



RF MEASUREMENT REPORT

FCC ID: Q9DASIN0308

Applicant: Hewlett Packard Enterprise Company

Product: HPE Aruba User Experience Sensor

Model No.: ASIN0308

Trademark: 
Hewlett Packard
Enterprise

FCC Classification: Digital Transmission System (DTS)

FCC Rule Part(s): Part 15 Subpart C (Section 15.247)

Result: Complies

Received Date: 2025-04-08

Test Date: 2025-05-19 ~ 2025-07-20

Reviewed By:

Jame Yuan

Jame Yuan

Approved By:

Robin Wu

Robin Wu



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 C63.10-2020. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
R25S1034045-U202	V01	Initial Report	2025-10-14	Valid

CONTENTS

Description	Page
1. General Information	5
1.1. Applicant	5
1.2. Manufacturer	5
1.3. Testing Facility	5
1.4. Product Information	6
1.5. Radio Specification under Test	7
1.6. Working Frequencies	7
2. Test Configuration	8
2.1. Test Mode	8
2.2. Test System Connection Diagram	8
2.3. Test Software	8
2.4. Applied Standards	9
2.5. Test Environment Condition	9
3. Antenna Requirements	10
4. Measuring Instrument	11
5. Decision Rules and Measurement Uncertainty	12
5.1. Decision Rules	12
5.2. Measurement Uncertainty	12
6. Test Result	13
6.1. Summary	13
6.2. 6dB Bandwidth Measurement	14
6.2.1. Test Limit	14
6.2.2. Test Procedure	14
6.2.3. Test Setting	14
6.2.4. Test Setup	14
6.2.5. Test Result	14
6.3. Output Power Measurement	15
6.3.1. Test Limit	15
6.3.2. Test Procedure	15
6.3.3. Test Setting	15
6.3.4. Test Setup	15
6.3.5. Test Result	15
6.4. Power Spectral Density Measurement	16
6.4.1. Test Limit	16
6.4.2. Test Procedure	16

6.4.3.	Test Setting	16
6.4.4.	Test Setup	16
6.4.5.	Test Result	16
6.5.	Conducted Band Edge and Out-of-Band Emissions Measurement	17
6.5.1.	Test Limit	17
6.5.2.	Test Procedure	17
6.5.3.	Test Settintg	17
6.5.4.	Test Setup	17
6.5.5.	Test Result	18
6.6.	Radiated Spurious Emission Measurement.....	19
6.6.1.	Test Limit	19
6.6.2.	Test Procedure	19
6.6.3.	Test Setting	19
6.6.4.	Test Setup	21
6.6.5.	Test Result	22
6.7.	Radiated Restricted Band Edge Measurement	23
6.7.1.	Test Limit	23
6.7.2.	Test Procedure	24
6.7.3.	Test Setting	24
6.7.4.	Test Setup	25
6.7.5.	Test Result	25
6.8.	AC Conducted Emissions Measurement	26
6.8.1.	Test Limit	26
6.8.2.	Test Setup	26
6.8.3.	Test Result	26
Appendix A – Test Result.....		27
A.1	Duty Cycle Test Result	27
A.2	6dB Bandwidth Test Result	29
A.3	Output Power Test Result	31
A.4	Power Spectral Density Test Result	33
A.5	Conducted Band Edge and Out-of-Band Emissions Test Result.....	35
A.6	Radiated Spurious Emission Test Result	39
A.7	Radiated Restricted Band Edge Test Result.....	53
A.8	AC Conducted Emissions Test Result	61
Appendix B – Test Setup Photograph		65
Appendix C – EUT Photograph		66

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	HPE Aruba User Experience Sensor
Model No.	ASIN0308
Serial No.	CNTJMN02J (Conducted) CNTJMN004 (Radiated)
Software Version	25.438.42 (r851417 WLTEST)
Wi-Fi Specification	802.11a/b/g/n/ac/ax/be
Bluetooth Specification	BLE only
ZigBee Specification	802.15.4
GNSS Specification	GPS, BDS, GLONASS, Galileo
3GPP Specification	GSM 850/ PCS 1900 WCDMA Band II/ IV/V LTE Band 2/4/5/7/12/13/25/26/38/41
Antenna Specification	Refer to Section 1.5
Power Type	AD/DC adapter input or PoE Injector Input
Integrated Modular Information	
Specification	Modular Name: LTE Module Model Number: EG21-G Manufacturer: Quectel FCC ID: XMR201906EG21G
Accessory	
AC/DC Adapter	Model No.: WB-12G12R Input: 100-240V ~ 50/60Hz, 0.3A Max Output: 12.0V=1.0A, 12.0W
Remarks:	
- The information of the EUT (Equipment Under Test) was provided by the manufacturer. The accuracy, completeness, and validity of the information are solely the responsibility of the manufacturer. - AC/DC Adapter was selected to perform all RF testing.	

1.5. Radio Specification under Test

Zigbee Specification	802.15.4
Frequency Range	2405 ~ 2480MHz
Channel Number	16
Type of Modulation	O-QPSK
Antenna Type	Dipole Antenna
Antenna Gain	Radio 0: 4.2dBi Radio 1: 3.1dBi

1.6. Working Frequencies

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	--	--	--	--

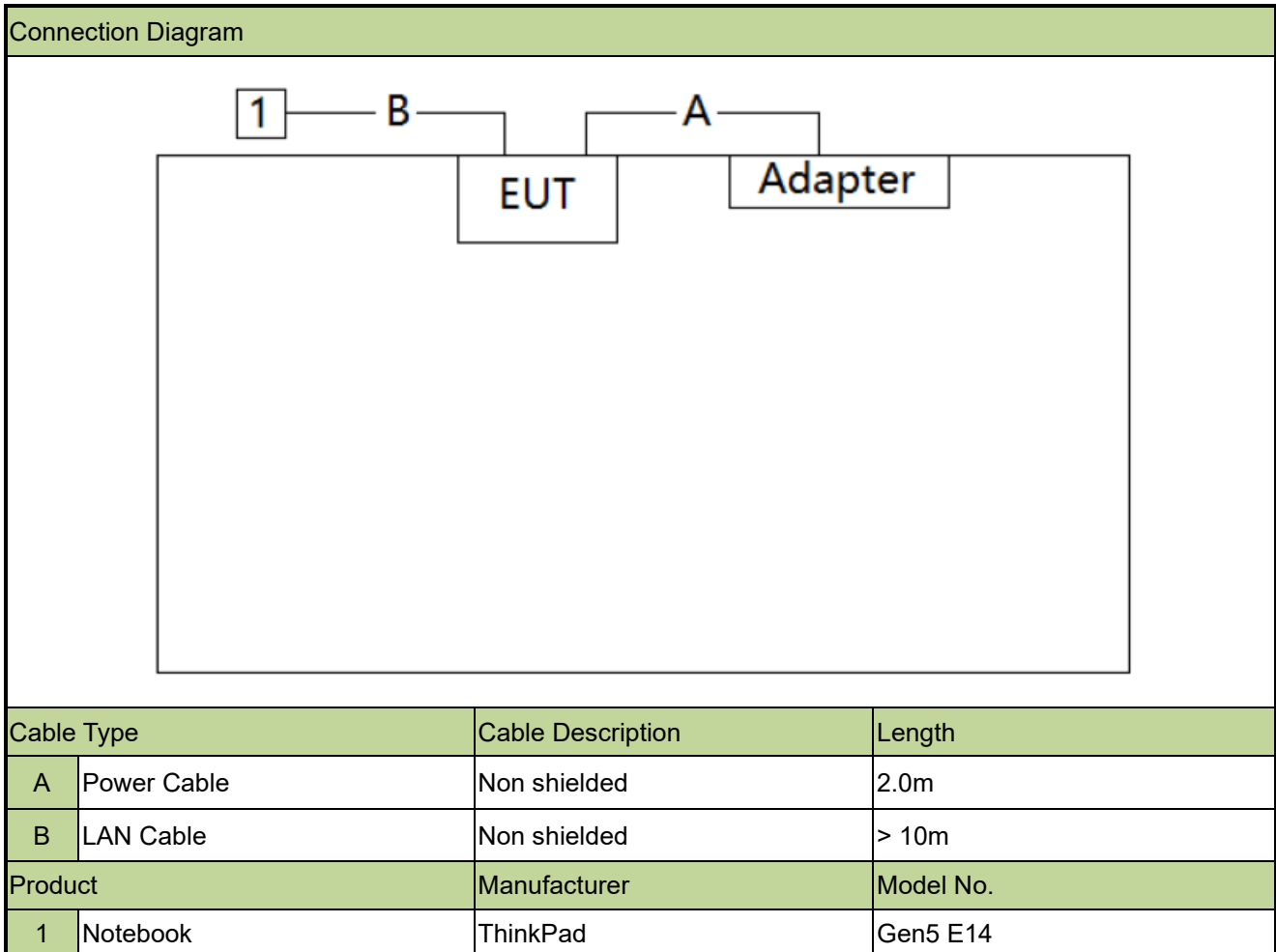
2. Test Configuration

2.1. Test Mode

Mode 1: Transmit by 802.15.4

2.2. Test System Connection Diagram

The device was tested per the guidance ANSI C63.10-2020 was used to reference the appropriate EUT setup for radiated emissions testing and AC line conducted testing.



2.3. Test Software

The test utility software used during testing was “IPOP”, and commands were provided by manufacturer.

Note: 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 D01 v05r02
- ANSI C63.10-2020
- ANSI C63.10-2020/Cor1-2023
- ANSI C63.10a-2024

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
Thermohygrometer	testo	608-H1	MRTSUE06622	1 year	2025-10-29	SIP-AC2
Active Loop Antenna	Schwarzbeck	FMZB 1519-60 D	MRTSUE07075	1 year	2025-11-19	SIP-AC2
Anechoic Chamber	RIKEN	SIP-AC2	MRTSUE06781	1 year	2025-12-19	SIP-AC2
Cable	HUBER+SUHNER	SF106	MRTSUE06522	1 year	2026-05-06	SIP-AC2
EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2025-12-05	SIP-AC2/SIP-AC3
Thermohygrometer	testo	608-H1	MRTSUE06619	1 year	2025-10-16	SIP-AC3
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06646	1 year	2025-07-29	SIP-AC3
Preamplifier	EMCI	EMC012645SE	MRTSUE06642	1 year	2026-01-05	SIP-AC3
Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2026-04-26	SIP-AC3
Horn Antenna	R&S	HF907	MRTSUE06611	1 year	2025-07-07 2026-06-20	SIP-AC3
Anechoic Chamber	RIKEN	SIP-AC3	MRTSUE06782	1 year	2025-12-19	SIP-AC3
Preamplifier	EMCI	EMC184045SE	MRTSUE06602	1 year	2025-10-08	SIP-AC3
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06599	1 year	2025-09-08	SIP-AC3
Cable	HUBER+SUHNER	SF106	MRTSUE06873	1 year	2025-12-19	SIP-AC3
Two-Line V-Network	R&S	ENV216	MRTSUE06003	1 year	2026-04-29	SIP-SR2
EMI Test Receiver	R&S	ESR3	MRTSUE06612	1 year	2026-04-29	SIP-SR2
Thermohygrometer	testo	608-H1	MRTSUE06621	1 year	2025-10-29	SIP-SR2
Shielding Room	MIX-BEP	SIP-SR2	MRTSUE06949	5 years	2029-10-13	SIP-SR2
USB Power Sensor	Keysight	U2021XA	MRTSUE06596	1 year	2025-07-23	SIP-TR1
Signal Analyzer	Keysight	N9010B	MRTSUE07036	1 year	2026-01-21	SIP-TR1
Thermohygrometer	testo	608-H1	MRTSUE11022	1 year	2025-10-16	SIP-TR1
Attenuator	MVE	MVE2213	MRTSUE11111	1 year	2025-08-01	SIP-TR1

Software	Version	Function
e3	230711	EMI Test Software
Agilent Power Analyzer/Agilent Power Panel	V R03.09.00	Power
Controller_MF 7802BS	1.02	RE Antenna & Turntable

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: 3.58dB 150kHz~30MHz: 3.20dB
Radiated Emission Measurement
The maximum measurement uncertainty is evaluated as: Coaxial: 9kHz~30MHz: 2.35dB Coplanar: 9kHz~30MHz: 2.37dB Horizontal: 30MHz~200MHz: 3.47dB 200MHz~1GHz: 4.17dB 1GHz~40GHz: 4.97dB Vertical: 30MHz~200MHz: 4.07dB 200MHz~1GHz: 5.28dB 1GHz~40GHz: 4.84dB
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% ($U=2Uc(y)$): 1.5dB
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% ($U=2Uc(y)$): 3.2%

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, 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.

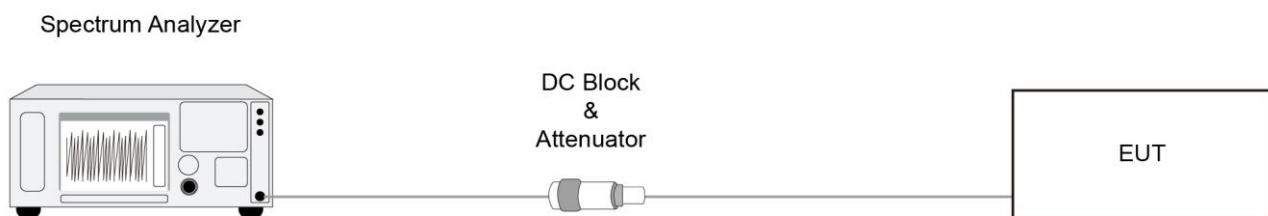
6.2.2. Test Procedure

ANSI C63.10-2020 - 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. $VBW \geq 3 \times RBW$
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 C63.10-2020 - Section 11.9.1.2

ANSI C63.10-2013 - Section 11.9.2.3.2

6.3.3. Test Setting

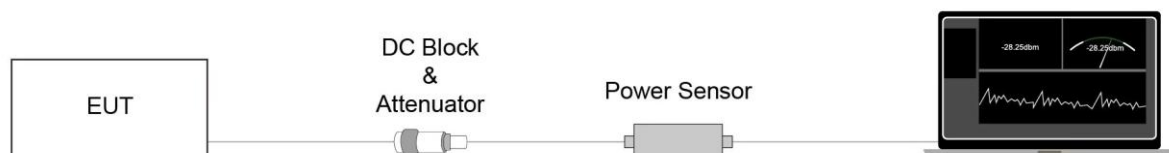
Method PKPM1 (Peak Power Measurement of Signals with DTS BW $\leq$ 50MHz)

Peak 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 pulse sensor employs a VBW = 50MHz so this method was only used for signals whose DTS bandwidth was less than or equal to 50MHz.

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.

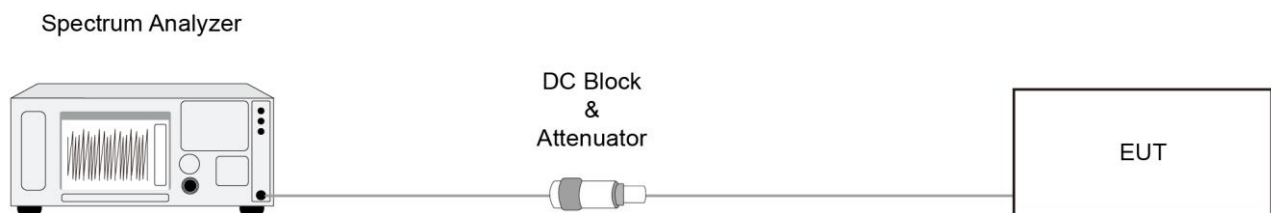
6.4.2. Test Procedure

ANSI C63.10-2020 - Section 11.10.2

6.4.3. Test Setting

1. Analyzer was set to the center frequency of the DTS channel under investigation
2. Span = 1.5 times the DTS channel bandwidth
3. RBW = 3kHz
4. VBW = 10kHz
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Trace was allowed to stabilize

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 20dB 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 C63.10-2020 - Section 11.11

6.5.3. Test Setting

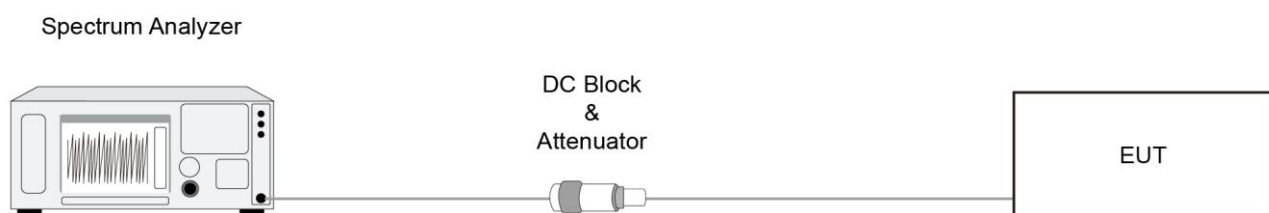
Reference level measurement

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 $\geq 3 \times$ 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 [μV/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 C63.10-2020 - Section 11.11 & 11.12

ANSI C63.10-2020 - Section 6.3 (General Requirements)

ANSI C63.10-2020 - Section 6.4 (Standard test method below 30MHz)

ANSI C63.10-2020 - Section 6.5 (Standard test method above 30MHz to 1GHz)

ANSI C63.10-2020 - 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

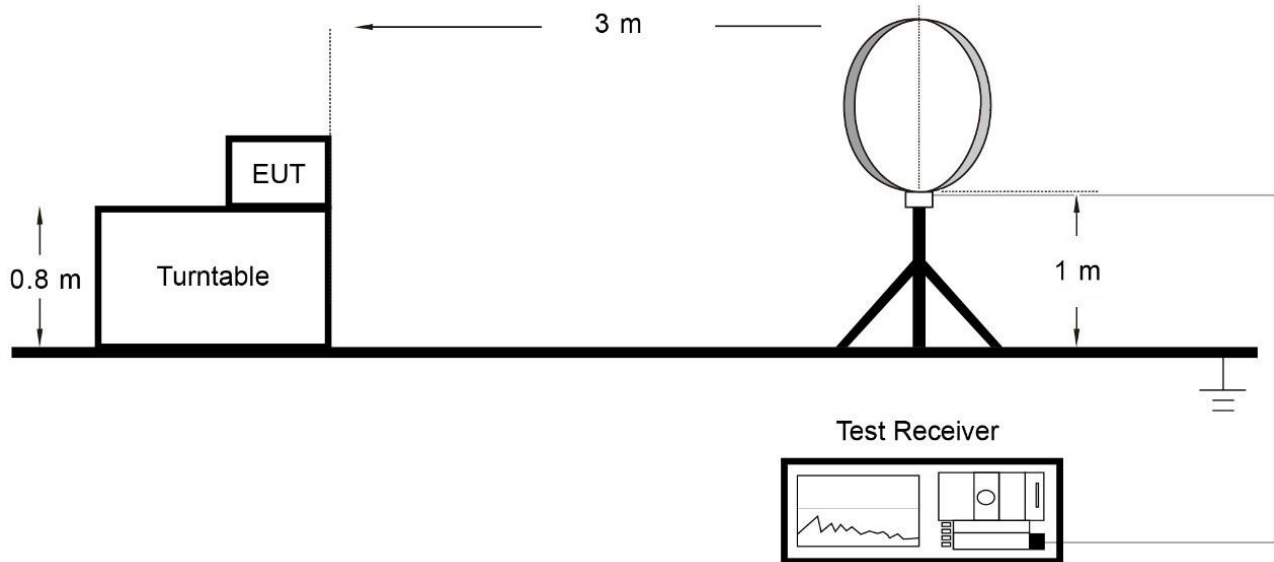
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = Peak
5. Sweep time = Auto couple
6. Trace mode = Max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

