



FCC - TEST REPORT

Report Number : **60.790.19.007.01** Date of Issue: April 3, 2019

Model : **E2002**

Product Type : **My Very Own Solar System**

Applicant : **Brainstorm Limited**

Address : **Unit 1A Mill Lane Gisburn UK BB7 4LN United Kingdom**

Production Facility : **Brainstorm Limited**

Address : **Unit 1A Mill Lane Gisburn UK BB7 4LN United Kingdom**

Test Result : ☒ **Positive** ☐ **Negative**

Total pages including Appendices : **12**

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch is a subcontractor to TÜV SÜD Product Service GmbH according to the principles outlined in ISO 17025.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch reports apply only to the specific samples tested under stated test conditions. Construction of the actual test samples has been documented. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. The manufacturer/importer is responsible to the Competent Authorities in Europe for any modifications made to the production units which result in non-compliance to the relevant regulations. TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch issued reports.

This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval.

1 Table of Contents

1	Table of Contents.....	2
2	Details about the Test Laboratory.....	3
3	Description of the Equipment Under Test.....	4
4	Summary of Test Standards.....	5
5	Summary of Test Results.....	6
6	General Remarks.....	7
7	Emission Test Results.....	8
	7.1 Radiated Emission Test.....	8
8	Test Equipment List	12



2 Details about the Test Laboratory

Details about the Test Laboratory

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12&13, Zhiheng Wisdomland Business Park,
Nantou Checkpoint Road 2, Nanshan District,
518052 Shenzhen, CHINA

Telephone: 86 755 8828 6998

Fax: 86 755 8828 5299

FCC Registration Number: 514049

3 Description of the Equipment Under Test

Description of the Equipment Under Test

Product: My Very Own Solar System

Model no.: E2002

FCC ID: 2APXPE2002

Options and accessories: IR remote controller

Input Rated Voltage: 4.5V DC (3* AA batteries)

Output Rated Voltage: NIL

Description of the EUT: III

Remark: NIL

Auxiliary Equipment Used during Test:

DESCRIPTION	MANUFAC - TURER	MODEL NO. (SHIELD)	S/N (LENGTH)	PARAMETERS
NA	NA	NA	NA	---

4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart B, 10-1-2017 Edition	PART 15 – Radio Frequency Devices Subpart B – Unintentional Radiators

All the tests were performed using the procedures from ANSI C63.4(2014).

5 Summary of Test Results

Emission Tests				
FCC Part 15 Subpart B				
Test Condition Class B	Pages	Test Result		
		Pass	Fail	N/A
Radiated Emission (3m semi-anechoic chamber) 30MHz to 1000MHz	8-11	☒	☐	☐
Conducted Emission on AC 150kHz to 30MHz	NIL	☐	☐	☒

Remark:

1) Conducted Emission testing is not applicable for battery operated device.

System Measurement Uncertainty	
Test Items	Extended Uncertainty
Radiated Emission in 3m chamber 30MHz-1000MHz	Horizontal: 4.91dB; Vertical: 4.89dB;
Conducted Emission 150kHz-30MHz	3.62dB

6 General Remarks

REMARKS:

NIL

SUMMARY:

All tests according to the regulations cited on page 5 were

☒ - Performed

☐ - **Not** Performed

The Equipment Under Test

☒ - **Fulfills** the general approval requirements.

☐ - **Does not** fulfill the general approval requirements.

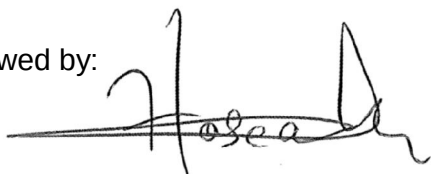
Sample Received Date: March 22, 2019

Testing Start Date: March 31, 2019

Testing End Date: March 31, 2019

- TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch-

Reviewed by:



Hosea CHAN
EMC Project Engineer

Prepared by:

