RF MEASUREMENT REPORT

FCC ID:	Q9DAPIN0634A
Applicant:	Hewlett Packard Enterprise Company
Product:	ACCESS POINT
Model No.:	APIN0634A
Trademark:	Hewlett Packard Enterprise, HPE aruba networking
FCC Classification:	Digital Transmission System (DTS)
FCC Rule Part(s):	Part 15 Subpart C (Section 15.247)
Result:	Complies
Received Date:	2024-11-14
Test Date:	2025-01-16 ~ 2025-01-22

Reviewed By: Jame Yuan

Approved By: Robin Wu

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

The test results relate only to the samples tested.
This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013. Test results reported herein relate only to the item(s) tested.

Revision History

Report No.	Version	Description	Issue Date	Note
2411RSU027-U13	V01	Initial Report	2025-06-25	Valid

Note 1: The APIN0634A is a variation on the existing APIN0634. The APIN0634 is currently FCC certified under FCC ID: Q9DAPIN0634.

The APIN0634A differs from the APIN0634 in the following ways: Part substitution for 5G and 6G passive filter

Note 2: There's no change for 2.4G Wi-Fi specification, so spot check for each item was performed and all other test data were referenced from the original report.

CONTENTS

1. General Information

1.1. Applicant

Hewlett Packard Enterprise Company

6280 America Center Drive, San Jose CA 95002, United States

1.2. Manufacturer

Hewlett Packard Enterprise Company

6280 America Center Drive, San Jose CA 95002, United States

1.3. Testing Facility

☒	**Test Site – MRT Suzhou Laboratory**				
	Laboratory Location (Suzhou - Wuzhong) D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China **Laboratory Location (Suzhou - SIP)** 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China **Laboratory Location (Suzhou - Wujiang)** Building 1, No.1 Xingdong Road, Wujiang, Suzhou, Jiangsu, People's Republic of China				
	Laboratory Accreditations				
	A2LA: 3628.01		CNAS: L10551		
	FCC: CN1166		ISED: CN0001		
	VCCI:	☐R-20025	☐G-20034	☐C-20020	☐T-20020
		☐R-20141	☐G-20134	☐C-20103	☐T-20104
☐	**Test Site – MRT Shenzhen Laboratory**				
	Laboratory Location (Shenzhen) 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China				
	Laboratory Accreditations				
	A2LA: 3628.02		CNAS: L10551		
	FCC: CN1284		ISED: CN0105		
☐	**Test Site – MRT Taiwan Laboratory**				
	Laboratory Location (Taiwan) No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)				
	Laboratory Accreditations				
	TAF: 3261				
	FCC: 291082, TW3261		ISED: TW3261		

1.4. Product Information

Product Name	ACCESS POINT
Model No.	APIN0634
Serial No.	CNSXMLT01L
Wi-Fi Specification	802.11a/b/g/n/ac/ax
Bluetooth Specification	v5.0 single mode, BLE only
Zigbee Specification	802.15.4
GNSS Specification	GPS
Working Voltage	AC/DC Adapter or PoE Injector input
Operating Temperature	0 ~ 50 °C
Operating Environment	Indoor Use
Note: The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	

1.5. Radio Specification under Test

Frequency Range	802.11b/g/n-HT20/ax-HE20: 2412 ~ 2462MHz 802.11n-HT40/ax-HE40: 2422 ~ 2452MHz	
Channel Number	802.11b/g/n-HT20/ax-HE20: 11 802.11n-HT40/ax-HE40: 7	
Type of Modulation	802.11b: DSSS 802.11g/n: OFDM 802.11ax: OFDMA	
Data Rate	802.11b: 1/2/5.5/11Mbps 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 300Mbps 802.11ax: up to 573.6Mbps	
Channel Puncturing Function	☐ Supported	☒ Unsupported
Support RU	☒ Full RU	☐ Partial RU

1.6. Working Frequencies

802.11b/g/n-HT20/ax-HE20

Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz
04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz
10	2457 MHz	11	2462 MHz	--	--

802.11n-HT40/ax-HE40

Channel	Frequency	Channel	Frequency	Channel	Frequency
03	2422 MHz	04	2427 MHz	05	2432 MHz
06	2437 MHz	07	2442 MHz	08	2447 MHz
09	2452 MHz	--	--	--	--

1.7. Antenna Details

Polarization	Antenna Name	Frequency Band (GHz)	Max Peak Gain (dBi)	CDD Dir Gain (dBi)		BF Dir Gain (dBi)
				For Power	For PSD	
Wi-Fi External Antenna List (2*2 MIMO)						
Omni	AP-ANT-311	2.4 ~ 2.5	3.0	3.0	6.01	6.01
		5.15 ~ 5.9	6.0	6.0	9.01	9.01
		5.9 ~ 7.2	6.0	6.0	9.01	9.01
Omni	AP-ANT-312	2.4 ~ 2.5	3.3	3.3	6.31	6.31
		5.15 ~ 5.9	3.3	3.3	6.31	6.31
		5.9 ~ 7.2	4.1	4.1	7.11	7.11
Omni	AP-ANT-313	2.4 ~ 2.5	3.0	3.0	6.01	6.01
		5.15 ~ 5.9	6.0	6.0	9.01	9.01
		5.9 ~ 7.2	6.0	6.0	9.01	9.01
Omni	AP-ANT-320 AP-ANT-340	2.4 ~ 2.5	4.0	4.0	7.01	7.01
		5.15 ~ 5.9	5.0	5.0	8.01	8.01
		5.9 ~ 7.2	5.0	5.0	8.01	8.01
Directional (Note 5)	AP-ANT-325 AP-ANT-345	2.4 ~ 2.5	6.1	6.1	6.1	6.1
		5.15 ~ 5.9	6.1	6.1	6.1	6.1
		5.9 ~ 7.2	5.4	5.4	5.4	5.4
Directional (Note 5)	AP-ANT-328 AP-ANT-348	2.4 ~ 2.5	7.5	7.5	7.5	7.5
		5.15 ~ 5.9	8.0	8.0	8.0	8.0
		5.9 ~ 7.2	8.0	8.0	8.0	8.0

Note:

1, The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated.

2, The EUT also supports Beam Forming mode, and the Beam Forming support 802.11n/ac/ax, not include 802.11a/b/g.

3, The antenna specification is provided by the applicant.

4, These antennas are cross polarized design and the detail refers to antenna specification.

5, AP-ANT-325 is a tri-band and 2-element antenna and AP-ANT-345 is a tri-band and 4-element antenna. AP-ANT-328 is a tri-band and 2-element antenna and AP-ANT-348 is a tri-band and 4-element antenna.

6. Low gain antenna (AP-ANT-311) was selected to perform all RF testing that can got maximum power setting, high gain different type antenna (AP-ANT-312 & AP-ANT-340 & AP-ANT-348) was selected to perform radiated spurious emission and band edge testing. High gain antenna power setting will be reduced according to difference value of antenna gain declared by applicant.

1.8. Description of Operating Paths

Filter	Specification	Remark
Wi-Fi		
Filter 1#	Band Pass Filter (2412-2472)	Allowing any transmission on all channels
Filter 2#	Band Pass Filter (2402-2447)	Allowing any transmission on 20MHz channels 1 thru 6
Filter 3#	Band Pass Filter (2452-2472)	Allowing any transmission on 20MHz channel 11
Bluetooth / ZigBee		
Filter 4#	Band Pass Filter (2402-2480)	Allowing any transmission on all channels
Filter 5#	Band Pass Filter (2402-2430)	Allowing transmission on BLE channels 37 (2402MHz) and 38 (2426MHz) and Zigbee channel 11 (2405MHz)
Filter 6#	Band Pass Filter (2478-2482)	Allowing transmission on BLE channel 39 (2480MHz) and Zigbee channel 26(2480MHz)
Note: ZigBee and BLE can't work simultaneously.		

Working Mode

Wi-Fi	Bluetooth	Remark
Filter 1#	Filter 4#	Filter 1# or Filter 4# work alone
Filter 2#	Filter 6#	Transmission simultaneously
Filter 3#	Filter 5#	Transmission simultaneously
Note: Filter groups on the 2.4GHz Wi-Fi and BLE/Zigbee outputs to prevent reverse IMD when both 2.4GHz Wi-Fi and BLE/Zigbee are transmitting simultaneously		

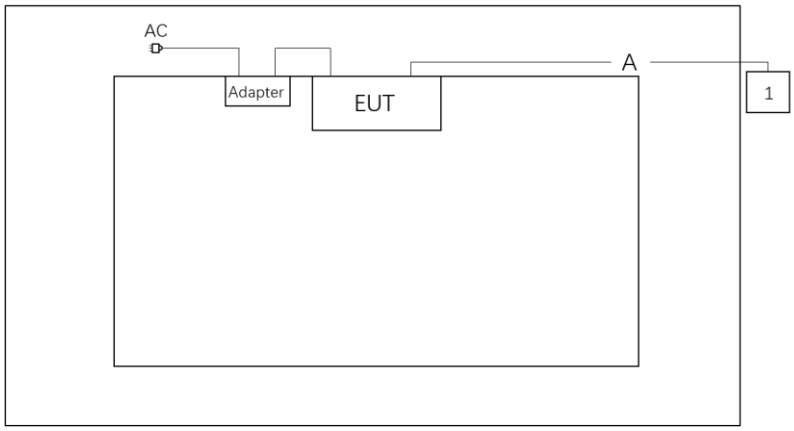
2. Test Configuration

2.1. Test Mode

Mode 1: Transmit by 802.11b (1Mbps)
Mode 2: Transmit by 802.11g (6Mbps)
Mode 3: Transmit by 802.11n-HT20_N_{SS}=1 (MCS0)
Mode 4: Transmit by 802.11n-HT40_N_{SS}=1 (MCS0)
Mode 5: Transmit by 802.11ax-HE20_N_{SS}=1 (MCS0)
Mode 6: Transmit by 802.11ax-HE40_N_{SS}=1 (MCS0)
Note: 1. All modes of operation and data rates were investigated, so all RF test requirements shall be executed at the worst data rate. 2. 802.11n and 802.11ac have same modulation type and same power value, so we only show 802.11ac test data in report. 3. For CDD mode, this device supports 2 N_{SS} and power level is the same of spatial multiplexing. The worst case is N_{SS}=1. 4. For beamforming operation, manufacturer automatically backs power down based on CDD power. Therefore, only the CDD mode was evaluated in this report.

