



RF MEASUREMENT REPORT

FCC ID: VW3FAST5697
Applicant: SAGEMCOM BROADBAND SAS
Product: Giga Hub 2.0
Model No.: FAST5697
Brand Name: SAGEMCOM
FCC Classification: Part 15 Low Power Communication Device Transmitter (DXX)
FCC Rule Part(s): Part 15 Subpart C (Section 15.249)
Received Date: 2025-03-19
Test Date: 2025-04-18 ~ 2025-05-14

Reviewed By:

Sunny Sun

Approved By:

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 C63.10-2013. 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
R25S1048034-U207	V01	Initial Report	2025-06-03	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 System Connection Diagram	8
2.2. Test Software	8
2.3. Applied Standards	8
2.4. 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. 20dB 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	15
6.2.5. Test Result	15
6.3. Radiated Emission Measurement	16
6.3.1. Test Limit	16
6.3.2. Test Procedure	16
6.3.3. Test Setting	17
6.3.4. Test Setup	19
6.3.5. Test Result	19
6.4. AC Conducted Emissions Measurement	20
6.4.1. Test Limit	20
6.4.2. Test Setup	20
6.4.3. Test Result	20

Appendix A - Test Result.....	21
A.1 20dB Bandwidth Test Result	21
A.2 Radiated Emission Test Result	22
A.3 Radiated Restricted Band Edge Test Result.....	29
A.4 AC Conducted Emissions Test Result	35
Appendix B - Test Setup Photograph	39
Appendix C - EUT Photograph	40

1. General Information

1.1. Applicant

SAGEMCOM BROADBAND SAS
4 ALLEE DES MESSAGERIES
92271 BOIS-COLOMBES CEDEX - FRANCE

1.2. Manufacturer

SAGEMCOM BROADBAND SAS
4 ALLEE DES MESSAGERIES
92271 BOIS-COLOMBES CEDEX - FRANCE

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	Giga Hub 2.0
Model No.	FAST5697
EUT Identification No.	20250506Sample#01
Bluetooth Specification	Bluetooth_LE 1M
Zigbee Specification	802.15.4
Z-Wave Specification	902 ~ 928MHz
Wi-Fi Specification	802.11a/b/g/n/ac/ax/be
Antenna Information	Refer to section 1.7
Working Voltage	By Adapter
Operating Environment	Indoor Use
Accessories	
Adapter #1	Model: ADS-65HI-12A-2 12060E-L Input: 100-127V ~ 50/60Hz 1.5A Output: 12V=5.0A
Adapter #2	Model: NBS42G120500M2 Input: 100-127V ~ 50/60Hz 1.5A Output: 12V=5.0A
Adapter #3	Model: NBS60E120500M2 Input: 100-120V ~ 50/60Hz 1.5A Output: 12V=5.0A
Adapter #4	Model: MS-Z5000R120-060C0-P Input: 100-127V ~ 50/60Hz 1.5A Output: 12V=5.0A
Adapter #5	Model: ADS-60HI-12-2 12060E-L Input: 100-127V ~ 50/60Hz 1.5A Output: 12V=5.0A
Remarks:	
1. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	
2. For this report, we select AC Adapter #1 for testing.	

1.5. Radio Specification under Test

Z-Wave Specification	
Frequency Range	902 ~ 928 MHz
Channel Number	3
Type of Modulation	FSK
Antenna Type	PIFA Antenna
Antenna Gain	1.47 dBi

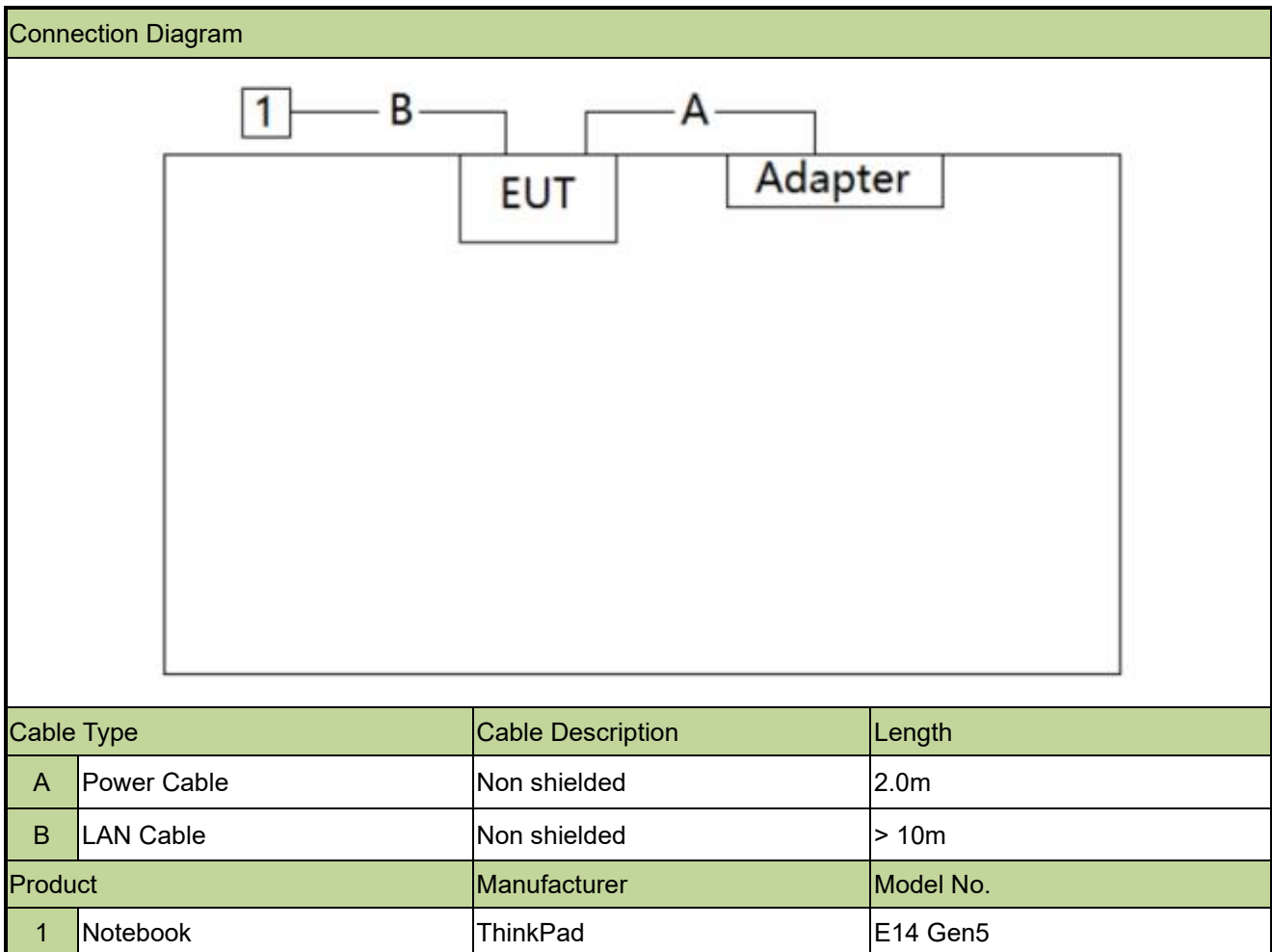
1.6. Working Frequencies

Channel	Frequency	Channel	Frequency	Channel	Frequency
00	916 MHz	01	908.4 MHz	02	908.42 MHz

2. Test Configuration

2.1. 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.