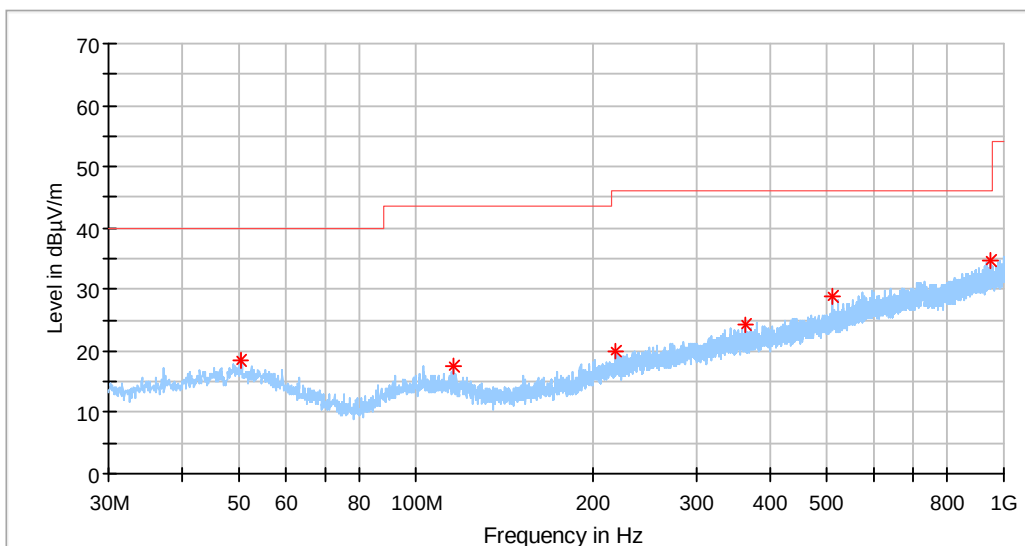


Eric LI
EMC Senior Project Engineer

7 Emission Test Results 30MHz – 1000MHz

7.1 Radiated Emission Test 30MHz – 1000MHz

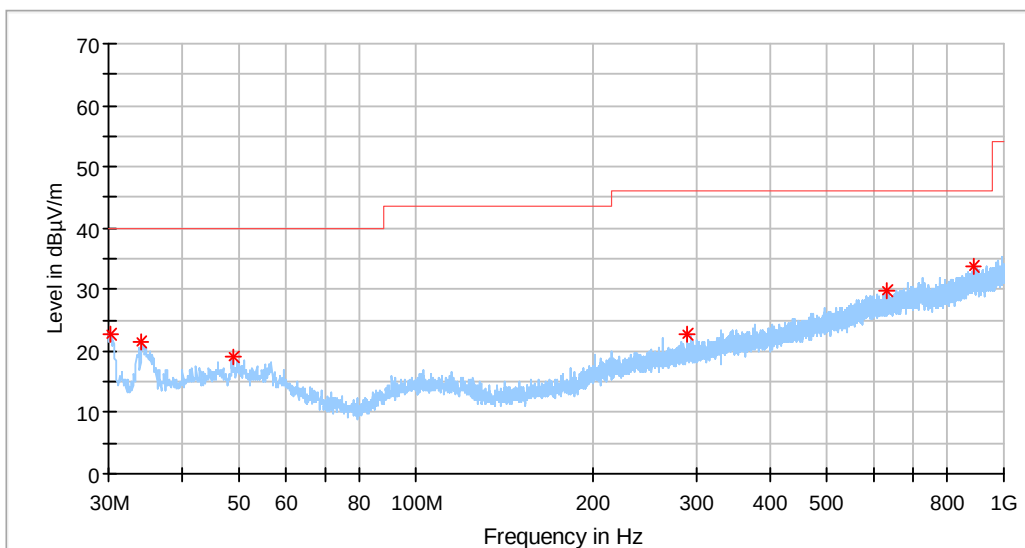
M/N: E2002
 Op Cond.: Light on mode
 Test Spec: Horizontal
 Comment: 30MHz-1GHz



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Corr. (dB)
50.248750	18.44	40.00	-21.56	18.1
115.602500	17.58	43.50	-25.92	15.2
218.725625	19.95	46.00	-26.05	17.2
362.588750	24.40	46.00	-21.60	21.5
510.756250	28.75	46.00	-17.25	24.2
948.408125	34.69	46.00	-11.31	30.8

