RF Exposure Report

Applicant	:	Protop International Inc.
Address	:	10F-8, No.237, Sec.,1, Datong Rd., Xizhi Dist., 22161New Taipei City, Taiwan
Equipment	:	3-in-1 Charging Station with MagSafe
Model No.	:	OBFTC-0109-A, 78-80870, 78-80871
Trade Name	:	OTTERBOX
FCC ID.	:	2AAYX0109A
Standard	:	FCC CFR 47 part1, 1.1310 KDB680106 D01v03

I HEREBY CERTIFY THAT :

The sample was received on May 17, 2022 and the testing was carried out on Jun 17, 2022 at Cerpass Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of Cerpass Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Leevin Li / Supervisor

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1. Test Configuration of Equipment under Test

1.1. Feature of Equipment under Test

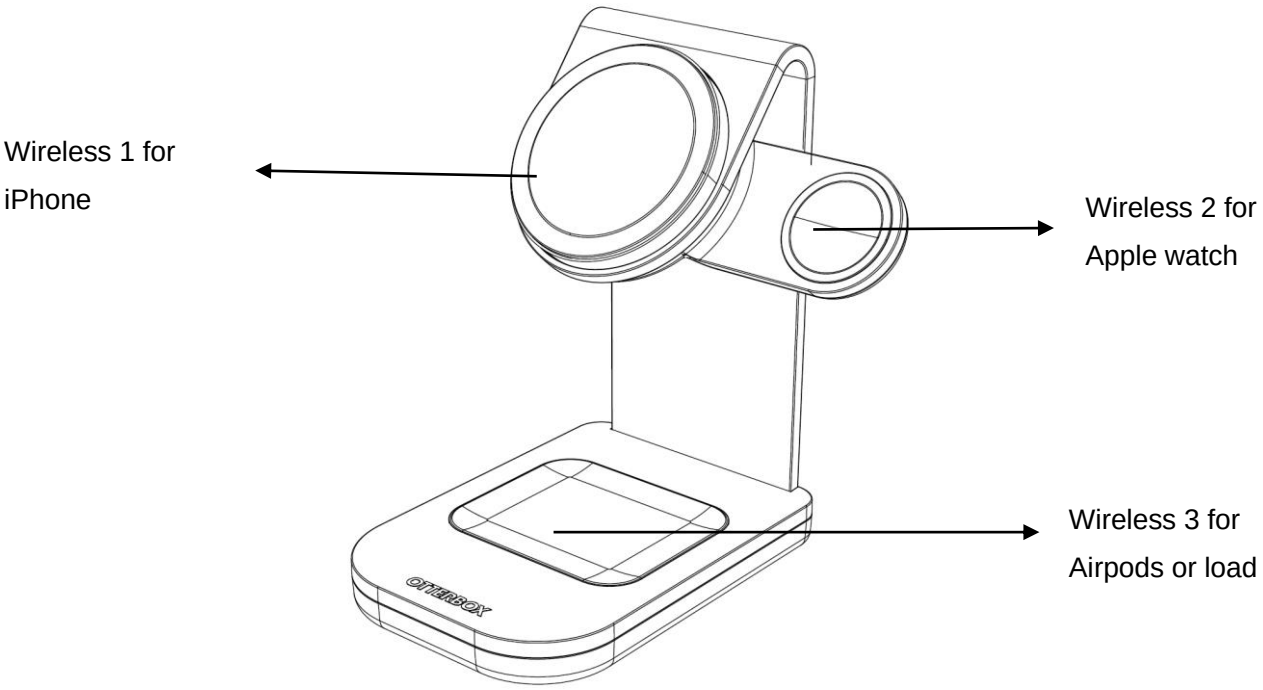
Product	3-in-1 Charging Station with MagSafe
Test Model	OBFTC-0109-A, 78-80870, 78-80871
Model Discrepancy	All models are identical to each other except the model name and appearance color. The tested model: OBFTC-0109-A
Frequency Range	iPhone Wireless Charging:127.7KHz and 360KHz Watch Wireless Charging:326.5KHz and 1.778MHz Airpods Wireless Charging:111KHz~147KHz
Antenna Type	Coil antenna
EUT Power Rating:	Input:12V⎓3A Input power: 36W Max Wireless Output:15W Max Apple Watch 5W Max/Airpods 5W Max
Temperature	Operating Temp:0℃~+35℃ Storage Temp: -20℃~+40℃

Note: The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

1.2. Test Mode and Test Software

Test Mode	Operating Description
Mode 1	Wireless Charging for Wireless 1(Standby mode) +Wireless 2(Standby mode) + Wireless 3(Standby mode)
Mode 2	Wireless Charging for Wireless 1(iPhone 13, Operating @360KHz)
Mode 3	Wireless Charging for Wireless 1(iPhone 12, Operating @127.7KHz)
Mode 4	Wireless Charging for Wireless 2(Apple watch 3, Operating @326.5KHz)
Mode 5	Wireless Charging for Wireless 2(Apple watch 7, Operating @1.778MHz)
Mode 6	Wireless Charging for Wireless 3(load, Operating @111KHz~147KHz)
Mode 7	Wireless Charging for Wireless 1(iPhone 13, Operating @360KHz) + Wireless Charging for Wireless 2(Apple watch 3, Operating @326.5KHz)
Mode 8	Wireless Charging for Wireless 1(iPhone 12, Operating @127.7KHz) + Wireless Charging for Wireless 2(Apple watch 7, Operating @1.778MHz)
Mode 9	Wireless Charging for Wireless Charging for Wireless 1(iPhone, Operating @360KHz or @127.7KHz) + Wireless Charging for Wireless 3(load, Operating @111KHz~147KHz)
Mode 10	Wireless Charging for Wireless 2(Apple watch, Operating @326.5KHz or @1.778MHz) + Wireless Charging for Wireless 3(load, Operating @111KHz~147KHz)
Mode 11	Wireless Charging for Wireless Charging for Wireless 1(iPhone, @360KHz or @127.7KHz) + Wireless Charging for Wireless 2(Operating @326.5KHz or @1.778MHz)+ Wireless Charging for Wireless 3(load, Operating @111KHz~147KHz)

