

## RF Exposure Report

**Report No.:** SA180613D06

**FCC ID:** ARS-WPCWATXMPA5

**Model No:** MX38VC

**Series Model:** MX38V\*\*\*\*(The “\*” can be any alphanumeric character including blank, for marketing differences)

**Received Date:** Jun. 13, 2018

**Test Date:** Jul. 13, 2018

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### Release Control Record

Issue No.	Description	Date Issued
SA180613D06	Original release.	Jul. 13, 2018



## 2 General Information

### 2.1 General Description of EUT

Product	LCD MONITOR (with Wireless Qi Charger 15W)
Brand	ASUS
Model No	MX38VC
Series Model	MX38V**** (The "*" can be any alphanumeric character including blank, for marketing differences)
Model Difference	For marketing purpose
Status of EUT	Engineering sample
Nominal Voltage	19.5Vdc from Adapter For Monitor 5Vdc from Monitor For Wireless Qi Charger
Modulation Type	Load Modulation
Operating Frequency	127-128kHz
Tested Frequency	127kHz, 128kHz
Antenna Type	Loop antenna
Antenna Connector	N/A
Accessory Device	Adapter
Data Cable Supplied	N/A
Maximum power output from the charging coil	Less than 15W

Note:

1. The EUT is a LCD MONITOR with Wireless Qi Charger.
2. The LCD MONITOR contains module as the following:

➤ BT V4.0 LE Dual Mode Bluetooth Stereo Audio Module			
Brand	Model No.	FCC ID	IC ID
Liteon	WB117C	PPQ-WB117C	4491A-WB117C

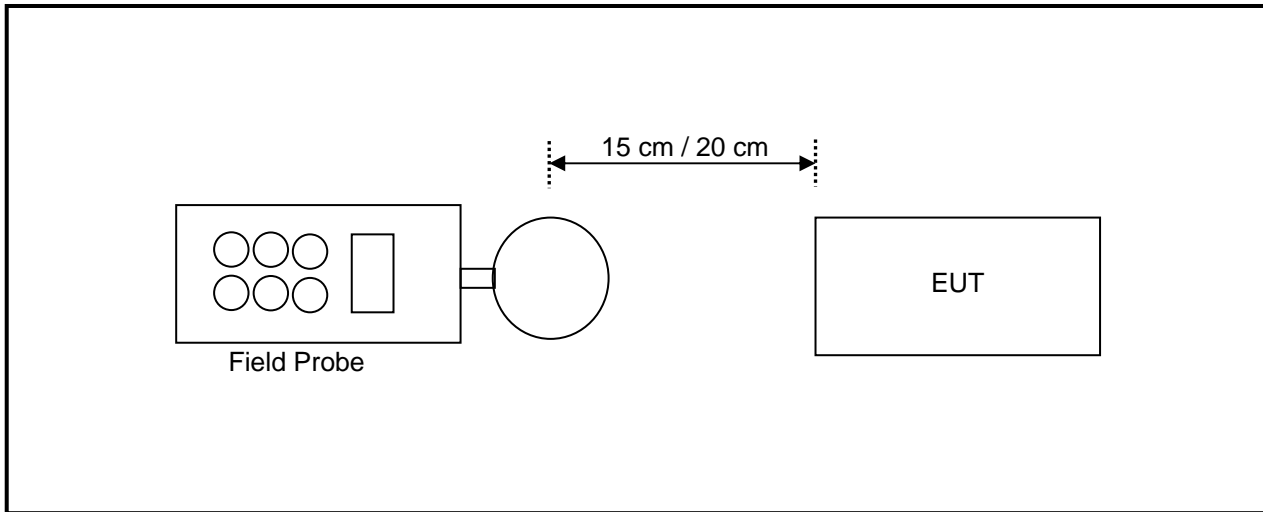
3. The EUT uses following adapter.

Brand	DELTA
Model	ADP-230EB T
Input Power	100-240V, 3.2A, 50-60Hz
Output Power	19.5V, 11.8A
Power Cord	Non-shielded AC 3-Pin cable (1.8m) Non-shielded DC cable with two ferrite cores (1.8m)

4. 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.

### 3 RF Exposure

#### 3.1 Test Setup



Note: Measurements should be made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device.

