

TEST REPORT

Applicant: Montage Connect Inc.

Address: 300 Lenora St #848 Seattle, WA 98121, United States

Equipment Type: Montage Connect Gateway

Model Name: MG14

Brand Name: N/A

FCC ID: 2BLQ4-MG14-C

Test Standard: 47 CFR Part 15 Subpart B
ANSI C63.4-2014

Sample Arrival Date: Jul. 07, 2025

Test Date: Jul. 08, 2025

Date of Issue: Aug. 06, 2025

ISSUED BY:

Shanghai Tejet Communications Technology Co., Ltd. Testing Center



Prepared by: Tong Yingying

Tong Yingying

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Approved by: Zhang Yanqing
(Laboratory Manager)

Zhang Yanqing

Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Aug. 04, 2025</u>	<u>Initial Issue</u>
<u>Rev. 02</u>	<u>Aug. 06, 2025</u>	<u>Modify the FCC ID</u> <u>The original report is invalid.</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shanghai Tejet Communications Technology Co., Ltd. Testing Center
Address	1-2/F., Building 1, No.222, Xuanlan Road, Xuanqiao, Pudong New District, Shanghai, China

1.2 Test Location

Name	Shanghai Tejet Communications Technology Co., Ltd. Testing Center
Location	1-2/F., Building 1, No.222, Xuanlan Road, Xuanqiao, Pudong New District, Shanghai, China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1352.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Montage Connect Inc.
Address	300 Lenora St #848 Seattle, WA 98121 , United States

2.2 Manufacturer Information

Manufacturer	Montage Connect Inc.
Address	300 Lenora St #848 Seattle, WA 98121 , United States

2.3 General Description for Equipment under Test (EUT)

Equipment Type	Montage Connect Gateway
Model Name Under Test	MG14
Series Model Name	N/A
Description of Model Name Differentiation	N/A
Hardware Version	Rev C
Software Version	1.0.1
Dimensions (Approx.)	L:178.67mm; W:94.6mm; H:32.93mm
Weight (Approx.)	0.257kg

2.4 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	N/A
	Model No.	BPI 18650-1S2P
	Capacitance	5100 mAh, 18.87Wh
	Rated Voltage	3.7 V
	Limit Charge Voltage	4.2 V
	Manufacturer	Shenzhen BetterPowerBattery Co., Ltd.

2.5 Technical Information

Network and wireless connectivity	LTE-CAT M Band 2/4/5/12/13/17/25/66 BT 5.0, BLE 1M/2M GPS: L1
Classification of equipment	Class B
Highest frequency generated or used in the device or on which the device operates or tunes(MHz)	2483.5 MHz

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15 Subpart B	Unintentional Radiators
2	ANSI C63.4-2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

3.2 Verdict

No.	Description	FCC Rule	Test Verdict	Remark
1	Radiated Emission	15.109	Pass	--
2	Conducted Emission, AC Ports	15.107	Pass	--

3.3 Decision Rule

☐ No Need

☒ Use General conformity decision rule (Consider uncertainty or not ☒No ☐Yes)

☐ Use Special Conformity Decision Rule (Consider uncertainty or not ☐No ☐Yes)

3.4 Test Uncertainty

The following measurement 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.

Measurement	Value
Conducted emissions (150 kHz-30 MHz)-AMN	2.6 dB
Radiated emissions (30 MHz-1 GHz)-966#1	4.2 dB
Radiated emissions (1 GHz-18 GHz) -966#1	5.3 dB

4 GENERAL TEST CONFIGURATIONS

4.1 Test Enclosure List

Description	Manufacturer	Model	Serial No.	Length	Description	Use
DC Power Supply	ITECH	N/A	N/A	N/A	N/A	☒

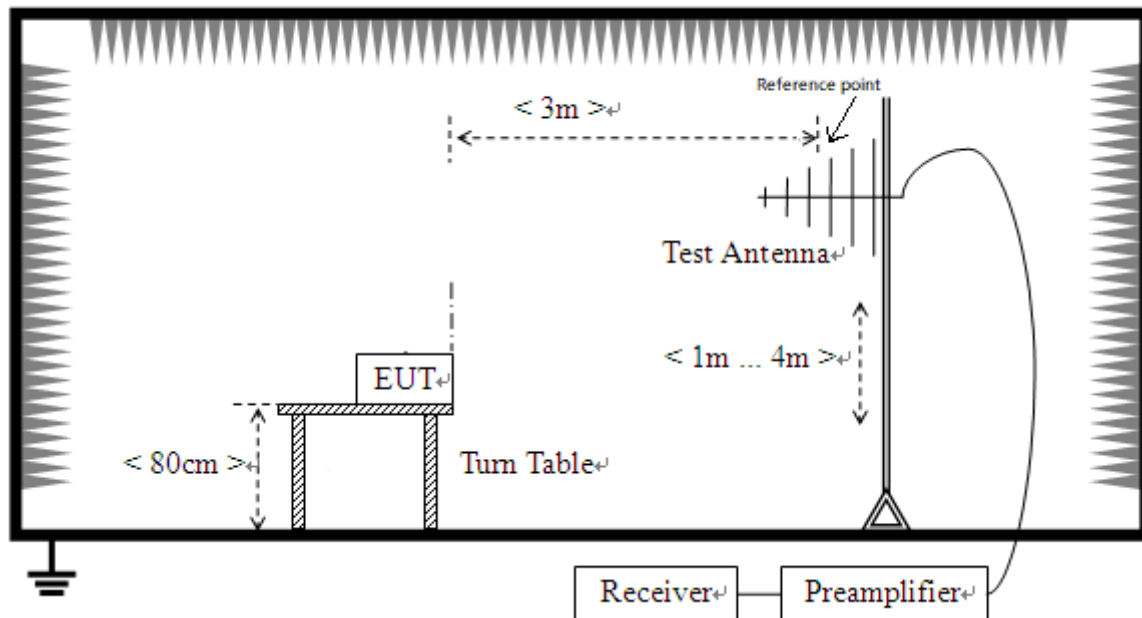
4.2 Test Configurations

All test modes of EUT are listed in the table below.