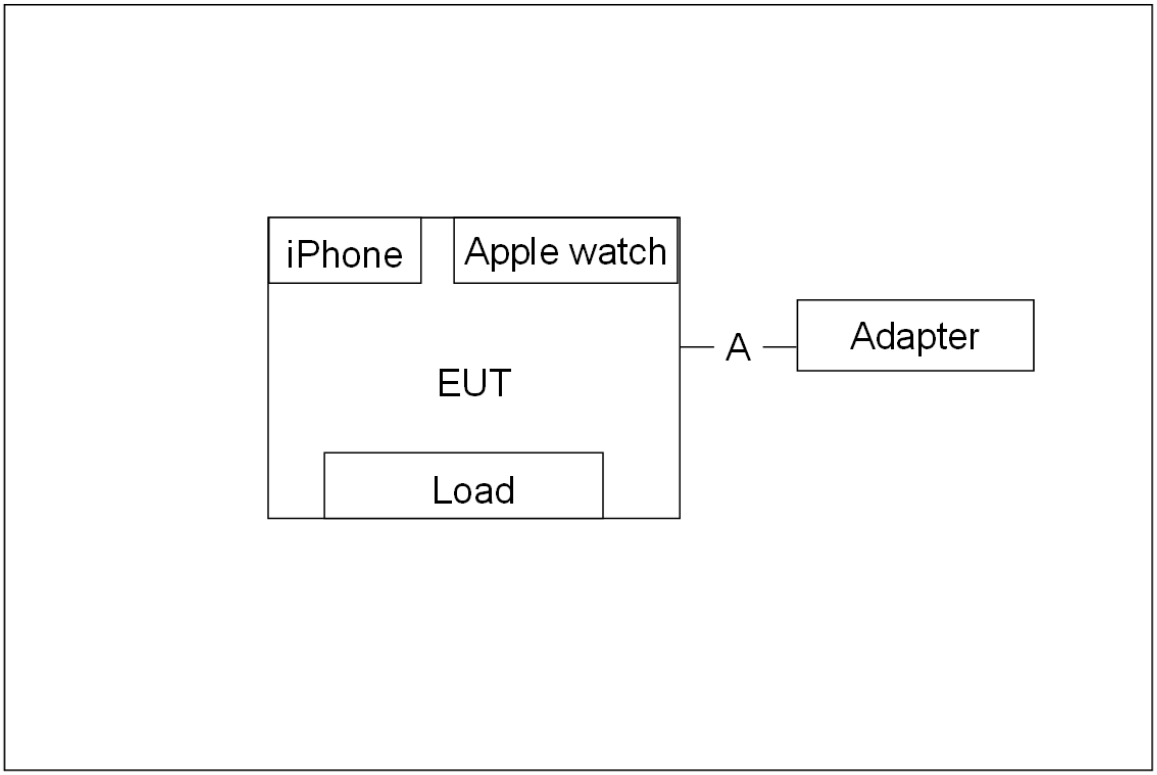
Note: The EUT Have three coils, the specific location is shown below:



1.3. Description of Test System

Product		Manufacturer	Model No.	Power Cord
1	Adapter	Protop	OBFTC-0067-A	N/A
2	Apple watch	Apple	Apple watch 7	N/A
3	Apple watch	Apple	Apple watch 3	N/A
4	iPhone	Apple	iPhone 13	N/A
5	iPhone	Apple	iPhone 12	N/A
6	Load	Shunliyuan	SLY-YZB-A01	N/A

Connection Diagram



Signal Cable Type		Quantity	Signal cable Description
A	Type-C Cable	1	2.0m Shielding

1.4. General Information of Test

Test Site	**Cerpass Technology Corporation(Cerpass Laboratory)** Address: Room 102, No. 5, Xing'an Road, Chang'an Town, Dongguan City, Guangdong Province Tel: +86-769-8547-1212 Fax: +86-769-8547-1912
FCC Designation No.:	CN1288

Test Item	Test Site	Test period	Environmental Conditions	Tested By
RF Exposure	3M01-DG	2022/05/25~2022/06/17	23℃~25℃/ 48%~55%	Amos Zhang

1.5. Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2).

Measurement Item	Uncertainty
Magnetic Field measurements	±1.60
Electric Field measurements	±1.60

2. Summary Of Standards And Results

2.1. Measuring Standard

The EUT have been tested according to the applicable standards as referenced below:

Test Item	Normative References	Remarks
RF Exposure	FCC CFR 47 part1, 1.1310 KDB680106 D01v03	PASS

2.2. Requirements

According to the item 5 of KDB 680106 D01v03:

Requirements of KDB 680106 D01 v03r01 section 5b	Yes/No	Description
Power transfer frequency is less than 1 MHz	No	The maximum operating frequency is 1.778MHz
Output power from each primary coil is less than or equal to 15 watts	Yes	The maximum output power for each primary coil is 15W
The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.	Yes	The transfer system includes three separated individual coils and each of them only allows for capable wireless power transfer between one source and one client at any given time.
Client device is inserted in or placed directly in contact with the transmitter	Yes	Client device is inserted in or placed directly in contact with the transmitter
Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion)	Yes	Mobile exposure conditions only
The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.	Yes	The EUT H-field strengths at 10 cm surrounding the device and 10 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

2.3. Duty cycle

Limits

None; for reporting purposes only.

