EMC Test Report

Product Name	:	Wireless Chargers
Model No.	:	Vivid

Applicant	:	Flashbay Electronics
Address	:	Building2 ,Jixun Industrial Park ,Xinjiao ,Dong'ao Village ,Shatian Town ,Huiyang District ,Huizhou City , Guangdong Province,P.R.China

Date of Receipt	:	January 10, 2025
Test Date	:	January 14, 2025 ~ January 15, 2025
Issued Date	:	February 18, 2025
Report Number	:	2510341R-IT-JP-P01V01
Report Template No.	:	TRF_VCCI CISPR 32 _EMC_V2.0

Issued Date : February 18, 2025
Report Number : 2510341R-IT-JP-P01V01

Product Name	:	Wireless Chargers
Applicant	:	Flashbay Electronics
Address	:	Building2 ,Jixun Industrial Park ,Xinjiao ,Dong'ao Village ,Shatian Town ,Huiyang District ,Huizhou City , Guangdong Province,P.R.China
Manufacturer	:	Flashbay Electronics
Address	:	Building2 ,Jixun Industrial Park ,Xinjiao ,Dong'ao Village ,Shatian Town ,Huiyang District ,Huizhou City , Guangdong Province,P.R.China
Model No.	:	Vivid
EUT Rated Voltage	:	100-240 Vac, 50/60 Hz
EUT Test Voltage	:	100 Vac, 50 Hz
Trade Name	:	N/A
Applicable Standard	:	VCCI CISPR 32: 2016
Test Result	:	Complied
Performed Location	:	DEKRA Testing and Certification Co., Ltd. No.99 Hongye Rd., Suzhou Industrial Park, Suzhou,215006, Jiangsu, China VCCI Registration Number: AC1: R-20217 (RE Below 1 GHz); AC5: G-10041 (RE Above 1 GHz) TR1: C-20173(CE Mains); TR1: T-11531 (CE Telecommunication)

Tested By : Caviare Yang

(Caviare Yang/Project Engineer)

Approved By : Star Wang 2025.02.18 15:13:36 +08'00'

(Star Wang/Manager)

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Document History

Report Number	Date	Description
2510341R-IT-JP-P01V01	February 18, 2025	First release

1 General Information

1.1 EUT Description

Product Name	Wireless Chargers
Model No.	Vivid
Brand Name	N/A
Highest Internal Frequency (Fx)	＜108 MHz

Note 1: The EUT information is from customer declaration.

1.2 Mode of Operation

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Pre-Test Mode
Mode 1: Charge mode with mobile phone(10W)
Mode 2: Charge mode with watch(5W)
Mode 3: Charge mode with mobile phone(7.5W)
Mode 4: Stand by
Final Mode
Mode 1: Charge mode with mobile phone(10W)

Note 1: Mode 1 is the worst case as the final date in this report.

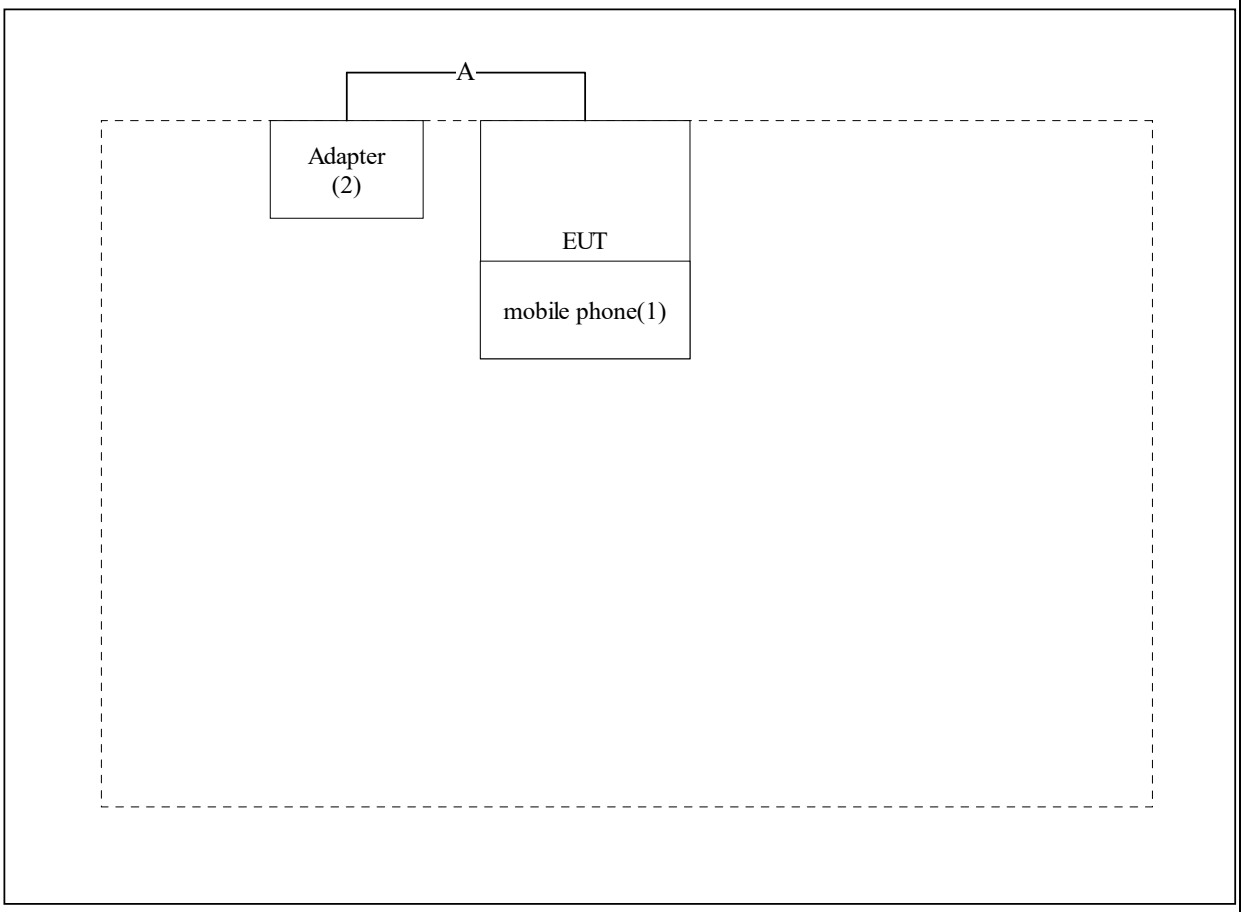
1.3 Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Mobile phone	Apple	Iphone 13	N/A	N/A
2	Adapter	Jiuzhou Electronic	DYS05100CP-U	N/A	1.0 m, Un-shielded

1.4 Configuration of Tested System

Mode 1

Connection Diagram


Signal Cable Type		Signal Cable Description
A	USB cable	1.0 m, Un-shielded

1.5 EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of all equipment.
3	Confirm the EUT working normally.
4	Start test.

