

Shenzhen Huaxia Testing Technology Co., Ltd.

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Report Template Version: V05 Report Template Revision Date: 2021-11-03

Test Report

Report No.:	CQASZ20241002124E -01
Applicant:	C-Smartlink Information Technology Co., Ltd.
Address of Applicant:	101-501,Factory Building 1,No.91 Hengping Road,Baoan Community,Yuanshan
	Street,Longgang District,Shenzhen,China
Equipment Under Test	(EUT):
Product:	Power Bank
Model No.:	PB0604,MOPB0604,SEPB0604,VIPB0604,SKPB0604,LIPB0604, KAPB0604,HOPB0604,HSPB0604,GMPB0604,FAPB0604,EXPB0604, AIPB0604,USPB0604,XFPB0604,MOPB0604-BK,SEPB0604-BK, MOPB0604-WH,SEPB0604-WH,PB0604-BK
Test Model No.:	PB0604
Brand Name: FCC ID:	N/A 2ACFF-PB0604
Standards:	47 CFR Part 15, Subpart C
Date of Receipt:	2024-10-10
Date of Test:	2024-10-10 to 2024-10-25
Date of Issue:	2024-11-13
Test Result:	PASS*

*In the configuration tested, the EUT complied with the standards specified above

Tested By:	Joe	TETING
_	(Joe Wang)	State Testing Eggs
Reviewed By:	Timo Loj	
, , , , , , , , , , , , , , , , , , ,	(Timo Lei)	是华夏准测
Approved By:	Alex	* APPROVED *
	(Alex Wang)	

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can't be reproduced except in full.



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20241002124E - 01	Rev.01	Initial report	2024-11-13



2 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15, Subpart C Section 15.203	ANSI C63.10 2013	PASS
AC Power Line Conducted Emission	47 CFR Part 15, Subpart C Section 15.207	ANSI C63.10 2013	PASS
20dB Occupied Bandwidth	47 CFR Part 15, Subpart C Section 15.215	ANSI C63.10 2013	PASS
Radiated Emission , Radiated Spurious Emissions	47 CFR Part 15, Subpart C Section 15.209	ANSI C63.10 2013	PASS



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4 General Information

4.1 Client Information

Applicant:	C-Smartlink Information Technology Co., Ltd.	
Address of Applicant:	101-501,Factory Building 1,No.91 Hengping Road,Baoan Community,Yuanshan Street,Longgang District,Shenzhen,China	
Manufacturer:	C-Smartlink Information Technology Co., Ltd.	
Address of Manufacturer:	101-501, Factory Building 1, No.91 Hengping Road, Baoan Community, Yuansha Street, Longgang District, Shenzhen, China	
Factory 1:	C-Smartlink Information Technology Co., Ltd.	
Address of Factory 1:	101-501,Factory Building 1,No.91 Hengping Road,Baoan Community,Yuanshan Street,Longgang District,Shenzhen,China	
Factory 2:	HUNAN C-SMARTLINK TECHNOLOGY CO.,LTD	
Address of Factory 2:	Building 5-6-7-8, Chengnan Electronic Information Industrial Park, Chenxi Industri Development Zone, Chenxi County, Huaihua, Hunan Province	

4.2 General Description of EUT

Product Name:	Power Bank
Model No.:	PB0604,MOPB0604,SEPB0604,VIPB0604,SKPB0604,LIPB0604, KAPB0604,HOPB0604,HSPB0604,GMPB0604,FAPB0604,EXPB0604, AIPB0604,USPB0604,XFPB0604,MOPB0604-BK,SEPB0604-BK, MOPB0604-WH,SEPB0604-WH,PB0604-BK
Test Model No.:	PB0604
Brand Name:	N/A
Software Version:	V1.0
Hardware Version:	V1.0
EUT Power Supply:	Charging by Adapter : DC 5V-3.0A/9V-2.0A/DC 12V - 1.5A Battery: 10000mAh(38.5Wh/3.85V)

4.3 Product Specification subjective to this standard

Equipment Category:	Non-ISM frequency
Operation Frequency range:	115kHz~205kHz
Modulation Type:	ASK
Antenna Type:	Induction coil
Antenna Gain:	0dBi

Note:

1. In section 15.31(m), regards to the operating frequency range less 1 MHz.



4.4 Test Environment

Operating Environment	
Radiated Emissions:	
Temperature:	25.5 °C
Humidity:	53 % RH
Atmospheric Pressure:	1009 mbar
Conducted Emissions:	
Temperature:	25.8 °C
Humidity:	58 % RH
Atmospheric Pressure:	100.9 mbar
Radio conducted item te	est (RF Conducted test room):
Temperature:	27.1 °C
Humidity:	56 % RH
Atmospheric Pressure:	100.9 mbar
Test Mode:	
Mode a:	Keep the EUT adapter+Wireless Charging 5W
Mode b:	Keep the EUT Wireless Out Put 5W
Mode c:	Keep the EUT Wireless Out Put 7.5W
Mode d:	Keep the EUT Wireless Out Put 10W
Mode e:	Keep the EUT Wireless Out Put 15W(Max)
Note: The above test modes all reflected in this report is the full	include full load,empty load,and half load, The worst-case state y loaded state

4.5 Description of Support Units

The EUT has been tested with associated equipment below.

1) Support equipment

Description	Manufacturer	Model No.	Certification	Supplied by
Adapter	/	LPL-C010050200Z	/	CQA
Wireless charge load	1	/	/	CQA

2) Cable

Cable No.	Description	Manufacturer	Cable Type/Length	Supplied by
/	/	/	/	/



4.6 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate.

The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities.

The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the **Shenzhen Huaxia Testing Technology Co., Ltd.** quality system acc. to DIN EN ISO/IEC 17025.

Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

No.	Item	Uncertainty	Notes
1	Radiated Emission (Below 1GHz)	5.12dB	(1)
2	Radiated Emission (Above 1GHz)	4.60dB	(1)
3	Occupied Bandwidth	1.1%	(1)
4	Temperature test	0.8°C	(1)
5	Humidity test	2.0%	(1)

Hereafter the best measurement capability for CQA laboratory is reported:

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

4.7 Test Location

Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

4.8 Test Facility

• A2LA (Certificate No. 4742.01)

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4742.01.

• FCC Registration No.: 522263

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.:522263

4.9 Deviation from Standards

None.

4.10Other Information Requested by the Customer

None.



4.11Equipment List

Test Equipment	Manufacturer	Model No.	Instrument No.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR7	CQA-005	2024/9/2	2025/9/1
Spectrum analyzer	R&S	FSU26	CQA-038	2024/9/2	2025/9/1
Preamplifier	MITEQ	AMF-6D-02001800-29- 20P	CQA-036	2024/9/2	2025/9/1
Loop antenna	Schwarzbeck	FMZB1516	CQA-060	2023/9/8	2026/9/7
Bilog Antenna	R&S	HL562	CQA-011	2023/11/01	2026/10/31
Horn Antenna	R&S	HF906	CQA-012	2023/11/01	2026/10/31
Horn Antenna	Schwarzbeck	BBHA 9170	CQA-088	2023/9/7	2026/9/6
Coaxial Cable (Above 1GHz)	CQA	N/A	C007	2024/9/2	2025/9/1
Coaxial Cable (Below 1GHz)	CQA	N/A	C013	2024/9/2	2025/9/1
Antenna Connector	CQA	RFC-01	CQA-080	2024/9/2	2025/9/1
RF cable(9KHz~40GHz)	CQA	RF-01	CQA-079	2024/9/2	2025/9/1
Power divider	MIDWEST	PWD-2533-02-SMA-79	CQA-067	2024/9/2	2025/9/1
EMI Test Receiver	R&S	ESR7	CQA-005	2024/9/2	2025/9/1
LISN	R&S	ENV216	CQA-003	2024/9/2	2025/9/1
Coaxial cable	CQA	N/A	CQA-C009	2024/9/2	2025/9/1
DC power	KEYSIGHT	E3631A	CQA-028	2024/9/2	2025/9/1



Test results and Measurement Data 5

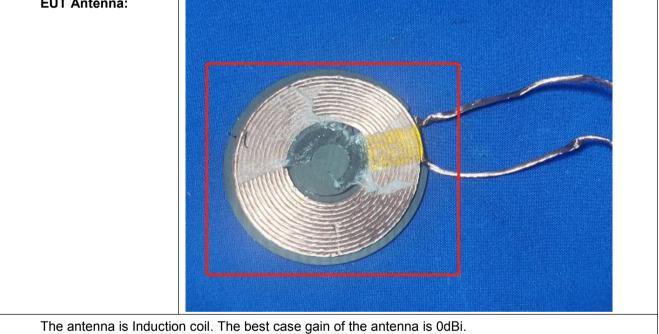
5.1 Antenna Requirement

47 CFR Part 15C Section 15.203 Standard requirement:

15.203 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, 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.

