RF Test Report

For

Applicant Name:	**Kinematic GNSS Inc**
Address:	Room 206, Building 2, Lane 666, Zhangheng Road, Pudong District, Shanghai, China
EUT Name:	GNSS Receiver
Brand Name:	Kinematic
Model Number:	K1
Series Model Number:	N/A
FCC ID:	2BQJ7-K1

Issued By

Company name:	**BTF Testing Lab (Shenzhen) Co., Ltd.**
Address:	101/201/301, Building 1, Block 2, Tantou Industrial Park,Tantou Community, Songgang Subdistrict, Bao'an District, Shenzhen, China
Report number:	BTF250626R00902
Test standards:	FCC CFR Title 47 Part 15 Subpart C (§15.247)
Test conclusion:	Pass
Date of sample receipt:	2025-01-03
Test date:	2025-01-03 to 2025-04-25
Date of issue:	2025-07-01

Prepared by: Chris Liu

Chris Liu/ Project engineer

Approved by: Ryan CJ /EMC manager

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Revision History		
Version	Issue Date	Revisions Content
R_V0	2025-07-01	Original
Note: Once the revision has been made, then previous versions reports are invalid.		

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Table of Contents

1 INTRODUCTION 5
1.1 Laboratory Location 5
1.2 Laboratory Facility 5
1.3 Announcement 5
2 PRODUCT INFORMATION 6
2.1 Application Information 6
2.2 Manufacturer Information 6
2.3 Factory Information 6
2.4 General Description of Equipment under Test (EUT) 6
2.5 Technical Information 6
3 SUMMARY OF TEST RESULTS 8
3.1 Test Standards 8
3.2 Uncertainty of Test 8
3.3 Summary of Test Result 8
4 TEST CONFIGURATION 9
4.1 Test Equipment List 9
4.2 Test Auxiliary Equipment 10
4.3 Test Modes 10
4.4 Test software 10
4.5 Test Setup Block 10
5 EVALUATION RESULTS (EVALUATION) 12
5.1 Antenna requirement 12
5.1.1 Conclusion: 12
6 RADIO SPECTRUM MATTER TEST RESULTS (RF) 13
6.1 Conducted Emission at AC power line 13
6.1.1 E.U.T. Operation: 13
6.1.2 Test Setup 13
6.1.3 Test Data: 14
6.2 Occupied Bandwidth 16
6.2.1 E.U.T. Operation: 16
6.2.2 Test Setup 16
6.2.3 Test Data: 16
6.3 Maximum Conducted Output Power 17
6.3.1 E.U.T. Operation: 17
6.3.2 Test Setup 17
6.3.3 Test Data: 17
6.4 Power Spectral Density 18
6.4.1 E.U.T. Operation: 18
6.4.2 Test Setup 18
6.4.3 Test Data: 18
6.5 Emissions in non-restricted frequency bands 19
6.5.1 E.U.T. Operation: 19
6.5.2 Test Setup 19
6.5.3 Test Data: 19
6.6 Band edge emissions (Radiated) 20
6.6.1 E.U.T. Operation: 20
6.6.2 Test Setup 21

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6.6.3 Test Data: 21
6.7 Emissions in restricted frequency bands (below 1GHz) 22
6.7.1 E.U.T. Operation: 22
6.7.2 Test Setup 23
6.7.3 Test Data: 23
6.8 Emissions in restricted frequency bands (above 1GHz) 25
6.8.1 E.U.T. Operation: 25
6.8.2 Test Setup 26
6.8.3 Test Data: 26
7 TEST SETUP PHOTOS 27
8 EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS) 27

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1 Introduction

1.1 Laboratory Location

Test location:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	101/201/301, Building 1, Block 2, Tantou Industrial Park,Tantou Community, Songgang Subdistrict, Bao'an District, Shenzhen, China
Phone number:	+86-0755-23146130
Fax number:	+86-0755-23146130

1.2 Laboratory Facility

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

- **FCC - Designation No.: CN1409**

  BTF Testing Lab (Shenzhen) Co., Ltd. has been accredited as a testing laboratory by FCC (Federal Communications Commission). The test firm Registration No. is 695374.

- **CNAS - Registration No.: CNAS L17568**

  BTF Testing Lab (Shenzhen) Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L17568.

- **A2LA - Registration No.: 6660.01**

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1.3 Announcement

(1) The test report reference to the report template version v0.
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(3) The test report is invalid if there is any evidence and/or falsification.
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2 Product Information

2.1 Application Information

Company Name:	Kinematic GNSS Inc
Address:	Room 206, Building 2, Lane 666, Zhangheng Road, Pudong District, Shanghai, China

2.2 Manufacturer Information

Company Name:	Kinematic GNSS Inc
Address:	Room 206, Building 2, Lane 666, Zhangheng Road, Pudong District, Shanghai, China

2.3 Factory Information

Company Name:	Kinematic GNSS Inc
Address:	Room 206, Building 2, Lane 666, Zhangheng Road, Pudong District, Shanghai, China

2.4 General Description of Equipment under Test (EUT)

EUT name	GNSS Receiver
Under test model name	K1
Series model name	N/A
Description of model name differentiation	N/A
Hardware Version	V1.23
Software Version	2.0.99
Rating:	Input Voltage 5VDC