2.2. Test Software

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

2.3. Applied Standards

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

- FCC Part 15.249
- ANSI C63.10-2013

2.4. 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
EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2025-12-05	SIP-AC1
Thermohygrometer	testo	608-H1	MRTSUE06616	1 year	2025-10-16	SIP-AC1
Active Loop Antenna	Schwarzbeck	FMZB 1519-60 D	MRTSUE07075	1 year	2025-11-19	SIP-AC1
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06645	1 year	2025-07-05	SIP-AC1
Anechoic Chamber	RIKEN	SIP-AC1	MRTSUE06554	1 year	2025-12-19	SIP-AC1
Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2025-05-08	SIP-AC3
					2026-04-26	
Thermohygrometer	testo	608-H1	MRTSUE06619	1 year	2025-10-16	SIP-AC3
Preamplifier	EMCI	EMC012645SE	MRTSUE06642	1 year	2026-01-05	SIP-AC3
Horn Antenna	R&S	HF907	MRTSUE06611	1 year	2025-07-07	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
Anechoic Chamber	RIKEN	SIP-AC3	MRTSUE06782	1 year	2025-12-19	SIP-AC3
Two-Line V-Network	R&S	ENV216	MRTSUE06003	1 year	2025-05-08	SIP-SR2
					2026-04-29	
EMI Test Receiver	R&S	ESR3	MRTSUE06612	1 year	2025-05-08	SIP-SR2
					2026-04-29	
Four-Line V-Network	R&S	ENV432	MRTSUE06614	1 year	2025-10-13	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
Signal Analyzer	Keysight	N9010B	MRTSUE07036	1 year	2026-01-21	SIP-TR1
Thermohygrometer	testo	608-H1	MRTSUE11022	1 year	2025-10-16	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	
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

6. Test Result

6.1. Summary

FCC Section(s)	Test Description	Test Condition	Verdict
15.215(c)	20dB Bandwidth	Radiated	Pass
15.249; 15.209	Radiated Emission		Pass
15.207	AC Conducted Emissions 150kHz - 30MHz	Line Conducted	Pass

Note:

1. The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.

6.2. 20dB Bandwidth Measurement

6.2.1. Test Limit

20 dB bandwidth of the emission is contained within the 902 ~ 928MHz.

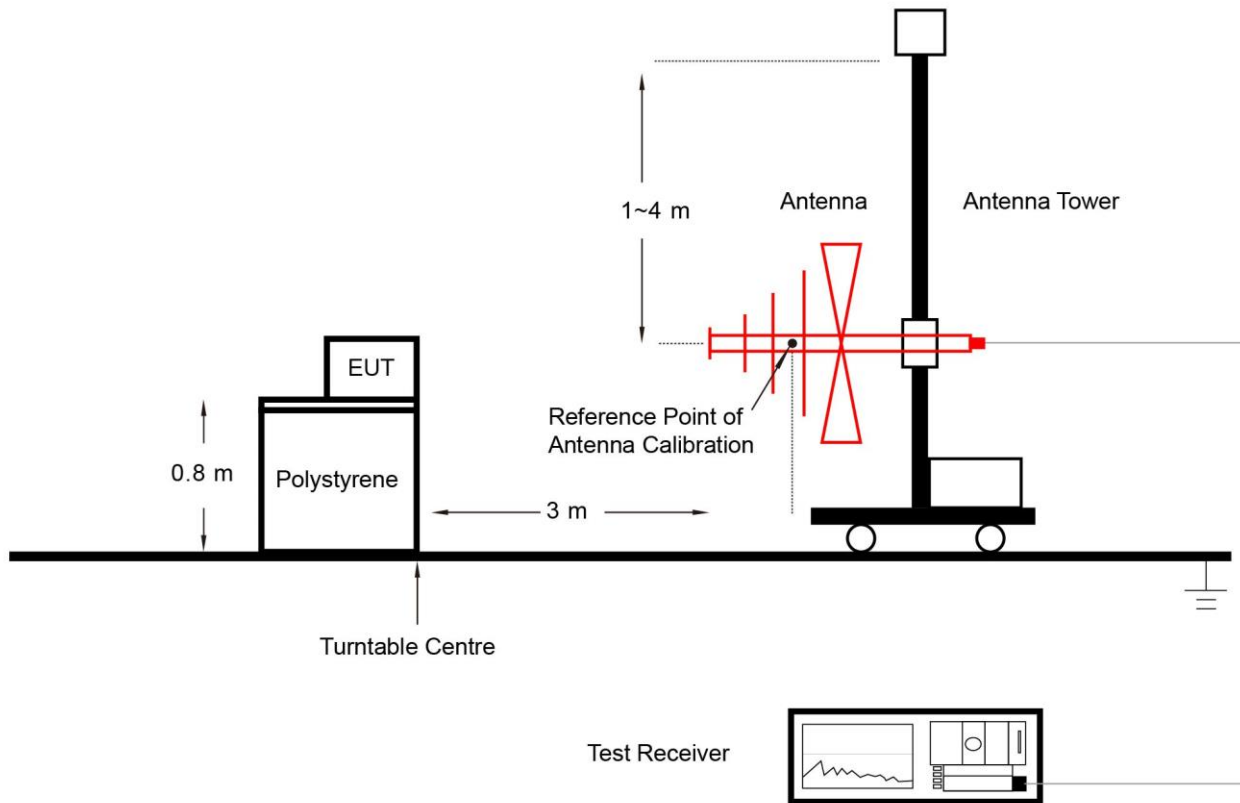
6.2.2. Test Procedure

ANSI C63.10 - 2013 - Section 6.9.2

6.2.3. Test Setting

1. The Spectrum's automatic bandwidth measurement capability was used to perform the 20dB bandwidth measurement. The "X" dB bandwidth parameter was set to $X = 20$
2. Set RBW = 1% to 5% of the OBW
3. VBW = Approximately three 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.1.

6.3. Radiated Emission Measurement

6.3.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.249		
Fundamental Frequency (MHz)	Field Strength of Fundamental (mV/m)	Field Strength of Harmonics (μ V/m)
902 ~ 908	50	500
2400 ~ 2483.5	50	500
5725 ~ 5875	50	500
24000 ~ 24250	250	2500

Note: FCC Part 15.249 (d), Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [μ V/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

6.3.2. Test Procedure

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)

6.3.3. 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 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 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)

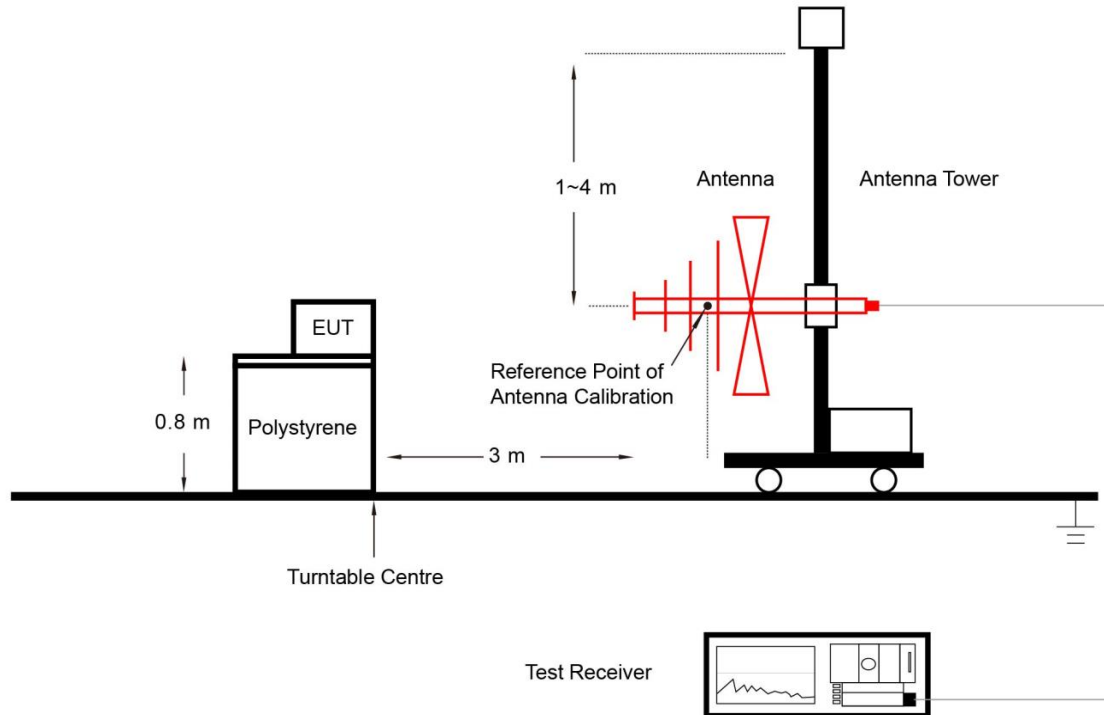
1. Analyzer center frequency was set to the frequency of the radiated emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10 Hz.

