≤30-[(GTX-6)]/3+8dB
Note 1 : GTX directional gain of transmitting antennas. Note 2 : Pout is maximum peak conducted output power .			

4.1.2 Test Setup



4.1.3 Test Procedure						
	References Rule				Chapter	Description
☒	ANSI C63.10				11.9	Fundamental emission output power
	☒	ANSI C63.10			11.9.1	Maximum peak conducted output power
		☐	ANSI C63.10		11.9.1.1	RBW ≥ DTS bandwidth
		☐	ANSI C63.10		11.9.1.2	Integrated band power method
		☒	ANSI C63.10		11.9.1.3	PKPM1 Peak power meter method
	☐	ANSI C63.10			11.9.2	Maximum conducted (average) output power
		☐	ANSI C63.10		11.9.2.2	Measurement using a spectrum analyzer (SA)
			☐	ANSI C63.10	11.9.2.2.2	Method AVGSA-1(Duty cycle ≥98%)
			☐	ANSI C63.10	11.9.2.2.3	Method AVGSA-1A(Duty cycle ≥98%)
			☐	ANSI C63.10	11.9.2.2.4	Method AVGSA-2(Duty cycle ≤98%)
			☐	ANSI C63.10	11.9.2.2.5	Method AVGSA-2A(Duty cycle ≤98%)
			☐	ANSI C63.10	11.9.2.2.4	Method AVGSA-3
			☐	ANSI C63.10	11.9.2.2.5	Method AVGSA-3A
		☐	ANSI C63.10		11.9.2.3	Measurement using a power meter (PM)
			☐	ANSI C63.10	11.9.2.3.1	Method AVGPM
			☐	ANSI C63.10	11.9.2.3.2	Method AVGPM-G

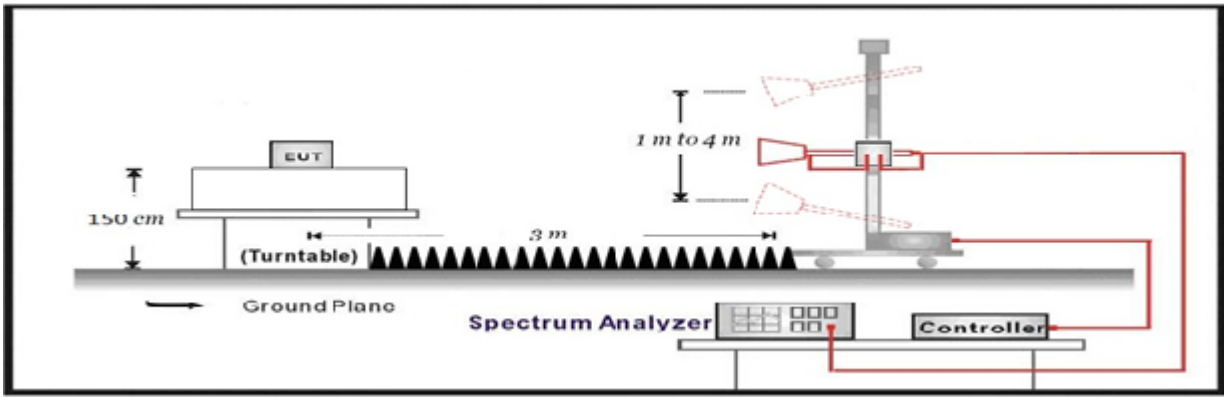
4.2 Band Edge Measurements	VERDICT: PASS

4.2.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(d) , 15.209; RSS-Gen Issue 5 Paragraph 8.10.			
Frequency bands (MHz)	Detector	Limit (dBμV/m)	RBW (MHz)	Distance (m)
2310-2390 2483.5-2500	PK	74	1	3
	AV	54	1	3
Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.				

4.2.2 Test Setup

Above 1GHz Test Setup:



4.2.3 Test Procedure

	References Rule	Chapter	Description
☒	ANSI C63.10	6.10	Band-edge testing
	☒ ANSI C63.10	6.10.5	Restricted-band band-edge measurements
	☐ ANSI C63.10	6.10.6	Marker-delta method
☒	ANSI C63.10	11.12	Emissions in restricted frequency bands
	☒ ANSI C63.10	11.12.1	Radiated emission measurements
	☒ ANSI C63.10	11.12.2.7	Radiated spurious emission test
☐	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
☐	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency rangeof 30 MHz to 1000 MHz
☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