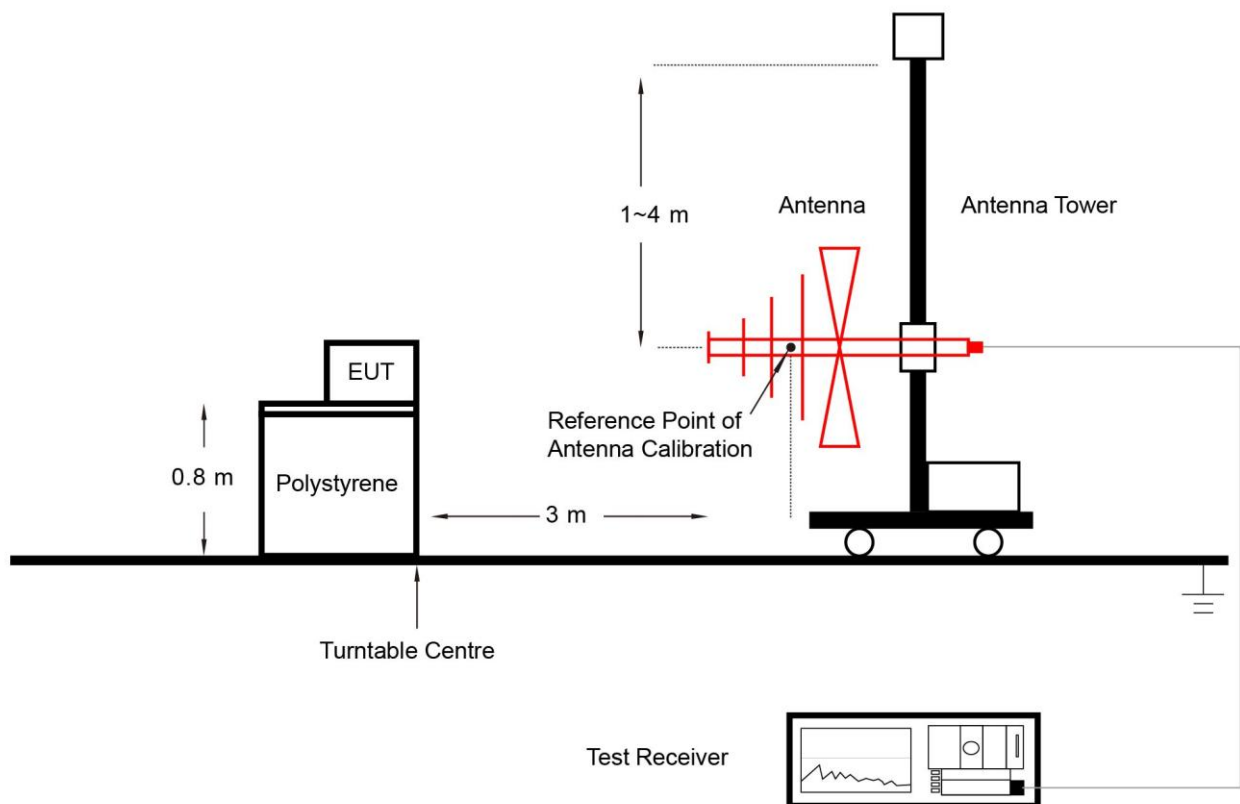
1. Average Measurement Level = Peak Measurement Level - $20 * \text{Log}(\text{Duty Cycle}) = -20$
2. Duty Cycle = 10% (Refer to cover letter)

6.6.4. Test Setup

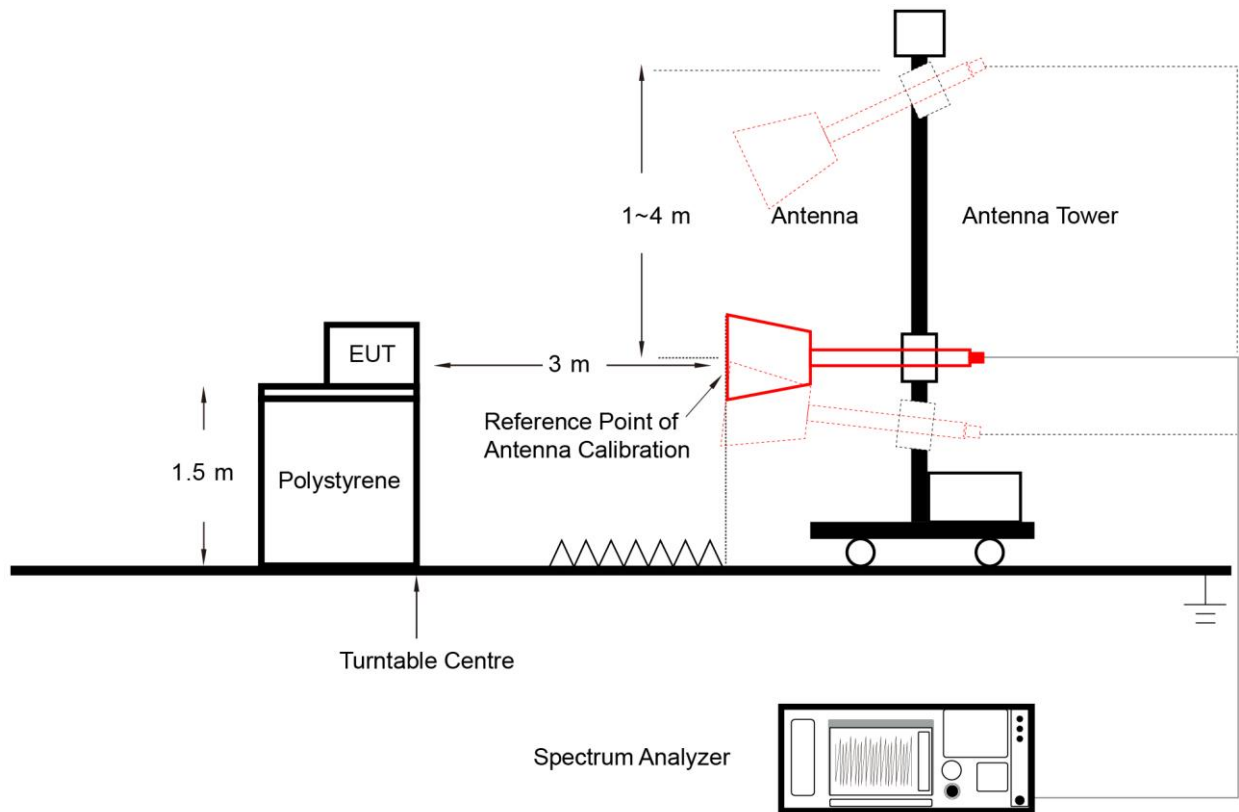
Below 30MHz Test Setup:



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 [μV/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 C63.10-2020 Section 6.3 & 6.6 & 11.12

6.7.3. Test Setting

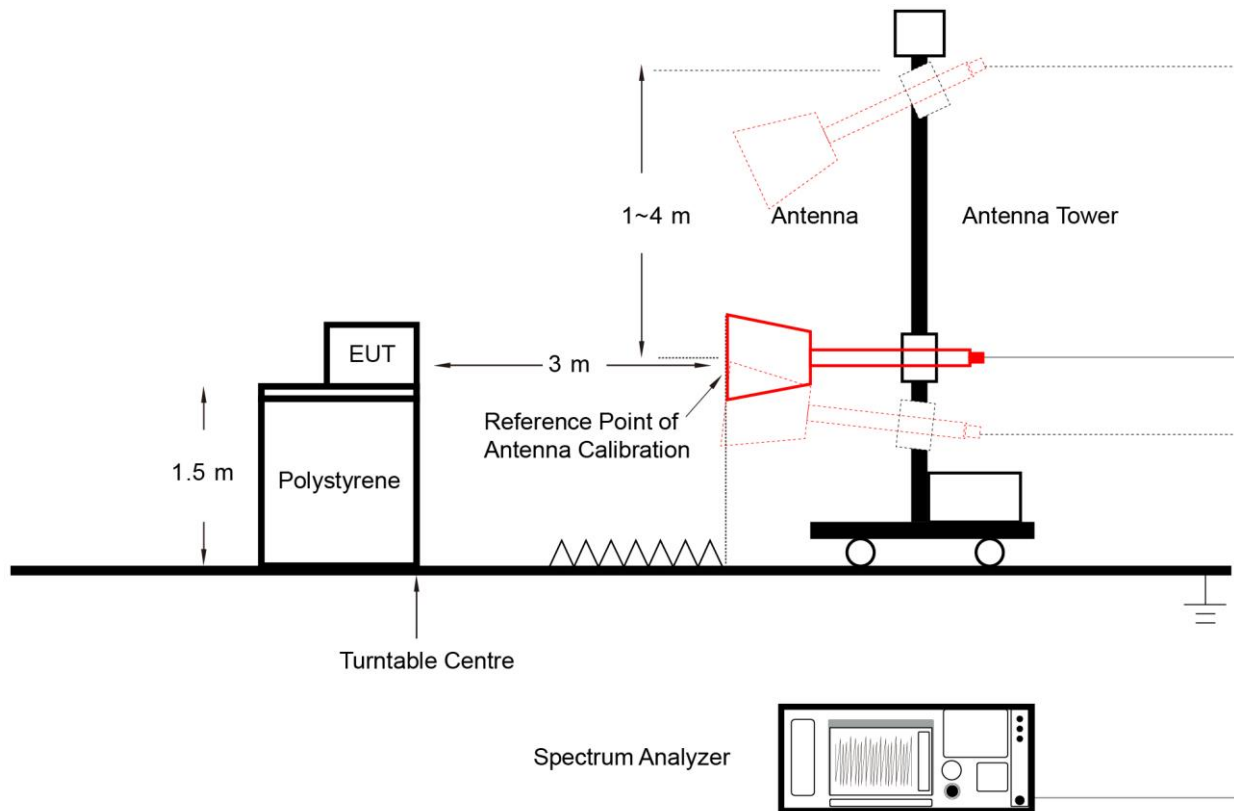
Peak Field Strength Measurements

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. Average Measurement Level = Peak Measurement Level - 20 * Log(Duty Cycle) = -20
2. Duty Cycle = 10% (Refer to cover letter)

6.7.4. Test Setup



6.7.5. Test Result

Refer to Appendix A.7.

6.8. AC Conducted Emissions Measurement

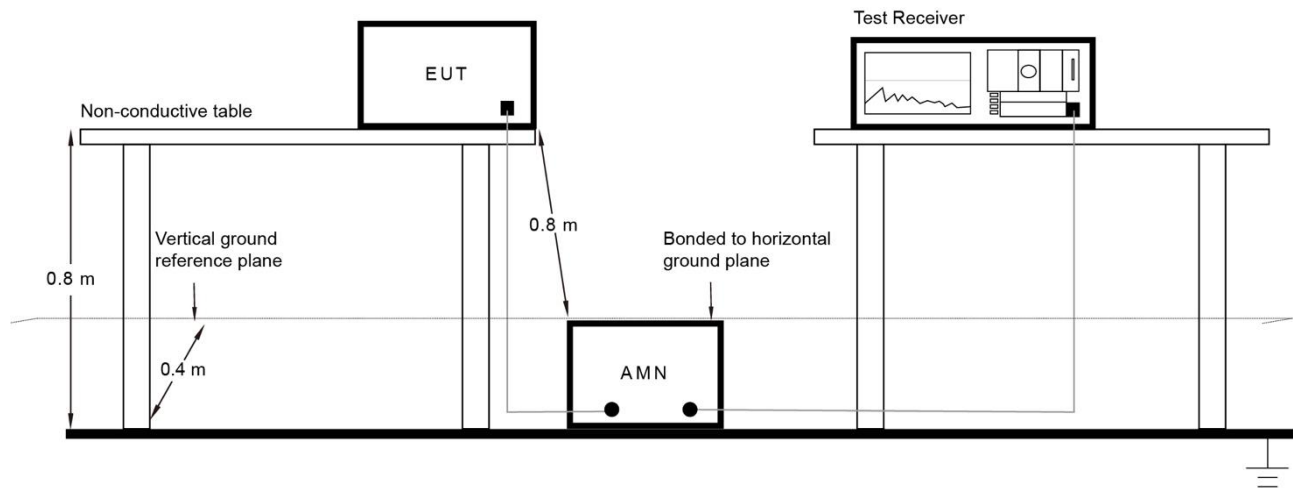
6.8.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dB μ V)	AV (dB μ V)
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

Test Site	SIP-TR1	Test Engineer	Alan Yu
Test Date	2025-05-19	Radio	0

Test Mode	Duty Cycle
802.15.4	92.37%

Duty Cycle (T = Transmission Duration)

802.15.4 (T= 4.240ms)

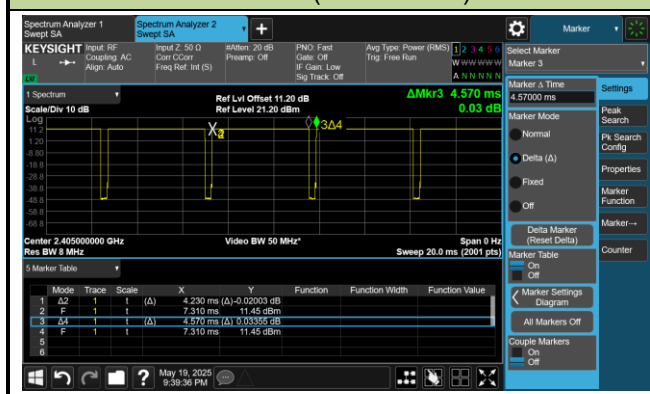
The screenshot shows a Keysight Spectrum Analyzer interface. The main display shows a waveform with several markers. The 'Marker Table' at the bottom lists the following data:

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	Δ2	1	t	(Δ)	4.240 ms (Δ)	-0.8753 dB	
2	F	1	t		5.500 ms	11.47 dBm	
3	Δ4	1	t	(Δ)	4.590 ms (Δ)	0.01286 dB	
4	F	1	t		6.500 ms	11.47 dBm	

Test Site	SIP-TR1	Test Engineer	Alan Yu
Test Date	2025-05-19	Radio	1

Test Mode	Duty Cycle
802.15.4	92.56%

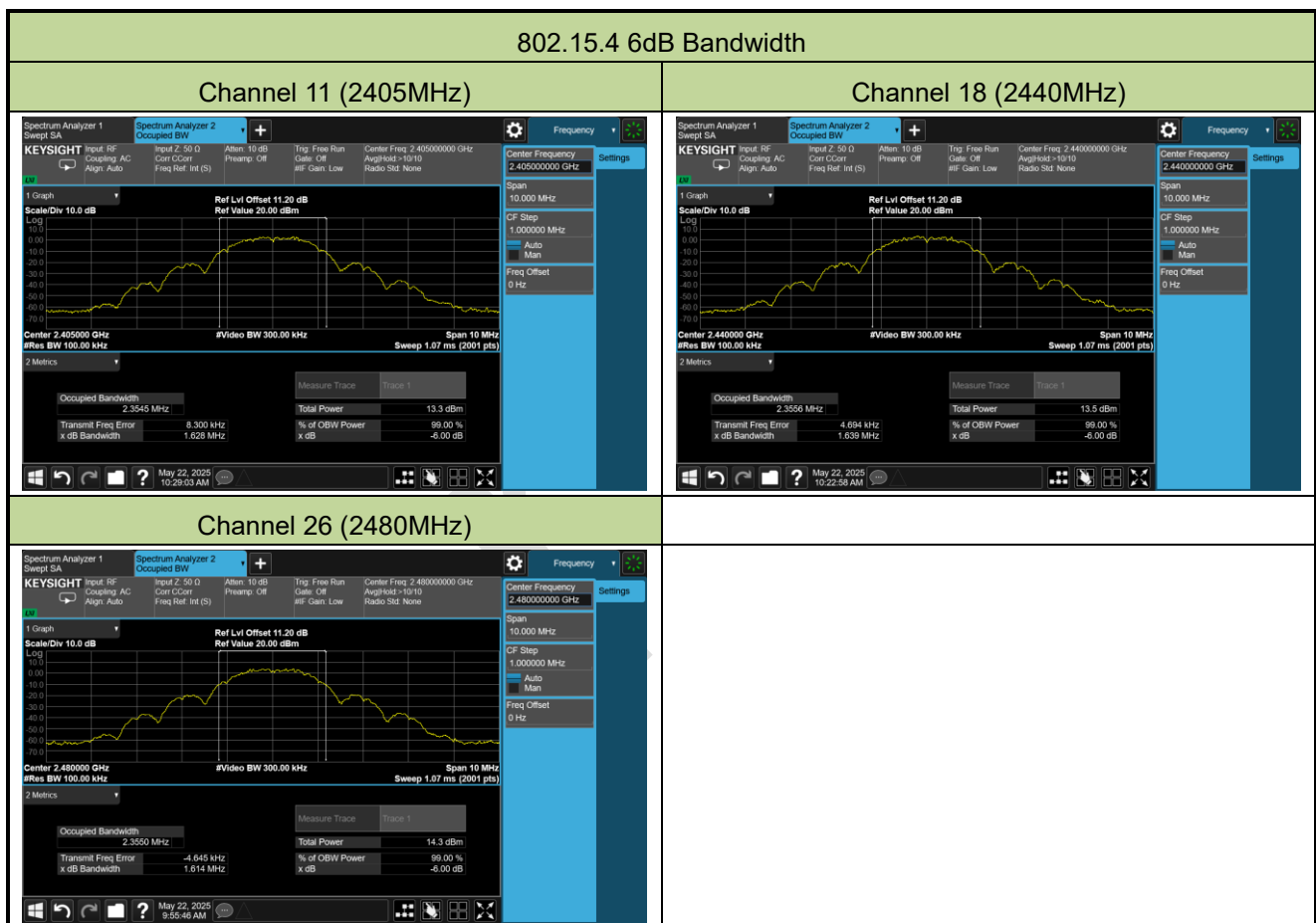
Duty Cycle (T = Transmission Duration)	
802.15.4 (T= 4.230ms)	



