EMC Test Report

Client Name	:	Shenzhen Golf&Feihuang Technology Co., Ltd.
Address	:	Building 1 (Shatou Section), Haosi West Industry Park, Shajing, Bao'an, Shenzhen, China
Product Name	:	Power Bank
Date	:	Mar. 24, 2022

Shenzhen Anbotek Compliance Laboratory Limited

Contents

TEST REPORT

Applicant	:	Shenzhen Golf&Feihuang Technology Co., Ltd.
Manufacturer	:	Shenzhen Golf & Feihuang Technology Co., Ltd.
Product Name	:	Power Bank
Model No.	:	See Chapter 1.9 for model list
Trade Mark	:	GOLF 高尔夫, Lonsmax, GOLFSPACE
Rating(s)	:	Micro/Type-C Input: DC 5V/2.1A Type-C Output: DC 5V/2.1A USB Output 1: DC 5V/1A USB Output 2: DC 5V/2.1A Total Output: DC 5V/2.1A(Max) Battery Capacity: 10000mAh/37Wh(Max)
Test Standard(s)	**:**	**EN 55032: 2015+A11: 2020; EN 55035: 2017+A11: 2020; (IEC 61000-4-2; IEC 61000-4-3)**

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the EN 55032, EN 55035 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt: Mar. 14, 2022

Date of Test: Mar. 14~21, 2022

Prepared By: Yee Huang

(Yee Huang)

Approved & Authorized Signer: KingKongJin

(KingKong Jin)

1. General Information

1.1. Client Information

Applicant	:	Shenzhen Golf&Feihuang Technology Co., Ltd.
Address	:	Building 1 (Shatou Section), Haosi West Industry Park, Shajing, Bao'an, Shenzhen, China
Manufacturer	:	Shenzhen Golf & Feihuang Technology Co., Ltd.
Address	:	Building 1(Shatou Section), Haosi West Industry Park, Shajing, Bao'an, Shenzhen, China
Factory	:	Shenzhen Golf & Feihuang Technology Co., Ltd.
Address	:	Building 1(Shatou Section), Haosi West Industry Park, Shajing, Bao'an, Shenzhen, China

1.2. Description of Device (EUT)

Product Name	:	Power Bank	
Model No.	:	See Chapter 1.9 for model list (Note: All samples are the same except the model number & appearance, so we prepare "P10" for test only.)	
Trade Mark	:	GOLF 高尔夫, Lonsmax, GOLFSPACE	
Test Power Supply	:	DC 5V via adapter / DC 5V	
Test Sample No.	:	1-1-1	
Product Description	:	Adapter:	N/A
Remark: (1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.			

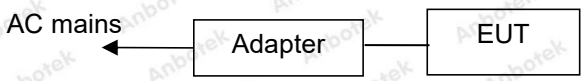
1.3. Auxiliary Equipment Used During Test

N/A		

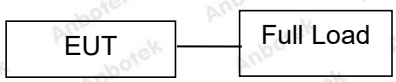
1.4. Description of Test Modes

Pretest Modes	Descriptions
Mode 1	Type-C Charging
Mode 2	Micro Charging
Mode 3	Full Load

For Mode 1~Mode 2 Block Diagram of Test Setup



For Mode 3 Block Diagram of Test Setup



1.5. Test Summary

Test Items	Test Modes	Status
Power Line Conducted Emission Test (150KHz To 30MHz)	Mode 1 Mode 2	P
Radiated Emission Test (30MHz To 1000MHz)	All Mode	P
Electrostatic Discharge immunity Test	All Mode	P
RF Field Strength susceptibility Test	All Mode	P
Electrical Fast Transient/Burst Immunity Test	/	N
Surge Immunity Test	/	N
Injected Currents Susceptibility Test	/	N
Magnetic Field Susceptibility Test	/	N
Voltage Dips and Interruptions Test	/	N
P) Indicates “PASS”. N) Indicates “Not applicable”.		

1.6. Test Equipment List

Conducted Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESCI	100990	Sept. 7, 2021	1 Year
2.	L.I.S.N. Artificial Mains Network	Schwarzbeck	NSLK 8127	8127386	Sept. 7, 2021	1 Year
3.	L.I.S.N. Artificial Mains Network	Schwarzbeck	NSLK 8126	8126377	Sept. 7, 2021	1 Year
4.	Software Name	Ferrari Technology	EZ-EMC	EMC-CON 3A1.1	N/A	N/A

Radiated Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESPI	101604	Sept. 7, 2021	1 Year
2.	Pre-amplifier	EMtrace	RP01A	50017	Sept. 7, 2021	1 Year
3.	Pre-amplifier	CD	PAP-0203	22008	Sept. 7, 2021	1 Year
4.	TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	01417	Sept. 7, 2021	2 Year
5.	Software Name	Ferrari Technology	EZ-EMC	Anbo-3A1	N/A	N/A

Electrostatic Discharge Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	ESD Simulators	3Ctest	EDS-30T	ES0131505	Sept.15, 2021	1 Year

R/S Immunity Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Signal Generator	Agilent	N5182A	MY48180656	Oct. 22, 2021	1 Year
2.	Amplifier	Micotoop	MPA-80-1000-250	MPA1903096	Oct. 22, 2021	1 Year
3.	Amplifier	Micotoop	MPA-1000-6000-100	MPA1903122	Oct. 22, 2021	1 Year
4.	Log-Periodic Antenna	Schwarzbeck	VULP9118E	00992	N/A	1 Year
5.	Horn Antenna	Instruments corporation	GTH-0118	351600	Oct. 22, 2021	2 Year
6.	Power Sensor	Agilent	E9301A	MY41498906	Oct. 22, 2021	1 Year
7.	Power Sensor	Agilent	E9301A	MY41498088	Oct. 22, 2021	1 Year
8.	Power Meter	Agilent	E4419B	GB40202909	Oct. 22, 2021	1 Year
9.	Electric field Probe	Narda	EP 601	811ZX10351	Oct. 22, 2021	1 Year
10.	RS Test software	EMtrace	EM 3	V1.1.7	N/A	N/A

1.7. Description of Test Facility

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

FCC-Registration No.: 184111

Shenzhen Anbotek Compliance Laboratory Limited, 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. 184111.

ISED-Registration No.: 8058A

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

Test Location

Shenzhen Anbotek Compliance Laboratory Limited.
1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.518128

1.8. EMS Performance Criteria

√ A: Normal performance within the specification limits
√ B: Temporary degradation or loss of function or performance which is self-recoverable
√ C: Temporary degradation or loss of function or performance which requires operator intervention or system reset
√ D: Degradation or loss of function which is not recoverable due to damage of equipment (components) or software, or loss of data

Note: The manufacturer's specification may define effects on the EUT which may be considered insignificant, and therefore acceptable.

This classification may be used as a guide in formulating performance criteria, by committees responsible for generic, product and product-family standards, or as a framework for the agreement on performance criteria between the manufacturer and the purchaser, for example where no suitable generic, product or product-family standard exists.

1.9. Model List

P10, P05, P06, P20, P06PD, P10PD, P20PD, P05LCD, P06LCD, P10LCD, P20LCD, P06PDLCD, P10PDLCD, P20PDLCD, P30, P40, P50, P30PD, P40PD, P50PD, P30LCD, P40LCD, P50LCD, P30PDLCD, P40PDLCD, P50PDLCD, G95, G96, G95-C, G96-C, G92, G93, G92PD, G93PD, L106, L206, L106LCD, L206LCD, L106PD, L206PD, L106LCDPD, L206LCDPD, X-01, X-02, G83, G84, G75, G80, G81, G56, G57, G53, G54, G55, G53PD, G54PD, G55PD, G41, G42, G41PRO, G42PRO, G61, G62, G63, G62PD, G61-C, G62-C, G76, G77, G76-C, G77-C, G78, G79, G85LCD, D100, G82, G72, G73, G74, GF-233, GF-235, GF-238, L100, L200, L105, L205, G86, G87, G88, G89, G88PD, G89PD, G101PD, G102PD, LCD20, LCD21, LCD22, LCD21PD, LCD22PD, G109PD, G103, G104, G103PD, G104PD, G105, G106, P328S, P331S, P328SPD, P331SPD, G64, G65, G64PRO, G65PRO, G66, G66LCD, G67, G68, G301, G302, G97, G98, G301PD, G302PD, G97PD, G98PD, G36, G37, G45, G48, G49, G37PD, G48PD, G49PD, G50, G51, G51PD, P01, P02, P03, P04, P07, P08, P09, P11, P12, P13, P14, P15, P16, P17, P18, P19, P21, P22, P23, P24, P25, P26, P27, P28, P29, P01PD, P02PD, P03PD, P04PD, P07PD, P08PD, P09PD, P11PD, P12PD, P13PD, P14PD, P15PD, P16PD, P17PD, P18PD, P19PD, P21PD, P22PD, P23PD, P24PD, P25PD, P26PD, P27PD, P28PD, P29PD, P01LCD, P02LCD, P03LCD, P04LCD, P07LCD, P08LCD, P09LCD, P11LCD, P12LCD, P13LCD, P14LCD, P15LCD, P16LCD, P17LCD, P18LCD, P19LCD, P21LCD, P22LCD, P23LCD, P24LCD, P25LCD, P26LCD, P27LCD, P28LCD, P29LCD, P01PDLCD, P02PDLCD, P03PDLCD, P04PDLCD, P07PDLCD, P08PDLCD, P09PDLCD, P11PDLCD, P12PDLCD, P13PDLCD, P14PDLCD, P15PDLCD, P16PDLCD, P17PDLCD, P18PDLCD, P19PDLCD, P21PDLCD, P22PDLCD, P23PDLCD, P24PDLCD, P25PDLCD, P26PDLCD, P27PDLCD, P28PDLCD, P29PDLCD, W13PD, W14PD, W15PD, W16PD, W17PD, W18PD, W19PD, W20PD, W23PD, W26PD, W27PD, W28PD, W29PD, W30PD, W13, W14, W15, W16, W17, W18, W19, W20, W23, W26, W27, W28, W29, W30

2. Power Line Conducted Emission Test

2.1. Test Standard and Limit

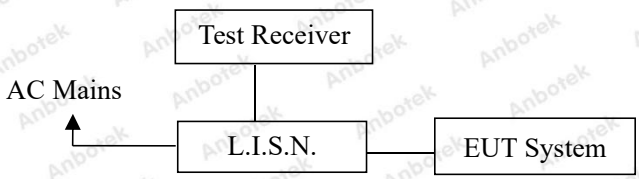
Test Standard	EN 55032

Limits for conducted emissions

Test Limit	Frequency (MHz)	At mains terminals (dBμV)	
		Quasi-peak Level	Average Level
	0.15 ~ 0.50	66.0 ~ 56.0 *	56.0 ~ 46.0 *
	0.50 ~ 5.00	56.0	46.0
	5.00 ~ 30.00	60.0	50.0

Remark: (1) The lower limit shall apply at the transition frequencies.
(2) The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

2.2. Test Setup



2.3. EUT Configuration on Measurement

The following equipments are installed on conducted emission measurement to meet EN 55032 requirements and operating in a manner which tends to maximize its emission characteristics in a normal application.