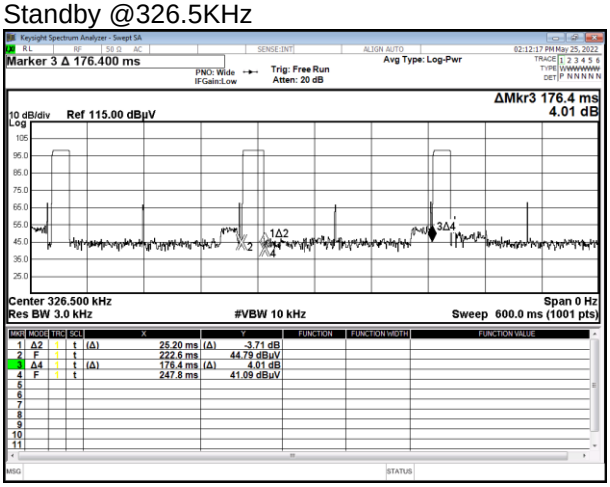
Procedure

Duty cycle zero-span mode Method

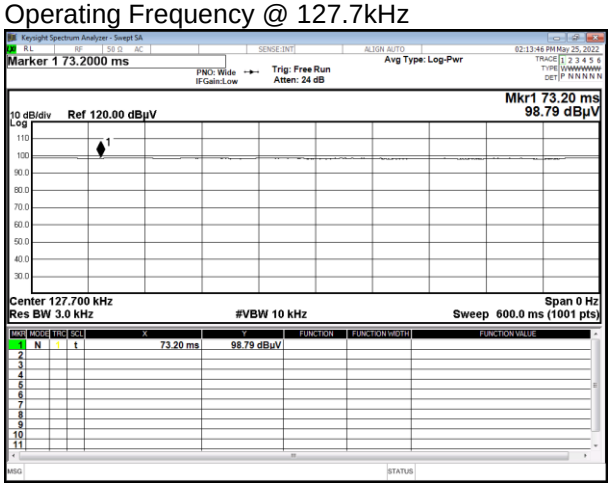
Result

Mode	On Time (msec)	Period Time (msec)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
Standby @326.5KHz	25.20	201.6	12.50%	9.03
Operating Frequency @ 127.7kHz	100.00	100.00	100.00%	0.00
Operating Frequency @ 360kHz	100.00	100.00	100.00%	0.00
Operating Frequency @ 326.5kHz	100.00	100.00	100.00%	0.00
Operating Frequency @ 1.778MHz	100.00	100.00	100.00%	0.00
Operating Frequency @ 111KHz~147KHz	100.00	100.00	100.00%	0.00