2 Technical Test

2.1 Summary of Test Result

☒ No deviations from the test standards

☐ Deviations from the test standards as below description:

Emission			
Performed Item	Normative References	Test Performed	Deviation
Conducted Emission	VCCI CISPR 32: 2016 Class B	Yes	No
Asymmetric mode conducted emissions	VCCI CISPR 32: 2016 Class B	N/A	See 1)
Radiated Emission	VCCI CISPR 32: 2016 Class B	Yes	No

1) The EUT does not have a wired network port.

2.2 List of Test Equipment

Conducted Emission / TR1

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
EMI Test Receiver	R&S	ESR7	102086	2025.01.11	2026.01.10
Two-Line V-Network	R&S	ENV216	101189	2024.07.06	2025.07.05
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2024.04.20	2025.04.19
Coaxial Cable	Suhner	RG 223	TR1-C1	2024.04.27	2025.04.26
Temperature/Humidity Meter	RTS	RTS-1909	THM-012	2024.05.17	2025.05.16
Software	Quietek	EMI_V3	V3.0.0	N/A	N/A

Radiated Emission / AC1

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
EMI Test Receiver	R&S	ESCI	100175	2024.05.12	2025.05.11
EMI Test Receiver	R&S	ESCI	100726	2024.07.06	2025.07.05
Preamplifier	Quietek	AP-025C	CHM-0511006	2024.04.20	2025.04.19
Preamplifier	R&S	SCU-01F	100452	2024.06.14	2025.06.13
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9168	01099	2024.03.16	2025.03.15
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9168	01100	2024.06.16	2025.06.15
Coaxial Cable	Huber+Suhner	RG 214_U	AC1-L	2024.04.27	2025.04.26
Coaxial Cable	Huber+Suhner	RG 214_U	AC1-R	2024.04.27	2025.04.26
Temperature/Humidity Meter	RTS	RTS-1909	THM-011	2024.05.17	2025.05.16
Software	Quietek	EMI_V3	V3.0.0	N/A	N/A

2.3 Test Environment

Tests have been performed in a controlled laboratory environment, where the environmental conditions are maintained within the applicable ranges.

Performed Item	Items	Actual
Conducted Emission	Temperature (°C)	20
	Humidity (%RH)	41
	Barometric pressure (mbar)	1012
Radiated Emission (30~1000 MHz)	Temperature (°C)	20
	Humidity (%RH)	41
	Barometric pressure (mbar)	1012
Radiated Emission (1~40 GHz)	Temperature (°C)	N/A
	Humidity (%RH)	N/A
	Barometric pressure (mbar)	N/A

2.4 Measurement Uncertainty

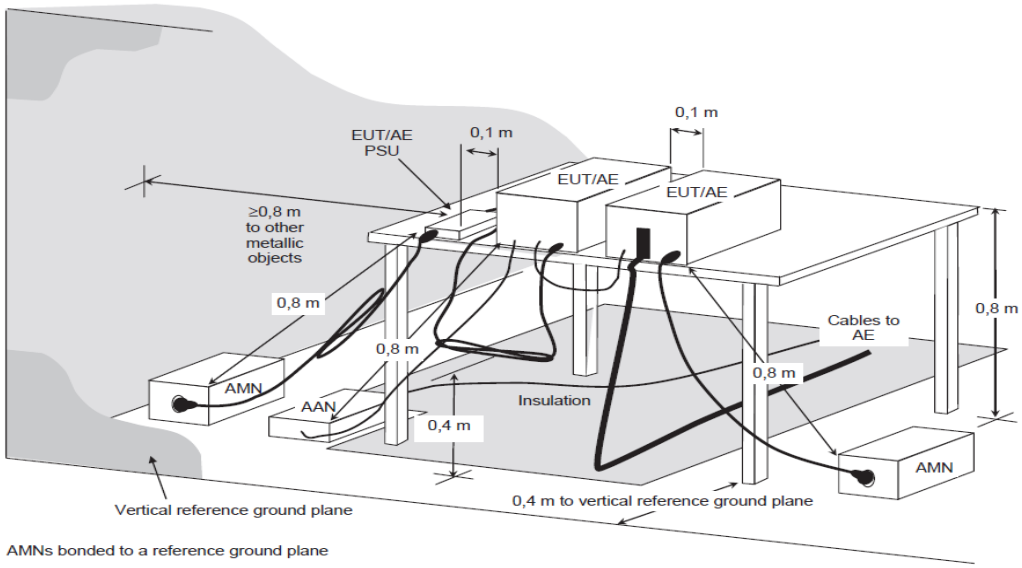
Conducted disturbance voltage – AC&DC power port(s) / TR1
The maximum measurement uncertainty is evaluated as: Mains: 9 kHz~30 MHz: 3.1 dB
Radiated emission / AC1
The maximum measurement uncertainty is evaluated as: Horizontal: 30 MHz~200 MHz: 4.8 dB 200 MHz~1 GHz: 4.4 dB Vertical: 30 MHz~200 MHz: 5.1 dB 200 MHz~1 GHz: 4.4 dB

3 Conducted Emission (Main Terminals)

3.1 Test Specification

According to EMC Standard: VCCI CISPR 32

3.2 Test Setup



3.3 Limit

Applicable to AC mains power ports			
Frequency range MHz	Coupling device	Detector type/ Bandwidth	Class A limits dB(μV)
0.15 – 0.5	AMN	Quasi Peak / 9 KHz	79
0.5 – 30			73
0.15 – 0.5	AMN	Average / 9 KHz	66
0.5 – 30			60
Both apply across the entire frequency range.			

Applicable to AC mains power ports			
Frequency range MHz	Coupling device	Detector type/ Bandwidth	Class B limits dB(μV)
0.15 – 0.5	AMN	Quasi Peak / 9 KHz	66 – 56

0.5 – 5			56
5 – 30			60
0.15 – 0.5	AMN	Average / 9 KHz	56 – 46
0.5 – 5			46
5 – 30			50
Both apply across the entire frequency range.			

