Test Report

FCC RF TEST REPORT

For

Product: WIRELESS PORTABLE CHARGER
Model: W21
FCC ID: 2BRTH-W21
Report No.: RKEYS250805075

Issued for

DONGGUAN Hi-Tech Electronic Industrial Co.,Ltd
NO.1,TianSha Road,TangXia Town,DongGuan City,China

Issued by

Guangdong KEYS Testing Technology Co., Ltd.
Building 1, No.18, Shihuan Road, Dongcheng Subdistrict, Dongguan, Guangdong, China

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1. TEST CERTIFICATION

Product:	WIRELESS PORTABLE CHARGER
Trade mark:	/
Model:	W21
Applicant :	DONGGUAN Hi-Tech Electronic Industrial Co.,Ltd
Address:	NO.1,TianSha Road,TangXia Town,DongGuan City,China
Manufacturer:	DONGGUAN Hi-Tech Electronic Industrial Co.,Ltd
Address:	NO.1,TianSha Road,TangXia Town,DongGuan City,China
Sample Receive Date:	Aug.06, 2025
Test Date:	Aug.16, 2025~Sep.11, 2025
Applicable Standards:	CFR 47, FCC Part 15.247
Application Purpose	Original Grant

The above equipment has been tested by Guangdong KEYS Testing Technology Co., Ltd. and found compliance with the requirements in the technical standards mentioned above. The test results presented in this report only relate to the product/system tested. The other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Prepared by: Evan Fang / Engineer

Approved by: Bruce Zhang / Manager

2. TEST SUMMARY

FCC Part 15C	Description of Test	Result
15.203	Antenna Requirement	Pass
15.215(c)	20dB Occupied Bandwidth	Pass
15.209	Radiated Spurious Emissions	Pass
15.207	Conducted Emission on AC Mains	Pass

3. TEST SITE

3.1. TEST FACILITY

Guangdong KEYS Testing Technology Co., Ltd.
Address: Building 1, No.18, Shihuan Road, Dongcheng Subdistrict, Dongguan, Guangdong, China
A2LA Certificate Number.:7547.01
FCC Designation Number:CN1419
FCC Test Firm Registration Number:361541

3.2. MEASUREMENT UNCERTAINTY

Parameter	Uncertainty
Conducted Emission(150KHz-30MHz)	±3.2dB
Radiated Emission(9Hz-30MHz)	±3.5dB
Radiated Emission(30MHz-1GHz)	±4.7dB
Radiated Emission (1GHz-6GHz)	±5.1dB
Radiated Emission (6GHz-18GHz)	±5.1dB

Note 1: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3.3. Test Environment Condition

Ambient Temperature:	24~25°C
Ambient Relative Humidity:	55~60 %

4. TEST EQUIPMENT LIST

Equipment	Manufacturer	Model	Equipment No.	Cal. Date	Cal. Interval
EMI Test Receiver	Rohde&Schwarz	ESCI	KEYS-EL-203	Mar. 03, 2025	1 Year
Pulse limiter	Rohde&Schwarz	ESH3-Z2	KEYS-EL-201	Mar. 03, 2025	1 Year
LISN	Rohde&Schwarz	ENV216	KEYS-EL-202	Mar. 03, 2025	1 Year
Shielding Room	Taihe Mao Rui Electronic Equipment Co., Ltd.	8m*4m*4m	KEYS-EL-230	2024 / 10 / 12	5 Year
EMI Test Receiver	Rohde&Schwarz	ESCI7	KEYS-EL-205	Mar. 03, 2025	1 Year
Logarithmic Periodic Broadband Antenna	SCHWARZBECK	VULB9168	KEYS-EL-209	Mar. 06, 2025	3 Year
Anechoic Chamber	Taihe Mao Rui Electronic Equipment Co., Ltd.	9m*6m*6m	KEYS-EL-230	2024 / 10/ 12	5 Year
Loop Antenna	Da Ze	ZN30900C	KEYS-EL-253	May 16, 2025	3 Year
Filter	WCS Technology	ZBSF6-C2400-2483.5-294	KEYS-EL-270	May 17, 2025	1 Year
Power switching box	WCS Technology	SMU-3002	KEYS-EL-247	Apr. 16, 2025	1 Year

Note:The attenuator is integrated into the Power Switch Box and taken into consideration during testing.

5. EUT DESCRIPTION

Product	WIRELESS PORTABLE CHARGER
Test Model	W21
Additional Model	N/A
Rating	Type-C Input : 5V⎓3A,9V⎓2A Phone Wireless output:15W 10W 7.5W 5W (Max 15W) Watch Wireless Output:2.5W Max
FCC ID	2BRTH-W21
Antenna Type	Coil Antenna
Antenna Gain	0dBi
Operation Frequency	Coil 1(Phone):115-205kHz Coil 2(Watch):322-324kHz
Modulation Type	ASK

Note:
1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2) Antenna gain was provided by the applicant/ manufacturer, and the applicant/ manufacturer is responsible for its validity.
3) The test results in the report only apply to the tested sample.