EUT Antenna:





Test Results:

Pass

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Test Requirement:	47 CFR Part 15C Section 15.207			
Test Method:	ANSI C63.10: 2013			
Test Frequency Range:	150kHz to 30MHz			
Limit:	Frequency range (MHz)	Limit (dBuV)		
		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 logarithn	n of the frequency.		
Test Procedure:	 The mains terminal disturbance voltage test was conducted in a shielded room. The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50µH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane. The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to 			(Line inear were ence ed. A s to a e the was e the was of The ound of the ISNs ween EUT
Test Setup:	Shielding Room		Test Receiver	

5.2 Conducted Emissions

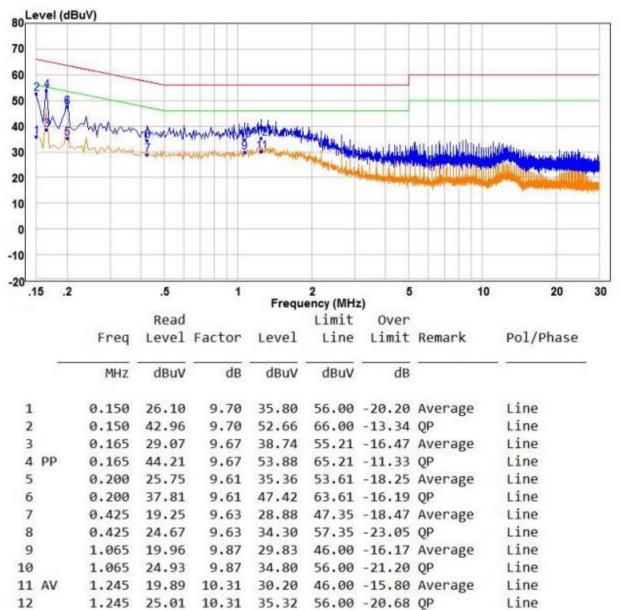
Ground Reference Plane



Measurement Data

The worst case:mode d

Live line:



Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

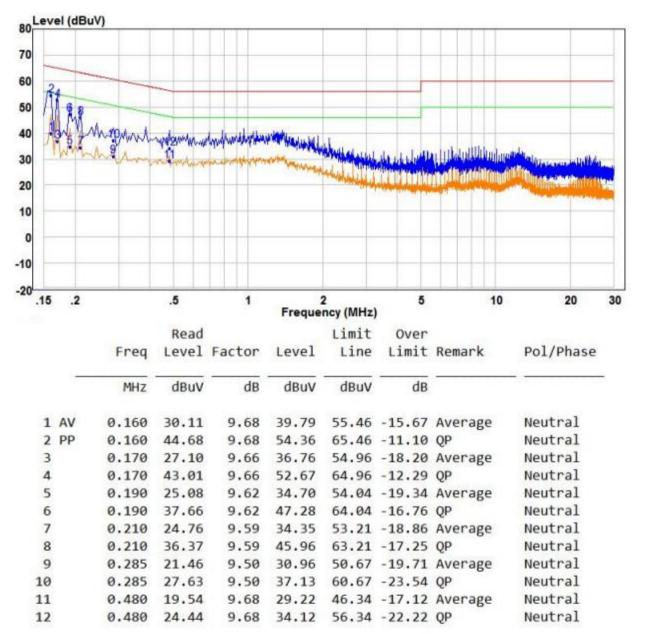
- 2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.
- 3. If the Peak value under Average limit, the Average value is not recorded in the report.



