



Magnetic Field Radiated Emissions Data Sheet

EUT Voltage:	120VAC / 60Hz	Temp:	70° F	Humidity:	10%	Pressure:	1007 mb
TUV Job #	153884	Report #	31753673.001		Test Date:	09 January 2018	
Client:	MC10, Inc.			Client Quote:	21552882		
Test Method:	KDB #388624 D02 KDB #680106 D01 v02 CFR47 FCC Parts 1, 15 and 18			EUT Nomenclature:	Smart Charger		
Test Specification	CFR47 FCC Part 18			EUT Model or Part Number:	BRCD01		
FCC Part:	FCC Part 1.1310 Table 1-1			EUT Serial Number:	LXQUXLUI		
Worst Case Emissions:							
Probe/Loop Direction	Front	Rear	Left	Right	Top		
Probe/Antenna Height (m):	0.80	0.80	0.80	0.80	0.80		
Measurement Distance from EUT (cm):	10.0	10.0	10.0	10.0	10.0		
Measurement Frequency (MHz):	13.56	13.56	13.56	13.56	13.56		
E-Field:							
Raw Data (V/m):	0.134	0.204	0.251	0.180	0.640		
Probe Correction Factor (Linear):	0.992	0.992	0.992	0.992	0.992		
Corrected Data (V/m at 10 cm):	0.133	0.202	0.249	0.178	0.635		
Limit (FCC Part 1.1310 Table 1)	60.767	60.767	60.767	60.767	60.767		
Margin to Limit (V/m)	60.634	60.565	60.518	60.589	60.132		
H-Field:							
Raw Data (A/m at 10 cm):	0.0011	0.0014	0.0025	0.0019	0.0054		
Probe H-field Correction Factor (Linear)	1.0000	1.0000	1.0000	1.0000	1.0000		
Corrected Data (A/m at 10 cm):	0.0011	0.0014	0.0025	0.0019	0.0054		
Limit (FCC Part 1.1310 Table 1, (A/m)	0.1615	0.1615	0.1615	0.1615	0.1615		
Margin to Limit (A/m)	0.1604	0.1601	0.1590	0.1596	0.1561		
Tests Performed By:	Mark Ryan, Senior EMC Engineer, TUV Rheinland of North America						

E-Field Corrected Data (V/m) = Raw Data*Probe Correction Factor (Linear)

E-Field Limit (FCC part 1.1310, Table 1) = $824 / f \text{ (MHz)} = 824/13.56 = 60.77 \text{ V/m}$.

H-Field Corrected Data (H/m) = Raw Data*Probe Correction Factor (Linear)

H-Field Limit (FCC part 1.1310, Table 1) = $2.19 / f \text{ (MHz)} = 2.19/13.56 = 0.1615 \text{ A/m}$.

Test Equipment use list:

Equipment	Manufacturer	Model #	Serial/Inst #	Last Cal dd/mm/yy	Next Cal dd/mm/yy
E & H field Probe	Narda	EHP-200A	170WX50910	27-Nov-17	27-Nov-18

MC 10 Charger – Raw Test Data Form

Date:	09 January 2018	Induction charger - Raw Data, E and H-Field - MPE Testing					
Voltage:	120VAC / 60Hz	Temp:	70° F	Humidity:	10%	Pressure:	1007 mb