2.2. Test System Connection Diagram

The device was tested per the guidance ANSI C63.10: 2013 was used to reference the appropriate EUT setup for radiated emissions testing and AC line conducted testing.



Cable Type		Cable Spec.	Length
A	Ethernet Cable	Non-Shielding, Cat 5e	>10.0m
Product		Manufacturer	Model No.
1	Notebook	Dell	Latitude 5491

2.3. Test Software

The test utility software used during testing was “QSPR”, and the version was 5.0-00196.

Final power setting please refer to operational description.

2.4. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15.247
- KDB 558074 D01v05r02
- KDB 662911 D01v02r01
- ANSI C63.10-2013

2.5. Test Environment Condition

Ambient Temperature	15 ~ 35°C
Relative Humidity	20 ~ 75%RH

3. Antenna Requirements

Excerpt from §15.203 of the FCC Rules/Regulations:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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 antenna of the device is **permanently attached.**
- There are no provisions for connection to an external antenna.

Conclusion:

The unit complies with the requirement of §15.203.

4. Measuring Instrument

Instrument	Manufacturer	Model No.	Asset No.	Cali. Interval	Cali. Due Date	Test Site
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06597	1 year	2025-11-03	WZ-AC1
Preamplifier	EMCI	EMC184045SE	MRTSUE06640	1 year	2025-01-11	WZ-AC1
Active Loop Antenna	Schwarzbeck	FMZB 1519-60 D	MRTSUE07076	1 year	2025-11-19	WZ-AC1
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2025-12-05	WZ-AC1
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06023	1 year	2025-07-26	WZ-AC1
Preamplifier	Agilent	83017A	MRTSUE06076	1 year	2025-11-08	WZ-AC1
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06172	1 year	2025-05-15	WZ-AC1
Anechoic Chamber	TDK	WZ-AC1	MRTSUE06212	1 year	2025-04-19	WZ-AC1
Signal Analyzer	Keysight	N9010B	MRTSUE06607	1 year	2025-10-13	WZ-AC1
Thermohygrometer	testo	608-H1	MRTSUE11039	1 year	2025-10-16	WZ-AC1
Thermohygrometer	testo	608-H1	MRTSUE06402	1 year	2025-05-12	WZ-SR5
Shielding Room	HUAMING	WZ-SR5	MRTSUE06442	N/A	N/A	WZ-SR5
Signal Analyzer	Keysight	N9010B	MRTSUE06457	1 year	2025-05-08	WZ-SR5
USB Power Sensor	Keysight	U2021XA	MRTSUE06446	1 year	2025-05-08	WZ-SR5
Attenuator	MVE	MVE2213	MRTSUE11092	1 year	2025-06-05	WZ-SR5
Signal Generator	Keysight	N5182B	MRTSUE06451	1 year	2025-06-03	WZ-SR5
Shielding Room	MIX-BEP	WZ-SR2	MRTSUE06215	5 years	2026-12-20	WZ-SR2
Thermohygrometer	testo	608-H1	MRTSUE06404	1 year	2025-05-12	WZ-SR2
Two-Line V-Network	R&S	ENV216	MRTSUE06002	1 year	2025-05-08	WZ-SR2
EMI Test Receiver	R&S	ESR3	MRTSUE06909	1 year	2025-09-05	WZ-SR2

Software	Version	Function
e3	230711	EMI Test Software
Controller_MF 7802	2.03C	RE Antenna & Turntable
BenchVue Power Meter	2018.1	Power

5. Decision Rules and Measurement Uncertainty

5.1. Decision Rules

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4: 2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.2. Measurement Uncertainty

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.

AC Conducted Emission Measurement
The maximum measurement uncertainty is evaluated as: 9kHz~150kHz: 3.02dB 150kHz~30MHz: 2.56dB
Radiated Emission Measurement
The maximum measurement uncertainty is evaluated as: Coaxial: 9kHz~30MHz: 2.35dB Coplanar: 9kHz~30MHz: 2.37dB Horizontal: 30MHz~200MHz: 3.46dB 200MHz~1GHz: 3.78dB 1GHz~40GHz: 4.97dB Vertical: 30MHz~200MHz: 4.07dB 200MHz~1GHz: 5.28dB 1GHz~40GHz: 4.78dB
Spurious Emissions, Conducted
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 2.5dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 1.3dB
Power Spectrum Density
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 2.5dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 2.6%

6. Test Result

6.1. Summary

FCC Section(s)	Test Description	Test Condition	Verdict
15.247(a)(2)	6dB Bandwidth	Conducted	Pass
15.247(b)(3)	Output Power		Pass
15.247(e)	Power Spectral Density		Pass
15.247(d)	Band Edge / Out-of-Band Emissions		Pass
15.205 15.209	General Field Strength (Restricted Bands and Radiated Emission)	Radiated	Pass
15.207	AC Conducted Emissions 150kHz - 30MHz	Line Conducted	Pass

Notes:

1. The analyzer plots shown in this section were captured using a correction table to account for cable and attenuator losses in the system connecting the EUT to the analyzer across relevant frequencies.
2. For radiated emission tests, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst-case emissions.

6.2. 6dB Bandwidth Measurement

6.2.1. Test Limit

The minimum 6dB bandwidth shall be at least 500 kHz.

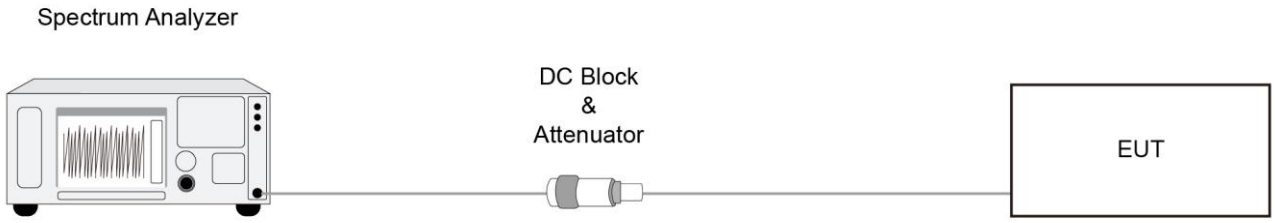
6.2.2. Test Procedure

ANSI C63.10 - 2013 - Section 11.8

6.2.3. Test Setting

1. The Spectrum's automatic bandwidth measurement capability was used to perform the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 6. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. Set RBW = 100 kHz
3. VBW ≥ 3 × RBW
4. Detector = Peak
5. Trace mode = Max hold
6. Sweep = Auto couple
7. Allow the trace to stabilize.

6.2.4. Test Setup



6.2.5. Test Result

Refer to Appendix A.2.

6.3. Output Power Measurement

6.3.1. Test Limit

The maximum output power shall be less 1 Watt (30dBm).

The conducted output power limit specified in paragraph FCC Part 15.247(b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs FCC Part 15.247(b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

6.3.2. Test Procedure

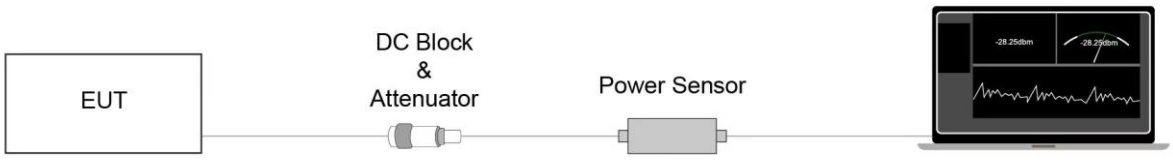
ANSI C63.10 - 2013 - Section 11.9.2.3.2

6.3.3. Test Setting

Average Power Measurement

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.

6.3.4. Test Setup



6.3.5. Test Result

Refer to Appendix A.3.

6.4. Power Spectral Density Measurement

6.4.1. Test Limit

The maximum permissible power spectral density is 8dBm in any 3 kHz band.

The same method of determining the conducted output power shall be used to determine the power spectral density.