4.3 Emissions in Restricted Bands — VERDICT: PASS

4.3.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.205		
Restricted Bands of operation			
Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 –16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975–12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675–12.57725	322 – 335.4	3600 – 4400	
13.36 – 13.41			
Standard	RSS-Gen Issue 5 Paragraph 8.10		
Restricted Bands of operation for IC			
0.090 - 0.110	13.36 - 13.41	960 - 1427	9.0 - 9.2
0.495 - 0.505	16.42 - 16.423	1435 - 1626.5	9.3 - 9.5
2.1735 - 2.1905	16.69475 - 16.69525	1645.5 - 1646.5	10.6 - 12.7
3.020 - 3.026	16.80425 - 16.80475	1660 - 1710	13.25 - 13.4
4.125 - 4.128	25.5 - 25.67	1718.8 - 1722.2	14.47 - 14.5
4.17725 - 4.17775	37.5 - 38.25	2200 - 2300	15.35 - 16.2
4.20725 - 4.20775	73 - 74.6	2310 - 2390	17.7 - 21.4
5.677 - 5.683	74.8 - 75.2	2483.5 - 2500	22.01 - 23.12
6.215 - 6.218	108 - 138	2655 - 2900	23.6 - 24.0
6.26775 - 6.26825	149.9 - 150.05	3260 - 3267	31.2 - 31.8
6.31175 - 6.31225	156.52475 - 156.52525	3332 - 3339	36.43 - 36.5
8.291 - 8.294	156.7 - 156.9	3345.8 - 3358	Above 38.6
8.362 - 8.366	162.0125 - 167.17	3500 - 4400	
8.37625 - 8.38675	167.72 - 173.2	4500 - 5150	
8.41425 - 8.41475	240 - 285	5350 - 5460	
12.29 - 12.293	322 - 335.4	7250 - 7750	
12.51975 - 12.52025	399.9 - 410	8025 - 8500	
12.57675 - 12.57725	608 - 614	--	

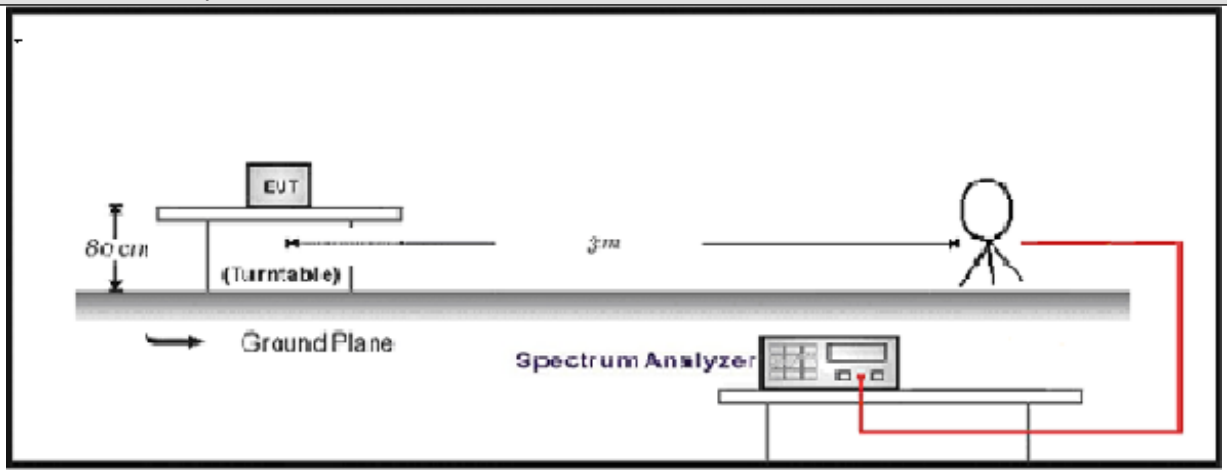
Restricted Band Emissions Limit			
FCC Part 15 Subpart C Paragraph 15.209			
Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30(Note 1)
1.705 - 30	30	29.5	30(Note 1)
30 - 88	100	40	3(Note 2)
88 - 216	150	43.5	3(Note 2)
216 - 960	200	46	3(Note 2)
Above 960	500	54	3(Note 2)
RSS-Gen Issue 5 Paragraph 8.9.			
Frequency (MHz)	Field strength	Field strength (dBμV/m)	Measurement distance (m)
0.009 - 0.49	6.37/F(kHz) μA/m	48.5 – 13.8	300(Note 1)
0.49 - 1.705	63.7/F(kHz) μA/m	33.8 - 23	30(Note 1)
1.705 - 30	30 μV/m	29.5	30(Note 1)
30 - 88	100 μV/m	40	3(Note 2)
88 - 216	150 μV/m	43.5	3(Note 2)
216 - 960	200 μV/m	46	3(Note 2)
Above 960	500 μV/m	54	3(Note 2)

Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

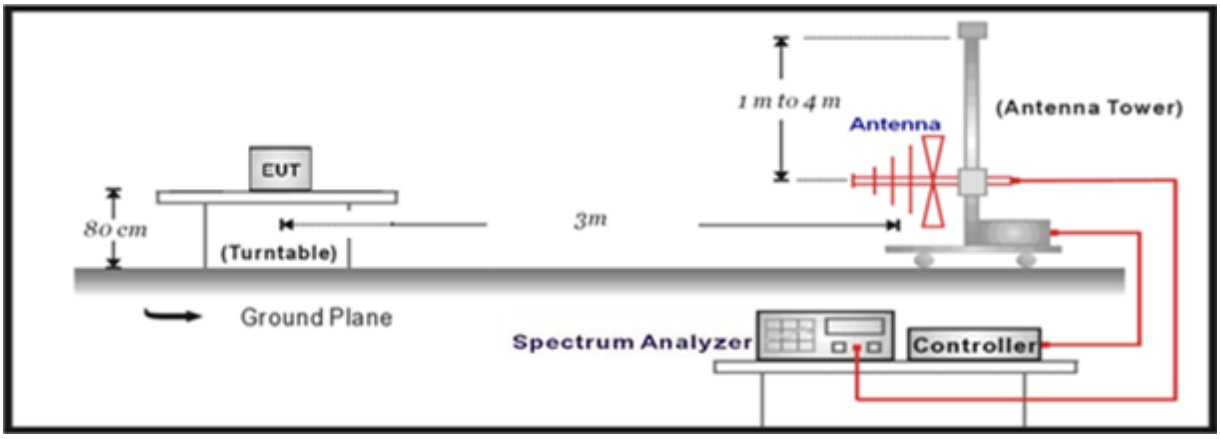
Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.3.2 Test Setup