A.2 6dB Bandwidth Test Result

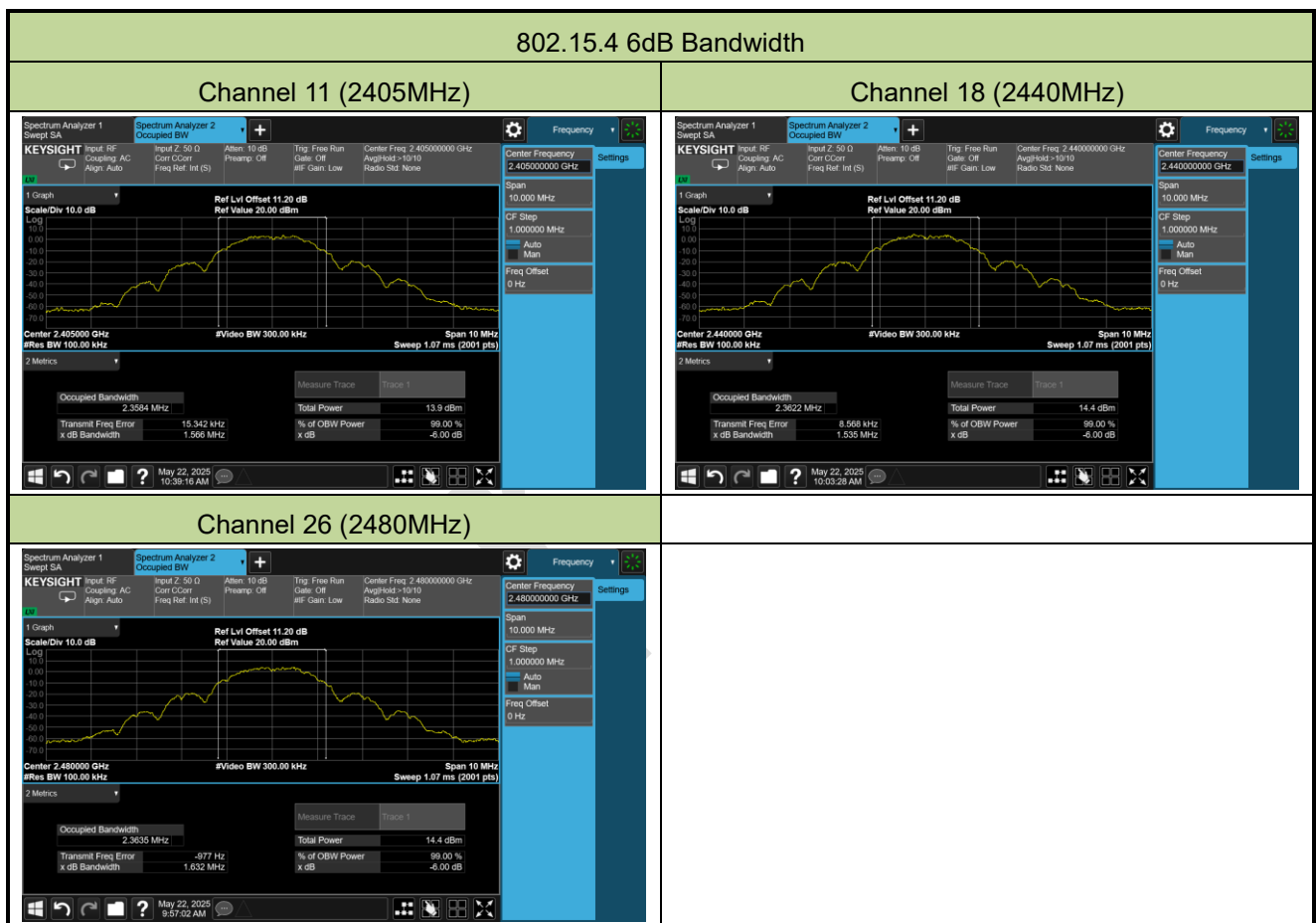
Test Site	SIP-TR1	Test Engineer	Alan Yu
Test Date	2025-05-22	Radio	0

Test Mode	Modulation Mode	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.15.4	O-QPSK	11	2405	1.628	≥ 0.5	Pass
802.15.4	O-QPSK	18	2440	1.639	≥ 0.5	Pass
802.15.4	O-QPSK	26	2480	1.614	≥ 0.5	Pass



Test Site	SIP-TR1	Test Engineer	Alan Yu
Test Date	2025-05-22	Radio	1

Test Mode	Modulation Mode	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.15.4	O-QPSK	11	2405	1.566	≥ 0.5	Pass
802.15.4	O-QPSK	18	2440	1.535	≥ 0.5	Pass
802.15.4	O-QPSK	26	2480	1.632	≥ 0.5	Pass



A.3 Output Power Test Result

Test Site	SIP-TR1	Test Engineer	Alan Yu
Test Date	2025-05-20	Radio	0

Test Result of Peak Output Power

Test Mode	Modulation Mode	Channel No.	Freq. (MHz)	Peak Power (dBm)	Limit (dBm)	Result
802.15.4	O-QPSK	11	2405	8.59	≤ 30.00	Pass
802.15.4	O-QPSK	18	2440	7.89	≤ 30.00	Pass
802.15.4	O-QPSK	26	2480	8.64	≤ 30.00	Pass

Test Result of Average Output Power (Reporting Only)

Test Mode	Modulation Mode	Channel No.	Freq. (MHz)	Average Power (dBm)	Limit (dBm)	Result
802.15.4	O-QPSK	11	2405	7.82	≤ 30.00	Pass
802.15.4	O-QPSK	18	2440	7.21	≤ 30.00	Pass
802.15.4	O-QPSK	26	2480	7.87	≤ 30.00	Pass

Test Site	SIP-TR1	Test Engineer	Alan Yu
Test Date	2025-05-20	Radio	1

Test Result of Peak Output Power

Test Mode	Modulation Mode	Channel No.	Freq. (MHz)	Peak Power (dBm)	Limit (dBm)	Result
802.15.4	O-QPSK	11	2405	7.82	≤ 30.00	Pass
802.15.4	O-QPSK	18	2440	8.31	≤ 30.00	Pass
802.15.4	O-QPSK	26	2480	8.29	≤ 30.00	Pass

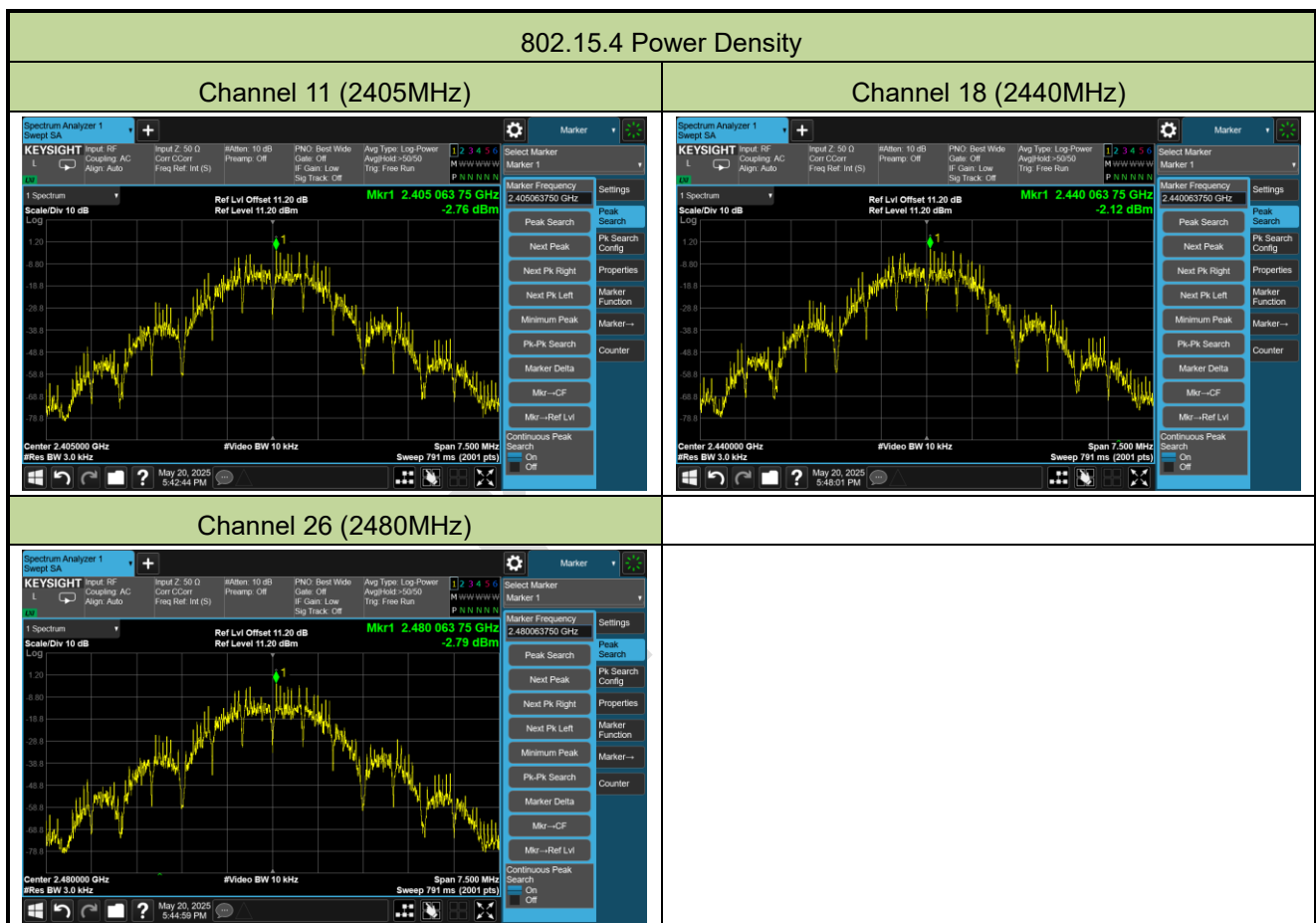
Test Result of Average Output Power (Reporting Only)

Test Mode	Modulation Mode	Channel No.	Freq. (MHz)	Average Power (dBm)	Limit (dBm)	Result
802.15.4	O-QPSK	11	2405	7.06	≤ 30.00	Pass
802.15.4	O-QPSK	18	2440	7.64	≤ 30.00	Pass
802.15.4	O-QPSK	26	2480	7.55	≤ 30.00	Pass

A.4 Power Spectral Density Test Result

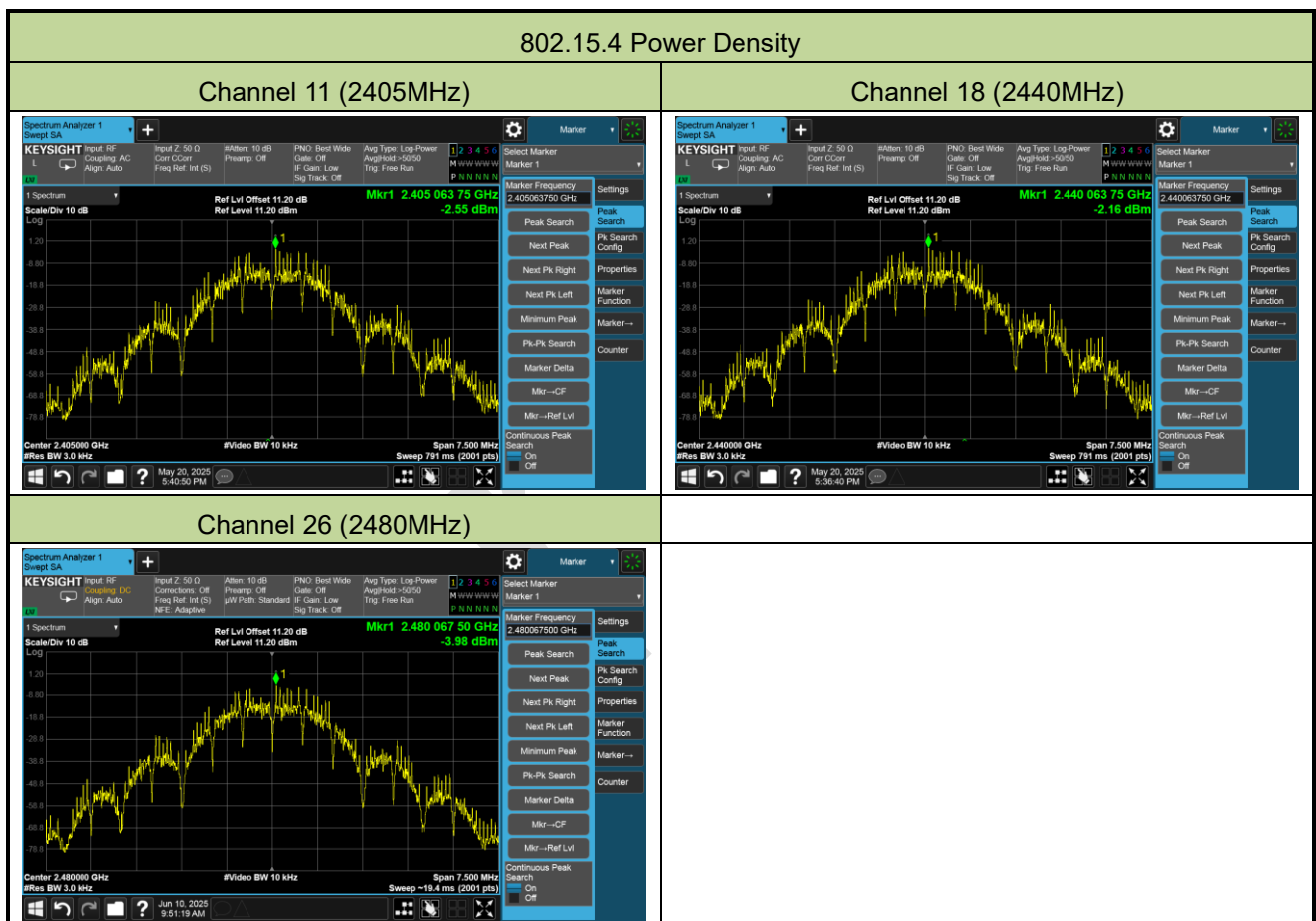
Test Site	SIP-TR1	Test Engineer	Alan Yu
Test Date	2025-05-20	Radio	0

Test Mode	Modulation Mode	Channel No.	Frequency (MHz)	PK PSD (dBm / 3kHz)	Limit (dBm / 3kHz)	Result
802.15.4	O-QPSK	11	2405	-2.76	≤ 8.00	Pass
802.15.4	O-QPSK	18	2440	-2.12	≤ 8.00	Pass
802.15.4	O-QPSK	26	2480	-2.79	≤ 8.00	Pass



Test Site	SIP-TR1	Test Engineer	Alan Yu
Test Date	2025-05-20 ~ 2025-06-10	Radio	1

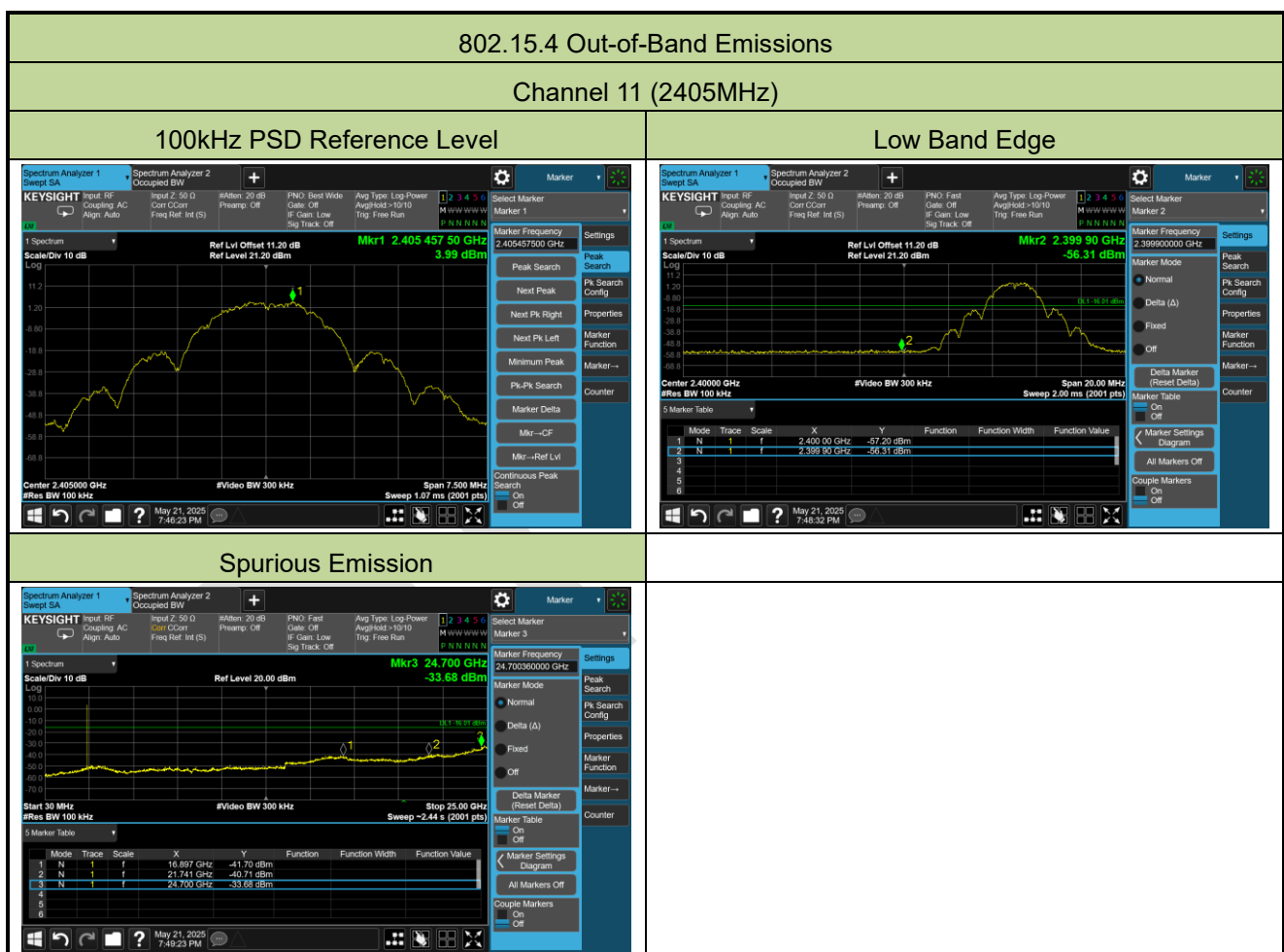
Test Mode	Modulation Mode	Channel No.	Frequency (MHz)	PK PSD (dBm / 3kHz)	Limit (dBm / 3kHz)	Result
802.15.4	O-QPSK	11	2405	-2.55	≤ 8.00	Pass
802.15.4	O-QPSK	18	2440	-2.16	≤ 8.00	Pass
802.15.4	O-QPSK	26	2480	-3.98	≤ 8.00	Pass