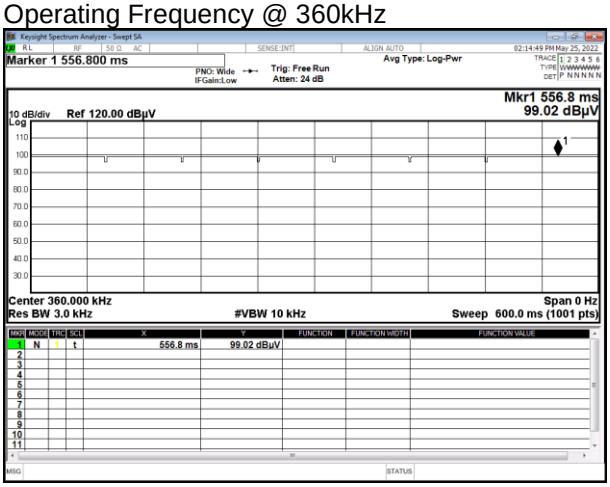
Standby @326.5KHz



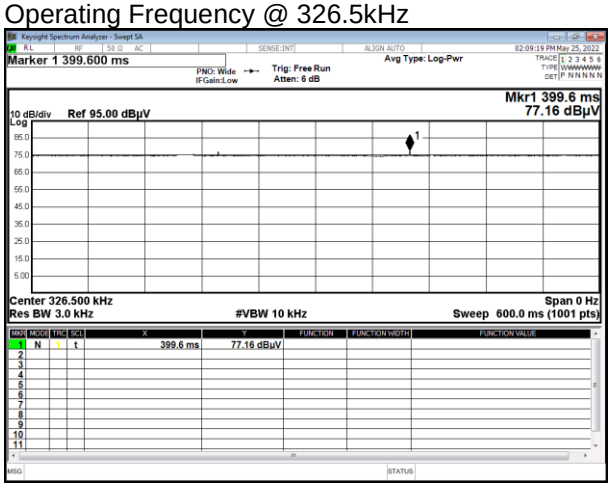
Operating Frequency @ 127.7kHz



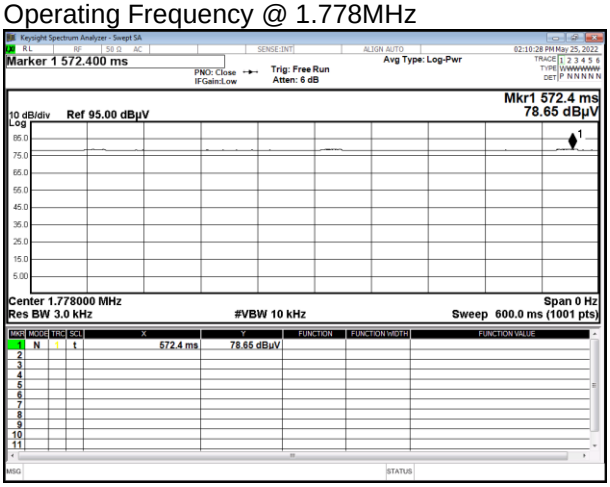
Operating Frequency @ 360kHz



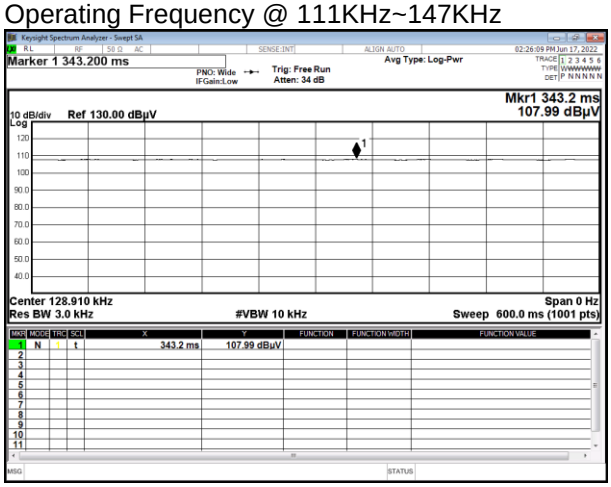
Operating Frequency @ 326.5kHz



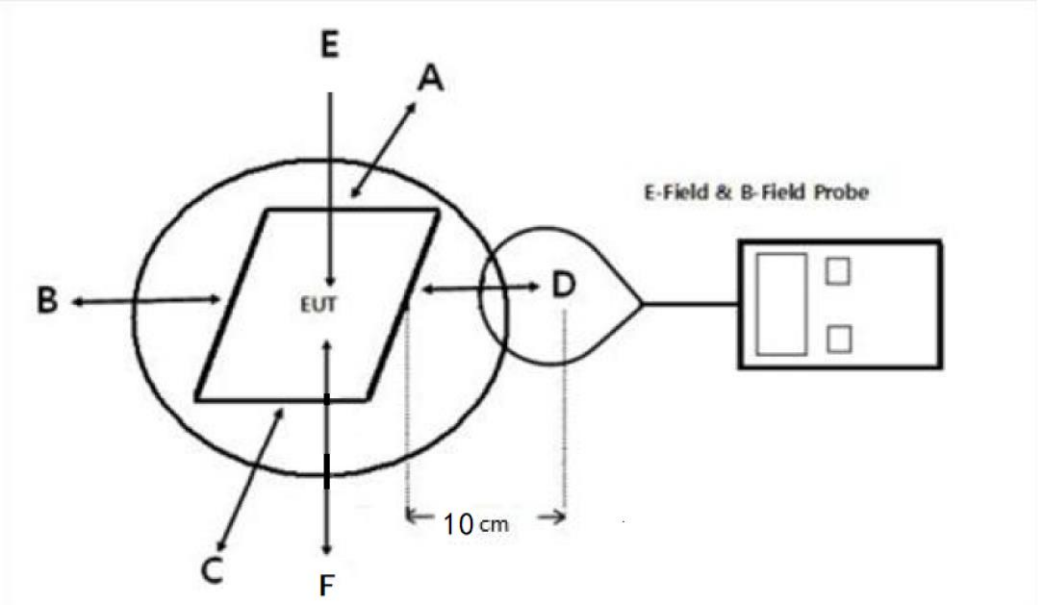
Operating Frequency @ 1.778MHz



Operating Frequency @ 111KHz~147KHz



2.4. Typical test Setup



Note: Position A: Front of EUT; Position B: Left of EUT; Position C: Back of EUT; Position D: Right of EUT; Position E: Top of EUT; Position F: Bottom of EUT.

2.5. Specification Limits

The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b) Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric field strength (V/m)	Magnetic field Strength (A/m)	Power density (mW/cm2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f2	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f2	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

Note 1: f = frequency in MHz ; *Plane-wave equivalent power density
Note 2: For the applicable limit, see FCC 1.1310

2.6. Test Equipment List and Details

Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Electric and Magnetic field probe	L3HARRIS	EHP-200AC	180ZX00632	2021.08.19	2022.08.18
MXA Signal Analyzer	KEYSIGHT	N9020A	US46220290	2022.05.07	2023.05.06

Note: Electric and Magnetic field probe information is as follows:

Product	Electric and Magnetic field probe
Manufacturer	L3HARRIS
Model No	EHP-200AC
Frequency Range	3 kHz to 30 MHz
Measurement range, E field	0.02 to 1000 V/m
Measurement range, H field	6 mA/m to 1000 A/m EHP-200AC
Temperature range	-10 °C to 50 °C
Dimensions	92 x 92 x 109 mm

2.7. Test Result

Mode 1: Wireless Charging for Wireless 1(Standby mode) +Wireless 2(Standby mode) + Wireless 3(Standby mode)

a) Electric Field Strength Measurement

Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.74	12.5	0.262	307	614
B	10	0.6	12.5	0.212	307	614
C	10	0.54	12.5	0.191	307	614
D	10	0.59	12.5	0.212	307	614
E	10	0.51	12.5	0.180	307	614
F	10	0.82	12.5	0.290	307	614

b) Magnetic Field Strength Measurement

Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.027	12.5	0.0095	0.815	1.63
B	10	0.025	12.5	0.0088	0.815	1.63
C	10	0.018	12.5	0.0064	0.815	1.63
D	10	0.024	12.5	0.0085	0.815	1.63
E	10	0.016	12.5	0.0057	0.815	1.63
F	10	0.029	12.5	0.0103	0.815	1.63