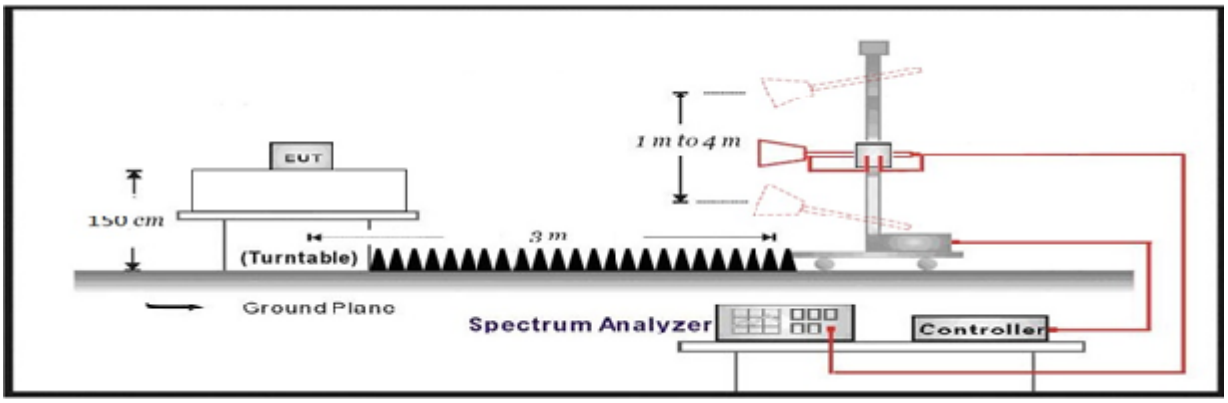
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.3.3 Test Procedure					
	References Rule			Chapter	Description
☒	ANSI C63.10			11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10		11.12.1	Radiated emission measurements
	☒	ANSI C63.10		11.12.2.7	Radiated spurious emission test
		☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
		☒	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
		☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

Appendix A: Test results of Maximum conducted output power

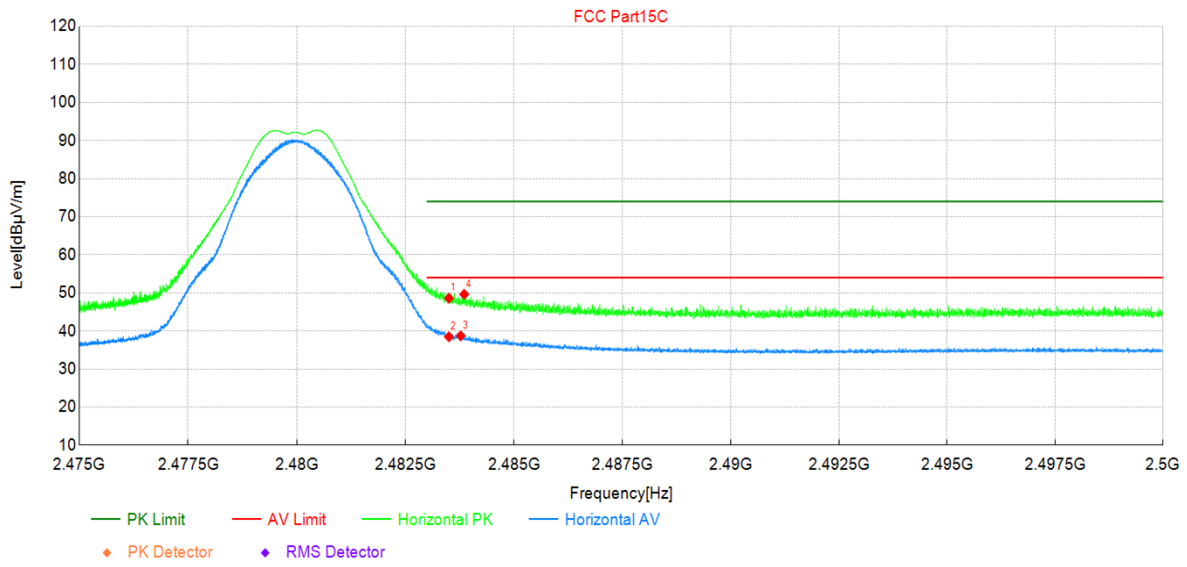
Mode	Channel	Test Frequency (MHz)	Conducted Power (dBm)	EIRP (dBm)	Conducted Power Limit (dBm)	EIRP Limit (dBm)	Result
Mode 1	00	2402	10.11	9.41	≤30	≤36	Pass
	19	2440	10.03	9.33	≤30	≤36	Pass
	39	2480	10.08	9.38	≤30	≤36	Pass
Mode 2	00	2402	10.28	9.58	≤30	≤36	Pass
	19	2440	10.24	9.54	≤30	≤36	Pass
	39	2480	10.22	9.52	≤30	≤36	Pass
Mode 3	00	2402	10.49	9.79	≤30	≤36	Pass
	19	2440	10.36	9.66	≤30	≤36	Pass
	39	2480	10.21	9.51	≤30	≤36	Pass
Mode 4	00	2402	10.49	9.79	≤30	≤36	Pass
	19	2440	10.46	9.76	≤30	≤36	Pass
	39	2480	10.37	9.67	≤30	≤36	Pass
Mode 5	11	2405	10.47	9.77	≤30	≤36	Pass
	18	2440	10.33	9.63	≤30	≤36	Pass
	26	2480	10.28	9.58	≤30	≤36	Pass