2.4. Operating Condition of EUT

2.4.1. Setup the EUT as shown in Section 2.2.

2.4.2. Turn on the power of all equipments.

2.4.3. Let the EUT work in test mode and measure it.

2.5. Test Procedure

The EUT is put on the plane 0.8 m high above the ground by insulating support and connected to the AC mains through Line Impedance Stability Network(L.I.S.N). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are investigated to find out the maximum conducted emission according to the EN55032 regulations during conducted emission measurement.

The bandwidth of the field strength meter (R&S Test Receiver ESCI) is set at 9kHz in 150kHz~30MHz.

The frequency range from 150kHz to 30MHz is investigated for AC mains.

All the test results are listed in Section 2.6.

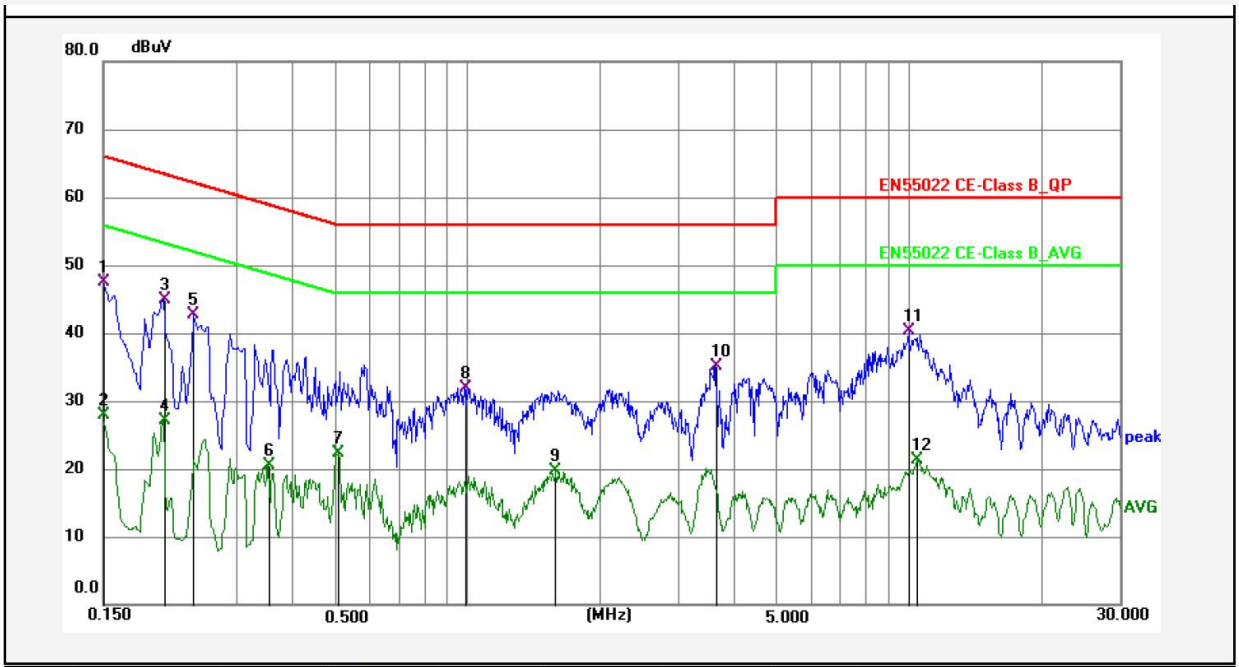
2.6. Test Results

PASS

The test curves are shown in the following pages.

Conducted Emission Test Data

Test Mode:	Type-C Charging
Test Site:	1# Shielded Room
Test Specification:	DC 5V via adapter
Comment:	Live Line
	Temp.: 16.4℃ Hum.: 50%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1500	46.64	0.92	47.56	66.00	-18.44	QP	
2	0.1500	27.01	0.92	27.93	56.00	-28.07	AVG	
3	0.2040	43.99	0.86	44.85	63.45	-18.60	QP	
4	0.2040	26.21	0.86	27.07	53.45	-26.38	AVG	
5	0.2400	41.82	0.89	42.71	62.10	-19.39	QP	
6	0.3525	19.59	0.90	20.49	48.90	-28.41	AVG	
7	0.5100	21.52	0.86	22.38	46.00	-23.62	AVG	
8	0.9870	30.93	0.94	31.87	56.00	-24.13	QP	
9	1.5900	18.82	0.93	19.75	46.00	-26.25	AVG	
10	3.6420	34.09	0.96	35.05	56.00	-20.95	QP	
11	10.0004	39.21	1.03	40.24	60.00	-19.76	QP	
12	10.4325	20.33	1.02	21.35	50.00	-28.65	AVG	

Note: Result=Reading+Factor Over Limit=Result-Limit

Conducted Emission Test Data

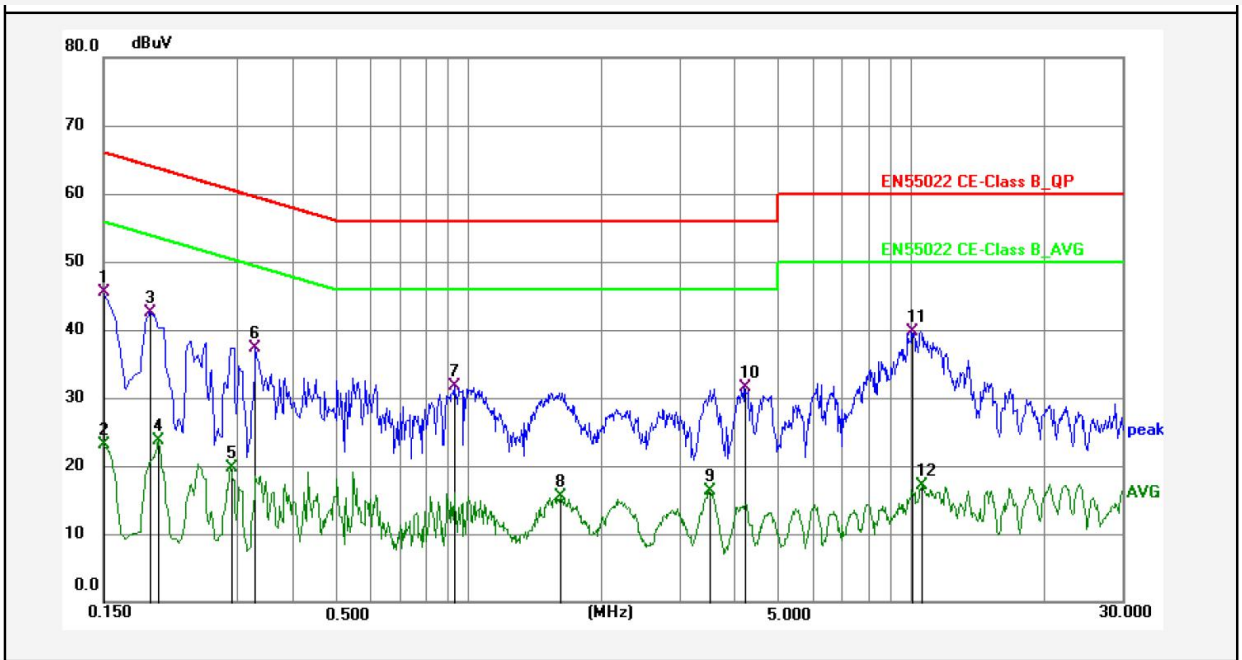
Test Mode: Type-C Charging

Test Site: 1# Shielded Room

Test Specification: DC 5V via adapter

Comment: Neutral Line

Temp.: 16.4℃ Hum.: 50%

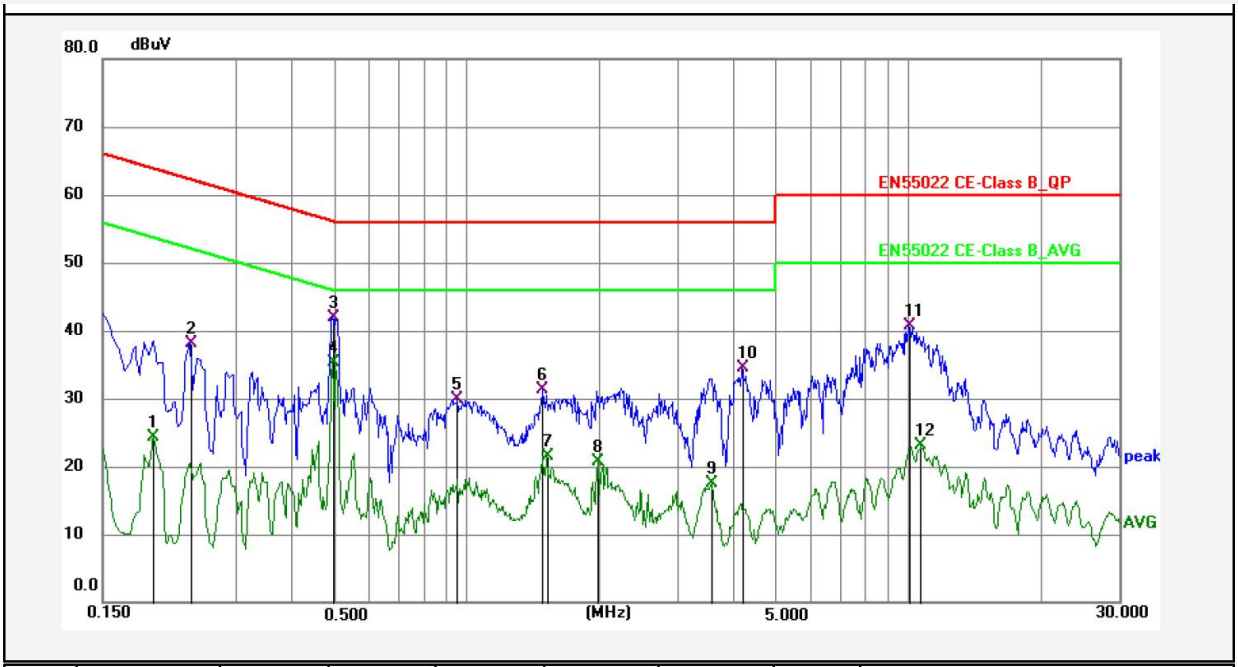


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1500	44.67	0.80	45.47	66.00	-20.53	QP	
2	0.1500	22.23	0.80	23.03	56.00	-32.97	AVG	
3	0.1905	41.76	0.80	42.56	64.01	-21.45	QP	
4	0.1995	22.87	0.80	23.67	53.63	-29.96	AVG	
5	0.2895	18.96	0.84	19.80	50.54	-30.74	AVG	
6	0.3300	36.38	0.83	37.21	59.45	-22.24	QP	
7	0.9330	30.87	0.85	31.72	56.00	-24.28	QP	
8	1.6170	14.72	0.88	15.60	46.00	-30.40	AVG	
9	3.5025	15.40	0.95	16.35	46.00	-29.65	AVG	
10	4.2180	30.62	0.96	31.58	56.00	-24.42	QP	
11	10.0680	38.79	1.00	39.79	60.00	-20.21	QP	
12	10.5990	16.04	1.00	17.04	50.00	-32.96	AVG	

