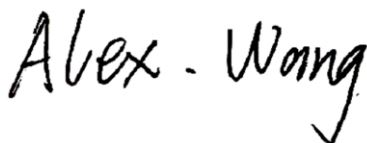


TEST REPORT

Application No.: BTEK250902019A01-T09
Applicant: Bekey VietNam CO.,LTD
Address of Applicant: Adjoining Area , Que Vo, Industrial Park , Van Duong Ward. Bac Ninh City,Bac Ninh province , Vietnam
Manufacturer: Bekey VietNam CO.,LTD
Address of Manufacturer: Adjoining Area , Que Vo, Industrial Park , Van Duong Ward. Bac Ninh City,Bac Ninh province , Vietnam
Equipment Under Test (EUT):
EUT Name: 5000mAh Battery Bank
Test Model.: AT1645
Adding Model(s): /
Trade Mark: ATOMI
FCC ID: 2BR5H-AT1645
Standard(s) : 47 CFR Part 15 Subpart C
Date of Receipt Sample(s): 2025-09-05
Date of Test: 2025-09-06 to 2025-09-16
Date of Issue: 2025-09-17

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.



Alex Wang/ Approved & Authorized
EMC Laboratory Manager



Revision Record			
Version	Issue Date	Revisions	Remarks
V0	2025-09-17	Initial	Valid

Authorized for issue by			
			
		Karl Liu / File Editor	
			
		June Li/Reviewer	

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in Full without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.



2 Test Summary

Item	Document Title
47 CFR Part 15, Subpart C	Intentional Radiators
ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

Item	Standard	Result
Antenna Requirements	15.203	Pass
20dB Occupied Bandwidth	15.215c	Pass
AC Power Line Conducted Emissions	15.207	Pass
Spurious Emissions	15.209	Pass

Note:

E.U.T./EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.



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4 General Information

4.1 Details of E.U.T.

Power Supply	Battery Capacity: 3.7V=5000mAh 18.5Wh USB-C Input: 5V=2A USB Output: 5V=2.1A Wireless Charger Output: 5W
Modulation Type	FSK
Operating frequency	Wireless Charging:112-205KHz
Antenna Type	Induction Coil Antenna
Hardware Version	V1.2
Software Version	V1.2
Sample number	BTEK250902019A01-1-1/4
Model(s) Difference Statement	☒ Single Model. ☐ Multi-Models:

4.2 Description of EUT Test Mode

Test Mode List		
Test Mode	Description	Remark
1	Wireless output:5W Load 1%	Keep the EUT Wireless output:5W worst case
2	Wireless output:5W Load 50%	Keep the EUT Wireless output:5W worst case
3	Wireless output:5W Load 99%	Keep the EUT Wireless output:5W worst case
Remark:1.Only show the worst case load 1% in the test report		

4.3 Description of Support Units

Auxiliary Equipment			
Description	Manufacturer	Model	Serial Number
WPC charging load	EESON	2S	/



4.4 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2 and TR100 028-1/-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Occupied Channel Bandwidth	69 KHz
RF output power, conducted	0.87 dB
Power Spectral Density, conducted	0.69 dB
Unwanted Emissions, conducted	0.94 dB
All emissions, radiated(<1GHz)	4.12 dB
All emissions, radiated(>1GHz)	4.16 dB
Temperature	0.82 °C
Humidity	4.1 %

4.5 Test Location

All tests were performed at:

Shenzhen BANTEK Testing Co., Ltd.

A5&A6, Building B1&B2, No.45 Gangtou Road, Bogang Community, Shajing Street, Bao'an District, Shenzhen, Guangdong, China 518104

Tel: +86 0755-2334 4200 Fax: +86 0755-2334 4200

FCC Registration Number: 264293

Designation Number: CN1356

No tests were sub-contracted.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



5 Equipment List

RF Conducted					
Equipment	Manufacturer	Model No	Serial No	Cal Date	Cal Due Date
Shielding Room	YIHENG ENELECTRONIC	5.5*3.1*3	YH-BT-220304-03	2025-02-15	2028-02-14
EXA Signal Analyzer	KEYSIGHT	N9020A	MY54230486	2025-06-19	2026-06-18
DC Power Supply	E3632A	E3642A	KR75304416	2025-06-19	2026-06-18
Attenuator	RswTech	SMA-JK-6dB	N/A	2025-06-19	2026-06-18
Attenuator	RswTech	SMA-JK-3dB	N/A	2025-06-19	2026-06-18
RF Control Unit	Techy	TR1029-1	N/A	2025-06-19	2026-06-18
RF Sensor Unit	Techy	TR1029-2	N/A	2025-06-19	2026-06-18
MXG Vector Signal Generator	Agilent	N5182A	US46240522	2025-06-19	2026-06-18
Programmable Temperature&Humidity Chamber	GRT	GR-HWX1000	GR22051001	2025-06-19	2026-06-18
Measurement Software	TACHOY	RF TestSoft	N/A	N/A	N/A