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

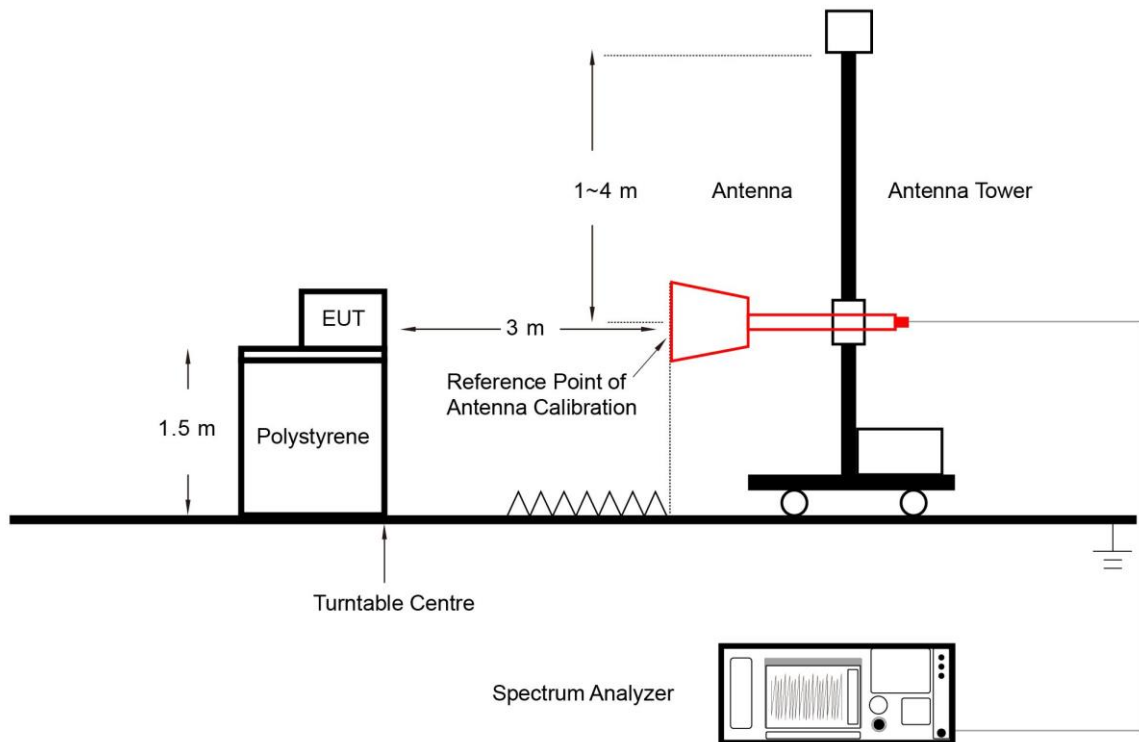
- 4. Detector = Peak
- 5. Sweep time = auto
- 6. Trace mode = max hold
- 7. Trace was allowed to stabilize

6.3.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



6.3.5. Test Result

Refer to Appendix A.2 & A.3.

6.4. AC Conducted Emissions Measurement

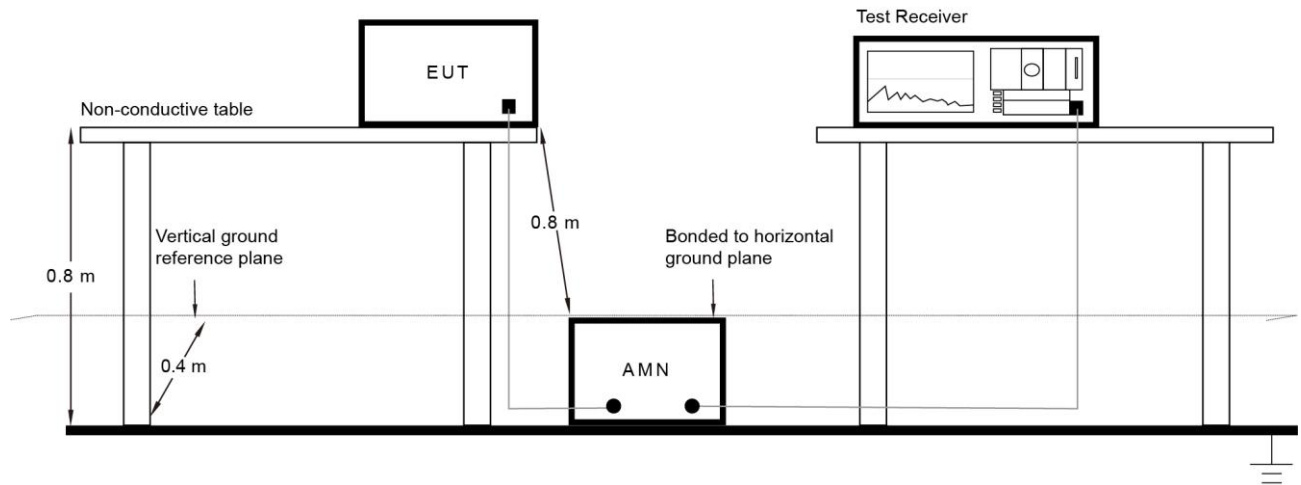
6.4.1. Test Limit

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.

6.4.2. Test Setup



6.4.3. Test Result

Refer to Appendix A.4.

Appendix A - Test Result

A.1 20dB Bandwidth Test Result

Test Site	SIP-TR1	Test Engineer	Ryan Wang
Test Date	2025-05-14		

Frequency (MHz)	20dB Bandwidth (kHz)	F _L (MHz)	F _H (MHz)	Result
916.00	115.90	915.94	916.06	Pass
908.40	86.26	908.36	908.44	Pass
908.42	68.00	908.39	908.45	Pass



A.2 Radiated Emission Test Result

Test Site	SIP-AC1	Test Engineer	Justin Guo
Test Date	2025-05-12		
Remark	Fundamental Radiated Emission		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
916.00	60.40	29.51	89.91	93.98	-4.07	QP	Horizontal
	63.20	29.51	92.71	93.98	-1.27	QP	Vertical
908.40	62.20	29.23	91.43	93.98	-2.55	QP	Horizontal
	64.20	29.23	93.43	93.98	-0.55	QP	Vertical
908.42	62.30	29.23	91.53	93.98	-2.45	QP	Horizontal
	64.00	29.23	93.23	93.98	-0.75	QP	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