6. TEST METHODOLOGY

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10-2020.

6.1. EUT SYSTEM OPERATION

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables were manipulated to produce worst case emissions. The EUT was powered by DC 5V/9V during the test.

7. SETUP OF EQUIPMENT UNDER TEST

7.1. DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Support Equipment

No.	Equipment	Model	Serial No.	Manufacturer
1	Adapter	MDY-14-EE	/	MI
2	Wireless Charging Load	/	/	EESON
3	watch Load	/	/	YBZ

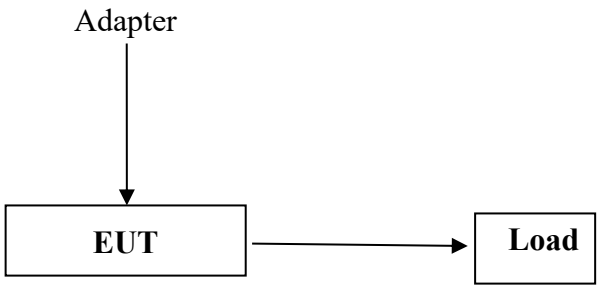
Support Cable

No.	Description	Shield	Length	Manufacturer
1	/	/	/	/
2	/	/	/	/

Note: 1) All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.

2) Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

7.2. BLOCK DIAGRAM OF EUT CONFIGURATION



(EUT: SLEEP MASK HEADPHONES)

7.3. DESCRIPTION OF TEST MODES

Test Mode	Description
Mode 1	Adapter + EUT+ Wireless Charging load (5W)+Watch load (2.5W)

Mode 2	Adapter + EUT+ Wireless Charging load (7.5W)+Watch load (2.5W)
Mode 3	Adapter + EUT+ Wireless Charging load (10W)+Watch load (2.5W)
Mode 4	Adapter + EUT+ Wireless Charging load (15W)+Watch load (2.5W)
Mode 5	EUT+ Wireless Charging load (5W)
Mode 6	EUT+ Wireless Charging load (7.5W)
Mode 7	EUT+ Wireless Charging load (10W)
Mode 8	EUT+ Wireless Charging load (15W)
Mode 9	EUT+ Watch load (2.5W)

Note:

1. All test modes has been tested, this report only reflected the worst mode.
2. Mode 1 is worst case for Conducted Emission and Spurious Emission.

8. TEST RESULTS AND MEASUREMENT DATA

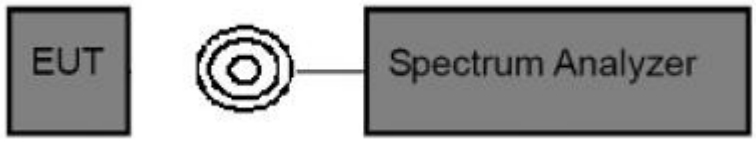
8.1. ANTENNA REQUIREMENT

Test Requirement:	Part 15.203
Test Result:	According to the manufacturer declared, the EUT has a coil antenna, the directional gain of antenna is 0dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision. Refer to EUT Photo for further details.

8.2. 20DB BANDWIDTH

Test Requirement:	FCC Part15.215 (c)
Test Mode:	Transmitting mode with modulation
Limit:	/
Test Procedure:	1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Use the following spectrum analyzer settings for 20dB Bandwidth , measurement. 4.The RBW is set to 1 kHz to perform the occupied bandwidth test.VBW≥ RBW; Sweep = auto; Detector function =peak; Trace = max hold. 4. Measure and record the results in the test report.
Test Result:	PASS

8.2.1.Test Setup:

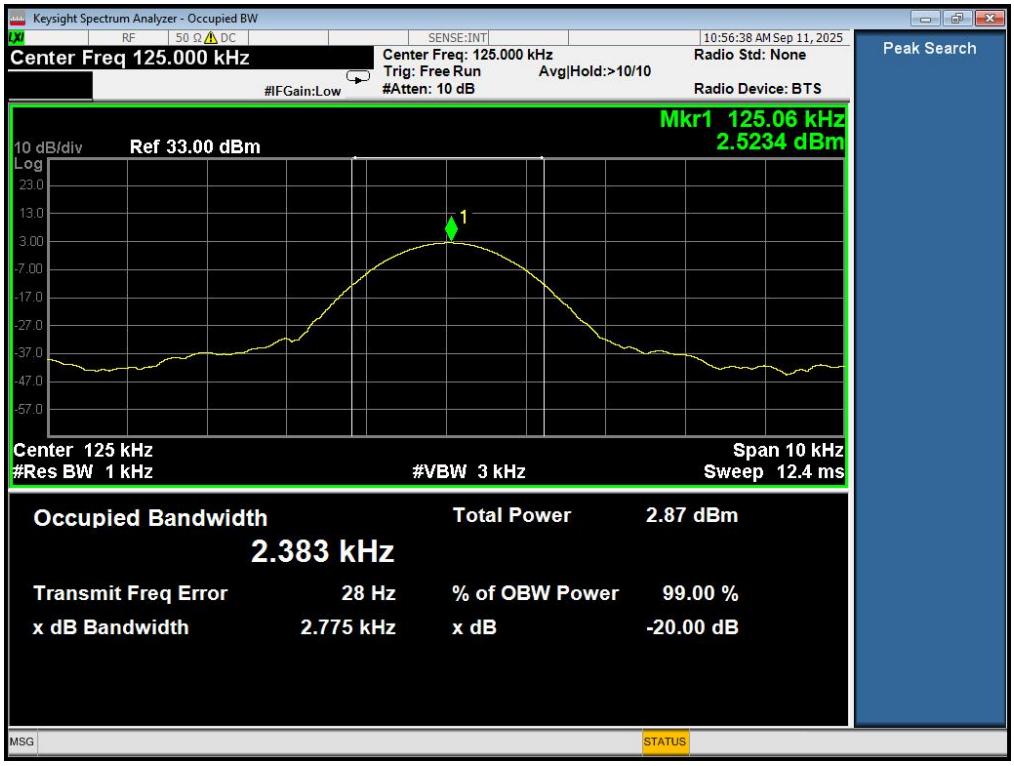


8.2.2.Test Result

Note：Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measurement bandwidth will always follow the RBW. The RBW is set to 1 KHz to perform the occupied bandwidth test.