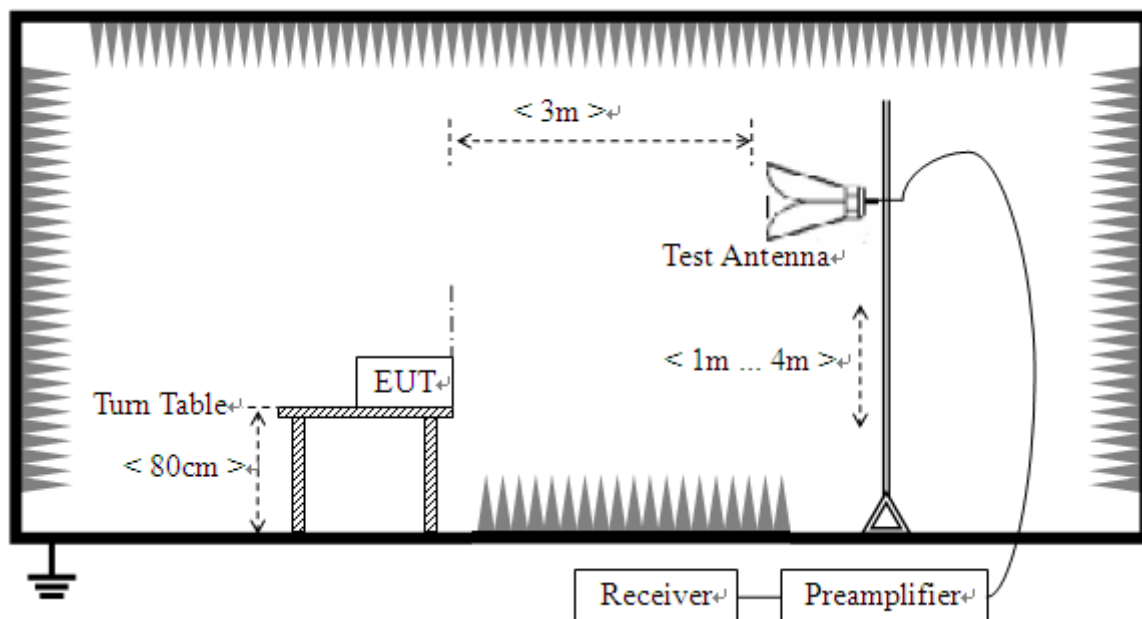
Test Mode Configuration	Description
Mode 1	<u>The Full System Test Mode</u> EUT + DC Power Supply + Battery

4.3 Test Setups

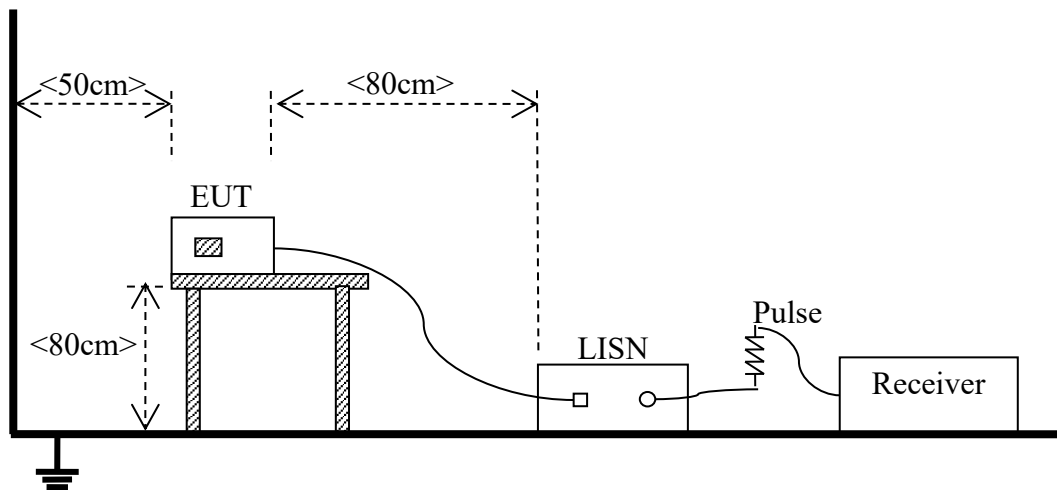
Test Setup 1



Radiated Emission (30 MHz-1 GHz)



Radiated Emission (above 1 GHz)

Test Setup 2

Conducted emission, AC ports

5 TEST ITEMS

5.1 Emission Tests

5.1.1 Radiated emission

5.1.1.1 Limit

Frequency range (MHz)	Class B (at 3 m)		Class A (at 3 m)
	Field Strength ($\mu\text{V/m}$)	Field Strength (dB $\mu\text{V/m}$)	Field Strength (dB $\mu\text{V/m}$)
30 - 88	100	40	49.5
88 - 216	150	43.5	54
216 - 960	200	46	56.9
Above 960	500	54	60

Note:

- 1) Field Strength (dB $\mu\text{V/m}$) = 20*log [Field Strength ($\mu\text{V/m}$)].
- 2) In the emission tables above, the tighter limit applies at the band edges.
- 3) The limits using ANSI C63.4-2014.
- 4) For 30-1000 MHz, the CISPR quasi-peak is employed.