#### 3.2 Test Instruments

Description	Brand	Model No.	Frequency Range	Calibrated Date	Calibrated Until
Broadband Field Meter	NARDA	NBM-550	-	Mar. 28, 2018	Mar. 27, 2020
Magnetic Field Meter	NARDA	ELT-400	1 – 400kHz	Apr. 12, 2018	Apr. 11, 2020
Magnetic Probe	NARDA	HF-3061	300kHz – 30MHz	Apr. 16, 2018	Apr. 15, 2020
Magnetic Probe	NARDA	HF-0191	27 – 1000MHz	Apr. 17, 2018	Apr. 16, 2020
Broadband Field Meter	NARDA	NBM-550	-	Mar. 28, 2018	Mar. 27, 2020
Electric Field Meter	COMBINOVA	EFM 200	5Hz – 400kHz	Dec. 6, 2017	Dec. 5, 2019
E-Field Probe	NARDA	EF-0391	100kHz – 3GHz	Mar. 28, 2018	Mar. 27, 2020
E-Field Probe	NARDA	EF-6091	100MHz – 60GHz	Mar. 29, 2018	Mar. 28, 2020

**NOTE:** 1. The calibration interval of the above test instruments is 12/24 months and the calibrations are traceable to NML/ROC and NIST/USA.  
 2. The test was performed in Chia Pau RF Chamber

### 3.3 Limits For Maximum Permissible Exposure (MPE)

§ 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 <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
0.3–3.0 .....	614	1.63	*(100)	6
3.0–30 .....	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30–300 .....	61.4	0.163	1.0	6
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3–1.34 .....	614	1.63	*(100)	30
1.34–30 .....	824/f	2.19/f	*(180/f <sup>2</sup> )	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

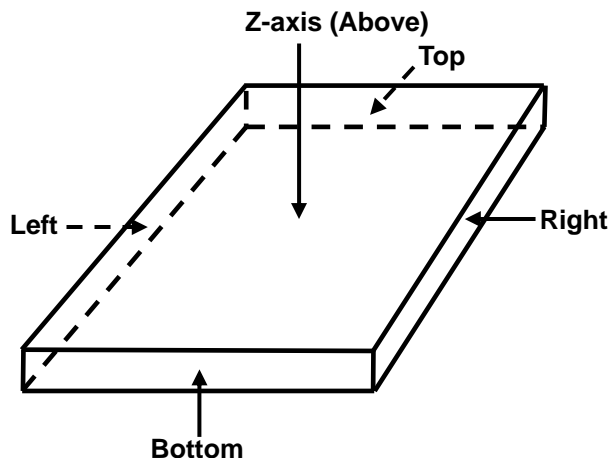
NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply 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.

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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.

### 3.4 Test Point Description



#### 4 Calculation Result Of Maximum Conducted Power

127 kHz Charging Mode with Load Charge 10%

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.36	0.49	1.67	0.22	2.43
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.64	-613.51	-612.33	-613.78	-611.57
50 % Limit (V/m)	307	307	307	307	307
50 % Margin (V/m)	-306.64	-306.51	-305.33	-306.78	-304.57

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.104	0.118	0.123	0.111	0.167
Max H-field (A/m)	0.0832	0.0944	0.0984	0.0888	0.1336
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.5468	-1.5356	-1.5316	-1.5412	-1.4964
50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50 % Margin (A/m)	-0.7318	-0.7206	-0.7166	-0.7262	-0.6814

Measurements were made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

127 kHz Charging Mode with Load Charge 50%

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.42	0.54	1.74	0.27	2.61
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.58	-613.46	-612.26	-613.73	-611.39
50 % Limit (V/m)	307	307	307	307	307
50 % Margin (V/m)	-306.58	-306.46	-305.26	-306.73	-304.39

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.112	0.129	0.119	0.121	0.141
Max H-field (A/m)	0.0896	0.1032	0.0952	0.0968	0.1128
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.5404	-1.5268	-1.5348	-1.5332	-1.5172
50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50 % Margin (A/m)	-0.7254	-0.7118	-0.7198	-0.7182	-0.7022

Measurements were made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.