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

Test Site	SIP-TR1	Test Engineer	Alan Yu
Test Date	2025-05-21 ~ 2025-05-22	Radio	0

Test Mode	Data Rate / MCS	Channel No.	Frequency (MHz)	Limit (dBc)	Result
802.15.4	O-QPSK	11	2405	20	Pass
802.15.4	O-QPSK	18	2440	20	Pass
802.15.4	O-QPSK	26	2480	20	Pass

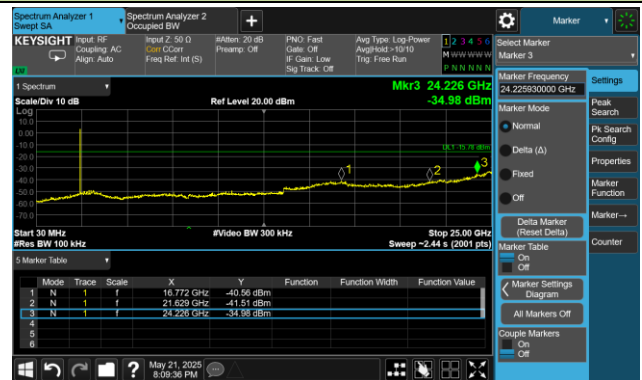


Channel 18 (2440MHz)

100kHz PSD Reference Level



Spurious Emission

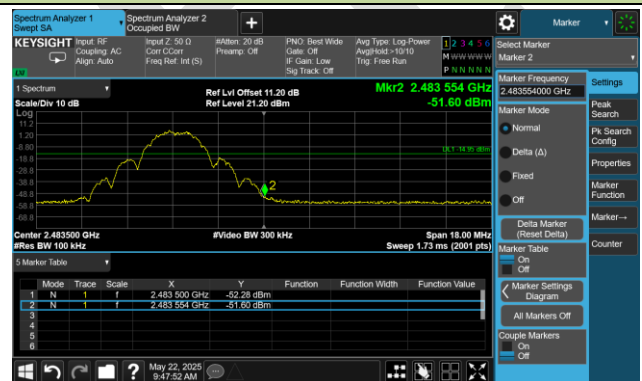


Channel 26 (2480MHz)

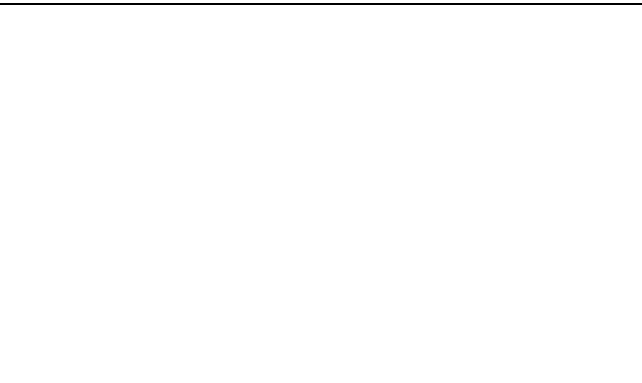
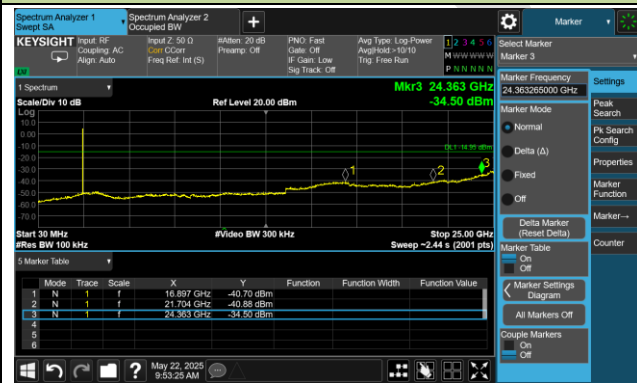
100kHz PSD Reference Level



High Band Edge

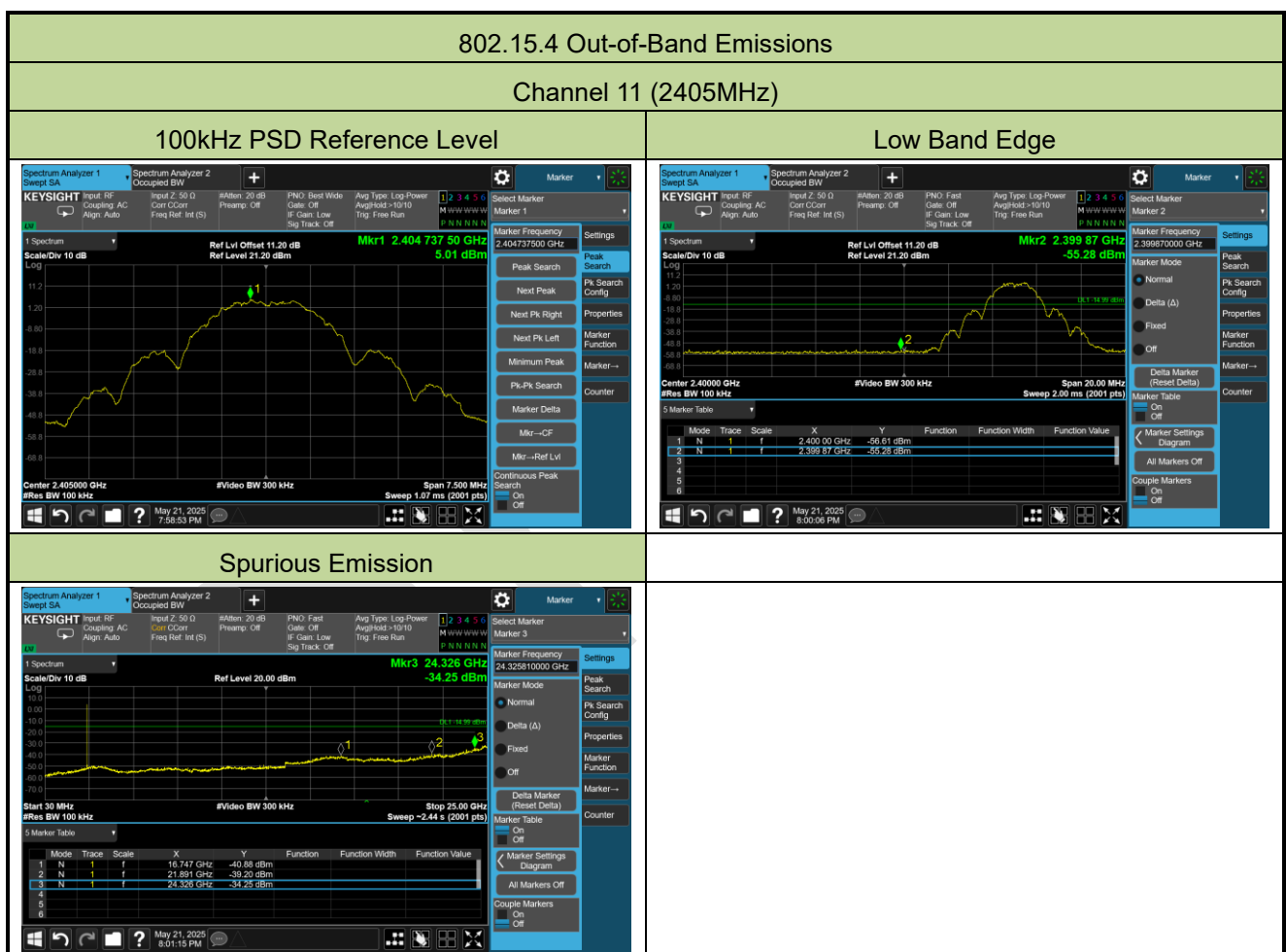


Spurious Emission



Test Site	SIP-TR1	Test Engineer	Alan Yu
Test Date	2025-05-21 ~ 2025-05-22	Radio	1

Test Mode	Data Rate / MCS	Channel No.	Frequency (MHz)	Limit (dBc)	Result
802.15.4	O-QPSK	11	2405	20	Pass
802.15.4	O-QPSK	18	2440	20	Pass
802.15.4	O-QPSK	26	2480	20	Pass

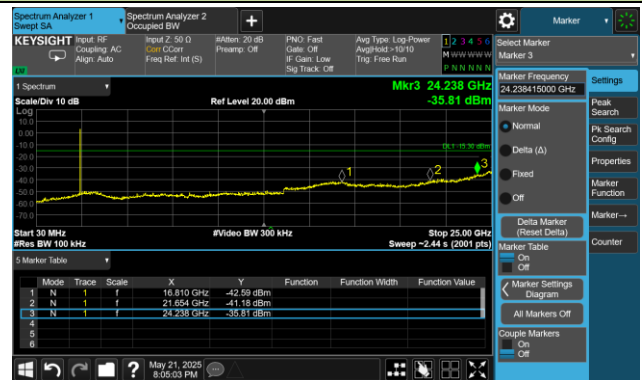


Channel 18 (2440MHz)

100kHz PSD Reference Level



Spurious Emission

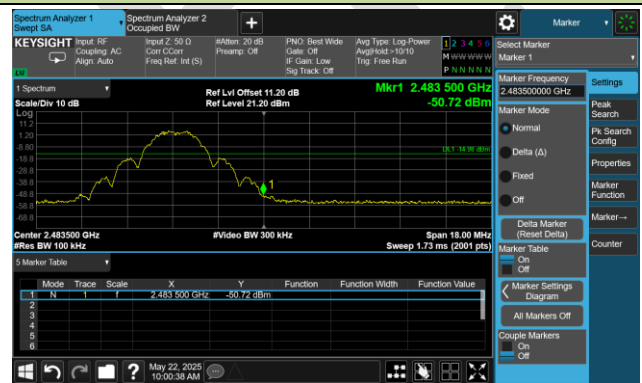


Channel 26 (2480MHz)

100kHz PSD Reference Level



High Band Edge



Spurious Emission



A.6 Radiated Spurious Emission Test Result

Radio 0:

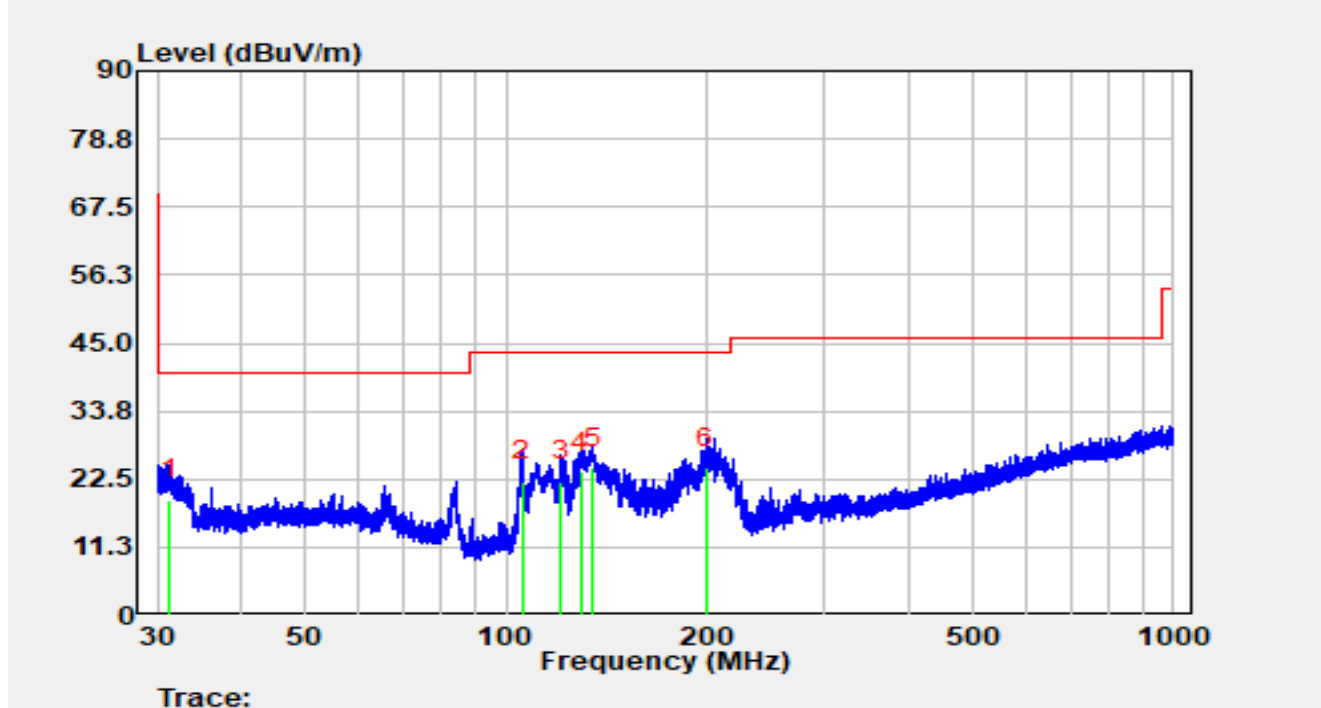
Test Site	SIP-AC3	Test Engineer	Fusco Pan
Test Date	2025-05-30		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
11	8223.30	36.99	-1.53	35.46	54.00	-18.54	Average	Horizontal
	8223.30	47.94	-1.53	46.41	74.00	-27.59	Peak	Horizontal
	12357.70	36.67	0.86	37.53	54.00	-16.47	Average	Horizontal
	12357.70	47.36	0.86	48.22	74.00	-25.78	Peak	Horizontal
	15948.10	32.44	8.32	40.76	54.00	-13.24	Average	Horizontal
	15948.10	45.08	8.32	53.40	74.00	-20.60	Peak	Horizontal
	8384.80	36.60	-1.56	35.04	54.00	-18.96	Average	Vertical
	8384.80	48.11	-1.56	46.55	74.00	-27.45	Peak	Vertical
	12160.50	34.80	0.22	35.02	54.00	-18.98	Average	Vertical
	12160.50	47.26	0.22	47.48	74.00	-26.52	Peak	Vertical
	15939.60	32.70	8.62	41.32	54.00	-12.68	Average	Vertical
	15939.60	45.01	8.62	53.63	74.00	-20.37	Peak	Vertical
18	8141.70	36.85	-1.69	35.16	54.00	-18.84	Average	Horizontal
	8141.70	48.30	-1.69	46.61	74.00	-27.39	Peak	Horizontal
	12293.10	34.55	0.47	35.02	54.00	-18.98	Average	Horizontal
	12293.10	46.79	0.47	47.26	74.00	-26.74	Peak	Horizontal
	15944.70	32.33	8.58	40.91	54.00	-13.09	Average	Horizontal
	15944.70	44.65	8.58	53.23	74.00	-20.77	Peak	Horizontal
	8384.80	36.69	-1.56	35.13	54.00	-18.87	Average	Vertical
	8384.80	48.61	-1.56	47.05	74.00	-26.95	Peak	Vertical
	12311.80	34.88	0.48	35.36	54.00	-18.64	Average	Vertical
	12311.80	48.05	0.48	48.53	74.00	-25.47	Peak	Vertical
	15832.50	32.41	7.47	39.88	54.00	-14.12	Average	Vertical
	15832.50	45.83	7.47	53.30	74.00	-20.70	Peak	Vertical
26	8202.90	36.77	-1.71	35.06	54.00	-18.94	Average	Horizontal
	8202.90	48.37	-1.71	46.66	74.00	-27.34	Peak	Horizontal
	12456.30	34.80	1.15	35.95	54.00	-18.05	Average	Horizontal

	12456.30	47.55	1.15	48.70	74.00	-25.30	Peak	Horizontal
	15941.30	32.33	8.67	41.00	54.00	-13.00	Average	Horizontal
	15941.30	44.46	8.67	53.13	74.00	-20.87	Peak	Horizontal
	8316.80	36.94	-1.42	35.52	54.00	-18.48	Average	Vertical
	8316.80	48.00	-1.42	46.58	74.00	-27.42	Peak	Vertical
	12087.40	34.86	0.18	35.04	54.00	-18.96	Average	Vertical
	12087.40	47.93	0.18	48.11	74.00	-25.89	Peak	Vertical
	15825.70	32.50	7.59	40.09	54.00	-13.91	Average	Vertical
	15825.70	45.64	7.59	53.23	74.00	-20.77	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)								

The Result of Radiated Emission below 1GHz:

Site	SIP-AC3	Test Date	2025-06-03
Temperature	22.7 °C	Humidity	63.1 %
Limit	FCC_Part 15.209_RSE(3m)	Test Engineer	Justin Guo
Factor	VULB 9168_00997	Polarity	Horizontal
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by Zigbee at 2480MHz		