Remarks:
If the limits for the average detector are met when using the quasi-peak detector, then the limits for the measurement with the average detector are considered to be met.

3.4 Test Procedure

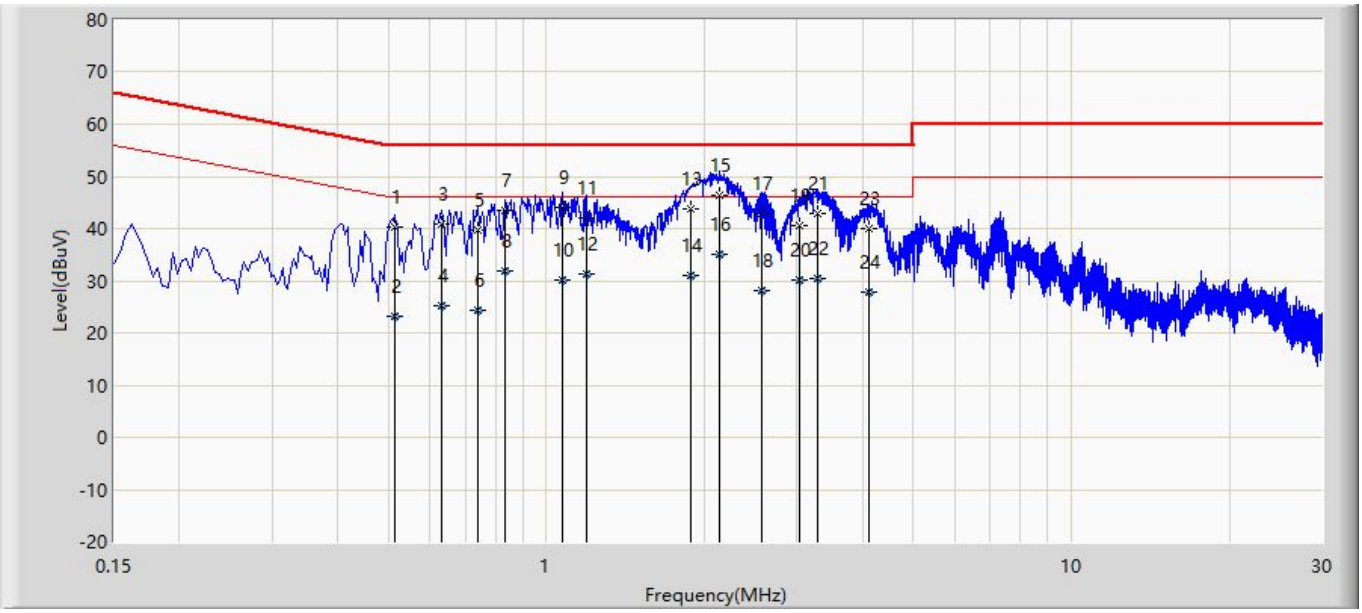
The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination.
(Please refers to the block diagram of the test setup and photographs.)
Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed on conducted measurement.
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5 Deviation from Test Standard

No deviation.

3.6 Test Result

Engineer: Jim Fu	
Site: TR1	Time: 2025/01/14
Limit: CISPR 32_CE_Mains_Class B	Margin: 0
Probe: ENV216_101189(0.009-30MHz)	Polarity: Line
EUT: Wireless Chargers	Power: 100 Vac, 50 Hz
Note: Mode 1	



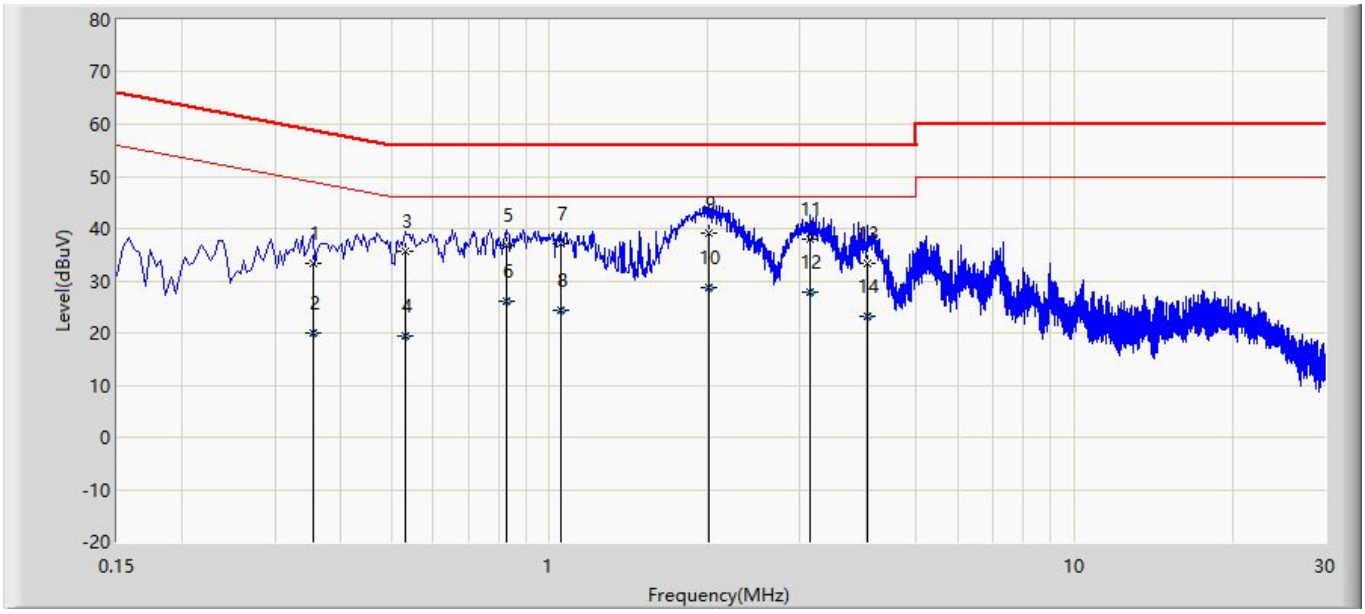
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.514	40.213	30.576	-15.787	56.000	9.560	0.077	0.000	QP
2		0.514	23.079	13.442	-22.921	46.000	9.560	0.077	0.000	AV
3		0.630	40.867	31.225	-15.133	56.000	9.560	0.082	0.000	QP
4		0.630	25.135	15.493	-20.865	46.000	9.560	0.082	0.000	AV
5		0.742	39.571	29.922	-16.429	56.000	9.561	0.088	0.000	QP
6		0.742	24.462	14.813	-21.538	46.000	9.561	0.088	0.000	AV
7		0.834	43.363	33.706	-12.637	56.000	9.565	0.092	0.000	QP
8		0.834	31.840	22.184	-14.160	46.000	9.565	0.092	0.000	AV
9		1.074	44.003	34.331	-11.997	56.000	9.570	0.102	0.000	QP
10		1.074	30.284	20.612	-15.716	46.000	9.570	0.102	0.000	AV
11		1.190	42.048	32.373	-13.952	56.000	9.570	0.105	0.000	QP
12		1.190	31.326	21.652	-14.674	46.000	9.570	0.105	0.000	AV
13		1.886	43.782	34.090	-12.218	56.000	9.570	0.122	0.000	QP
14		1.886	30.964	21.272	-15.036	46.000	9.570	0.122	0.000	AV

