TEST REPORT

Client Information:

Applicant:	Fanvil Link Technology Co.,LTD
Applicant add.:	13th Floor, Building 2, Runzhi R&D Center, Xin'an Street, Bao'an District, Shenzhen, Guangdong, China
Manufacturer:	Fanvil Link Technology Co.,LTD
Manufacturer add.:	13th Floor, Building 2, Runzhi R&D Center, Xin'an Street, Bao'an District, Shenzhen, Guangdong, China

Product Information:

Product Name:	2 Wire SIP Indoor Station
Model No.:	i554W-2 Wire, i554-2 Wire
Brand Name:	Fanvil
FCC ID:	2BCUQ-I554W2

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247

Prepared By:

Dongguan Yaxu (AiT) Technology Limited

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Date of Receipt:	Jul. 30, 2026	Date of Test:	Jul. 30, 2026~ Aug. 12, 2026
Date of Issue:	Aug. 12, 2026	Test Result:	Pass

This device described above has been tested by Dongguan Yaxu (AiT) Technology Limited and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Reviewed by: Emiya Lin
Emiya Lin

Approved by: Simba Huang
Simba Huang

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REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Aug. 12, 2026	Valid	Initial release

2 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	§15.203	Pass
On Time and Duty Cycle	/	/
Maximum Conducted Peak Output Power	§15.247 (b)(3)	Pass
Power Spectral Density	§15.247 (e)	Pass
6dB Bandwidth	§15.247 (a)(2)	Pass
Radiated and Conducted Spurious Emissions	§15.205/15.209	Pass
Emissions at Restricted Band	§15.205/15.209	Pass
Conducted Emissions	§15.207(a)	Pass
RF Exposure	§15.247(i)§2.1091	Pass

Note

1. Test according to ANSI C63.10:2020.
2. The measurement uncertainty is not included in the test result.
3. Test results in other test report (RF Exposure Evaluation Report)

2.1 Statement of the Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the AiT quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

2.2 Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	0.009MHz-30MHz	3.10dB	(1)
Radiated Emission	30MHz-1GHz	3.75dB	(1)
Radiated Emission	1GHz-18GHz	3.88dB	(1)
Radiated Emission	18GHz-40GHz	3.88dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	1.20dB	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.			

3 Test Facility

The test facility is recognized, certified or accredited by the following organizations:

CNAS-Registration No: L6177

Dongguan Yaxu (AiT) technology Limited is accredited to ISO/IEC 17025:2017 general Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the competence of testing and calibration laboratories) on April 18, 2022

FCC-Registration No.: 362653 Designation Number: CN1457

Dongguan Yaxu (AiT) technology Limited has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

IC-Registration No.: 6819 CAB identifier: CN0122

The 3m Semi-anechoic chamber of Dongguan Yaxu (AiT) technology Limited has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 6819A

A2LA-Lab Cert. No.: 6317.01

Dongguan Yaxu (AiT) technology Limited has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

3.1 Deviation from standard

None

3.2 Abnormalities from standard conditions

None

3.3 Test Location

Dongguan Yaxu (AiT) Technology Limited

Address: No.22, Jinqianling 3rd Street, Jitigang, Huangjiang,Dongguan, Guangdong, China

Tel.: +86-769-8202 0499

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4 General Information

EUT Name:	2 Wire SIP Indoor Station
Model No:	i554W-2 Wire
Serial Model:	i554-2 Wire
Test sample(s) ID:	AiTDG-260908006-1
Sample(s) Status:	Engineer sample
Serial No.:	N/A
Operation frequency:	802.11b/802.11g/802.11n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz 802.11ax(HEW20): 2412MHz~2462MHz 802.11ax(HEW40): 2422MHz~2452MHz
Channel Number:	802.11b/802.11g/802.11n(HT20): 11 802.11n(HT40): 7 802.11ax(HEW20): 11 802.11ax(HEW40): 7
Channel separation:	5MHz
Modulation Technology:	802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM):BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM):BPSK,QPSK,16-QAM,64-QAM 802.11ax: OFDMA (1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)
Antenna Type:	FPC antenna
Antenna gain:	3.25 dBi
H/W No.:	N/A
S/W No.:	N/A
Power Ratings:	Input: 24V-48V⎓7W Max
Adapter	N/A
Model different:	All the models are electrically identical, with the same mechanical structure and design, except differences in model names.
Note: For a more detailed features description, please refer to the manufacturer’s specifications or the User's Manual.	

4.1 Test frequencies

EUT channels and frequencies list:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412MHz	5	2432MHz	9	2452MHz
2	2417MHz	6	2437MHz	10	2457MHz
3	2422MHz	7	2442MHz	11	2462MHz
4	2427MHz	8	2447MHz	-	-

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Transmitting mode	Keep the EUT in continuously transmitting mode.		
Test software:	Putty		
Frequency	2412 MHz	2437 MHz	2462 MHz
Parameters(802.11b)	Default	Default	Default
Parameters(802.11g)	Default	Default	Default
Parameters(802.11n20)	Default	Default	Default
Parameters(802.11ax20)	Default	Default	Default
Frequency	2422 MHz	2437 MHz	2452 MHz
Parameters(802.11n40)	Default	Default	Default
Parameters(802.11ax40)	Default	Default	Default

4.2 EUT Peripheral List

No.	Equipment	Manufacturer	Model No.	Serial No.	Power cord	Remark
1	N/A	N/A	N/A	N/A	N/A	N/A

4.3 Test Peripheral List

No.	Equipment	Manufacturer	Model No.	Serial No.	Power cord	Remark
1	Adapter	Gangqi	GQ24-120220-AC	N/A	N/A	N/A

4.4 TEST METHODOLOGY

All measurements contained in this report were conducted with ANSI C63.10:2020, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

The radiated testing was performed at an antenna-to-EUT distance of 3 meters. All radiated and conducted emissions measurement was performed at Guangdong Asia Hongke Test Technology Limited

4.4.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

4.4.2 EUT Exercise

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.203, 15.205, 15.207, 15.209, 15.247 under the FCC Rules Part 15 Subpart C, ANSI C63.10:2020.