For above 1000 MHz, according to the requirements of FCC 15.35, unless otherwise specified, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test.

Frequency range (GHz)	Class B (at 3 m)			Class A (at 3 m)	
	Field Strength ($\mu\text{V/m}$)	Field Strength Average (dB $\mu\text{V/m}$)	Field Strength Peak (dB $\mu\text{V/m}$)	Field Strength Average (dB $\mu\text{V/m}$)	Field Strength Peak (dB $\mu\text{V/m}$)
1 - F_M	500	54	74	60	80

Note 1: The highest measurement frequency, F_M , in GHz, shall be determined as next Table.

Note 2: Average Class A limit at 3m L_{3m} is determined by the following conversion formula:

$$L_{3m} = L_{10m} + 20 \cdot \log(d_{10m}/d_{3m})$$

Where:

L_{3m} is Average Class A limit at 3m;

L_{10m} is Average Class A limit at 10m;

d_{10m} is Measurement distance in 10m;

d_{3m} is Measurement distance in 3m.

For this case: $L_{3m} = 49.5 + 20 \cdot \log(10/3) = 60$ (dB $\mu\text{V/m}$).

Highest internal frequency (F_X)	Highest measurement frequency (F_M)
$F_X \leq 108 \text{ MHz}$	1 GHz
$108 \text{ MHz} \leq F_X \leq 500 \text{ MHz}$	2 GHz
$500 \text{ MHz} \leq F_X \leq 1 \text{ GHz}$	5 GHz
$F_X \geq 1 \text{ GHz}$	$5 * F_X$ or 40 GHz, whichever is lower.
Note: F_X is Highest frequency generated or used in the device or on which the device operates or tunes.	

5.1.1.2 Test setup

Please refer to 4.2 section description of test setup of test setup 1. The photo of test setup please refer to ANNEX B.

5.1.1.3 Test procedure

1. The test employing the methods of measurement described in the publication referenced in Section 3(b) (ANSI C63.4);
2. All Radiated Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.
3. An initial pre-scan was performed in the chamber using the EMI Receiver in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by Bi-Log antenna with 2 orthogonal polarities.
4. The measurement frequency range is from 30 MHz to the 5th harmonic of the maximum frequency of the EUT internal source. The Turn Table is actuated to turn from 0° to 360° , and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.
5. Use the following spectrum analyzer settings:
 Span = wide enough to fully capture the emission being measured
 RBW = 1 MHz for $f \geq 1 \text{ GHz}$, 100 kHz for $f < 1 \text{ GHz}$
 VBW $\geq$ RBW
 Sweep = auto
 Detector function = peak for $f < 1 \text{ GHz}$, peak & RMS Average for $f \geq 1 \text{ GHz}$
 Trace = max hold

5.1.1.4 Test result and test equipment list

Please refer to ANNEX A.1.

Note:

1. Results (dB μ V/m) = Reading (dB μ V/m) + Factor (dB/m)

The reading level is calculated by software which is not shown in the sheet

2. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Amplifier Gain (dB)
3. Margin = Limit – Results

5.1.2 Conducted emission

5.1.2.1 Limit

Frequency range (MHz)	Class A		Class B	
	Quasi-peak (dB μ V)	Average (dB μ V)	Quasi-peak (dB μ V)	Average (dB μ V)
0.15 - 0.50	79	66	66 to 56	56 to 46
0.50 - 5	73	60	56	46
5 - 30	73	60	60	50

Note:

- 1) The lower limit shall apply at the band edges.
- 2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50 MHz.
- 3) The limit using ANSI C63.4.

5.1.2.2 Test setup

Please refer to 4.2 section description of test setup of test setup 2. The photo of test setup please refer to ANNEX B.

5.1.2.3 Test procedure

1. The test employing the methods of measurement described in the publication referenced in Section 3(b) (ANSI C63.4);
2. The EUT is connected to the power mains through a LISN which provides 50 Ω /50 μ H of coupling impedance for the measuring instrument. The test frequency range is from 150 kHz to 30 MHz. The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; the emission levels that are more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed.
3. Use the following spectrum analyzer settings:
 RBW = 9 kHz
 VBW $\geq$ RBW
 Sweep = 10ms
 Detector function = Peak & Average
 Trace = max hold

5.1.2.4 Test result and test equipment list

Please refer to ANNEX A.2.