2.5 Technical Information

Operation frequency:	2402MHz ~ 2480MHz
Channel numbers:	40
Channel separation:	2MHz
Modulation technology:	GFSK
Data rate:	1 Mbps (LE 1M PHY)
Max. Conducted Power:	-3.71 dBm (GFSK)
Antenna type:	Internal Antenna
Antenna gain:	1.25 dBi (declare by Applicant)
Antenna transmit mode:	SISO (1TX, 1RX)

Channel List:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	10	2422MHz	20	2442MHz	30	2462MHz
1	2404MHz	11	2424MHz	21	2444MHz	31	2464MHz
…	…	…	…	…	…	…	…
8	2418MHz	18	2438MHz	28	2458MHz	38	2478MHz
9	2420MHz	19	2440MHz	29	2460MHz	39	2480MHz

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Remark: Channel 0, 19 & 39 have been tested.

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3 Summary of Test Results

3.1 Test Standards

Identity	Document Title
FCC CFR Title 47 Part 15 Subpart C (§15.247)	Intentional Radiators - Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.
ANSI C63.10-2020	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 558074 D01 15.247 Meas Guidance v05r02	Guidance for Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating Under Section 15.247 of The FCC Rules

3.2 Uncertainty of Test

Measurement	Value
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±1.5 dB
Power Spectral Density, conducted	±3.0 dB
Unwanted Emissions, conducted	±3.0 dB
Supply voltages	±3 %
Time	±5 %
Conducted Emission for LISN (9kHz ~ 150kHz)	±2.97 dB
Conducted Emission for LISN (150kHz ~ 30MHz)	±2.45 dB
Radiated Emission (30MHz ~ 1000MHz)	±4.80 dB
Radiated Emission (1GHz ~ 18GHz)	±4.82 dB
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.	

3.3 Summary of Test Result

Item	Standard	Requirement	Result
Antenna requirement	47 CFR Part 15.247	Part 15.203	Pass
Conducted Emission at AC power line	47 CFR Part 15.247	47 CFR 15.207(a)	N/A
Occupied Bandwidth	47 CFR Part 15.247	47 CFR 15.247(a)(2)	Pass
Maximum Conducted Output Power	47 CFR Part 15.247	47 CFR 15.247(b)(3)	Pass
Power Spectral Density	47 CFR Part 15.247	47 CFR 15.247(e)	Pass
Emissions in non-restricted frequency bands	47 CFR Part 15.247	47 CFR 15.247(d)	Pass
Band edge emissions (Radiated)	47 CFR Part 15.247	47 CFR 15.247(d)	Pass
Emissions in restricted frequency bands (below 1GHz)	47 CFR Part 15.247	47 CFR 15.247(d)	Pass
Emissions in restricted frequency bands (above 1GHz)	47 CFR Part 15.247	47 CFR 15.247(d)	Pass

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4 Test Configuration

4.1 Test Equipment List

Radiated test method					
Test Equipment	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
EMI Receiver	Rohde &Schwarz	ESCI7	101032	2024/10/25	2025/10/24
Signal Analyzer	Rohde & Schwarz	FSQ40	100010	2024/10/25	2025/10/24
Log periodic antenna	Schwarzbeck	VULB 9168	01328	2024/10/28	2025/10/27
Preamplifier (30MHz ~ 1GHz)	Schwarzbeck	BBV9744	00246	2024/09/24	2025/09/23
Horn Antenna (1GHz ~18GHz)	Schwarzbeck	BBHA9120D	2597	2024/10/30	2025/10/29
Horn Antenna (15GHz ~ 40GHz)	SCHWARZBECK	BBHA9170	1157	2024/10/24	2025/10/23
Preamplifier (1GHz ~ 40GHz)	TST Pass	LNA10180G45	246	2024/09/24	2025/09/23
Test Software	Frad	EZ_EMC	Version: FA-03A2 RE+		

Conducted test method					
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	Keysight	N9020A	MY50410020	2024/10/25	2025/10/24
ESG Vector Signal Generator	Agilent	E4438C	MY45094854	2024/10/25	2025/10/24
MXG Vector Signal Generator	Agilent	N5182A	MY46240163	2024/10/25	2025/10/24
Wideband Radio Communication Tester	Rohde&Schwarz	CMW500	161997	2024/10/25	2025/10/24
Temperature Humidity Chamber	ZZCKONG	ZZ-K02A	20210928007	2024/10/25	2025/10/24
DC Power Supply	Tongmen	etm-6050c	20211026123	2024/10/25	2025/10/24
RF Control Unit	Techy	TR1029-1	/	2024/10/25	2025/10/24
RF Sensor Unit	Techy	TR1029-2	/	2024/10/25	2025/10/24
Test Software	TST Pass	/	Version: 2.0		

Conducted Emission Test					
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
EMI Receiver	Rohde & Schwarz	ESCI3	101422	2024/10/25	2025/10/24
V-LISN	Schwarzbeck	NSLK 8127	01073	2024/10/25	2025/10/24
Coaxial Switcher	Schwarzbeck	CX210	CX210	2024/10/25	2025/10/24
Pulse Limiter	Schwarzbeck	VTSD 9561-F	00953	2024/10/25	2025/10/24
Test Software	Frad	EZ_EMC	Version: EMC-CON 3A1.1+		

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4.2 Test Auxiliary Equipment