The worst case:

mode d:

Neutral line:

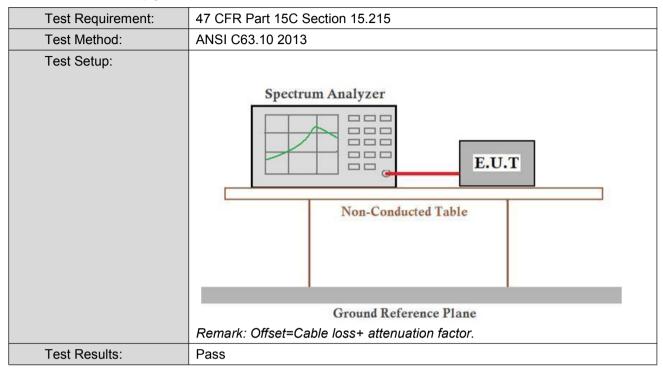


Remark:

- 1. The following Quasi-Peak and Average measurements were performed on the EUT:
- 2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.
- 3. If the Peak value under Average limit, the Average value is not recorded in the report.



5.3 20dB Occupy Bandwidth

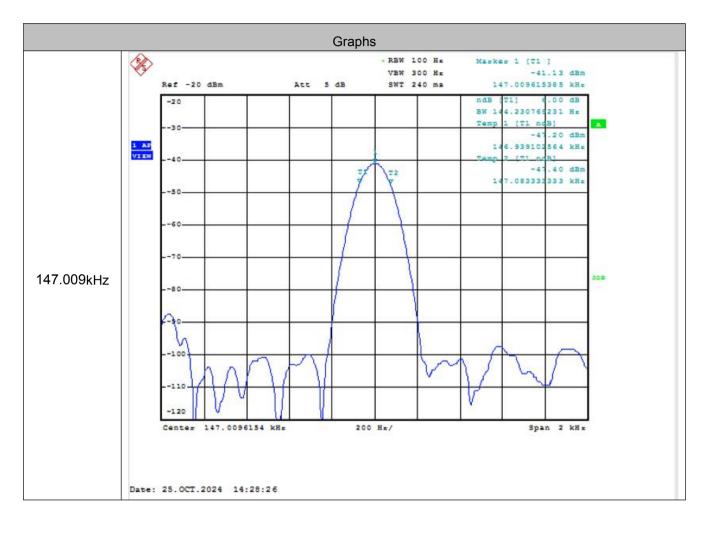


Measurement Data

Mode i				
Test Frequency (kHz)	20dB Occupy Bandwidth (Hz)	Result		
147.009	144.230	Pass		



Test plot as follows:



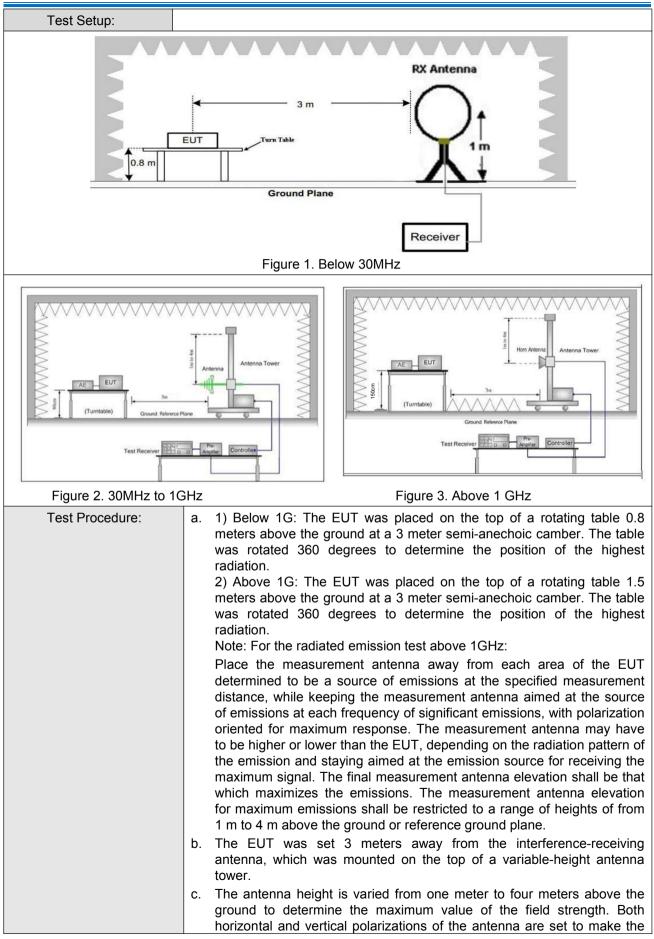


5.4 Radiated Spurious Emission & Restricted bands

5.4.1 Spurious Emissions						
Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205					
Test Method:	ANSI C63.10 2013					
Test Site:	Measurement Distance	: 3m	n (Semi-Anecl	noic Cham	ber)	
Receiver Setup:	Frequency Detector RBW VBW Remark				Remark	
	0.009MHz-0.090MH	z	Peak	10kHz	z 30kHz	Peak
	0.009MHz-0.090MH	z	Average	10kHz	z 30kHz	Average
	0.090MHz-0.110MH	z	Quasi-peak	10kHz	z 30kHz	Quasi-peak
	0.110MHz-0.490MH	z	Peak	10kHz	z 30kHz	Peak
	0.110MHz-0.490MH	z	Average	10kHz	z 30kHz	Average
	0.490MHz -30MHz		Quasi-peak	10kHz	z 30kHz	Quasi-peak
	30MHz-1GHz		Quasi-peak	100 kH	z 300kHz	Quasi-peak
	Above 1GHz		Peak	1MHz	: 3MHz	Peak
			Peak	1MHz	: 10Hz	Average
Limit:	Frequency		eld strength crovolt/meter)	Limit (dBuV/m)	Remark	Measuremen distance (m)
	0.009MHz-0.490MHz	24	400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24	1000/F(kHz)	-	-	30
	1.705MHz-30MHz		30	-	-	30
	30MHz-88MHz		100	40.0	Quasi-peak	3
	88MHz-216MHz		150	43.5	Quasi-peak	3
	216MHz-960MHz		200	46.0	Quasi-peak	3
	960MHz-1GHz		500	54.0	Quasi-peak	3
	Above 1GHz		500	54.0	Average	3
	Note: 15.35(b), frequency emissions is limit applicable to the e peak emission level rac	20d quip	IB above the oment under t	maximum est. This p	permitted ave	erage emission





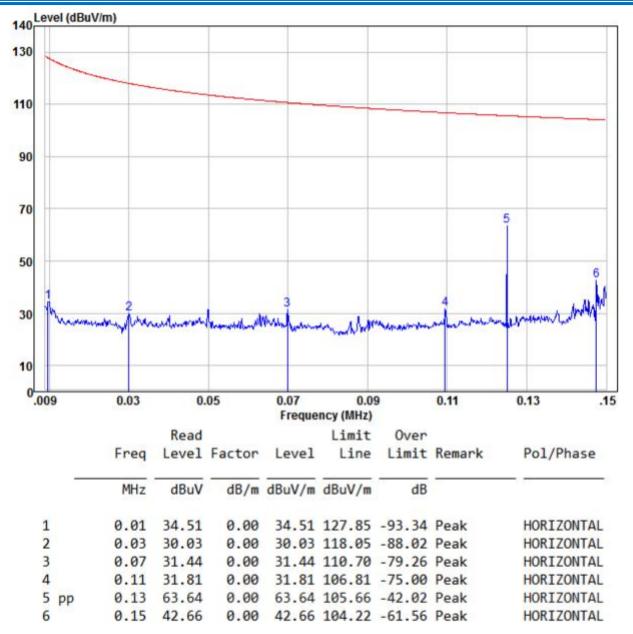




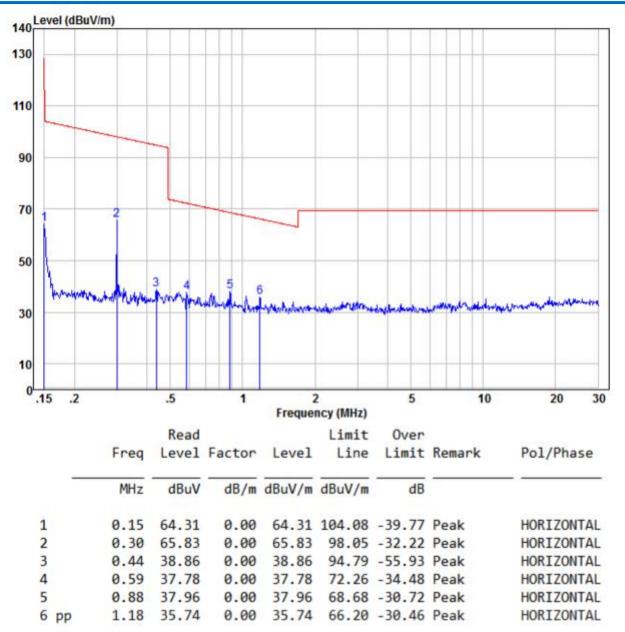
		measurement.
	d. e.	For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. The test-receiver system was set to Peak Detect Function and Specified
		Bandwidth with Maximum Hold Mode.
	f.	If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
	g.	Repeat above procedures until all frequencies measured was complete.
Test Results:	Pas	38