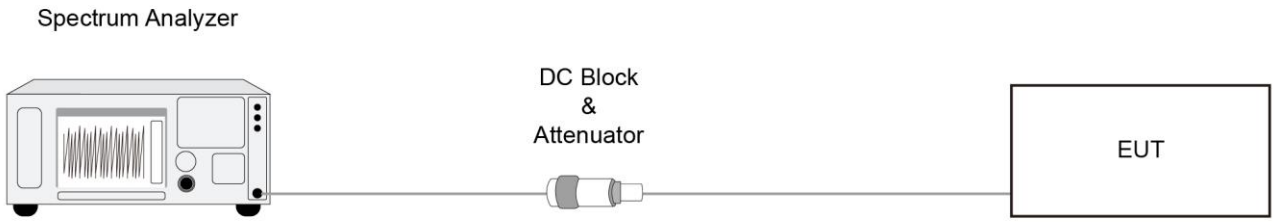
6.4.2. Test Procedure

ANSI C63.10 - 2013 - Section 11.10.5

6.4.3. Test Setting

1. Measure the duty cycle (x) of the transmitter output signal.
2. Set instrument center frequency to DTS channel center frequency.
3. Set span to at least 1.5 times the OBW.
4. RBW = 10 kHz.
5. VBW = 30 kHz.
6. Detector = RMS.
7. Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
8. Sweep time = auto couple.
9. Don’t use sweep triggering. Allow sweep to “free run”.
10. Employ trace averaging (RMS) mode over a minimum of 100 traces.
11. Use the peak marker function to determine the maximum amplitude level.
12. Add 10 log (1/x), where x is the duty cycle measured in step (a, to the measured PSD to compute the average PSD during the actual transmission time. If measured value exceeds requirement specified by regulatory agency, then reduce RBW (but no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span to meet the minimum measurement point requirement as the RBW is reduced).

6.4.4. Test Setup



6.4.5. Test Result

Refer to Appendix A.4.

6.5. Conducted Band Edge and Out-of-Band Emissions Measurement

6.5.1. Test Limit

The limit for out-of-band spurious emissions at the band edge is 30dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100 kHz bandwidth per the PSD procedure.

6.5.2. Test Procedure

ANSI C63.10-2013 - Section 11.11

6.5.3. Test Settitng

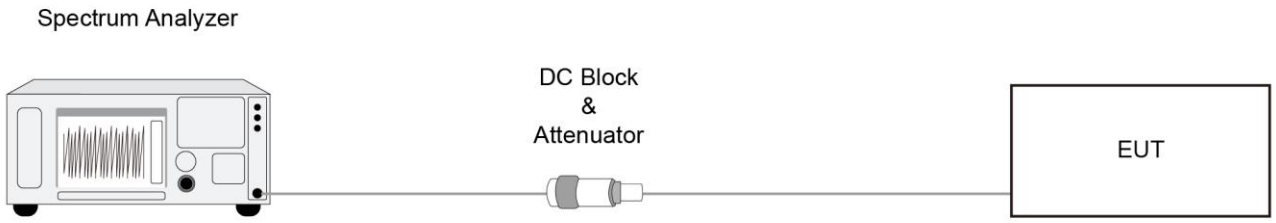
Reference level measurement

1. Set instrument center frequency to DTS channel center frequency
2. Set the span to ≥ 1.5 times the DTS bandwidth
3. Set the RBW = 100 kHz
4. Set the VBW ≥ 3 x RBW
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Allow trace to fully stabilize

Emission level measurement

1. Set the center frequency and span to encompass frequency range to be measured
2. RBW = 100kHz
3. VBW = 300kHz
4. Detector = Peak
5. Trace mode = max hold
6. Sweep time = auto couple
7. The trace was allowed to stabilize

6.5.4. Test Setup



6.5.5. Test Result

Refer to Appendix A.5.

6.6. Radiated Spurious Emission Measurement

6.6.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

6.6.2. Test Procedure

ANSI C63.10 - 2013 - Section 11.11 & 11.12

ANSI C63.10 - 2013 - Section 6.3 (General Requirements)

ANSI C63.10 - 2013 - Section 6.4 (Standard test method below 30MHz)

ANSI C63.10 - 2013 - Section 6.5 (Standard test method above 30MHz to 1GHz)

ANSI C63.10 - 2013 - Section 6.6 (Standard test method above 1GHz)

6.6.3. Test Setting

Table 1 - RBW as a function of frequency

Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000MHz	1MHz

Quasi-Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = as specified in Table 1
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Peak Measurements above 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = Peak
5. Sweep time = Auto couple
6. Trace mode = Max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; if the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10Hz

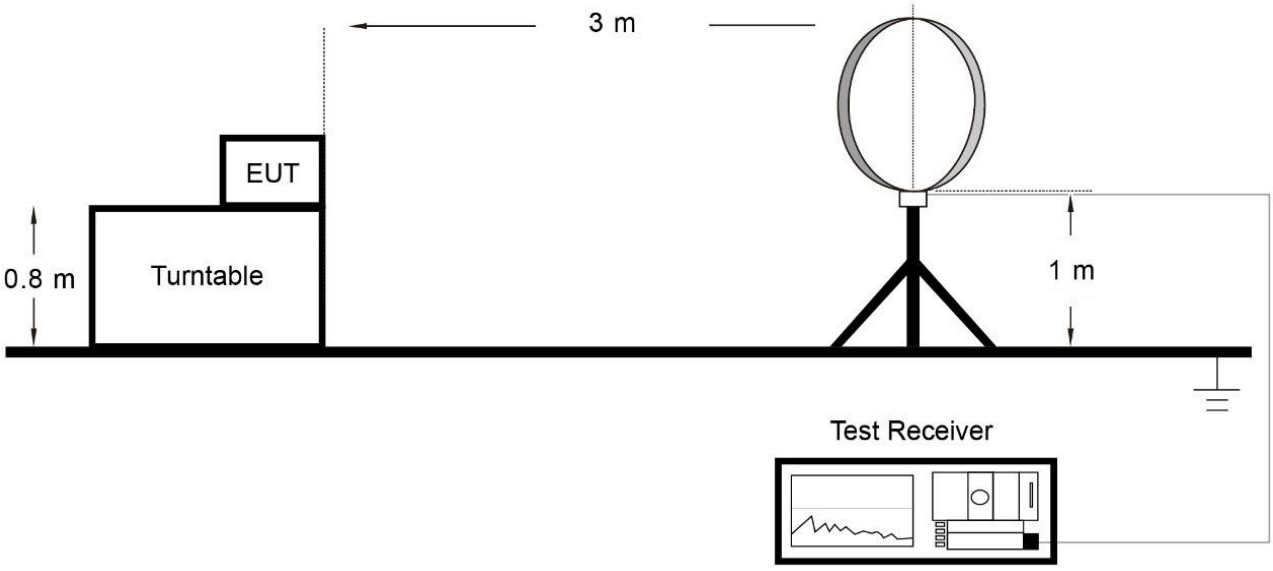
If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration.

802.11b	VBW = 750Hz	802.11n-HT40	VBW = 200Hz
802.11g	VBW = 510Hz	802.11ax-HE20	VBW = 200Hz
802.11n-HT20	VBW = 200Hz	802.11ax-HE40	VBW = 200Hz

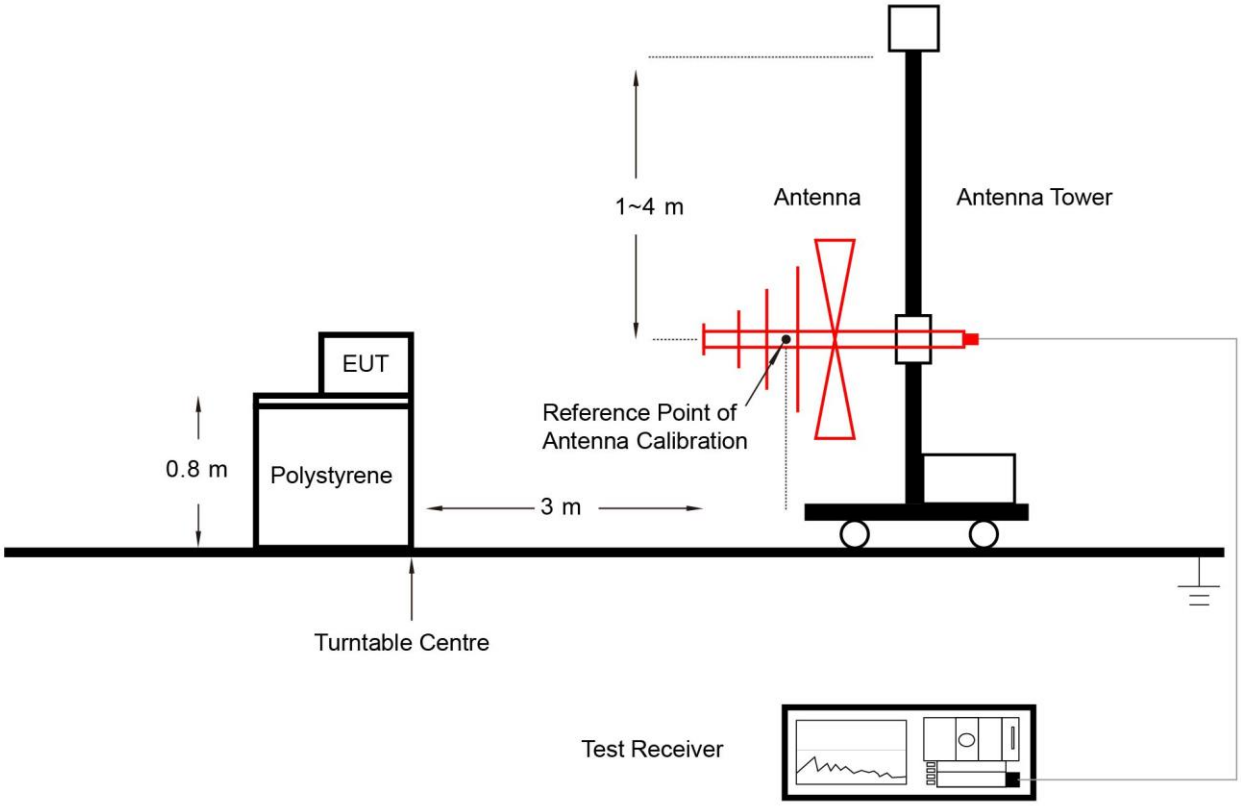
4. As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to “Voltage” regardless of the display mode
5. Detector = Peak
6. Sweep time = Auto
7. Trace mode = Max hold
8. Trace was allowed to stabilize