No.	Description	Manufacturer	Model	Serial Number	Certification
1	Adapter	Apple	A2244	N/A	N/A
2	Load	Yuebuzhe	YBZ	N/A	N/A

4.3 Test Modes

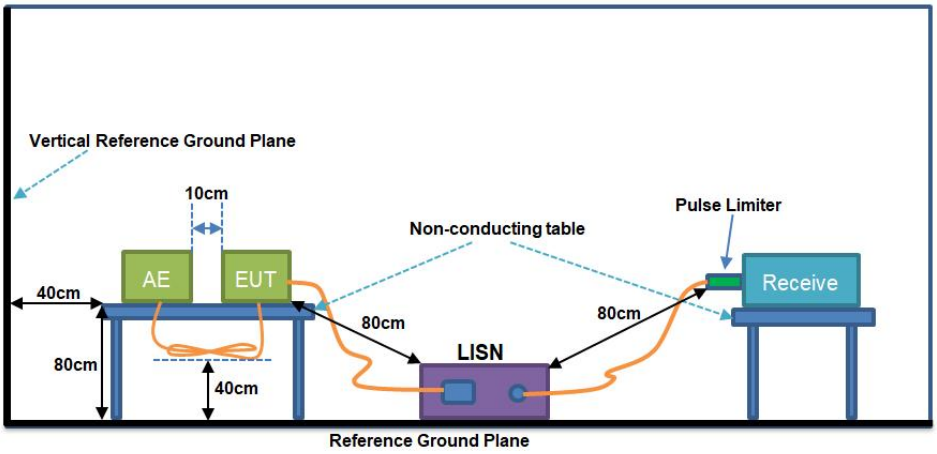
No.	Test Modes	Description
TM1	TX mode	Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

4.4 Test software

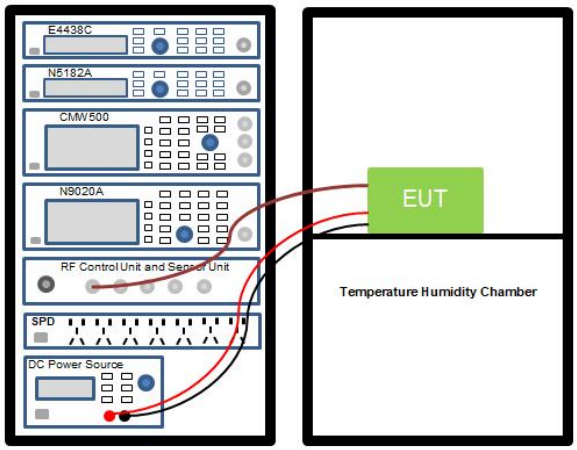
Test software:	**EspRFTestTool**	Version:	**v3.6**
Power Class:	**7**		

4.5 Test Setup Block

1) Conducted emission measurement:

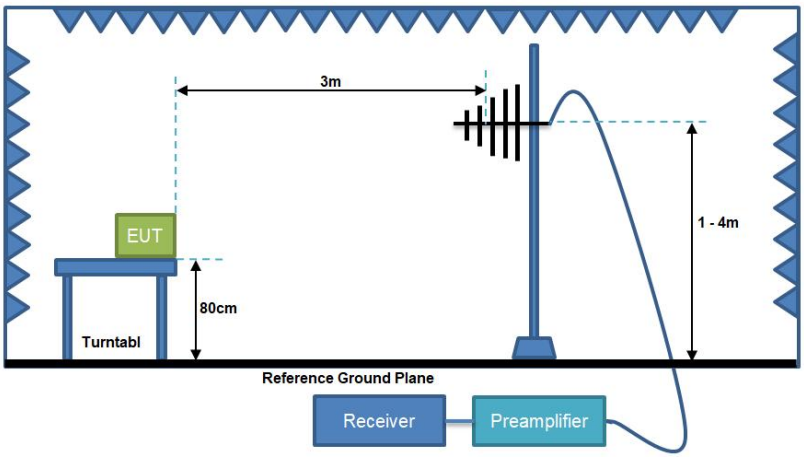


2) Conducted test method:

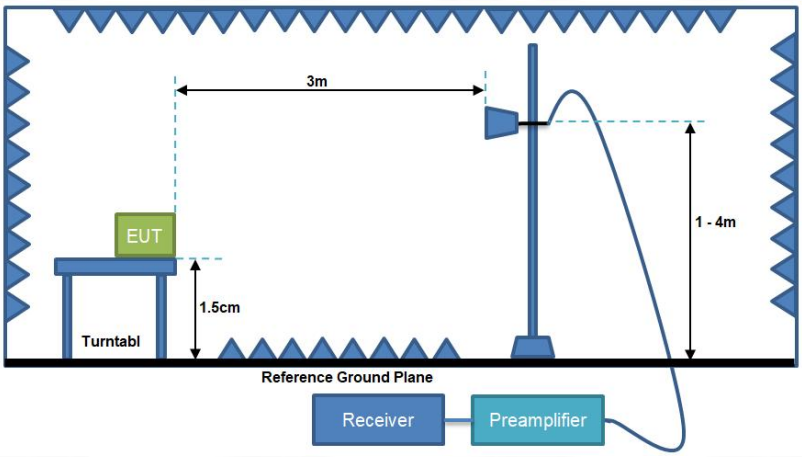


3) Radiated test method:

Below 1GHz



Above 1GHz

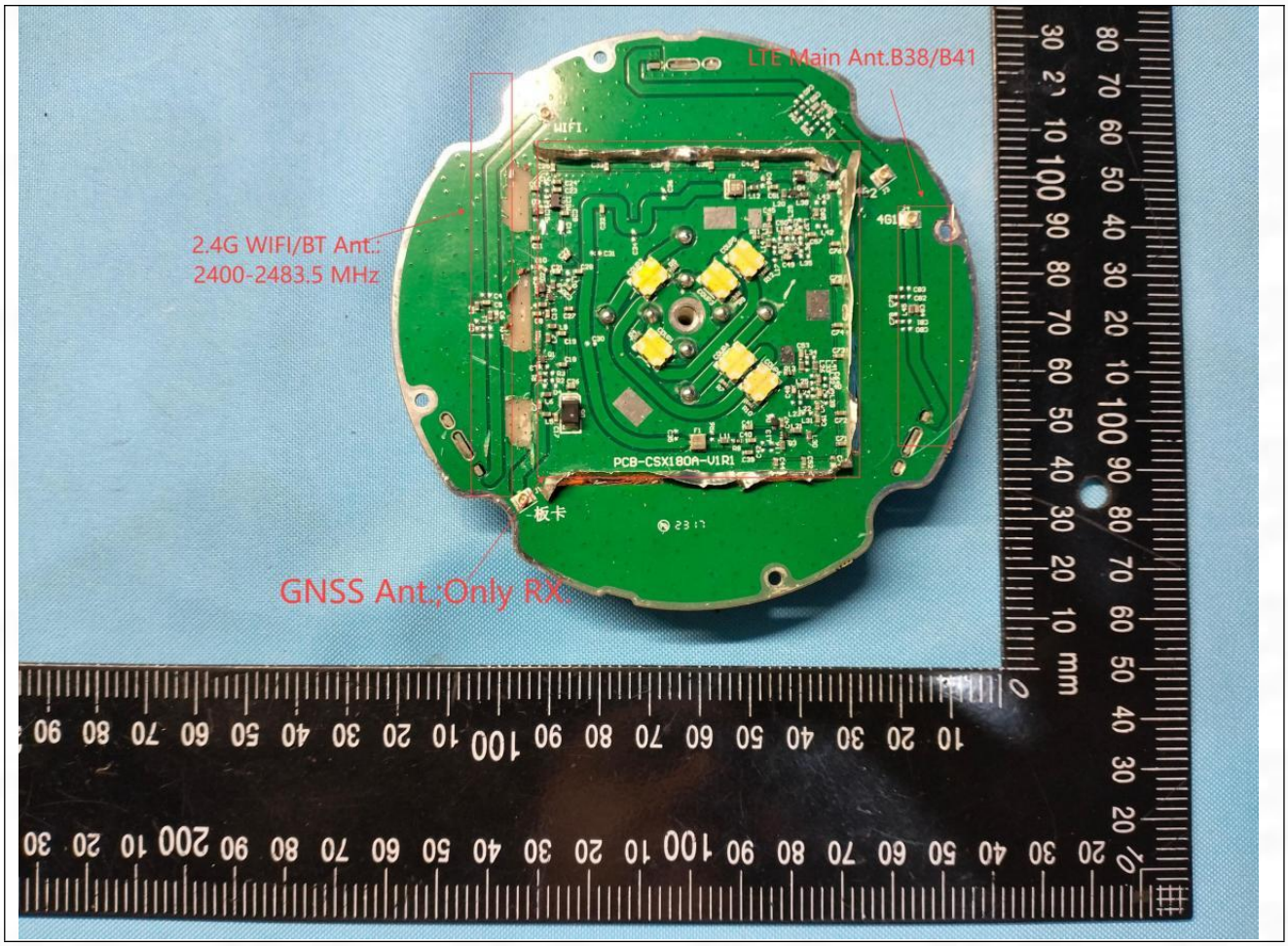


5 Evaluation Results (Evaluation)

5.1 Antenna requirement

Test Requirement:	An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

5.1.1 Conclusion:



6 Radio Spectrum Matter Test Results (RF)

6.1 Conducted Emission at AC power line

Test Requirement:	Except as shown in paragraphs (b)and (c)of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN).
Test Method:	Refer to ANSI C63.10-2020 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices
Test Limit:	