Note: Result=Reading+Factor Over Limit=Result-Limit

Conducted Emission Test Data

Test Mode:	Micro Charging
Test Site:	1# Shielded Room
Test Specification:	DC 5V via adapter
Comment:	Live Line
	Temp.: 16.4℃ Hum.: 50%

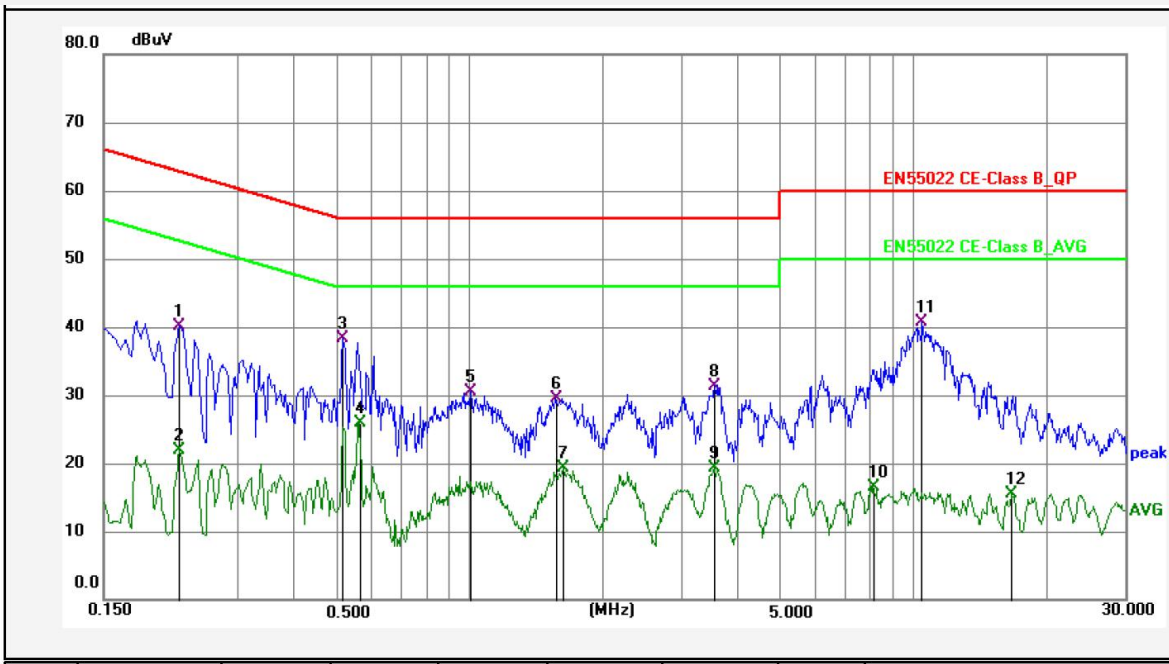


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1949	23.52	0.86	24.38	53.83	-29.45	AVG	
2	0.2355	37.21	0.88	38.09	62.25	-24.16	QP	
3	0.4965	41.02	0.86	41.88	56.06	-14.18	QP	
4	0.4965	34.40	0.86	35.26	46.06	-10.80	AVG	
5	0.9555	29.02	0.94	29.96	56.00	-26.04	QP	
6	1.4910	30.30	0.94	31.24	56.00	-24.76	QP	
7	1.5225	20.64	0.93	21.57	46.00	-24.43	AVG	
8	1.9815	19.69	0.93	20.62	46.00	-25.38	AVG	
9	3.6015	16.52	0.96	17.48	46.00	-28.52	AVG	
10	4.2090	33.60	0.96	34.56	56.00	-21.44	QP	
11	10.0680	39.70	1.03	40.73	60.00	-19.27	QP	
12	10.7070	22.03	1.02	23.05	50.00	-26.95	AVG	

Note: Result=Reading+Factor Over Limit=Result-Limit

Conducted Emission Test Data

Test Mode:	Micro Charging
Test Site:	1# Shielded Room
Test Specification:	DC 5V via adapter
Comment:	Neutral Line
	Temp.: 16.4℃ Hum.: 50%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.2220	39.38	0.81	40.19	62.74	-22.55	QP	
2	0.2220	21.17	0.81	21.98	52.74	-30.76	AVG	
3	0.5190	37.52	0.83	38.35	56.00	-17.65	QP	
4	0.5639	24.97	0.85	25.82	46.00	-20.18	AVG	
5	1.0048	29.64	0.85	30.49	56.00	-25.51	QP	
6	1.5629	28.62	0.88	29.50	56.00	-26.50	QP	
7	1.6305	18.36	0.88	19.24	46.00	-26.76	AVG	
8	3.5655	30.33	0.96	31.29	56.00	-24.71	QP	
9	3.5655	18.33	0.96	19.29	46.00	-26.71	AVG	
10	8.1374	15.59	1.01	16.60	50.00	-33.40	AVG	
11	10.5045	39.69	1.00	40.69	60.00	-19.31	QP	
12	16.6335	14.30	1.15	15.45	50.00	-34.55	AVG	

Note: Result=Reading+Factor Over Limit=Result-Limit

3. Radiated Emission Test

3.1. Test Standard and Limit

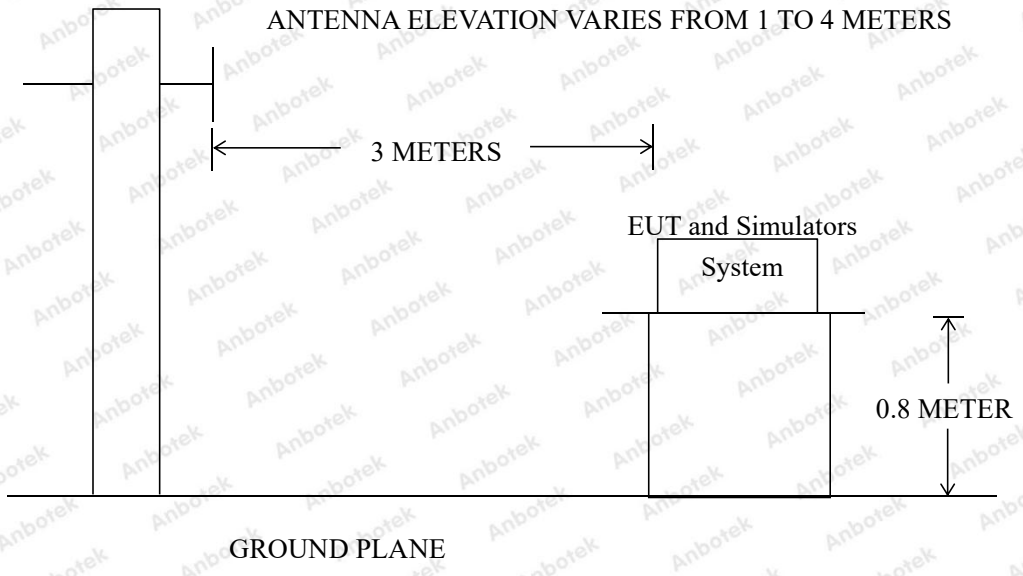
Test Standard	EN 55032

Radiated Emission Test Limit

Test Limit	Frequency (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMIT (dBμV/m)
	30 ~ 230	3	40
	230 ~ 1000	3	47

Remark: (1)The smaller limit shall apply at the combination point between two frequency bands.
(2) Distancer efers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.
(3) 3M Limit=10M Limit+k k=20log(D1/D2)=10
3M Limit=10M Limit +10
(D1= 10M D2=3M)

3.2. Test Setup



3.3. EUT Configuration on Measurement

The EN 55032 regulations test method must be used to find the maximum emission during radiated emission measurement.

3.4. Operating Condition of EUT

3.4.1. Setup the EUT as shown in Section 3.2.

3.4.2. Turn on the power of all equipments.

3.4.3. Let the EUT work in test mode and measure it.

3.5. Test Procedure

The EUT is placed on a turn table which is 0.8 meter high above the 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 be moved up and down from 1 to 4 meters to find out the maximum emission level. Bilog antenna is used as a receiving antenna. Both horizontal and vertical polarization of the antenna are set on test.

The bandwidth of the Receiver (ESCI) is set at 120kHz.

The EUT is tested in 9*6*6 Chamber.

The test results are listed in Section 3.6.

