Certificate #6613.01

RF EXPOSURE TEST REPORT

Applicant:	HMD Global Oy
Address:	Bertel Jungin aukio 9,02600 Espoo, Finland

Manufacturer or Supplier:	HMD Global Oy
Address:	Bertel Jungin aukio 9,02600 Espoo, Finland
Product:	Smart phone
Brand Name:	HMD
Model Name:	TA-1600/TA-1688
FCC ID:	2AJOTTA-1600
Date of tests:	May. 31, 2024

The tests have been carried out according to the requirements of the following standard:

☒ **47 CFR PART 1, Subpart I, Section 1.1310**
☒ **KDB 680106 D01**
☒ **FCC 47 CFR § 2.1091**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Chang Gao Engineer / Mobile Department	Approved by Peibo Sun Manager / Mobile Department
Chang Gao Date: Jun. 05, 2024	Sun Peibo Date: Jun. 05, 2024

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-NQN2403180115SA06	Original release	Jun. 05, 2024

Certificate #6613.01

1 GENERAL INFORMATION

1.1 General Description of EUT

FCC ID	2AJOTTA-1600
PRODUCT	Smart Phone
BRAND NAME	HMD
MODEL NAME	TA-1600/TA-1688
POWER SUPPLY	5Vdc or 9 Vdc or 12 Vdc (adapter)
MODULATION TYPE	ASK
OPERATING FREQUENCY	110K-147KHz
MAXIMUM POWER OUTPUT FOR Q2 CHARGING COIL	5W
ANTENNA TYPE	Coil Antenna
HW VERSION	V2
SW VERSION	00WW_0_340
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	N/A

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions, but only the worst case was shown in test report.

2 EQUIPMENT APPROVAL CONSIDERATIONS

Refer to the requirements of KDB680106 D01, the specific information is as follows:

Requirement	Device informations
(1) The power transfer frequency is below 1 MHz.	Yes. Operating Frequency is between 110 kHz -147kHz.
(2) The output power from each transmitting element (e.g., coil) is less than or equal to 15 watts.	Yes. Maximum Power is 5.0 Watts.
(3) A client device providing the maximum permitted load is placed in physical contact with the transmitter.	Yes.
(4) Only § 2.1091-Mobile exposure conditions apply.	Yes.
(5) The E-field and H-field strengths, at and beyond 20 cm surrounding the device surface, are demonstrated to be less than 50% of the applicable MPE limit.	Yes.
(6) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.	Yes.

3 RF EXPOSURE MEASUREMENT

3.1 Limit

§ 1.1310 The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in § 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of § 2.1093 of this chapter.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f^2)	6
30–300	61.4	0.163	1.0	6
300–1500	.....	.....	f/300	6
1500–100,000	.....	.....	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/f^2)	30
30–300	27.5	0.073	0.2	30
300–1500	.....	.....	f/1500	30
1500–100,000	.....	.....	1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density

NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

Reference KDB 680106 D01 Wireless Power Transfer v04

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.

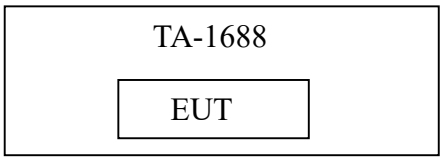
3.2 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested with associated equipment below.

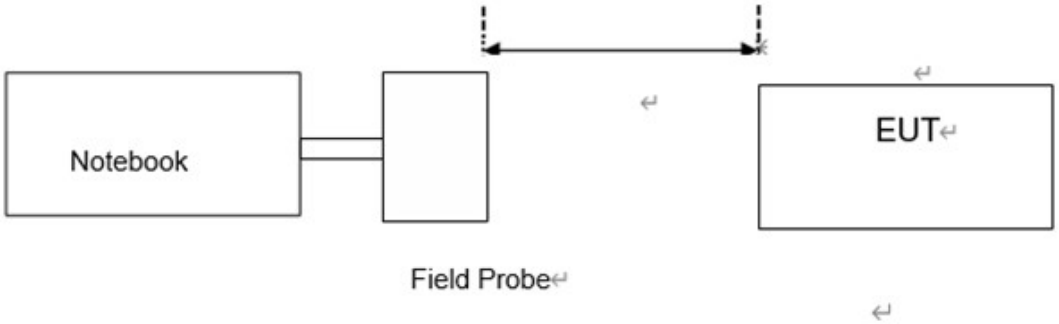
NO.	PRODUCT	BRAND	FCC ID
1	TA-1600/TA-1688	HMD	2AJOTTA-1600