4.4.3 General Test Procedures

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2.1 of ANSI C63.10:2020 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 6.3 of ANSI C63.10:2020.

4.5 Description of Test Modes

The EUT has been tested under operating condition.

AC main conducted emission pre-test voltage at both AC 120V/60Hz and AC 240V/50Hz, recorded worst case;

AC main conducted emission pre-test at charge from power adapter modes, recorded worst case;

This test was performed with EUT in X, Y, Z position and the worst case was found when EUT in X position.

Worst-case mode and channel used for 9 KHz-1000 MHz radiated emissions was the mode and channel with the highest output power, that was determined to be ANT1 IEEE 802.11b mode (LCH).

Verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Pre-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	IEEE 802.11b	IEEE 802.11g	IEEE 802.11n(HT20)	IEEE 802.11n(HT40)
Data rate	1Mbps	6Mbps	MCS0	MCS0
Mode	IEEE 802.11ax(HE20)	IEEE 802.11ax(HE40)		
Data rate	MCS0	MCS0		

Antenna & Bandwidth

Antenna	Chain 1	
Bandwidth Mode	20MHz	40MHz
IEEE 802.11b	☑	☐
IEEE 802.11g	☑	☐
IEEE 802.11n	☑	☑
IEEE 802.11ax	☑	☑

5 Equipment Used during Test

No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	Spectrum Analyzer	R&S	FSV40	101470	2025.09.25	2026.09.24
2	EMI Measuring Receiver	R&S	ESPI	100773	2025.09.25	2026.09.24
3	Low Noise Pre Amplifier	HP	HP8447E	1937A01855	2025.09.25	2026.09.24
4	Low Noise Pre Amplifier	Tsj	MLA-0120-A02-34	2648A04738	2025.09.25	2026.09.24
5	Passive Loop	ETS	6512	00165355	2024.09.04	2026.09.03
6	TRILOG Super Broadband test Antenna	SCHWARZBECK	VULB9160	9160-3206	2024.08.29	2026.08.28
7	Broadband Horn Antenna	SCHWARZBECK	BBHA9120D	452	2024.08.29	2026.08.28
8	SHF-EHF Horn Antenna 15-40GHz	SCHWARZBECK	BBHA9170	BBHA9170367d	2023.09.12	2026.09.11
9	EMI Test Receiver	R&S	ESCI	100124	2025.09.25	2026.09.24
10	LISN	R&S	ESH3-Z5	892785/016	2025.09.25	2026.09.24
11	Pro.Temp&Humi.chamber	MENTEK	MHP-150-1C	MAA08112501	2025.09.25	2026.09.24
12	RF Automatic Test system	MW	MW100-RFCB	21033016	2025.09.25	2026.09.24
13	Signal Generator	Agilent	N5182A	MY50143009	2025.09.25	2026.09.24
14	Wideband Radio communication tester	R&S	CMW500	1201.0002K50	2025.09.25	2026.09.24
15	RF Automatic Test system	MW	MW100-RFCB	21033016	2025.09.25	2026.09.24
16	Pulse Limiter	R&S	ESH3-Z2	03578810.54	2025.09.25	2026.09.24
17	Switch	MFJ Rhinos	MFJ-2702	CZ3457	2025.09.25	2026.09.24
18	DC power supply	ZHAOXIN	RXN-305D-2	28070002559	N/A	N/A
19	RE Software	EZ	EZ-EMC_RE	Ver.AIT-03A	N/A	N/A
20	CE Software	EZ	EZ-EMC_CE	Ver.AIT-03A	N/A	N/A
21	RF Software	MW	MTS 8310	2.0.0.0	N/A	N/A
22	temporary antenna connector(Note)	NTS	R001	N/A	N/A	N/A

Note: The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

6 Test results and Measurement Data

6.1 Antenna requirement

6.1.1 Standard requirement:
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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be re-placed by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded. And according to §15.247(4)(1), system operating in the 2400-2483.5MHz bands that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the 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 6dBi. RSS-Gen Section 6.8 A transmitter can only be sold or operated with antennas with which it was approved. When a measurement at the antenna connector is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on measurement or on data from the antenna manufacturer. For transmitters of RF output power of 10 milliwatts or less, only the portion of the antenna gain that is in excess of 6 dBi (6 dB above isotropic gain) shall be added to the measured RF output power to demonstrate compliance with the radiated power limits specified in the applicable standard. For transmitters of output power greater than 10 milliwatts, the total antenna gain shall be added to the measured RF output power to demonstrate compliance to the specified radiated power
6.1.2 **EUT Antenna:**
Note: The antenna information refer the manufacturer provide report, applicable only to the tested sa-mple identified in the report., reference to the Internal photos for details.

6.2 On Time and Duty Cycle

6.2.1 Standard requirement:

None; for reporting purpose only

6.2.2 Measuring Instruments and Setting:

Please refer to equipments list in this report. The following table is the setting of the spectrum analyser.

6.2.3 Test Procedures

According to ANSI C63.10-2020 Section 11.6

b) The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the ON and OFF times of the transmitted signal:

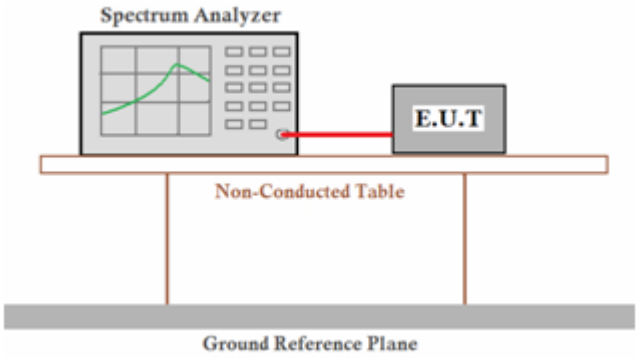
1) Set the center frequency of the instrument to the center frequency of the transmission.

2) Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value.

3) Set VBW ≥ RBW. Set detector = peak or average.

4) The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if T ≤ 16.7 μs.)