Radiated Method Test					
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
3m Semi-Anechoic Chamber	YIHENG ENELECTRONIC	966	YH-BT-220304-01	2025-02-15	2028-02-14
EMI Test Receiver	Rohde&Schwarz	ESCI	100694	2025-06-18	2026-06-17
TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	01324	2025-06-18	2026-06-17
Pre-Amplifier	Schwarzbeck	BBV 9745	#180	2025-06-18	2026-06-17
Loop Antenna	ETS	6502	00201177	2025-06-18	2026-06-17
Measurement Software	Fara	EZ EMC Ver. FA-03A2	N/A	N/A	N/A

Conducted Test					
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Shielding Room	YIHENG ENELECTRONIC	9*5*3.3	YH-BT-220304-04	2025-02-15	2028-02-14
EMI Test Receiver	Rohde&Schwarz	ESCI	101021	2025-06-18	2026-06-17
Measurement Software	Fara	EZ EMC Ver. FA-03A2	N/A	N/A	N/A
LISN	Rohde&Schwarz	ENV216	101472	2025-06-18	2026-06-17
LISN	Schwarzbeck	NSLK 8128	05127	2025-06-18	2026-06-17
Pulse Limiter	Schwarzbeck	VTSD 9561 F-N	00890	2025-06-18	2026-06-17
Cable	BTEK	LMR400UF-NMNM-7.00M	/	2025-06-18	2026-06-17
Cable	BTEK	LMR400UF-NMNM-2.50M	/	2025-06-18	2026-06-17
Cable	BTEK	LMR400UF-NMNM-3.00M	/	2025-06-18	2026-06-17
Cable	BTEK	SFT205PUR-MNSWSM-7.00M	/	2025-06-18	2026-06-17



Cable	BTEK	SFT205PUR-MNSWSM-2.50M	/	2025-06-18	2026-06-17
Cable	BTEK	SFT205PUR-MNSWSM-2.50M	/	2025-06-18	2026-06-17
Cable	BTEK	SFT205PUR-MNSWSM-0.30M	/	2025-06-18	2026-06-17



6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

Test Requirement FCC §15.203;

6.1.2 Conclusion

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. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with

§ 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

If directional gain of transmitting antennas is greater than 6 dBi, the power shall be reduced by the same level in dB comparing to gain minus 6 dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. 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 FCC rule.

The EUT uses an Integral Antenna which in accordance to Section 15.203 is considered sufficient to comply with the provisions of this section.



7 Radio Spectrum Matter Test Results

7.1 20dB Occupied Bandwidth

Test Requirement FCC Part 15.215c

7.1.1 E.U.T. Operation

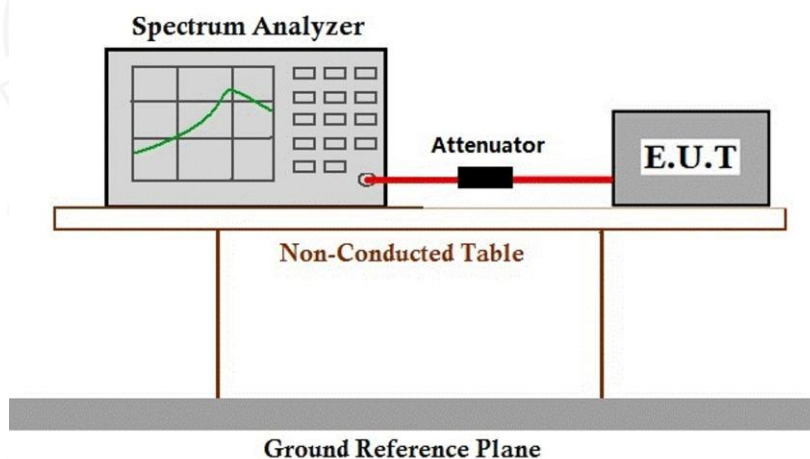
Operating Environment:

Temperature: 23.2 °C

Humidity: 53.2 % RH

Atmospheric Pressure: 1010 mbar

7.1.2 Test Setup Diagram



7.1.3 Measurement Procedure and Data

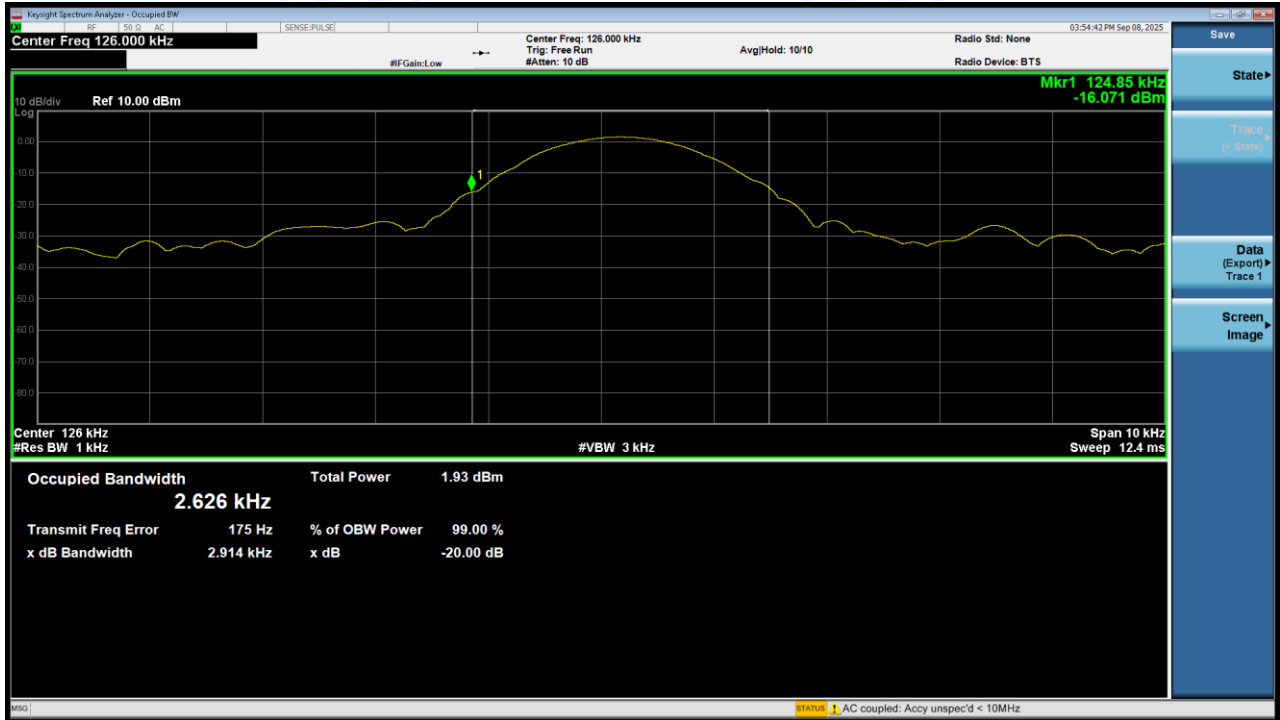
cable loss=0.9

1. The transmitter output was connected to the spectrum analyzer through an attenuator, the pathloss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. Use the following spectrum analyzer settings:
Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel
RBW $\geq$ 1% of the 20 dB bandwidth, VBW $\geq$ RBW
Sweep = auto, Detector function = peak, Trace = max hold
4. Measure and record the results in the test report.



Worst case mode 1

Freq. (kHz)	20 dB bandwidth Result (kHz)	Conclusion
129	2.914	PASS



7.2 AC Power Line Conducted Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.207

Test Method:

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.

Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

7.2.1 E.U.T. Operation

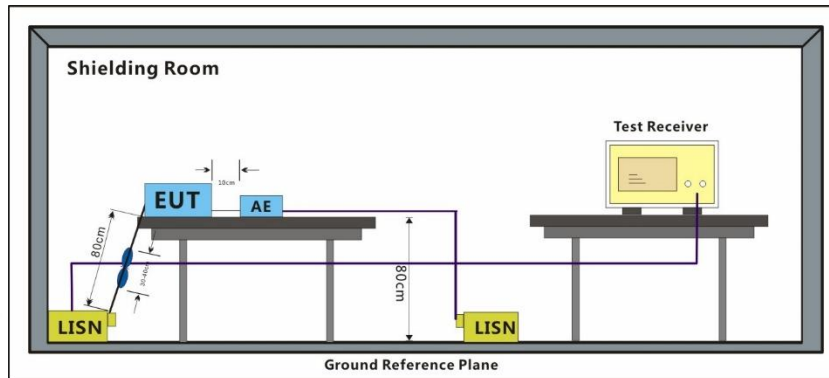
Operating Environment:

Temperature: 23.9 °C

Humidity: 54 % RH

Atmospheric Pressure: 1010 mbar

7.2.2 Test Setup Diagram



7.2.3 Measurement Procedure and Data

The maximum conducted interference is searched using Peak (PK), if the emission levels 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. Refer to recorded points and plots below.

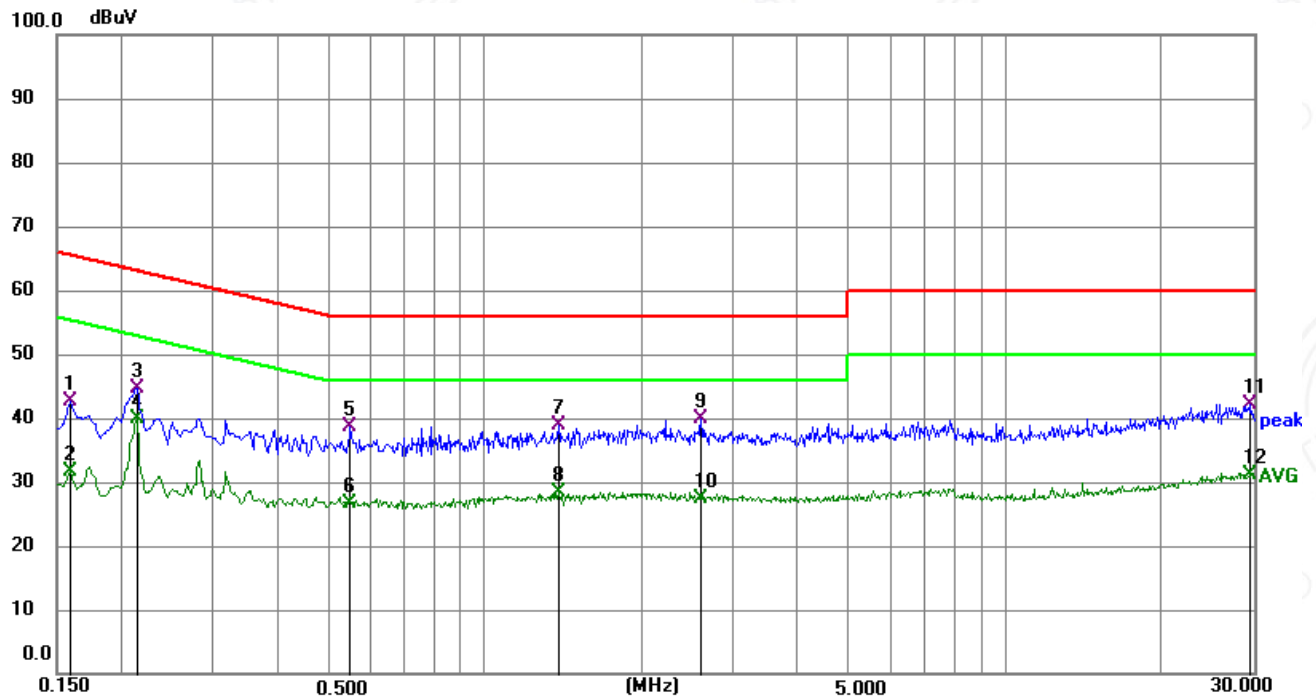
Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