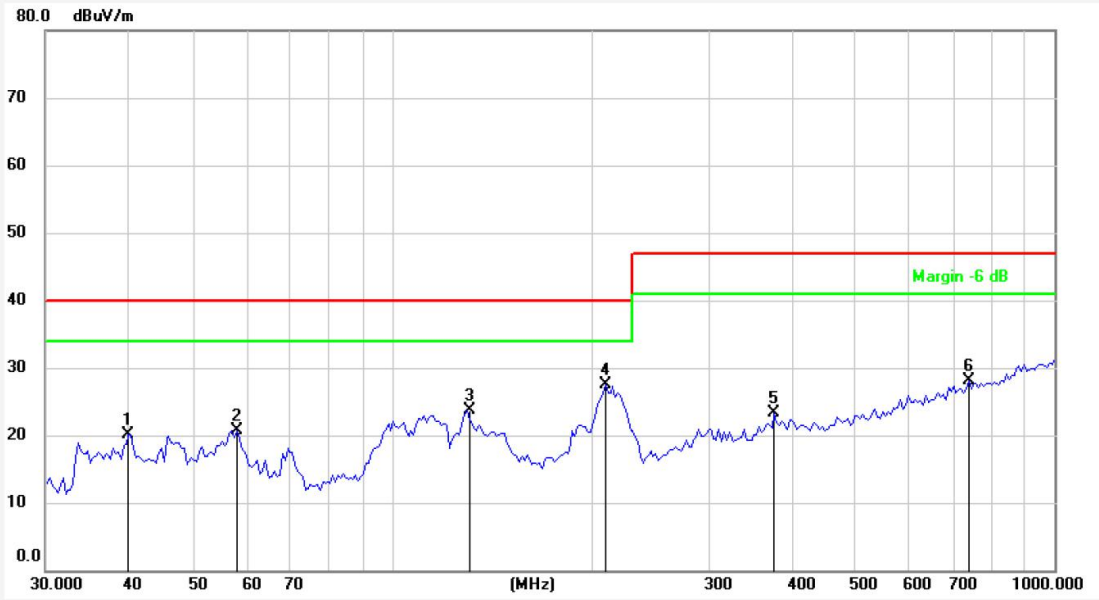
3.6. Test Results

PASS

The frequency range from 30MHz to 1000MHz is investigated.

The test curves are shown in the following pages.

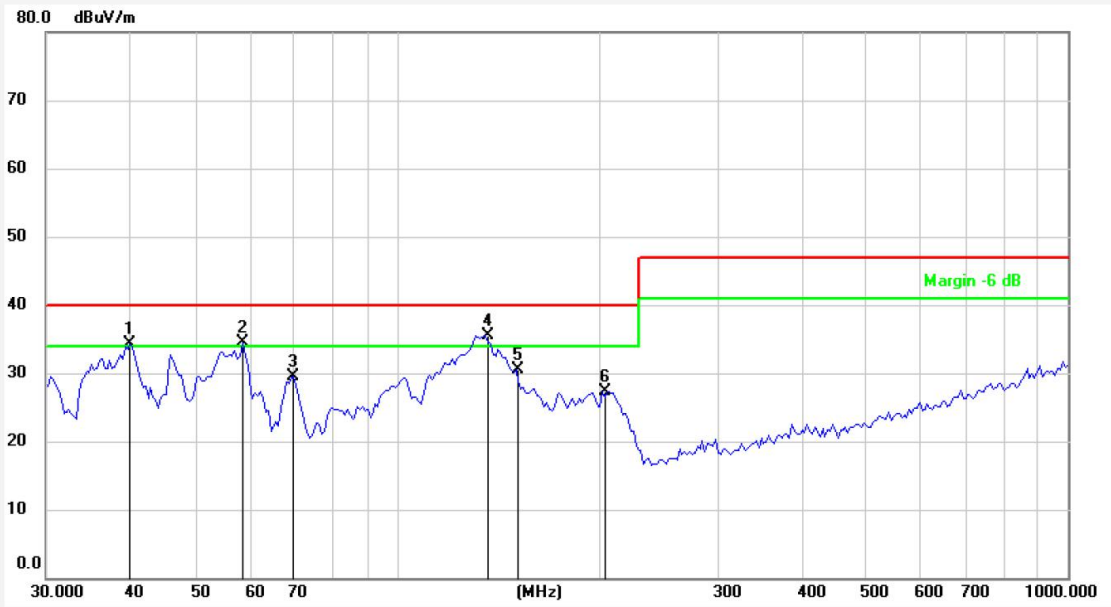
Test item:	**Radiation Test**	**Polarization:**	**Horizontal**
Standard:	**(RE)EN55032**	**Power Source:**	**DC 5V via adapter**
Distance:	**3m**	**Temp.(℃)/Hum.(%RH):**	**16.8(℃)/48%RH**
Test Mode:	**Type-C Charging**		



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	40.0644	36.89	-16.74	20.15	40.00	-19.85	peak			
2	58.4074	37.70	-17.00	20.70	40.00	-19.30	peak			
3	129.6950	44.08	-20.46	23.62	40.00	-16.38	peak			
4	210.0482	44.44	-16.97	27.47	40.00	-12.53	peak			
5	377.9211	34.29	-10.96	23.33	47.00	-23.67	peak			
6	742.2587	30.35	-2.33	28.02	47.00	-18.98	peak			

Note: **Result=Reading+Factor Over Limit=Result-Limit**

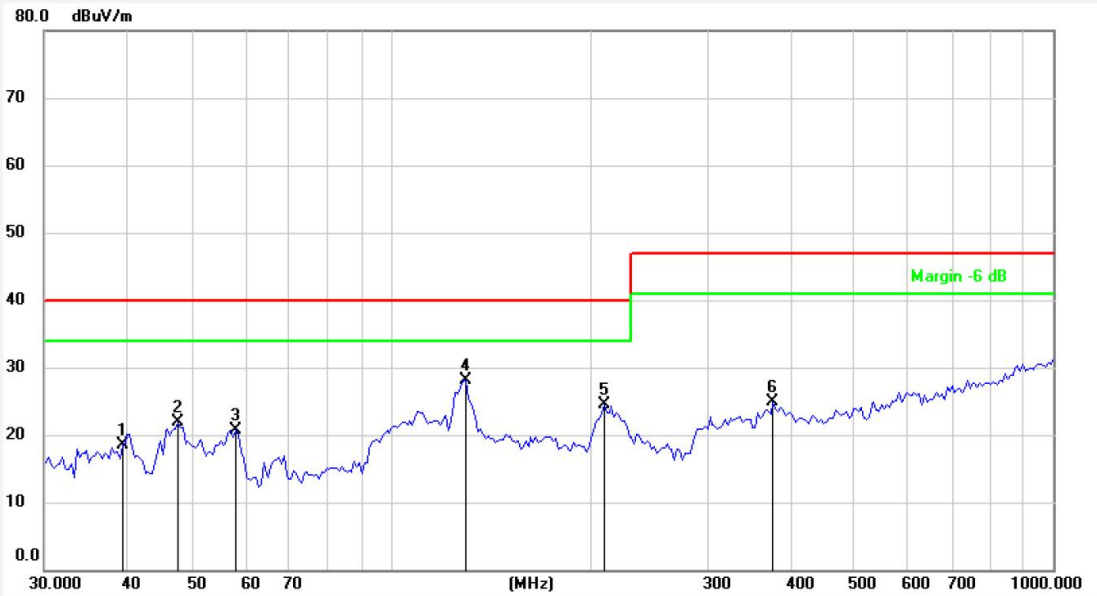
Test item:	**Radiation Test**	**Polarization:**	**Vertical**
Standard:	**(RE)EN55032**	**Power Source:**	**DC 5V via adapter**
Distance:	**3m**	**Temp.(℃)/Hum.(%RH):**	**16.8(℃)/48%RH**
Test Mode:	**Type-C Charging**		



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	40.0644	51.08	-16.74	34.34	40.00	-5.66	QP			
2	58.9217	51.48	-17.07	34.41	40.00	-5.59	QP			
3	69.6005	49.07	-19.66	29.41	40.00	-10.59	peak			
4	135.5062	56.34	-20.76	35.58	40.00	-4.42	QP			
5	150.5378	51.13	-20.62	30.51	40.00	-9.49	peak			
6	202.8104	44.06	-16.81	27.25	40.00	-12.75	peak			

Note: **Result=Reading+Factor Over Limit=Result-Limit**

Test item:	**Radiation Test**	**Polarization:**	**Horizontal**
Standard:	**(RE)EN55032**	**Power Source:**	**DC 5V via adapter**
Distance:	**3m**	**Temp.(℃)/Hum.(%RH):**	**16.8(℃)/48%RH**
Test Mode:	**Micro Charging**		



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	39.3680	35.33	-16.88	18.45	40.00	-21.55	peak			
2	47.7421	37.53	-15.68	21.85	40.00	-18.15	peak			
3	58.4074	37.70	-17.00	20.70	40.00	-19.30	peak			
4	129.6947	48.58	-20.46	28.12	40.00	-11.88	peak			
5	210.0482	41.44	-16.97	24.47	40.00	-15.53	peak			
6	377.9211	35.79	-10.96	24.83	47.00	-22.17	peak			

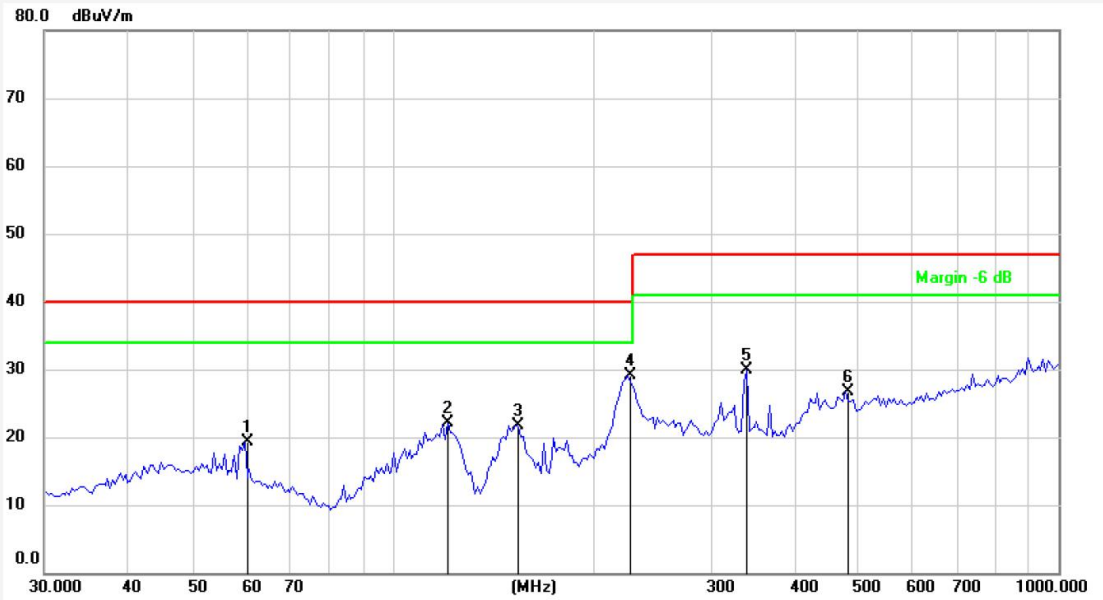
Note: **Result=Reading+Factor Over Limit=Result-Limit**

