

Shenzhen CTL Testing Technology Co., Ltd. Tel: +86-755-89486194 E-mail: ctl@ctl-lab.com

Report Reference No	CTL2407181012-WF			
Compiled by ( position+printed name+signature)	Happy Guo (File administrator)	Happy Caup		
Supervised by ( position+printed name+signature)	Jack Wang (Test Engineer)	approved y		
Approved by ( position+printed name+signature)	Ivan Xie (Manager)	Ch Testing Technology		
Test Firm:	Shenzhen CTL Testing Tech	nnology Co., Ltd.		
Address:	Floor 1-A, Baisha Technology Park, No.3011, Shahexi Road, Nanshan District, Shenzhen, China 518055			
Applicant's name	Yuwei Technology (Dongguan) Co., Ltd.			
Address	Room 301, No.15 Longjing Road, Guanjingtou, Fenggang Town, Dongguan City, Guangdong Province, China			
Test specification:				
Standard	47 CFR Part 15, Subpart C			
Master TRF:	Dated 2011-01			
Test item description:	Power Bank			
FCC ID	2AZK8-B05PW			
Trade Mark:	N/A			
Model/Type reference:	B05PW			
Antenna type:	loop coil Antenna			
Date of receipt of test item:	July. 23, 2024	2		
Date of Test Date:	July. 23, 2024–September. 26	6, 2024		
Data of Issue:	September. 27, 2024			
Result:	Pass			

the Shenzhen CTL Testing Technology Co., Ltd. is acknowledged as copyright owner and source of the material. Shenzhen CTL Testing Technology Co., Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.



# TEST REPORT

CTI 2407181012 WE	September. 27, 2024		
CTL2407 181012-WF	Date of issue		
Power Bank			
: B05PW			
: Yuwei Technology (Dong	guan) Co., Ltd.		
	Room 301, No.15 Longjing Road, Guanjingtou, Fenggang Town, Dongguan City, Guangdong Province, China		
: Yuwei Technology (Dong	guan) Co., Ltd.		
: Room 301, No.15 Longjing Dongguan City, Guangdong	Road, Guanjingtou, Fenggang Town g Province, China		
	<ul> <li>B05PW</li> <li>Yuwei Technology (Dong)</li> <li>Room 301, No.15 Longjing Dongguan City, Guangdong</li> <li>Yuwei Technology (Dong)</li> <li>Room 301, No.15 Longjing</li> </ul>		

Test result Pass *
--------------------

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the issuing testing laboratory.







# \*\* Modified History \*\*

Revisions	Description	Issued Data	Report No.	Remark
Version 1.0	Initial Test Report Release	2024-09-27	CTL2407181012-WF	Tracy Qi
	2040			1 ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (
			1.04	0-10
				-
				1











## Contents

<u>1.</u>	TEST STANDARDS	<u> 5</u>
<u>2.</u>	SUMMARY	6
2.1.	General Remarks	6
2.2.	Equipment Under Test	6
2.3.	Short description of the Equipment under Test (EUT)	6
2.4.	EUT operation mode	6
2.5.	Related Submittal(s) / Grant (s)	7
2.6.	Modifications	7
2.7.	EUT configuration	7
<u>3.</u>	TEST ENVIRONMENT	8
3.1.	Address of the test laboratory	8
3.2.	Test Facility	
3.3.	Environmental conditions	8 8 9
3.4.	Statement of the measurement uncertainty	9
3.5.	Equipments Used during the Test	9
<u>4.</u>	TEST CONDITIONS AND RESULTS	<u>10</u>
4.1.	AC Power Conducted Emission	10
4.2.	Radiated Emission	12
4.3.	20dB Bandwidth/99% Bandwidth	18
<u>5.</u>	TEST SETUP PHOTOS OF THE EUT	<u>19</u>
6	EXTERNAL AND INTERNAL PHOTOS OF THE FUT	22

## 1. TEST STANDARDS

The tests were performed according to following standards:

47 CFR Part 15, Subpart C 15.207,15.209, 15.215(c)

ANSI C63.10-2013











## 2. <u>SUMMARY</u>

#### 2.1. General Remarks

Date of receipt of test sample	:	July. 23, 2024
Testing commenced on	:	July. 23, 2024
	_	
Testing concluded on	:	September. 26, 2024

#### 2.2. Equipment Under Test

#### Power supply system utilised

Power supply voltage	Input1: 5V==-3A 9V==-2A Output 1: 5V==-3A 9V==-2.22A 12V==-1.67 Output 2/3: 5V==-3A 9V==-2A 12V==-1.5A 5V==-4.5A 4.5V==-5A Battery Capacity: 3.7V 27000mAh/99Wh Wireless Charging: 15W(5W/7.5W/10W)	A
----------------------	--	---

#### 2.3. Short description of the Equipment under Test (EUT)

A Power Bank work frequency range 110KHz-205KHz. Modulation type: CW (Continuous Wave) Antenna type: Coil Antenna For more details, refer to the user's manual of the EUT. Serial number: Prototype

#### 2.4. EUT operation mode

The EUT has been tested under typical operating condition. The Applicant provides communication tools software to control the EUT for staying in continuous transmitting mode for testing.

Test Mode 1	AC Charging+Wireless output(15W MAX) full load
Test Mode 2	AC Charging+Wireless output(15W MAX) half load
Test Mode 3	AC Charging+Wireless output(15W MAX) no load
Test Mode 4	Wireless output(15W MAX) full load
Test Mode 5	Wireless output(15W MAX) half load
Test Mode 6	Wireless output(15W MAX) no load
Test Mode 7	AC Charging+Wireless output(10W MAX) full load
Test Mode 8	AC Charging+Wireless output(10W MAX) half load
Test Mode 9	AC Charging+Wireless output(10W MAX) no load
Test Mode 10	Wireless output(10W MAX) full load
Test Mode 11	Wireless output(10W MAX) half load
Test Mode 12	Wireless output(10W MAX) no load
Test Mode 13	AC Charging+Wireless output(7.5W MAX) full load
Test Mode 14	AC Charging+Wireless output(7.5W MAX) half load
Test Mode 15	AC Charging+Wireless output(7.5W MAX) no load
Test Mode 16	Wireless output(7.5W MAX) full load
Test Mode 17	Wireless output(7.5W MAX) half load
Test Mode 18	Wireless output(7.5W MAX) no load
Test Mode 19	AC Charging+Wireless output(5W MAX) full load
Test Mode 20	AC Charging+Wireless output(5W MAX) half load
Test Mode 21	AC Charging+Wireless output(5W MAX) no load
Test Mode 22	Wireless output(5W MAX) full load
Test Mode 23	Wireless output(5W MAX) half load
Test Mode 24	Wireless output(5W MAX) no load
Note: All modes	have been tested, and the report only records the worst test modes, namely
Test Mode 1 an	

## 2.5. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID: 2AZK8-B05PW** fileing to comply with FCC Part 15, Subpart C Rules.

#### 2.6. Modifications

No modifications were implemented to meet testing criteria.

## 2.7. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

Wireless Charging Test Rack	Manufacturer :	YBZ
	Model No. :	F18











# V1.0

## 3. TEST ENVIRONMENT

#### 3.1. Address of the test laboratory

Shenzhen CTL Testing Technology Co., Ltd. Floor 1-A, Baisha Technology Park, No. 3011, Shahexi Road, Nanshan, Shenzhen 518055 China

There is one 3m semi-anechoic chamber and two line conducted labs for final test. The Test Sites meet the requirements in documents ANSI C63.4 and CISPR 32/EN 55032 requirements.

## 3.2. Test Facility

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

#### CNAS-Lab Code: L7497

Shenzhen CTL Testing Technology Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2017 General Requirements) for the Competence of Testing and Calibration Laboratories.

## A2LA-Lab Cert. No. 4343.01

Shenzhen CTL Testing Technology Co., Ltd, EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

## IC Registration No.: 9518B

## CAB identifier: CN0041

The 3m alternate test site of Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements with Registration No.: 9518B.

## FCC-Registration No.: 399832

## Designation No.: CN1216

Shenzhen CTL Testing Technology Co., Ltd. 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 399832.