6.6.4. Test Setup

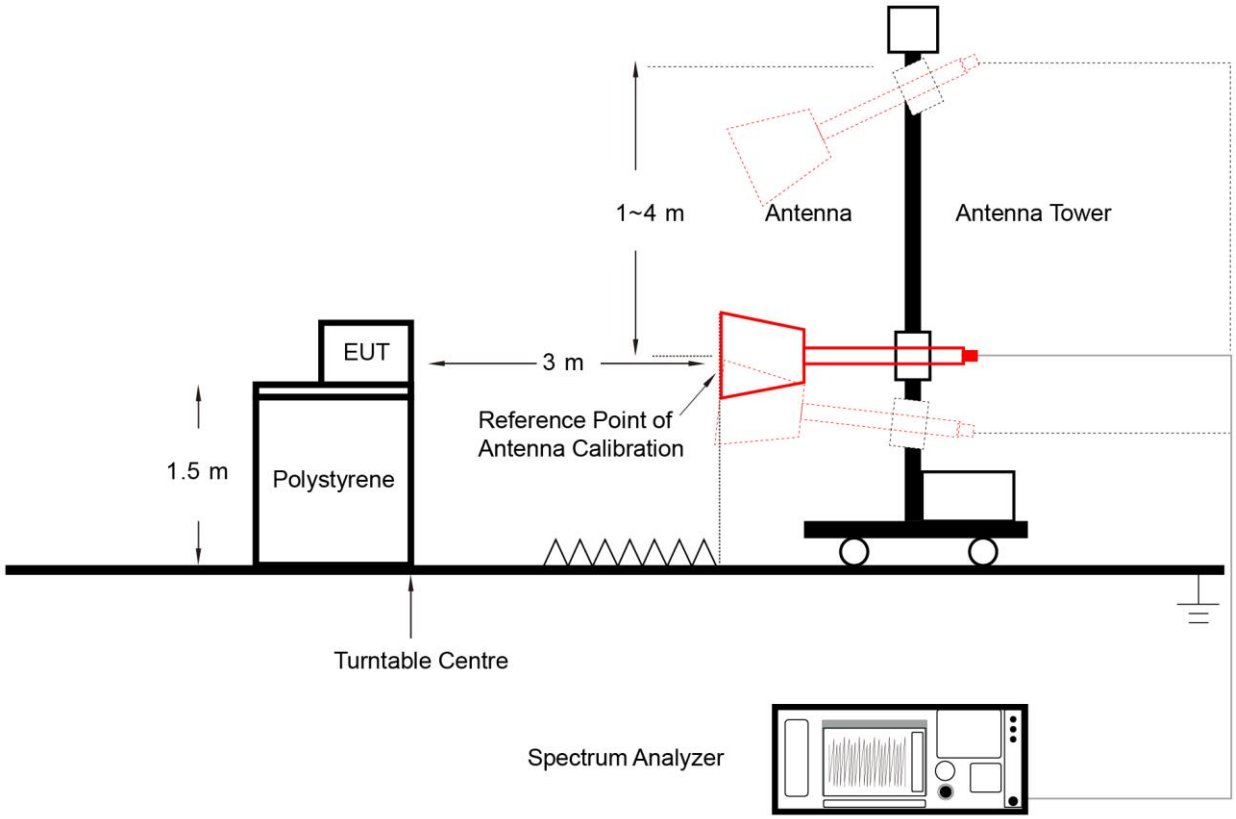
Below 30MHz Test Setup:



Below 1GHz Test Setup:



Above 1GHz Test Setup:



6.6.5. Test Result

Refer to Appendix A.6.

6.7. Radiated Restricted Band Edge Measurement

6.7.1. Test Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (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	--	--	--

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

6.7.2. Test Procedure

ANSI C63.10-2013 Section 6.3 & 6.6 & 11.13

6.7.3. Test Setting

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Field Strength Measurements

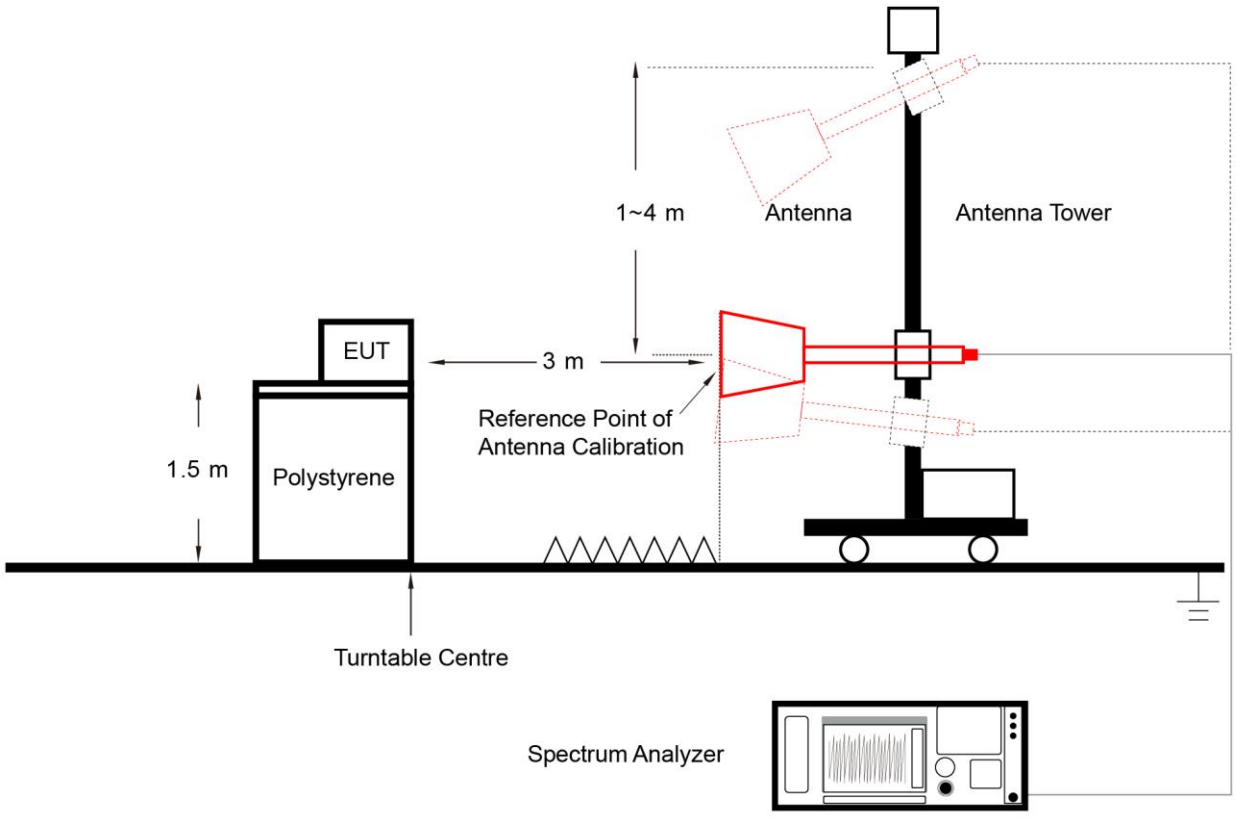
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10 Hz.

If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration.

802.11b	VBW = 750Hz	802.11n-HT40	VBW = 200Hz
802.11g	VBW = 510Hz	802.11ax-HE20	VBW = 200Hz
802.11n-HT20	VBW = 200Hz	802.11ax-HE40	VBW = 200Hz

4. As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to “Voltage” regardless of the display mode
5. Detector = Peak
6. Sweep time = auto
7. Trace mode = max hold
8. Allow max hold to run for at least 50 times (1/duty cycle) traces

6.7.4. Test Setup



6.7.5. Test Result

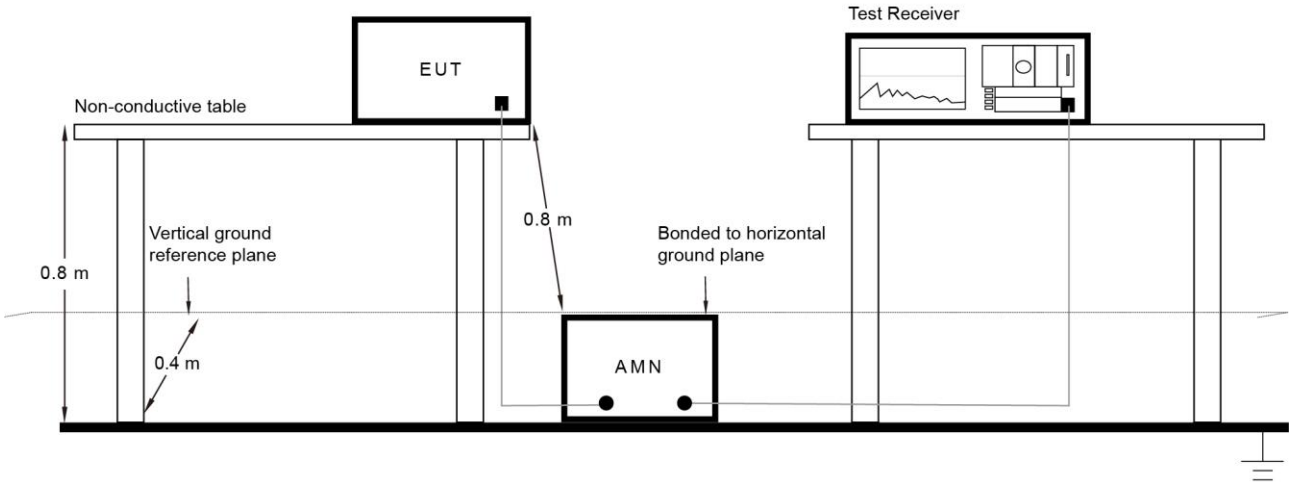
Refer to Appendix A.7.