Remark: LISN=Read Level+ Cable Loss+ LISN Factor

Note:Level (dBUV) = Reading (dBUV) + Factor (dB)



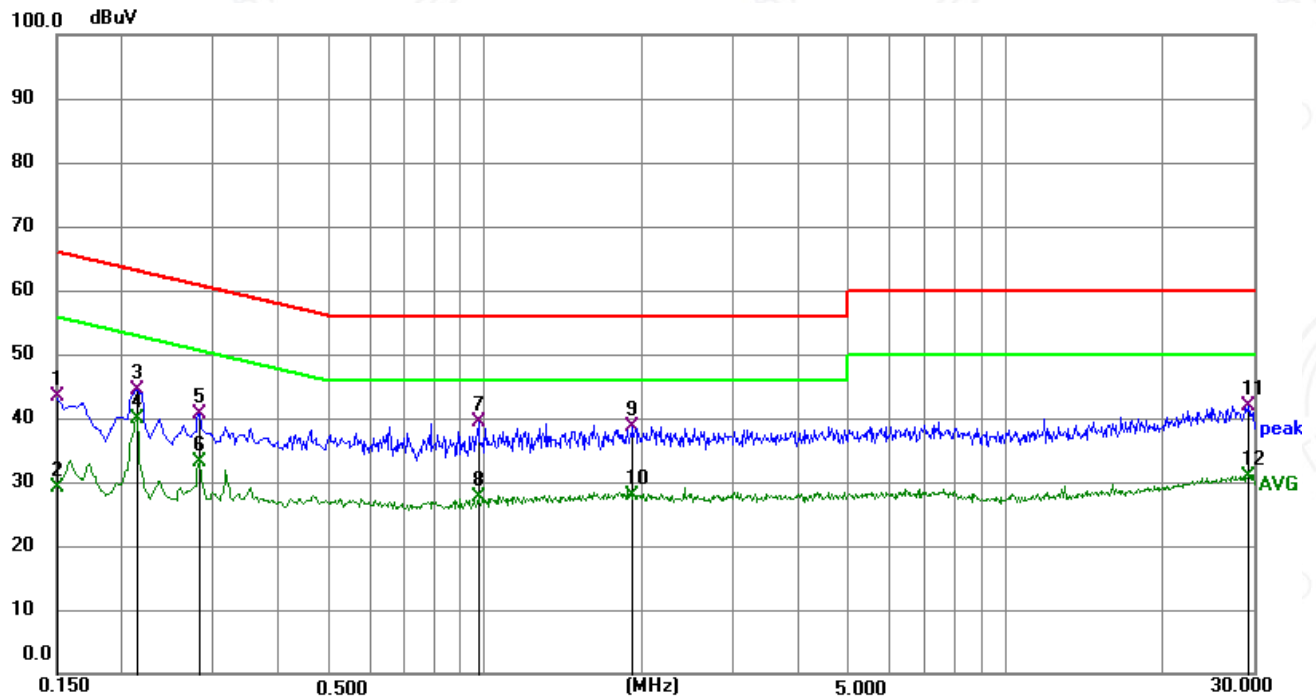
Test mode:	Worst case 1	Polarity:	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1590	23.12	19.50	42.62	65.52	-22.90	QP	P	
2	0.1590	12.07	19.50	31.57	55.52	-23.95	AVG	P	
3	0.2130	25.08	19.51	44.59	63.09	-18.50	QP	P	
4 *	0.2130	20.27	19.51	39.78	53.09	-13.31	AVG	P	
5	0.5505	19.13	19.59	38.72	56.00	-17.28	QP	P	
6	0.5505	7.16	19.59	26.75	46.00	-19.25	AVG	P	
7	1.3875	18.20	20.56	38.76	56.00	-17.24	QP	P	
8	1.3875	7.76	20.56	28.32	46.00	-17.68	AVG	P	
9	2.6070	19.01	20.81	39.82	56.00	-16.18	QP	P	
10	2.6070	6.62	20.81	27.43	46.00	-18.57	AVG	P	
11	29.6115	18.35	23.84	42.19	60.00	-17.81	QP	P	
12	29.6115	7.38	23.84	31.22	50.00	-18.78	AVG	P	