6.2.4 Test Setup Layout



6.2.5 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

6.2.6 Test result

For reporting purpose only.

Please refer to Appendix C.1

6.3 Maximum Conducted Output Peak Power Measurement

6.3.1 Standard requirement:

According to §15.247(b): For systems using digital modulation in the 2400-2483.5 MHz and 5725-5850 MHz band, the limit for maximum peak conducted output power is 30dBm. The limited has to be reduced by the amount in dB that the gain of the antenna exceeds 6dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

Systems operating in the 5725-5850 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi without any corresponding reduction in transmitter peak output power.

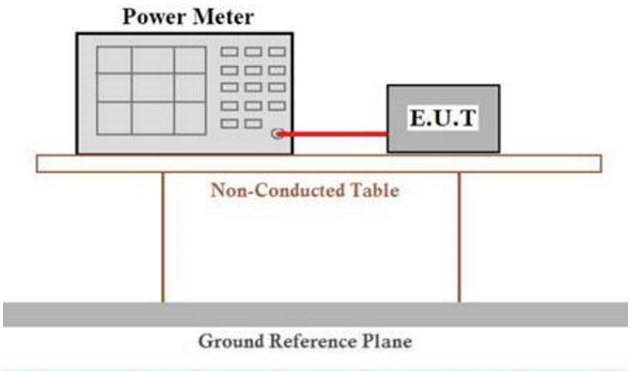
6.3.2 Measuring Instruments:

Please refer to equipment's list in this report.

6.3.3 Test Procedures:

According to ANSI C63.10-2020 Section 11.9.1.2 PKPM1 Peak power meter method, The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast responding diode detector.

6.3.4 Test Setup Layout



6.3.5 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

6.3.6 Test result

PASS

Please refer to Appendix C.2.

Remark:

1). Measured output power at difference data rate for each mode and recorded worst case for each mode.

2). Test results including cable loss;

3). Worst case data at 1Mbps at IEEE 802.11b; 6Mbps at IEEE 802.11g; 6.5Mbps at IEEE 802.11n HT20; 13Mbps at IEEE 802.11n HT40; 8.6Mbps at IEEE 802.11ax HE20; 17.2Mbps at IEEE 802.11ax HE40

6.4 6 dB Spectrum Bandwidth Measurement

6.4.1 Standard requirement:

According to §15.247(a) (2): For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

6.4.2 Measuring Instruments:

Please refer to equipment's list in this report.

6.4.3 Test Procedures

6 dB Spectrum Bandwidth Measurement:

According to ANSI C63.10-2020 Section 11.8.1

a) Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.

b) Set the VBW ≥ [3 x RBW].

c) Detector = peak.

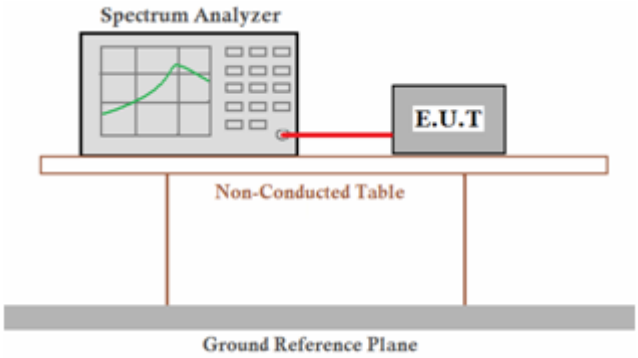
d) Trace mode = max-hold.

e) Sweep = No faster than coupled (auto) time.

f) Allow the trace to stabilize.

g) Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the "−6 dB down amplitude". If a marker is below this "−6 dB down amplitude" value, then it shall be as close as possible to this value.

6.4.4 Test Setup Layout



6.4.5 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

6.4.6 Test result

PASS

Please refer to Appendix C.3

Remark:

1). Measured 6dB Bandwidth at difference data rate for each mode and recorded worst case for each mode.

2). Test results including cable loss;

3). Worst case data at 1Mbps at IEEE 802.11b; 6Mbps at IEEE 802.11g; 6.5Mbps at IEEE 802.11n

HT20; 13Mbps at IEEE 802.11n HT40; 8.6Mbps at IEEE 802.11ax HE20; 17.2Mbps at IEEE 802.11ax HE40

6.5 Power Spectral Density

6.5.1 Standard requirement:

According to §15.247(e), RSS-247 section 5.2 b: For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

6.5.2 Measuring Instruments and Setting:

Please refer to equipment list in this report. The following table is the setting of Spectrum Analyzer.

6.5.3 Test Procedures

1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.

2. The power was monitored at the coupler port with a Spectrum Analyzer. The power level was set to the maximum level.

3. Set the RBW = 3 kHz.

4. Set the VBW ≥ 3*RBW

5. Set the span to 1.5 times the DTS channel bandwidth.

6. Detector = peak.

7. Sweep time = auto couple.

8. Trace mode = max hold.

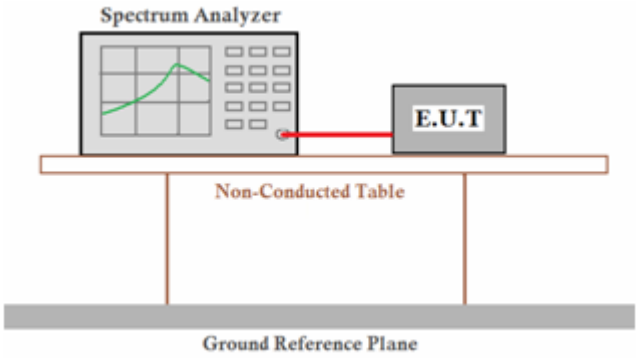
9. Allow trace to fully stabilize.

10. Use the peak marker function to determine the maximum power level.

11. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

12. The resulting peak PSD level must shall not be greater than 8dBm in any 3 kHz..

6.5.4 Test Setup Layout



6.5.5 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

6.5.6 Test result

PASS

Please refer to Appendix C.4.