3.3 CONFIGURATION OF SYSTEM UNDER TEST

Charging Mode with TA-1688



3.4 TEST SETUP FOR WPT

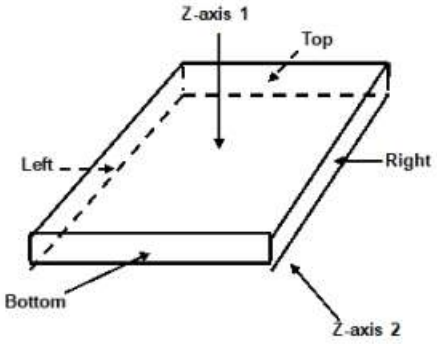


Note: The measurement was taken using a probe placed 15 cm surrounding the device and 20 cm above the top surface of the EUT. Measurements were taken the top (charger below/above client) and all sides of the EUT per KDB680106 D01.

3.5 EQUIPMENTS USED DURING TEST

Equipment	Manufacturer	Model	SN	Freq Range	Cal. Data	Due Data
Electric and Magnetic field Probe-Analyzer	Narda Safety Test Solutions	EHP-200A	170ZX00103	9kHz - 30MHz	Aug. 20, 2023	Aug. 19, 2024

3.6 TEST POINT DESCRIPTION



Notes:

1. Z-axis 1, It means the load surface.
2. Z-axis 2, It means the back of the load surface.

3.7 TEST RESULTS

Mode 1: Charging Mode with 1688(90% Battery Charging) 145kHz

E-Field Measurement						
Distance	15cm				20cm	
EUT Side	Left	Right	Top	Bottom	Z-axis 1	Z-axis 2
Max E-field (V/m)	0.2769	0.289	0.3034	0.343	0.3198	0.343
Limit (V/m)	614	614	614	614	614	614
Margin (V/m)	-613.7231	-613.711	-613.6966	-613.657	-613.6802	-613.657
50% Limit (V/m)	307	307	307	307	307	307
50% Margin (V/m)	-306.7231	-306.711	-306.6966	-306.657	-306.6802	-306.657
Result	Pass	Pass	Pass	Pass	Pass	Pass

H-Field Measurement						
Distance	15cm				20cm	
EUT Side	Left	Right	Top	Bottom	Z-axis 1	Z-axis 2
Max E-field (V/m)	0.0328	0.0281	0.0381	0.0325	0.0349	0.0328
Limit (V/m)	614	614	614	614	614	614
Margin (V/m)	-613.7231	-613.711	-613.6966	-613.657	-613.6802	-613.657
50% Limit (V/m)	307	307	307	307	307	307
50% Margin (V/m)	-306.7231	-306.711	-306.6966	-306.657	-306.6802	-306.657
Result	Pass	Pass	Pass	Pass	Pass	Pass

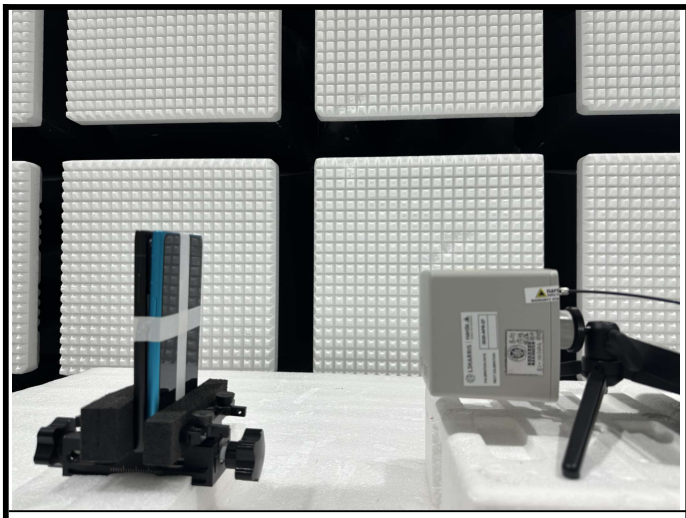
Mode 2: Charging Mode with 1688(10% Battery Charging) 145kHz