Radiated Emission below 9k~30MHz		
the worst case		
Test mode: Mode e		





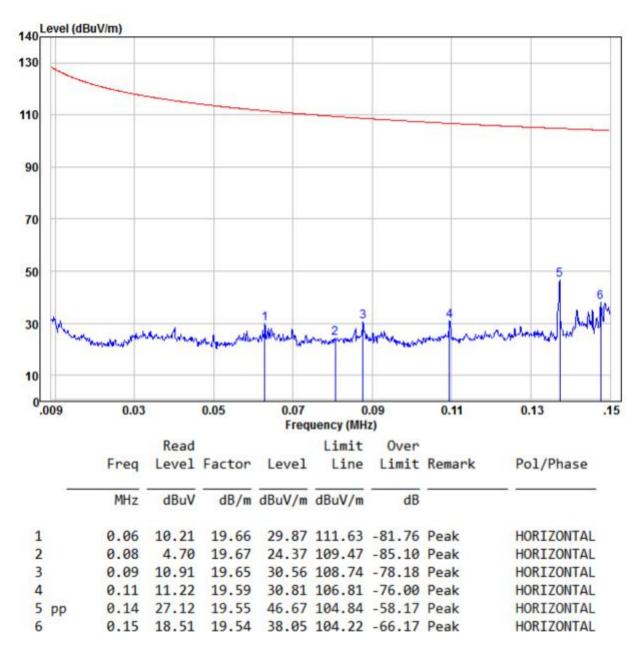




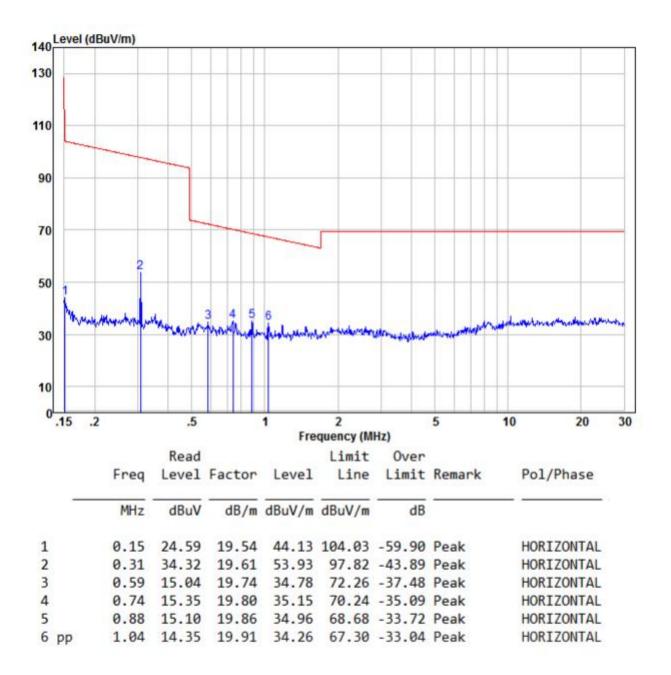


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Radiated Emission below 9k~30MHz			
the worst case			
Test mode:	Mode a		