Remark:

1). Measured peak power spectrum density at difference data rate for each mode and recorded worst case for each mode;

2). Test results including cable loss;

3). Worst case data at 1Mbps at IEEE 802.11b; 6Mbps at IEEE 802.11g; 6.5Mbps at IEEE 802.11n HT20; 13Mbps at IEEE 802.11n HT40; 8.6Mbps at IEEE 802.11ax HE20; 17.2Mbps at IEEE 802.11ax HE40

6.6 Conducted Spurious Emissions and Band Edges Test

6.6.1 Standard requirement:

According to §15.247 (d), RSS 247 section 5.5: In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

6.6.2 Measuring Instruments and Setting:

Please refer to equipment list in this report. The following table is the setting of the spectrum analyzer.

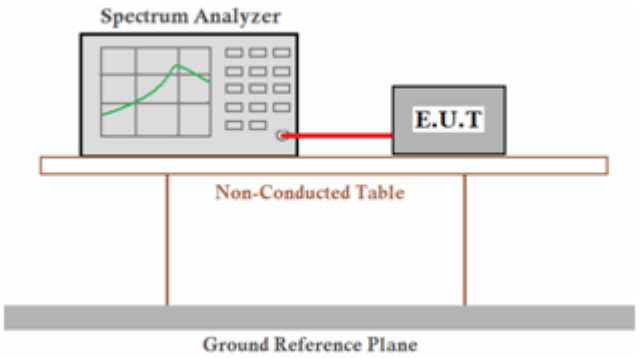
Spectrum Parameter	Setting
Detector	Peak
Attenuation	Auto
RB / VB (Emission in restricted band)	100KHz/300KHz
RB / VB (Emission in non-restricted band)	100KHz/300KHz

6.6.3 Test Procedures

The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz

The spectrum from 9 kHz to 26.5GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

6.6.4 Test Setup Layout



6.6.5 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

6.6.6 Test result

PASS

Please refer to Appendix C

Remark:

1). Measured at difference data rate for each mode and recorded worst case for each mode.
2). Test results including cable loss;
3). Worst case data at 1Mbps at IEEE 802.11b; 6Mbps at IEEE 802.11g; 6.5Mbps at IEEE 802.11n HT20; 13Mbps at IEEE 802.11n HT40; 8.6Mbps at IEEE 802.11ax HE20; 17.2Mbps at IEEE 802.11ax HE40
4). Not recorded test plots from 9 KHz to 30 MHz as emission levels 20dB lower than emission limit.

6.7 Radiated Emissions and Restrict-band Band-edge Measurements

6.7.1 Standard requirement:

15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
\1\ 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
8.41425-8.41475	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	(\2\)
13.36-13.41			

\1\ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

\2\ Above 38.6

According to §15.247 (d): 20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

I

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

6.7.2 Measuring Instruments and Setting:

Please refer to equipment list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 1/B kHz for Average
RB / VB (Emission in non-restricted band)	1MHz / 1MHz for Peak, 1 MHz / 1/B kHz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB/VB 200Hz/1KHz for QP/AVG
Start ~ Stop Frequency	150kHz~30MHz / RB/VB 9kHz/30KHz for QP/AVG
Start ~ Stop Frequency	30MHz~1000MHz / RB/VB 120kHz/1MHz for QP

6.7.3 Test Procedures

1) Sequence of testing 9 kHz to 30 MHz

Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.

--- If the EUT is a floor standing device, it is placed on the ground.

--- Auxiliary equipment and cables were positioned to simulate normal operation conditions.

--- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.

--- The measurement distance is 3 meter.

--- The EUT was set into operation.

Premeasurement:

--- The turntable rotates from 0° to 315° using 45° steps.

--- The antenna height is 1.0 meter.

--- At each turntable position the analyzer sweeps with peak detection to find the maximum of all emissions

Final measurement:

--- Identified emissions during the premeasurement the software maximizes by rotating the turntable position (0° to 360°) and by rotating the elevation axes (0° to 360°).

--- The final measurement will be done in the position (turntable and elevation) causing the highest emissions with QPK detector.

--- The final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement and the limit will be stored.

2) Sequence of testing 30 MHz to 1 GHz

Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.

--- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.

--- Auxiliary equipment and cables were positioned to simulate normal operation conditions

--- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.

--- The measurement distance is 3 meter.

--- The EUT was set into operation.

Premeasurement:

--- The turntable rotates from 0° to 315° using 45° steps.

--- The antenna is polarized vertical and horizontal.

--- The antenna height changes from 1 to 3 meter.

--- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

Final measurement:

--- The final measurement will be performed with minimum the six highest peaks.

--- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable position (± 45°) and antenna movement between 1 and 4 meter.

--- The final measurement will be done with QP detector with an EMI receiver.

--- The final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

3) Sequence of testing 1 GHz to 18 GHz

Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a rotatable table with 1.5 m height is used.

--- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.

--- Auxiliary equipment and cables were positioned to simulate normal operation conditions

--- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.

--- The measurement distance is 3 meter.

--- The EUT was set into operation.

Premeasurement:

--- The turntable rotates from 0° to 315° using 45° steps.

--- The antenna is polarized vertical and horizontal.

--- The antenna height scan range is 1 meter to 2.5 meter.

--- At each turntable position and antenna polarization the analyzer sweeps with peak detection to find the maximum of all emissions.

Final measurement:

--- The final measurement will be performed with minimum the six highest peaks.

--- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable position (± 45°) and antenna movement between 1 and 4 meter. This procedure is repeated for both antenna polarizations.

--- The final measurement will be done in the position (turntable, EUT-table and antenna polarization) causing the highest emissions with Peak and Average detector.

--- The final levels, frequency, measuring time, bandwidth, turntable position, EUT-table position, antenna polarization, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

4) Sequence of testing above 18 GHz

Setup:

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a rotatable table with 1.5 m height is used.

--- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.

--- Auxiliary equipment and cables were positioned to simulate normal operation conditions

--- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.

--- The measurement distance is 1 meter.

--- The EUT was set into operation.