Test Engineer	Justin Guo	Test Site	SIP-AC1
Test Date	2025-05-12		
Remark	Radiated Emission outside frequency band - 916MHz		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
657.68	14.10	26.09	40.19	46.00	-5.81	QP	Horizontal
693.69	16.20	27.15	43.35	46.00	-2.65	QP	Horizontal
728.85	17.50	27.40	44.90	46.00	-1.10	QP	Horizontal
764.18	12.30	27.79	40.09	46.00	-5.91	QP	Horizontal
782.62	12.40	28.20	40.60	46.00	-5.40	QP	Horizontal
800.10	12.43	28.17	40.60	46.00	-5.40	QP	Horizontal
41.54	19.78	17.71	37.49	40.00	-2.51	QP	Vertical
62.28	12.75	17.57	30.32	40.00	-9.68	QP	Vertical
79.83	14.28	13.80	28.08	40.00	-11.92	QP	Vertical
568.81	15.20	24.22	39.42	46.00	-6.58	QP	Vertical
586.43	12.13	25.04	37.17	46.00	-8.83	QP	Vertical
693.69	11.43	27.15	38.58	46.00	-7.42	QP	Vertical
Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)							
Frequency below 1GHz: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)							

Test Engineer	Justin Guo	Test Site	SIP-AC3
Test Date	2025-05-12		
Remark	Radiated Emission outside frequency band - 916MHz		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
4910.50	49.08	-3.69	45.39	74.00	-28.61	Peak	Horizontal
7640.20	48.02	-2.46	45.56	74.00	-28.44	Peak	Horizontal
8396.20	46.99	-1.49	45.50	74.00	-28.50	Peak	Horizontal
1831.60	62.08	-13.10	48.98	74.00	-25.02	Peak	Vertical
4211.20	48.93	-3.82	45.11	74.00	-28.89	Peak	Vertical
4879.90	48.70	-3.66	45.04	74.00	-28.96	Peak	Vertical
7391.80	48.64	-3.18	45.46	74.00	-28.54	Peak	Vertical

Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Frequency above 1GHz: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre Amplifier Gain (dB)

Note 2: Average measurement was not performed when the peak level lower than average limit.

Test Engineer	Justin Guo	Test Site	SIP-AC1
Test Date	2025-05-12		
Remark	Radiated Emission outside frequency band - 908.4MHz		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
657.68	14.30	26.09	40.39	46.00	-5.61	QP	Horizontal
693.69	17.00	27.15	44.15	46.00	-1.85	QP	Horizontal
728.85	16.70	27.40	44.10	46.00	-1.90	QP	Horizontal
746.44	12.10	27.66	39.76	46.00	-6.24	QP	Horizontal
782.62	13.40	28.20	41.60	46.00	-4.40	QP	Horizontal
800.10	13.10	28.17	41.27	46.00	-4.73	QP	Horizontal
41.66	19.70	17.71	37.41	40.00	-2.59	QP	Vertical
62.50	12.75	17.53	30.28	40.00	-9.72	QP	Vertical
80.28	14.46	13.65	28.11	40.00	-11.89	QP	Vertical
568.81	15.43	24.22	39.65	46.00	-6.35	QP	Vertical
586.43	13.10	25.04	38.14	46.00	-7.86	QP	Vertical
693.69	11.60	27.15	38.75	46.00	-7.25	QP	Vertical
Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)							
Frequency below 1GHz: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)							

Test Engineer	Justin Guo	Test Site	SIP-AC3
Test Date	2025-05-12		
Remark	Radiated Emission outside frequency band - 908.4MHz		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
4371.40	49.33	-3.50	45.83	74.00	-28.17	Peak	Horizontal
7669.90	47.44	-2.09	45.35	74.00	-28.65	Peak	Horizontal
8314.30	46.91	-1.41	45.50	74.00	-28.50	Peak	Horizontal
4979.80	49.25	-3.60	45.65	74.00	-28.35	Peak	Vertical
7692.40	47.55	-1.94	45.61	74.00	-28.39	Peak	Vertical
8327.80	46.77	-1.46	45.31	74.00	-28.69	Peak	Vertical

Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Frequency above 1GHz: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre Amplifier Gain (dB)

Note 2: Average measurement was not performed when the peak level lower than average limit.

Test Engineer	Justin Guo	Test Site	SIP-AC1
Test Date	2025-05-12		
Remark	Radiated Emission outside frequency band - 908.42MHz		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
657.68	15.30	26.09	41.39	46.00	-4.61	QP	Horizontal
693.69	16.90	27.15	44.05	46.00	-1.95	QP	Horizontal
728.85	17.60	27.40	45.00	46.00	-1.00	QP	Horizontal
746.44	12.00	27.66	39.66	46.00	-6.34	QP	Horizontal
782.62	12.60	28.20	40.80	46.00	-5.20	QP	Horizontal
800.10	14.40	28.17	42.57	46.00	-3.43	QP	Horizontal
41.31	19.70	17.72	37.42	40.00	-2.58	QP	Vertical
62.15	12.10	17.59	29.69	40.00	-10.31	QP	Vertical
79.47	14.50	13.92	28.42	40.00	-11.58	QP	Vertical
568.81	15.00	24.22	39.22	46.00	-6.78	QP	Vertical
586.43	12.50	25.04	37.54	46.00	-8.46	QP	Vertical
693.69	11.40	27.15	38.55	46.00	-7.45	QP	Vertical
Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)							
Frequency below 1GHz: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)							

Test Engineer	Justin Guo	Test Site	SIP-AC3
Test Date	2025-05-12		
Remark	Radiated Emission outside frequency band - 908.42MHz		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
4906.00	48.75	-3.68	45.07	74.00	-28.93	Peak	Horizontal
7651.90	47.34	-2.32	45.02	74.00	-28.98	Peak	Horizontal
8273.80	46.89	-1.57	45.32	74.00	-28.68	Peak	Horizontal
4245.40	48.94	-3.62	45.32	74.00	-28.68	Peak	Vertical
4813.30	48.75	-3.76	44.99	74.00	-29.01	Peak	Vertical
8358.40	46.91	-1.41	45.50	74.00	-28.50	Peak	Vertical

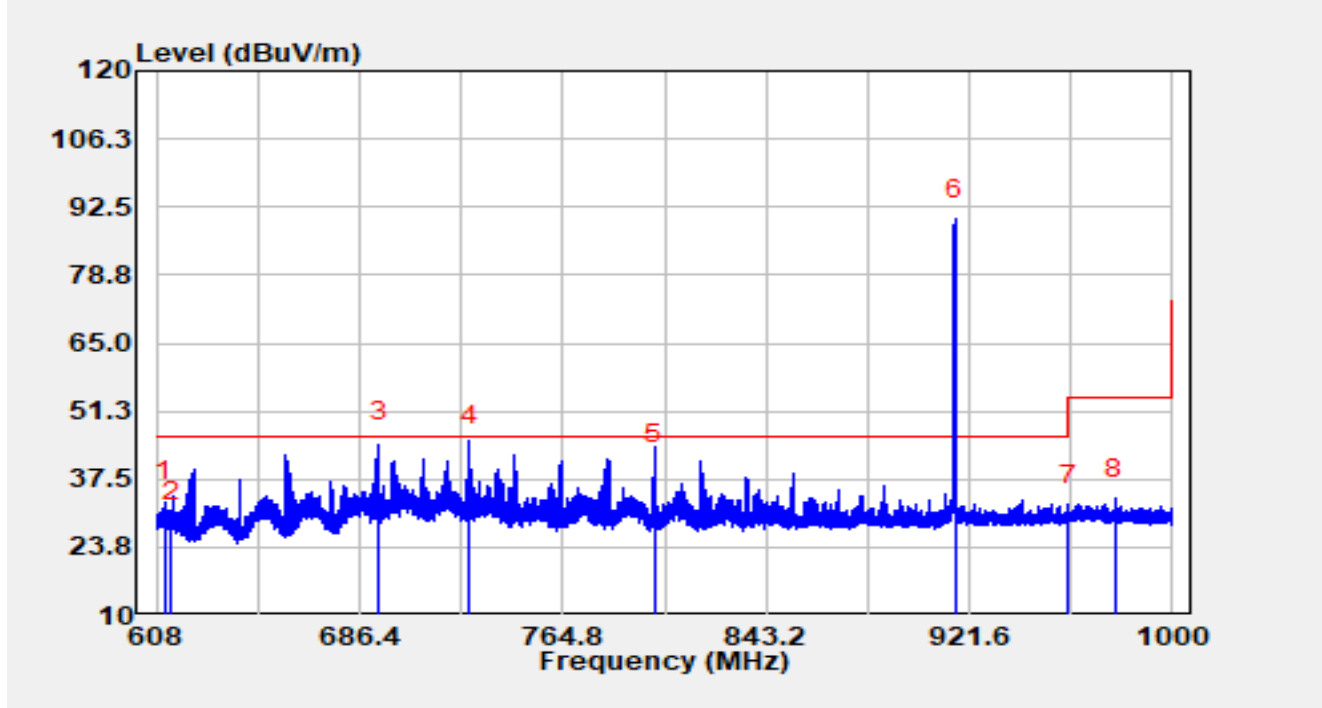
Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Frequency above 1GHz: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre Amplifier Gain (dB)