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

6.1.1 E.U.T. Operation:

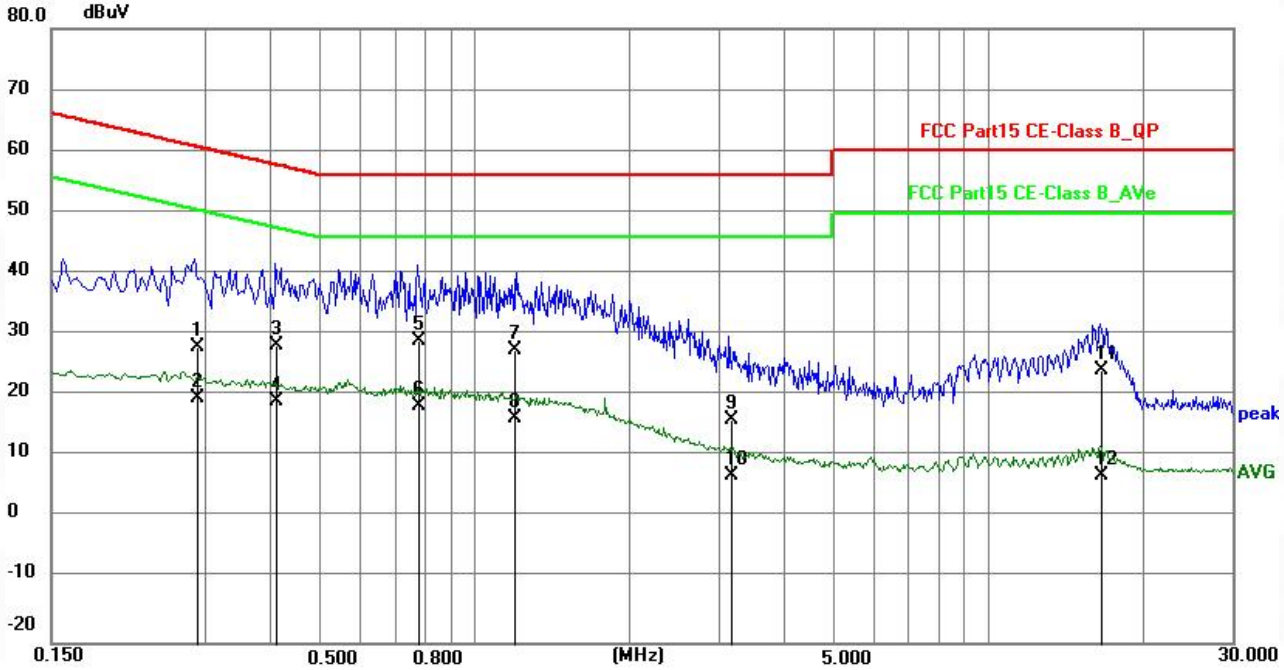
Operating Environment:	
Temperature:	23 °C
Humidity:	52 %
Atmospheric Pressure:	1010 hpa
Test Voltage	AC 120V

6.1.2 Test Setup

See section 4.5 for test setup description. The photo of test setup please refer to Appendix I Test Setup Photos

6.1.3 Test Data:

Temperature:	19.5℃	Relative Humidity:	38%
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode:	BT LINK		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2880	18.19	10.08	28.27	60.58	-32.31	QP
2	0.2880	9.72	10.08	19.80	50.58	-30.78	AVG
3	0.4120	18.53	10.06	28.59	57.61	-29.02	QP
4	0.4120	9.25	10.06	19.31	47.61	-28.30	AVG
5	0.7780	19.43	9.94	29.37	56.00	-26.63	QP
6	0.7780	8.74	9.94	18.68	46.00	-27.32	AVG
7	1.2030	17.84	9.95	27.79	56.00	-28.21	QP
8	1.2030	6.80	9.95	16.75	46.00	-29.25	AVG
9	3.1570	6.31	10.00	16.31	56.00	-39.69	QP
10	3.1570	-2.77	10.00	7.23	46.00	-38.77	AVG
11	16.6380	13.76	10.73	24.49	60.00	-35.51	QP
12	16.6380	-3.47	10.73	7.26	50.00	-42.74	AVG

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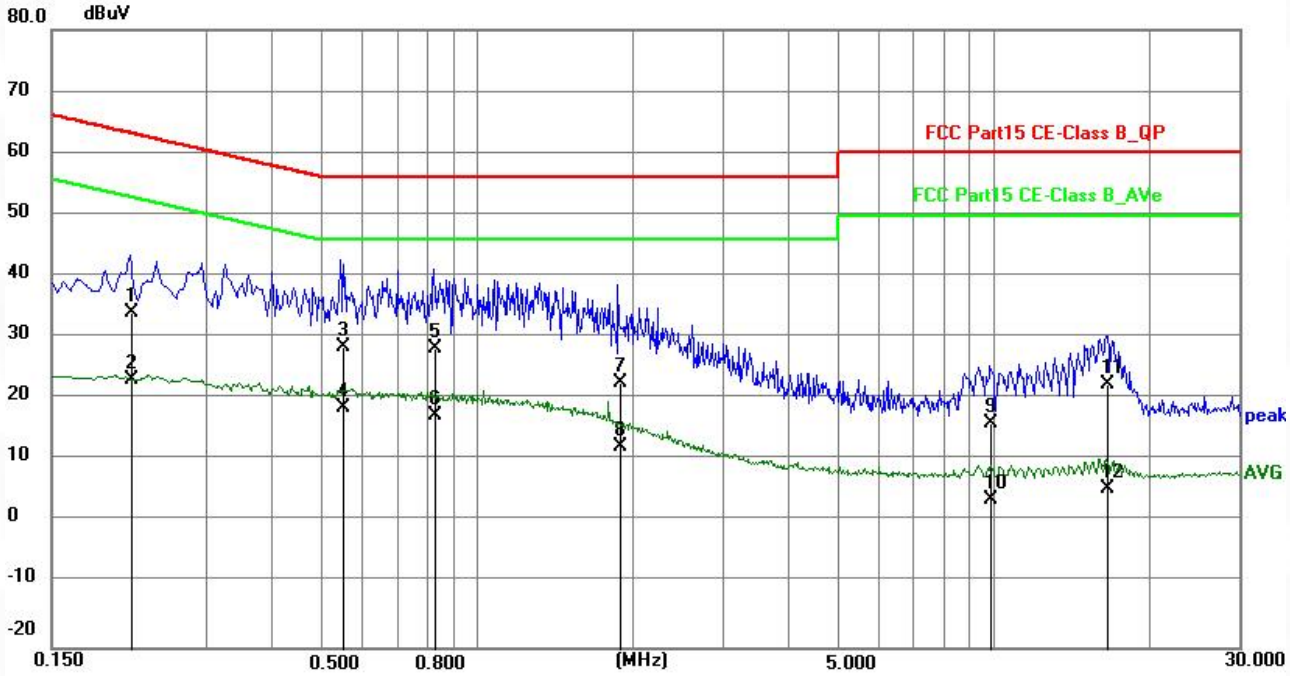
Temperature:	19.5℃	Relative Humidity:	38%
Test Voltage:	AC 120V/60Hz	Phase:	N
Test Mode:	BT LINK		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2130	23.93	10.36	34.29	63.09	-28.80	QP
2	0.2130	13.08	10.36	23.44	53.09	-29.65	AVG
3	0.5500	18.51	10.18	28.69	56.00	-27.31	QP
4	0.5500	8.72	10.18	18.90	46.00	-27.10	AVG
5	0.8290	18.40	10.14	28.54	56.00	-27.46	QP
6	0.8290	7.54	10.14	17.68	46.00	-28.32	AVG
7	1.8890	12.85	10.20	23.05	56.00	-32.95	QP
8	1.8890	2.54	10.20	12.74	46.00	-33.26	AVG
9	9.9090	6.15	10.13	16.28	60.00	-43.72	QP
10	9.9090	-6.19	10.13	3.94	50.00	-46.06	AVG
11	16.6390	12.28	10.35	22.63	60.00	-37.37	QP
12	16.6390	-4.56	10.35	5.79	50.00	-44.21	AVG