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

Mode 2: Wireless Charging for Wireless 1(iPhone 13, Operating @360KHz)

a) Electric Field Strength Measurement

Power ~15% Charging						
Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.72	100	0.72	307	614
B	10	0.54	100	0.54	307	614
C	10	0.48	100	0.48	307	614
D	10	0.58	100	0.58	307	614
E	10	0.43	100	0.43	307	614
F	10	0.84	100	0.84	307	614

Power ~50% Charging						
Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.68	100	0.68	307	614
B	10	0.59	100	0.59	307	614
C	10	0.53	100	0.53	307	614
D	10	0.63	100	0.63	307	614
E	10	0.43	100	0.43	307	614
F	10	0.85	100	0.85	307	614

Power ~85% Charging						
Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.82	100	0.82	307	614
B	10	0.64	100	0.64	307	614
C	10	0.52	100	0.52	307	614
D	10	0.63	100	0.63	307	614
E	10	0.52	100	0.52	307	614
F	10	0.83	100	0.83	307	614

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

b) Magnetic Field Strength Measurement

Power ~15% Charging						
Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.026	100	0.026	0.815	1.63
B	10	0.034	100	0.034	0.815	1.63
C	10	0.028	100	0.028	0.815	1.63
D	10	0.025	100	0.025	0.815	1.63
E	10	0.016	100	0.016	0.815	1.63
F	10	0.027	100	0.027	0.815	1.63

Power ~50% Charging						
Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.024	100	0.024	0.815	1.63
B	10	0.031	100	0.031	0.815	1.63
C	10	0.026	100	0.026	0.815	1.63
D	10	0.024	100	0.024	0.815	1.63
E	10	0.014	100	0.014	0.815	1.63
F	10	0.029	100	0.029	0.815	1.63

Power ~85% Charging						
Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.024	100	0.024	0.815	1.63
B	10	0.031	100	0.031	0.815	1.63
C	10	0.026	100	0.026	0.815	1.63
D	10	0.019	100	0.019	0.815	1.63
E	10	0.015	100	0.015	0.815	1.63
F	10	0.026	100	0.026	0.815	1.63

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

Mode 3: Wireless Charging for Wireless 1(iPhone 12, Operating @127.7KHz)

a) Electric Field Strength Measurement

Power ~15% Charging						
Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.77	100	0.77	307	614
B	10	0.65	100	0.65	307	614
C	10	0.58	100	0.58	307	614
D	10	0.78	100	0.78	307	614
E	10	0.59	100	0.59	307	614
F	10	0.62	100	0.62	307	614

Power ~50% Charging						
Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.74	100	0.74	307	614
B	10	0.72	100	0.72	307	614
C	10	0.66	100	0.66	307	614
D	10	0.75	100	0.75	307	614
E	10	0.58	100	0.58	307	614
F	10	0.82	100	0.82	307	614

Power ~85% Charging						
Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.82	100	0.82	307	614
B	10	0.72	100	0.72	307	614
C	10	0.53	100	0.53	307	614
D	10	0.72	100	0.72	307	614
E	10	0.61	100	0.61	307	614
F	10	0.85	100	0.93	307	614

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

b) Magnetic Field Strength Measurement

Power ~15% Charging						
Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.025	100	0.025	0.815	1.63
B	10	0.037	100	0.037	0.815	1.63
C	10	0.290	100	0.290	0.815	1.63
D	10	0.024	100	0.024	0.815	1.63
E	10	0.017	100	0.017	0.815	1.63
F	10	0.027	100	0.027	0.815	1.63

Power ~50% Charging						
Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.018	100	0.018	0.815	1.63
B	10	0.031	100	0.031	0.815	1.63
C	10	0.029	100	0.029	0.815	1.63
D	10	0.015	100	0.015	0.815	1.63
E	10	0.017	100	0.017	0.815	1.63
F	10	0.028	100	0.028	0.815	1.63

Power ~85% Charging						
Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.024	100	0.024	0.815	1.63
B	10	0.038	100	0.038	0.815	1.63
C	10	0.025	100	0.025	0.815	1.63
D	10	0.019	100	0.019	0.815	1.63
E	10	0.014	100	0.014	0.815	1.63
F	10	0.026	100	0.026	0.815	1.63

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

Mode 4: Wireless Charging for Wireless 2(Apple watch 3, Operating @326.5KHz)

a) Electric Field Strength Measurement

Power ~15% Charging						
Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.77	100	0.77	307	614
B	10	0.63	100	0.63	307	614
C	10	0.57	100	0.57	307	614
D	10	0.62	100	0.62	307	614
E	10	0.49	100	0.49	307	614
F	10	0.79	100	0.79	307	614

Power ~50% Charging						
Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.77	100	0.77	307	614
B	10	0.62	100	0.62	307	614
C	10	0.53	100	0.53	307	614
D	10	0.69	100	0.69	307	614
E	10	0.64	100	0.64	307	614
F	10	0.75	100	0.75	307	614

Power ~85% Charging						
Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.72	100	0.72	307	614
B	10	0.67	100	0.67	307	614
C	10	0.43	100	0.43	307	614
D	10	0.69	100	0.69	307	614
E	10	0.48	100	0.48	307	614
F	10	0.73	100	0.73	307	614

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

b) Magnetic Field Strength Measurement

Power ~15% Charging						
Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.028	100	0.028	0.815	1.63
B	10	0.024	100	0.024	0.815	1.63
C	10	0.021	100	0.021	0.815	1.63
D	10	0.026	100	0.026	0.815	1.63
E	10	0.018	100	0.018	0.815	1.63
F	10	0.031	100	0.031	0.815	1.63