## 3.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	<u>15-35 ° C</u>		
Humidity:	30-60 %		
Atmospheric pressure:	950-1050mbar		



#### 3.4. 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 CTL 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.

Hereafter the best measurement capability for CTL laboratory is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	9KHz~30MH	4.10dB	(1)
Radiated Emission	30~1000MHz	4.10dB	(1)
Radiated Emission	Above 1GHz	4.32dB	(1)
Conducted Disturbance	0.15~30MHz	3.20dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

Test Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date
LISN	R&S	ESH2-Z5	860014/010	2024/04/30	2025/04/29
Double cone logarithmic antenna	Schwarzbeck	VULB 9168	824	2023/02/13	2026/02/12
EMI Test Receiver	R&S	ESCI	1166.5950.03	2024/04/30	2025/04/29
Spectrum Analyzer	Keysight	N9020A	MY53420874	2024/05/01	2025/04/30
Active Loop Antenna	Da Ze	ZN30900A	/	2024/04/30	2025/04/29
Spectrum Analyzer	RS	FSP	1164.4391.38	2024/05/03	2025/05/02

#### 3.5. Equipments Used during the Test



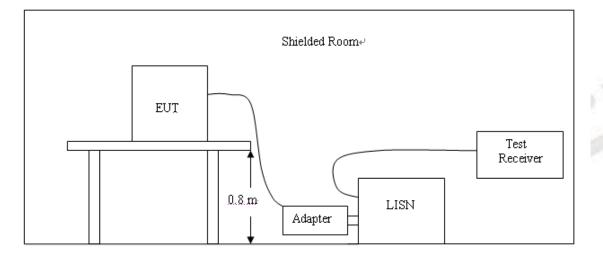




## 4. TEST CONDITIONS AND RESULTS

#### 4.1. AC Power Conducted Emission

#### **TEST CONFIGURATION**



## TEST PROCEDURE

- 1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10-2013.
- 2 Support equipment, if needed, was placed as per ANSI C63.10-2013
- 3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10-2013
- 4 The EUT received DC5V power from the adapter, the adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5 All support equipments received AC power from a second LISN, if any.
- 6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
- 8 During the above scans, the emissions were maximized by cable manipulation. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

#### AC Power Conducted Emission Limit

For intentional device, according to § 15.207(a) AC Power Conducted Emission Limits is as following :

Eroguopov	Maximum RF Line Voltage (dBµV)			
Frequency (MHz)	CLASS A		CLASS B	
(11112)	Q.P.	Ave.	Q.P.	Ave.
0.15 - 0.50	79	66	66-56*	56-46*
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

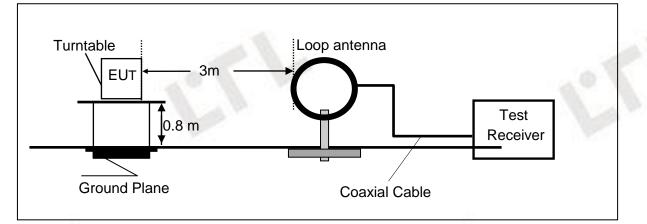
\* Decreasing linearly with the logarithm of the frequency