15	*	2.142	46.244	36.545	-9.756	56.000	9.570	0.129	0.000	QP
16		2.142	35.175	25.476	-10.825	46.000	9.570	0.129	0.000	AV
17		2.570	42.783	33.074	-13.217	56.000	9.570	0.139	0.000	QP
18		2.570	28.189	18.480	-17.811	46.000	9.570	0.139	0.000	AV
19		3.030	40.588	30.868	-15.412	56.000	9.570	0.150	0.000	QP
20		3.030	30.064	20.344	-15.936	46.000	9.570	0.150	0.000	AV
21		3.274	43.025	33.300	-12.975	56.000	9.571	0.154	0.000	QP
22		3.274	30.394	20.669	-15.606	46.000	9.571	0.154	0.000	AV
23		4.118	39.877	30.134	-16.123	56.000	9.576	0.167	0.000	QP
24		4.118	27.813	18.070	-18.187	46.000	9.576	0.167	0.000	AV

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Jim Fu	
Site: TR1	Time: 2025/01/14
Limit: CISPR 32_CE_Mains_Class B	Margin: 0
Probe: ENV216_101189(0.009-30MHz)	Polarity: Neutral
EUT: Wireless Chargers	Power: 100 Vac, 50 Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.354	33.372	23.732	-25.497	58.868	9.570	0.070	0.000	QP
2		0.354	20.035	10.395	-28.833	48.868	9.570	0.070	0.000	AV
3		0.530	35.518	25.871	-20.482	56.000	9.570	0.078	0.000	QP
4		0.530	19.398	9.750	-26.602	46.000	9.570	0.078	0.000	AV
5		0.830	36.902	27.241	-19.098	56.000	9.570	0.092	0.000	QP
6		0.830	25.976	16.315	-20.024	46.000	9.570	0.092	0.000	AV
7		1.050	37.207	27.536	-18.793	56.000	9.570	0.101	0.000	QP
8		1.050	24.395	14.724	-21.605	46.000	9.570	0.101	0.000	AV
9	*	2.018	39.103	29.407	-16.897	56.000	9.570	0.126	0.000	QP
10		2.018	28.634	18.939	-17.366	46.000	9.570	0.126	0.000	AV
11		3.134	37.893	28.160	-18.107	56.000	9.581	0.152	0.000	QP
12		3.134	27.798	18.065	-18.202	46.000	9.581	0.152	0.000	AV
13		4.038	33.409	23.658	-22.591	56.000	9.585	0.165	0.000	QP
14		4.038	23.088	13.337	-22.912	46.000	9.585	0.165	0.000	AV

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

3.7 Test Photograph

Test Mode: Mode 1

Description: Front View of Conducted Disturbance Test Setup

Test Mode: Mode 1

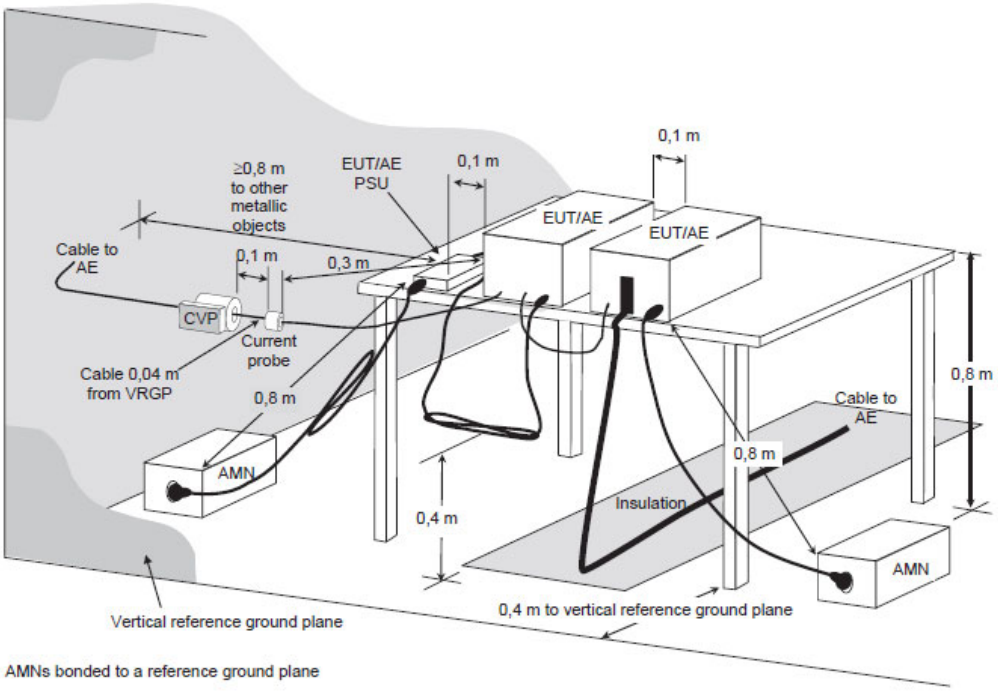
Description: Back View of Conducted Disturbance Test Setup