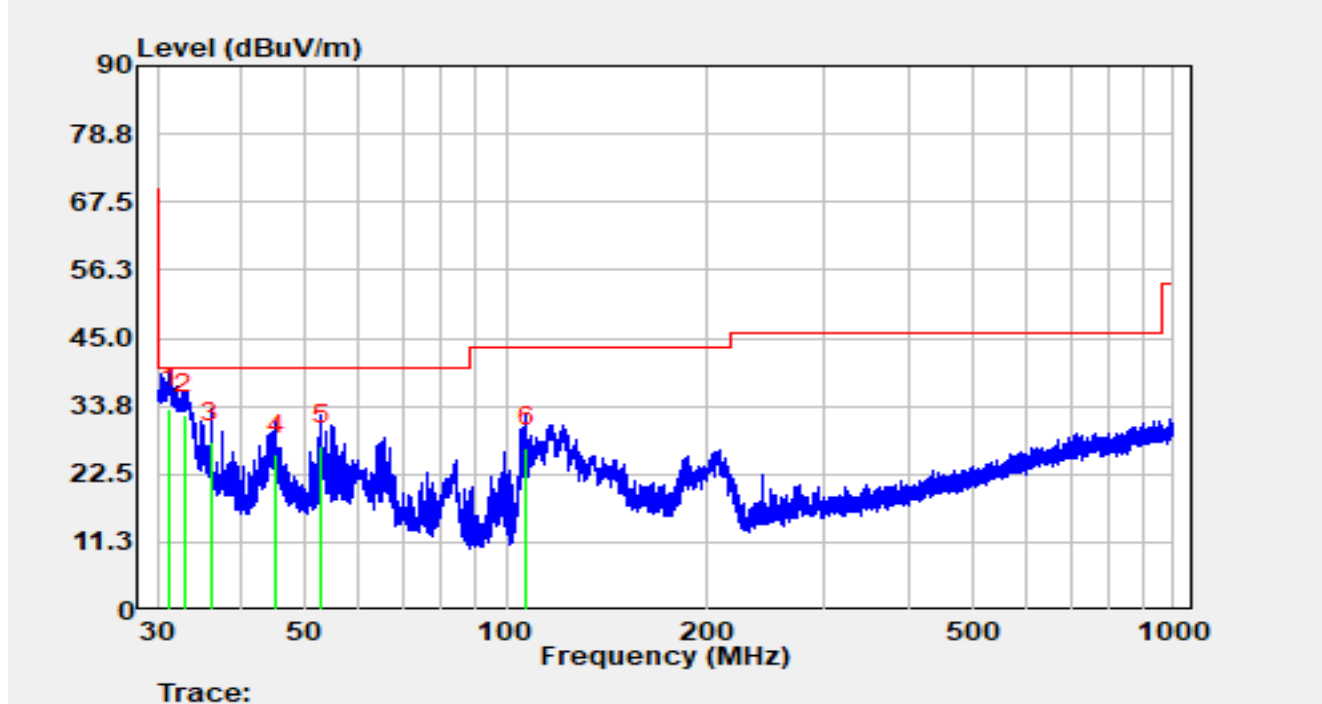


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		31.256	2.10	16.99	19.09	-20.91	40.00	QP
2		105.494	7.40	14.74	22.14	-21.36	43.50	QP
3		120.784	5.90	16.21	22.11	-21.39	43.50	QP
4		129.604	6.70	16.98	23.68	-19.82	43.50	QP
5	*	135.127	6.88	17.51	24.39	-19.11	43.50	QP
6		199.425	9.20	15.12	24.32	-19.18	43.50	QP

Notes:

- "*" indicates the worst-case emission level observed during the measurement.
- C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
- Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
- The amplitude of radiated emissions (frequency range from 9kHz to 30MHz and 18GHz to 25GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

Site	SIP-AC3	Test Date	2025-06-03
Temperature	22.7 °C	Humidity	63.1 %
Limit	FCC_Part 15.209_RSE(3m)	Test Engineer	Justin Guo
Factor	VULB 9168_00997	Polarity	Vertical
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by Zigbee at 2480MHz		



No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1	*	31.289	16.30	16.99	33.29	-6.71	40.00	QP
2		32.956	15.20	17.07	32.27	-7.73	40.00	QP
3		36.165	10.21	17.54	27.75	-12.25	40.00	QP
4		45.264	7.20	18.49	25.69	-14.31	40.00	QP
5		52.779	8.58	18.60	27.18	-12.82	40.00	QP
6		107.134	11.90	14.98	26.88	-16.62	43.50	QP

Notes:

- "*" indicates the worst-case emission level observed during the measurement.
- C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
- Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
- The amplitude of radiated emissions (frequency range from 9kHz to 30MHz and 18GHz to 25GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

Radio 1:

Test Site	SIP-AC3	Test Engineer	Fusco Pan
Test Date	2025-05-30		
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
11	7623.20	37.63	-2.49	35.14	54.00	-18.86	Average	Horizontal
	7623.20	49.59	-2.49	47.10	74.00	-26.90	Peak	Horizontal
	11985.40	34.95	-0.03	34.92	54.00	-19.08	Average	Horizontal
	11985.40	48.24	-0.03	48.21	74.00	-25.79	Peak	Horizontal
	15932.80	32.25	8.43	40.68	54.00	-13.32	Average	Horizontal
	15932.80	45.15	8.43	53.58	74.00	-20.42	Peak	Horizontal
	8311.70	37.10	-1.40	35.70	54.00	-18.30	Average	Vertical
	8311.70	48.32	-1.40	46.92	74.00	-27.08	Peak	Vertical
	12418.90	34.90	1.08	35.98	54.00	-18.02	Average	Vertical
	12418.90	46.99	1.08	48.07	74.00	-25.93	Peak	Vertical
	15944.70	32.30	8.58	40.88	54.00	-13.12	Average	Vertical
	15944.70	44.54	8.58	53.12	74.00	-20.88	Peak	Vertical
18	8364.40	36.89	-1.43	35.46	54.00	-18.54	Average	Horizontal
	8364.40	47.79	-1.43	46.36	74.00	-27.64	Peak	Horizontal
	11177.90	34.85	-0.07	34.78	54.00	-19.22	Average	Horizontal
	11177.90	47.60	-0.07	47.53	74.00	-26.47	Peak	Horizontal
	15927.70	32.44	8.29	40.73	54.00	-13.27	Average	Horizontal
	15927.70	44.52	8.29	52.81	74.00	-21.19	Peak	Horizontal
	4007.30	38.60	-4.22	34.38	54.00	-19.62	Average	Vertical
	4007.30	53.61	-4.22	49.39	74.00	-24.61	Peak	Vertical
	4070.20	38.48	-4.35	34.13	54.00	-19.87	Average	Vertical
	4070.20	55.05	-4.35	50.70	74.00	-23.30	Peak	Vertical
	15944.70	32.50	8.58	41.08	54.00	-12.92	Average	Vertical
	15944.70	45.18	8.58	53.76	74.00	-20.24	Peak	Vertical
26	8235.20	36.52	-1.46	35.06	54.00	-18.94	Average	Horizontal
	8235.20	48.38	-1.46	46.92	74.00	-27.08	Peak	Horizontal
	12371.30	34.96	0.91	35.87	54.00	-18.13	Average	Horizontal
	12371.30	47.69	0.91	48.60	74.00	-25.40	Peak	Horizontal

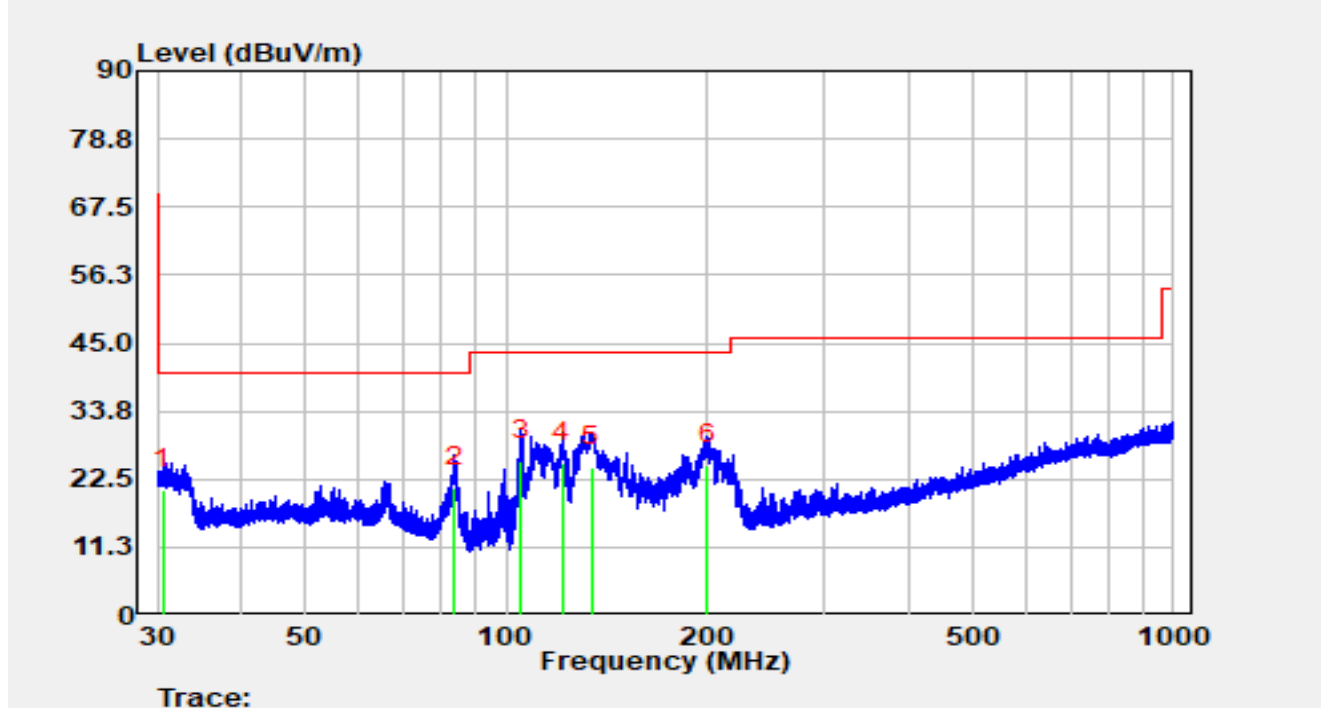
	15920.90	32.63	8.20	40.83	54.00	-13.17	Average	Horizontal
	15920.90	45.07	8.20	53.27	74.00	-20.73	Peak	Horizontal
	7696.30	36.90	-1.91	34.99	54.00	-19.01	Average	Vertical
	7696.30	48.05	-1.91	46.14	74.00	-27.86	Peak	Vertical
	12237.00	34.70	0.64	35.34	54.00	-18.66	Average	Vertical
	12237.00	46.72	0.64	47.36	74.00	-26.64	Peak	Vertical
	15914.10	32.40	8.15	40.55	54.00	-13.45	Average	Vertical
	15914.10	44.14	8.15	52.29	74.00	-21.71	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)

The Result of Radiated Emission below 1GHz:

Site	SIP-AC3	Test Date	2025-06-03
Temperature	22.7 °C	Humidity	63.1 %
Limit	FCC_Part 15.209_RSE(3m)	Test Engineer	Justin Guo
Factor	VULB 9168_00997	Polarity	Horizontal
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by Zigbee at 2440MHz		

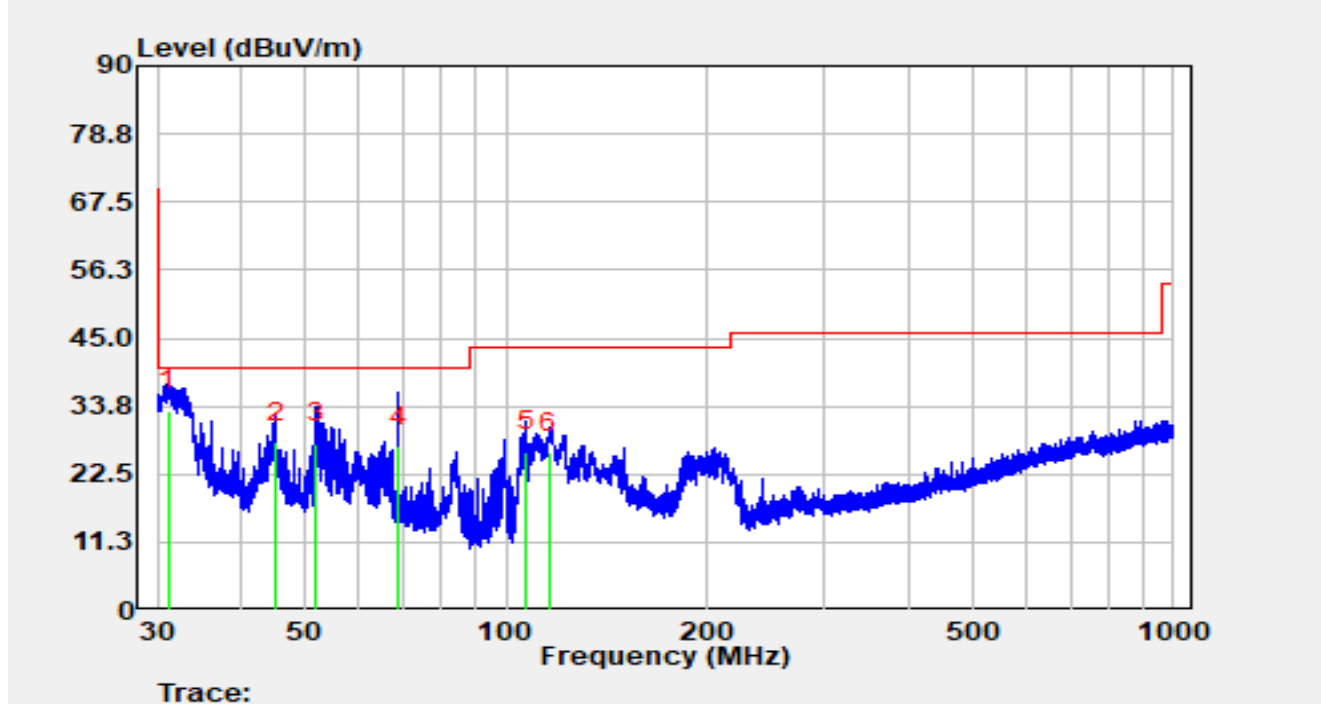


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		30.584	3.80	17.05	20.85	-19.15	40.00	QP
2		83.581	7.80	13.40	21.20	-18.80	40.00	QP
3	*	105.309	10.89	14.71	25.60	-17.90	43.50	QP
4		121.463	8.90	16.26	25.16	-18.34	43.50	QP
5		133.994	7.10	17.44	24.54	-18.96	43.50	QP
6		200.547	9.85	15.11	24.96	-18.54	43.50	QP

Notes:

- "*" indicates the worst-case emission level observed during the measurement.
- C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
- Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
- The amplitude of radiated emissions (frequency range from 9kHz to 30MHz and 18GHz to 25GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

Site	SIP-AC3	Test Date	2025-06-03
Temperature	22.7 °C	Humidity	63.1 %
Limit	FCC_Part 15.209_RSE(3m)	Test Engineer	Justin Guo
Factor	VULB 9168_00997	Polarity	Vertical
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by Zigbee at 2440MHz		



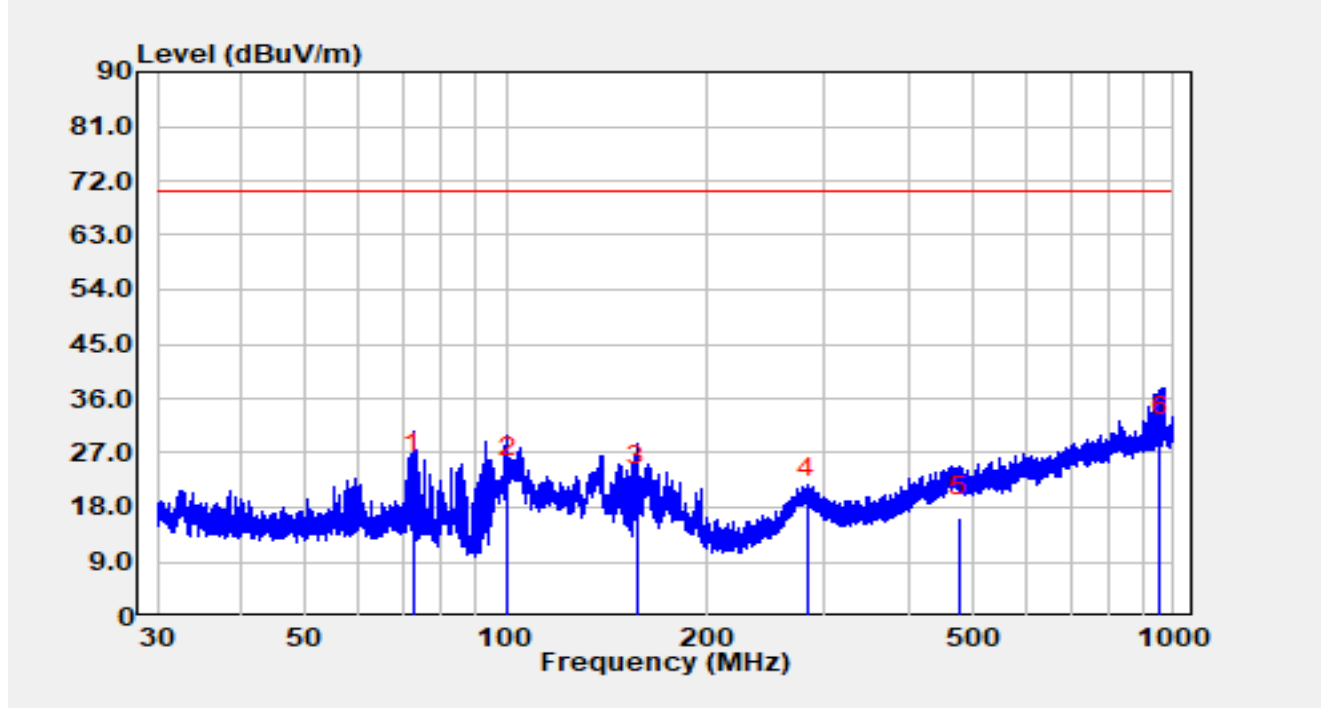
No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1	*	31.213	16.00	16.99	32.99	-7.01	40.00	QP
2		45.169	9.30	18.48	27.78	-12.22	40.00	QP
3		51.989	8.90	18.63	27.53	-12.47	40.00	QP
4		68.945	10.50	16.53	27.03	-12.97	40.00	QP
5		107.134	11.20	14.98	26.18	-17.32	43.50	QP
6		116.132	10.22	15.88	26.10	-17.40	43.50	QP

Notes:

- "*" indicates the worst-case emission level observed during the measurement.
- C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
- Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
- The amplitude of radiated emissions (frequency range from 9kHz to 30MHz and 18GHz to 25GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

Co-location Test Result:

Site	SIP-AC3	Test Date	2025-07-02
Temperature	22.5 °C	Humidity	58.7 %
Limit	FCC_Part 22&24_RSE (3m)	Test Engineer	Mero Zhou
Factor	VULB 9168_00998	Polarity	Horizontal
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by LTE Band41 at 2502.5MHz + Wi-Fi 802.11a at 5955MHz + BLE 2M at 2440MHz		