E-Field Measurement						
Distance	15cm				20cm	
EUT Side	Left	Right	Top	Bottom	Z-axis 1	Z-axis 2
Max E-field (V/m)	0.2799	0.3133	0.2985	0.3086	0.2563	0.294
Limit (V/m)	614	614	614	614	614	614
Margin (V/m)	-613.7231	-613.711	-613.6966	-613.657	-613.6802	-613.657
50% Limit (V/m)	307	307	307	307	307	307
50% Margin (V/m)	-306.7231	-306.711	-306.6966	-306.657	-306.6802	-306.657
Result	Pass	Pass	Pass	Pass	Pass	Pass

H-Field Measurement						
Distance	15cm				20cm	
EUT Side	Left	Right	Top	Bottom	Z-axis 1	Z-axis 2
Max E-field (V/m)	0.0351	0.0384	0.0362	0.0362	0.0325	0.0362
Limit (V/m)	614	614	614	614	614	614
Margin (V/m)	-613.7231	-613.711	-613.6966	-613.657	-613.6802	-613.657
50% Limit (V/m)	307	307	307	307	307	307
50% Margin (V/m)	-306.7231	-306.711	-306.6966	-306.657	-306.6802	-306.657
Result	Pass	Pass	Pass	Pass	Pass	Pass

Note： From the above data it can be concluded that this device complies with the KDB680106 requirements.

4 Test Setup Photos



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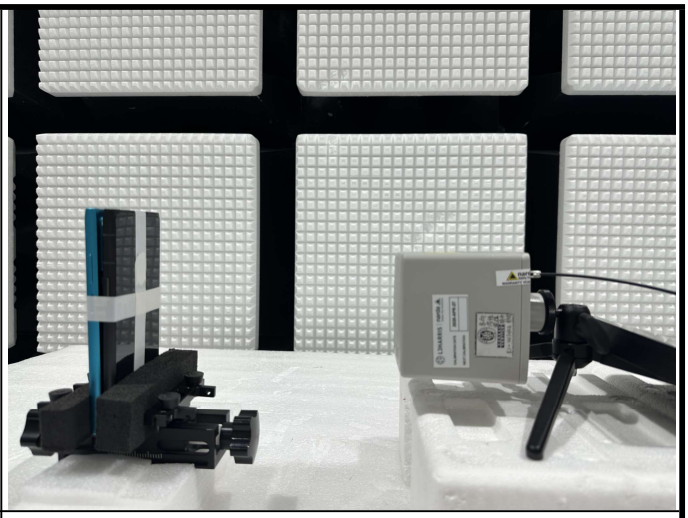
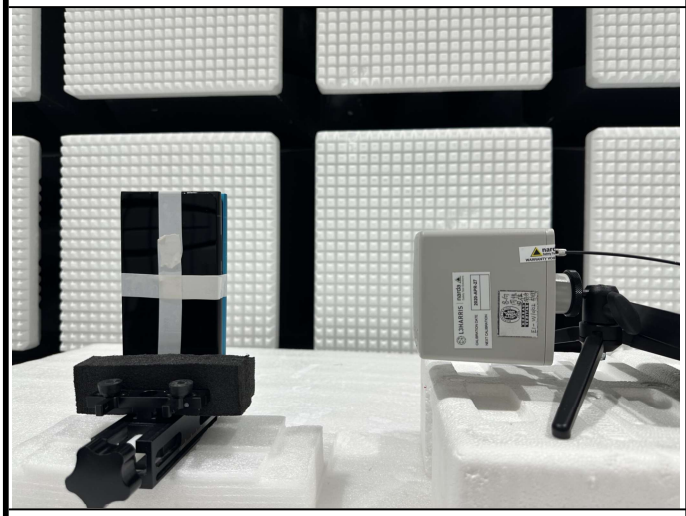