4 Asymmetric mode conducted emissions

4.1 Test Specification

According to EMC Standard: VCCI CISPR 32

4.2 Test Setup



4.3 Limit

Applicable to 1. wired network ports 2. optical fibre port with metallic shield or tension members 3. antenna ports				
Frequency range MHz	Coupling device	Detector type/ Bandwidth	Class A voltage limits dB(μV)	Class A current limits dB(μA)
0.15 – 0.5	AAN	Quasi Peak / 9 KHz	97 – 87	N / A
0.5 – 30			87	
0.15 – 0.5	AAN	Average / 9 KHz	84 – 74	
0.5 – 30			74	
0.15 – 0.5	CVP And current probe	Quasi Peak / 9 KHz	97 – 87	53 – 43
0.5 – 30			87	43

0.15 – 0.5	CVP And current probe	Average / 9 KHz	84 – 74	40 – 30
0.5 – 30			74	30
0.15 – 0.5	Current Probe	Quasi Peak / 9 KHz	N / A	53 – 43
0.5 – 30				43
0.15 – 0.5	Current Probe	Average / 9 KHz		40 – 30
0.5 – 30				30

The choice of coupling device and measurement procedure is defined in Annex C.
AC mains ports that also have the function of a wired network port shall meet the limits given in Table A.9 or A.10.
The measurement shall cover the entire frequency range.
The application of the voltage and/or current limits is dependent on the measurement procedure used. Refer to Table C.1 of CISPR 32 for applicability.
Testing is required at only one EUT supply voltage and frequency.
Applicable to ports listed above and intended to connect to cables longer than 3 m

Applicable to
4. wired network ports
5. optical fibre port with metallic shield or tension members
6. antenna ports

Frequency range MHz	Coupling device	Detector type / Bandwidth	Class B voltage limits dB (μV)	Class B current limits dB (μA)
0.15 – 0.5	AAN	Quasi Peak / 9 KHz	84 – 74	N / A
0.5 – 30			74	
0.15 – 0.5	AAN	Average / 9 KHz	74 – 64	
0.5 – 30			64	
0.15 – 0.5	CVP And current probe	Quasi Peak / 9 KHz	84 – 74	40 – 30
0.5 – 30			74	30
0.15 – 0.5	CVP And current probe	Average / 9 KHz	74 – 64	30 – 20
0.5 – 30			64	20
0.15 – 0.5	Current Probe	Quasi Peak / 9 KHz	N / A	40 – 30
0.5 – 30				30
0.15 – 0.5	Current Probe	Average / 9 KHz		30 – 20
0.5 – 30				20

The choice of coupling device and measurement procedure is defined in Annex C.
Screened ports including TV broadcast receiver tuner ports are measured with a common-mode impedance of 150 Ω.
This is typically accomplished with the screen terminated by 150 Ω to earth.
AC mains ports that also have the function of a wired network port shall meet the limits given in CISPR 32 Table A.9 or Table A.10
The measurement shall cover the entire frequency range.
The application of the voltage and/or current limits is dependent on the measurement procedure used. Refer to Table C.1 of CISPR 32 for applicability.

Measurement is required at only one EUT supply voltage and frequency. Applicable to ports listed above and intended to connect to cables longer than 3 m

Remarks:

The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz~0.50 MHz.

4.4 Test Procedure

Telecommunication Port:

The mains voltage shall be supplied to the EUT via the LISN when the measurement of telecommunication port is performed. The common mode disturbances at the telecommunication port shall be connected to the ISN, which is 150 ohm impedance.
Both alternative cables are tested related to the LCL requested. The measurement range is from 150kHz to 30MHz. The bandwidth of measurement is set to 9kHz.
The 75dB LCL ISN is used for cat. 6 cable, the 65dB LCL ISN is used for cat. 5 cable, 55dB LCL ISN is used for cat. 3.

4.5 Deviation from Test Standard

No deviation.

4.6 Test Result

The EUT does not have a wired network port.

4.7 Test Photograph

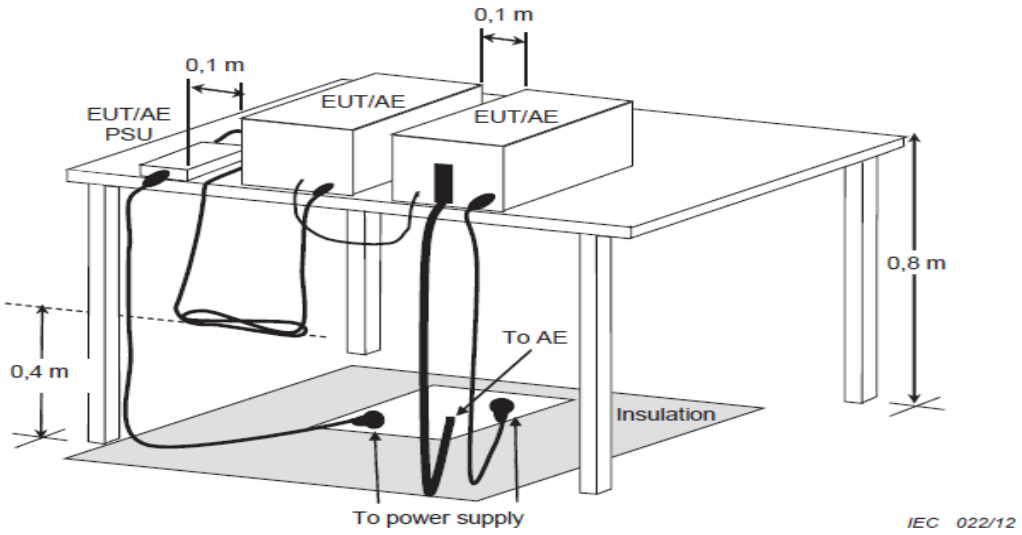
N/A

5 Radiated Emission

5.1 Test Specification

According to EMC Standard: VCCI CISPR 32

5.2 Test Setup



5.3 Limit

Radiated emissions at frequencies up to 1 GHz

for Class A equipment

Frequency range MHz	Measurement		Class A limits dB(μV/m)
	Distance m	Detector type/ Bandwidth	OATS / SAC
30-230	10	Quasi Peak / 120 KHz	40
230-1000			47
30-230	3		50
230-1000			57
Apply only 3m or 10m across the entire frequency range			

Radiated emissions at frequencies above 1 GHz

for Class A equipment

Frequency range MHz	Measurement		Class A limits dB(μV/m)
	Distance m	Detector type/ Bandwidth	OATS / SAC