Remark:
1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result =Reading + Factor)–Limit.
3. Factor=LISN factor+Cable loss+Limiter (10dB)

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6.2 Occupied Bandwidth

Test Requirement:	Systems using digital modulation techniques may operate in the 902-928 MHz, and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.
Test Method:	DTS bandwidth
Test Limit:	Section (a)(2), Systems using digital modulation techniques may operate in the 902-928 MHz, and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.
Procedure:	a) Set RBW = 100 kHz. b) Set the VBW >= [3 × RBW]. c) Detector = peak. d) Trace mode = max hold. e) Sweep = auto couple. f) Allow the trace to stabilize. g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.2.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23 °C
Humidity:	52 %
Atmospheric Pressure:	1010 hpa
Test Voltage	AC 120V

6.2.2 Test Setup

See section 4.5 for test setup description. The photo of test setup please refer to Appendix I Test Setup Photos

6.2.3 Test Data:

Please Refer to Appendix-BLE for Details.

6.3 Maximum Conducted Output Power

Test Requirement:	For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.
Test Method:	Maximum peak conducted output power
Test Limit:	For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.
Procedure:	ANSI C63.10-2020, section 11.9.1 Maximum peak conducted output power

6.3.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23 °C
Humidity:	52 %
Atmospheric Pressure:	1010 hpa

6.3.2 Test Setup

See section 4.5 for test setup description. The photo of test setup please refer to Appendix I Test Setup Photos

6.3.3 Test Data:

Please Refer to Appendix-BLE for Details.

6.4 Power Spectral Density

Test Requirement:	For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.
Test Method:	Maximum power spectral density level in the fundamental emission
Test Limit:	For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

6.4.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23 °C
Humidity:	52 %
Atmospheric Pressure:	1010 hpa

6.4.2 Test Setup

See section 4.5 for test setup description. The photo of test setup please refer to Appendix I Test Setup Photos

6.4.3 Test Data:

Please Refer to Appendix-BLE for Details.

6.5 Emissions in non-restricted frequency bands

Test Requirement:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required.
Test Method:	Emissions in non-restricted frequency bands
Test Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required.
Procedure:	ANSI C63.10-2020 Section 11.11.1, Section 11.11.2, Section 11.11.3

6.5.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23 °C
Humidity:	52 %
Atmospheric Pressure:	1010 hpa
Test Voltage	AC 120V

6.5.2 Test Setup

See section 4.5 for test setup description. The photo of test setup please refer to Appendix I Test Setup Photos

6.5.3 Test Data:

Please Refer to Appendix-BLE for Details.

6.6 Band edge emissions (Radiated)

Test Requirement:	In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`
Test Method:	Radiated emissions tests
Test Limit:	

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.

Procedure:	ANSI C63.10-2020 section 6.10.5.2

6.6.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23 °C
Humidity:	52 %
Atmospheric Pressure:	1010 hpa
Test Voltage	AC 120V

6.6.2 Test Setup

See section 4.5 for test setup description. The photo of test setup please refer to Appendix I Test Setup Photos

6.6.3 Test Data:

Remark: During the test, pre-scan 1M mode, found 1M was worse case mode. The report only reflects the test data of worst mode.