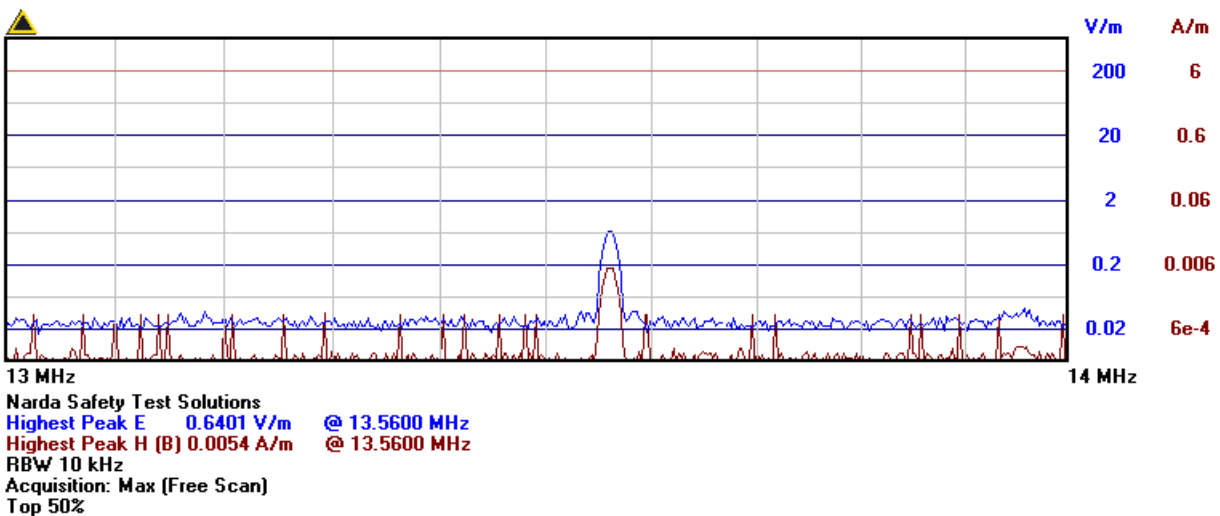
Model: BRCD01

Electric Field Test			Magnetic Field Test		
Location of Probe	Measurement	Units	Location of Probe	Measurement	Units
Left Side 1%	0.2394	V/m	Left Side 1%	0.0023	A/m
Left Side 50%	0.2511	V/m	Left Side 50%	0.0025	A/m
Left Side 99%	0.2390	V/m	Left Side 99%	0.0023	A/m
Top 1%	0.5120	V/m	Top 1%	0.0044	A/m
Top 50%	0.6401	V/m	Top 50%	0.0054	A/m
Top 99%	0.4488	V/m	Top 99%	0.0041	A/m
Right Side 1%	0.0728	V/m	Right Side 1%	0.0015	A/m
Right Side 50%	0.1040	V/m	Right Side 50%	0.0019	A/m
Right Side 99%	0.1795	V/m	Right Side 99%	0.0014	A/m
Front	0.1340	V/m	Front	0.0011	A/m
Back	0.0504	V/m	Back	0.0014	A/m

Note: The measurements shown in **BOLD** are the Highest of each orientation and will be transferred to the Field Emissions Data Sheet.

The **Highlighted** Emissions of each table is the highest emission.

Typical measurement plot.



Worst-case plot shown, all other plots are on file at TUV Rheinland.

Photos of EUT:



Figure 1 – Photo of EUT (BRCD01, BSPS01)



Figure 2 – Bottom view photo of EUT (label).

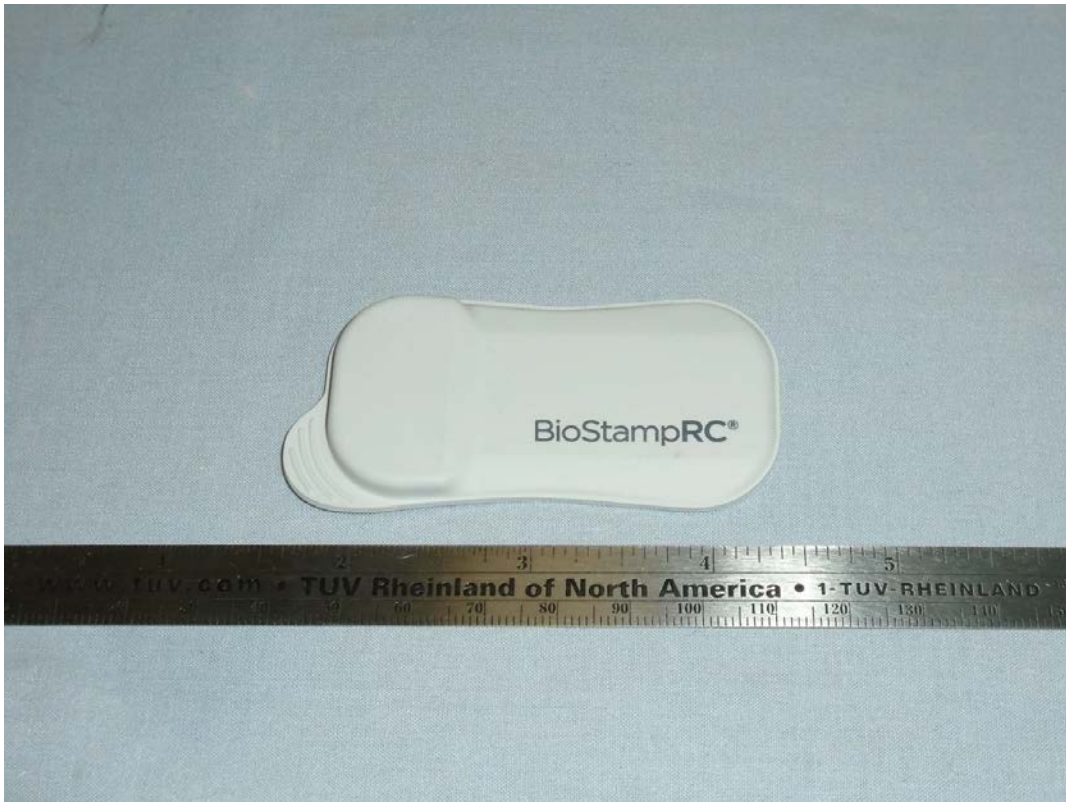


Figure 3 – Photo of Patch (BRCS02)



Figure 4 – Bottom view photo of Patch with label.