1000-3000	3	Average / 1 MHz	56
3000-6000			60
1000-3000		Peak / 1 MHz	76
3000-6000			80
Apply across the frequency range from 1000 MHz to the highest required frequency of measurement derived from			

for Class B equipment

Frequency range MHz	Measurement		Class B limits dB(μV/m)
	Distance m	Detector type/ Bandwidth	OATS / SAC
30-230	10	Quasi Peak / 120 KHz	30
230-1000			37
30-230	3		40
230-1000			47
Apply only 3m or 10m across the entire frequency range			

Radiated emissions at frequencies above 1 GHz

for Class B equipment

Frequency range MHz	Measurement		Class B limits dB(μV/m)
	Distance m	Detector type/ Bandwidth	OATS / SAC
1000-3000	3	Average / 1 MHz	50
3000-6000			54
1000-3000		Peak / 1 MHz	70
3000-6000			74
Both apply across the frequency range from 1000 MHz to the highest required frequency of measurement derived from			

Required highest frequency for radiated measurement

Highest internal frequency (*F*x)	Highest measured frequency
*F*x ≤ 108 MHz	1 GHz
108 MHz < *F*x ≤ 500 MHz	2 GHz
500 MHz < *F*x ≤ 1 GHz	5 GHz
*F*x > 1 GHz	5 × *F*x up to a maximum of 6 GHz

5.4 Test Procedure

The EUT and its simulators are 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 was positioned such that the distance from antenna to the EUT was 3/10 meters. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

All cable leaving the table-top EUT for a connection outsidethe test site (for example, mains cable, telephone lines, connections to auxiliary equipment located outside the test area) shall be fitted with ferrite clamps placed on the floor at the point where the cable reached the floor.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement.

Radiated emissions were invested over the frequency range from 30MHz to1GHz using a receiver bandwidth of 120kHz and above 1GHz using a receiver bandwidth of 1MHz.

30MHz to1GHz Radiated was performed at an antenna to EUT distance of 10 meters.

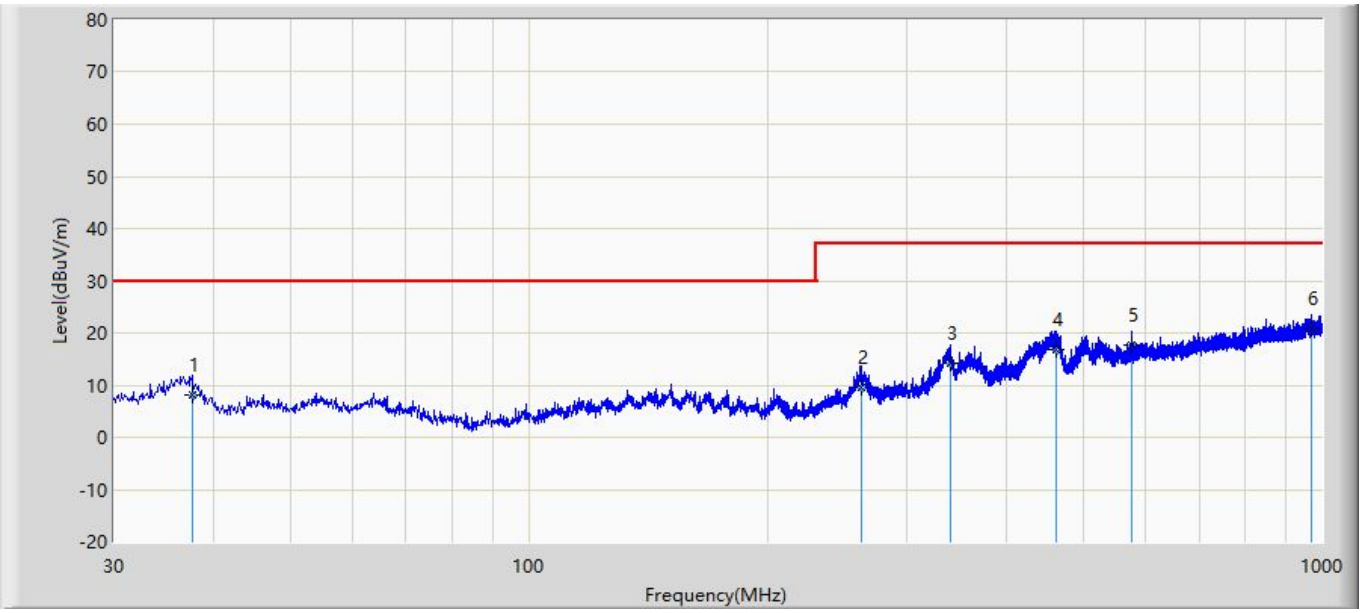
Above1GHz Radiated was performed at an antenna to EUT distance of 3 meters.

5.5 Deviation from Test Standard

No deviation.

5.6 Test Result

Engineer: Jim Fu	
Site: AC1	Time: 2025/01/15
Limit: VCCI_RE (10m)_Class B	Margin: 0
Probe: VULB9168_01100(30-1000MHz)-H	Polarity: Horizontal
EUT: Wireless Chargers	Power: 100 Vac, 50 Hz
Note: Mode 1	