Note 2: Average measurement was not performed when the peak level lower than average limit.

A.3 Radiated Restricted Band Edge Test Result

Site	SIP-AC1	Test Date	2025-05-12
Temperature	21.7 °C	Humidity	51.3 %
Limit	FCC_Part 15.209_RSE(3m)	Test Engineer	Justin Guo
Factor	VULB 9168_00998	Polarity	Horizontal
EUT	Giga Hub 2.0	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by Z-wave at 916MHz		

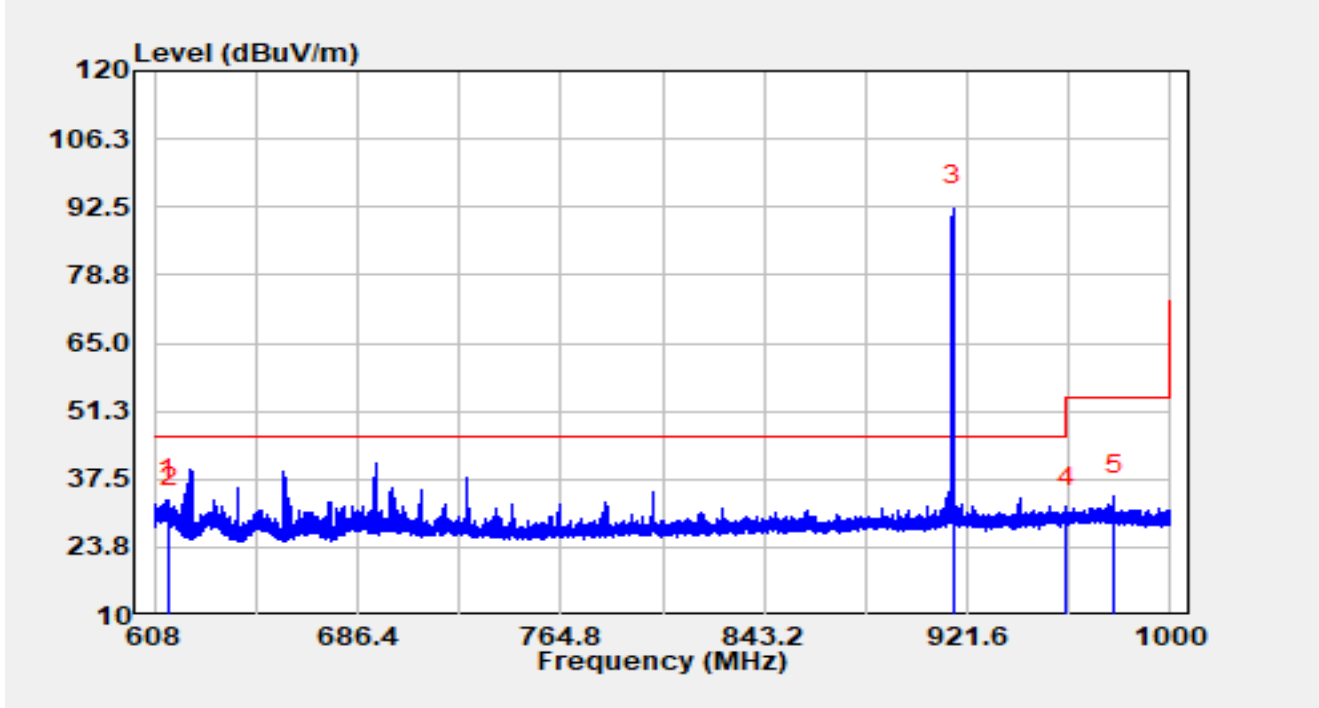


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		611.136	6.94	25.94	32.88	-13.12	46.00	Peak
2		614.000	3.06	25.80	28.86	-17.14	46.00	Peak
3		693.613	17.80	27.14	44.94	-1.06	46.00	QP
4		728.814	17.00	27.40	44.40	-1.60	46.00	QP
5		800.002	12.50	28.17	40.67	-5.33	46.00	QP
6	*	916.034	60.40	29.51	89.91	43.91	46.00	QP
7		960.000	1.95	30.26	32.21	-13.79	46.00	Peak
8		977.656	3.20	30.39	33.59	-20.41	54.00	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	SIP-AC1	Test Date	2025-05-12
Temperature	21.7 °C	Humidity	51.3 %
Limit	FCC_Part 15.209_RSE(3m)	Test Engineer	Justin Guo
Factor	VULB 9168_00998	Polarity	Vertical
EUT	Giga Hub 2.0	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by Z-wave at 916MHz		