Back



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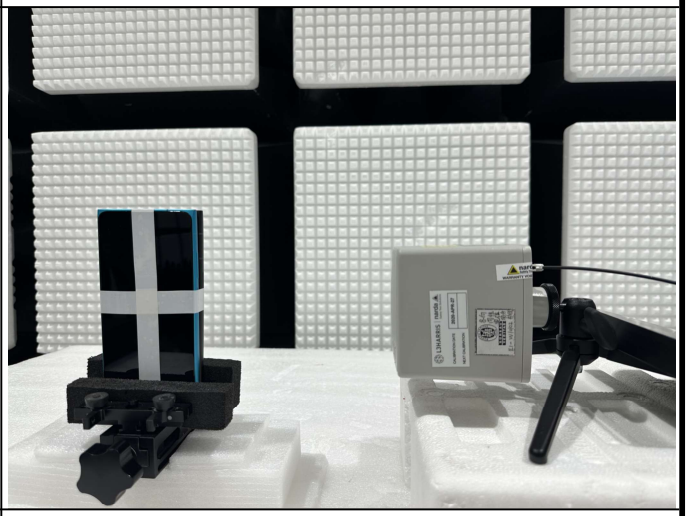

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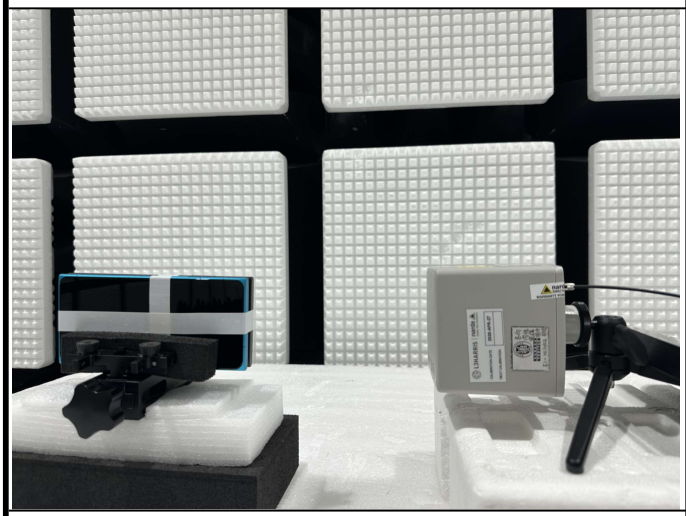

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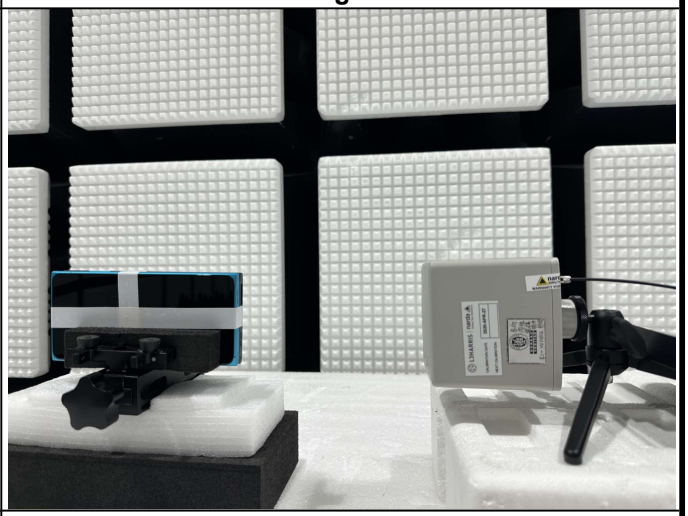

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