Power ~50% Charging						
Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.028	100	0.028	0.815	1.63
B	10	0.033	100	0.033	0.815	1.63
C	10	0.024	100	0.024	0.815	1.63
D	10	0.019	100	0.019	0.815	1.63
E	10	0.021	100	0.021	0.815	1.63
F	10	0.028	100	0.028	0.815	1.63

Power ~85% Charging						
Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.025	100	0.025	0.815	1.63
B	10	0.034	100	0.034	0.815	1.63
C	10	0.023	100	0.023	0.815	1.63
D	10	0.021	100	0.021	0.815	1.63
E	10	0.018	100	0.018	0.815	1.63
F	10	0.039	100	0.039	0.815	1.63

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

Mode 5: Wireless Charging for Wireless 2(Apple watch 7, Operating @1.778MHz)

a) Electric Field Strength Measurement

Power ~15% Charging						
Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.75	100	0.75	307	614
B	10	0.63	100	0.63	307	614
C	10	0.54	100	0.54	307	614
D	10	0.76	100	0.76	307	614
E	10	0.42	100	0.42	307	614
F	10	0.78	100	0.78	307	614

Power ~50% Charging						
Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.77	100	0.77	307	614
B	10	0.72	100	0.72	307	614
C	10	0.53	100	0.53	307	614
D	10	0.61	100	0.61	307	614
E	10	0.49	100	0.49	307	614
F	10	0.73	100	0.73	307	614

Power ~85% Charging						
Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.72	100	0.72	307	614
B	10	0.71	100	0.71	307	614
C	10	0.63	100	0.63	307	614
D	10	0.61	100	0.61	307	614
E	10	0.75	100	0.75	307	614
F	10	0.64	100	0.64	307	614

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

b) Magnetic Field Strength Measurement

Power ~15% Charging						
Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.013	100	0.013	0.815	1.63
B	10	0.024	100	0.024	0.815	1.63
C	10	0.018	100	0.018	0.815	1.63
D	10	0.023	100	0.023	0.815	1.63
E	10	0.029	100	0.029	0.815	1.63
F	10	0.031	100	0.031	0.815	1.63

Power ~50% Charging						
Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.024	100	0.024	0.815	1.63
B	10	0.021	100	0.021	0.815	1.63
C	10	0.029	100	0.029	0.815	1.63
D	10	0.036	100	0.036	0.815	1.63
E	10	0.027	100	0.027	0.815	1.63
F	10	0.033	100	0.033	0.815	1.63

Power ~85% Charging						
Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.031	100	0.031	0.815	1.63
B	10	0.039	100	0.039	0.815	1.63
C	10	0.024	100	0.024	0.815	1.63
D	10	0.026	100	0.026	0.815	1.63
E	10	0.035	100	0.035	0.815	1.63
F	10	0.028	100	0.028	0.815	1.63

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

Mode 6: Wireless Charging for Wireless 3(load, Operating @111KHz~147KHz)

a) Electric Field Strength Measurement

Empty load for 0W						
Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.89	100	0.89	307	614
B	10	0.76	100	0.76	307	614
C	10	0.85	100	0.85	307	614
D	10	0.81	100	0.81	307	614
E	10	0.72	100	0.72	307	614
F	10	0.84	100	0.84	307	614

Half load for 2.5W						
Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.83	100	0.83	307	614
B	10	0.72	100	0.72	307	614
C	10	0.68	100	0.68	307	614
D	10	0.82	100	0.82	307	614
E	10	0.64	100	0.64	307	614
F	10	0.89	100	0.89	307	614

Full load for 5W						
Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.85	100	0.85	307	614
B	10	0.78	100	0.78	307	614
C	10	0.74	100	0.74	307	614
D	10	0.82	100	0.80	307	614
E	10	0.73	100	0.73	307	614
F	10	0.92	100	0.92	307	614

b) Magnetic Field Strength Measurement

Empty load for 0W						
Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.032	100	0.032	0.815	1.63
B	10	0.029	100	0.029	0.815	1.63
C	10	0.036	100	0.036	0.815	1.63
D	10	0.038	100	0.038	0.815	1.63
E	10	0.025	100	0.025	0.815	1.63
F	10	0.038	100	0.038	0.815	1.63

Half load for 2.5W						
Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.029	100	0.029	0.815	1.63
B	10	0.030	100	0.030	0.815	1.63
C	10	0.033	100	0.033	0.815	1.63
D	10	0.029	100	0.029	0.815	1.63
E	10	0.027	100	0.027	0.815	1.63
F	10	0.037	100	0.037	0.815	1.63

Full load for 5W						
Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.031	100	0.031	0.815	1.63
B	10	0.028	100	0.028	0.815	1.63
C	10	0.029	100	0.029	0.815	1.63
D	10	0.033	100	0.033	0.815	1.63
E	10	0.035	100	0.035	0.815	1.63
F	10	0.039	100	0.039	0.815	1.63

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

Mode 7: Wireless Charging for Wireless 1(iPhone 13, Operating @360KHz) + Wireless Charging for Wireless 2(Apple watch 3, Operating @326.5KHz)

The worst mode: Wireless 1 (Power ~15% Charging) + Wireless 2 (Power ~15% Charging)

a) Electric Field Strength Measurement

Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.84	100	0.84	307	614
B	10	0.85	100	0.85	307	614
C	10	0.78	100	0.78	307	614
D	10	0.76	100	0.76	307	614
E	10	0.81	100	0.81	307	614
F	10	0.80	100	0.80	307	614

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

b) Magnetic Field Strength Measurement

Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.032	100	0.032	0.815	1.63
B	10	0.033	100	0.033	0.815	1.63
C	10	0.032	100	0.032	0.815	1.63
D	10	0.028	100	0.028	0.815	1.63
E	10	0.032	100	0.032	0.815	1.63
F	10	0.031	100	0.031	0.815	1.63