Test item:	**Radiation Test**	**Polarization:**	**Vertical**
Standard:	**(RE)EN55032**	**Power Source:**	**DC 5V via adapter**
Distance:	**3m**	**Temp.(℃)/Hum.(%RH):**	**16.8(℃)/48%RH**
Test Mode:	**Micro Charging**		

No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	40.0643	51.58	-16.74	34.84	40.00	-5.16	QP			
2	58.9217	48.98	-17.07	31.91	40.00	-8.09	peak			
3	84.4054	54.84	-20.67	34.17	40.00	-5.83	peak			
4	98.8324	50.68	-17.52	33.16	40.00	-6.84	peak			
5	111.7378	48.29	-17.65	30.64	40.00	-9.36	peak			
6	145.3505	50.76	-20.86	29.90	40.00	-10.10	peak			

Note: **Result=Reading+Factor** **Over Limit=Result-Limit**

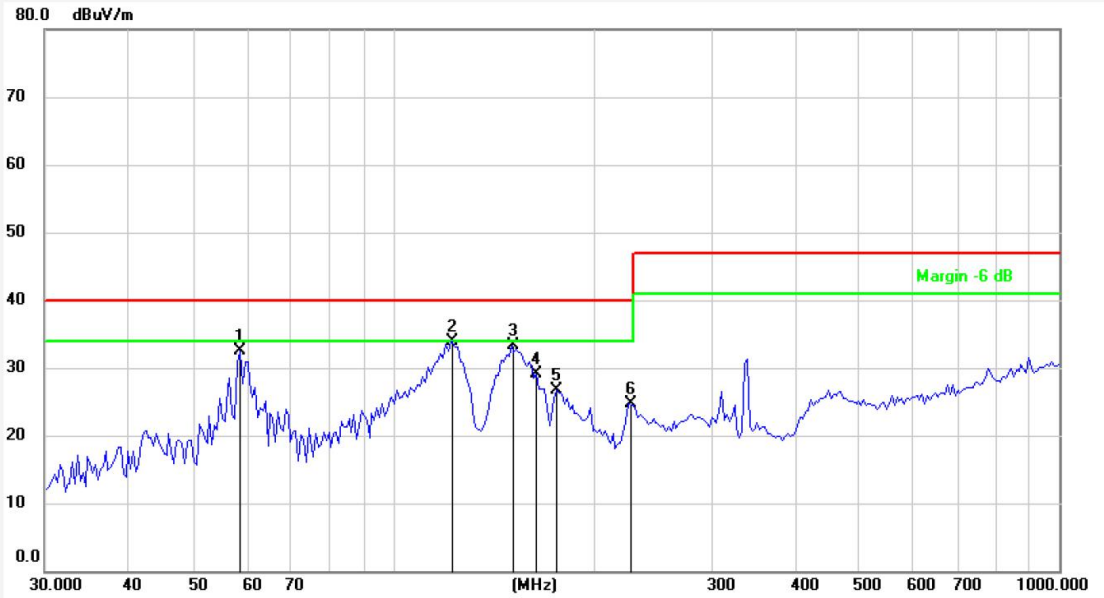
Test item:	**Radiation Test**	**Polarization:**	**Horizontal**
Standard:	**(RE)EN55032**	**Power Source:**	**DC 5V**
Distance:	**3m**	**Temp.(℃)/Hum.(%RH):**	**16.8(℃)/48%RH**
Test Mode:	**Full Load(Type-C: 5V, 2.1A)**		



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	59.9639	36.44	-17.23	19.21	40.00	-20.79	peak			
2	120.9109	41.23	-19.22	22.01	40.00	-17.99	peak			
3	153.2004	42.24	-20.47	21.77	40.00	-18.23	peak			
4	225.3080	45.15	-16.05	29.10	40.00	-10.90	peak			
5	340.1847	41.53	-11.67	29.86	47.00	-17.14	peak			
6	478.8456	35.16	-8.53	26.63	47.00	-20.37	peak			

Note: **Result=Reading+Factor Over Limit=Result-Limit**

Test item:	**Radiation Test**	**Polarization:**	**Vertical**
Standard:	**(RE)EN55032**	**Power Source:**	**DC 5V**
Distance:	**3m**	**Temp.(℃)/Hum.(%RH):**	**16.8(℃)/48%RH**
Test Mode:	**Full Load(Type-C: 5V, 2.1A)**		



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	58.9217	49.65	-17.07	32.58	40.00	-7.42	peak			
2	123.0495	53.52	-19.67	33.85	40.00	-6.15	peak			
3	150.5378	53.85	-20.62	33.23	40.00	-6.77	peak			
4	164.3301	48.89	-19.78	29.11	40.00	-10.89	peak			
5	176.2686	45.85	-19.16	26.69	40.00	-13.31	peak			
6	225.3080	40.82	-16.05	24.77	40.00	-15.23	peak			

Note: **Result=Reading+Factor** **Over Limit=Result-Limit**

Test item:	**Radiation Test**	**Polarization:**	**Horizontal**
Standard:	**(RE)EN55032**	**Power Source:**	**DC 5V**
Distance:	**3m**	**Temp.(℃)/Hum.(%RH):**	**16.8(℃)/48%RH**
Test Mode:	**Full Load(USB2: 5V, 2.1A)**		

No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	78.0020	49.18	-21.71	27.47	40.00	-12.53	peak			
2	192.4186	45.56	-17.44	28.12	40.00	-11.88	peak			
3	229.2931	53.14	-15.74	37.40	40.00	-2.60	QP			
4	368.1116	50.05	-11.27	38.78	47.00	-8.22	peak			
5	408.9460	44.03	-9.99	34.04	47.00	-12.96	peak			
6	442.5177	45.79	-9.36	36.43	47.00	-10.57	peak			

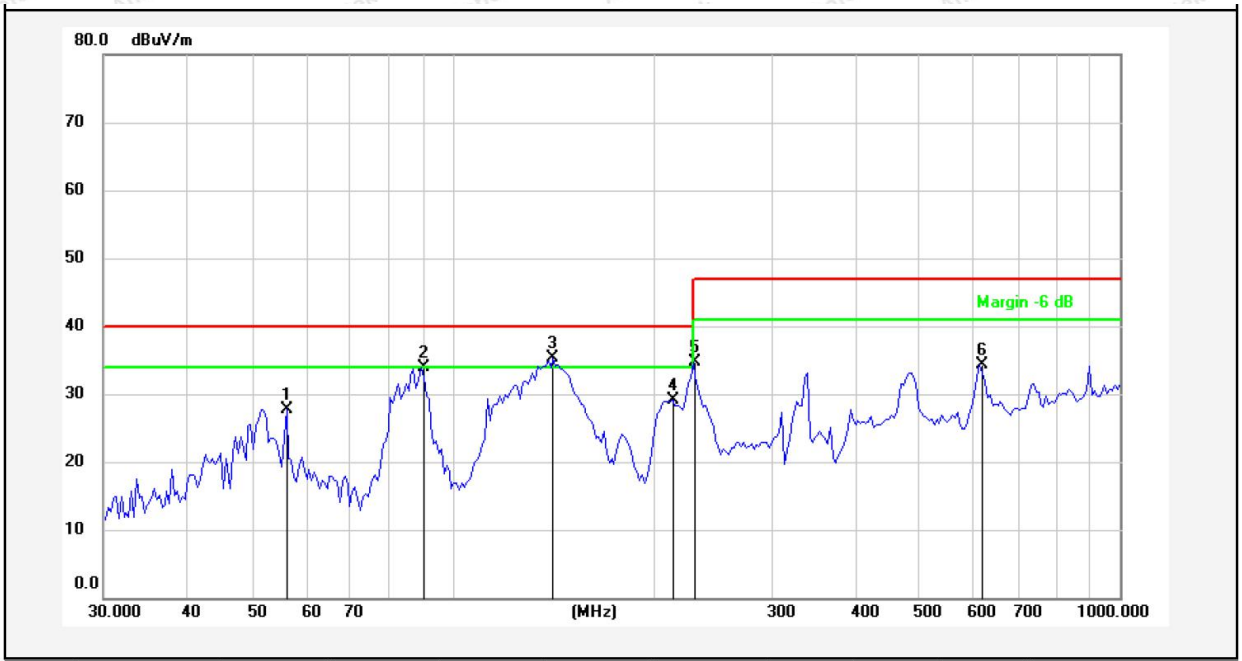
Note: **Result=Reading+Factor Over Limit=Result-Limit**

Test item:	**Radiation Test**	**Polarization:**	**Vertical**
Standard:	**(RE)EN55032**	**Power Source:**	**DC 5V**
Distance:	**3m**	**Temp.(℃)/Hum.(%RH):**	**16.8(℃)/48%RH**
Test Mode:	**Full Load(USB2: 5V, 2.1A)**		

No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	42.9750	37.24	-15.88	21.36	40.00	-18.64	peak			
2	78.6888	43.93	-21.66	22.27	40.00	-17.73	peak			
3	227.2918	45.41	-15.91	29.50	40.00	-10.50	peak			
4	374.6225	38.94	-11.09	27.85	47.00	-19.15	peak			
5	446.4141	40.55	-9.31	31.24	47.00	-15.76	peak			
6	596.1772	40.80	-5.26	35.54	47.00	-11.46	peak			