Note:

1. Results (dB μ V) = Reading (dB μ V) + Factor (dB)

The reading level is calculated by software which is not shown in the sheet

2. Factor = Insertion loss + Cable loss

3. Margin = Limit – Results

ANNEX A TEST RESULTS AND TEST EQUIPMENT LIST

A.1 Radiated emission

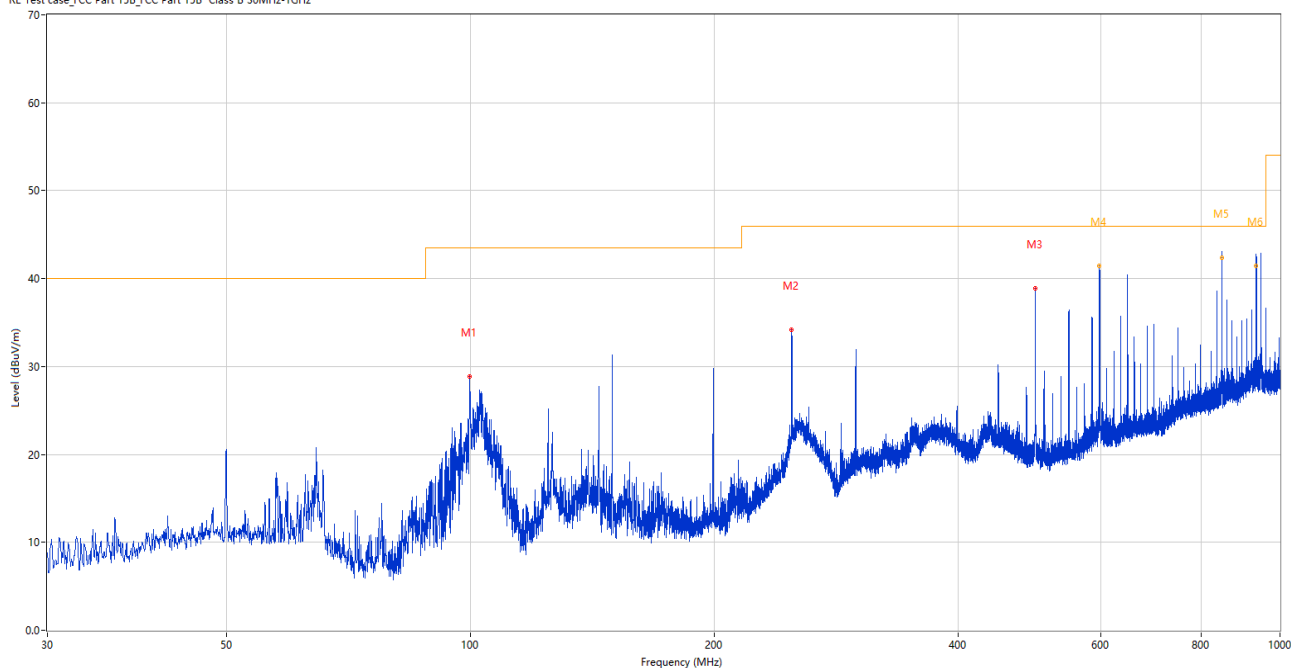
Note 1: Measurements shall be made with a quasi-peak measuring receiver in the frequency range 30 MHz to 1000 MHz. To reduce the testing time, a peak measuring receiver may be used instead of a quasi-peak measuring receiver. In case of dispute, measurement with a quasi-peak measuring receiver will take precedence.

Sample No.	SC-SH2570003-S04	Temperature	21.7°C
Humidity	51%RH	Test Voltage	DC 12V
Test Engineer	Tong Yingying	Test Date	2025.07.08

Test Mode 1

A.1.1 Test Antenna Vertical, 30 MHz – 1 GHz

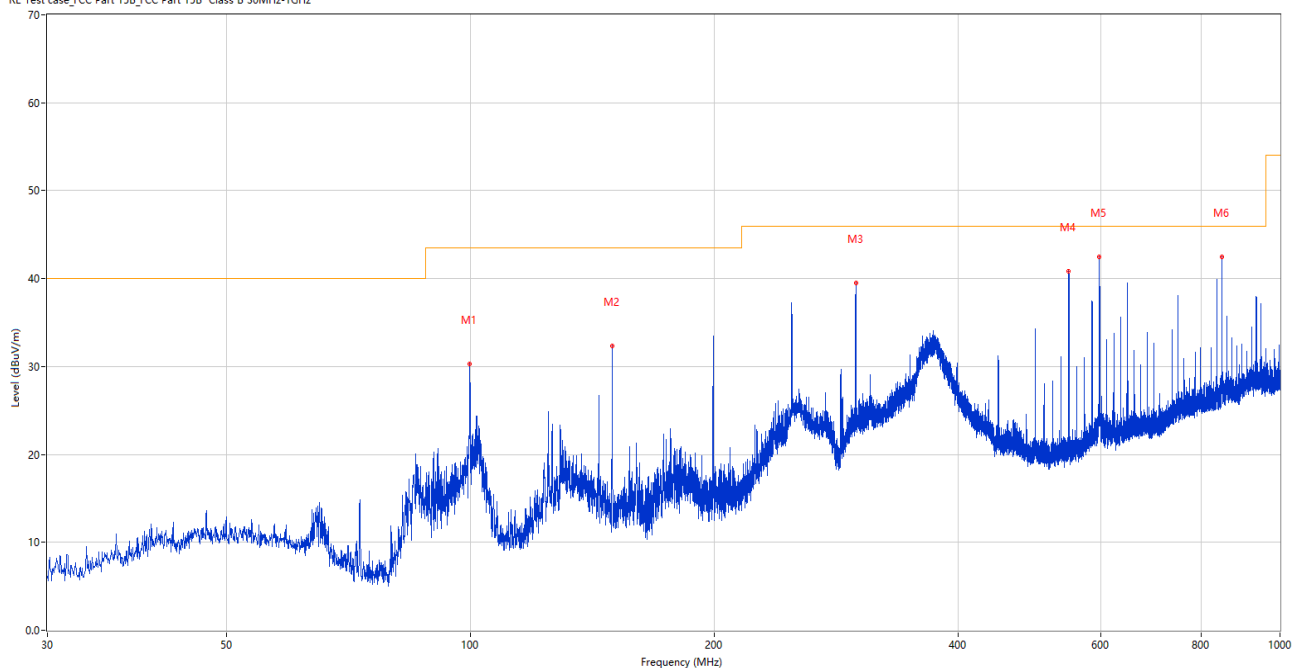
RE Test case FCC Part 15B FCC Part 15B Class B 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	99.646	28.86	-26.87	43.5	14.64	Peak	297.00	100	Vertical	Pass
2	249.317	34.23	-24.81	46.0	11.77	Peak	50.00	200	Vertical	Pass
3	498.655	38.88	-18.23	46.0	7.12	Peak	208.00	100	Vertical	Pass
4	598.365	42.83	-15.70	46.0	3.17	Peak	329.00	101	Vertical	N/A
4*	598.365	41.47	-15.70	46.0	4.53	QP	329.00	101	Vertical	Pass
5	847.611	44.68	-11.53	46.0	1.32	Peak	161.00	104	Vertical	N/A
5*	847.611	42.40	-11.53	46.0	3.60	QP	161.00	104	Vertical	Pass
6	934.835	43.47	-9.25	46.0	2.53	Peak	206.00	101	Vertical	N/A
6*	934.835	41.41	-9.25	46.0	4.59	QP	206.00	101	Vertical	Pass