Test mode:	Worst case 1	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1500	23.93	19.53	43.46	66.00	-22.54	QP	P	
2	0.1500	9.68	19.53	29.21	56.00	-26.79	AVG	P	
3	0.2130	24.81	19.59	44.40	63.09	-18.69	QP	P	
4 *	0.2130	20.25	19.59	39.84	53.09	-13.25	AVG	P	
5	0.2805	21.07	19.62	40.69	60.80	-20.11	QP	P	
6	0.2805	13.51	19.62	33.13	50.80	-17.67	AVG	P	
7	0.9690	19.42	20.08	39.50	56.00	-16.50	QP	P	
8	0.9690	7.60	20.08	27.68	46.00	-18.32	AVG	P	
9	1.9185	17.91	20.82	38.73	56.00	-17.27	QP	P	
10	1.9185	6.96	20.82	27.78	46.00	-18.22	AVG	P	
11	29.2470	18.40	23.58	41.98	60.00	-18.02	QP	P	
12	29.2470	7.21	23.58	30.79	50.00	-19.21	AVG	P	

NOTE:

- 1.Level (dBuV) = Reading (dBuV) + Factor (dB)
- 2.Factor = Insertion Loss + Cable Loss.
- 3.Margin = Level – Limit.



7.3 Radiated Spurious Emissions

Test Requirement FCC §15.209

Test Method:

Limit:

Radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a). According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

FCC Part 15.209				
Frequency (MHz)	Field Strength Limitation		Field Strength Limitation Frequency tion at 3m Measurement Dist	
	(uV/m)	Dist	(uV/m)	(dBuV/m)
0.009 – 0.490	$2400 / F(\text{KHz})$	300m	$10000 * 2400/F(\text{KHz})$	$20\log 2400/F(\text{KHz}) + 80$
0.490 – 1.705	$24000 / F(\text{KHz})$	30m	$100 * 24000/F(\text{KHz})$	$20\log 24000/F(\text{KHz}) + 40$
1.705 – 30.00	30	30m	$100 * 30$	$20\log 30 + 40$
30.0 – 88.0	100	3m	100	$20\log 100$
88.0 – 216.0	150	3m	150	$20\log 150$
216.0 – 960.0	200	3m	200	$20\log 200$
Above 960.0	500	3m	500	$20\log 500$

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

7.3.1 E.U.T. Operation

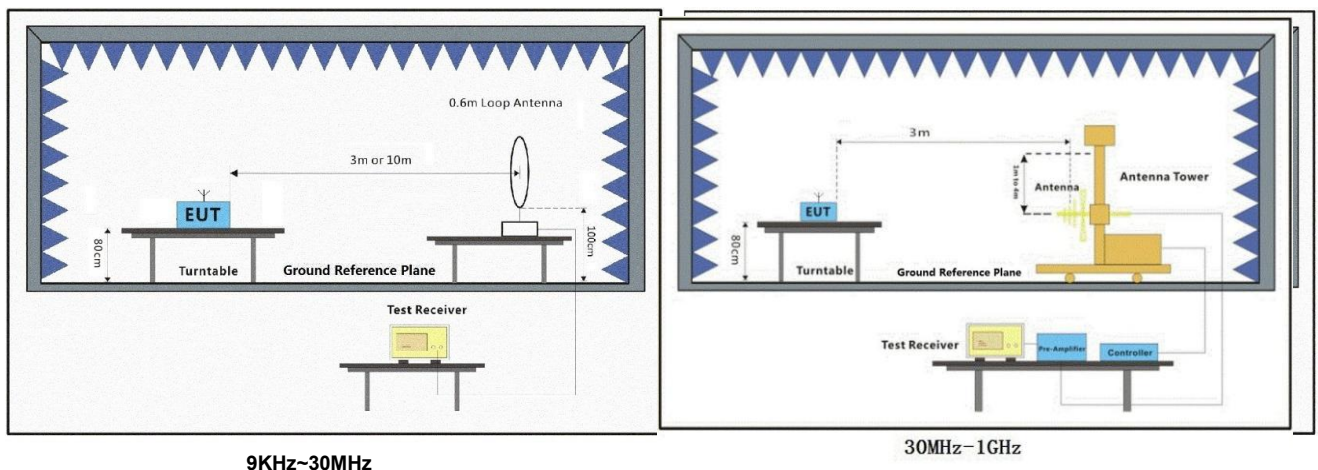
Operating Environment:

Temperature: 25.3 °C

Humidity: 57.4 % RH

Atmospheric Pressure: 1010 mbar

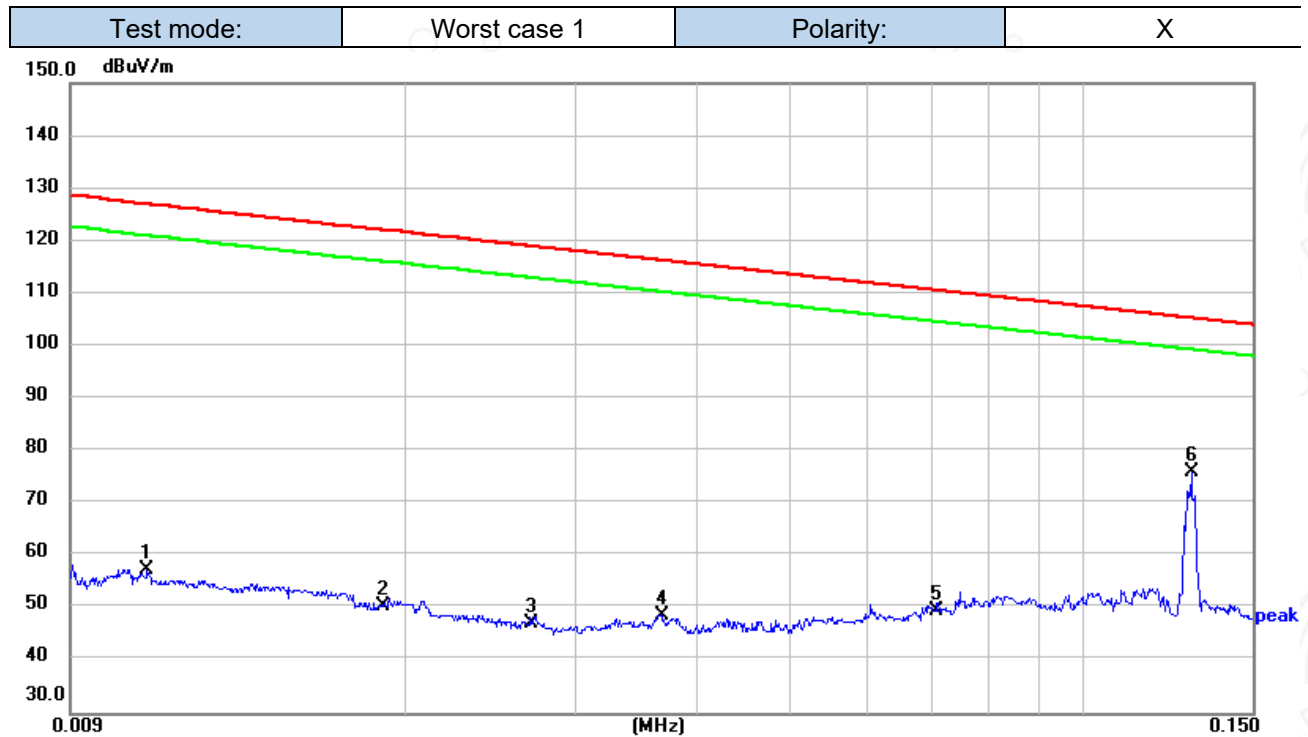
7.3.2 Test Setup Diagram



7.3.3 Measurement Procedure and Data

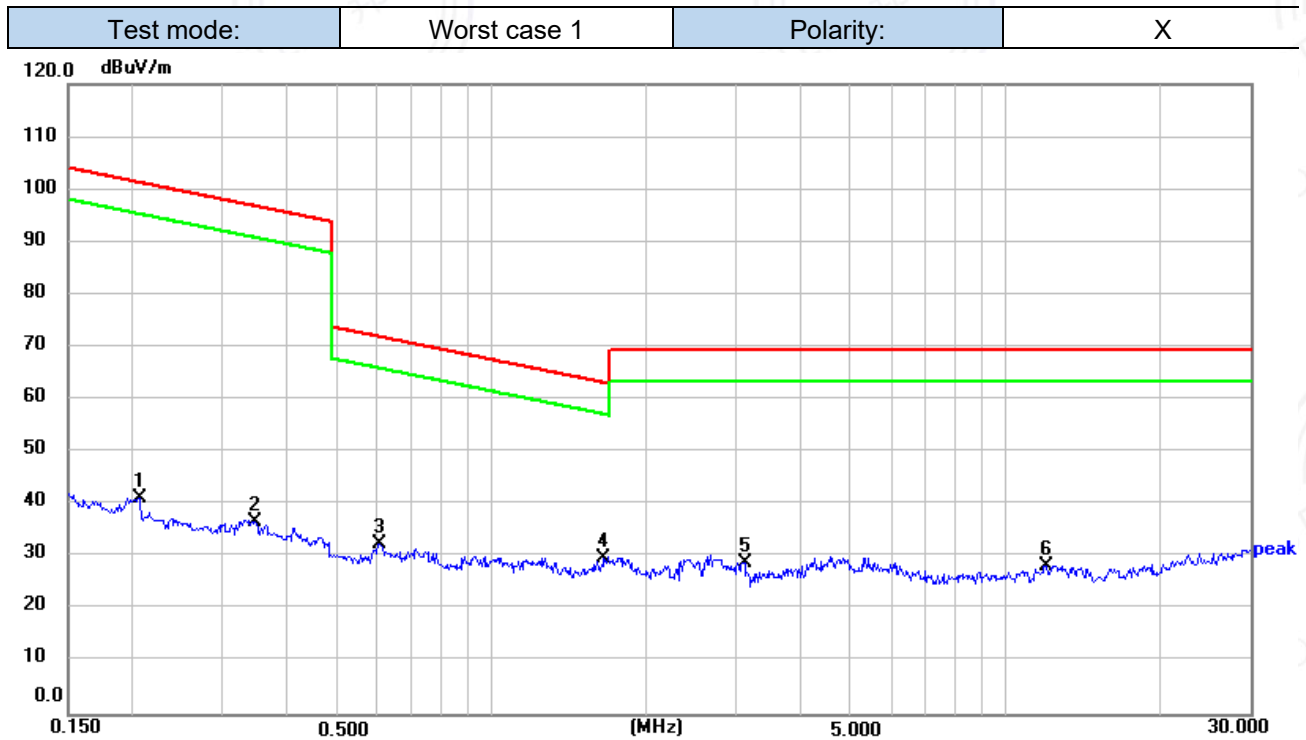
The EUT is placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna (calibrated by dipole antenna) are used as a receiving antenna. Both horizontal and vertical polarization of the antenna are set on measurement.