Premeasurement:

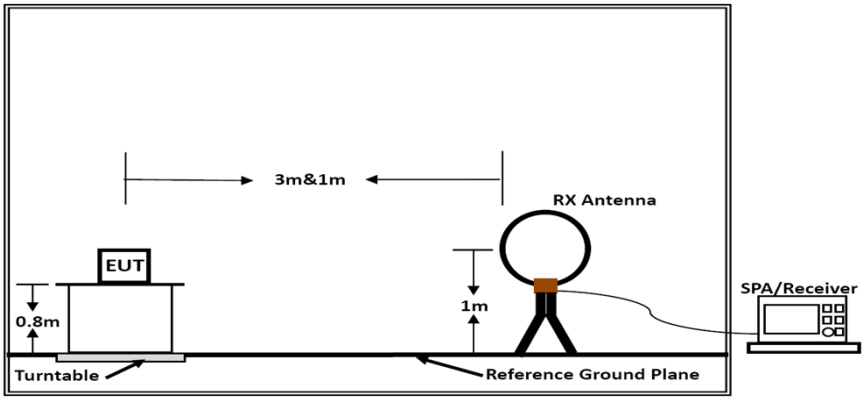
--- The antenna is moved spherical over the EUT in different polarisations of the antenna.

Final measurement:

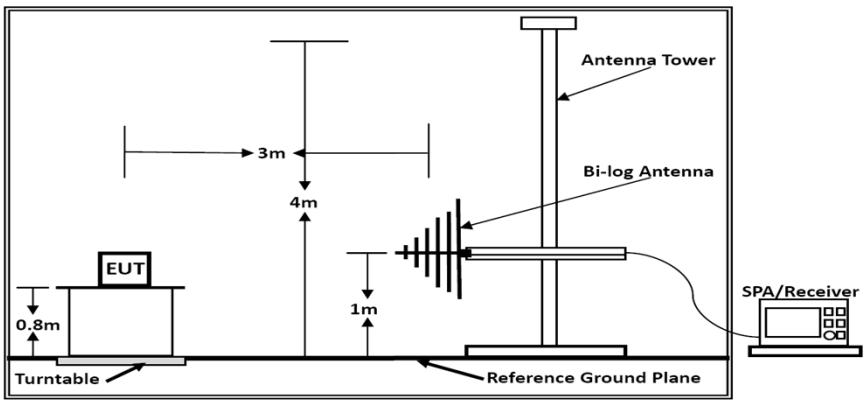
--- The final measurement will be performed at the position and antenna orientation for all detected emissions that were found during the premeasurements with Peak and Average detector.

--- The final levels, frequency, measuring time, bandwidth, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement and the limit will be stored.

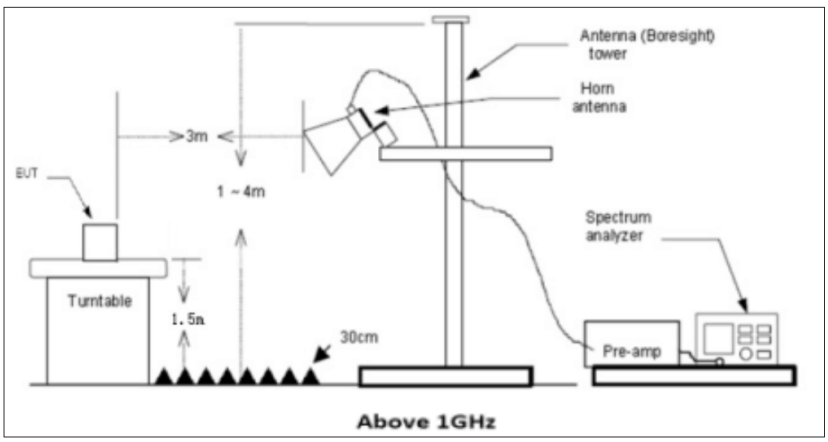
6.7.4 Test Setup Layout



Below 30MHz



Below 1GHz



Above 18 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1m.

Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

6.7.5 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

6.7.6 Test result

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Temperature	25.5℃	Humidity	52.2%
Test Engineer	Emiya Lin	Configurations	IEEE 802.11b/g/n/ax

Remarks:

1. Only the worst case Main Antenna test data.
2. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

■ **Results of Radiated Emissions (9 KHz~30MHz)**

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Over Limit (dBuV)	Remark
-	-	-	-	See Note

Note:

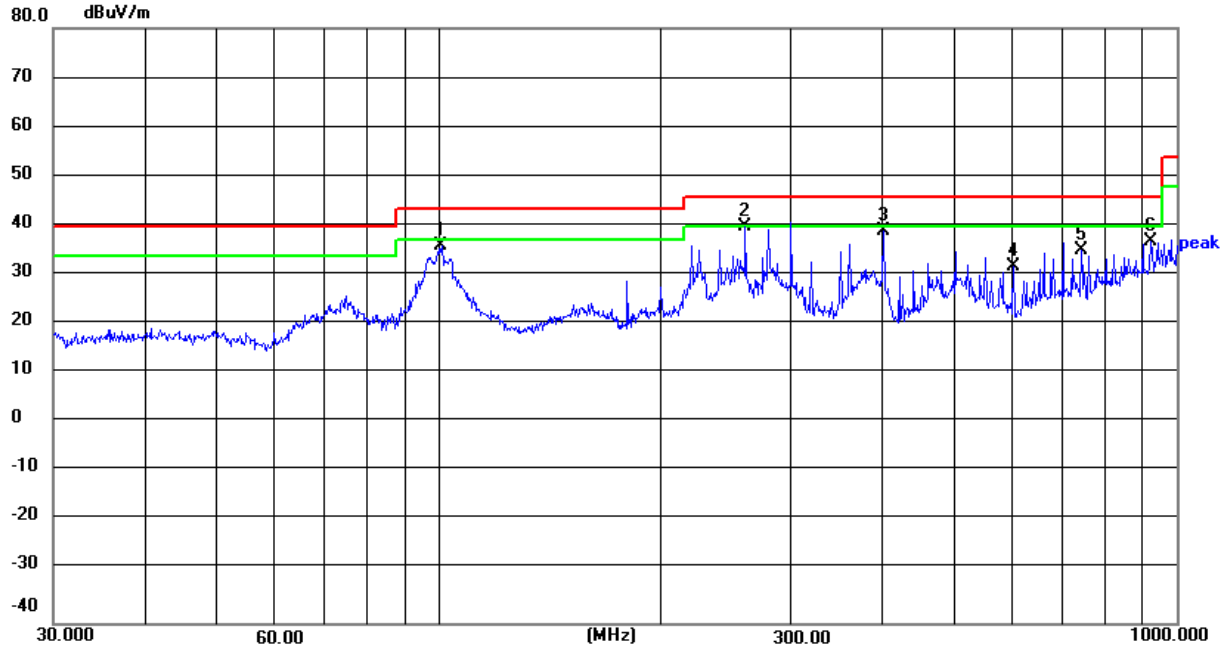
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and the permissible value has no need to be reported.