Note 1: EIRP=Measured power+Antenna gain
Note 2: The antenna gain please refer to clause 1.2

Appendix B: Test results of Band edge measurements

Project Information			
Profile:	2520726R	EUT:	9290024687
Mode:	Mode2:Transmit at 2480MHz by LE 2M	Voltage:	120Vac/60Hz
Environment:	Temp: 25℃; Humi:60%	Engineer	Yu Liu
Test Standard:	FCC Part15C		

Test Graph



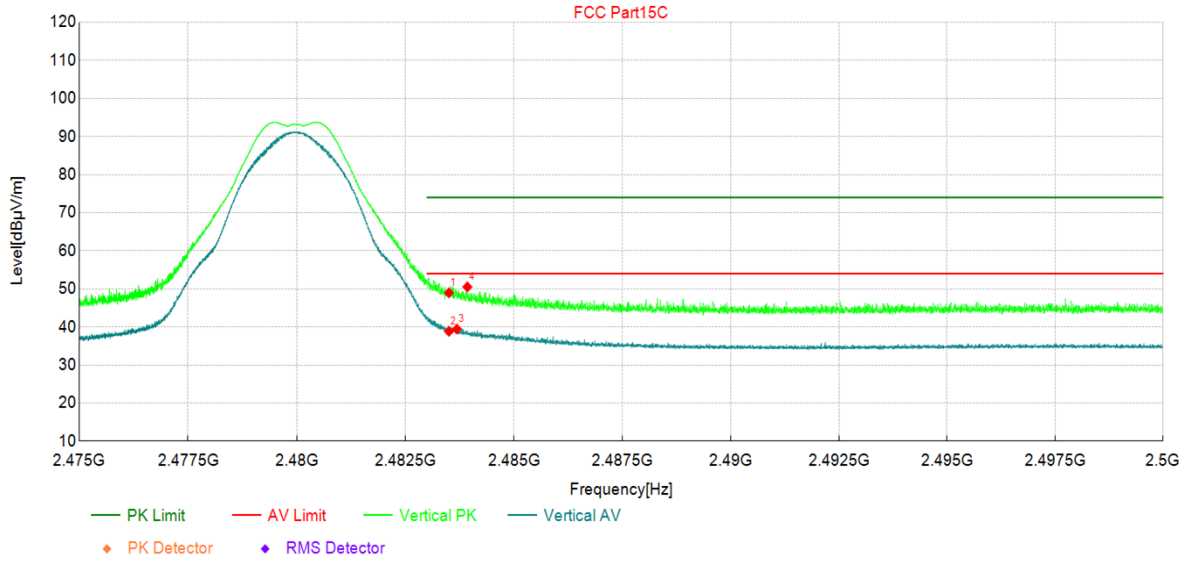
Suspected Data List

NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2484	44.50	48.59	4.09	74.00	25.41	PK	Horizo	PASS
2	2484	34.36	38.45	4.09	54.00	15.55	AV	Horizo	PASS
3	2484	34.63	38.72	4.09	54.00	15.28	AV	Horizo	PASS
4	2484	45.54	49.63	4.09	74.00	24.37	PK	Horizo	PASS

Note:(1)Level=Reading+Factor
(2)Margin=Limit-Level

Project Information			
Profile:	2520726R	EUT:	9290024687
Mode:	Mode2:Transmit at 2480MHz by LE 2M	Voltage:	120Vac/60Hz
Environment:	Temp: 25℃; Humi:60%	Engineer	Yu Liu
Test Standard:	FCC Part15C		