127 kHz Charging Mode with Load Charge 90%

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.51	0.46	1.82	0.31	2.57
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.49	-613.54	-612.18	-613.69	-611.43
50 % Limit (V/m)	307	307	307	307	307
50 % Margin (V/m)	-306.49	-306.54	-305.18	-306.69	-304.43

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.105	0.136	0.11	0.118	0.14
Max H-field (A/m)	0.084	0.1088	0.088	0.0944	0.112
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.546	-1.5212	-1.542	-1.5356	-1.518
50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50 % Margin (A/m)	-0.731	-0.7062	-0.727	-0.7206	-0.703

Measurements were made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

128 kHz Standby Mode

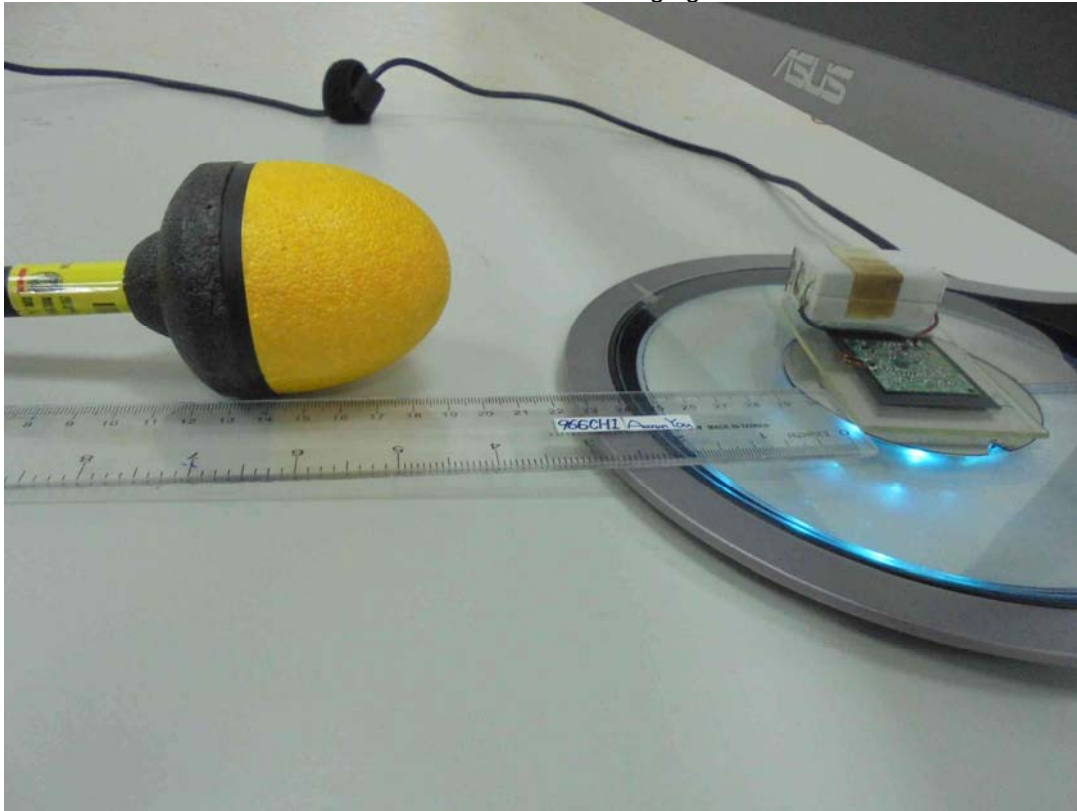
E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.23	0.33	0.28	0.21	0.38
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.77	-613.67	-613.72	-613.79	-613.62
50 % Limit (V/m)	307	307	307	307	307
50 % Margin (V/m)	-306.77	-306.67	-306.72	-306.79	-306.62

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.102	0.129	0.107	0.116	0.113
Max H-field (A/m)	0.0816	0.1032	0.0856	0.0928	0.0904
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.5484	-1.5268	-1.5444	-1.5372	-1.5396
50 % Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50 % Margin (A/m)	-0.7334	-0.7118	-0.7294	-0.7222	-0.7246