Distance extrapolation factor = 40 log (specific distance / test distance) (dB);
Limit line = specific limits (dBuV) + distance extrapolation factor.

■ **Results of Radiated Emissions (30MHz~1GHz)**

Pre-scan all test modes, found worst case at IEEE 802.11b (Low Channel), recorded the worst case results in this report (IEEE 802.11b (Low Channel)).

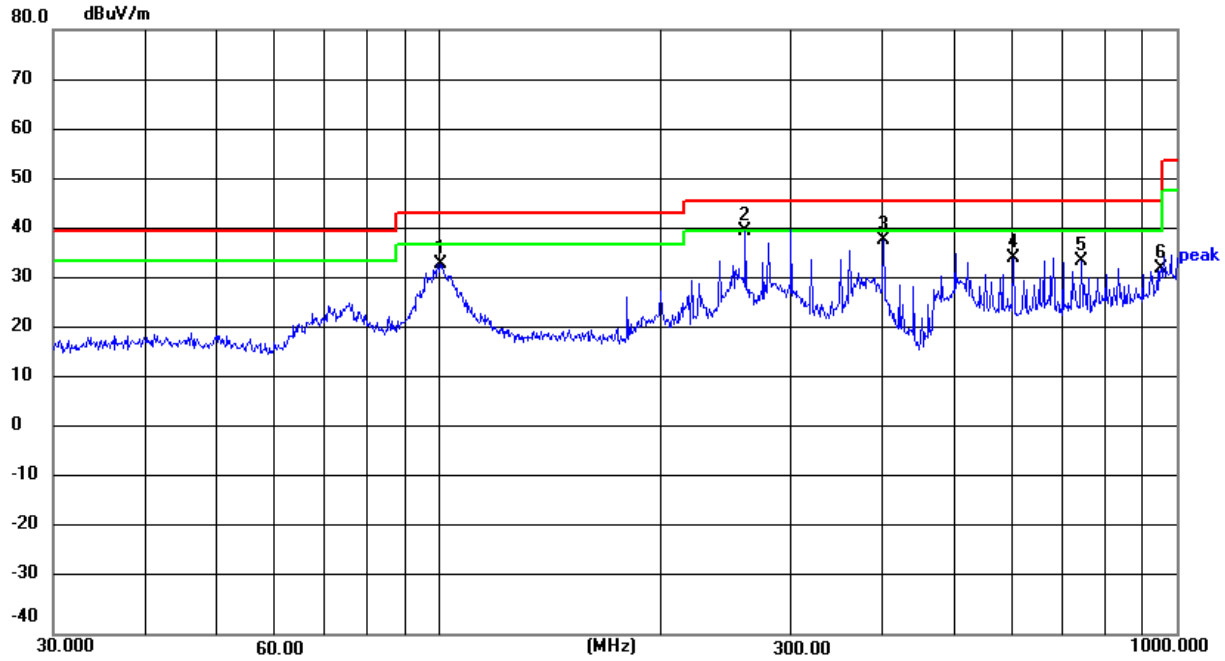
Model name:	i554W-2 Wire	Test Date :	Aug.10,2026
Polarization :	Vertical	Test Result:	☒ Pass ☐ Fail



Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.
Measurement Result=Reading Level +Correct Factor;
Over Limit= Measurement Result- Limit;

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	100.9339	49.12	-12.95	36.17	43.50	-7.33	peak
2 *	260.1444	49.50	-9.33	40.17	46.00	-5.83	peak
3	400.4318	44.09	-5.01	39.08	46.00	-6.92	peak
4	601.4265	32.78	-0.62	32.16	46.00	-13.84	peak
5	742.2586	32.74	2.51	35.25	46.00	-10.75	peak
6	922.5157	31.80	5.22	37.02	46.00	-8.98	peak

Model name:	i554W-2 Wire	Test Date :	Aug.10,2026
Polarization :	Horizontal	Test Result:	☒ Pass ☐ Fail



Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.
Measurement Result=Reading Level +Correct Factor;
Over Limit= Measurement Result- Limit;

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	100.5806	46.54	-12.95	33.59	43.50	-9.91	peak
2 *	260.1444	49.35	-9.33	40.02	46.00	-5.98	peak
3	400.4318	43.23	-5.01	38.22	46.00	-7.78	peak
4	601.4265	35.47	-0.62	34.85	46.00	-11.15	peak
5	742.2586	31.51	2.51	34.02	46.00	-11.98	peak
6	952.0937	26.74	5.93	32.67	46.00	-13.33	peak

Results for Radiated Emissions (1- 26 GHz)

Note: Tests were conducted on both antenna 1 and antenna 2, covering all modes. Antenna 1 802.11b mode was the worst mode. The report only reflects the worst mode.