Test Setup Photos:



Figure 5: E-Field and H-Field – Right Side at 1% Charge on Battery
Field Probe was placed 10 cm from the EUT for all pictures.
The Field Probe used is an NARDA-EHP200A

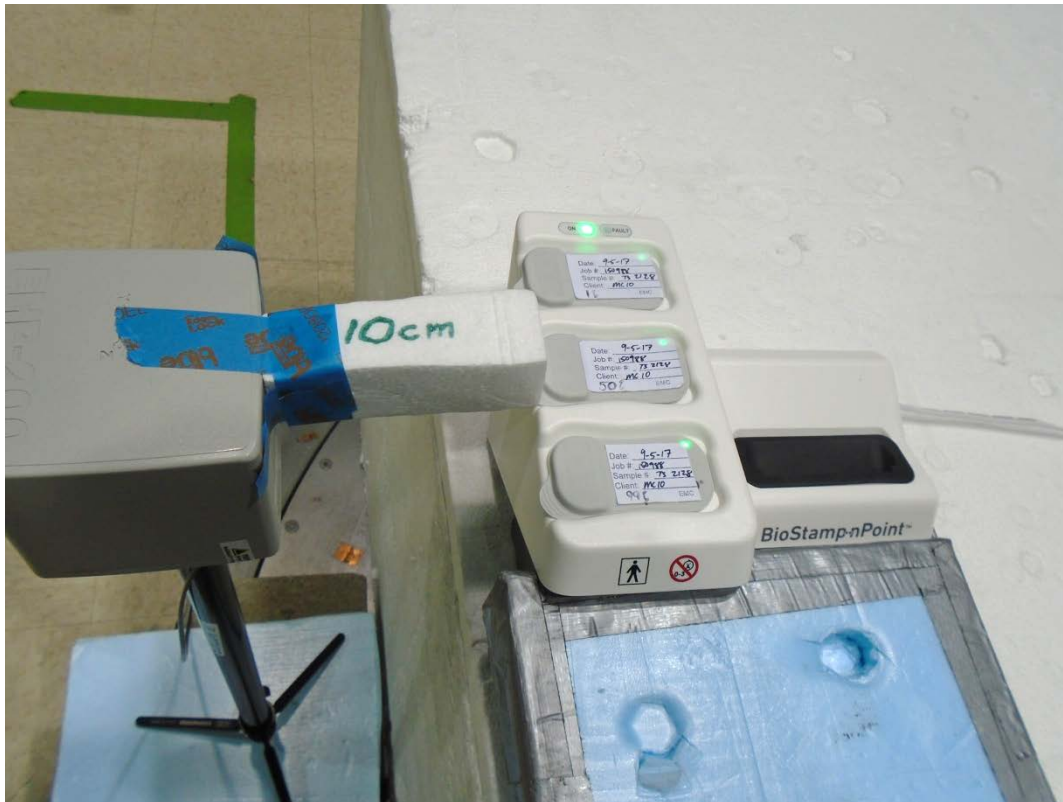


Figure 6: E and H Field Probe – Left Side, Battery at 50% charge.



Figure 7: E and H Field Probe – Left Side, Battery at 99% charge.



Figure 8: E and H Field Probe – Right Side, Battery at 1% charge.