Test Mode 1 L
SCAN TABLE: "Voltage (9K-30M) FIN" Short Description: 150K-30M Voltage
Level [68µV] 70 60 50 40 50 40 50 40 50 50 50 50 50 50 50 50 50 5
x x XMES CT1240725160_fin
MEASUREMENT RESULT: "CTL240725160_fin"
7/25/2024 8:56AM Frequency Level Transd Limit Margin Detector Line PE MHz dBµV dB dBµV dB
0.298500       38.40       10.0       60       21.9       QP       L1       GND         0.384000       37.80       10.0       58       20.4       QP       L1       GND         0.474000       24.50       10.0       56       31.9       QP       L1       GND         0.532500       33.30       10.0       56       22.7       QP       L1       GND         2.467500       32.90       10.1       56       23.1       QP       L1       GND         3.313500       32.20       10.1       56       23.8       QP       L1       GND
MEASUREMENT RESULT: "CTL240725160_fin2"
7/25/2024 8:56AM Frequency Level Transd Limit Margin Detector Line PE MHz dBµV dB dBµV dB
0.460500 21.10 10.0 47 25.6 AV L1 GND 1.464000 22.70 10.1 46 23.3 AV L1 GND
1.464000       22.70       10.1       46       23.3       AV       L1       GMD         1.698000       23.10       10.1       46       22.9       AV       L1       GMD         2.15700       23.30       10.1       46       22.7       AV       L1       GMD         2.463000       24.80       10.1       46       21.2       AV       L1       GMD         18.847500       25.50       11.2       50       24.5       AV       L1       GMD
1.698000 23.10 10.1 46 22.9 AV L1 GND 2.157000 23.30 10.1 46 22.7 AV L1 GND 2.463000 24.80 10.1 46 21.2 AV L1 GND
1.698000 23.10 10.1 46 22.9 AV L1 GND 2.157000 23.30 10.1 46 22.7 AV L1 GND 2.463000 24.80 10.1 46 21.2 AV L1 GND 18.847500 25.50 11.2 50 24.5 AV L1 GND
1.698000 23.10 10.1 46 22.7 AV L1 GND 2.157000 23.30 10.1 46 22.7 AV L1 GND 2.463000 24.80 10.1 46 22.7 AV L1 GND 18.847500 25.50 11.2 50 24.5 AV L1 GND <b>Test Mode 1</b> N Scan TABLE: "Voltage (9K-30M)FIN" Short Description: "150K-30M Voltage Voltage Voltage (9K-30M) Voltage Voltage 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
1.699000 23.10 10.1 46 22.9 AV 11 GND 2.463000 24.80 10.1 46 21.2 AV 11 GND 18.847500 25.50 11.2 50 24.5 AV 11 GND 18.847500 25.50 11.2 50 24.5 AV 11 GND M M M M M M M M M M M M M
<pre>1.698000 23.10 10.1 46 22.9 AV L1 GND 2.453000 24.80 10.1 46 21.2 AV L1 GND 18.847500 25.50 11.2 50 24.5 AV L1 GND 18.847500 25.50 11.2 50 24.5 AV L1 GND Test Mode 1 N SCAN TABLE: "Voltage (9K-30M)FIN" Short Description: '150K-30M Voltage</pre>
1.698000 23.10 10.1 46 22.9 AV 11 GND 2.453000 24.80 10.1 46 21.2 AV 11 GND 18.847500 25.50 11.2 50 24.5 AV 11 GND 18.847500 25.50 11.2 50 24.5 AV 11 GND M SCM TABLE: "Voltace (9K-30M)FIN" Short Description: 150K-30M Voltage M M M M M M M M M M M M M
1.680000       23.10       10.1       46       22.7       AV       11       CND         2.643000       23.480       10.1       46       21.2       AV       11       CND         1.6847300       23.50       11.2       50       24.5       AV       11       CND         N
1.689000       23.10       10.1       46       22.7       AV       11       CND         2.483000       24.80       10.1       46       21.2       AV       11       CND         Test Mode 1       N

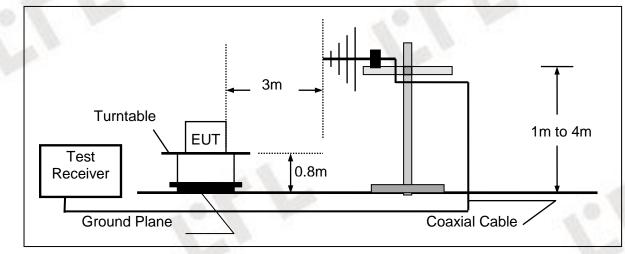
## 4.2. Radiated Emission

## **TEST CONFIGURATION**

Radiated Emission Test Set-Up Frequency range 9KHz – 30MHz



## Frequency range 30MHz – 1000MHz









## TEST PROCEDURE

- 1 The EUT was placed on a turn table which is 0.8m above ground plane.
- 2 Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0°C to 360°C to acquire the highest emissions from EUT
- 3 And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 4 Repeat above procedures until all frequency measurements have been completed.

#### Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

#### FS = RA + AF + CL - AG

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

For example

Frequency	FS	RA	AF	CL	AG	Transd
(MHz)	(dBµV/m)	(dBµV/m)	(dB)	(dB)	(dB)	(dB)
300.00	36.8	58.1	12.4	1.5	31.90	

Transd=AF + CL - AG

#### RADIATION LIMIT

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:

#### 9k~30MHz:

Frequency Range (MHz)	E-field Strength Limit @ 30m (mV/m)	E-field Strength Limit @ 3m (dBµV/m)
0.009-0.490	2400/F(kHz)	129-94
0.490-1.705	24000/F(kHz)	74-63
1.705-30	30	70

Note: Where the limits have been defined at one distance, and a signal level measured at another, the limits have been extrapolated using the following formula:

Extrapolation(dB) =  $40\log_{10}$  (Measurement Distance/Specification Distance)

#### Note:

(1) The tighter limit shall apply at the edge between two frequency bands.

(2) dBuV/m = 20\*log(uV/m)



## 30M~1GHz:

Frequency (MHz)	Distance (Meters)	Radiated (dBµV/m)	Radiated (µV/m)
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

Note:

(1) The tighter limit shall apply at the edge between two frequency bands.(2) Distance refers to the distance in meters between the test instrument antenna and the closest point of any part of the E.U.T.