Test Graph



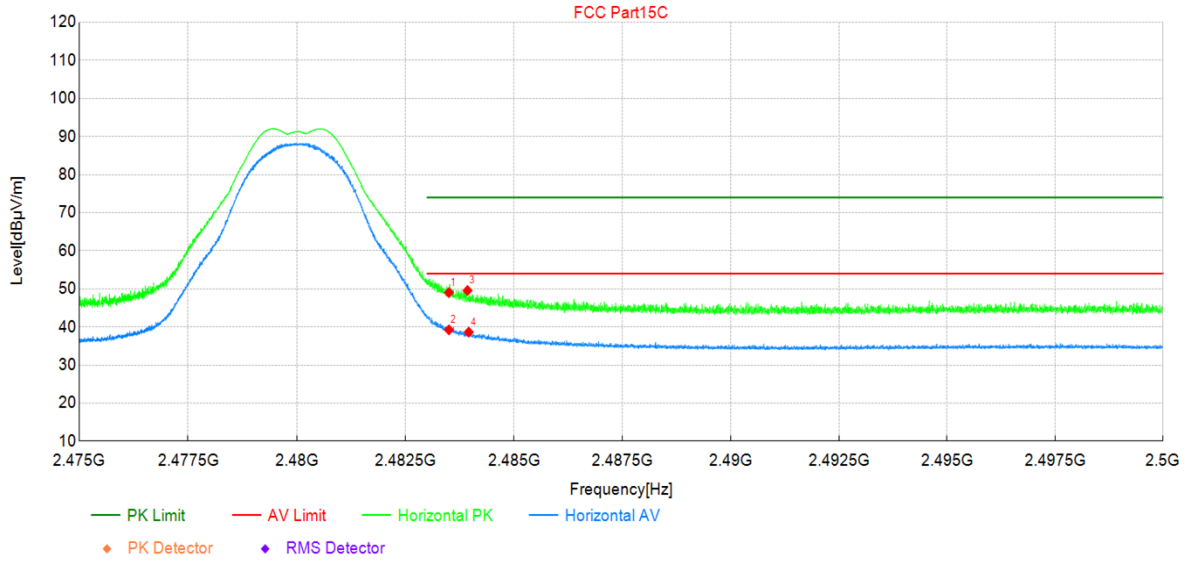
Suspected Data List

NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2484	44.88	48.97	4.09	74.00	25.03	PK	Vertic	PASS
2	2484	34.77	38.86	4.09	54.00	15.14	AV	Vertic	PASS
3	2484	35.35	39.44	4.09	54.00	14.56	AV	Vertic	PASS
4	2484	46.44	50.53	4.09	74.00	23.47	PK	Vertic	PASS

Note:(1)Level=Reading+Factor
(2)Margin=Limit-Level

Project Information			
Profile:	2520726R	EUT:	9290024687
Mode:	Mode5:Transmit at 2480MHz by zigbee	Voltage:	120Vac/60Hz
Environment:	Temp: 25℃; Humi:60%	Engineer	Yu Liu
Test Standard:	FCC Part15C		

Test Graph



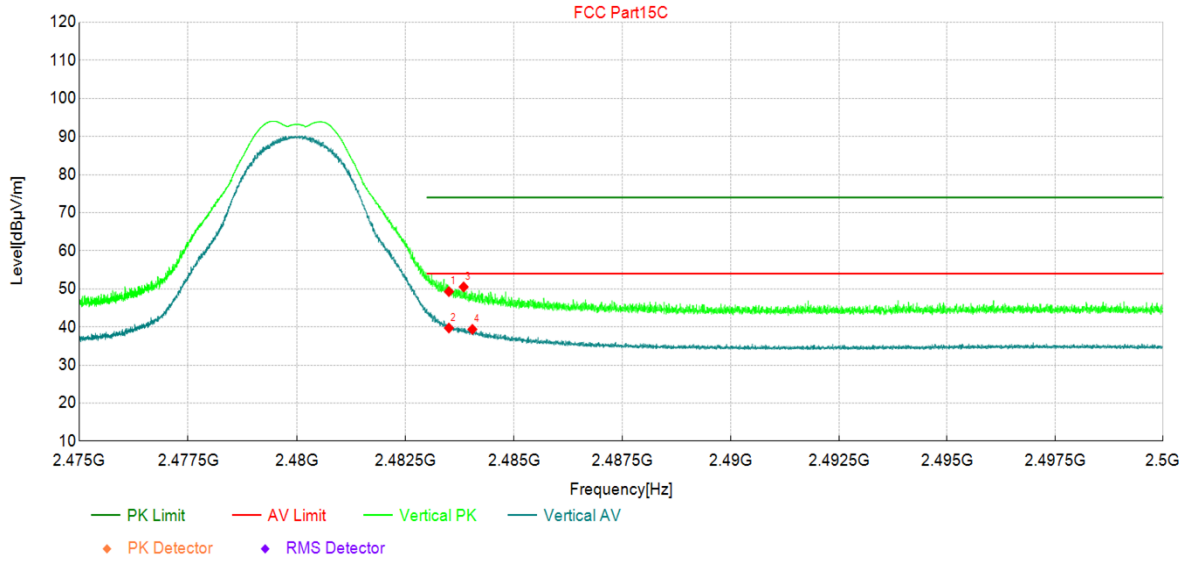
Suspected Data List

NO.	Frequency [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Det	Pol	Verdict
1	2484	44.94	49.03	4.09	74.00	24.97	PK	Horizo	PASS
2	2484	35.15	39.24	4.09	54.00	14.76	AV	Horizo	PASS
3	2484	45.48	49.57	4.09	74.00	24.43	PK	Horizo	PASS
4	2484	34.54	38.64	4.10	54.00	15.36	AV	Horizo	PASS