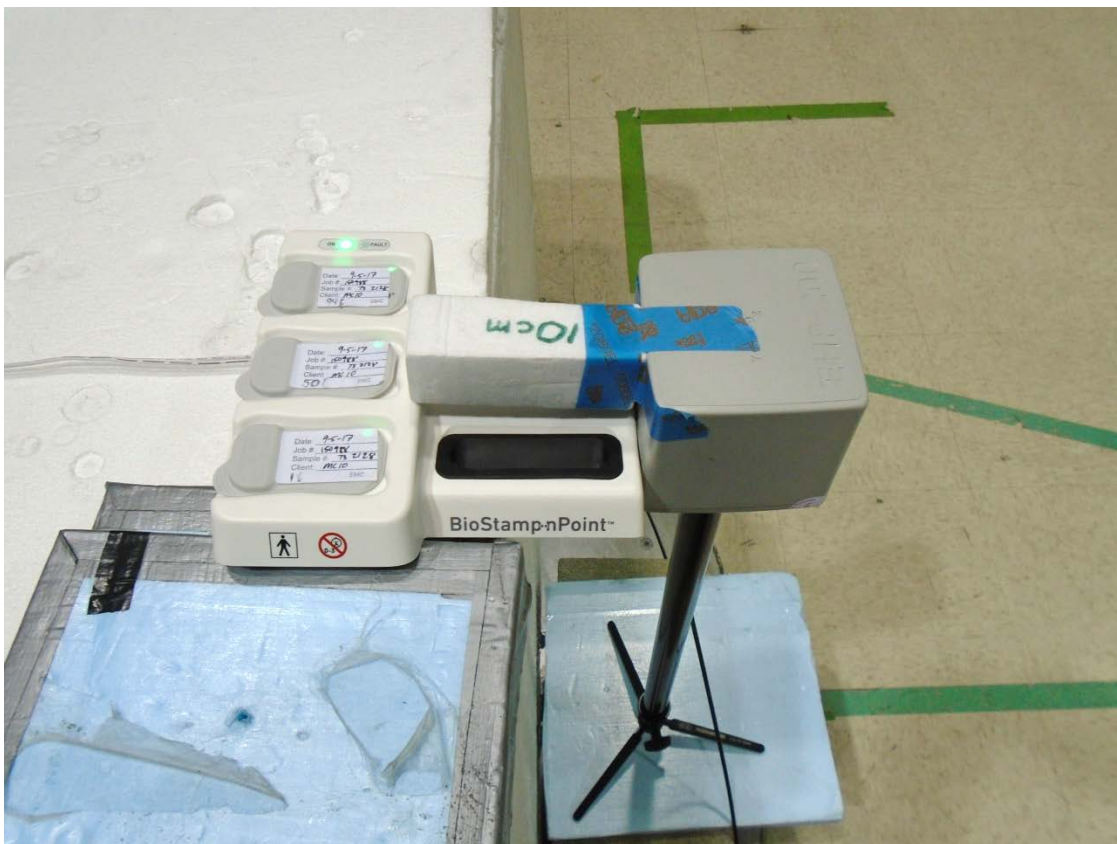


Figure 9: E and H Field Probe – Right Side, Battery at 50% charge.



Figure 10: E and H Field Probe – Right Side, Battery at 99% charge.



Figure 11: E and H Field Probe – Top Side, Battery at 1% charge.



Figure 12: E and H Field Probe – Top Side, Battery at 50% charge.

Note: This configuration provided the highest emissions for the Magnetic Field Test.