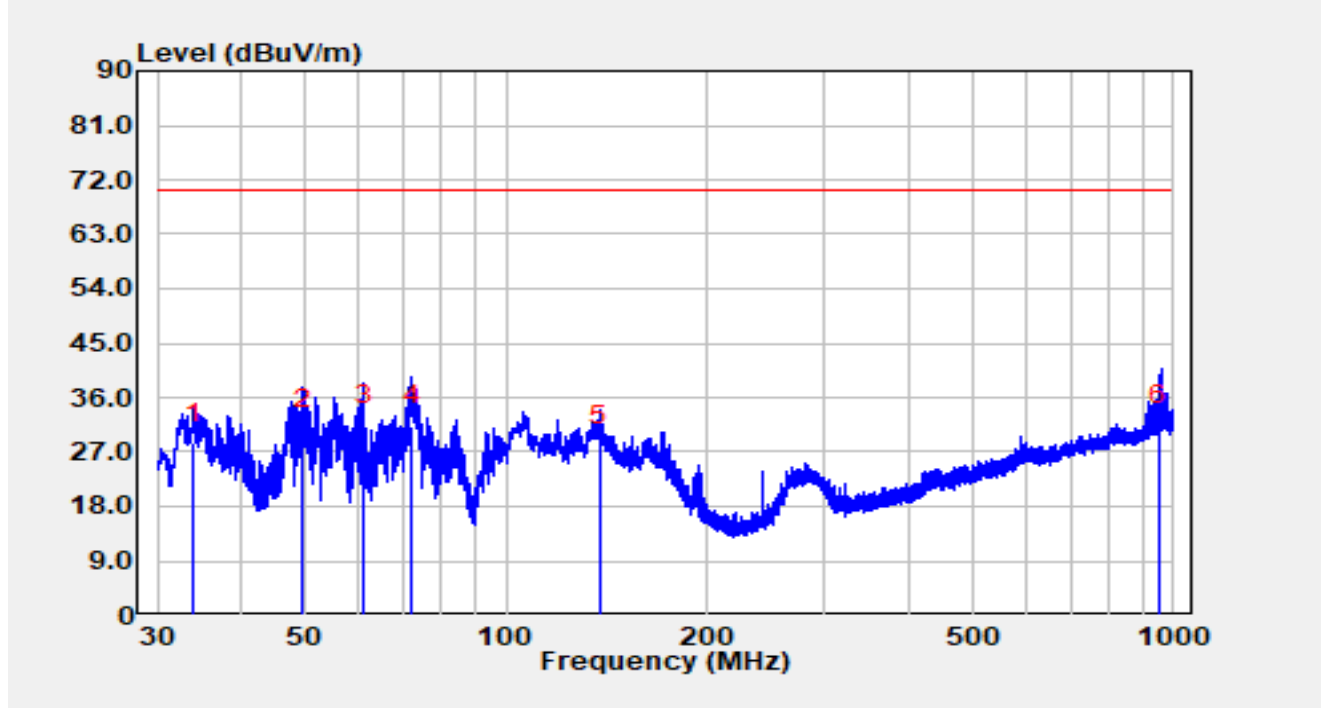
No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		72.668	8.10	15.44	23.54	-46.76	70.30	QP
2		100.334	9.10	13.69	22.79	-47.51	70.30	QP
3		157.228	3.30	18.42	21.72	-48.58	70.30	QP
4		282.886	1.10	18.52	19.62	-50.68	70.30	QP
5		477.169	-6.70	23.12	16.42	-53.88	70.30	QP
6	*	953.430	-1.50	31.14	29.64	-40.66	70.30	QP

Notes:

- "*" indicates the worst-case emission level observed during the measurement.
- C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
- Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
- The amplitude of radiated emissions (frequency range from 9kHz to 30MHz and 18GHz to 40GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

5. Spurious emissions from the Part 15 device, is subject to the Part 15 rules. Spurious emissions from the Part 22 & 24 & 27 device, is subject to the Part 22 & 24 & 27 rules. If the spurious emission is caused by the simultaneous operation of more radio devices, the limit is the highest level allowed by either rule part.

Site	SIP-AC3	Test Date	2025-07-02
Temperature	22.5 °C	Humidity	58.7 %
Limit	FCC_Part 22&24_RSE (3m)	Test Engineer	Mero Zhou
Factor	VULB 9168_00998	Polarity	Vertical
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by LTE Band41 at 2502.5MHz + Wi-Fi 802.11a at 5955MHz + BLE 2M at 2440MHz		



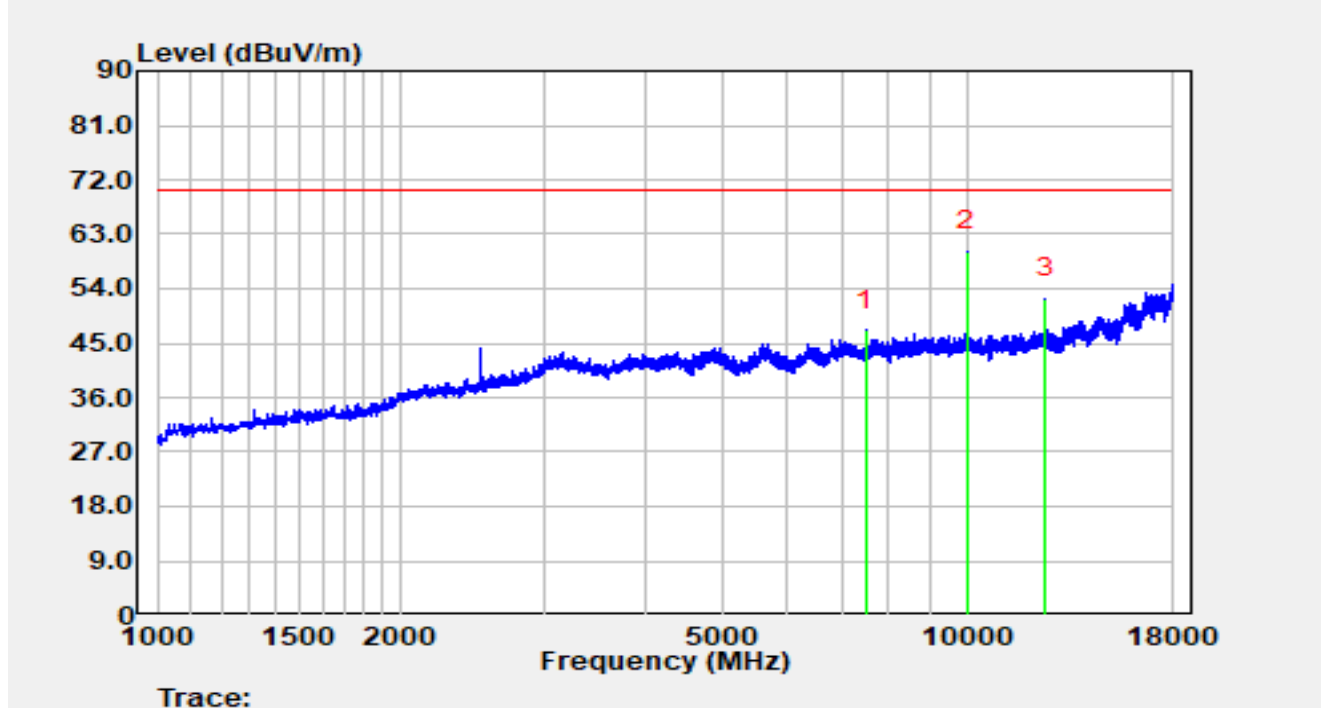
No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		34.001	11.30	17.10	28.40	-41.90	70.30	QP
2		49.620	12.60	18.22	30.82	-39.48	70.30	QP
3	*	61.174	13.80	17.56	31.36	-38.94	70.30	QP
4		72.211	15.80	15.54	31.34	-38.96	70.30	QP
5		137.758	10.30	17.73	28.03	-42.27	70.30	QP
6	*	948.096	0.50	31.00	31.50	-38.80	70.30	QP

Notes:

- "*" indicates the worst-case emission level observed during the measurement.
- C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
- Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
- The amplitude of radiated emissions (frequency range from 9kHz to 30MHz and 18GHz to 40GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.
- Spurious emissions from the Part 15 device, is subject to the Part 15 rules. Spurious emissions from the Part

22 & 24 & 27 device, is subject to the Part 22 & 24 & 27 rules. If the spurious emission is caused by the simultaneous operation of more radio devices, the limit is the highest level allowed by either rule part.

Site	SIP-AC3	Test Date	2025-07-02
Temperature	22.5 °C	Humidity	58.7 %
Limit	FCC_Part 22&24_RSE (3m)	Test Engineer	Mero Zhou
Factor	HF907_102861	Polarity	Horizontal
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by LTE Band41 at 2502.5MHz + Wi-Fi 802.11a at 5955MHz + BLE 2M at 2440MHz		

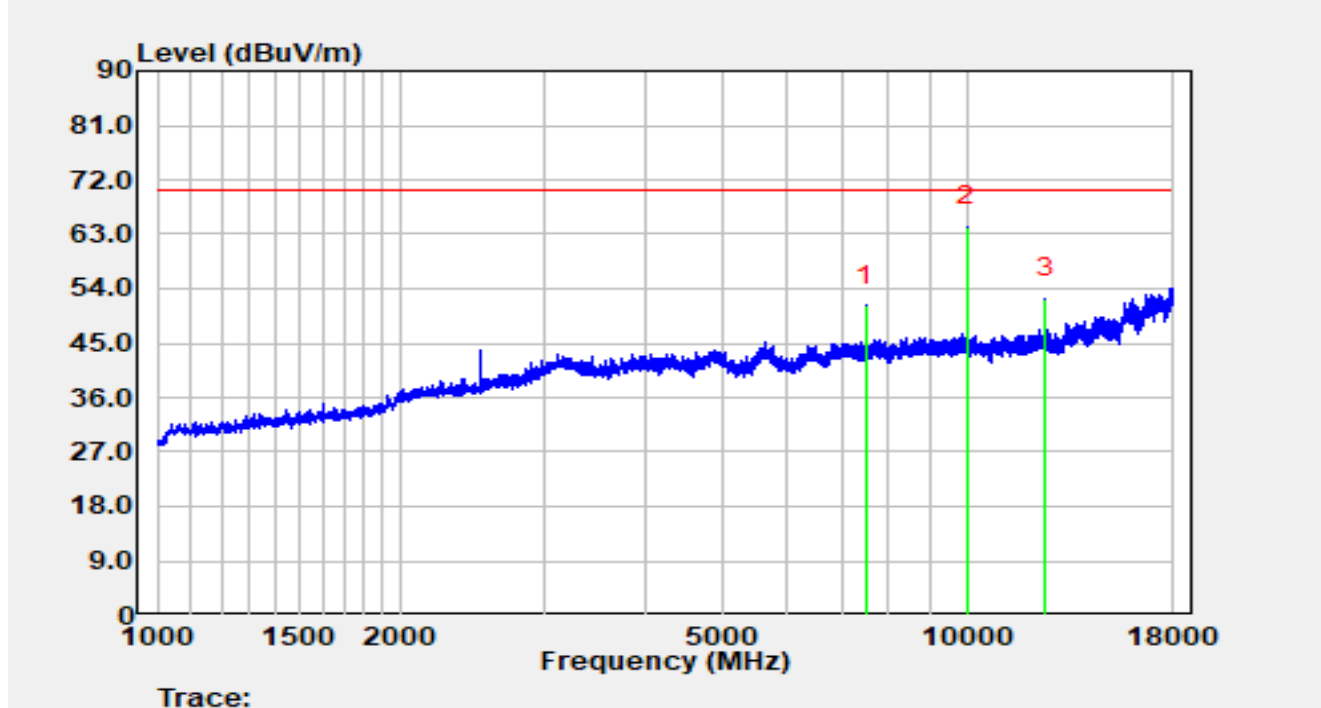


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		7500.800	49.80	-2.67	47.13	-23.17	70.30	Peak
2	*	10001.500	60.02	0.18	60.20	-10.10	70.30	Peak
3		12502.200	51.01	1.33	52.34	-17.96	70.30	Peak

Notes:

- "*" indicates the worst-case emission level observed during the measurement.
- C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) - AMP (dB).
- Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
- The amplitude of radiated emissions (frequency range from 9kHz to 30MHz and 18GHz to 40GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.
- Spurious emissions from the Part 15 device, is subject to the Part 15 rules. Spurious emissions from the Part 22 & 24 & 27 device, is subject to the Part 22 & 24 & 27 rules. If the spurious emission is caused by the simultaneous operation of more radio devices, the limit is the highest level allowed by either rule part.

Site	SIP-AC3	Test Date	2025-07-02
Temperature	22.5 °C	Humidity	58.7 %
Limit	FCC_Part 22&24_RSE (3m)	Test Engineer	Mero Zhou
Factor	HF907_102861	Polarity	Vertical
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by LTE Band41 at 2502.5MHz + Wi-Fi 802.11a at 5955MHz + BLE 2M at 2440MHz		



No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		7500.800	53.86	-2.67	51.19	-19.11	70.30	Peak
2	*	10001.500	64.14	0.18	64.32	-5.98	70.30	Peak
3		12502.200	51.12	1.33	52.45	-17.85	70.30	Peak

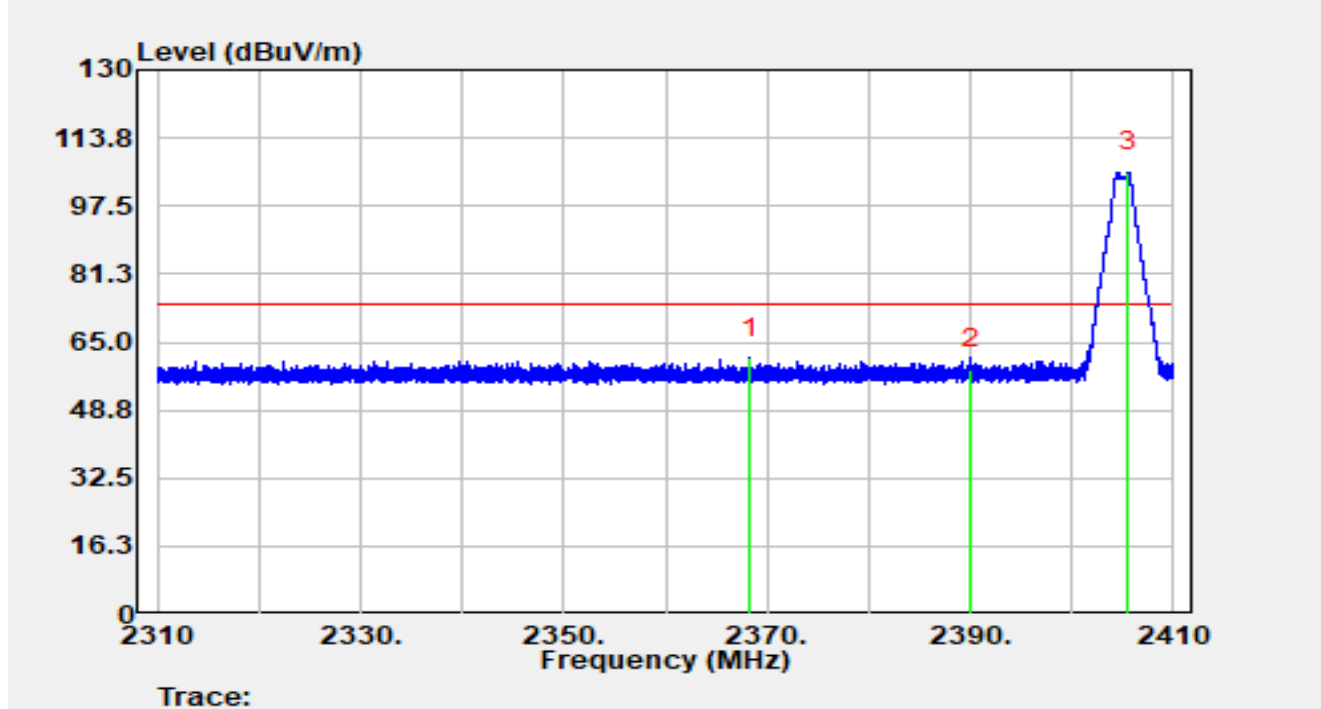
Notes:

- "*" indicates the worst-case emission level observed during the measurement.
- C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) - AMP (dB).
- Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
- The amplitude of radiated emissions (frequency range from 9kHz to 30MHz and 18GHz to 40GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.
- Spurious emissions from the Part 15 device, is subject to the Part 15 rules. Spurious emissions from the Part 22 & 24 & 27 device, is subject to the Part 22 & 24 & 27 rules. If the spurious emission is caused by the simultaneous operation of more radio devices, the limit is the highest level allowed by either rule part.