6.8. AC Conducted Emissions Measurement

6.8.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50
Note 1: The lower limit shall apply at the transition frequencies. Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.		

6.8.2. Test Setup



6.8.3. Test Result

Refer to Appendix A.8.

Appendix A – Test Result

A.1 Duty Cycle Test Result

Refer to MRT report No. 2306RSU040-U2 clause A.1

A.2 6dB Bandwidth Test Result

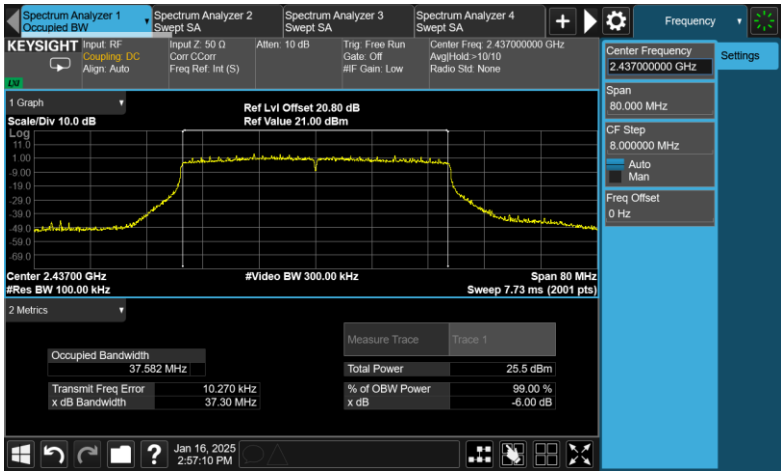
Refer to MRT report No. 2306RSU040-U2 clause A.2

Spot Check:

Test Site	WZ-SR5	Test Engineer	Lynn Yang
Test Date	2025-01-16		

Test Mode	Data Rate / MCS	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
802.11ax-HE40	MCS0	06	2437	37.30	≥ 0.5

802.11ax-HE20 6dB Bandwidth Channel 06 (2437MHz)



A.3 Output Power Test Result

Refer to MRT report No. 2306RSU040-U2 clause A.3

Spot Check:

Test Site	WZ-SR5	Test Engineer	Lynn Yang
Test Date	2025-01-16		

Test Mode	Data Rate / MCS	Channel No.	Freq. (MHz)	Average Power (dBm)		Total Average Power (dBm)	Limit (dBm)
				Ant 0	Ant 1		
11b	1Mbps	06	2437	16.35	15.00	18.74	≤ 30.00

Note: Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power }/10)}+10^{(\text{Ant 1 Average Power }/10)}\}$ (dBm).

A.4 Power Spectral Density Test Result

Refer to MRT report No. 2306RSU040-U2 clause A.4

Spot Check:

Test Site	WZ-SR5	Test Engineer	Lynn Yang
Test Date	2025-01-16		

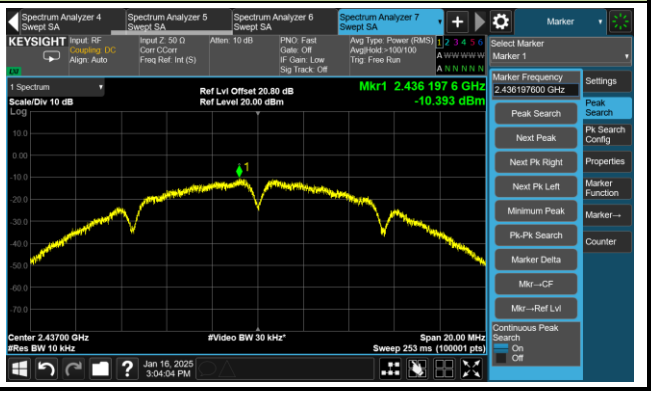
Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PSD (dBm / 10kHz)		Duty Cycle (%)	10*log (1/x)	Total PSD (dBm/10kHz)	Limit (dBm/3kHz)
				Ant 0	Ant 1				
11b	1Mbps	06	2437	-9.600	-10.393	63.55	1.97	-4.999	≤ 8.00

Note: When EUT duty cycle < 98%, Total PSD (dBm / 10kHz) = 10*log {$10^{(\text{Ant 5 PSD}/10)}$ + $10^{(\text{Ant 2 PSD}/10)}$} (dBm / 10kHz) + 10*log (1/Duty Cycle).

802.11b Channel 06 (2437MHz) - AVGPSD

Ant 0

Ant 1



A.5 Conducted Band Edge and Out-of-Band Emissions Test Result

Refer to MRT report No. 2306RSU040-U2 clause A.5

Spot Check:

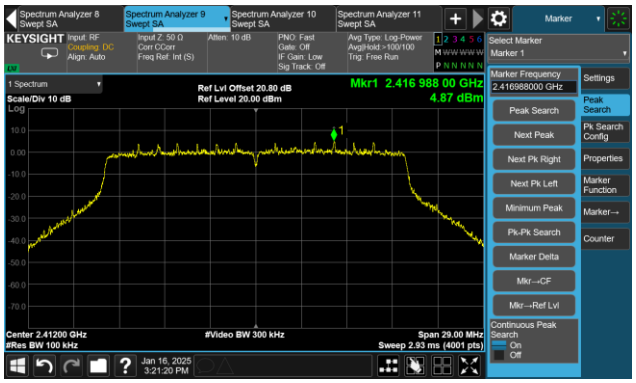
Test Site	WZ-SR5	Test Engineer	Lynn Yang
Test Date	2025-01-16		

Test Mode	Data Rate / MCS	Channel No.	Frequency (MHz)	Limit
11ax-HE20	MCS0	01	2412	30dBc

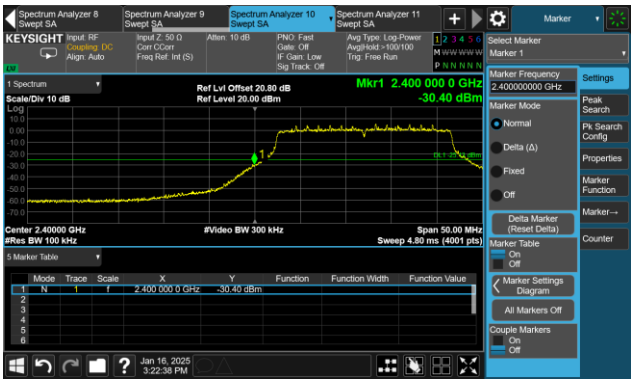
802.11ax-HE20 Out-of-Band Emissions – Ant 0

Channel 01 (2412MHz)