Note: Result=Reading+Factor Over Limit=Result-Limit

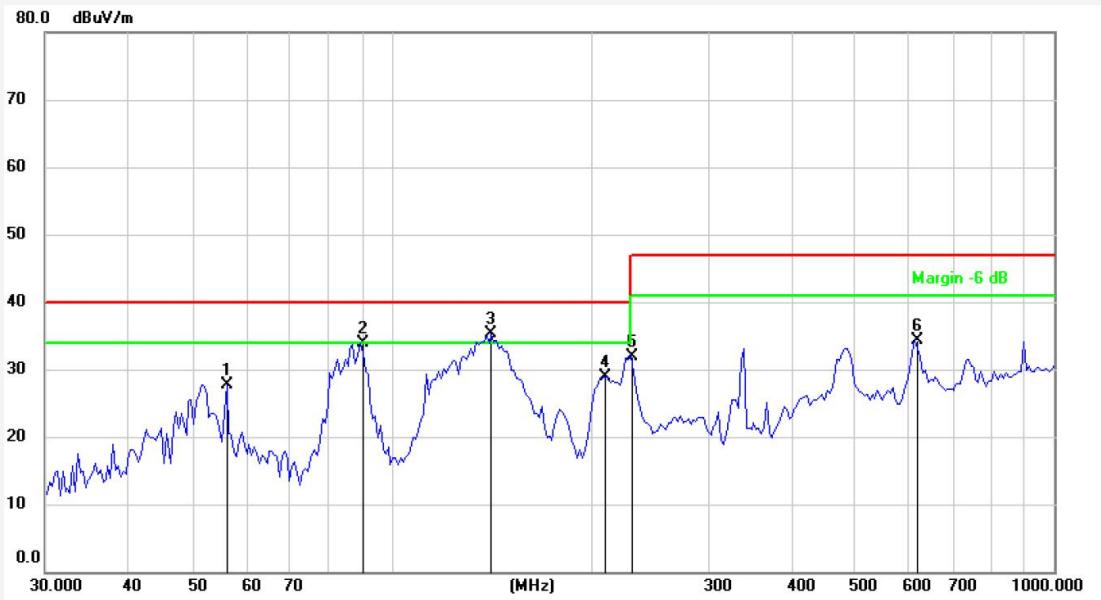
Test item:	**Radiation Test**	**Polarization:**	**Horizontal**
Standard:	**(RE)EN55032**	**Power Source:**	**DC 5V**
Distance:	**3m**	**Temp.(℃)/Hum.(%RH):**	**16.8(℃)/48%RH**
Test Mode:	**Full Load(Type-C: 5V, 0.7A+USB1: 5V, 0.7A+USB2: 5V, 0.7A)**		



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	56.3948	44.22	-16.47	27.75	40.00	-12.25	peak			
2	89.7472	53.11	-19.17	33.94	40.00	-6.06	peak			
3	141.5777	56.19	-20.88	35.31	40.00	-4.69	QP			
4	213.7634	46.00	-16.82	29.18	40.00	-10.82	peak			
5	229.2931	50.40	-15.74	34.66	40.00	-5.34	QP			
6	617.4534	39.20	-4.92	34.28	47.00	-12.72	peak			

Note: **Result=Reading+Factor Over Limit=Result-Limit**

Test item:	**Radiation Test**	**Polarization:**	**Vertical**
Standard:	**(RE)EN55032**	**Power Source:**	**DC 5V**
Distance:	**3m**	**Temp.(℃)/Hum.(%RH):**	**16.8(℃)/48%RH**
Test Mode:	**Full Load(Type-C: 5V, 0.7A+USB1: 5V, 0.7A+USB2: 5V, 0.7A)**		



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	56.3948	44.22	-16.47	27.75	40.00	-12.25	peak			
2	89.7472	53.11	-19.17	33.94	40.00	-6.06	peak			
3	141.5777	56.19	-20.88	35.31	40.00	-4.69	QP			
4	210.0482	45.93	-16.97	28.96	40.00	-11.04	peak			
5	229.2931	47.74	-15.74	32.00	40.00	-8.00	peak			
6	617.4534	39.20	-4.92	34.28	47.00	-12.72	peak			

Note: **Result=Reading+Factor Over Limit=Result-Limit**

4. Electrostatic Discharge Immunity Test

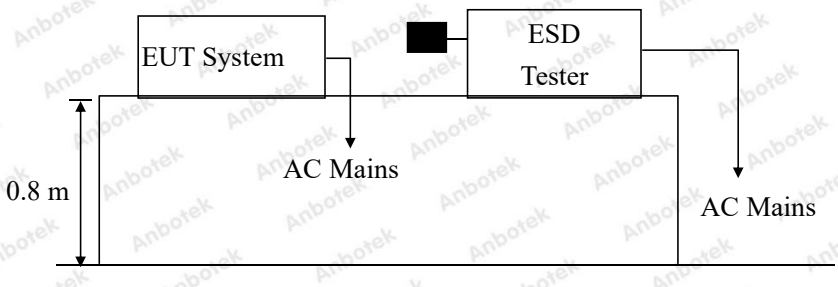
4.1. Test Standard and Level

Test Standard:	EN 55035 (IEC 61000-4-2)
Performance Criterion:	B
Severity Level: 3 / Air Discharge: ±8kV, Level: 2 / Contact Discharge: ±4kV	

Test Level

Level	Test Voltage Contact Discharge (kV)	Test Voltage Air Discharge (kV)
1.	±2	±2
2.	±4	±4
3.	±6	±8
4.	±8	±15
X.	Special	Special

4.2. Test Setup



4.3. EUT Configuration on Measurement

The following equipments are installed on electrostatic discharge immunity measurement to meet EN 55035 requirements and operating in a manner which tends to maximize its emission characteristics in a normal application.

4.4. Operating Condition of EUT

4.4.1. Setup the EUT as shown on Section 4.2.

4.4.2. Turn on the power of all equipments.

4.4.3. After that, let the EUT work in test mode measure it.

4.5. Test Procedure

4.5.1. Air Discharge:

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed

4.5.2. Contact Discharge:

All the procedure shall be same as Section 4.5.1. except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

4.5.3. Indirect discharge for horizontal coupling plane

At least 20 single discharges shall be applied to the horizontal coupling plane, at points on each side of the EUT. The discharge electrode positions vertically at a distance of 0.1m from the EUT and with the discharge electrode touching the coupling plane.

4.5.4. Indirect discharge for vertical coupling plane

At least 20 single discharge shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m × 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

4.6. Test Results

PASS

Please refer to the following page.

Electrostatic Discharge Test Results

Air discharge :	±8.0kV	Temperature :	16.2℃
Contact discharge :	±4.0kV	Humidity :	50%
Power Supply :	DC 5V via adapter / DC 5V	Expert conclusion :	A
Number of discharge :	10	Test Result:	☒ Pass ☐ Fail

Location		Kind A-Air Discharge C-Contact Discharge	Result
Slot	4 points	A	☑ A ☐ B ☐ C ☐ D
Button	4 points	A	☑ A ☐ B ☐ C ☐ D
Light	4 points	A	☑ A ☐ B ☐ C ☐ D
Micro Port	4 points	A	☑ A ☐ B ☐ C ☐ D
Type-C Port	4 points	A	☑ A ☐ B ☐ C ☐ D
USB Port	4 points	A	☑ A ☐ B ☐ C ☐ D
HCP	4 points	C	☑ A ☐ B ☐ C ☐ D
VCP of the front	4 points	C	☑ A ☐ B ☐ C ☐ D
VCP of the rear	4 points	C	☑ A ☐ B ☐ C ☐ D
VCP of the left	4 points	C	☑ A ☐ B ☐ C ☐ D
VCP of the right	4 points	C	☑ A ☐ B ☐ C ☐ D

Remark: Discharge should be considered on Contact and Air and Horizontal Coupling Plane (HCP) and Vertical Coupling Plane (VCP).

5. RF Field Strength Susceptibility Test

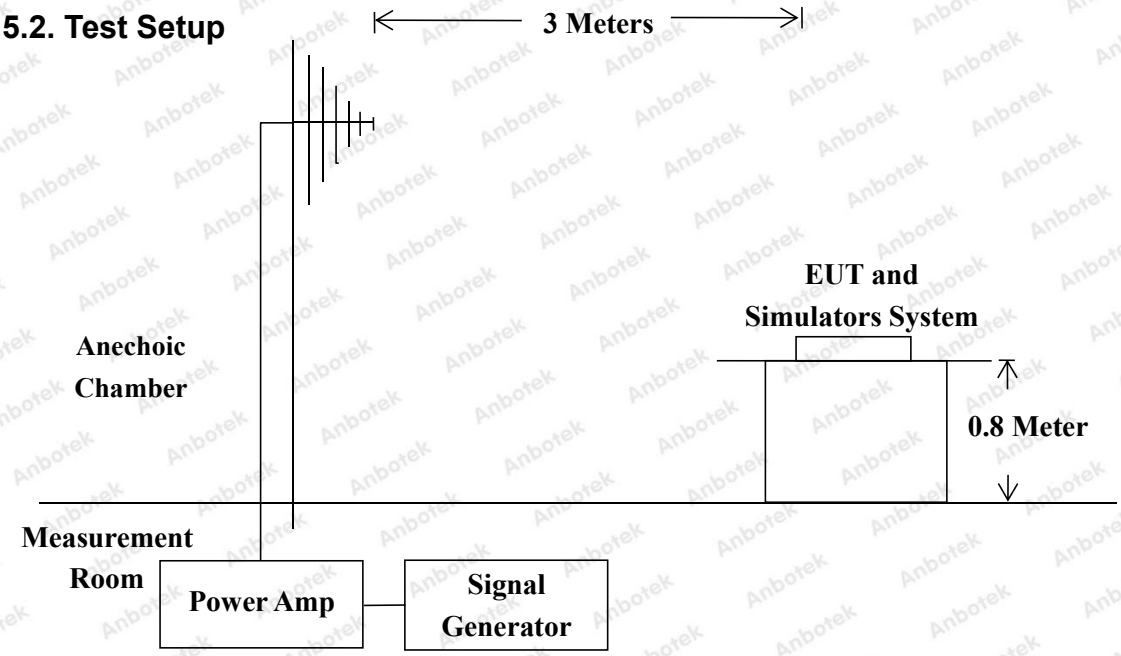
5.1. Test Standard and Level

Test Standard:	EN 55035 (IEC 61000-4-3)
Required Performance:	A
Frequency Range:	80MHz to 1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz
Field Strength:	3 V/m
Modulation:	1kHz Sine Wave, 80%, AM Modulation
Frequency Step:	1 % of preceding frequency value
Polarity of Antenna:	Horizontal and Vertical
Test Distance:	3 m
Antenna Height:	1.5 m
Dwell Time:	at least 0.5s

Test Level

Level	Field Strength V/m
1.	1
2.	3
3.	10
X.	Special

5.2. Test Setup



5.3. EUT Configuration on Measurement

The following equipments are installed on RF Field Strength susceptibility Measurement to meet EN 55035 requirements and operating in a manner which tends to maximize its emission characteristics in a normal application.