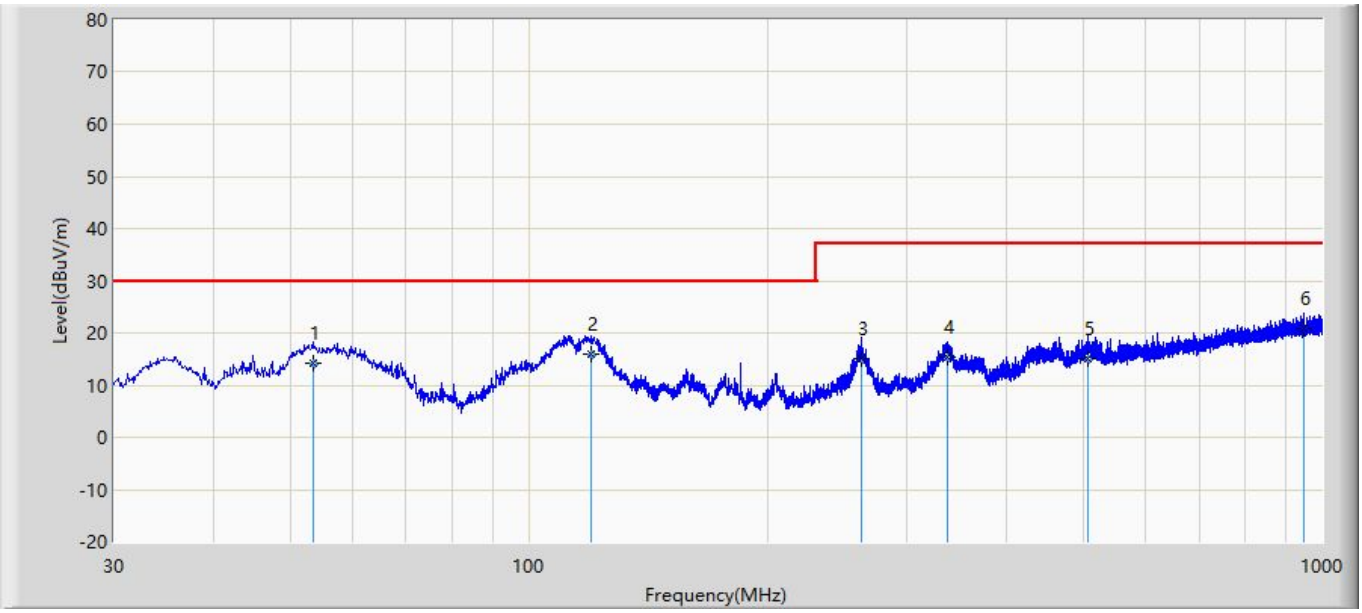


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		37.639	8.207	22.800	-21.793	30.000	13.088	1.087	28.768	332	265	QP
2		263.043	9.611	22.500	-27.389	37.000	12.255	3.202	28.346	241	197	QP
3		340.654	14.190	24.100	-22.810	37.000	14.502	3.712	28.123	269	30	QP
4		461.364	16.833	23.100	-20.167	37.000	17.350	4.430	28.046	380	311	QP
5		575.989	17.618	21.600	-19.382	37.000	19.068	5.060	28.111	387	57	QP
6	*	968.232	20.726	18.600	-16.274	37.000	24.406	6.937	29.217	140	169	QP

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Jim Fu	
Site: AC1	Time: 2025/01/15
Limit: VCCI_RE (10m)_Class B	Margin: 0
Probe: VULB9168_01099(30-1000MHz)-V	Polarity: Vertical
EUT: Wireless Chargers	Power: 100 Vac, 50 Hz
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		53.401	14.268	32.100	-15.732	30.000	13.518	1.484	32.834	242	354	QP
2	*	119.854	16.016	35.900	-13.984	30.000	11.100	2.296	33.280	251	310	QP
3		262.824	15.113	32.400	-21.887	37.000	12.201	3.586	33.074	346	173	QP
4		337.543	15.455	30.100	-21.545	37.000	14.141	4.139	32.925	227	75	QP
5		506.942	15.046	24.400	-21.954	37.000	17.983	5.241	32.579	335	319	QP
6		948.654	20.960	20.400	-16.040	37.000	23.768	7.648	30.857	112	262	QP

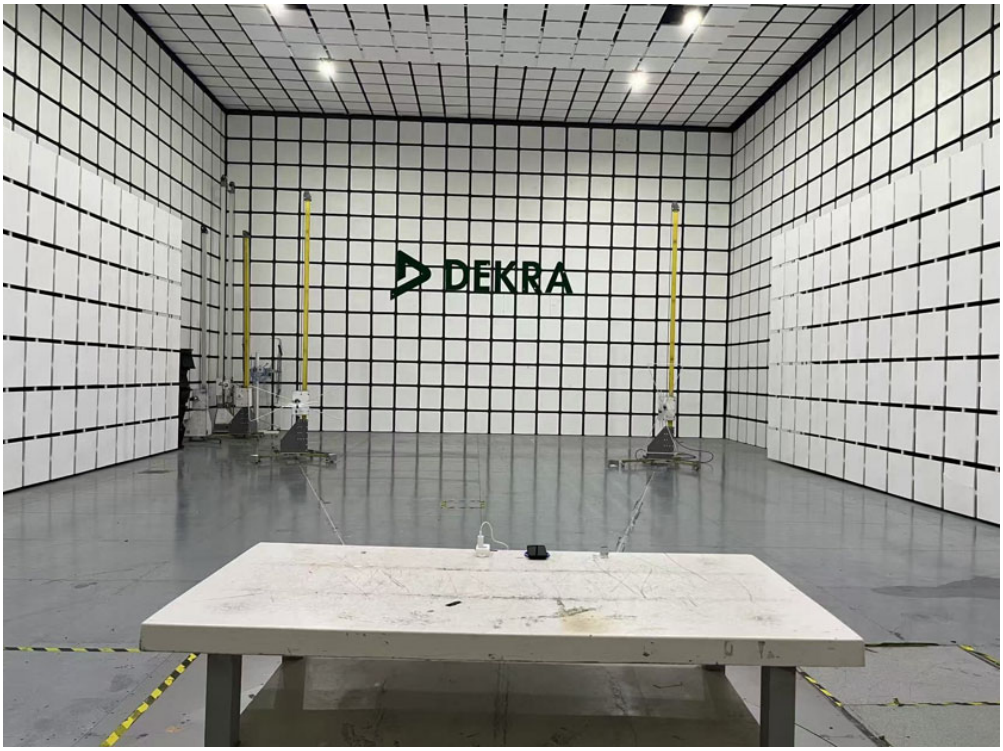
Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

5.7 Test Photograph

Test Mode: Mode 1

Description: Front View of Radiated Disturbance Test Setup (Below 1 GHz)