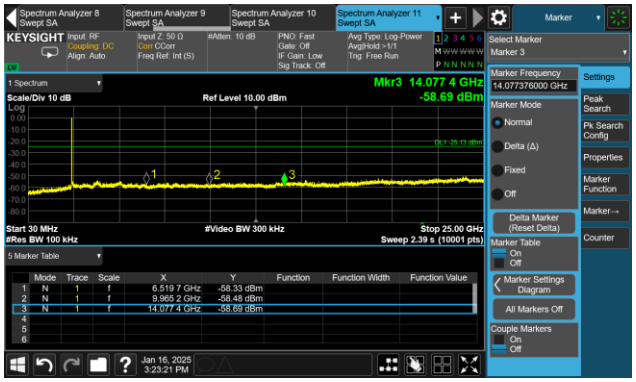
Reference Level

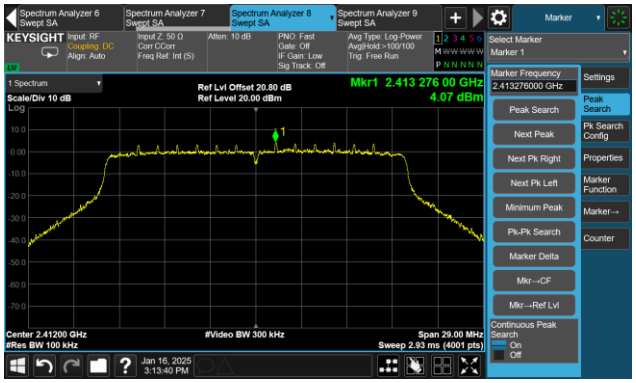
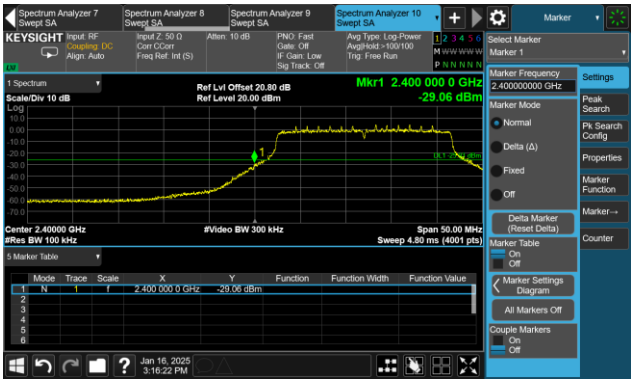
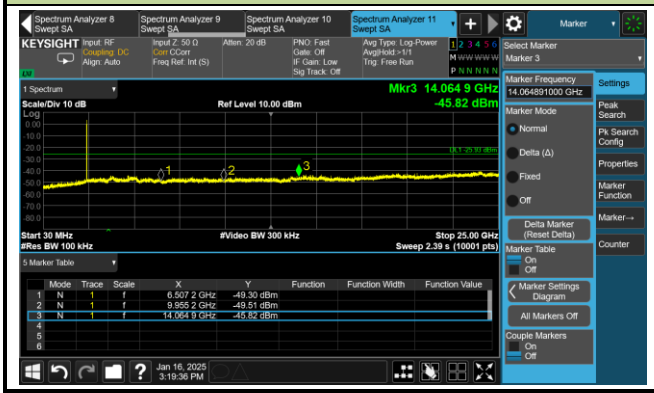


Low Band Edge



Spurious Emission



802.11ax-HE20 Out-of-Band Emissions – Ant 1	
Channel 01 (2412MHz)	
Reference Level	Low Band Edge
	
Spurious Emission	
	

A.6 Radiated Spurious Emission Test Result

Refer to MRT report No. 2306RSU040-U2 clause A.6

Spot Check:

Test Site	WZ-AC1	Test Engineer	Lucas Wang
Test Date	2025-01-17	Test Mode	802.11n-HT20
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

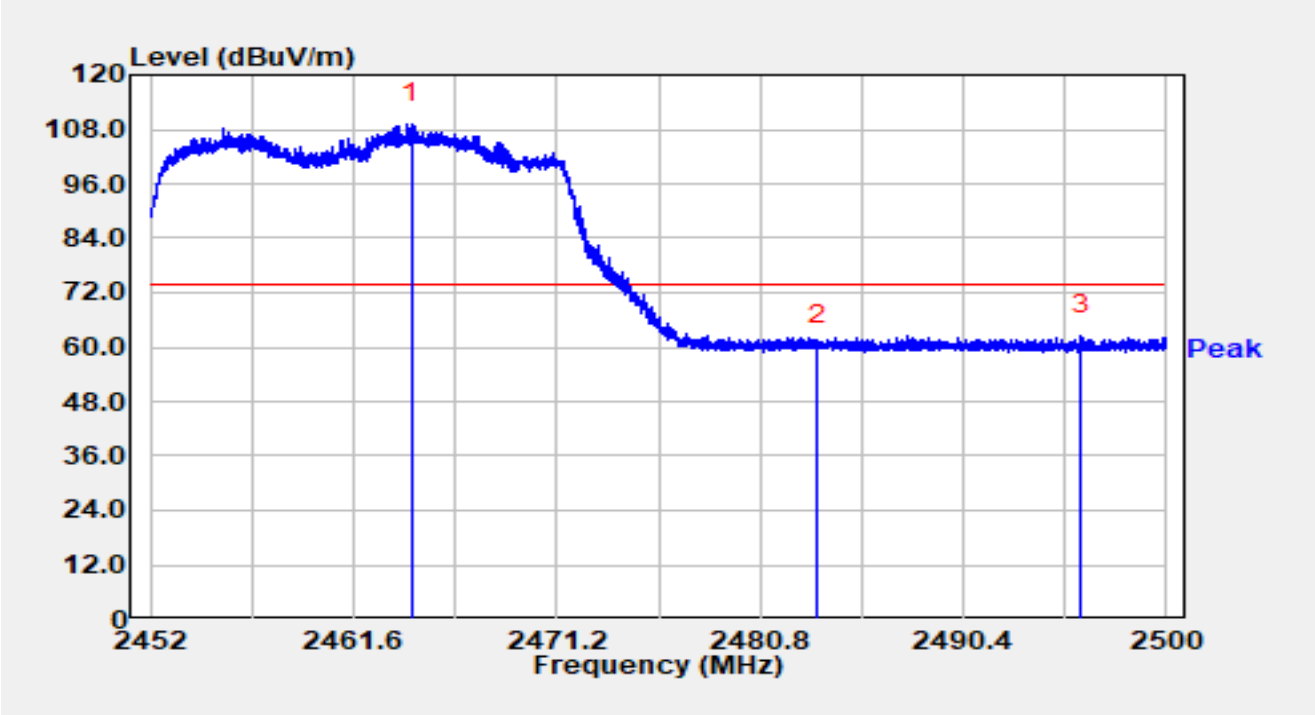
Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	8432.4	36.2	9.9	46.1	74.0	-27.9	Peak	Horizontal
	11007.9	36.0	15.0	51.0	74.0	-23.0	Peak	Horizontal
	17983.0	26.3	22.7	49.0	54.0	-5.0	Average	Horizontal
	17983.0	35.6	22.7	58.3	74.0	-15.7	Peak	Horizontal
	8415.4	35.9	9.9	45.8	74.0	-28.2	Peak	Vertical
	11252.7	36.7	14.2	50.9	74.0	-23.1	Peak	Vertical
	17991.5	25.4	22.8	48.2	54.0	-5.8	Average	Vertical
	17991.5	35.0	22.8	57.8	74.0	-16.2	Peak	Vertical
Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m) Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)								

A.7 Radiated Restricted Band Edge Test Result

Refer to MRT report No. 2306RSU040-U2 clause A.7.

Spot Check:

Site	WZ-AC1	Test Date	2025-01-17
Limit	FCC_2.4G_RE(3m)	Test Engineer	Lucas Wang
Factor	BBHA 9120D_01167	Polarity	Horizontal
EUT	ACCESS POINT	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by 802.11ax-HE20 at 2462MHz		

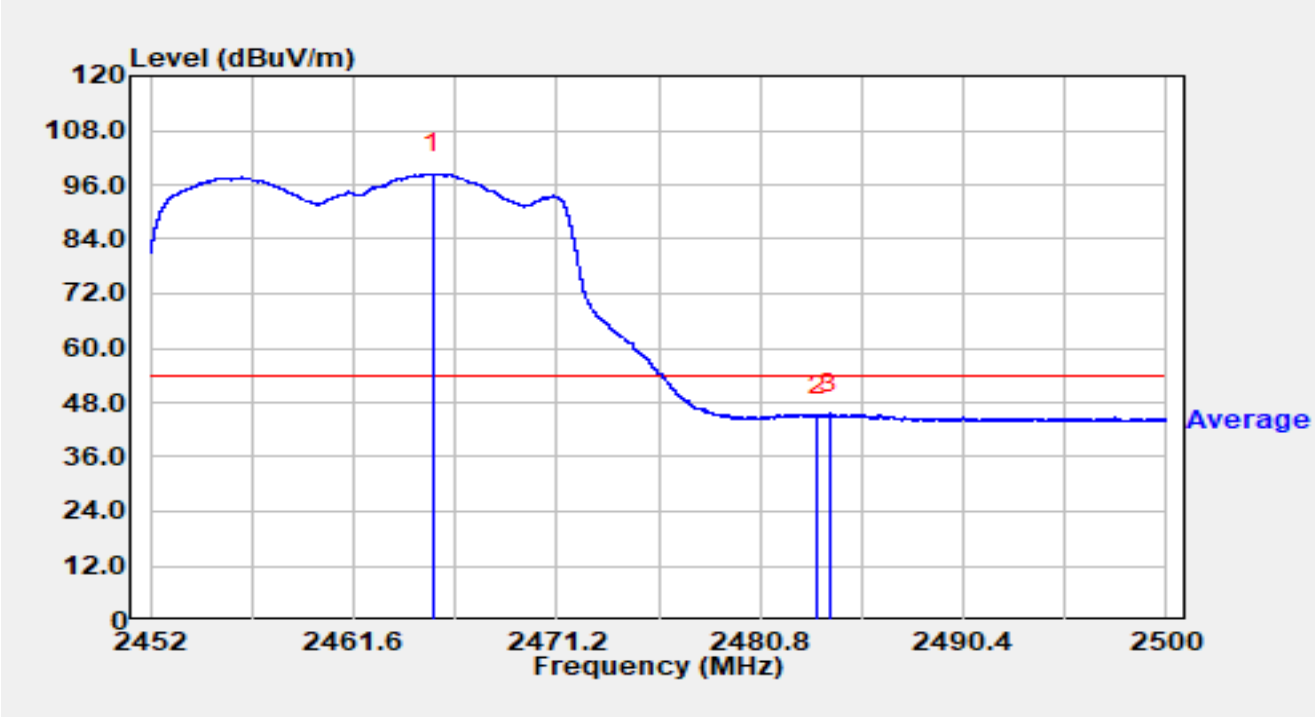


No	Mark	Frequency (MHz)	Reading (dBµV)	C.F (dB/m)	Measurement (dBµV/m)	Margin (dB)	Limit (dBµV/m)	Detector
1		2464.331	77.50	31.83	109.32	N/A	N/A	Peak
2		2483.500	28.64	31.81	60.44	-13.56	74.00	Peak
3	*	2495.987	30.89	31.81	62.70	-11.30	74.00	Peak

Notes:

1. " *", means this data is the worst emission level.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBµV/m) = Reading (dBµV) + C.F (dB/m).