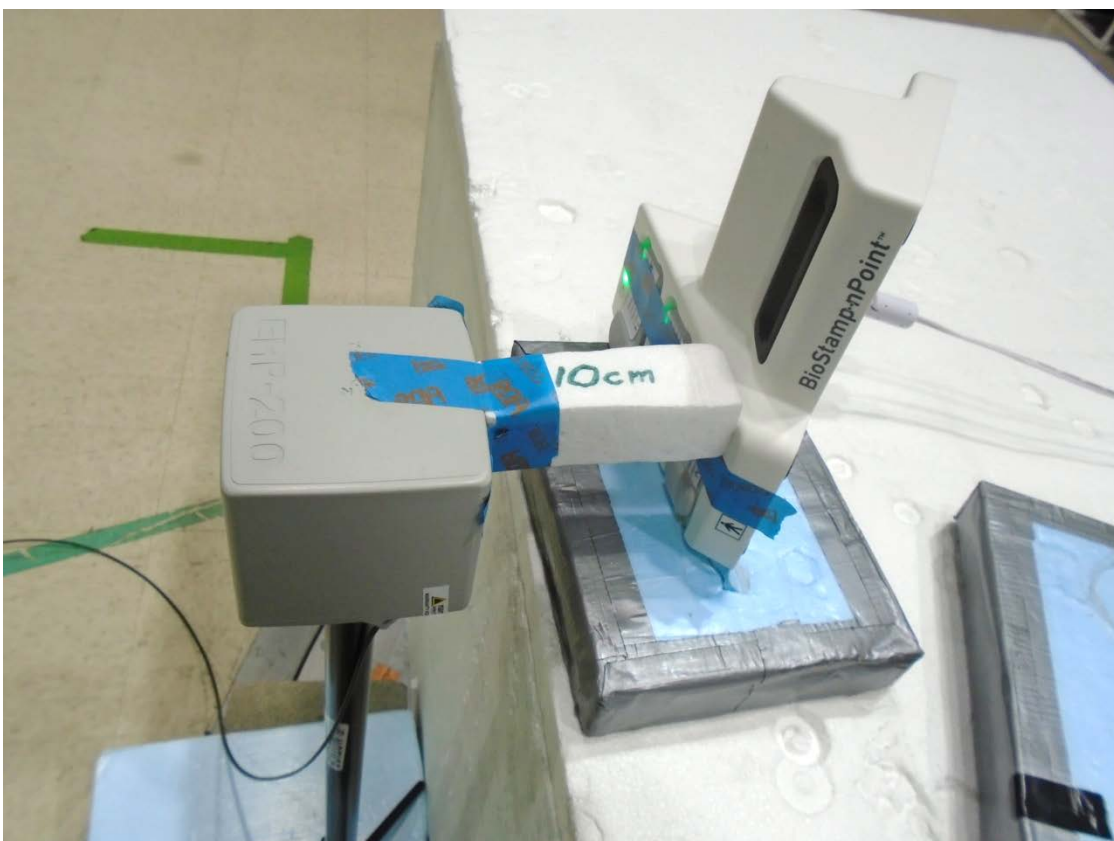


Figure 13: E and H Field Probe – Top Side, Battery at 99% charge.



Figure 14: E and H Field Probe – Front Side.

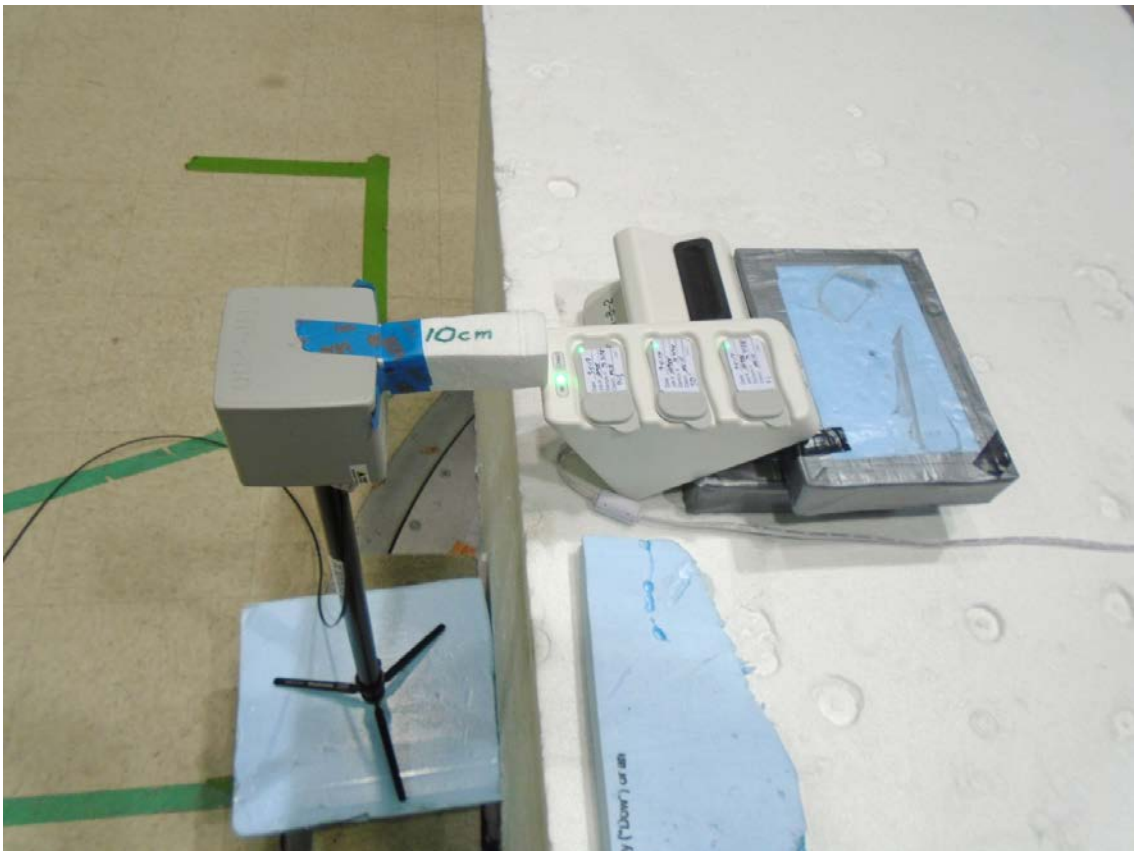


Figure 15: E and H Field Probe – Rear Side.



Figure 16: 10 cm foam spacer verification