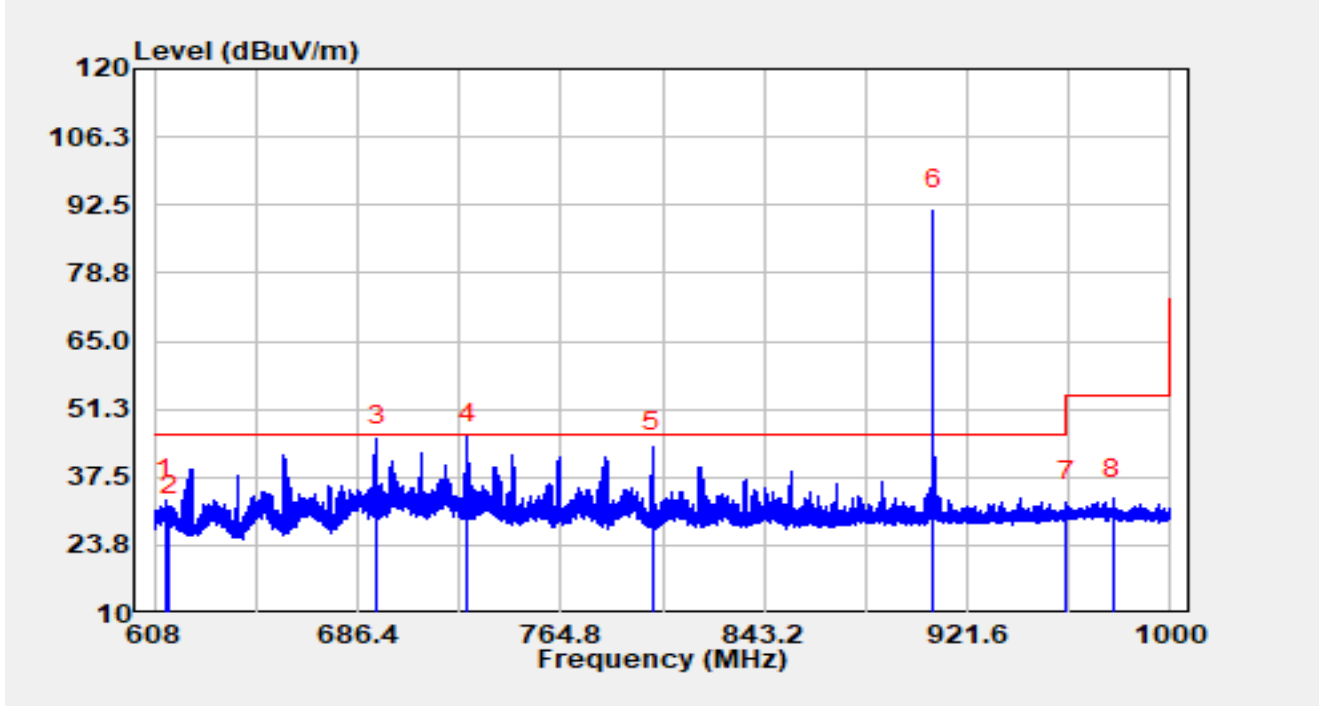


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		613.096	7.51	25.84	33.35	-12.65	46.00	Peak
2		614.000	5.80	25.80	31.60	-14.40	46.00	Peak
3	*	916.034	63.20	29.51	92.71	46.71	46.00	QP
4		960.000	1.48	30.26	31.75	-14.25	46.00	Peak
5		978.401	3.85	30.41	34.26	-19.74	54.00	Peak

Notes:

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

Site	SIP-AC1	Test Date	2025-05-12
Temperature	21.7 °C	Humidity	51.3 %
Limit	FCC_Part 15.209_RSE(3m)	Test Engineer	Justin Guo
Factor	VULB 9168_00998	Polarity	Horizontal
EUT	Giga Hub 2.0	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by Z-wave at 908.4MHz		

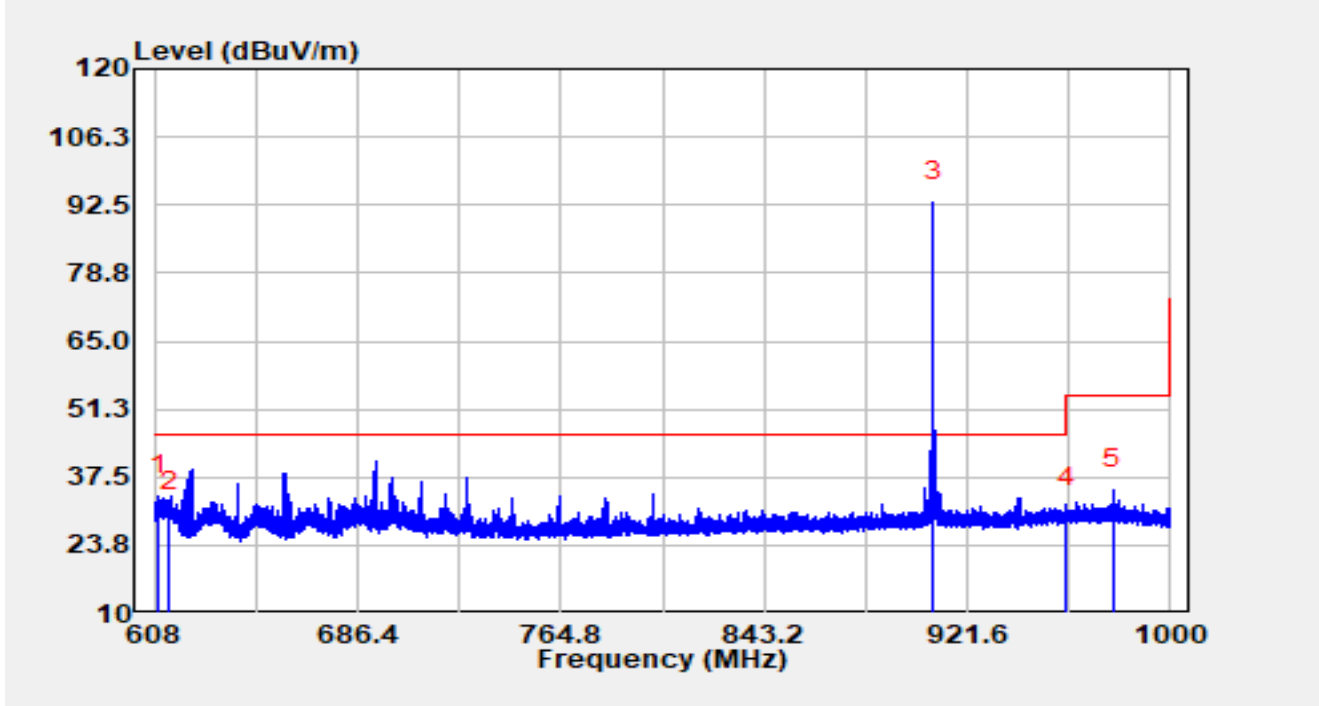


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		612.351	6.93	25.91	32.84	-13.16	46.00	Peak
2		614.000	4.00	25.80	29.80	-16.20	46.00	Peak
3		693.613	16.50	27.14	43.64	-2.36	46.00	QP
4		728.775	17.00	27.40	44.40	-1.60	46.00	QP
5		800.002	14.30	28.17	42.47	-3.53	46.00	QP
6	*	908.390	62.20	29.23	91.43	45.43	46.00	QP
7		960.000	2.26	30.26	32.52	-13.48	46.00	Peak
8		977.617	2.81	30.39	33.20	-20.80	54.00	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	SIP-AC1	Test Date	2025-05-12
Temperature	21.7 °C	Humidity	51.3 %
Limit	FCC_Part 15.209_RSE(3m)	Test Engineer	Justin Guo
Factor	VULB 9168_00998	Polarity	Vertical
EUT	Giga Hub 2.0	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by Z-wave at 908.4MHz		