Test Mode: 1M
Test Channel: Lowest channel, Test Polarization: Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Detector	Result
2325.572	29.2	74.0	44.8	27.2	59.5	peak	Pass
2496.446	16.8	54.0	37.2	27.6	59.7	AV	Pass
2358.151	28.3	74.0	45.7	27.3	59.6	peak	Pass
2316.583	16.7	54.0	37.3	27.2	59.5	AV	Pass

Test Channel: Lowest channel, Test Polarization: Horizontal

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Detector	Result
2322.450	16.8	54.0	37.2	27.2	59.5	peak	Pass
2322.450	16.8	54.0	27.2	27.2	59.5	AV	Pass
2353.310	16.7	54.0	37.3	27.3	59.6	peak	Pass
2353.310	16.7	54.0	27.3	27.3	59.6	AV	Pass

Test Channel: Highest channel, Test Polarization: Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Detector	Result
2321.165	29.4	74.0	44.6	27.2	59.5	peak	Pass
2355.915	29.4	74.0	44.6	27.3	59.6	AV	Pass
2491.123	29.5	74.0	44.5	27.6	59.7	peak	Pass
2491.320	29.3	74.0	44.7	27.6	59.7	AV	Pass

Test Channel: Highest channel, Test Polarization: Horizontal

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Detector	Result
2328.147	16.7	54.0	37.3	27.2	59.5	peak	Pass
2320.615	16.7	54.0	37.3	27.2	59.5	AV	Pass
2490.336	17.3	54.0	36.7	27.6	59.7	peak	Pass
2493.685	17.0	54.0	37.0	27.6	59.7	AV	Pass

Note:
1.Margin = Result (Result =Reading + Factor)–Limit
2.Factor= Cable Loss +Antenna Factor-Amplifier Gain

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6.7 Emissions in restricted frequency bands (below 1GHz)

Test Requirement:	In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`
Test Method:	Radiated emissions tests
Test Limit:	

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.

Procedure:	ANSI C63.10-2020 section 6.6.4

6.7.1 E.U.T. Operation:

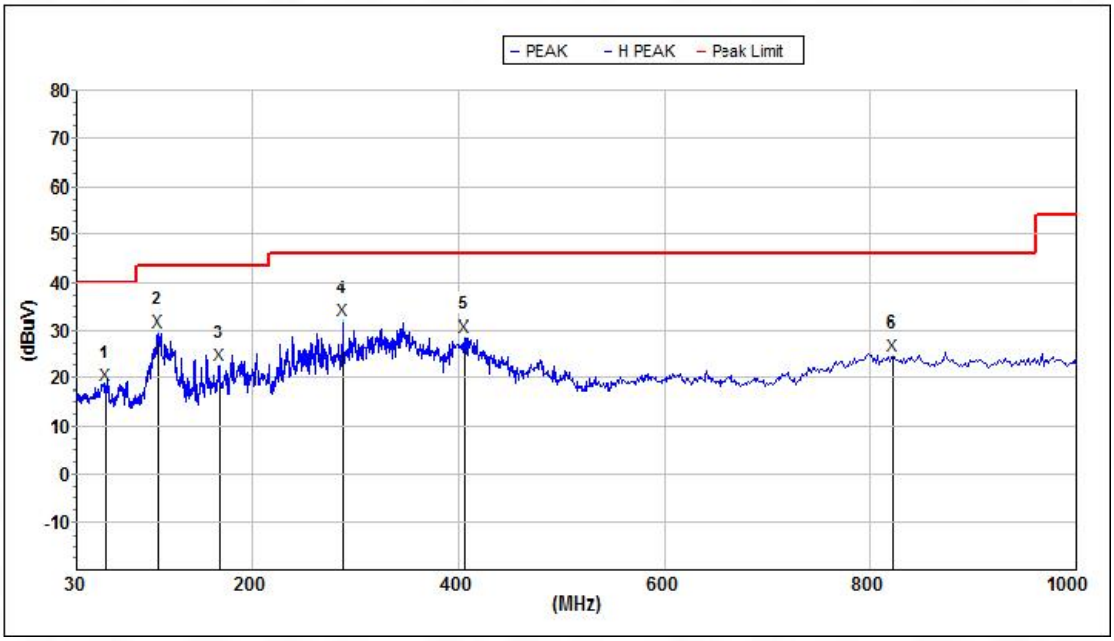
Operating Environment:	
Temperature:	23 °C
Humidity:	52 %
Atmospheric Pressure:	1010 hpa
Test Voltage	AC 120V

6.7.2 Test Setup

See section 4.5 for test setup description. The photo of test setup please refer to Appendix I Test Setup Photos

6.7.3 Test Data:

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 1 / CH: H



Mk.	Freq.(MHz)	Level(dBuV)	Limit(dBuV)	Margin(dB)	Ant.F/G.(dB)	Amp.G.(dB)	Det.
1	58.613	18.6	40.0	21.4	18.2	29.6	peak
2	107.510	29.8	43.5	13.7	15.4	31.6	peak
3	168.119	22.9	43.5	20.6	18.0	33.5	peak
4	287.990	32.1	46.0	13.9	18.8	32.0	peak
5	405.377	28.6	46.0	17.4	21.6	32.2	peak
6	821.710	24.7	46.0	21.3	28.6	31.8	peak