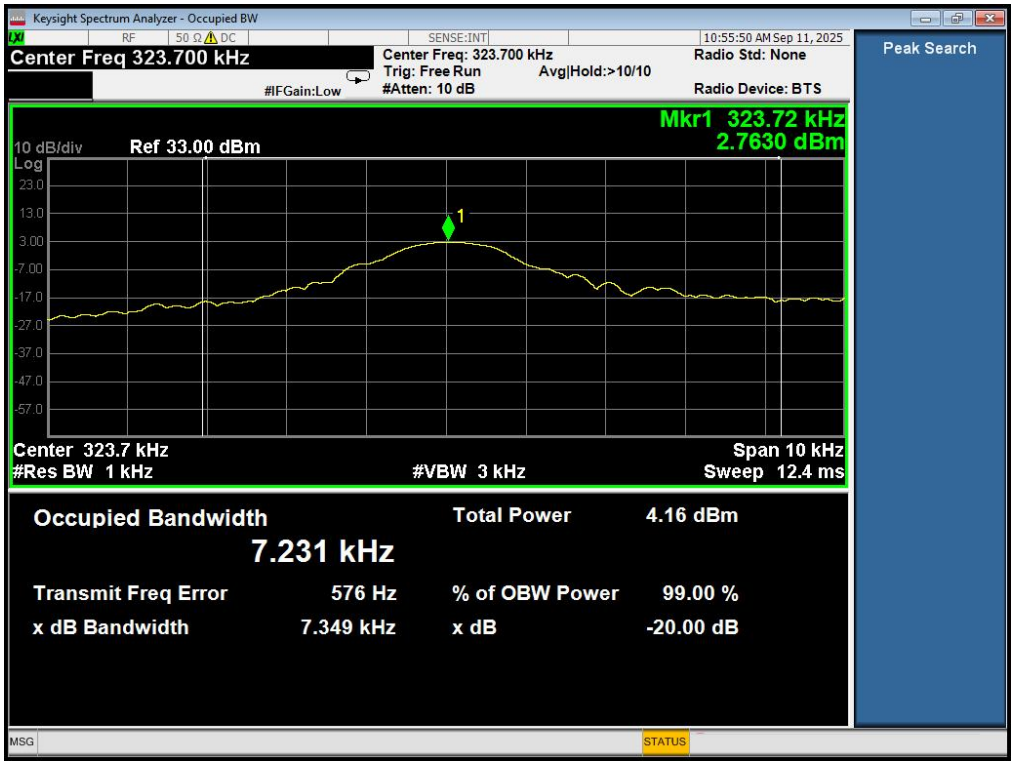
For Phone

Frequency（kHz）	20dB Bandwidth（kHz）	99%Bandwidth（kHz）
125	2.775	2.383



For watch

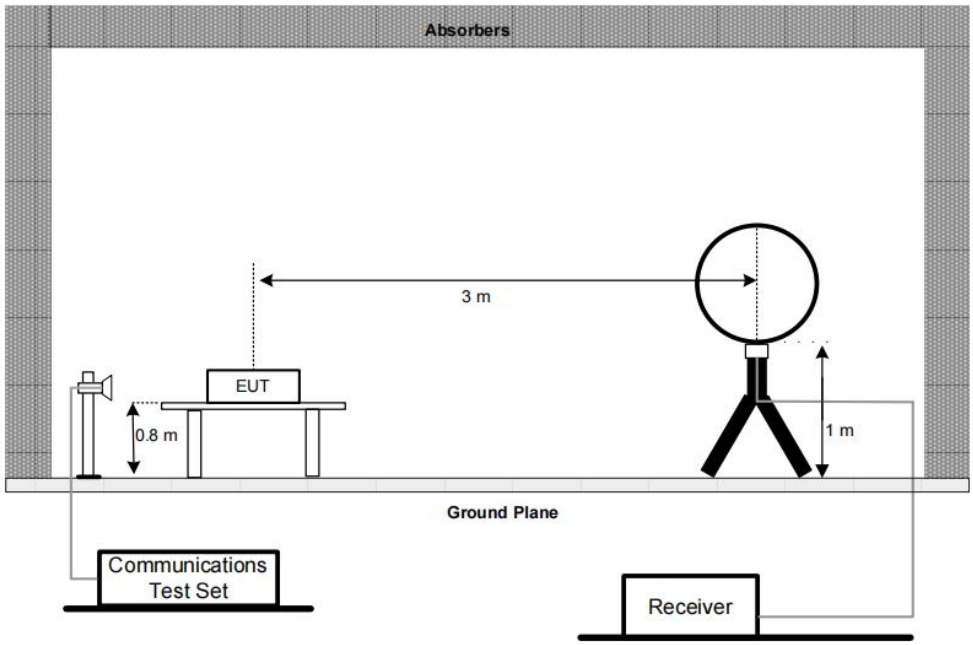
Frequency（kHz）	20dB Bandwidth（kHz）	99%Bandwidth（kHz）
323.7	7.349	7.231



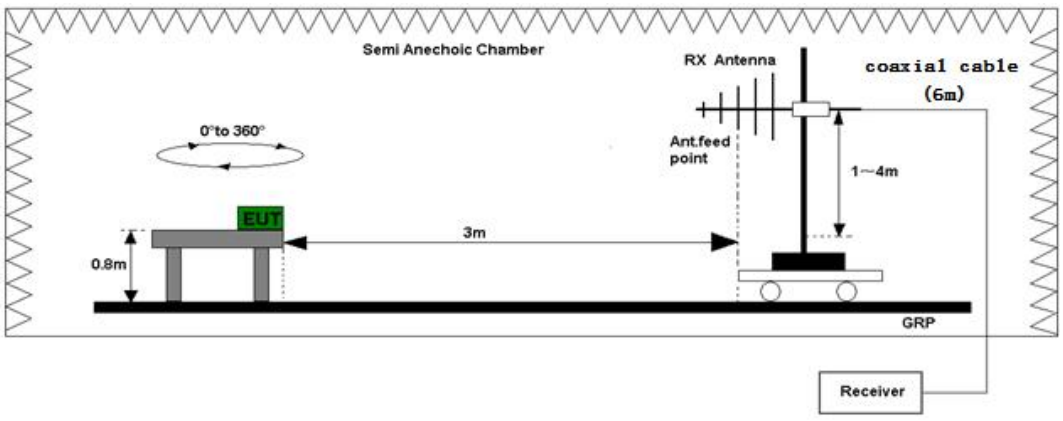
8.3. RADIATED SPURIOUS EMISSIONS

<table>
<tr><td>Test Requirement:</td><td>FCC Part 15.209</td></tr>
<tr><td>Test Mode:</td><td>Transmitting mode with modulation</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th>Frequency Range</th><th>Field Strength Limit (μV/m) at 3 m</th><th>Measurement Distance(meters)</th></tr>
<tr><td>0.009~0.490</td><td>2400/F(kHz)</td><td>300</td></tr>
<tr><td>0.490~1.705</td><td>24000/F(kHz)</td><td>30</td></tr>
<tr><td>1.705~30.0</td><td>30</td><td>30</td></tr>
<tr><td>30-88</td><td>100</td><td>3</td></tr>
<tr><td>88-216</td><td>150</td><td>3</td></tr>
<tr><td>216-960</td><td>200</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>3</td></tr>
</table>
</td></tr>
<tr><td>Test Procedure:</td><td>Radiated emission measurements were performed from 9kHz to tenth harmonic or 40GHz. The EUT for testing is arranged on a styrene turntable. If some peripherals apply to the EUT, the peripherals will be connected to EUT and the whole system. During the test, all cables were arranged to produce worst-case emissions. The signal is maximized through rotation. The height of antenna and polarization is changing constantly for exploring for maximum signal level. The height of antenna can be up to 4 meters and down to 1 meter.</td></tr>
<tr><td>Test Result:</td><td>Pass</td></tr>
</table>

8.3.1.Test Setup:



Test set-up of radiated disturbance (Up to 30MHz)



Test set-up of radiated disturbance (30MHz to 1GHz)