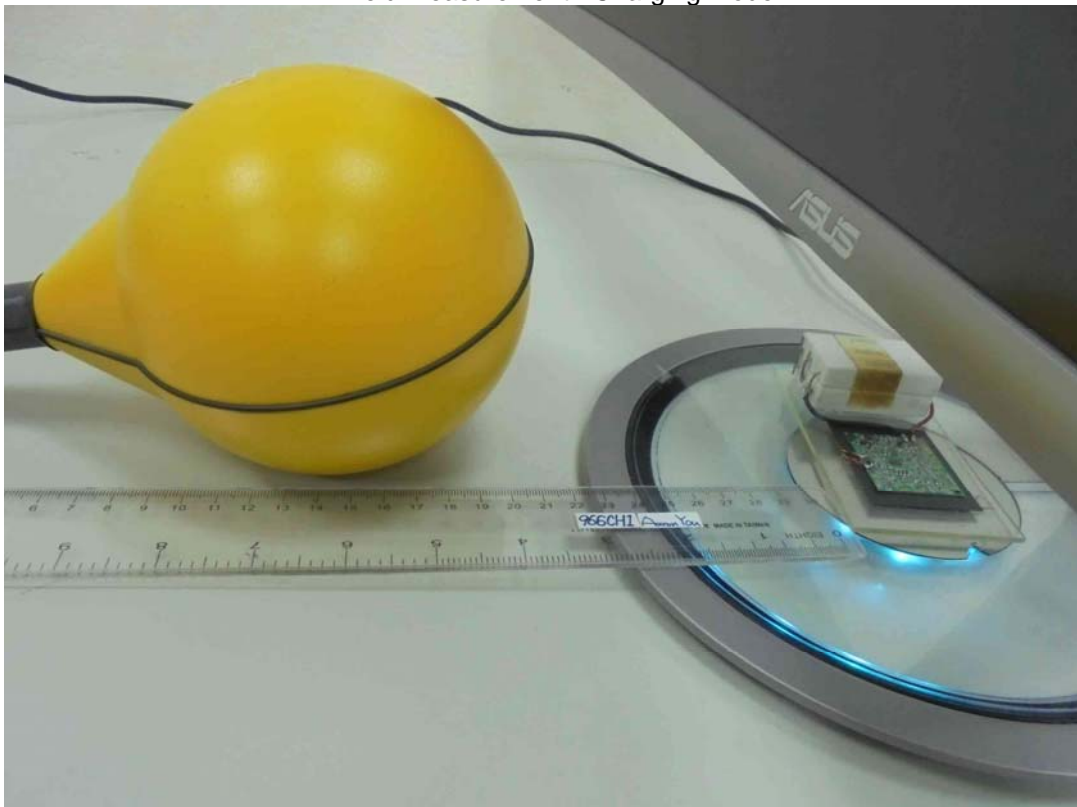
Measurements were made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