Note:(1)Level=Reading+Factor
(2)Margin=Limit-Level

Project Information			
Profile:	2520726R	EUT:	9290024687
Mode:	Mode5:Transmit at 2480MHz by zigbee	Voltage:	120Vac/60Hz
Environment:	Temp: 25℃; Humi:60%	Engineer	Yu Liu
Test Standard:	FCC Part15C		

Test Graph



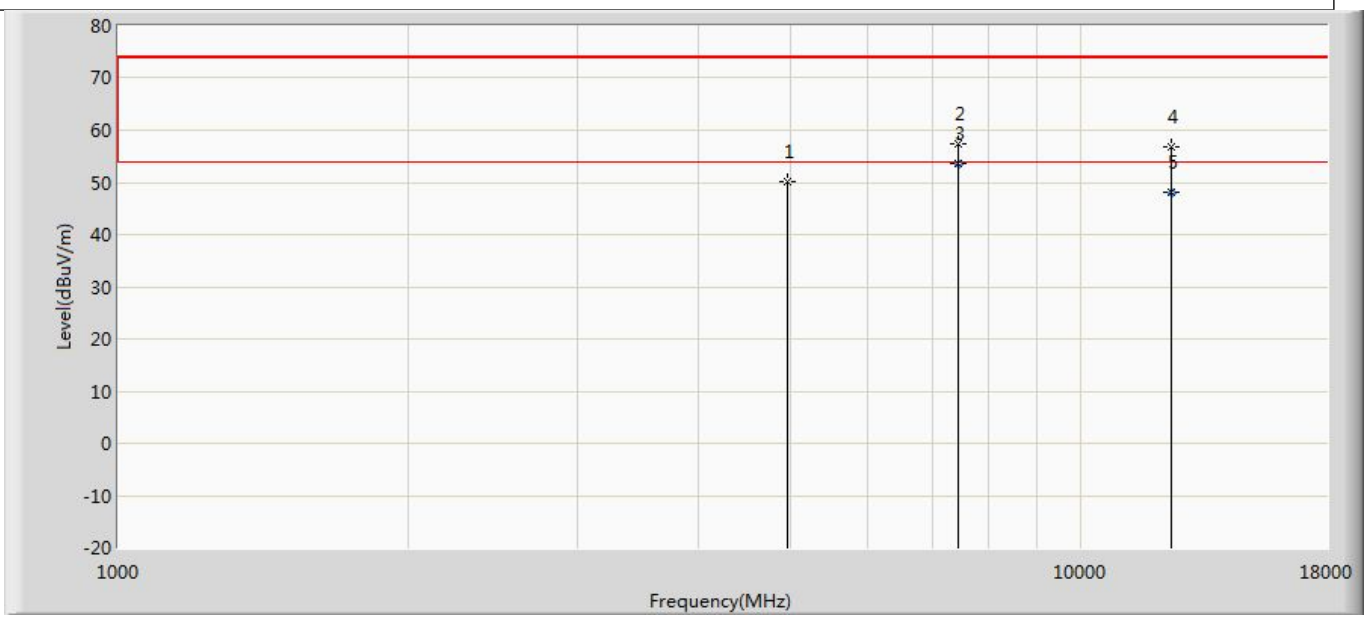
Suspected Data List

NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2484	45.19	49.28	4.09	74.00	24.72	PK	Vertic	PASS
2	2484	35.62	39.71	4.09	54.00	14.29	AV	Vertic	PASS
3	2484	46.42	50.51	4.09	74.00	23.49	PK	Vertic	PASS
4	2484	35.26	39.37	4.11	54.00	14.63	AV	Vertic	PASS