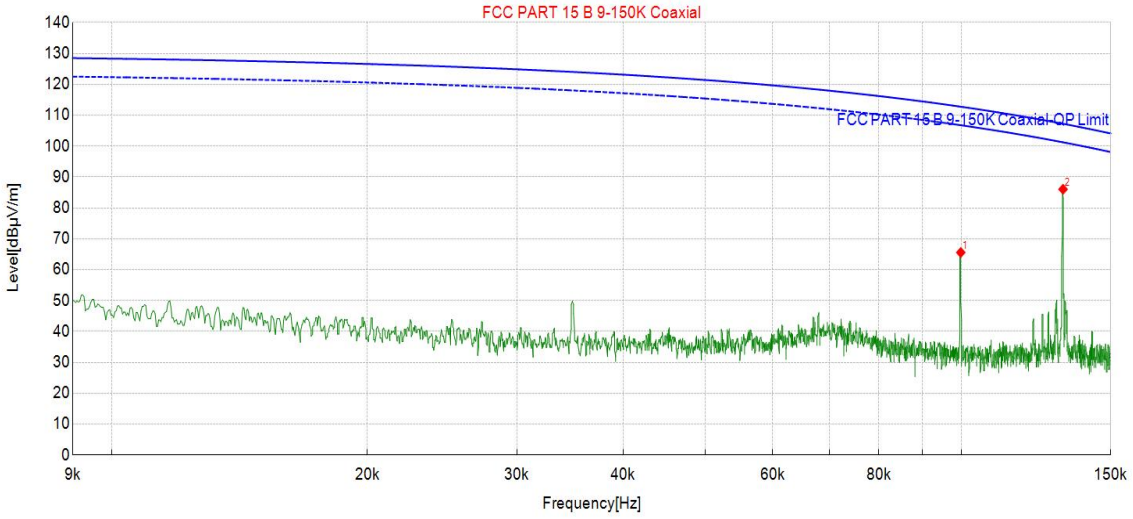
8.3.2.Test Result

Test Voltage	AC 120V/60Hz From Adapter

Worst-case Mode 4

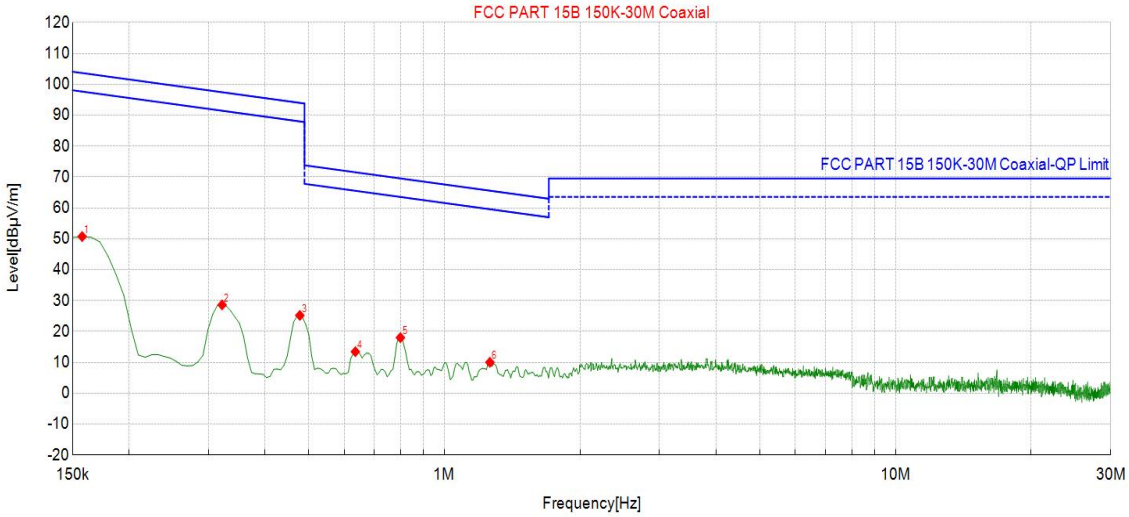
Spurious Emission 9kHz~30MHz

Please refer to the following diagram:



Suspected Data List											
NO.	Frequency [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	0.10	93.66	65.57	-28.09	112.78	47.21	100	7	PK	Hori	PASS
2	0.13	114.52	86.04	-28.48	107.25	21.21	100	358	PK	Hori	PASS

Please refer to the following diagram:

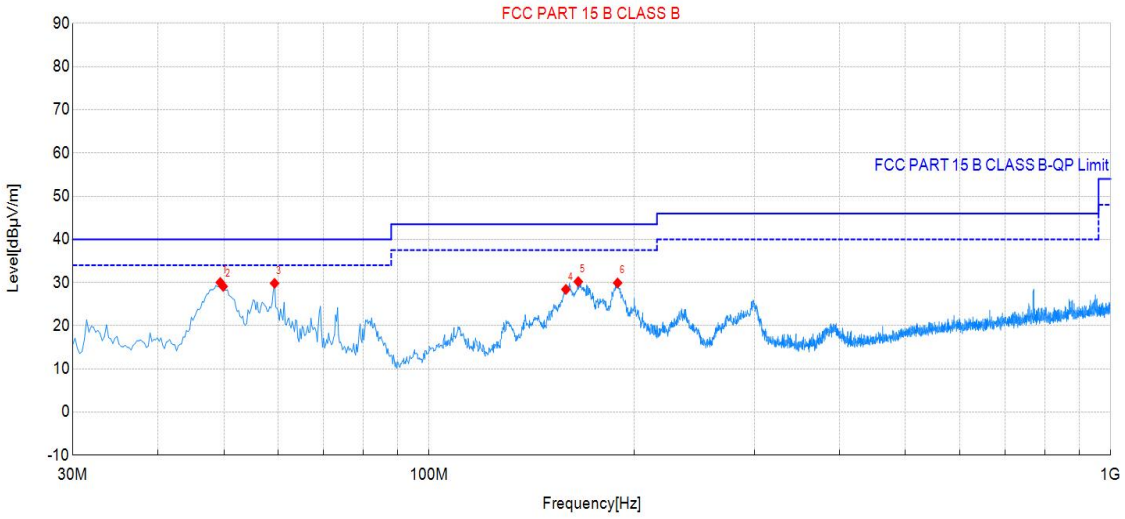


Suspected Data List											
NO.	Frequency [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	0.16	79.53	50.74	-28.79	103.68	52.94	100	3	PK	Hori	PASS
2	0.32	59.19	28.61	-30.58	97.46	68.85	100	1	PK	Hori	PASS
3	0.48	56.32	25.20	-31.12	94.01	68.81	100	351	PK	Hori	PASS
4	0.64	44.75	13.46	-31.29	71.55	58.09	100	6	PK	Hori	PASS
5	0.80	49.40	18.00	-31.40	69.55	51.55	100	3	PK	Hori	PASS
6	1.26	41.49	10.02	-31.47	65.58	55.56	100	351	PK	Hori	PASS

Spurious Emission 30MHz ~1GHz

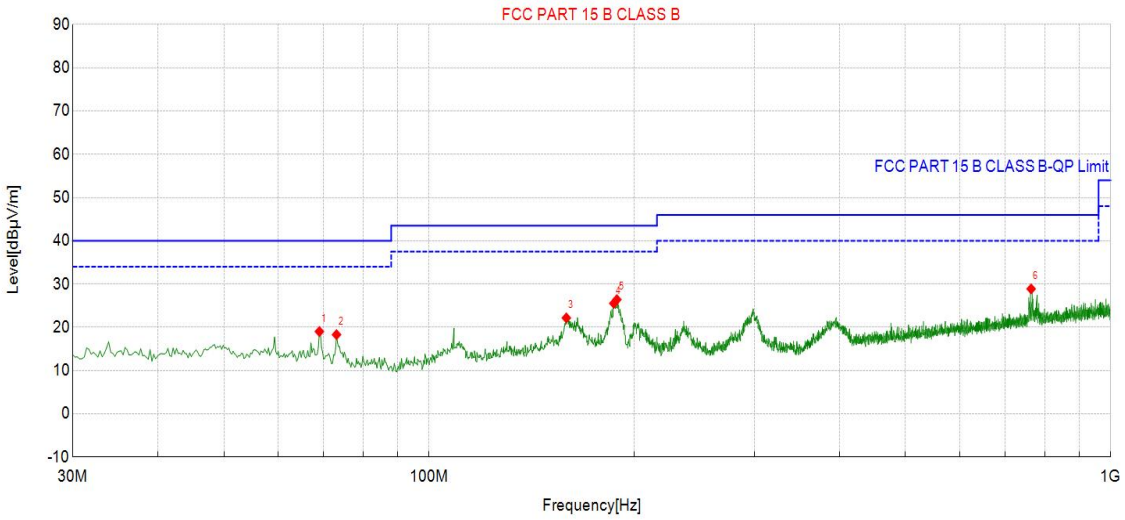
Please refer to the following diagram:

Vertical:



Suspected Data List											
NO.	Frequency [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	49.40	47.23	30.02	-17.21	40.00	9.98	100	300	QP	Vert	PASS
2	49.89	46.32	29.10	-17.22	40.00	10.90	100	252	QP	Vert	PASS
3	59.34	47.80	29.82	-17.98	40.00	10.18	100	343	QP	Vert	PASS
4	158.77	44.46	28.42	-16.04	43.50	15.08	100	271	QP	Vert	PASS
5	165.56	46.91	30.21	-16.70	43.50	13.29	100	234	QP	Vert	PASS
6	189.08	49.06	29.91	-19.15	43.50	13.59	100	252	QP	Vert	PASS