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

Mode 8: Wireless Charging for Wireless 1(iPhone 12, Operating @127.7KHz) + Wireless Charging for Wireless 2(Apple watch 7, Operating @1.778MHz)

The worst mode: Wireless 1 (Power ~15% Charging) + Wireless 2 (Power ~15% Charging)

a) Electric Field Strength Measurement

Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.86	100	0.86	307	614
B	10	0.78	100	0.78	307	614
C	10	0.69	100	0.69	307	614
D	10	0.81	100	0.81	307	614
E	10	0.73	100	0.73	307	614
F	10	0.80	100	0.80	307	614

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

b) Magnetic Field Strength Measurement

Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.034	100	0.034	0.815	1.63
B	10	0.031	100	0.031	0.815	1.63
C	10	0.031	100	0.031	0.815	1.63
D	10	0.026	100	0.026	0.815	1.63
E	10	0.022	100	0.022	0.815	1.63
F	10	0.029	100	0.029	0.815	1.63

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

Mode 9: Wireless Charging for Wireless Charging for Wireless 1(iPhone, Operating @360KHz or @127.7KHz) + Wireless Charging for Wireless 3(load, Operating @111KHz~147KHz)

The worst mode: Wireless 1 (Power ~15% Charging) + Wireless 3 (Full load for 5W)

a) Electric Field Strength Measurement

Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.93	100	0.93	307	614
B	10	0.86	100	0.86	307	614
C	10	0.90	100	0.90	307	614
D	10	0.92	100	0.92	307	614
E	10	0.89	100	0.89	307	614
F	10	0.95	100	0.95	307	614

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

b) Magnetic Field Strength Measurement

Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.038	100	0.038	0.815	1.63
B	10	0.035	100	0.035	0.815	1.63
C	10	0.034	100	0.034	0.815	1.63
D	10	0.037	100	0.037	0.815	1.63
E	10	0.033	100	0.033	0.815	1.63
F	10	0.041	100	0.041	0.815	1.63

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

Mode 10: Wireless Charging for Wireless 2(Apple watch, Operating @326.5KHz or @1.778MHz) + Wireless Charging for Wireless 3(load, Operating @111KHz~147KHz)

The worst mode: Wireless 2 (Power ~15% Charging) + Wireless 3 (Full load for 5W)

a) Electric Field Strength Measurement

Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.95	100	0.95	307	614
B	10	0.87	100	0.87	307	614
C	10	0.89	100	0.89	307	614
D	10	0.91	100	0.91	307	614
E	10	0.91	100	0.92	307	614
F	10	0.98	100	0.98	307	614

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

b) Magnetic Field Strength Measurement

Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.037	100	0.037	0.815	1.63
B	10	0.031	100	0.031	0.815	1.63
C	10	0.032	100	0.032	0.815	1.63
D	10	0.035	100	0.035	0.815	1.63
E	10	0.033	100	0.033	0.815	1.63
F	10	0.042	100	0.042	0.815	1.63

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.

Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

Mode 11: Wireless Charging for Wireless Charging for Wireless 1(iPhone, @360KHz or @127.7KHz) + Wireless Charging for Wireless 2(Operating @326.5KHz or @1.778MHz)+ Wireless Charging for Wireless 3(load, Operating @111KHz~147KHz)

The worst mode: Wireless 1 (Power ~15% Charging) + Wireless 2 (Power ~15% Charging) + Wireless 3 (Full load for 5W)

a) Electric Field Strength Measurement

Measured Side	Distance (cm)	Measured Value (V/m)			50% of Limit (V/m)	Limit (V/m)
		Peak	Duty Cycle %	AVG		
A	10	0.95	100	0.95	307	614
B	10	0.90	100	0.90	307	614
C	10	0.92	100	0.92	307	614
D	10	0.93	100	0.93	307	614
E	10	0.99	100	0.99	307	614
F	10	1.01	100	1.01	307	614

Note: Peak measurements were performed. RMS values were calculated from the peak measurement.
Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

b) Magnetic Field Strength Measurement

Half load for 2.5W						
Measured Side	Distance (cm)	Measured Value (A/m)			50% of Limit (A/m)	Limit (A/m)
		Peak	Duty Cycle %	AVG		
A	10	0.036	100	0.036	0.815	1.63
B	10	0.032	100	0.032	0.815	1.63
C	10	0.032	100	0.032	0.815	1.63
D	10	0.036	100	0.036	0.815	1.63
E	10	0.037	100	0.037	0.815	1.63
F	10	0.043	100	0.043	0.815	1.63