A.1.2 Test Antenna Horizontal, 30 MHz – 1 GHz

RE Test case_FCC Part 15B_FCC Part 15B Class B 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	99.743	30.30	-26.86	43.5	13.20	Peak	72.00	200	Horizontal	Pass
2	149.601	32.32	-30.19	43.5	11.18	Peak	104.00	200	Horizontal	Pass
3	299.175	39.52	-23.74	46.0	6.48	Peak	161.00	100	Horizontal	Pass
4	548.465	40.84	-17.70	46.0	5.16	Peak	150.00	100	Horizontal	Pass
5	598.323	42.48	-15.70	46.0	3.52	Peak	119.00	100	Horizontal	Pass
6	847.613	42.49	-11.55	46.0	3.51	Peak	64.00	100	Horizontal	Pass

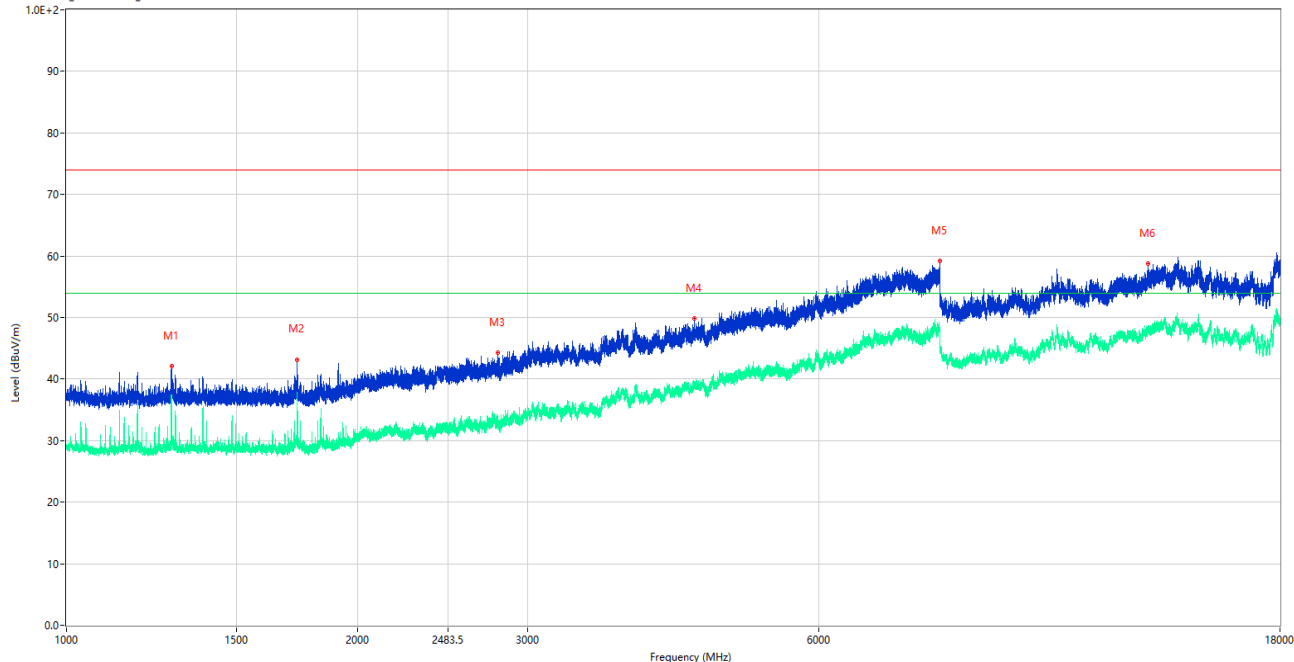
Equipment Information						
Equipment Name	Manufacturer	Model	Equipment No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9038A	BH-EMC-L127	2025.02.12	2026.02.11	☒
Test Antenna-Bi-Log	SCHWARZB ECK	VULB 9163	BH-EMC-L132	2024.03.11	2027.03.10	☒
Anechoic Chamber	YiHeng	9m*6m*6m	BH-EMC-L001	2024.04.18	2027.04.17	☒
Description	Manufacturer	Name	Version	/		Use
Test Software	BALUN	BL410-E	V21.919	/		☒