Horizontal:



Suspected Data List											
NO.	Frequency [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Det	Pol	Verdict
1	69.04	38.44	19.03	-19.41	40.00	20.97	100	18	QP	Hori	PASS
2	73.17	38.20	18.30	-19.90	40.00	21.70	100	3	QP	Hori	PASS
3	159.01	38.20	22.17	-16.03	43.50	21.33	100	269	QP	Hori	PASS
4	186.66	44.50	25.53	-18.97	43.50	17.97	100	279	QP	Hori	PASS
5	188.60	45.52	26.41	-19.11	43.50	17.09	100	261	QP	Hori	PASS
6	764.29	37.11	28.88	-8.23	46.00	17.12	100	100	QP	Hori	PASS

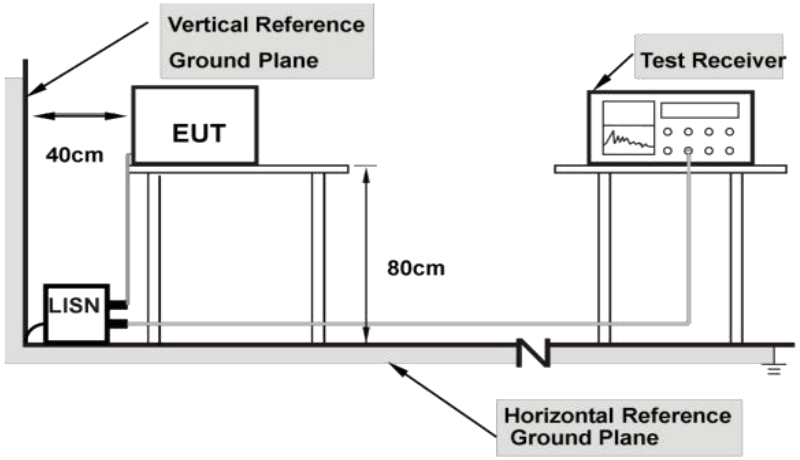
Note:(1)Level=Reading+Factor

(2)Margin=Limit-Level

8.4. CONDUCTED EMISSION

<table>
<tr><td>Test Requirement:</td><td>FCC Part 15.207</td></tr>
<tr><td>Test Mode:</td><td>Transmitting mode with modulation</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td rowspan="2">Frequency of Emission (MHz)</td><td colspan="2">Conducted Limit (dBuV)</td></tr>
<tr><td>Quasi-peak</td><td>Average</td></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
</table>
*Decreases with the logarithm of the frequency.
</td></tr>
<tr><td>Test Procedure:</td><td>For tabletop equipment, the EUT along with its peripherals were placed on a 1.0m(W)×1.5m(L) and 0.8m in height wooden table. The EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT was connected to power mains through a line impedance stabilization network (LISN), which provided 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room. The excess power cable between the EUT and the LISN was bundled.</td></tr>
<tr><td>Test Result:</td><td>Pass</td></tr>
</table>