Site	WZ-AC1	Test Date	2025-01-17
Limit	FCC_2.4G_RE(3m)	Test Engineer	Lucas Wang
Factor	BBHA 9120D_01167	Polarity	Horizontal
EUT	ACCESS POINT	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by 802.11ax-HE20 at 2462MHz		



No	Mark	Frequency (MHz)	Reading (dBµV)	C.F (dB/m)	Measurement (dBµV/m)	Margin (dB)	Limit (dBµV/m)	Detector
1		2465.354	66.59	31.82	98.41	N/A	N/A	Average
2		2483.500	13.35	31.81	45.16	-8.84	54.00	Average
3	*	2484.093	13.73	31.81	45.54	-8.46	54.00	Average

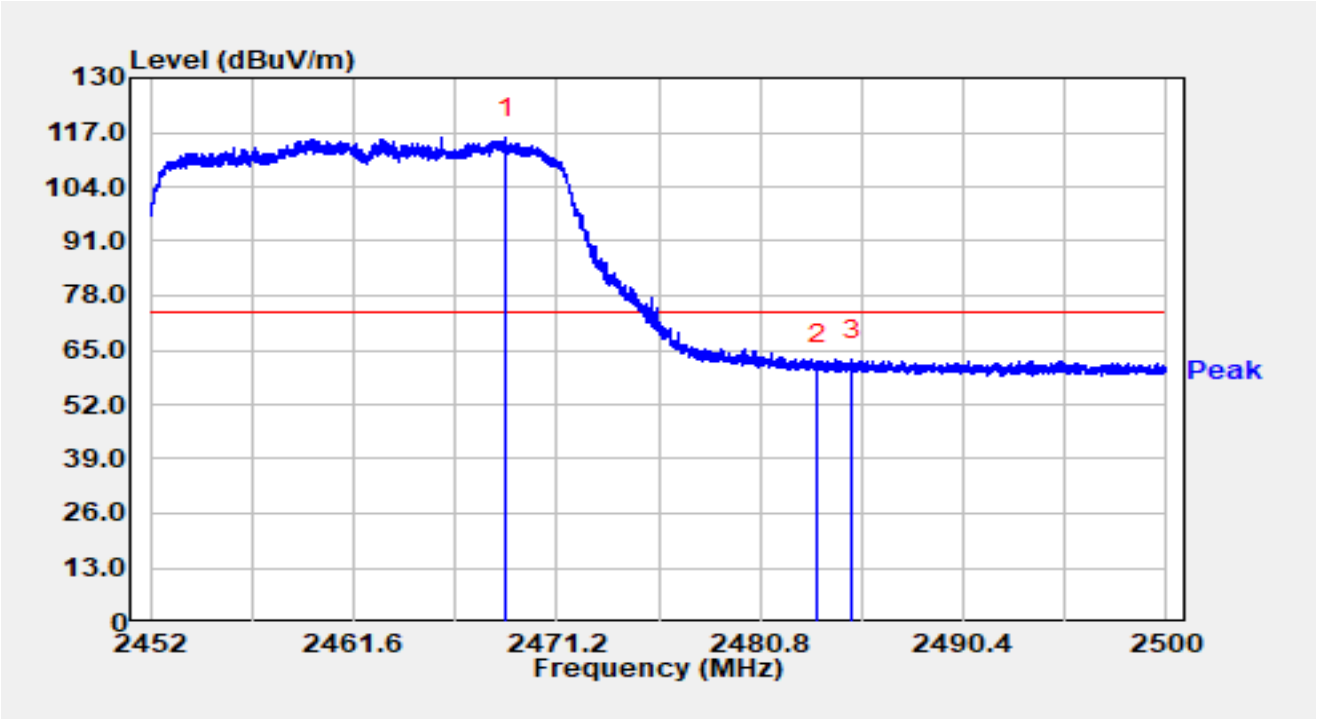
Notes:

1. " *", means this data is the worst emission level.

2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).

3. Measurement (dBµV/m) = Reading (dBµV) + C.F (dB/m).

Site	WZ-AC1	Test Date	2025-01-17
Limit	FCC_2.4G_RE(3m)	Test Engineer	Lucas Wang
Factor	BBHA 9120D_01167	Polarity	Vertical
EUT	ACCESS POINT	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by 802.11ax-HE20 at 2462MHz		



No	Mark	Frequency (MHz)	Reading (dBµV)	C.F (dB/m)	Measurement (dBµV/m)	Margin (dB)	Limit (dBµV/m)	Detector
1		2468.781	83.93	31.82	115.75	N/A	N/A	Peak
2		2483.500	29.93	31.81	61.74	-12.26	74.00	Peak
3	*	2485.139	30.90	31.81	62.71	-11.29	74.00	Peak

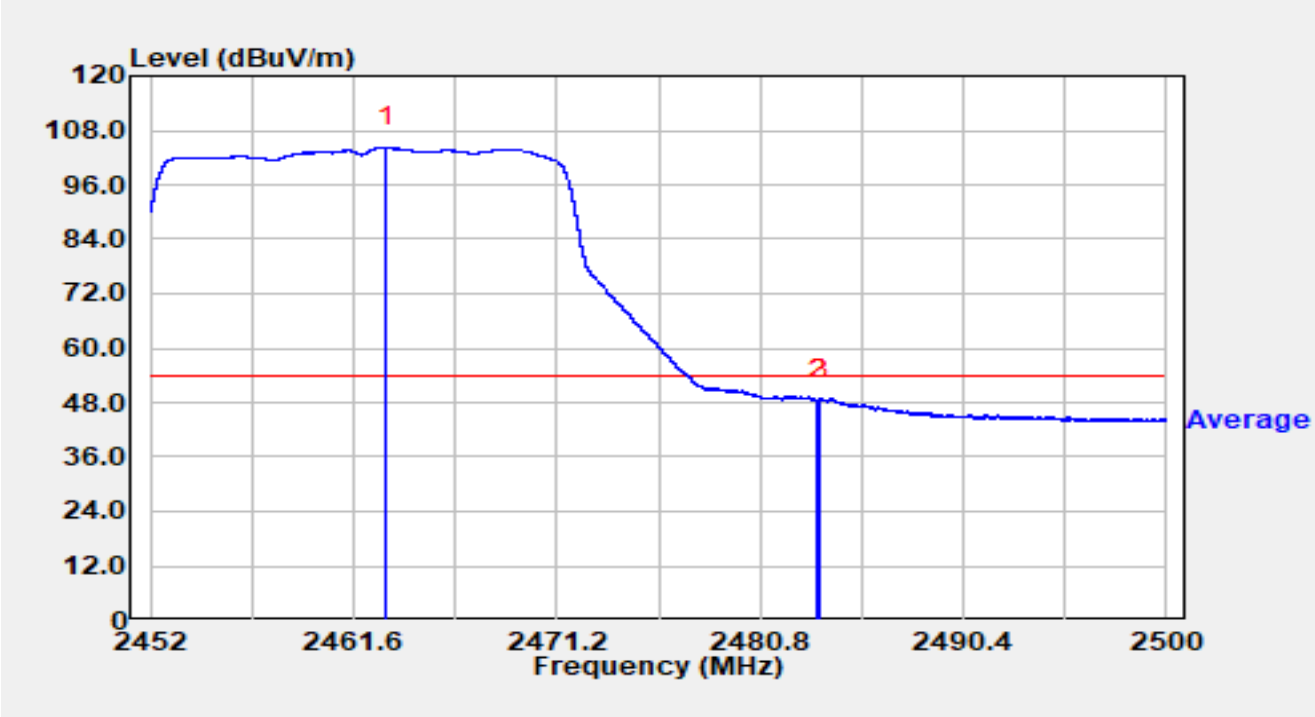
Notes:

1. " *", means this data is the worst emission level.

2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).