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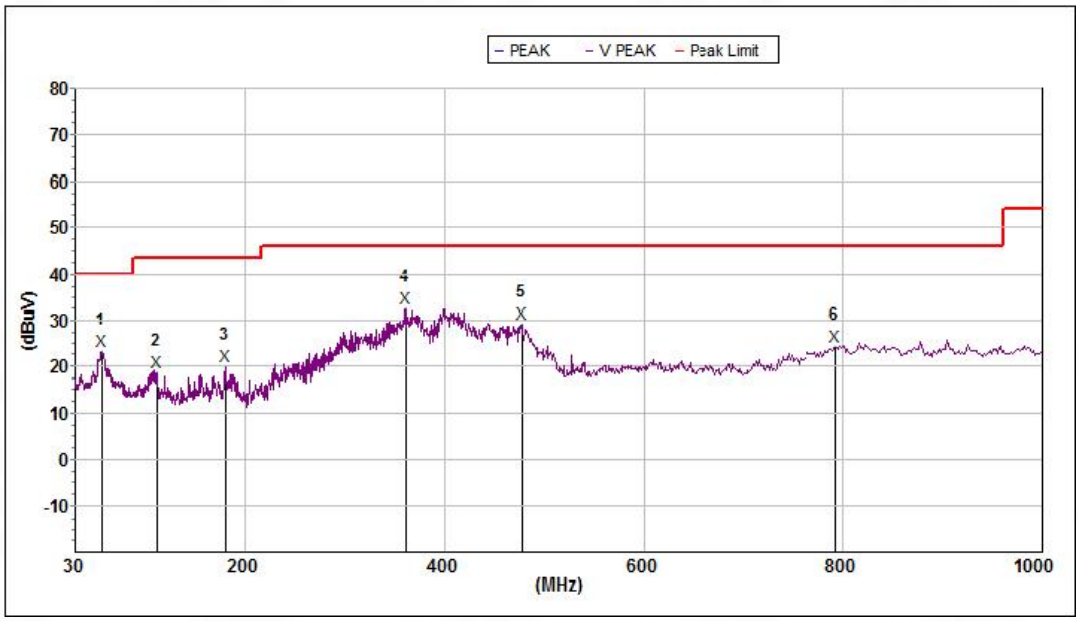
TM1 / Polarization: Vertical / Band: 2.4G / BW: 1 / CH: H



Mk.	Freq.(MHz)	Level(dBuV)	Limit(dBuV)	Margin(dB)	Ant.F/G.(dB)	Amp.G.(dB)	Det.
1	56.099	23.5	40.0	16.5	18.6	29.7	peak
2	110.375	18.7	43.5	24.8	15.7	31.8	peak
3	180.332	20.0	43.5	23.5	17.1	33.4	peak
4	361.080	32.5	46.0	13.5	20.5	32.4	peak
5	478.007	29.3	46.0	16.7	23.2	32.9	peak
6	792.006	24.4	46.0	21.6	28.3	31.7	peak

Note:
1.Margin = Result (Result =Reading + Factor)–Limit
2.Factor= Cable Loss +Antenna Factor-Amplifier Gain

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6.8 Emissions in restricted frequency bands (above 1GHz)

Test Requirement:	In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`
Test Method:	Radiated emissions tests
Test Limit:	

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.

Procedure:	ANSI C63.10-2020 section 6.6.4

6.8.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23 °C
Humidity:	52 %
Atmospheric Pressure:	1010 hpa
Test Voltage	AC 120V

6.8.2 Test Setup

See section 4.5 for test setup description. The photo of test setup please refer to Appendix I Test Setup Photos

6.8.3 Test Data:

Test Mode: 1M
Test Channel: Lowest channel, Test Polarization: Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Detector	Result
6356.800	37.1	74.0	36.9	34.9	58.9	peak	P
6356.800	28.8	54.0	25.2	34.9	58.9	AV	P
7860.200	36.0	74.0	38.0	36.8	59.8	peak	P
7860.200	28.7	54.0	25.3	36.8	59.8	AV	P

Test Channel: Lowest channel, Test Polarization: Horizontal

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Detector	Result
5474.500	35.5	74.0	38.5	32.9	58.3	peak	P
5474.500	26.9	54.0	27.1	32.9	58.3	AV	P
7256.300	35.6	74.0	38.4	36.2	59.3	peak	P
7256.300	26.3	54.0	27.7	36.2	59.3	AV	P

Test Channel: Highest channel, Test Polarization: Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Detector	Result
5480.800	35.2	74.0	38.8	32.9	58.3	peak	P
5480.800	25.9	54.0	28.1	32.9	58.3	AV	P
6438.100	36.7	74.0	37.3	35.1	58.7	peak	P
6438.100	27.9	54.0	26.1	35.1	58.7	AV	P

Test Channel: Highest channel, Test Polarization: Horizontal

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Detector	Result
9444.750	41.2	74.0	32.8	38.1	60.8	peak	P
9444.750	32.4	54.0	21.6	38.1	60.8	AV	P
15136.700	43.6	74.0	30.4	39.0	58.5	peak	P
15136.700	35.3	54.0	18.7	39.0	58.5	AV	P

Note:
1.Margin = Result (Result =Reading + Factor)–Limit
2.Factor= Cable Loss +Antenna Factor-Amplifier Gain

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7 Test Setup Photos

Please refer to the Appendix I Test Setup Photos

8 EUT Constructional Details (EUT Photos)

Please refer to the Appendix II External Photos & Appendix III Internal Photos

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