9 kHz ~ 30 MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0108	87.65	-30.32	57.33	126.94	-69.61	peak
2	0.0190	80.90	-30.39	50.51	122.03	-71.52	peak
3	0.0270	77.82	-30.45	47.37	118.98	-71.61	peak
4	0.0367	79.37	-30.55	48.82	116.31	-67.49	peak
5	0.0704	80.60	-30.90	49.70	110.65	-60.95	peak
6 *	0.1295	107.10	-31.19	75.91	105.36	-29.45	peak





No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.2061	72.53	-31.15	41.38	101.32	-59.94	peak
2	0.3462	67.84	-31.11	36.73	96.82	-60.09	peak
3	0.6040	63.60	-31.01	32.59	71.98	-39.39	peak
4 *	1.6532	60.77	-30.82	29.95	63.24	-33.29	peak
5	3.1065	59.65	-30.84	28.81	69.54	-40.73	peak
6	11.9961	59.10	-30.63	28.47	69.54	-41.07	peak

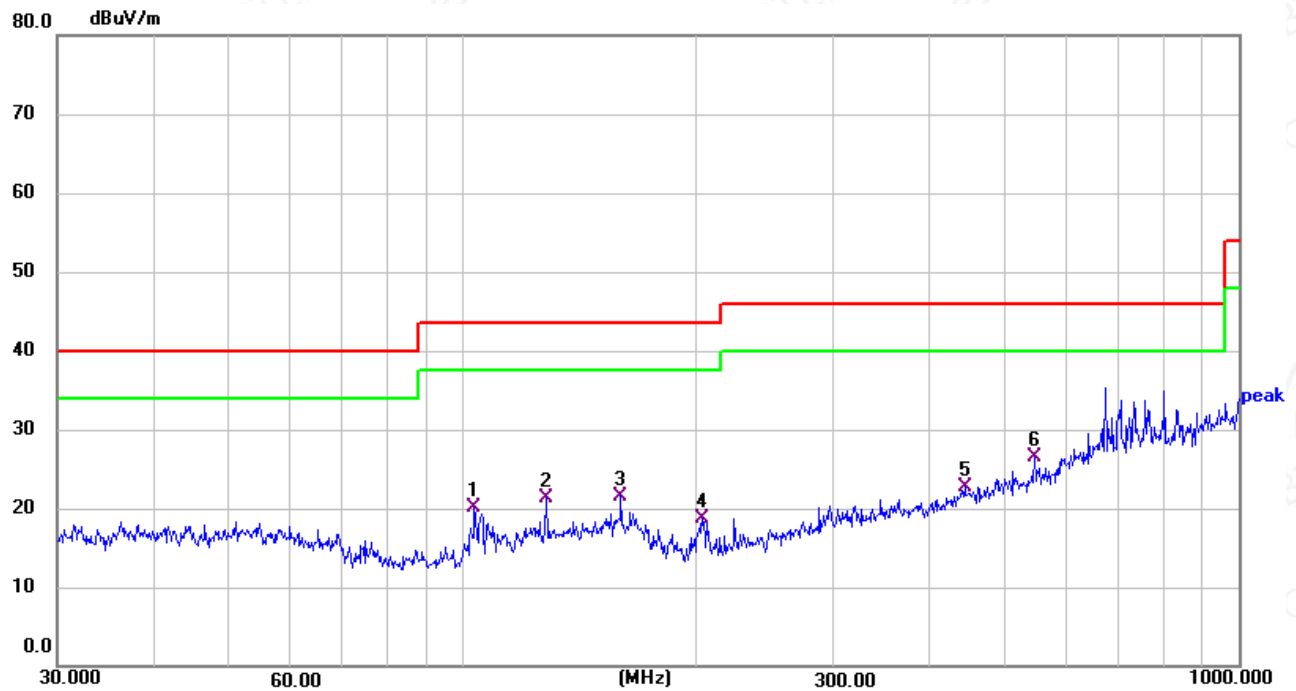
Note:

- 1). $\text{Level(dBuV/m)} = \text{Reading(dBuV)} + \text{Factor(dB/m)}$
- 2). $\text{Factor(dB/m)} = \text{Antenna Factor(dB/m)} + \text{Cable loss(dB)} - \text{Pre Amplifier gain(dB)}$
- 3). $\text{Margin(dB)} = \text{Limit(dBuV/m)} - \text{Level(dBuV/m)}$
- 4). This EUT was tested in 3 orthogonal positions and the worst case position data was reported.
- 5). Pre-scan coaxial and coplanar polar, only show the worst case coaxial in the test report.