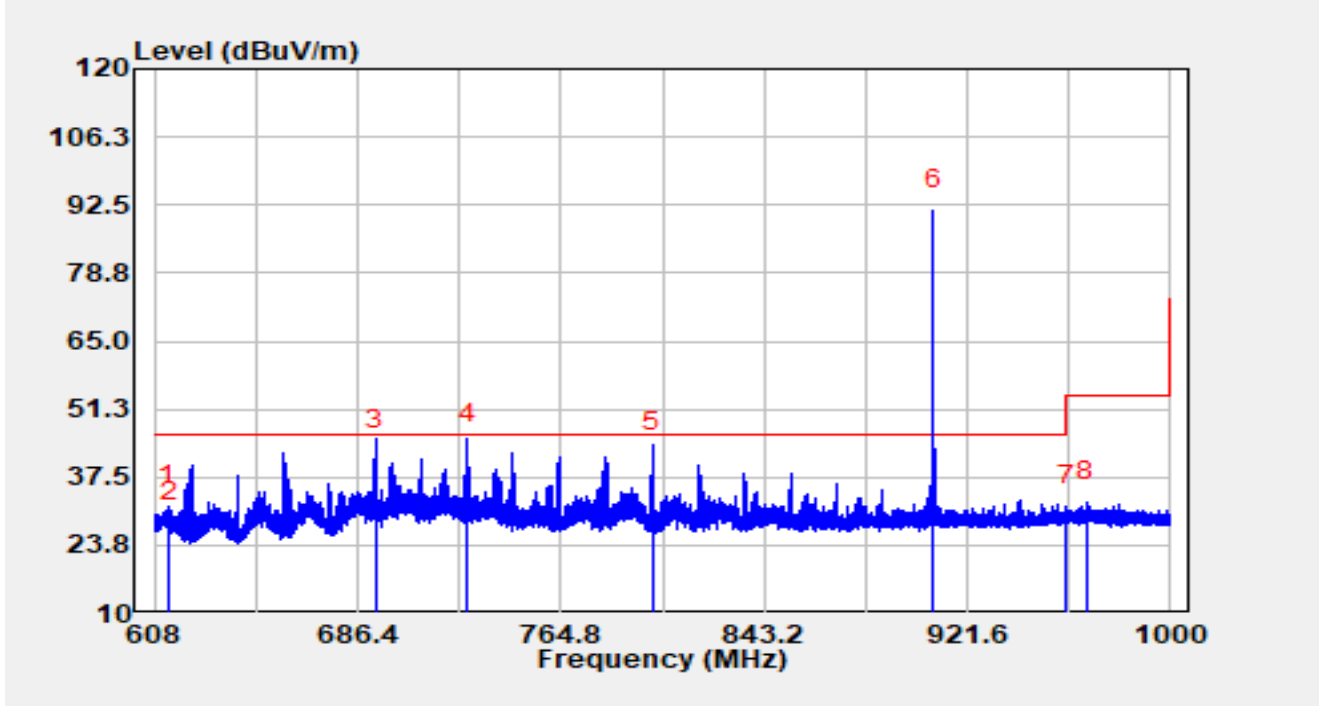


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		609.646	7.78	26.00	33.78	-12.22	46.00	Peak
2		614.000	4.58	25.80	30.38	-15.62	46.00	Peak
3	*	908.390	64.20	29.23	93.43	47.43	46.00	QP
4		960.000	1.04	30.26	31.30	-14.70	46.00	Peak
5		977.656	4.55	30.39	34.94	-19.06	54.00	Peak

Notes:

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

Site	SIP-AC1	Test Date	2025-05-12
Temperature	21.7 °C	Humidity	51.3 %
Limit	FCC_Part 15.209_RSE(3m)	Test Engineer	Justin Guo
Factor	VULB 9168_00998	Polarity	Horizontal
EUT	Giga Hub 2.0	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by Z-wave at 908.42MHz		

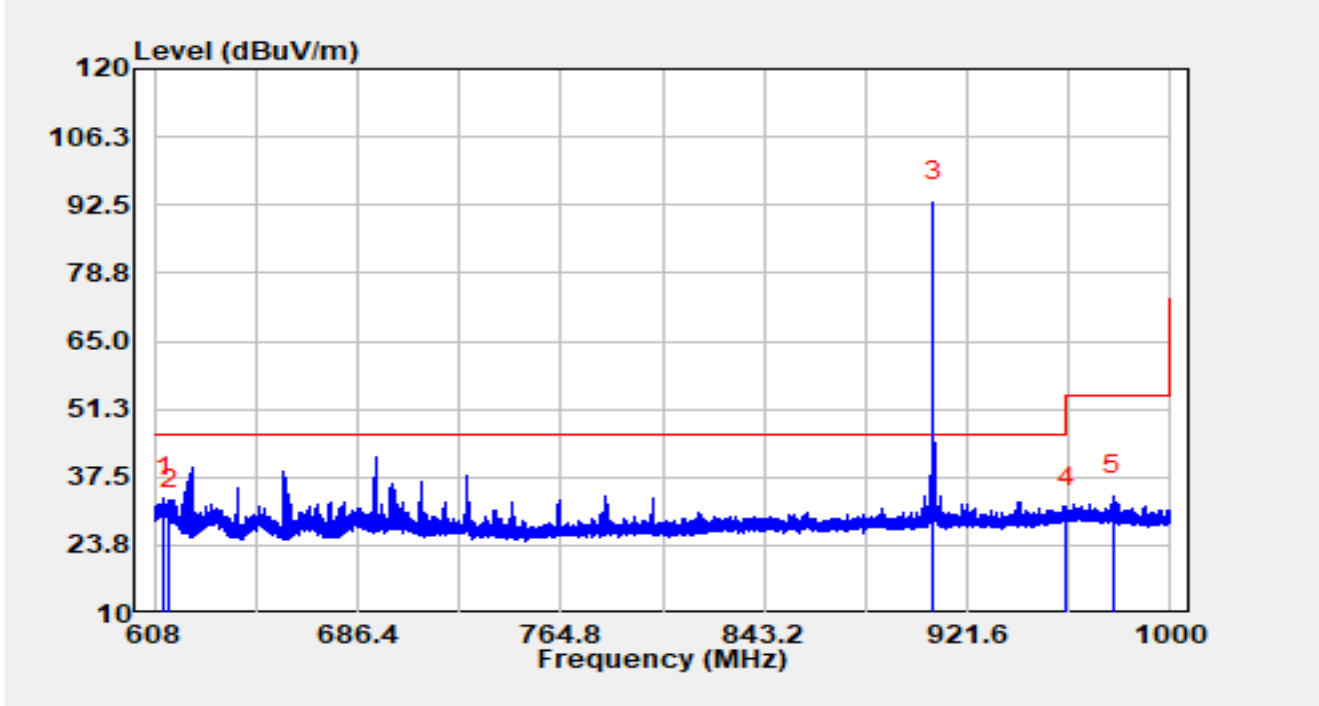


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		613.057	5.78	25.85	31.62	-14.38	46.00	Peak
2		614.000	2.77	25.80	28.57	-17.43	46.00	Peak
3		693.574	15.90	27.14	43.04	-2.96	46.00	QP
4		728.775	16.70	27.40	44.10	-1.90	46.00	QP
5		800.002	14.30	28.17	42.47	-3.53	46.00	QP
6	*	908.429	62.30	29.23	91.53	45.53	46.00	QP
7		960.000	1.34	30.26	31.60	-14.40	46.00	Peak
8		967.542	2.08	30.37	32.45	-21.55	54.00	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	SIP-AC1	Test Date	2025-05-12
Temperature	21.7 °C	Humidity	51.3 %
Limit	FCC_Part 15.209_RSE(3m)	Test Engineer	Justin Guo
Factor	VULB 9168_00998	Polarity	Vertical
EUT	Giga Hub 2.0	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by Z-wave at 908.42MHz		



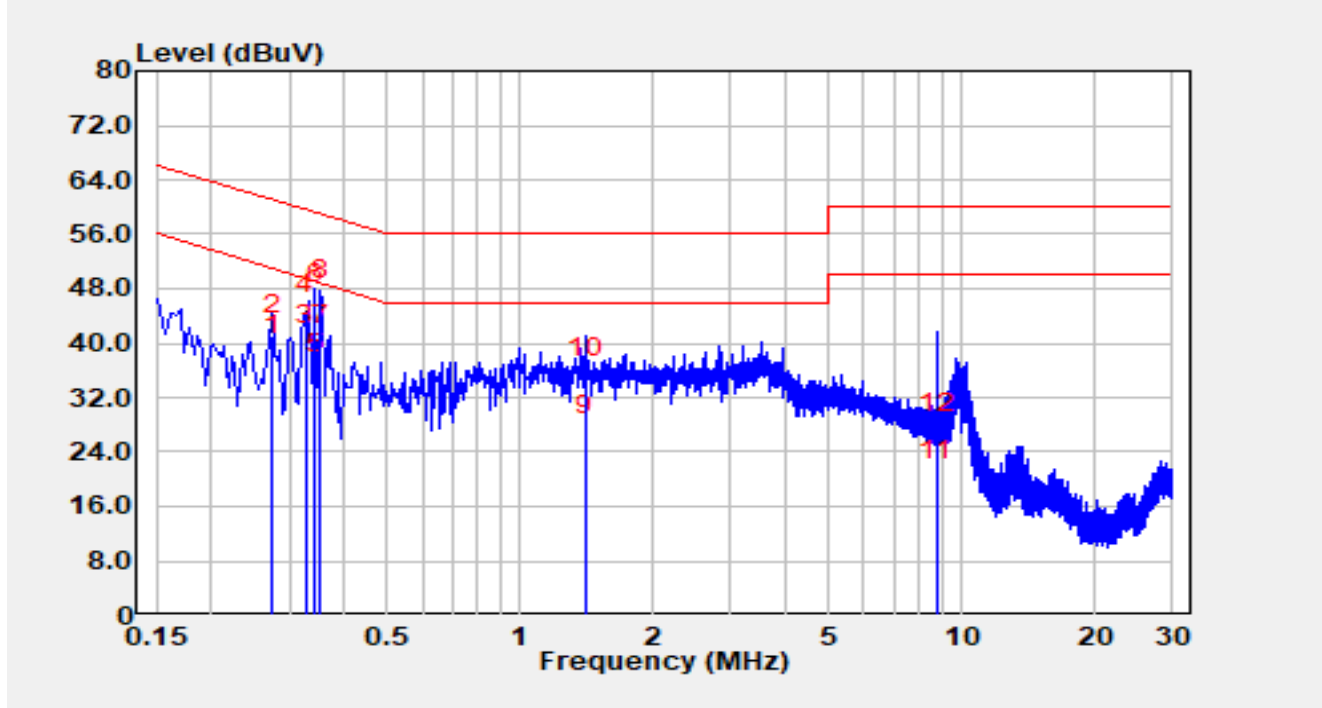
No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		611.763	7.41	25.94	33.36	-12.64	46.00	Peak
2		614.000	5.15	25.80	30.95	-15.05	46.00	Peak
3	*	908.429	64.00	29.23	93.23	47.23	46.00	QP
4		960.000	1.29	30.26	31.55	-14.45	46.00	Peak
5		977.578	3.42	30.39	33.82	-20.18	54.00	Peak