8.4.1.Test Setup



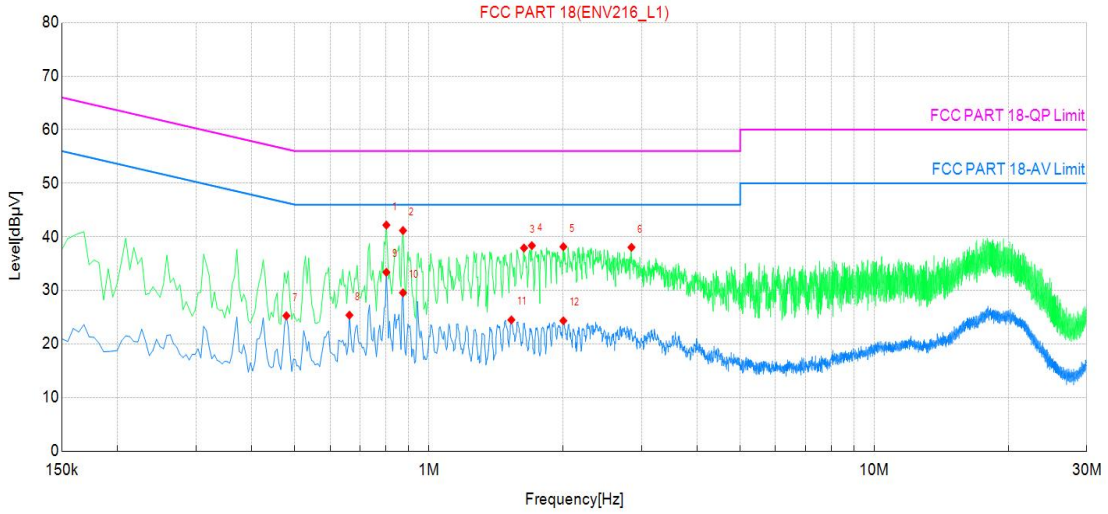
8.4.2.Test Result

Test Voltage	AC 120V/60Hz From Adapter

Worst-case: Mode 4

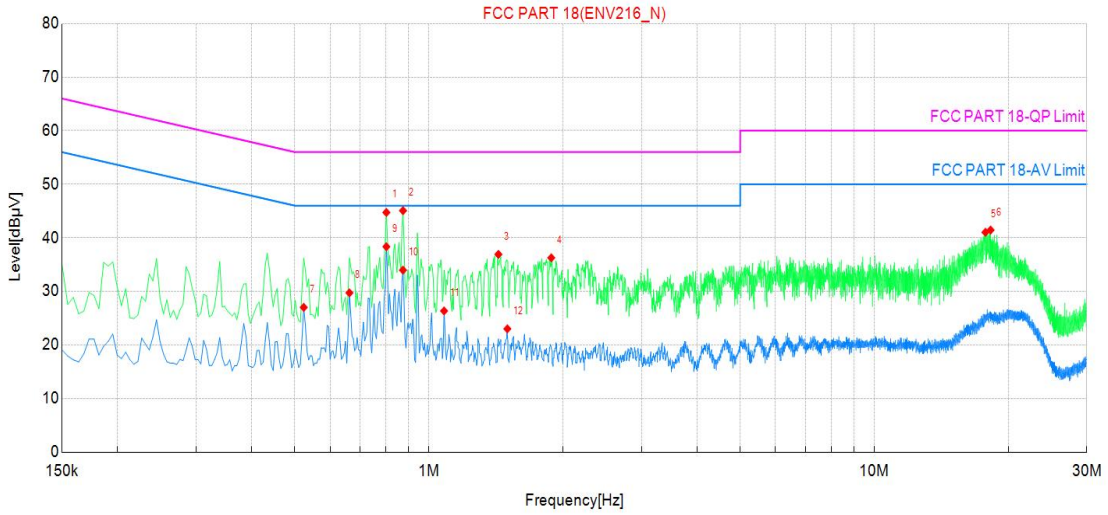
Please refer to the following diagram:

Line:



Suspected Data List									
NO.	Frequency [MHz]	Reading [dBµV]	Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Phase	Detector	Verdict
1	0.802500	22.93	42.19	19.26	56.00	13.81	L1	QP	PASS
2	0.874500	21.93	41.17	19.24	56.00	14.83	L1	QP	PASS
3	1.635000	18.71	37.91	19.20	56.00	18.09	L1	QP	PASS
4	1.702500	19.16	38.36	19.20	56.00	17.64	L1	QP	PASS
5	2.004000	18.95	38.15	19.20	56.00	17.85	L1	QP	PASS
6	2.850000	18.83	38.04	19.21	56.00	17.96	L1	QP	PASS
7	0.478500	6.16	25.26	19.10	46.37	21.11	L1	AV	PASS
8	0.663000	6.13	25.38	19.25	46.00	20.62	L1	AV	PASS
9	0.802500	14.12	33.38	19.26	46.00	12.62	L1	AV	PASS
10	0.874500	10.32	29.56	19.24	46.00	16.44	L1	AV	PASS
11	1.531500	5.29	24.49	19.20	46.00	21.51	L1	AV	PASS
12	2.004000	5.13	24.33	19.20	46.00	21.67	L1	AV	PASS

Neutral:



Suspected Data List									
NO.	Frequency [MHz]	Reading [dBµV]	Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Phase	Detector	Verdict
1	0.802500	25.48	44.74	19.26	56.00	11.26	N	QP	PASS
2	0.874500	25.83	45.07	19.24	56.00	10.93	N	QP	PASS
3	1.432500	17.71	36.91	19.20	56.00	19.09	N	QP	PASS
4	1.882500	17.07	36.27	19.20	56.00	19.73	N	QP	PASS
5	17.767500	21.67	41.04	19.37	60.00	18.96	N	QP	PASS
6	18.249000	22.06	41.45	19.39	60.00	18.55	N	QP	PASS
7	0.523500	7.82	27.02	19.20	46.00	18.98	N	AV	PASS
8	0.663000	10.46	29.73	19.27	46.00	16.27	N	AV	PASS
9	0.802500	19.08	38.34	19.26	46.00	7.66	N	AV	PASS
10	0.874500	14.73	33.97	19.24	46.00	12.03	N	AV	PASS
11	1.081500	7.15	26.35	19.20	46.00	19.65	N	AV	PASS
12	1.500000	3.81	23.01	19.20	46.00	22.99	N	AV	PASS

Note:(1)Level=Reading+Factor

(2)Margin=Limit-Level

9. PHOTOGRAPHS OF TEST SET-UP

For photographs of the test set-up, refer to the appendix A.

10. PHOTOGRAPHS OF EUT

For photographs of the EUT, refer to the appendix B.

*** End of Report ***