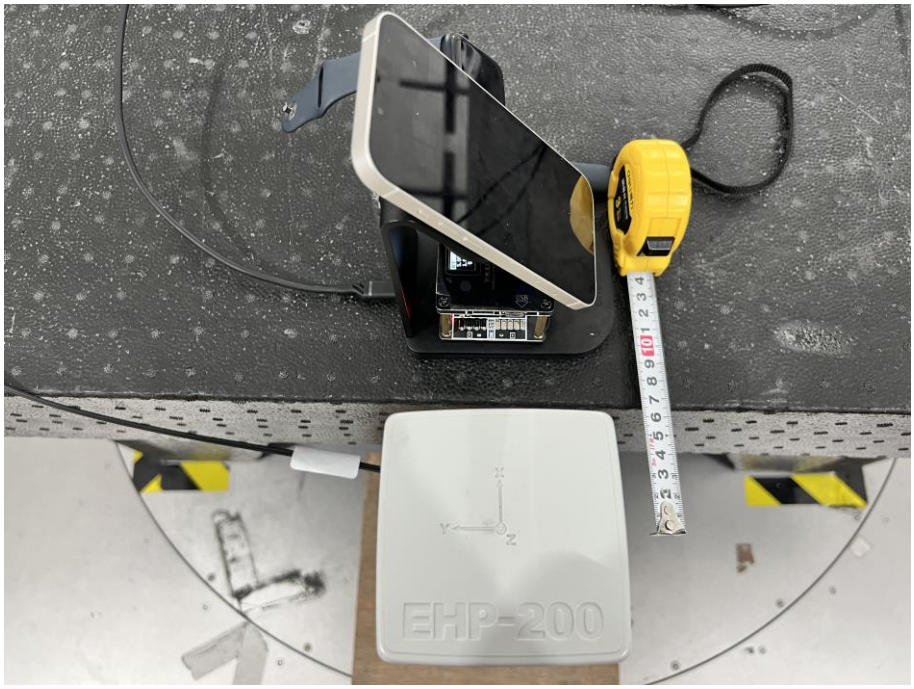
Note: Peak measurements were performed. RMS values were calculated from the peak measurement.
Please refer to the formula for calculating the RMS values: [Filed Strength*√Duty cycle]

2.8. Photographs of test setup

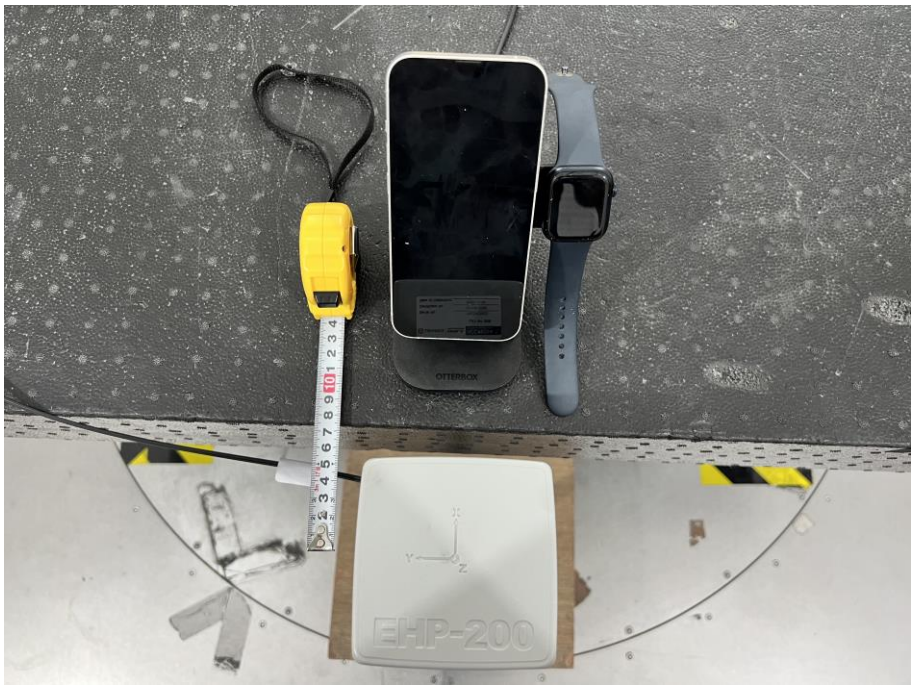
Measured Side A

Measured Side B

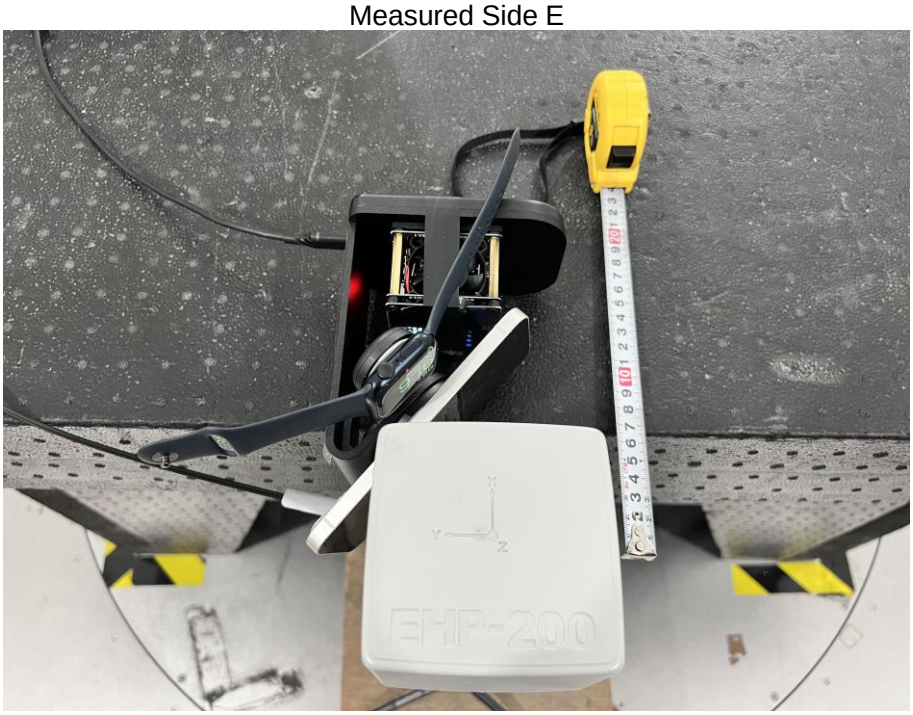
Measured Side C



Measured Side D



Measured Side E



Measured Side F

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