Notes:

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

A.4 AC Conducted Emissions Test Result

Site	SIP-SR2	Test Date	2025-04-18
Temperature	24.9 °C	Humidity	51.1 %
Limit	FCC Part 15.207_CE_Mains	Test Engineer	Henry Wang
Factor	ENV216_101684_C	Polarity	Line
EUT	Giga Hub 2.0	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by Z-wave at 916MHz		

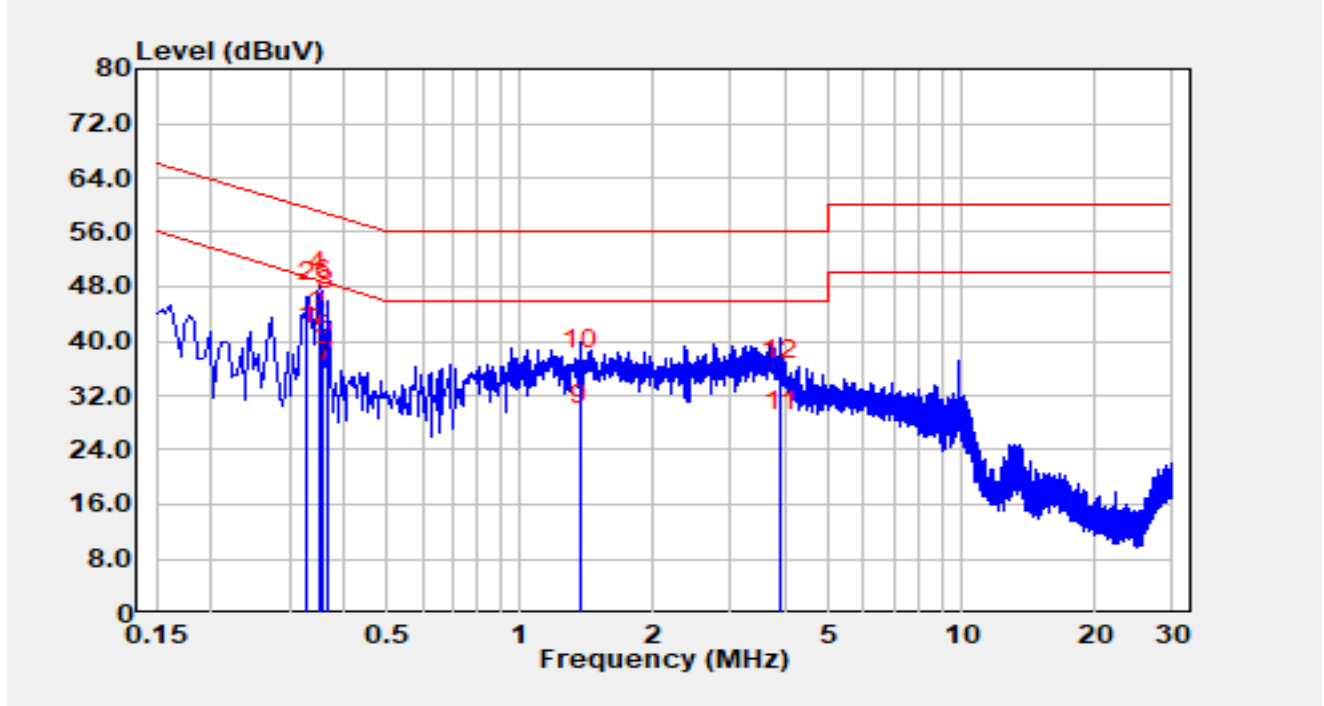


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB)	Measurement (dBμV)	Margin (dB)	Limit (dBμV)	Detector
1		0.274	28.61	9.72	38.33	-12.67	51.00	Average
2		0.274	31.49	9.72	41.21	-19.79	61.00	QP
3		0.326	30.03	9.74	39.77	-9.78	49.55	Average
4		0.326	34.55	9.74	44.29	-15.27	59.55	QP
5		0.342	25.66	9.74	35.40	-13.75	49.15	Average
6		0.342	36.08	9.74	45.82	-13.34	59.15	QP
7	*	0.354	29.83	9.73	39.56	-9.31	48.87	Average
8		0.354	36.72	9.73	46.46	-12.41	58.87	QP
9		1.402	16.68	9.76	26.44	-19.56	46.00	Average
10		1.402	25.19	9.76	34.95	-21.05	56.00	QP
11		8.761	9.91	10.00	19.91	-30.09	50.00	Average
12		8.761	16.75	10.00	26.74	-33.26	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 (dB μ V) = Reading (dB μ V) + C.F (dB).

Site	SIP-SR2	Test Date	2025-04-18
Temperature	24.9 °C	Humidity	51.1 %
Limit	FCC Part 15.207_CE_Mains	Test Engineer	Henry Wang
Factor	ENV216_101684_C	Polarity	Neutral
EUT	Giga Hub 2.0	Test Voltage	AC 120V/60Hz
Test Mode	Transmit by Z-wave at 916MHz		



No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB)	Measurement (dBμV)	Margin (dB)	Limit (dBμV)	Detector
1		0.330	29.60	9.76	39.36	-10.09	49.45	Average
2		0.330	36.03	9.76	45.79	-13.66	59.45	QP
3	*	0.350	31.56	9.75	41.31	-7.65	48.96	Average
4		0.350	37.35	9.75	47.10	-11.86	58.96	QP
5		0.358	28.14	9.75	37.89	-10.88	48.78	Average
6		0.358	36.38	9.75	46.13	-12.65	58.78	QP
7		0.366	24.22	9.75	33.97	-14.62	48.59	Average
8		0.366	34.68	9.75	44.43	-14.16	58.59	QP
9		1.362	17.99	9.76	27.75	-18.25	46.00	Average
10		1.362	25.96	9.76	35.72	-20.28	56.00	QP
11		3.890	16.91	9.86	26.77	-19.23	46.00	Average
12		3.890	24.36	9.86	34.22	-21.78	56.00	QP

Notes:

1. " * ", means this data is the worst emission level.
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 "R25S1048034-UT" file.

Appendix C - EUT Photograph

Refer to "R25S1048034-UE" file.