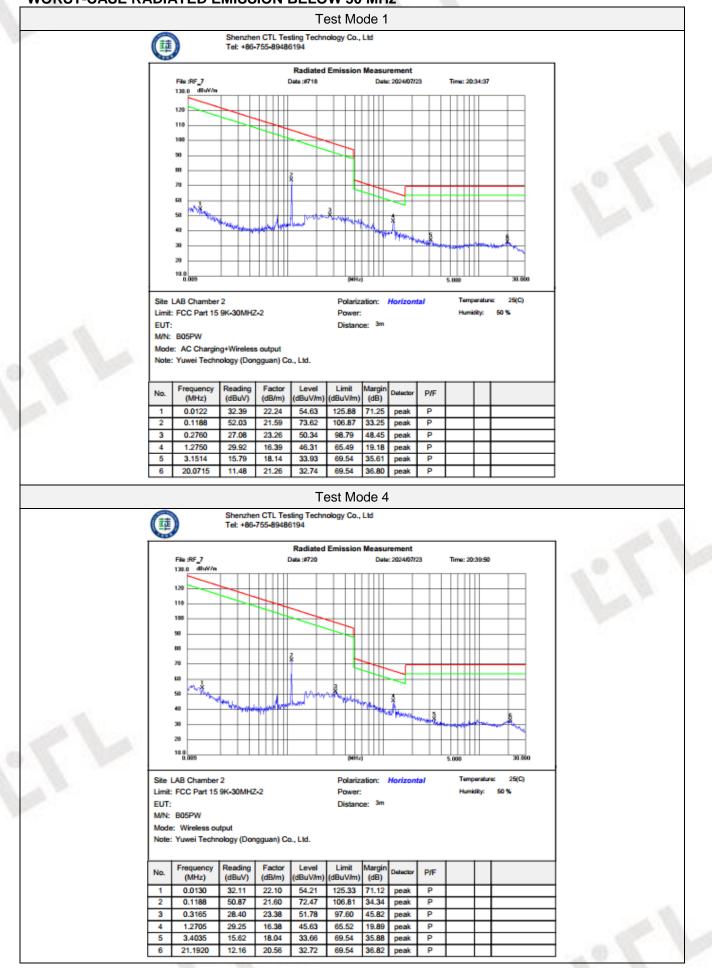




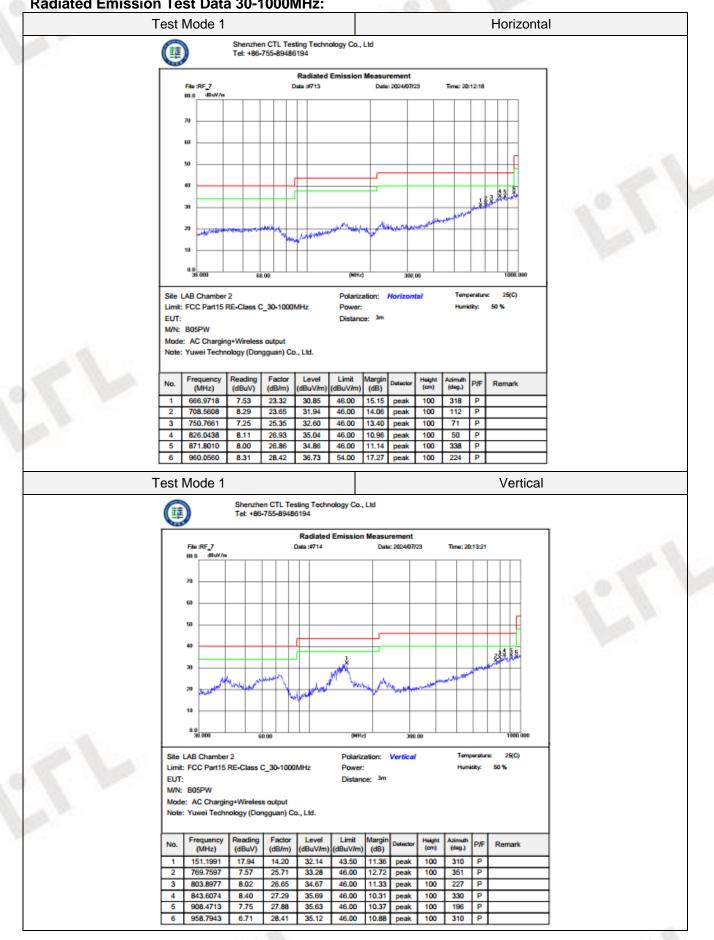




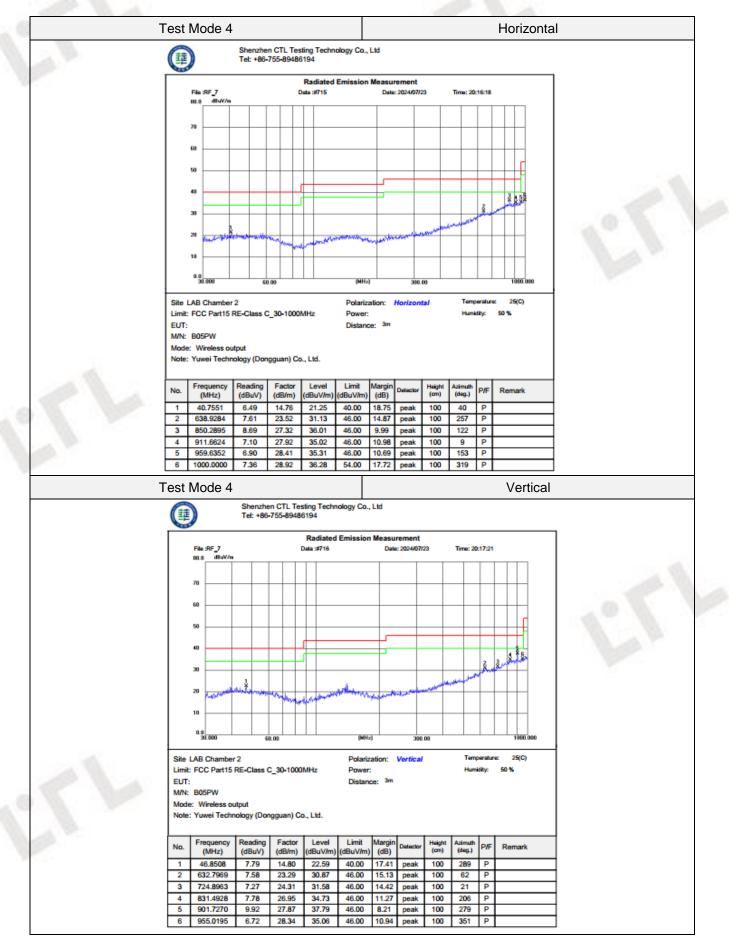
#### TEST RESULTS WORST-CASE RADIATED EMISSION BELOW 30 MHz