3. Measurement (dBµV/m) = Reading (dBµV) + C.F (dB/m).

Site	WZ-AC1	Test Date	2025-01-17
Limit	FCC_2.4G_RE(3m)	Test Engineer	Lucas Wang
Factor	BBHA 9120D_01167	Polarity	Vertical
EUT	ACCESS POINT	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by 802.11ax-HE20 at 2462MHz		



No	Mark	Frequency (MHz)	Reading (dBµV)	C.F (dB/m)	Measurement (dBµV/m)	Margin (dB)	Limit (dBµV/m)	Detector
1		2463.165	72.44	31.83	104.27	N/A	N/A	Average
2		2483.500	16.78	31.81	48.58	-5.42	54.00	Average
3	*	2483.661	17.05	31.81	48.86	-5.14	54.00	Average

Notes:

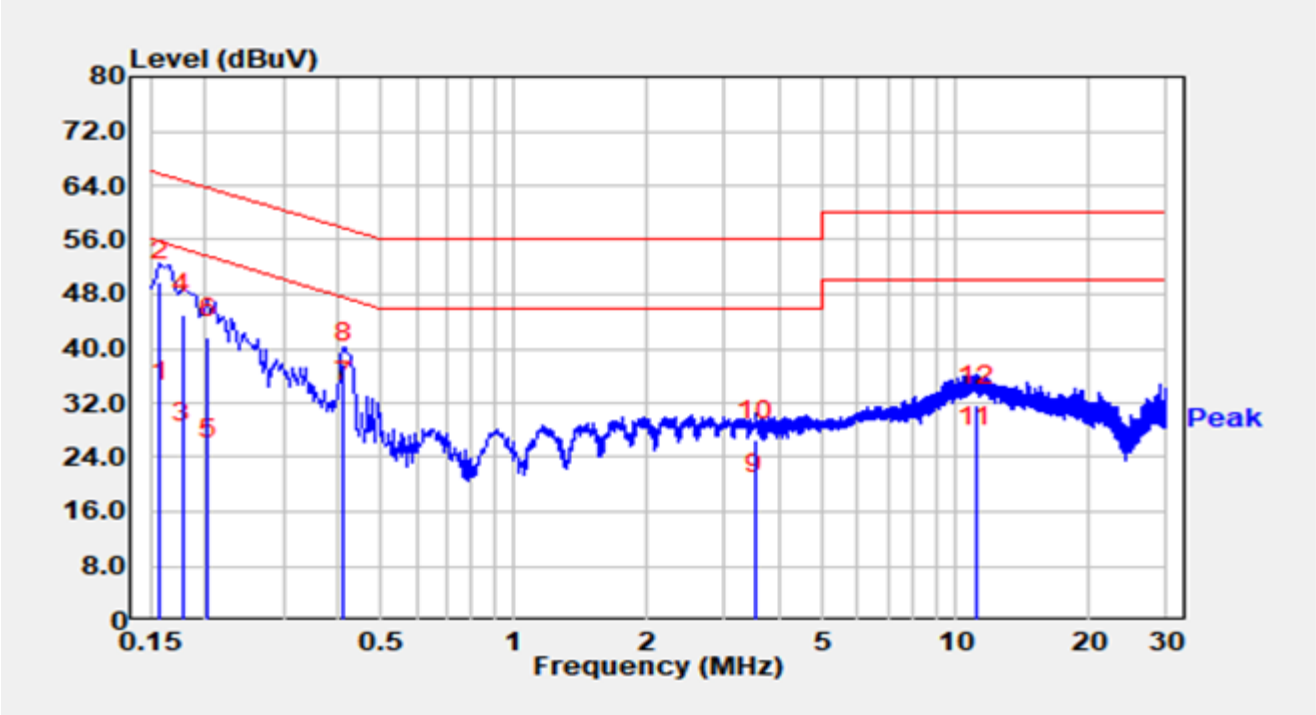
1. " *", means this data is the worst emission level.

2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).

3. Measurement (dBµV/m) = Reading (dBµV) + C.F (dB/m).

A.8 AC Conducted Emissions Test Result

Site	WZ-SR2	Test Date	2025-01-22
Limit	FCC Part 15.207_CE_Mains	Test Engineer	Linda Wei
Factor	ENV216_101683_L1_Filter Off_C	Polarity	Line1
EUT	ACCESS POINT	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by 802.11b at 2412MHz		



No	Mark	Frequency (MHz)	Reading (dBµV)	C.F (dB)	Measurement (dBµV)	Margin (dB)	Limit (dBµV)	Detector
1		0.158	22.30	9.82	32.12	-23.45	55.57	Average
2		0.158	40.00	9.82	49.82	-15.75	65.57	QP
3		0.178	16.30	9.82	26.12	-28.46	54.58	Average
4		0.178	35.20	9.82	45.02	-19.56	64.58	QP
5		0.202	14.00	9.82	23.82	-29.71	53.53	Average
6		0.202	31.80	9.82	41.62	-21.91	63.53	QP
7	*	0.410	22.40	9.89	32.29	-15.36	47.65	Average
8		0.410	27.90	9.89	37.79	-19.86	57.65	QP
9		3.520	8.30	10.17	18.47	-27.53	46.00	Average
10		3.520	16.30	10.17	26.47	-29.53	56.00	QP
11		11.110	15.20	10.40	25.60	-24.40	50.00	Average
12		11.110	21.20	10.40	31.60	-28.40	60.00	QP

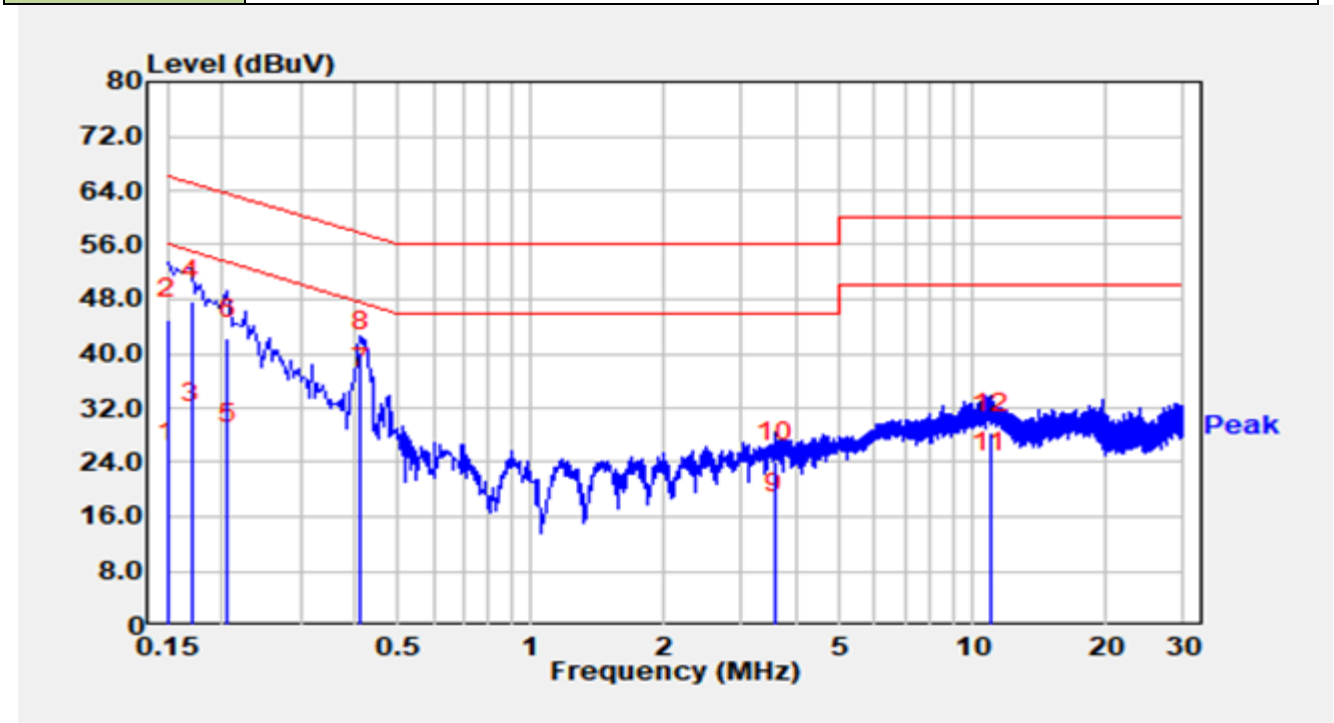
Notes:

1. " * ", means this data is the worst emission level.

2. C.F (dB) = LISN Factor (dB) + Cable Loss (dB).

3. Measurement (dBμV) = Reading (dBμV) + C.F (dB).

Site	WZ-SR2	Test Date	2025-01-22
Limit	FCC Part 15.207_CE_Mains	Test Engineer	Linda Wei
Factor	ENV216_101683_N_Filter Off_C	Polarity	Neutral
EUT	ACCESS POINT	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by 802.11b at 2412MHz		



No	Mark	Frequency (MHz)	Reading (dBµV)	C.F (dB)	Measurement (dBµV)	Margin (dB)	Limit (dBµV)	Detector
1		0.150	13.80	10.13	23.93	-32.07	56.00	Average
2		0.150	34.90	10.13	45.03	-20.97	66.00	QP
3		0.170	19.60	10.12	29.72	-25.24	54.96	Average
4		0.170	37.70	10.12	47.82	-17.14	64.96	QP
5		0.206	16.60	10.10	26.70	-26.66	53.37	Average
6		0.206	32.10	10.10	42.20	-21.16	63.37	QP
7	*	0.410	24.60	10.14	34.74	-12.91	47.65	Average
8		0.410	30.10	10.14	40.24	-17.41	57.65	QP
9		3.560	6.10	10.42	16.52	-29.48	46.00	Average
10		3.560	13.70	10.42	24.12	-31.88	56.00	QP
11		10.930	11.80	10.66	22.46	-27.54	50.00	Average
12		10.930	17.70	10.66	28.36	-31.64	60.00	QP

Notes:

1. " * ", means this data is the worst emission level.

2. C.F (dB) = LISN Factor (dB) + Cable Loss (dB).

3. Measurement (dBµV) = Reading (dBµV) + C.F (dB).

Appendix B – Test Setup Photograph

Refer to “2411RSU027-UT” file.

Appendix C – EUT Photograph

Refer to “2411RSU027-UE” file.

The End