## 5 Photographs of the Test Configuration

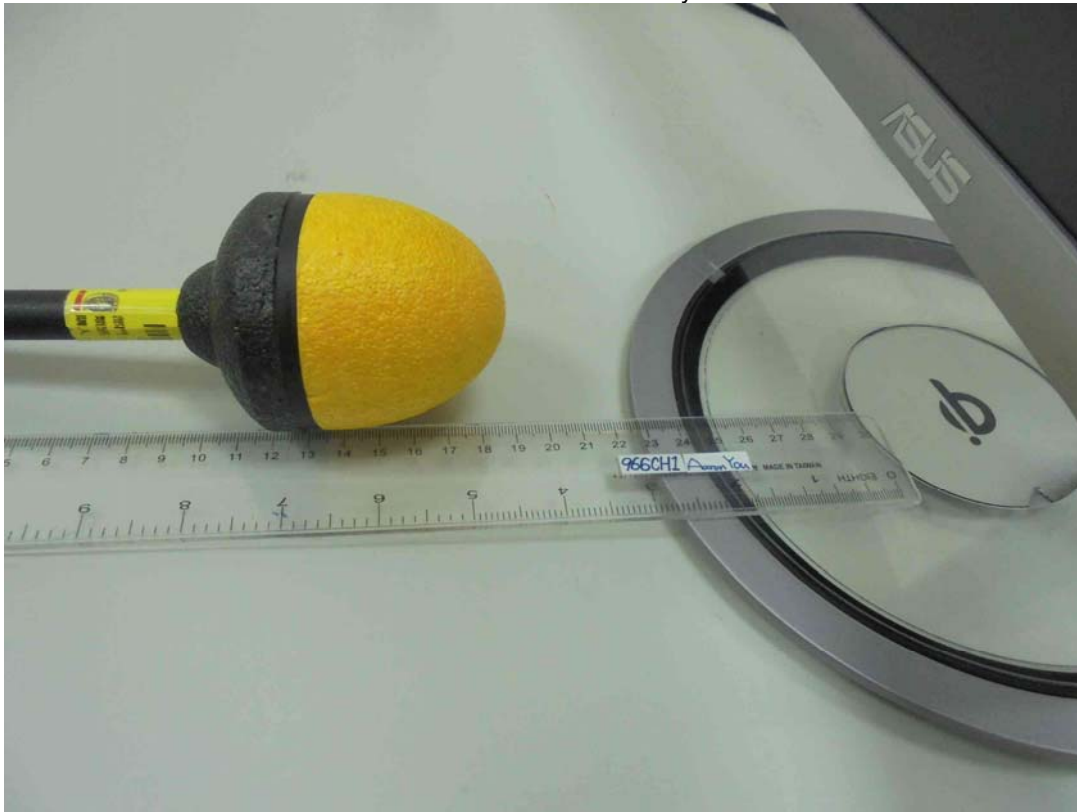
E-Field Measurement - Charging Mode



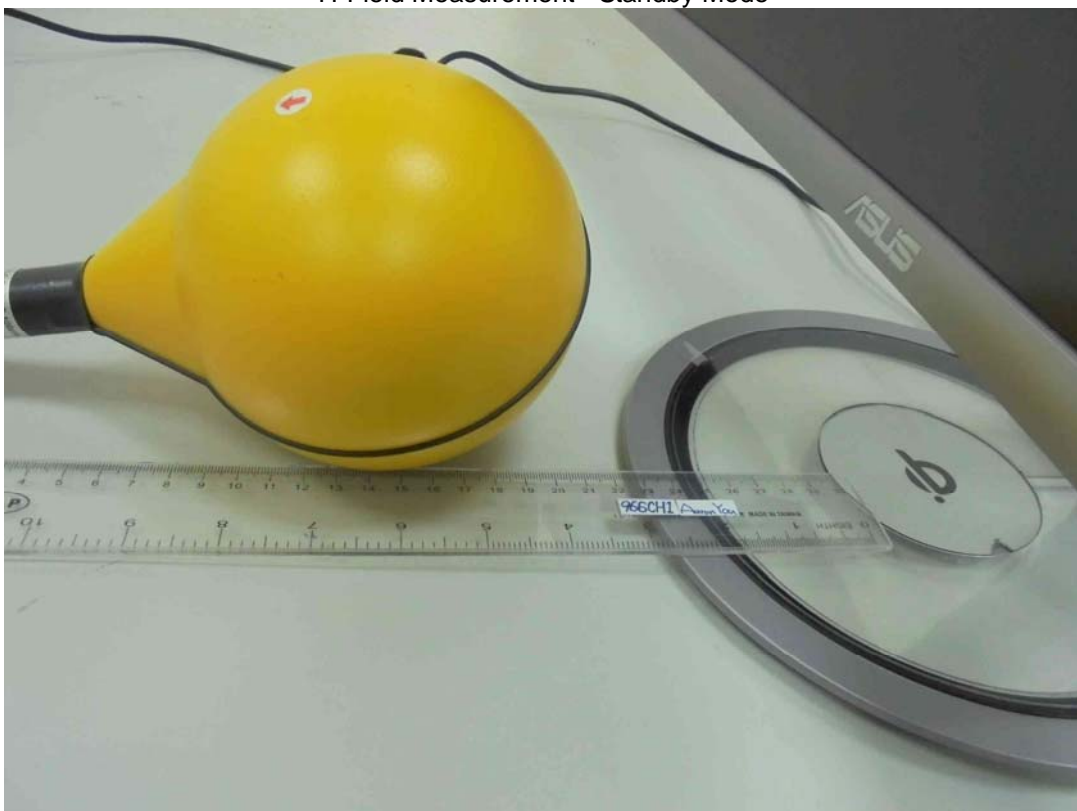
H-Field Measurement - Charging Mode



E-Field Measurement - Standby Mode



H-Field Measurement - Standby Mode



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