5.4. Operating Condition of EUT

5.4.1. Setup the EUT as shown on Section 5.2.

5.4.2. Turn on the power of all equipments.

5.4.3. After that, let the EUT work in test mode measure it.

5.5. Test Procedure

The EUT and support equipment, which are placed on a table that is 0.8 meter above ground and the testing was performed in a fully-anechoic chamber. The testing distance from antenna to the EUT was 3 meters.

1) 80 MHz to 1000 MHz the field strength level was 3V/m, 1800MHz, 2600MHz, 3500MHz, 5000MHz the field strength level was 3V/m.
2) The frequency range is swept from 80 MHz to 1000 MHz with the signal 80% amplitude modulated with a 1kHz sine wave.
3) The frequency range is swept from 1800MHz, 2600MHz, 3500MHz, 5000MHz with the signal 80% amplitude modulated with a 1kHz sine wave.
4) The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond, but shall in no case be less than 0.5s.
5) The test was performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.

5.6. Measuring Results

PASS

Please refer to the following page.

RF Field Strength Susceptibility Test Results

Field Strength :	3V/m	Temperature :	17.2℃
Expert conclusion :	A	Humidity :	50%
Power Supply :	DC 5V via adapter / DC 5V	Test Result :	☒ Pass ☐ Fail
Dwell Time:	1s		

Frequency Range	Antenna Polarity	R.F. Field Strength	Azimuth	Result
80MHz~1000MHz	H / V	3 V/m (rms)	Front	☑ A ☐ B ☐ C ☐ D
			Rear	
			Left	
			Right	
1800MHz 2600MHz 3500MHz 5000MHz	H / V	3 V/m (rms)	Front	☑ A ☐ B ☐ C ☐ D
			Rear	
			Left	
			Right	

APPENDIX I -- TEST SETUP PHOTOGRAPH

Photo of Power Line Conducted Emission Test

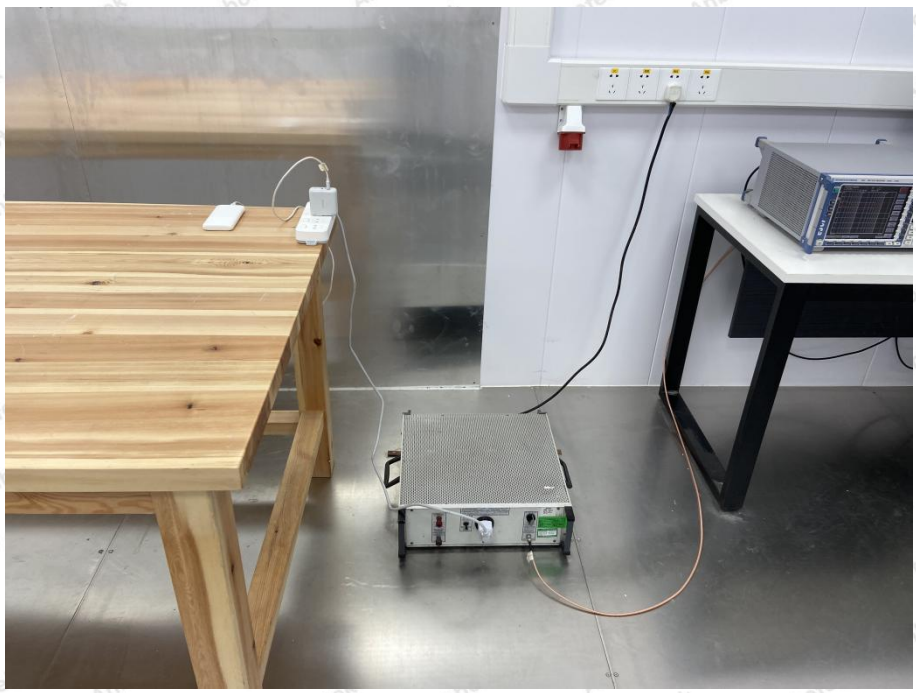


Photo of Radiated Emission Test

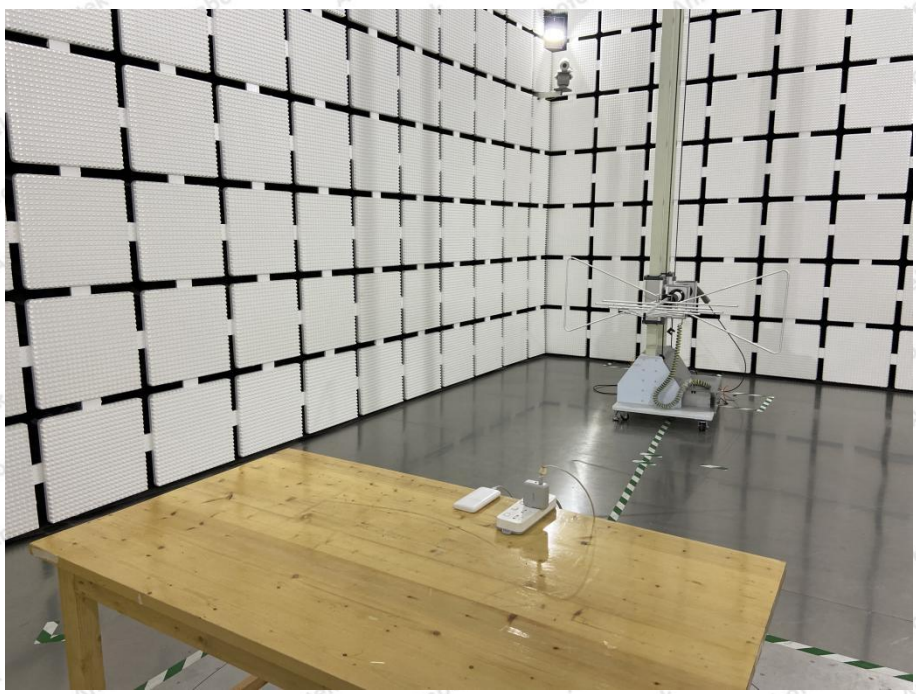


Photo of Electrostatic Discharge Immunity Test

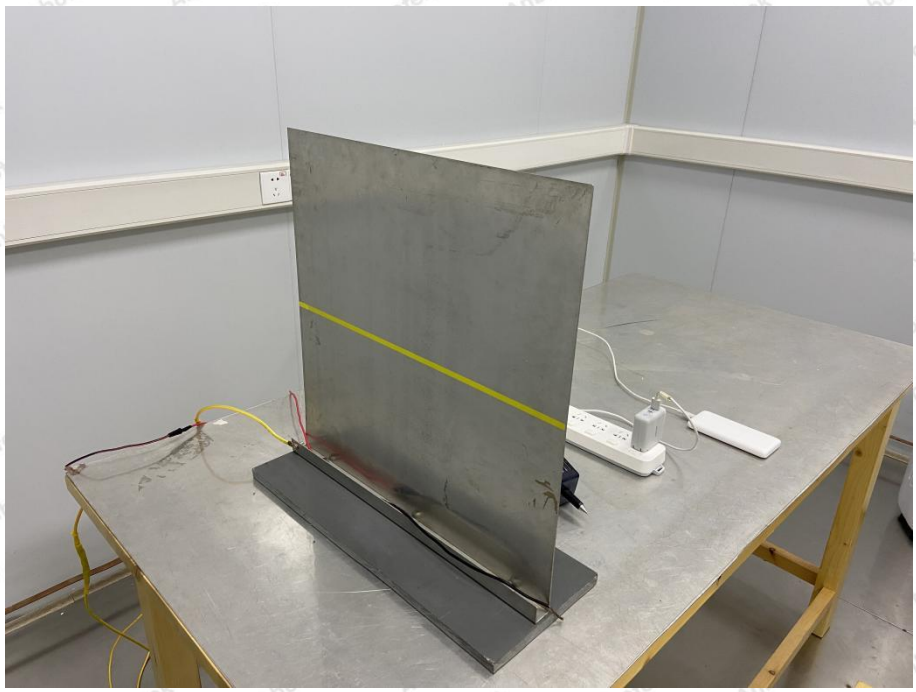
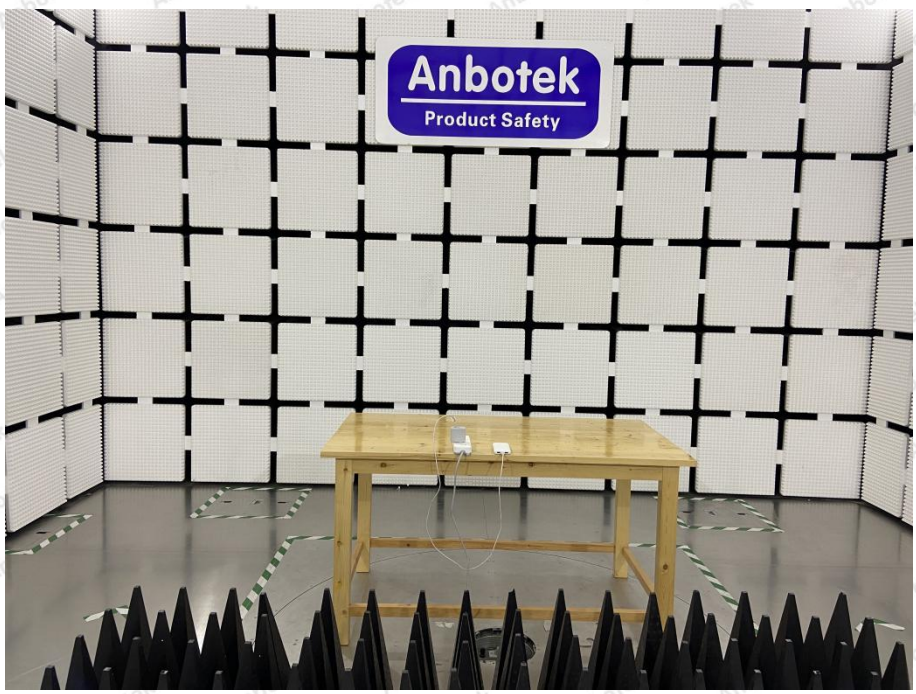
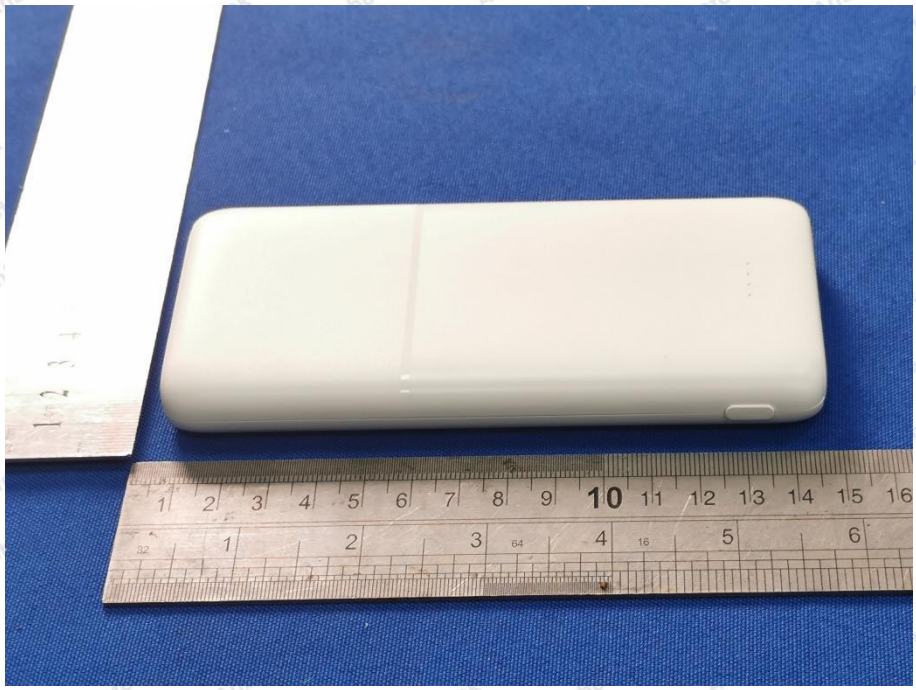
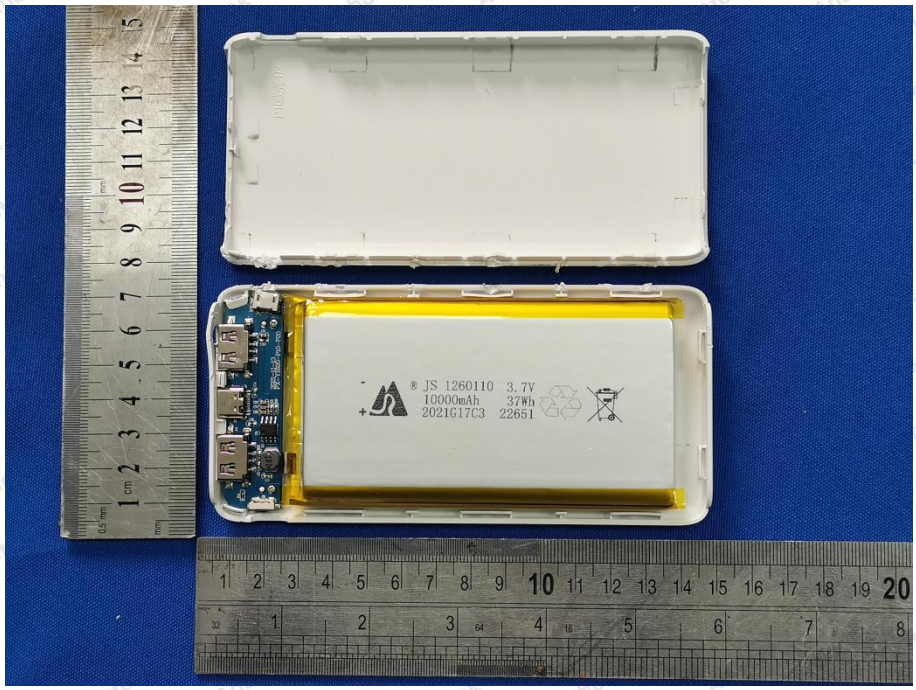