Sample No.	SC-SH2570003-S04	Temperature	21.7°C
Humidity	51%RH	Test Voltage	DC 12V
Test Engineer	Tong Yingying	Test Date	2025.07.08

Test Mode 1

A.1.3 Test Antenna Vertical, 1 GHz – 18 GHz

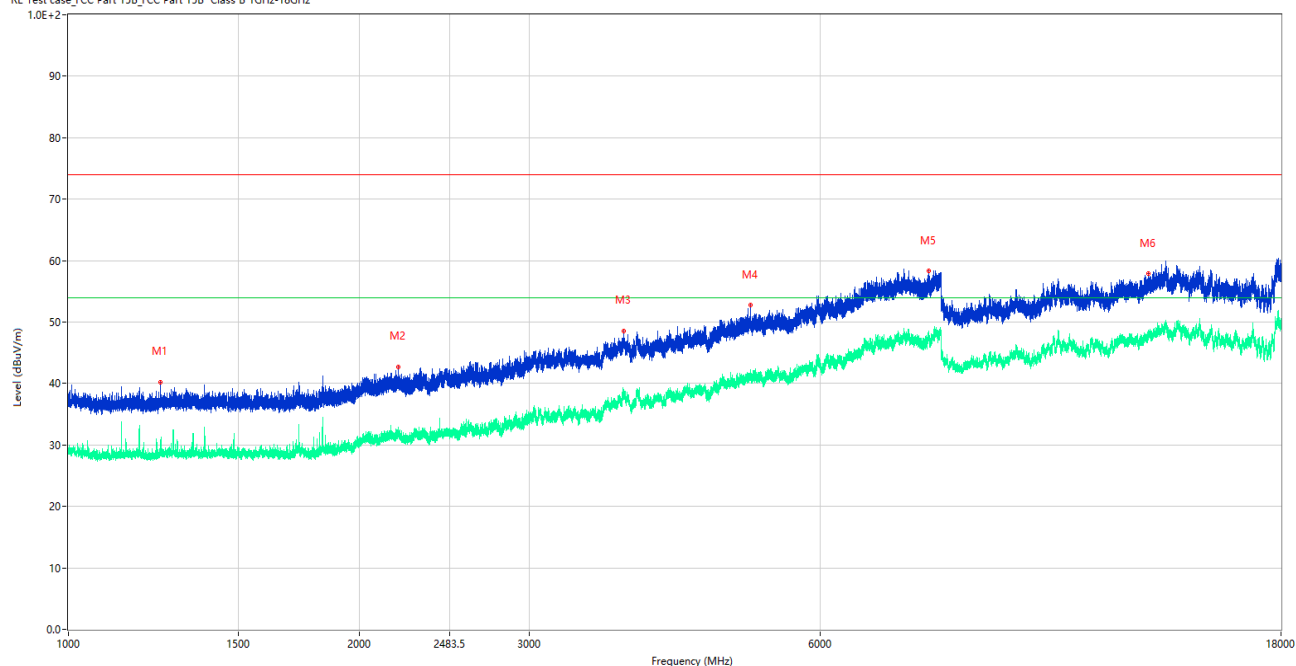
RE Test case FCC Part 15B_FCC Part 15B Class B 1GHz-18GHz
1.0E+2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1284.100	42.09	-16.01	74.0	31.91	Peak	137.00	100	Vertical	Pass
1**	1284.100	37.12	-16.01	54.0	16.88	AV	137.00	100	Vertical	Pass
2	1732.600	43.18	-15.92	74.0	30.82	Peak	47.00	100	Vertical	Pass
2**	1732.600	34.13	-15.92	54.0	19.87	AV	47.00	100	Vertical	Pass
3	2791.800	44.26	-9.45	74.0	29.74	Peak	204.00	100	Vertical	Pass
3**	2791.800	33.10	-9.45	54.0	20.90	AV	204.00	100	Vertical	Pass
4	4458.000	49.92	-2.29	74.0	24.08	Peak	160.00	100	Vertical	Pass
4**	4458.000	38.47	-2.29	54.0	15.53	AV	160.00	100	Vertical	Pass
5	8000.000	59.21	7.27	74.0	14.79	Peak	43.00	100	Vertical	Pass
5**	8000.000	47.63	7.27	54.0	6.37	AV	43.00	100	Vertical	Pass
6	13147.500	58.84	7.76	74.0	15.16	Peak	351.00	100	Vertical	Pass
6**	13147.500	47.52	7.76	54.0	6.48	AV	351.00	100	Vertical	Pass