Below 1GHz

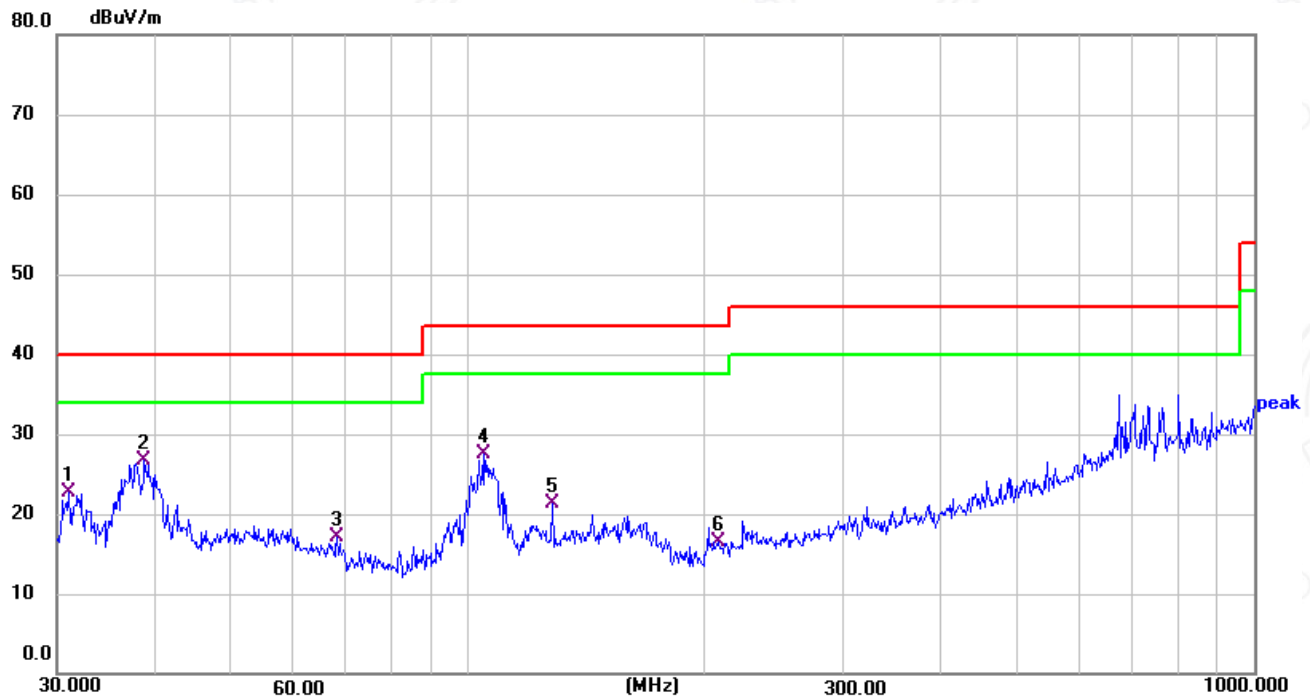
Test mode:	Worst case 1	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	103.4421	8.88	11.17	20.05	43.50	-23.45	QP	100	360	P	
2	128.1130	8.67	12.61	21.28	43.50	-22.22	QP	100	360	P	
3	159.7844	7.32	14.28	21.60	43.50	-21.90	QP	100	360	P	
4	203.5228	7.16	11.62	18.78	43.50	-24.72	QP	100	360	P	
5	443.2943	5.34	17.45	22.79	46.00	-23.21	QP	100	360	P	
6 *	545.1826	7.66	18.81	26.47	46.00	-19.53	QP	100	360	P	



Test mode:	Worst case 1	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	31.0706	9.60	13.13	22.73	40.00	-17.27	QP	100	0	P	
2 *	38.7518	12.89	13.77	26.66	40.00	-13.34	QP	100	0	P	
3	68.1514	5.30	11.72	17.02	40.00	-22.98	QP	100	0	P	
4	104.5361	16.49	11.05	27.54	43.50	-15.96	QP	100	0	P	
5	128.1130	8.62	12.61	21.23	43.50	-22.27	QP	100	0	P	
6	208.5803	5.16	11.40	16.56	43.50	-26.94	QP	100	0	P	

NOTE:

1.Level (dBuV/m) = Reading (dBuV) + Factor (dB/m)

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

2.Factor = Antenna Factor+ Cable Loss-Preamp Factor

3.Margin = Level – Limit.



8 Test Setup Photo

Please refer to the Appendix test setup Photos.

9 EUT Constructional Details (EUT Photos)

Please refer to the Appendix EUT Photos.

- End of the Report -