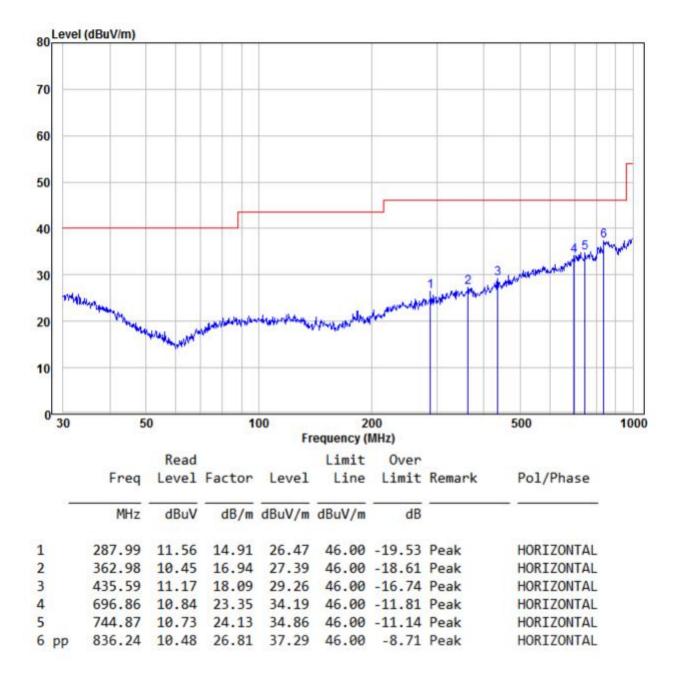


Note: No other emissions found between lowest internal used/generated frequencies to 30MHz. The peak level of the emission is less than the average limit, so the average level shall be less than1 the limit without test.



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Radiated Emission				
30MHz~1GHz, the worst case				
Test mode:	Mode a	Horizontal		





5 pp

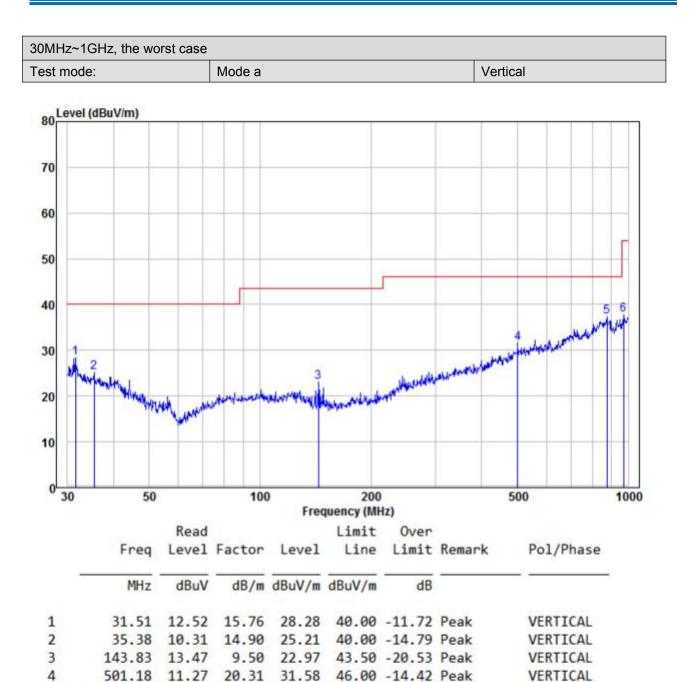
6

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VERTICAL

VERTICAL

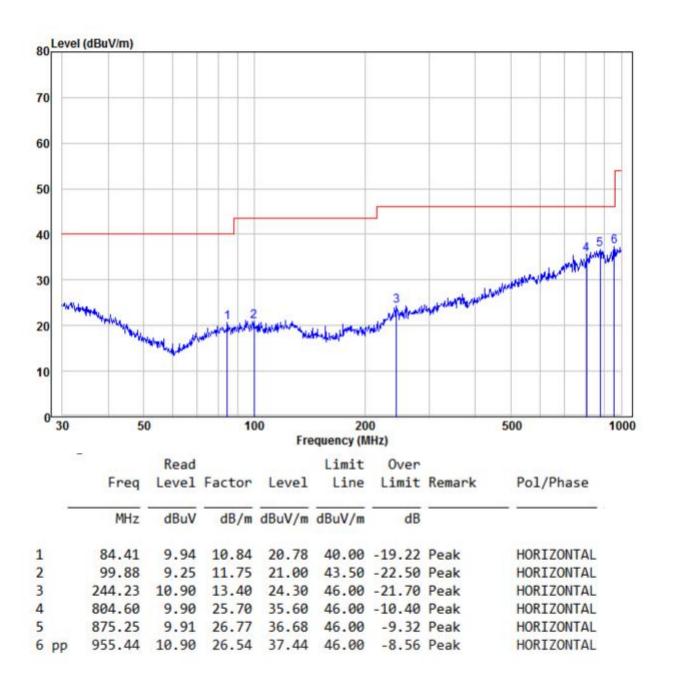


875.25 10.61 26.77 37.38 46.00 -8.62 Peak

972.34 10.70 26.98 37.68 54.00 -16.32 Peak



Radiated Emission				
30MHz~1GHz, the worst case				
Test mode:	Mode e	Horizontal		