Note:(1)Level=Reading+Factor
(2)Margin=Limit-Level

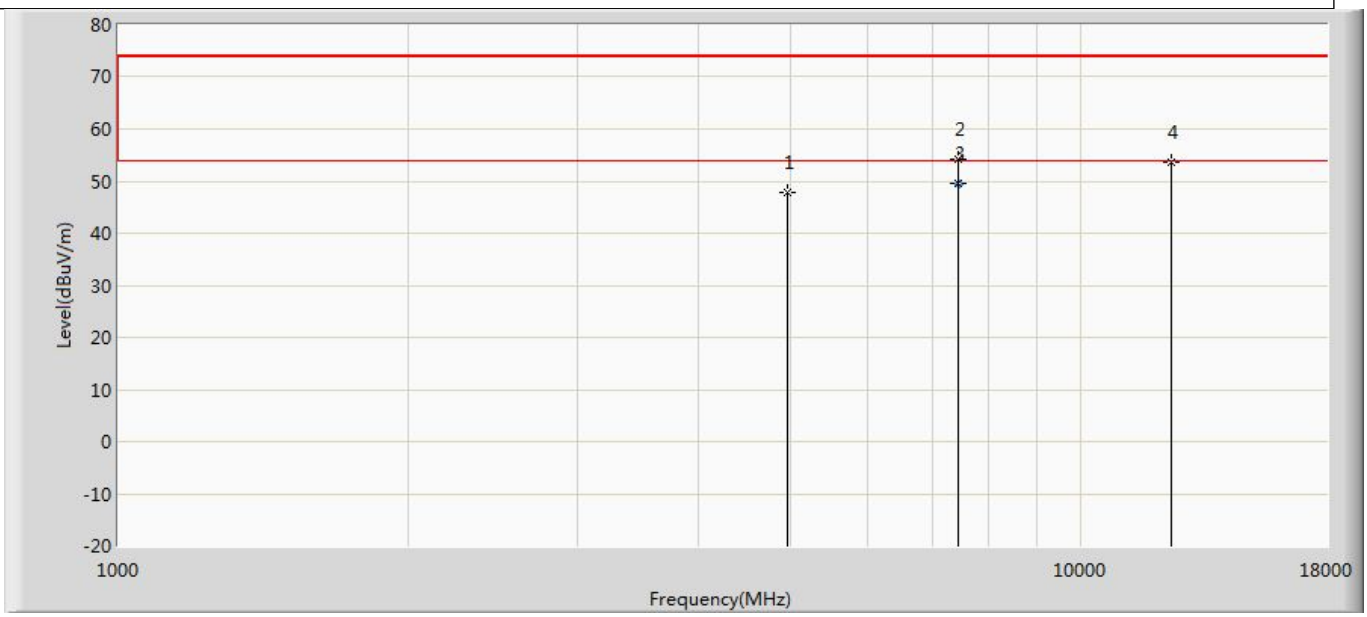
Appendix C: Test results of Emissions in Restricted Bands

Profile: 2520726R	Page No.: 35
Engineer: Yu Liu	
Site: AC5	Time: 2025/02/19 - 00:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055_(1-18GHz)	Polarity: Horizontal
EUT: LED Lamp	Power:120Vac/60Hz
Note: Mode 1 : Transmit at 2480MHz by LE_1Mbps	



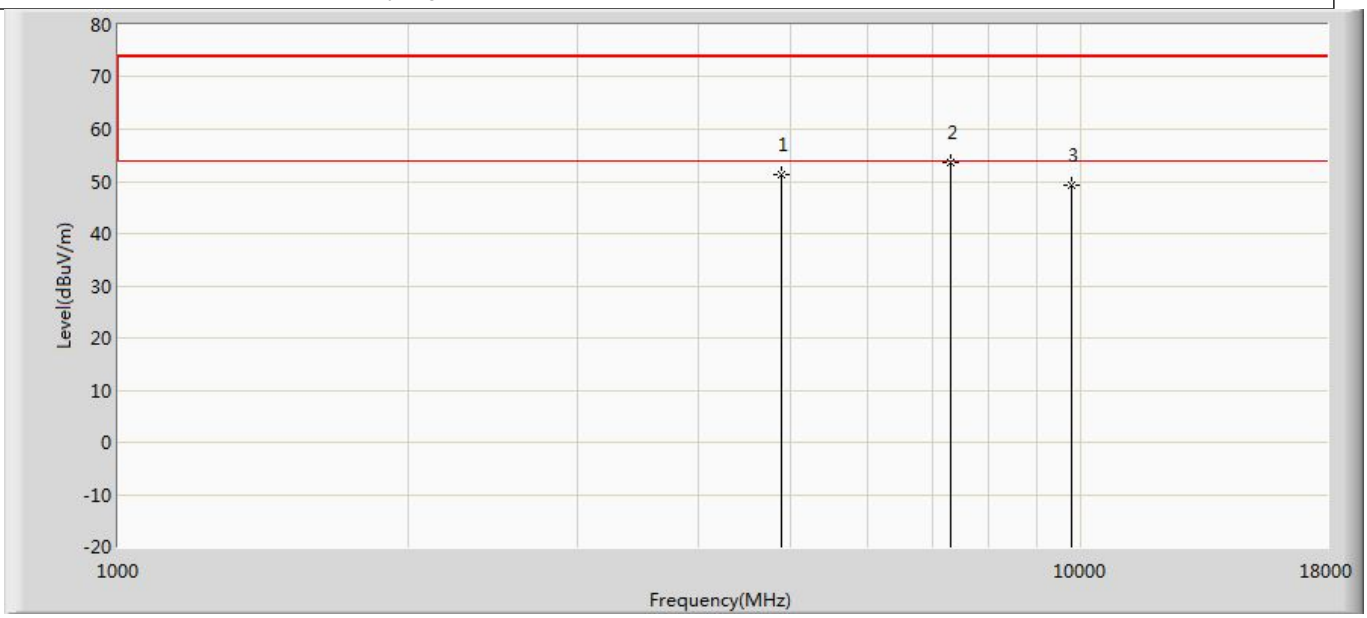
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	50.147	50.698	-23.853	74.000	-0.550	PK
2		7443.000	57.480	55.001	-16.520	74.000	2.480	PK
3	*	7443.000	53.679	51.200	-0.321	54.000	2.480	AV
4		12407.000	56.955	45.431	-17.045	74.000	11.524	PK
5		12407.000	48.064	36.540	-5.936	54.000	11.524	AV