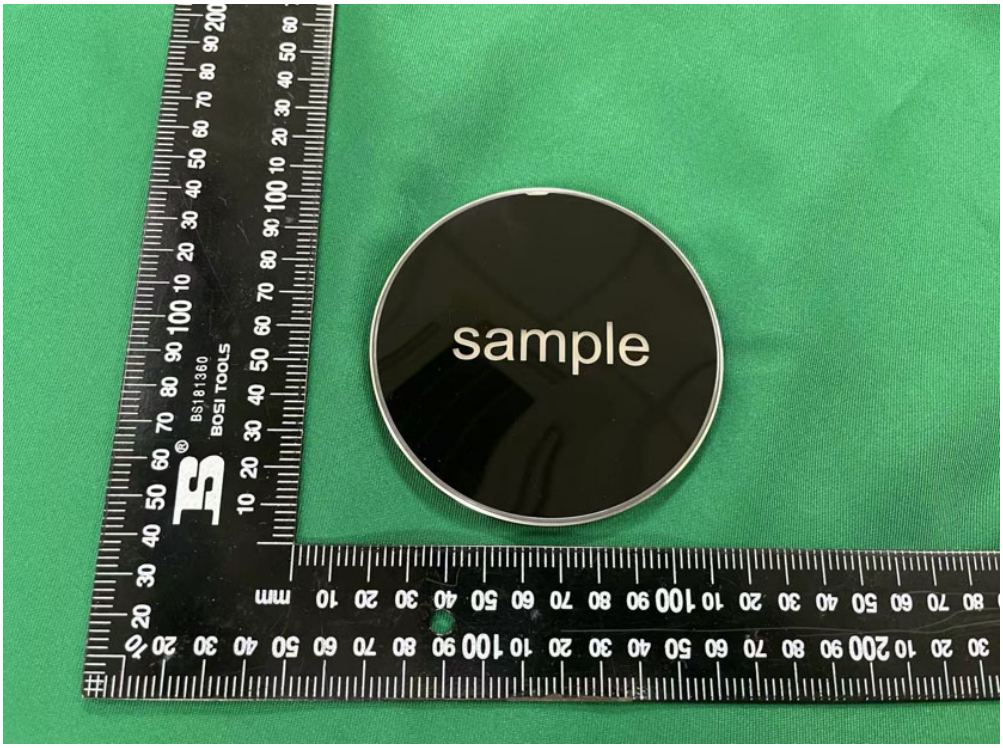
Test Mode: Mode 1

Description: Back View of Radiated Disturbance Test Setup (Below 1 GHz)

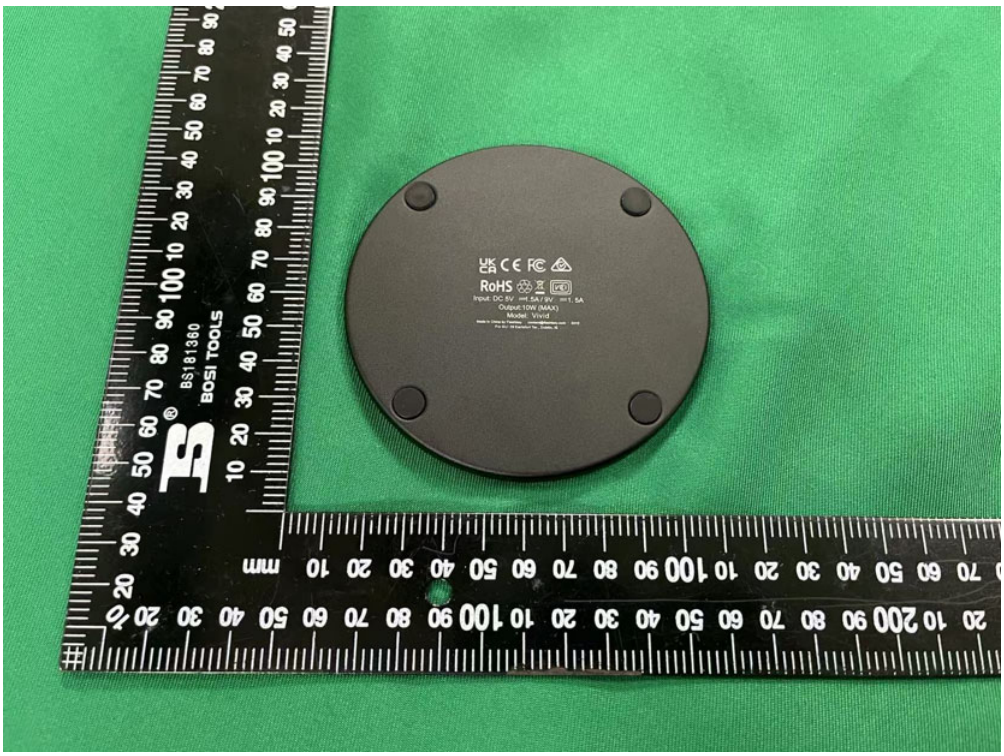
6 Attachment

EUT Photograph

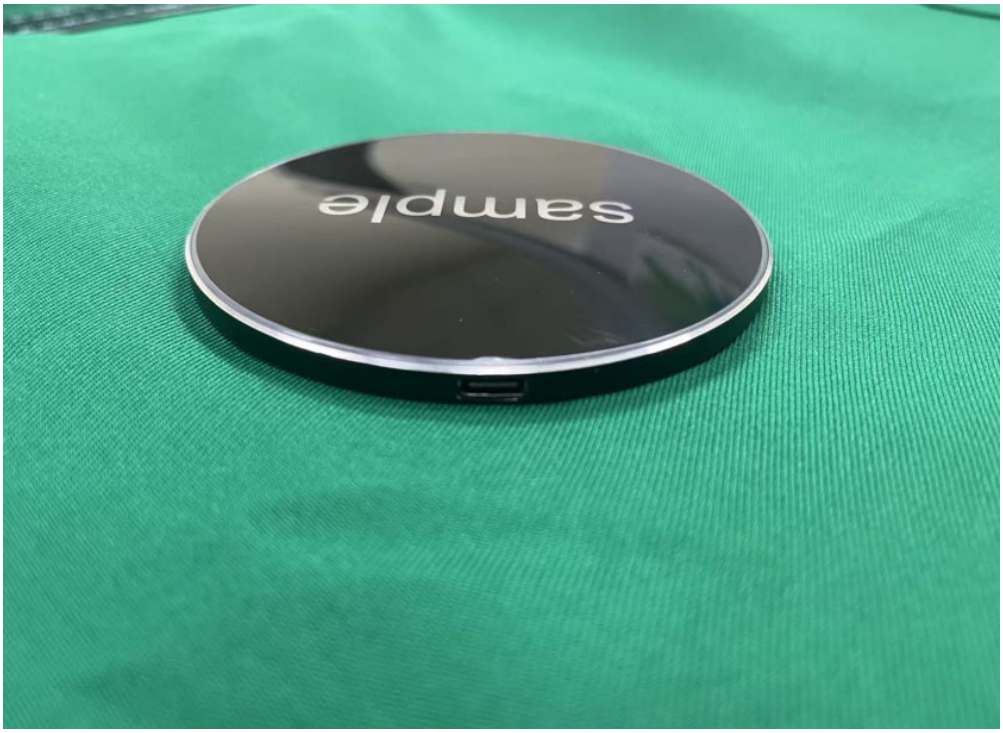
(1) EUT Photo



(2) EUT Photo



(3) EUT Photo



(4) EUT Photo

The End