A.1.4 Test Antenna Horizontal, 1 GHz – 18 GHz

RE Test case_FCC Part 15B_FCC Part 15B Class B 1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1246.300	40.21	-15.96	74.0	33.79	Peak	301.00	100	Horizontal	Pass
1**	1246.300	29.90	-15.96	54.0	24.10	AV	301.00	100	Horizontal	Pass
2	2196.400	42.73	-12.74	74.0	31.27	Peak	218.00	100	Horizontal	Pass
2**	2196.400	32.02	-12.74	54.0	21.98	AV	218.00	100	Horizontal	Pass
3	3759.500	48.59	-2.96	74.0	25.41	Peak	0.00	100	Horizontal	Pass
3**	3759.500	37.77	-2.96	54.0	16.23	AV	0.00	100	Horizontal	Pass
4	5087.500	52.74	-0.51	74.0	21.26	Peak	37.00	100	Horizontal	Pass
4**	5087.500	40.90	-0.51	54.0	13.10	AV	37.00	100	Horizontal	Pass
5	7779.000	58.27	6.35	74.0	15.73	Peak	162.00	100	Horizontal	Pass
5**	7779.000	46.97	6.35	54.0	7.03	AV	162.00	100	Horizontal	Pass
6	13116.000	57.94	7.86	74.0	16.06	Peak	338.00	100	Horizontal	Pass
6**	13116.000	47.82	7.86	54.0	6.18	AV	338.00	100	Horizontal	Pass

Equipment Information						
Equipment Name	Manufacturer	Model	Equipment No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9038A	BH-EMC-L127	2025.02.12	2026.02.11	☒
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	BH-EMC-L111	2024.03.11	2027.03.10	☒
Anechoic Chamber	YiHeng	9m*6m*6m	BH-EMC-L001	2024.04.18	2027.04.17	☒
Description	Manufacturer	Name	Version	/		Use
Test Software	BALUN	BL410-E	V19.618	/		☒

A.2 Conducted emission

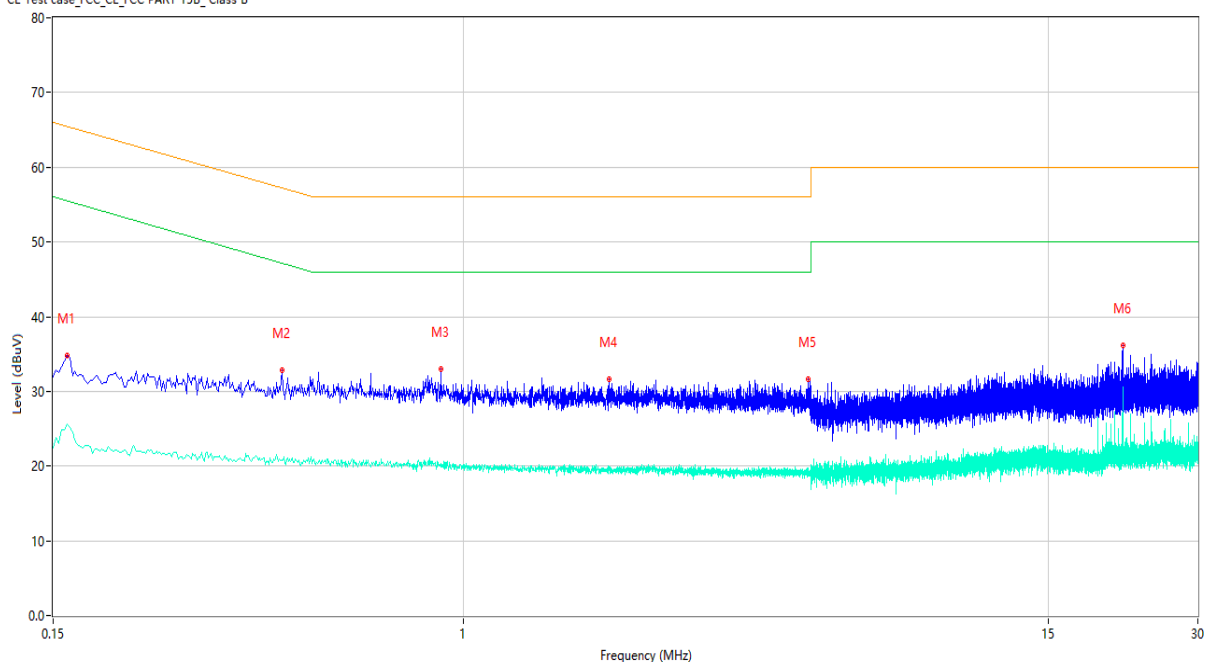
Note: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

Sample No.	SC-SH2570003-S04	Temperature	22.3°C
Humidity	47%RH	Test Voltage	AC 120V/60Hz
Test Engineer	Tong Yingying	Test Date	2025.07.08