Test mode:	802.11b	Test channel:	Lowest

H

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
4824.20	62.49	-7.34	55.15	74	-18.85	PEAK
4824.20	53.05	-7.34	45.71	54	-8.29	AVG
7236.00	52.49	-1.34	51.15	74	-22.85	PEAK
--	--	--	--	--	--	AVG

V

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
4824.20	63.24	-7.34	55.90	74	-18.10	PEAK
4824.20	53.19	-7.34	45.85	54	-8.15	AVG
7236.00	53.01	-1.34	51.67	74	-22.33	PEAK
--	--	--	--	--	--	AVG

Test mode:	802.11b	Test channel:	Middle

H

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
4874.00	61.81	-6.82	54.99	74	-19.01	PEAK
4874.00	50.49	-6.82	43.67	54	-10.33	AVG
7310.50	50.50	-0.61	49.89	74	-24.11	PEAK
--	--	--	--	--	--	AVG

V

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
4874.00	62.66	-6.82	55.84	74	-18.16	PEAK
4874.00	51.60	-6.82	44.78	54	-9.22	AVG
7310.50	50.72	-0.61	50.11	74	-23.89	PEAK
--	--	--	--	--	--	AVG

Test mode:	802.11b	Test channel:	Highest

H

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB/m)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924.20	60.84	-6.23	54.61	74	-19.39	PEAK
4924.20	49.84	-6.23	43.61	54	-10.39	AVG
7386.00	50.79	0.05	50.84	74	-23.16	PEAK
--	--	--	--	--	--	AVG

V

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB/m)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924.20	61.12	-6.23	54.89	74	-19.11	PEAK
4924.20	51.23	-6.23	45.00	54	-9.00	AVG
7386.00	51.49	0.05	51.54	74	-22.46	PEAK
--	--	--	--	--	--	AVG

Notes:

1). Measuring frequencies from 9 KHz - 10th harmonic or 26.5GHz (which is less), No emission found between lowest internal used/generated frequency to 30MHz.
2). Radiated emissions measured in frequency range from 9 KHz~10th harmonic or 26.5GHz (which is less) were made with an instrument using Peak detector mode.
3). Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

4). Worst case data at 1Mbps at IEEE 802.11b; 6Mbps at IEEE 802.11g; 6.5Mbps at IEEE 802.11n HT20; 13Mbps at IEEE 802.11n HT40; 6.5Mbps at IEEE 802.11ax HE20; 13Mbps at IEEE 802.11ax HE40;
5). Margin=Reading level + Factor – Limit

Results for Restrict-band Band-edge

Please refer to Appendix C

6.8 Conducted Emissions

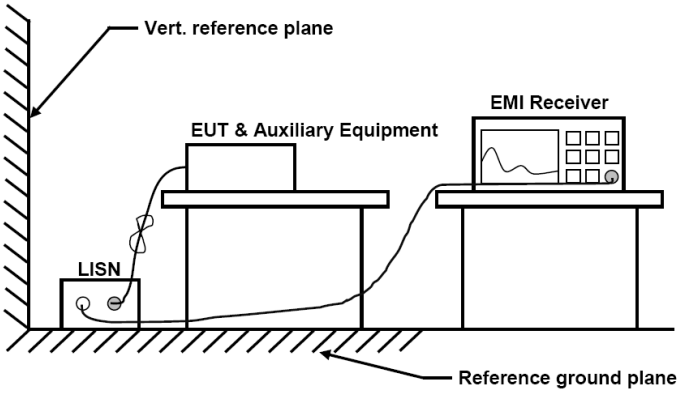
6.8.1 Standard requirement:

According to §15.207 (a), RSS-Gen Issue 5: For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

* Decreasing linearly with the logarithm of the frequency

6.8.2 Test Setup Layout



6.8.3 Test Procedures

The transmitter output is connected to EMI receiver. The resolution bandwidth is set to 9 kHz. The video bandwidth is set to 30 kHz, Sweep time=Auto

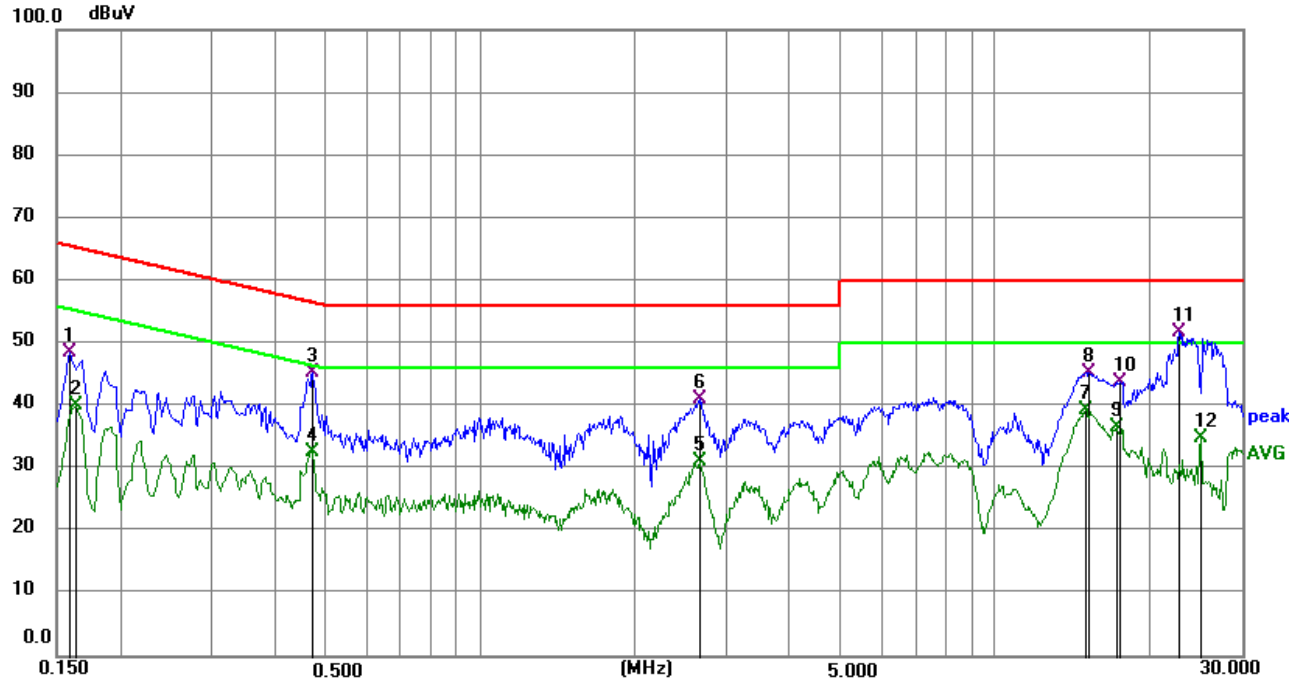
The spectrum from 150 kHz to 30MHz is investigated with the transmitter set to the lowest, middle, and highest channels.