#### Page 17 of 28



#### 4.3. 20dB Bandwidth/99% Bandwidth

## TEST CONFIGURATION

EUT	SPECTRUM
	ANALYZER

#### TEST PROCEDURE

The bandwidth of the fundamental frequency was measured by spectrum analyzer with 1KHz RBW and 3KHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

#### <u>LIMIT</u>

N/A

#### TEST RESULTS



Frequency (kHz)	20dB Bandwidth (kHz)	Limit(kHz)	Verdict
126.54	2.690	1	PASS





# 5. <u>Test Setup Photos of the EUT</u>





























## 6. External and Internal Photos of the EUT

External Photos of EUT



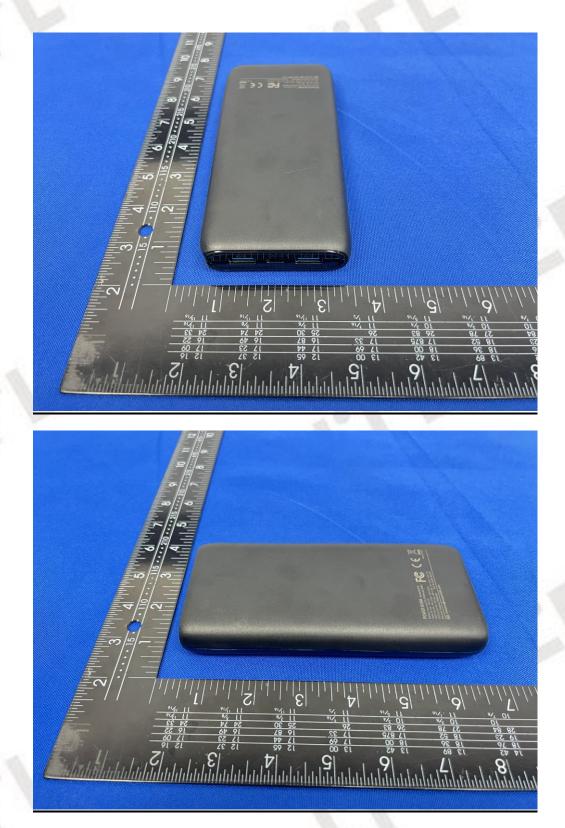






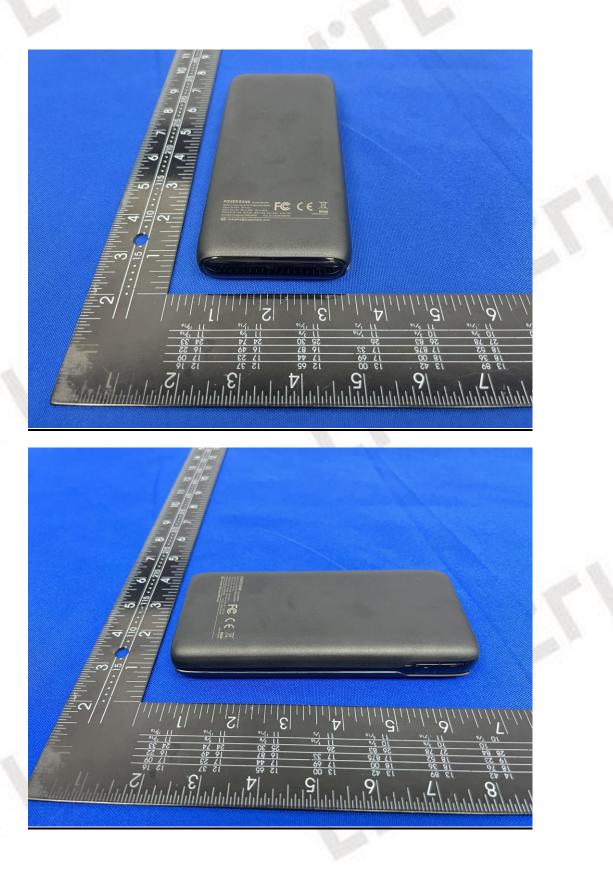
















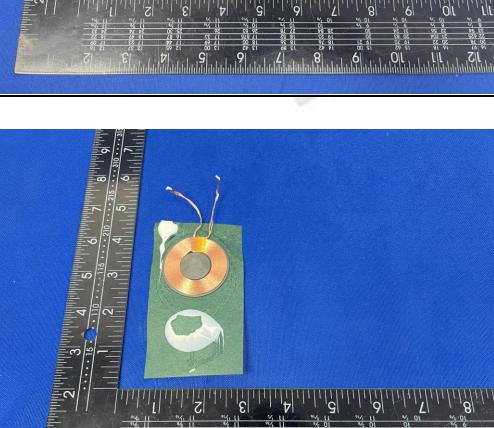
#### Page 25 of 28



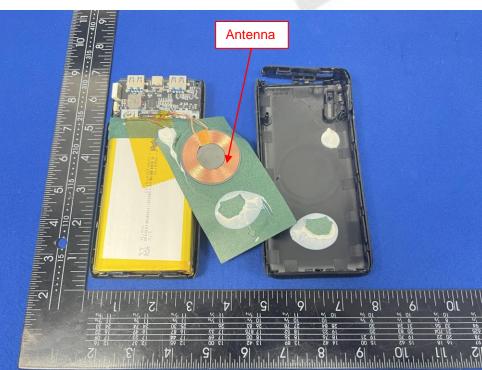








16 51 18 57 18 57 18 57 12 58 12 58 12 58 15 58

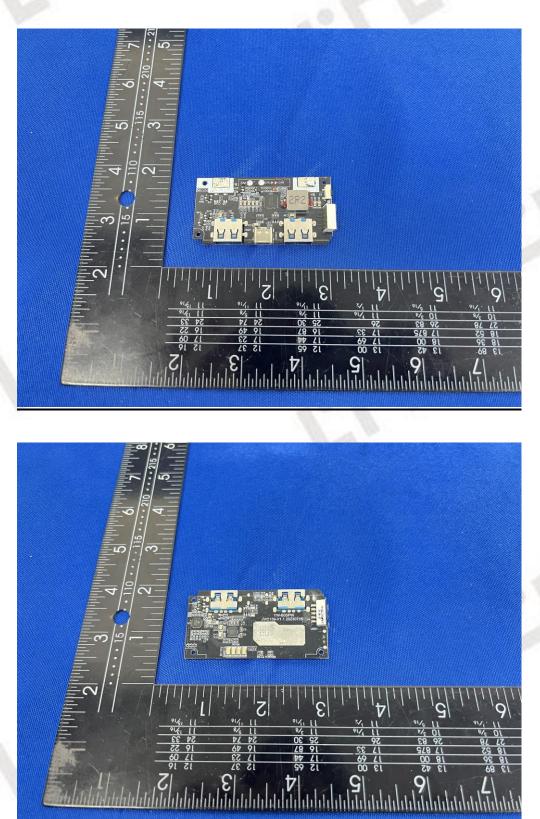


## Internal Photos of EUT



V1.0

#### Page 27 of 28



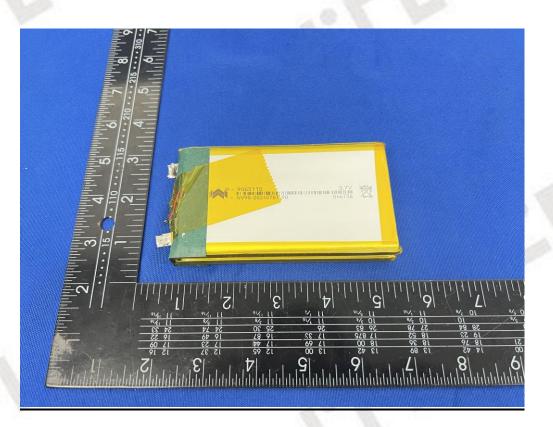


1.L

1.L



#### Page 28 of 28



.....End of Report.....





