

RF EXPOSURE TEST REPORT

APPLICANT : Grain Spark LLC

PRODUCT NAME : Mod Dock Circa / Mod Dock Banda

MODEL NAME : GS-VSN1/GS-VSN2

BRAND NAME : Grain Spark

FCC ID : 2AXJN-1229020GS
47 CFR Part 1.1307

STANDARD(S) : 47 CFR Part 2.1093
KDB447498D01 General RF Exposure
Guidance v06

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1. General information

1.1. Notes

The results of this test report relate exclusively to the item tested as specified in chapter “Description of test item” and are not transferable to any other test items.

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Operator:

2021-03-03		Bruce Zheng / Project Engineer	
Date	Eurofins-Lab.	Name / Title	Signature

Technical responsibility for area of testing:

2021-03-03		Tom Tian / Supervisor	
Date	Eurofins	Name / Title	Signature



1.2. Testing laboratory

Eurofins Electrical Testing Service (Shenzhen) Co., Ltd.

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The Laboratory has passed the Accreditation by the American Association for Laboratory Accrediation (A2LA). The Accreditation number is 5376.01

The Laboratory has been listed by industry Canada to perform electromagnetic emission measurements, The CAB identifier is CN0088

1.3. Details of applicant

Name	:	Grain Spark LLC
Address	:	421 South Brookhurst Street Suite# 120 Suite #120 Anaheim, CA 92804 United States
Telephone	:	(714) 495-9777
Fax	:	N/A

1.4. Details of manufacturer

Name	:	Shenzhen Form Electronics Co, Ltd
Address	:	F4 BldgE Junfeng Science&Technology Park Le Zhujiao Vi llage,Xixiang Town,Bao'an Dist,Shenzhen,China
Telephone	:	+86 15338707574
Fax	:	N/A

2. Requirement

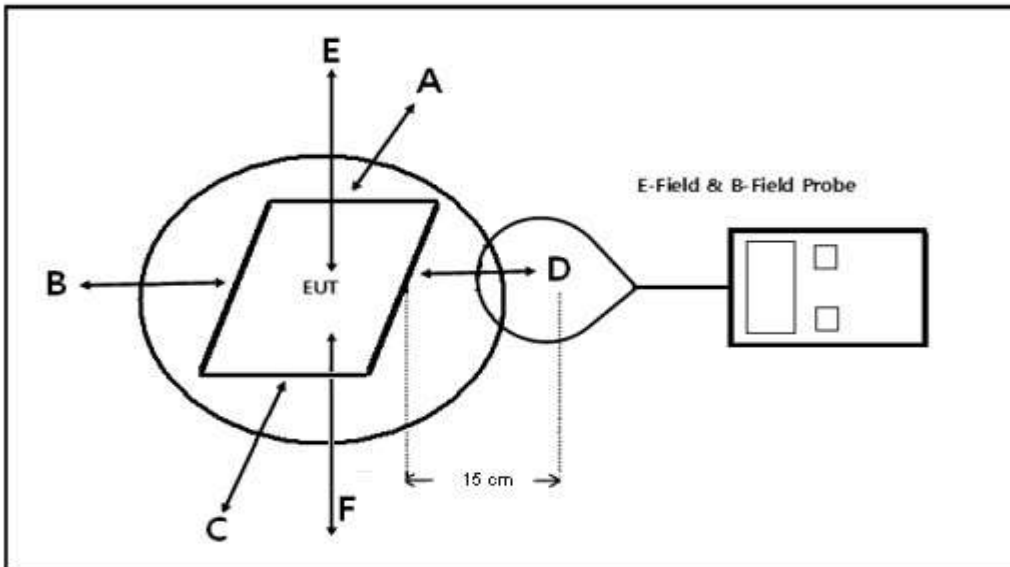
2.1. Limit

Frequency Range (MHz)	E-field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (Minutes)
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

2.2. Method of measurement

- The RF exposure test was performed in shielded chamber.
- The measurement probe was placed at test distance (15cm) which is between the edge of the charger and the geometric centre of probe.
- The measurement probe used to search of highest strength.
- The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
- The EUT were measured according to the dictates of KDB 680106D01v03.

2.3. Block diagram of test setup



Note: As bottom point is not required to test for desktop devices, so we scanning all the surfaces and recorded the worst level in F.

2.4. Equipment approval considerations

The EUT does comply with KDB 680106D01v03.

- 1) Power transfer frequency is less than 1MHz.
Yes; The device operated in the frequency range from 117kHz to 180kHz.
- 2) Output power from each primary coil is less than or equal to 15 watts.
Yes; The maximum output power of each primary coil is 5 watts.
- 3) 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; The transfer system includes only single coils.
- 4) Client device is placed directly in contact with the transmitter.
Yes; Client device is placed directly in contact with the transmitter.
- 5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
Yes; The EUT is a mobile device.
- 6) 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 field strength levels are less than 50% of the MPE limit.

2.5. Measuring instrument used

EQUIPMENT ID	EQUIPMENT NAME	MODEL NO.	CAL. DUE DATE
23-1-16-007	Exposure Lever Tester	ELT-400	2021-06-12

2.6. E field and H field strength test result

Test mode for wireless charger:

Config	Test Mode	Description
Mode 1	Standby	Wireless Charger powered by adapter.
Mode 2	Operating	Wireless Charger powered by adapter and with cell phone wireless charging load at center.
Mode 3	Operating	Wireless Charger powered by adapter and with cell phone wireless charging load and 3mm airgap at center.

Note:

1. Phone 5W, 20-50% power charging.

H-Filed Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT

Test Position	H-Filed Strength Measure Result			Limits (A/m)
	Mode 1	Mode 2	Mode 3	
	A/m			
A	0.5215	0.0345	0.4782	1.63
B	0.121	0.1346	0.1244	1.63
C	0.4235	0.0408	0.4072	1.63
D	0.0954	0.0751	0.1761	1.63
E	0.0271	0.0284	0.077	1.63
F	0.5231	0.1431	0.4871	1.63

E-Filed Strength at 15 cm from the edges surrounding the EUT and 20cm above the top surface of the EUT

Test Position	E-Filed Strength Measure Result			Limits (V/m)
	Mode 1	Mode 2	Mode 3	
	V/m			
A	0.5337	1.1111	3.2063	614
B	0.4268	0.9196	1.3434	614
C	0.557	0.8191	1.4167	614
D	0.4566	0.7205	1.3912	614
E	0.5794	0.7755	1.8471	614
F	0.5806	1.1245	3.2309	614