A.7 Radiated Restricted Band Edge Test Result

Radio 0:

Site	SIP-AC3	Test Date	2025-05-29
Temperature	22.7°C	Humidity	63.2%
Limit	FCC_Part15_Band Edge(3m)	Test Engineer	Justin Guo
Factor	HF907_102861	Polarity	Horizontal
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit By Zigbee at 2405MHz		

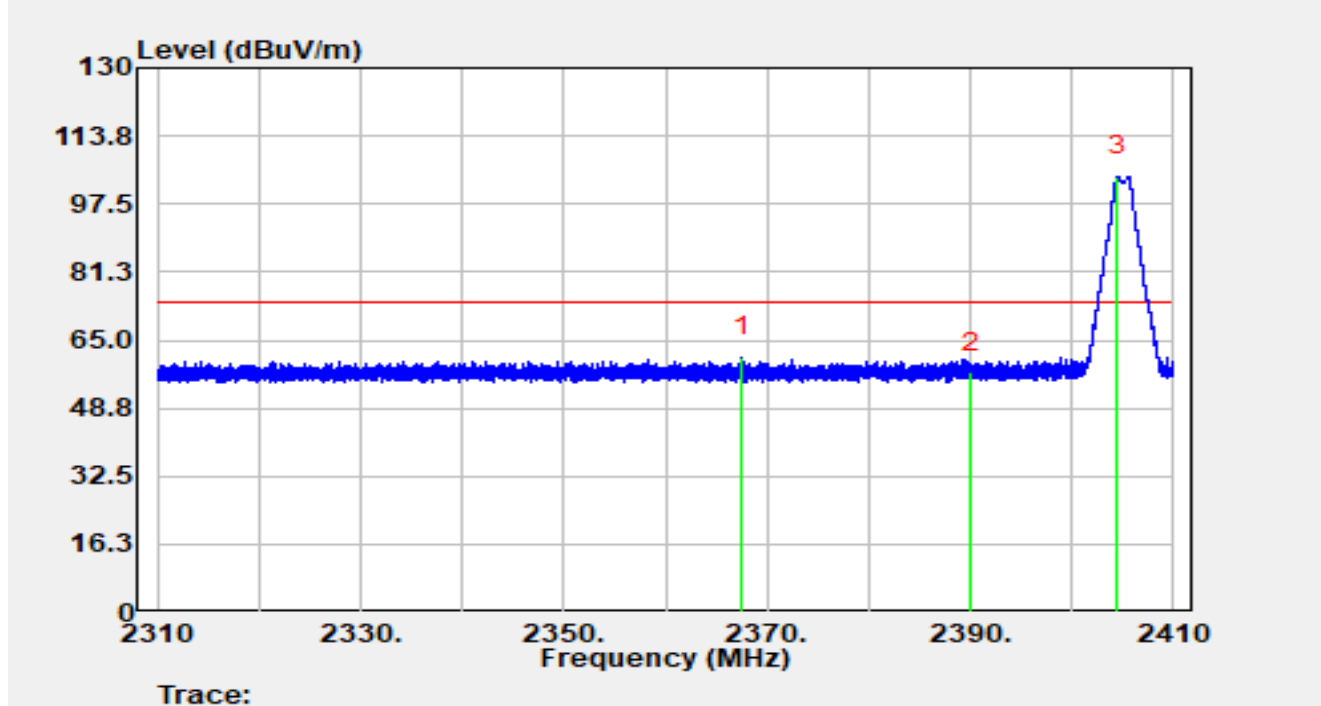


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Duty Cycle Factor (dB)	Limit (dBμV/m)	Detector
1	*	2368.340	27.28	33.97	61.25	-12.75	N/A	74.00	Peak
		2368.340	27.28	33.97	41.25	-12.75	-20.00	54.00	Average
2		2390.000	24.31	34.07	58.38	-15.62	N/A	74.00	Peak
		2390.000	24.31	34.07	38.38	-15.62	-20.00	54.00	Average
3		2405.490	71.36	34.13	105.49	N/A	N/A	N/A	Peak
		2405.490	71.36	34.13	85.49	N/A	-20.00	N/A	Average

Notes:

1. "*" indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
4. Average Measure Level = Peak Measure Level + Duty Cycle Factor, Duty Cycle Factor = -20dB.

Site	SIP-AC3	Test Date	2025-05-29
Temperature	22.7°C	Humidity	63.2%
Limit	FCC_Part15_Band Edge(3m)	Test Engineer	Justin Guo
Factor	HF907_102861	Polarity	Vertical
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit By Zigbee at 2405MHz		

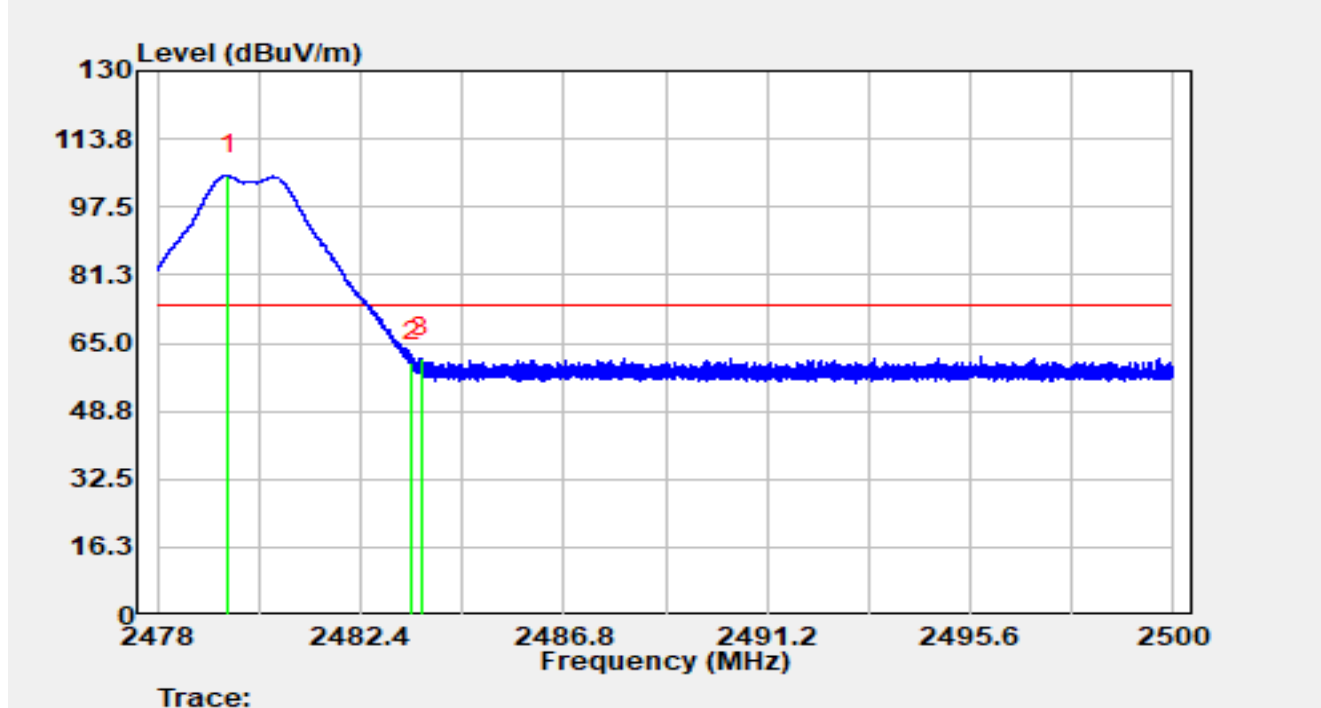


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Duty Cycle Factor (dB)	Limit (dBμV/m)	Detector
1	*	2367.500	26.93	33.97	60.89	-13.11	N/A	74.00	Peak
		2367.500	26.93	33.97	40.89	-13.11	-20.00	54.00	Average
2		2390.000	23.25	34.07	57.32	-16.68	N/A	74.00	Peak
		2390.000	23.25	34.07	37.32	-16.68	-20.00	54.00	Average
3		2404.500	69.94	34.13	104.06	N/A	N/A	N/A	Peak
		2404.500	69.94	34.13	84.06	N/A	-20.00	N/A	Average

Notes:

1. "*" indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
4. Average Measure Level = Peak Measure Level + Duty Cycle Factor, Duty Cycle Factor = -20dB.

Site	SIP-AC3	Test Date	2025-05-29
Temperature	22.7°C	Humidity	63.2%
Limit	FCC_Part15_Band Edge(3m)	Test Engineer	Justin Guo
Factor	HF907_102861	Polarity	Horizontal
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit By Zigbee at 2480MHz		

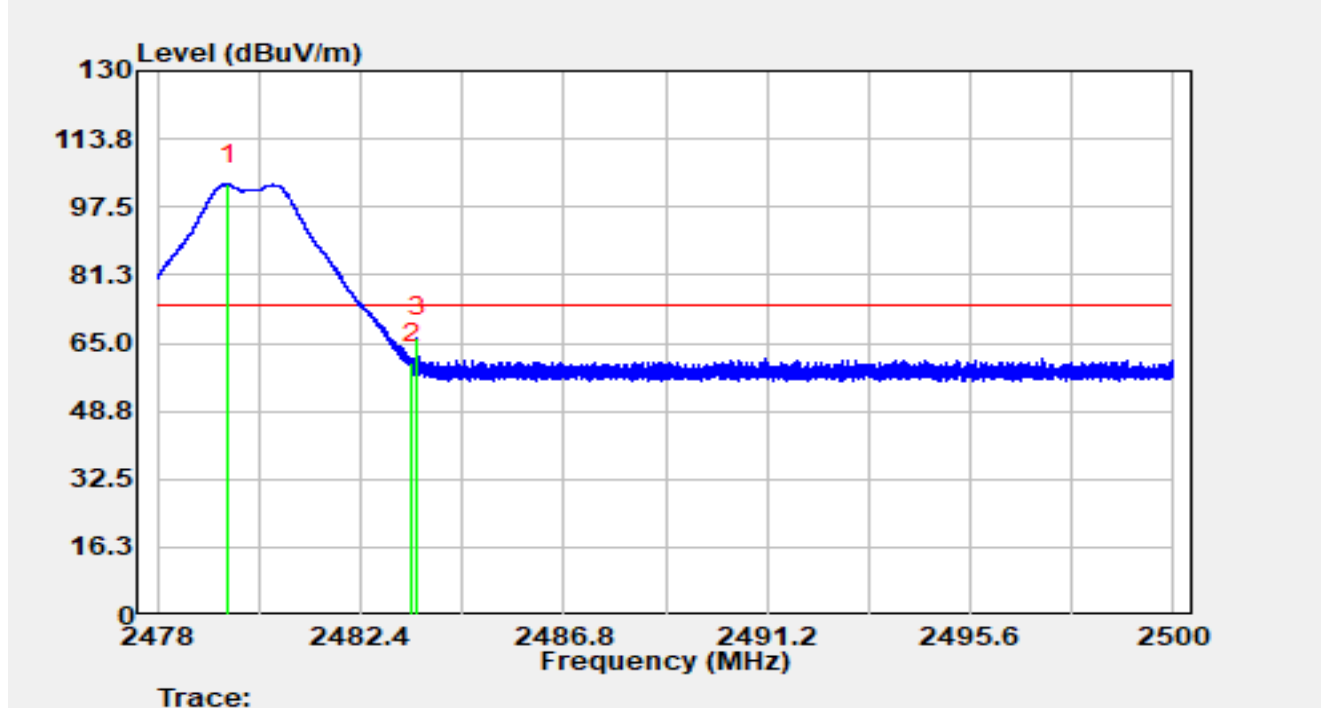


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Duty Cycle Factor (dB)	Limit (dBμV/m)	Detector
1		2479.544	70.58	34.47	105.05	N/A	N/A	74.00	Peak
		2479.544	70.58	34.47	85.05	N/A	-20.00	54.00	Average
2		2483.500	26.08	34.49	60.57	-13.43	N/A	74.00	Peak
		2483.500	26.08	34.49	40.57	-13.43	-20.00	54.00	Average
3	*	2483.711	26.99	34.49	61.48	-12.52	N/A	N/A	Peak
		2483.711	26.99	34.49	41.48	-12.52	-20.00	N/A	Average

Notes:

- "*" indicates the worst-case emission level observed during the measurement.
- C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
- Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
- Average Measure Level = Peak Measure Level + Duty Cycle Factor, Duty Cycle Factor = -20dB.

Site	SIP-AC3	Test Date	2025-05-29
Temperature	22.7°C	Humidity	63.2%
Limit	FCC_Part15_Band Edge(3m)	Test Engineer	Justin Guo
Factor	HF907_102861	Polarity	Vertical
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit By Zigbee at 2480MHz		



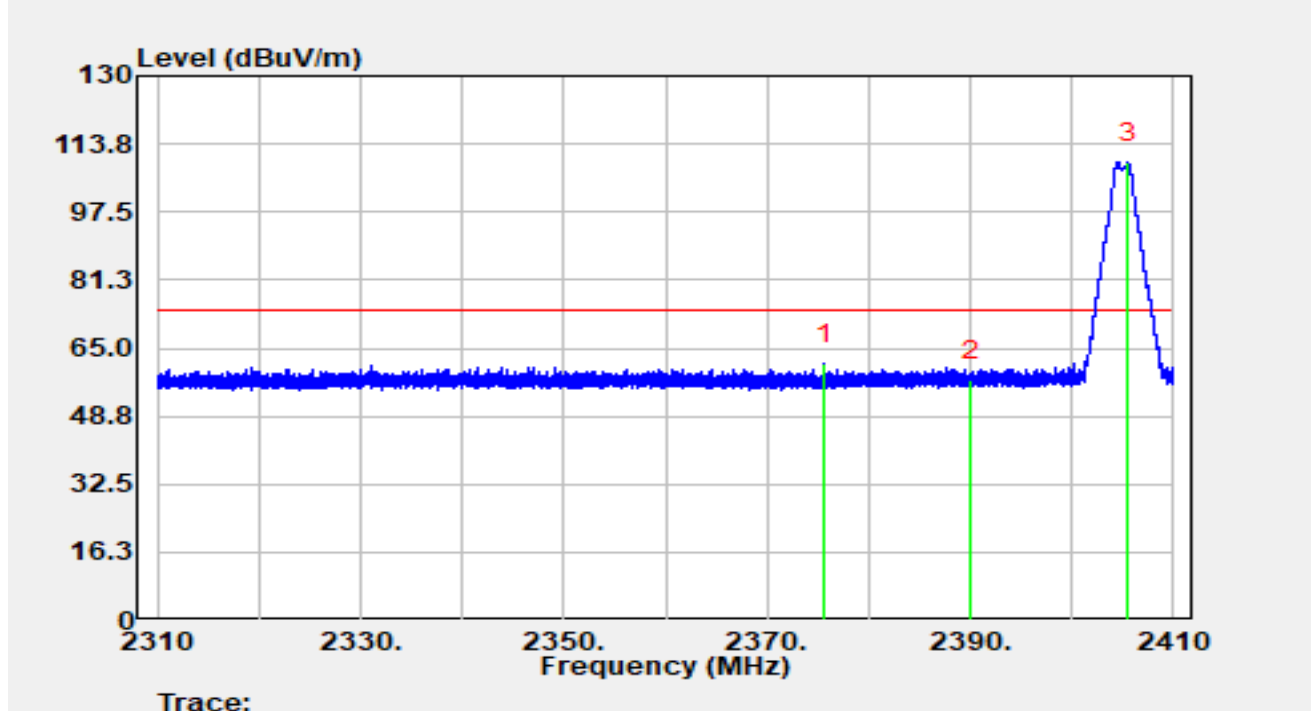
No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Duty Cycle Factor (dB)	Limit (dBμV/m)	Detector
1		2479.536	68.48	34.47	102.95	N/A	N/A	74.00	Peak
		2479.536	68.48	34.47	82.95	N/A	-20.00	54.00	Average
2		2483.500	25.71	34.49	60.20	-13.80	N/A	74.00	Peak
		2483.500	25.71	34.49	40.20	-13.80	-20.00	54.00	Average
3	*	2483.639	31.94	34.49	66.43	-7.57	N/A	N/A	Peak
		2483.639	31.94	34.49	46.43	-7.57	-20.00	N/A	Average

Notes:

1. "*" indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
4. Average Measure Level = Peak Measure Level + Duty Cycle Factor, Duty Cycle Factor = -20dB.

Radio 1:

Site	SIP-AC3	Test Date	2025-05-29
Temperature	22.7°C	Humidity	63.2%
Limit	FCC_Part15_Band Edge(3m)	Test Engineer	Justin Guo
Factor	HF907_102861	Polarity	Horizontal
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit By Zigbee at 2405MHz		

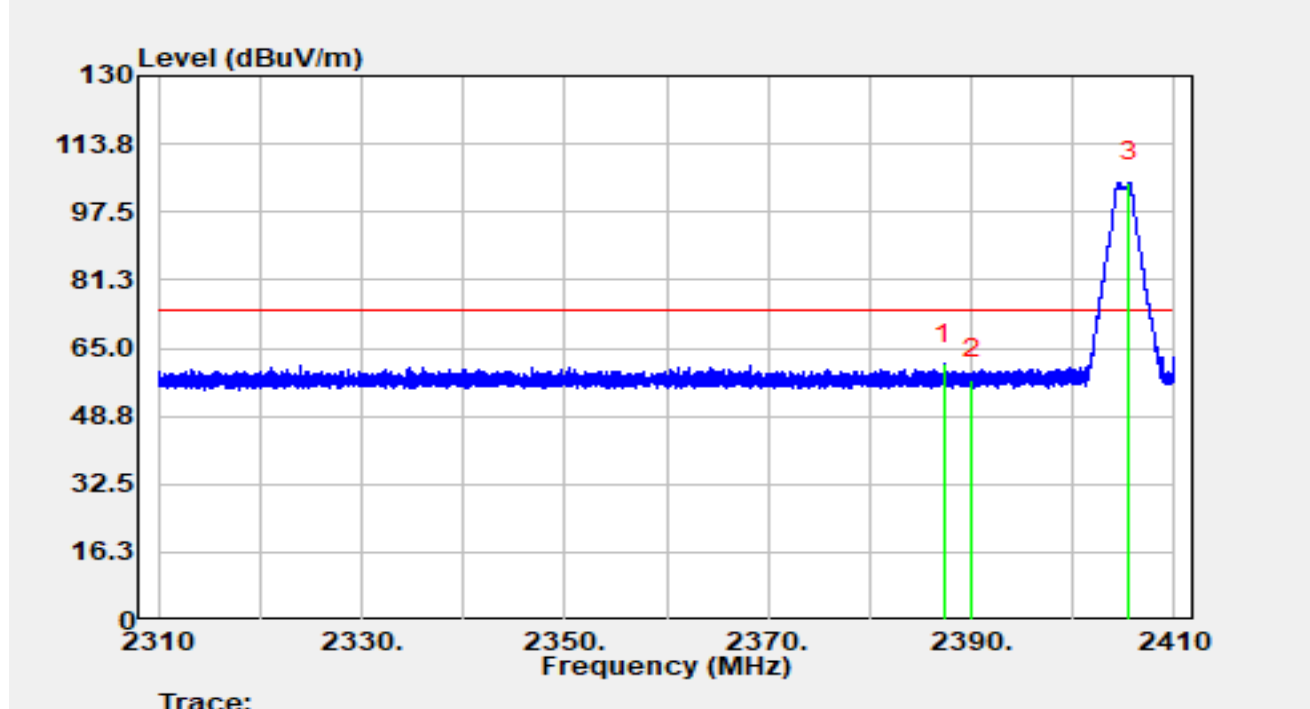


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Duty Cycle Factor (dB)	Limit (dBμV/m)	Detector
1	*	2375.670	27.11	33.98	61.09	-12.91	N/A	74.00	Peak
		2375.670	27.11	33.98	41.09	-12.91	-20.00	54.00	Average
2		2390.000	23.21	34.07	57.28	-16.72	N/A	74.00	Peak
		2390.000	23.21	34.07	37.28	-16.72	-20.00	54.00	Average
3		2405.500	75.13	34.13	109.26	N/A	N/A	N/A	Peak
		2405.500	75.13	34.13	89.26	N/A	-20.00	N/A	Average

Notes:

- "*" indicates the worst-case emission level observed during the measurement.
- C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
- Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
- Average Measure Level = Peak Measure Level + Duty Cycle Factor, Duty Cycle Factor = -20dB.