6.8.4 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

TEST RESULTS

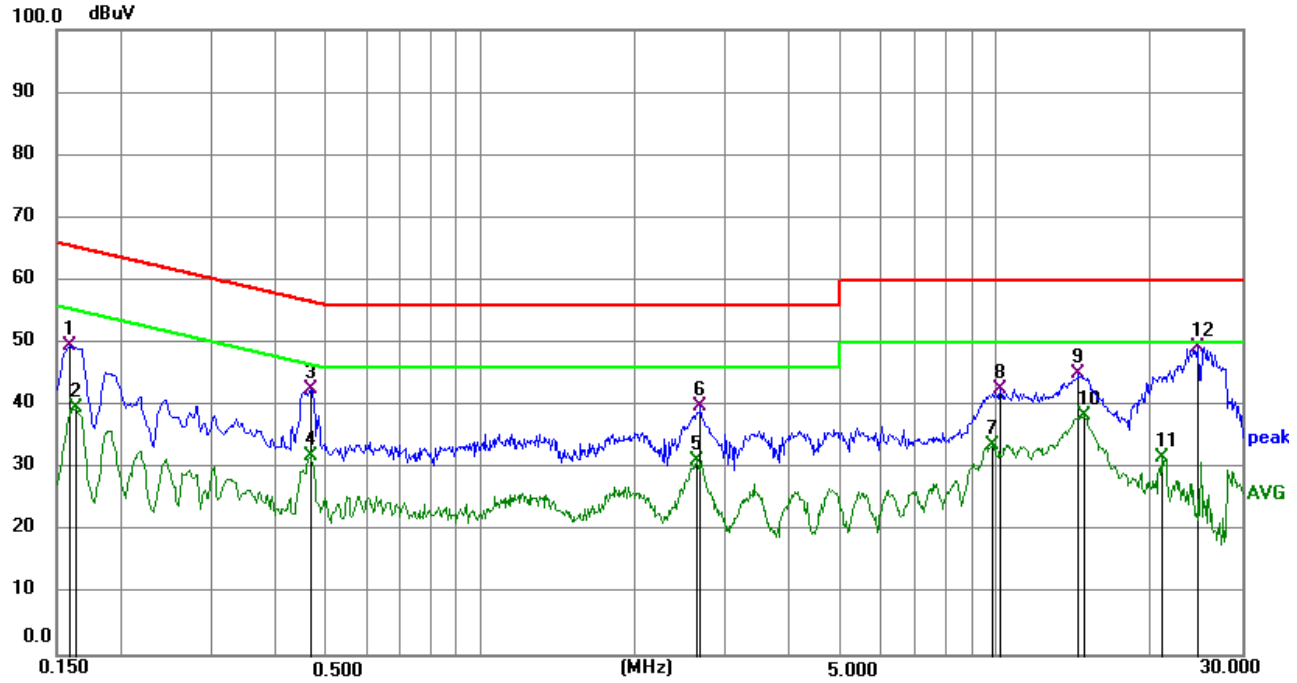
Test Mode	2.4G WIFI	Line:	L



Remark: Correct Factor = Insertion loss of LISN + Cable loss + Insertion loss of Pulse Limiter;
Measurement Result = Reading Level + Correct Factor;
Margin = Measurement Result - Limit.

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1590	37.30	11.21	48.51	65.52	-17.01	QP
2	0.1635	28.98	11.09	40.07	55.28	-15.21	AVG
3	0.4693	34.12	11.06	45.18	56.53	-11.35	QP
4	0.4693	21.55	11.06	32.61	46.53	-13.92	AVG
5	2.6564	20.03	11.02	31.05	46.00	-14.95	AVG
6	2.6655	30.00	11.02	41.02	56.00	-14.98	QP
7	14.9100	27.68	11.55	39.23	50.00	-10.77	AVG
8	15.1935	33.74	11.58	45.32	60.00	-14.68	QP
9	17.1193	24.75	11.90	36.65	50.00	-13.35	AVG
10	17.4163	31.96	11.94	43.90	60.00	-16.10	QP
11	22.6860	39.38	12.35	51.73	60.00	-8.27	QP
12	24.9720	22.54	12.34	34.88	50.00	-15.12	AVG

Test Mode	2.4G WIFI	Line:	N



Remark: Correct Factor = Insertion loss of LISN + Cable loss + Insertion loss of Pulse Limiter;
Measurement Result = Reading Level + Correct Factor;
Margin = Measurement Result – Limit.

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1590	38.32	11.11	49.43	65.52	-16.09	QP
2	0.1635	28.66	10.99	39.65	55.28	-15.63	AVG
3	0.4650	31.50	11.00	42.50	56.60	-14.10	QP
4	0.4650	20.92	11.00	31.92	46.60	-14.68	AVG
5	2.6295	20.18	10.95	31.13	46.00	-14.87	AVG
6	2.6700	28.83	10.95	39.78	56.00	-16.22	QP
7	9.8340	22.63	11.05	33.68	50.00	-16.32	AVG
8	10.1895	31.44	11.09	42.53	60.00	-17.47	QP
9	14.5093	33.65	11.37	45.02	60.00	-14.98	QP
10	14.8963	26.89	11.39	38.28	50.00	-11.72	AVG
11	20.9893	19.27	12.30	31.57	50.00	-18.43	AVG
12	24.6840	37.14	12.20	49.34	60.00	-10.66	QP

7 Test Setup Photographs of EUT

Please refer to separated files for Test Setup Photos of the EUT.

8 External Photographs of EUT

Please refer to separated files for External Photos of the EUT.

9 Internal Photographs of EUT

Please refer to separated files for Internal Photos of the EUT.

------End------