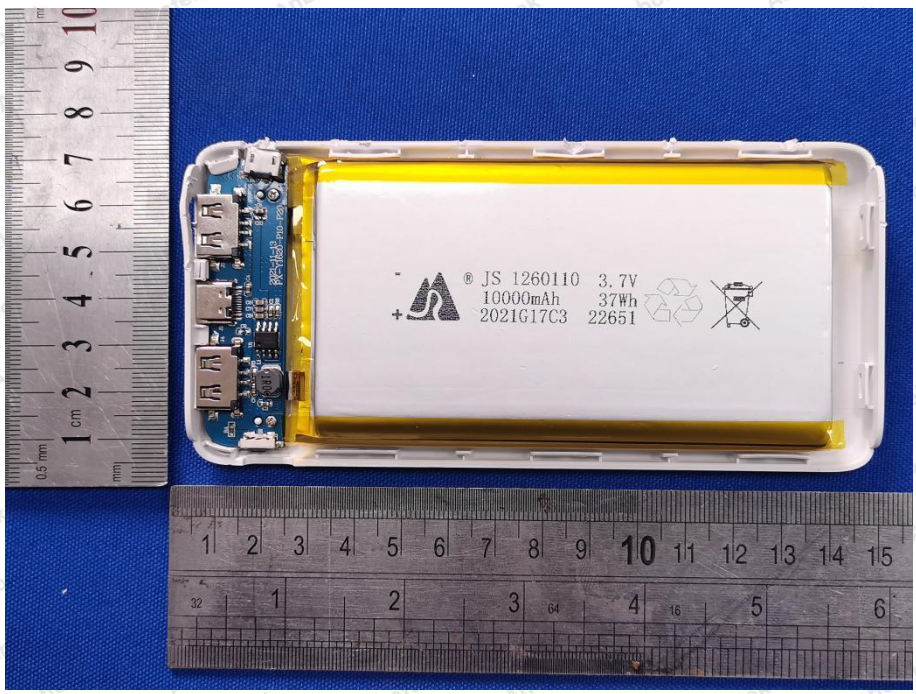
Photo of RF Field Strength susceptibility Test

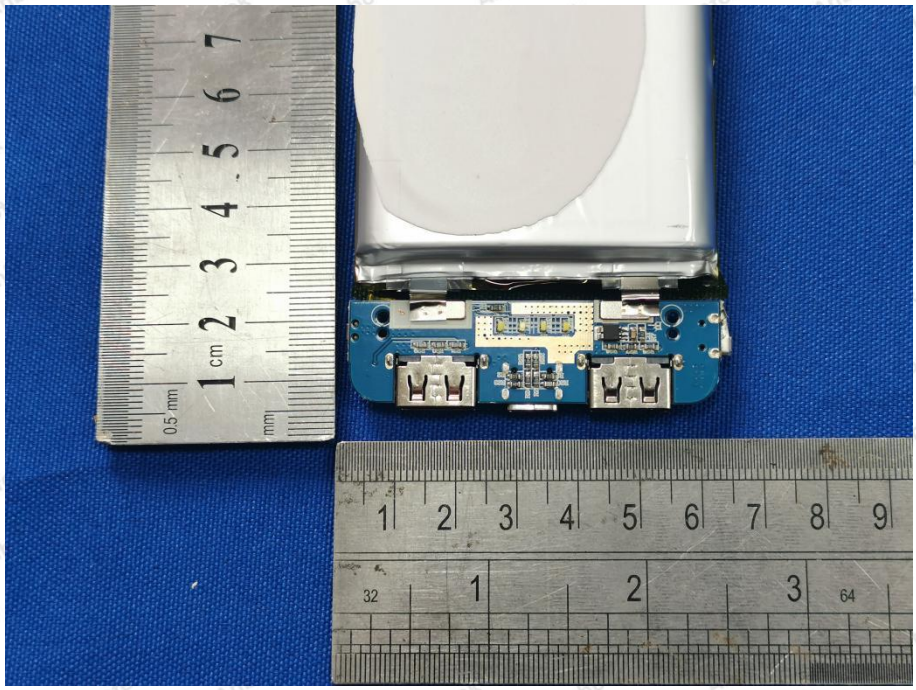


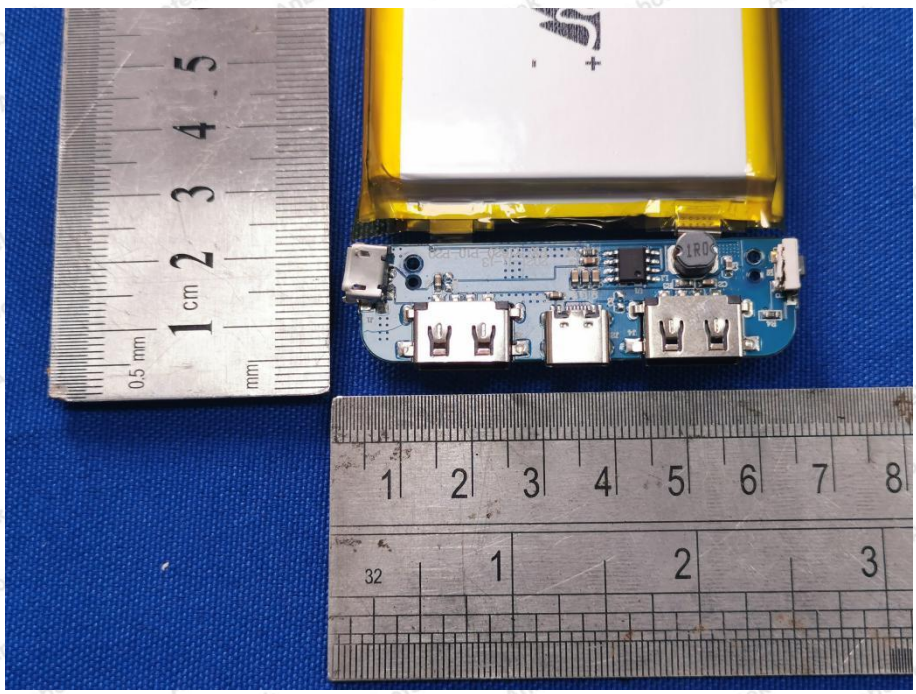
APPENDIX II -- Photo documentation




JS 1260110 3.7V
10000mAh 37Wh
2021G17C3 22651


JS 1260110 3.7V
10000mAh 37Wh
2021G17C3 22651





CE Label

1. The CE conformity marking must consist of the initials ‘CE’ taking the following form:
   If the CE marking is reduced or enlarged, the proportions given in the above graduated drawing must be respected.
2. The CE marking must have a height of at least 5 mm except where this is not possible on account of the nature of the apparatus.
3. The CE marking must be affixed to the product or to its data plate. Additionally it must be affixed to the packaging, if any, and to the accompanying documents.
4. The CE marking must be affixed visibly, legibly and indelibly.
   It must have the same height as the initials ‘CE’.

---------- End of Report ----------