Test Mode 1

A.2.1 AC ports - L Phase

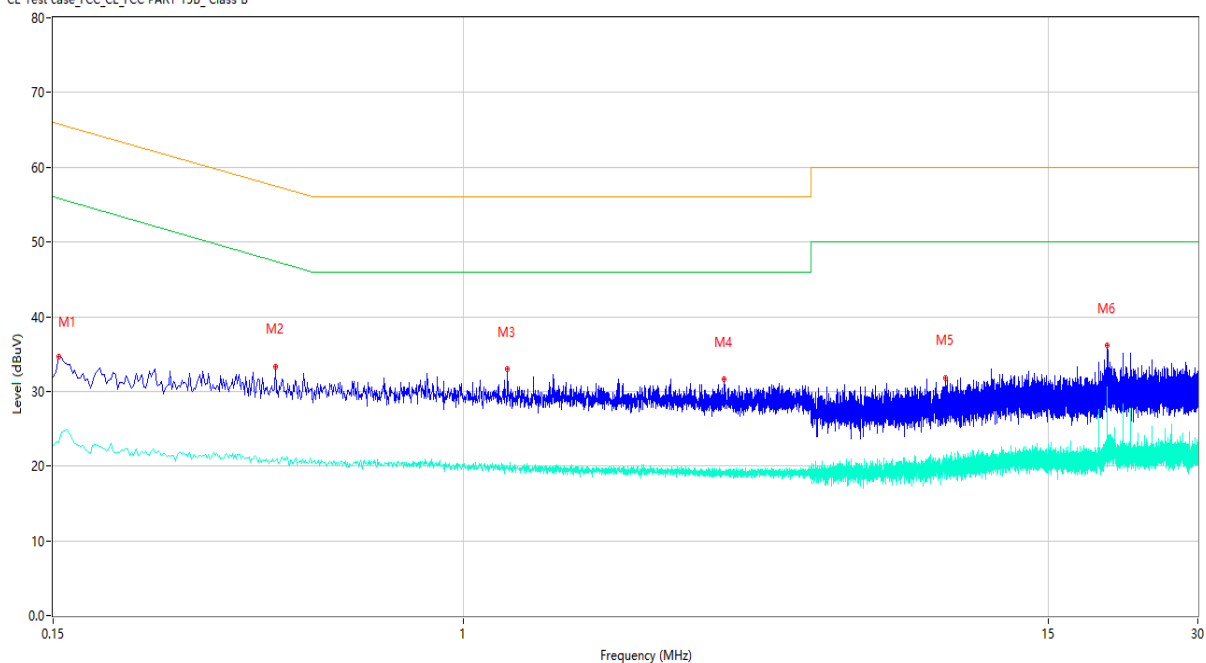
CE Test case_FCC_CE_FCC PART 15B_Class B



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.160	34.80	10.07	65.46	30.66	Peak	L	Pass
1**	0.160	25.60	10.07	55.46	29.86	AV	L	Pass
2	0.432	32.83	10.14	57.21	24.38	Peak	L	Pass
2**	0.432	20.78	10.14	47.21	26.43	AV	L	Pass
3	0.902	32.94	10.19	56.00	23.06	Peak	L	Pass
3**	0.902	20.35	10.19	46.00	25.65	AV	L	Pass
4	1.964	31.61	10.34	56.00	24.39	Peak	L	Pass
4**	1.964	19.94	10.34	46.00	26.06	AV	L	Pass
5	4.950	31.60	10.44	56.00	24.40	Peak	L	Pass
5**	4.950	19.29	10.44	46.00	26.71	AV	L	Pass
6	21.184	36.20	11.31	60.00	23.80	Peak	L	Pass
6**	21.184	30.56	11.31	50.00	19.44	AV	L	Pass

A.2.2 AC ports - N Phase

CE Test case_FCC_CE_FCC PART 15B_Class B



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.154	34.69	10.15	65.78	31.09	Peak	N	Pass
1**	0.154	23.27	10.15	55.78	32.51	AV	N	Pass
2	0.420	33.37	10.16	57.45	24.08	Peak	N	Pass
2**	0.420	20.84	10.16	47.45	26.61	AV	N	Pass
3	1.230	33.03	10.25	56.00	22.97	Peak	N	Pass
3**	1.230	19.83	10.25	46.00	26.17	AV	N	Pass
4	3.348	31.66	10.33	56.00	24.34	Peak	N	Pass
4**	3.348	19.25	10.33	46.00	26.75	AV	N	Pass
5	9.334	31.84	10.87	60.00	28.16	Peak	N	Pass
5**	9.334	20.53	10.87	50.00	29.47	AV	N	Pass
6	19.698	36.15	11.37	60.00	23.85	Peak	N	Pass
6**	19.698	28.01	11.37	50.00	21.99	AV	N	Pass

Equipment Information						
Equipment Name	Manufacturer	Model	Equipment No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9038A	TJEMC144	2025.02.11	2026.02.10	☒
LISN	SCHWARZBECK	NSLK 8127	BH-EMC-L011	2025.02.11	2026.02.10	☒
10dB Limiter	SCHWARZBECK	VTSD 9561-F	BH-EMC-L014	2025.02.11	2026.02.10	☒
Shielded Room	YiHeng	4.1m*4.0m*3.2m	BH-EMC-L006	2024.02.22	2027.02.21	☒
Description	Manufacturer	Name	Version	/		Use
Test Software	BALUN	BL410-E	V21.919	/		☒

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SH2570716-AE.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SH2570716-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SH2570716-AI.PDF”.

Statement

1. The Testing Center guarantees the scientificity, accuracy and impartiality of the test, and is responsible for all the information in the report, except the information provided by the customer. The customer is responsible for the impact of the information provided on the validity of the results.
2. For the report with Accreditation Symbol, the items marked with "☆" are not within the accredited scope.
3. This report is invalid if it is altered, without the signature of the testing and approval personnel, or without the test report stamp.
4. The test data and results are only valid for the tested samples provided by the customer.
5. This report shall not be partially reproduced without the written permission of the Testing Center.
6. Any objection shall be raised to the Testing Center within 30 days after receiving the report.

--END OF REPORT--