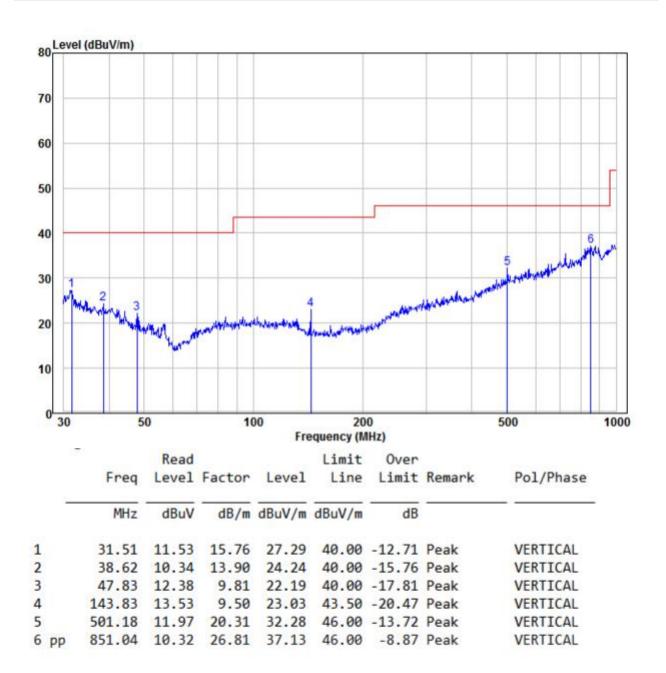




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30MHz~1GHz, the worst case				
Test mode:	Mode e	Vertical		



Remark:

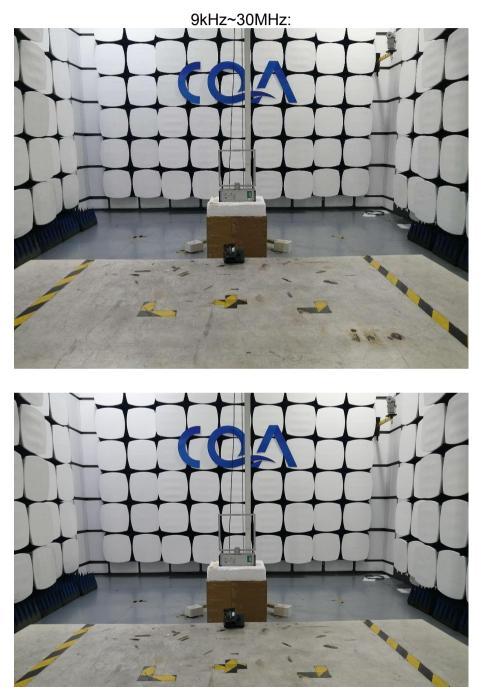
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor



6 Photographs - EUT Test Setup

6.1 Radiated Emission



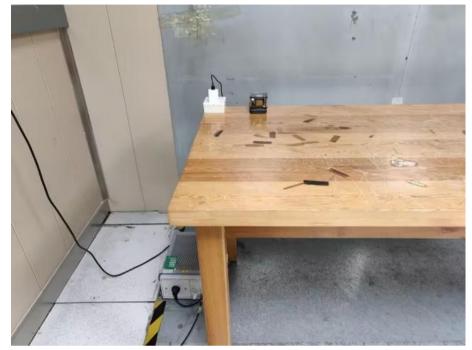








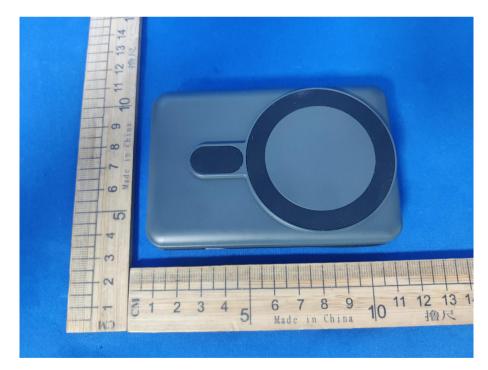
6.2 Conducted Emission





7 Photographs - EUT Constructional Details







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