Profile: 2520726R	Page No.: 36
Engineer: Yu Liu	
Site: AC5	Time: 2025/02/19 - 00:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055_(1-18GHz)	Polarity: Vertical
EUT: LED Lamp	Power:120Vac/60Hz
Note: Mode 1：Transmit at 2480MHz by LE_1Mbps	



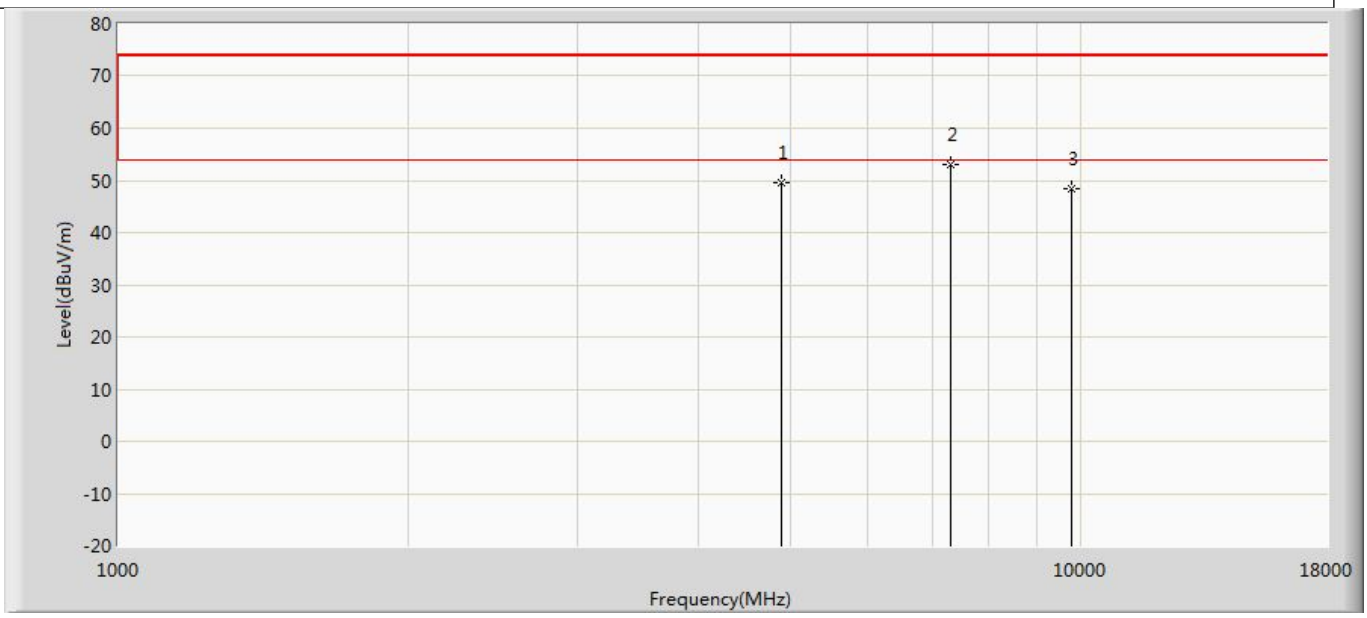
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4961.000	47.855	48.406	-26.145	74.000	-0.550	PK
2		7443.000	54.090	51.611	-19.910	74.000	2.480	PK
3	*	7443.000	49.659	47.180	-4.341	54.000	2.480	AV
4		12407.000	53.557	42.033	-20.443	74.000	11.524	PK

Profile: 2520726R	Page No.: 57
Engineer: Yu Liu	
Site: AC5	Time: 2025/02/19 - 00:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055_(1-18GHz)	Polarity: Horizontal
EUT: LED Lamp	Power:120Vac/60Hz
Note: Mode 5:Transmit at 2440MHz by Zigbee	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	51.207	51.488	-22.793	74.000	-0.281	PK
2	*	7324.000	53.490	51.085	-20.510	74.000	2.405	PK
3		9760.000	49.173	43.386	-24.827	74.000	5.786	PK

Profile: 2520726R	Page No.: 58
Engineer: Yu Liu	
Site: AC5	Time: 2025/02/19 - 00:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055_(1-18GHz)	Polarity: Vertical
EUT: LED Lamp	Power:120Vac/60Hz
Note: Mode 5:Transmit at 2440MHz by Zigbee	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		4876.000	49.550	49.831	-24.450	74.000	-0.281	PK
2	*	7324.000	53.044	50.639	-20.956	74.000	2.405	PK
3		9760.000	48.497	42.710	-25.503	74.000	5.786	PK

Note:
1. Measured Level = Reading Level + Factor.
2. If the test result on peak is lower than average limit, then average measurement needn't be performed.

The End