Site	SIP-AC3	Test Date	2025-05-29
Temperature	22.7°C	Humidity	63.2%
Limit	FCC_Part15_Band Edge(3m)	Test Engineer	Justin Guo
Factor	HF907_102861	Polarity	Vertical
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit By Zigbee at 2405MHz		

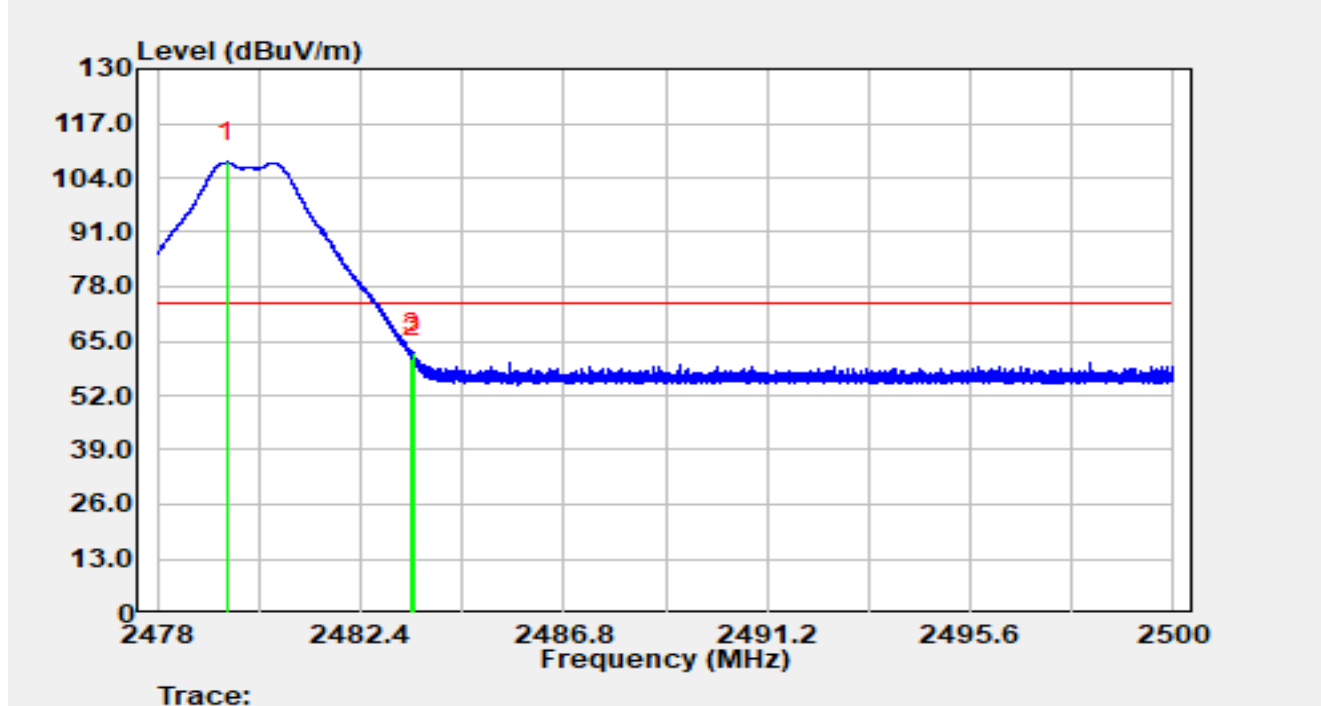


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Duty Cycle Factor (dB)	Limit (dBμV/m)	Detector
1	*	2387.270	27.26	34.05	61.31	-12.69	N/A	74.00	Peak
		2387.270	27.26	34.05	41.31	-12.69	-20.00	54.00	Average
2		2390.000	23.41	34.07	57.48	-16.52	N/A	74.00	Peak
		2390.000	23.41	34.07	37.48	-16.52	-20.00	54.00	Average
3		2405.540	70.40	34.13	104.53	N/A	N/A	N/A	Peak
		2405.540	70.40	34.13	84.53	N/A	-20.00	N/A	Average

Notes:

1. "*" indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
4. Average Measure Level = Peak Measure Level + Duty Cycle Factor, Duty Cycle Factor = -20dB.

Site	SIP-AC3	Test Date	2025-07-20
Temperature	22.7 °C	Humidity	63.2 %
Limit	FCC_Part15_Band Edge(3m)	Test Engineer	Fusco Pan
Factor	HF907_102861	Polarity	Horizontal
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit By Zigbee at 2480MHz		

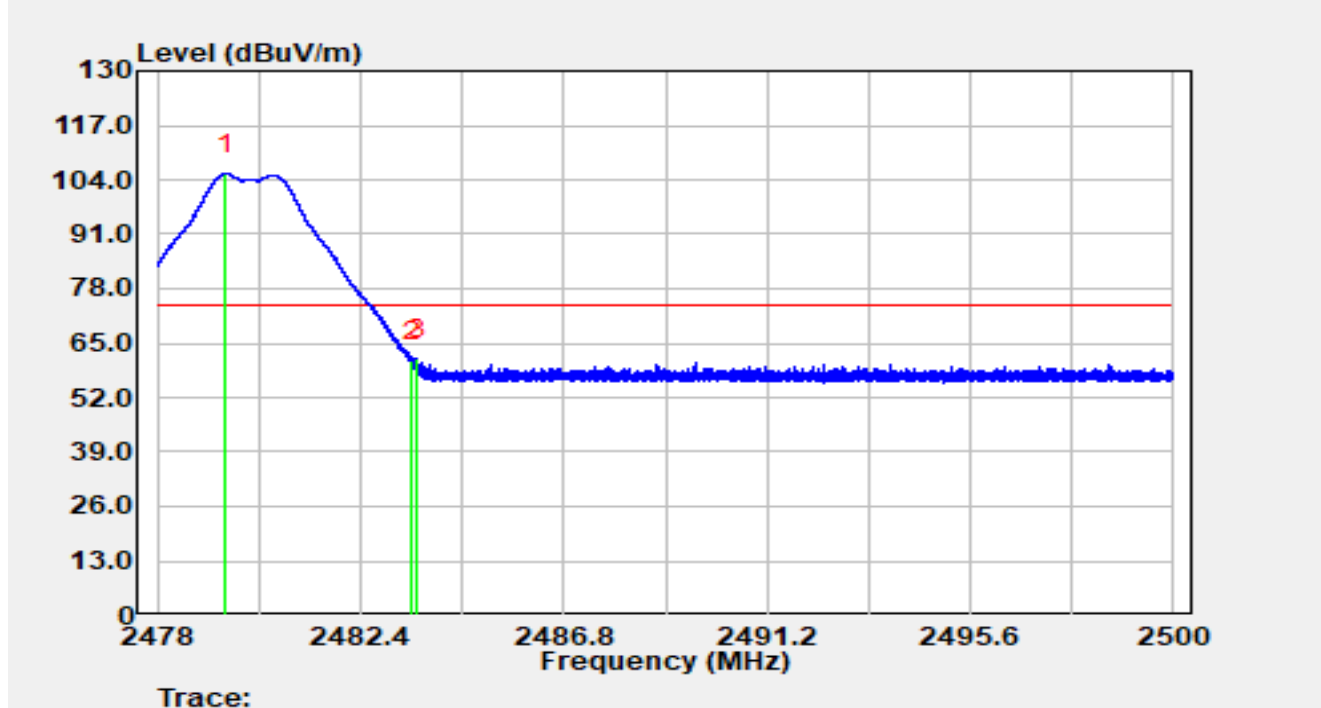


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Duty Cycle Factor (dB)	Limit (dBμV/m)	Detector
1		2479.503	73.27	34.47	107.74	N/A	N/A	74.00	Peak
		2479.503	73.27	34.47	87.74	N/A	-20.00	54.00	Average
2		2483.500	26.53	34.49	61.02	-12.98	N/A	74.00	Peak
		2483.500	26.53	34.49	41.02	-12.98	-20.00	54.00	Average
3	*	2483.542	27.60	34.49	62.09	-11.91	N/A	N/A	Peak
		2483.542	27.60	34.49	42.09	-11.91	-20.00	N/A	Average

Notes:

- "*" indicates the worst-case emission level observed during the measurement.
- C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
- Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
- Average Measure Level = Peak Measure Level + Duty Cycle Factor, Duty Cycle Factor = -20dB.

Site	SIP-AC3	Test Date	2025-07-20
Temperature	22.7 °C	Humidity	63.2 %
Limit	FCC_Part15_Band Edge(3m)	Test Engineer	Fusco Pan
Factor	HF907_102861	Polarity	Vertical
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit By Zigbee at 2480MHz		



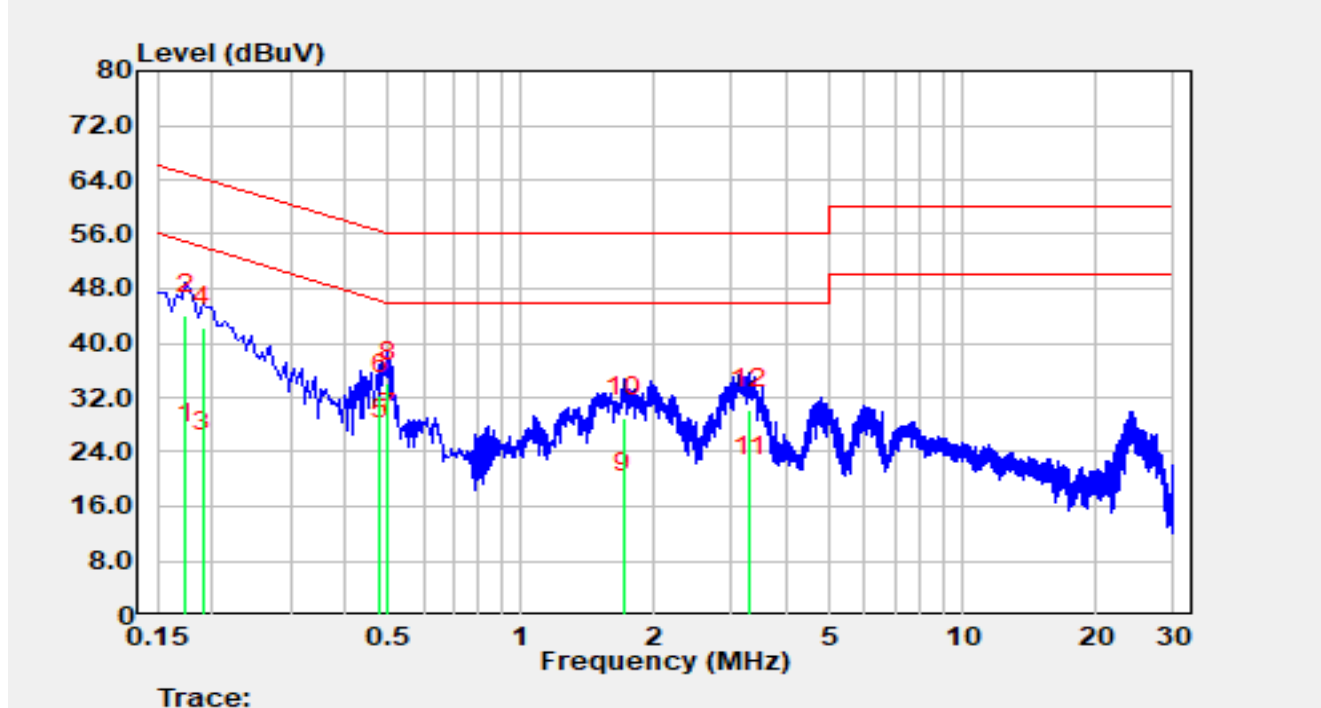
No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Duty Cycle Factor (dB)	Limit (dBμV/m)	Detector
1		2479.467	70.74	34.64	105.39	N/A	N/A	74.00	Peak
		2479.467	70.74	34.64	85.39	N/A	-20.00	54.00	Average
2		2483.500	26.16	34.67	60.83	-13.17	N/A	74.00	Peak
		2483.500	26.16	34.67	40.83	-13.17	-20.00	54.00	Average
3	*	2483.639	26.42	34.67	61.09	-12.91	N/A	N/A	Peak
		2483.639	26.42	34.67	41.09	-12.91	-20.00	N/A	Average

Notes:

- "*" indicates the worst-case emission level observed during the measurement.
- C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
- Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
- Average Measure Level = Peak Measure Level + Duty Cycle Factor, Duty Cycle Factor = -20dB.

A.8 AC Conducted Emissions Test Result

Site	SIP-SR2	Test Date	2025-06-11
Temperature	25.3 °C	Humidity	56.1 %
Limit	FCC Part 15.207_CE_Mains	Test Engineer	Miron Ding
Factor	ENV216_101684_E	Polarity	Line
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit By Zigbee at 2440MHz		

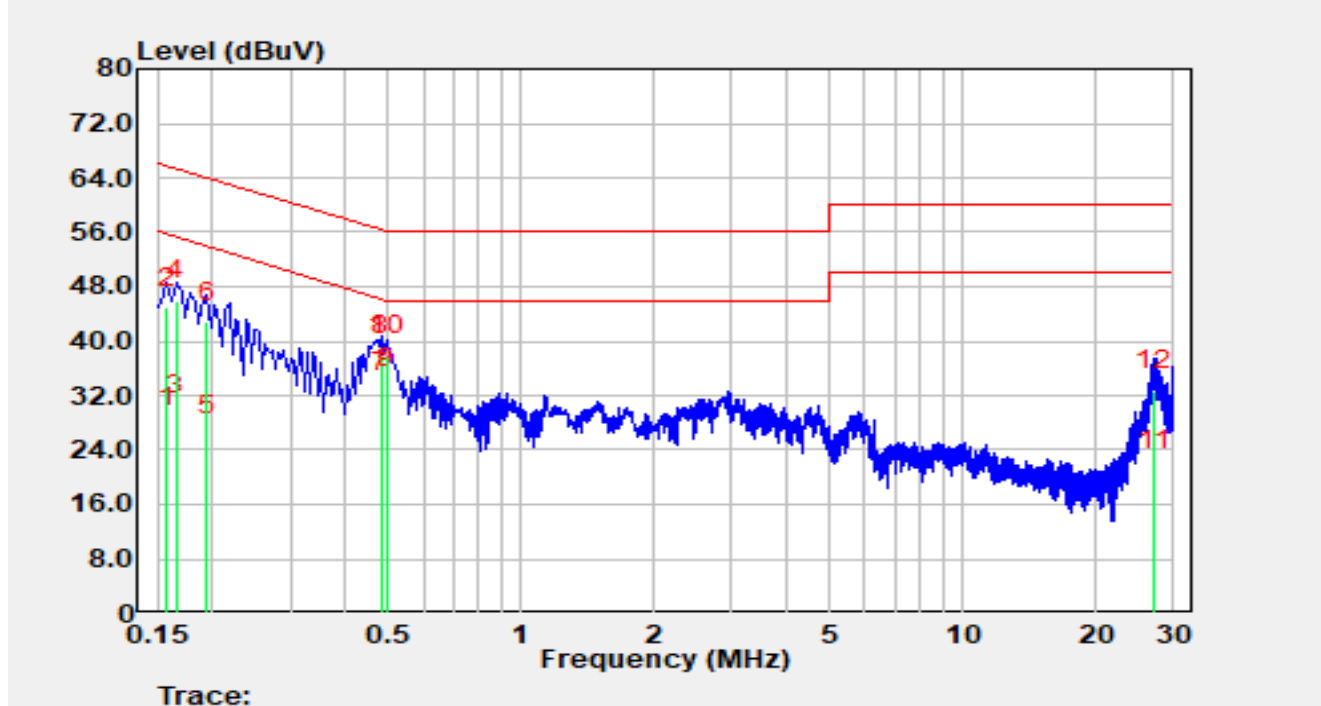


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB)	Measurement (dBμV)	Margin (dB)	Limit (dBμV)	Detector
1		0.174	15.50	9.81	25.31	-29.46	54.77	Average
2		0.174	34.29	9.81	44.10	-20.67	64.77	QP
3		0.190	14.12	9.83	23.96	-30.08	54.04	Average
4		0.190	32.55	9.83	42.38	-21.66	64.04	QP
5		0.478	15.99	9.93	25.92	-20.45	46.37	Average
6		0.478	22.44	9.93	32.37	-24.01	56.37	QP
7	*	0.498	16.80	9.93	26.73	-19.30	46.03	Average
8		0.498	24.23	9.93	34.16	-21.87	56.03	QP
9		1.710	7.90	9.98	17.88	-28.12	46.00	Average
10		1.710	19.09	9.98	29.07	-26.93	56.00	QP
11		3.298	10.40	10.11	20.51	-25.49	46.00	Average
12		3.298	20.15	10.11	30.26	-25.74	56.00	QP

Notes:

1. " * " indicates the worst-case emission level observed during the measurement.
2. C.F (dB) = LISN Factor (dB) + Cable Loss (dB).
3. Measurement (dB μ V) = Reading (dB μ V) + C.F (dB).

Site	SIP-SR2	Test Date	2025-06-11
Temperature	25.3 °C	Humidity	56.1 %
Limit	FCC Part 15.207_CE_Mains	Test Engineer	Miron Ding
Factor	ENV216_101684_E	Polarity	Neutral
EUT	HPE Aruba User Experience Sensor	Test Voltage	AC 120V/60Hz
Test Mode	Transmit By Zigbee at 2440MHz		



No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB)	Measurement (dBμV)	Margin (dB)	Limit (dBμV)	Detector
1		0.158	17.42	9.81	27.23	-28.34	55.57	Average
2		0.158	35.02	9.81	44.83	-20.74	65.57	QP
3		0.166	19.27	9.81	29.08	-26.08	55.16	Average
4		0.166	36.22	9.81	46.03	-19.13	65.16	QP
5		0.194	16.40	9.83	26.23	-27.64	53.86	Average
6		0.194	32.90	9.83	42.73	-21.14	63.86	QP
7		0.482	22.53	9.90	32.43	-13.88	46.30	Average
8		0.482	28.06	9.90	37.96	-18.35	56.30	QP
9	*	0.494	23.18	9.90	33.08	-13.02	46.10	Average
10		0.494	27.86	9.90	37.76	-18.34	56.10	QP
11		27.108	9.57	11.43	21.01	-28.99	50.00	Average
12		27.108	21.25	11.43	32.68	-27.32	60.00	QP

Notes:

1. " * " indicates the worst-case emission level observed during the measurement.
2. C.F (dB) = LISN Factor (dB) + Cable Loss (dB).
3. Measurement (dB μ V) = Reading (dB μ V) + C.F (dB).

Appendix B – Test Setup Photograph

Refer to “R25S1034045-UT” file.

Appendix C – EUT Photograph

Refer to “R25S1034045-UE” file.

_____ The End _____