Radiated Emission Test 30MHz – 1000MHz

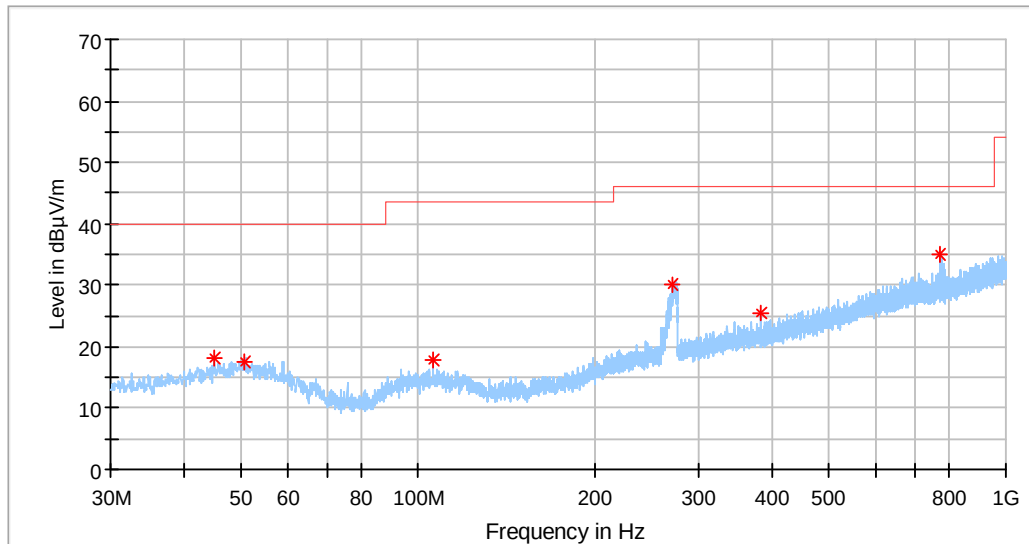
M/N: E2002
 Op Cond.: Light on mode
 Test Spec: Vertical
 Comment: 30MHz-1GHz



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Corr. (dB)
30.181875	22.86	40.00	-17.14	13.8
34.061875	21.63	40.00	-18.37	14.8
48.733125	18.90	40.00	-21.10	17.9
290.020625	22.87	46.00	-23.13	19.7
634.795000	29.80	46.00	-16.20	26.6
888.753125	33.90	46.00	-12.10	29.8

Radiated Emission Test 30MHz – 1000MHz

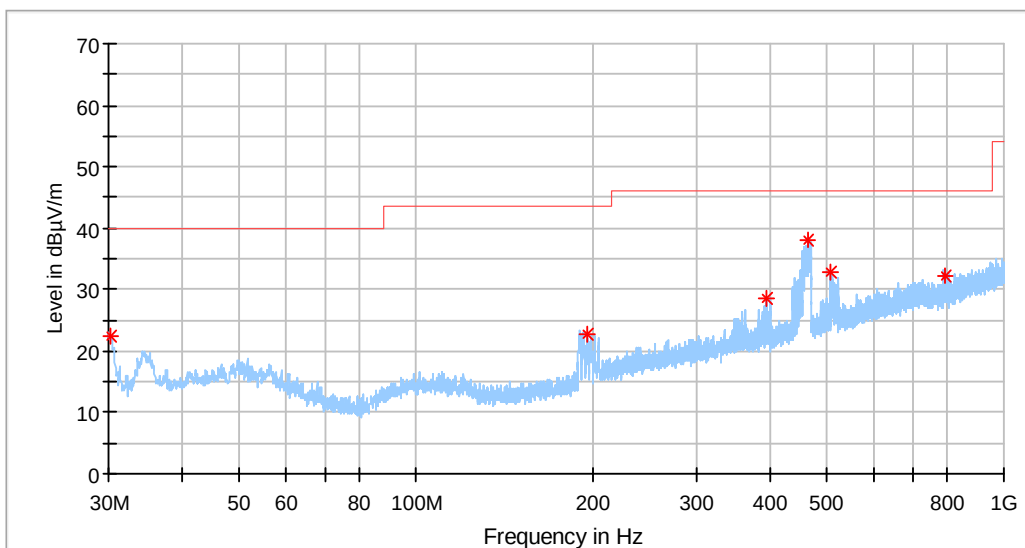
M/N: E2002
 Op Cond.: Motor on mode
 Test Spec: Horizontal
 Comment: 30MHz-1GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Corr. (dB)
45.095625	18.18	40.00	-21.82	17.3
50.673125	17.44	40.00	-22.56	18.0
106.266250	17.81	43.50	-25.69	15.6
271.408750	30.12	46.00	-15.88	19.1
383.504375	25.48	46.00	-20.52	22.0
772.716875	34.86	46.00	-11.14	28.2

Radiated Emission Test 30MHz – 1000MHz

M/N: E2002
 Op Cond.: Motor on mode
 Test Spec: Vertical
 Comment: 30MHz-1GHz



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Corr. (dB)
30.242500	22.54	40.00	-17.46	13.8
195.991250	22.81	43.50	-20.69	15.8
395.023125	28.51	46.00	-17.49	22.1
464.984375	38.01	46.00	-7.99	23.4
506.633750	32.77	46.00	-13.23	24.1
798.179375	32.28	46.00	-13.72	28.4

8 Test Equipment List

Radiated Emission Test

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	101269	2019-7-6
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9163	707	2019-6-28
Horn Antenna	Rohde & Schwarz	HF907	102294	2019-6-28
Pre-amplifier	Rohde & Schwarz	SCU 18	102230	2019-7-6
Signal Generator	Rohde & Schwarz	SMY01	839369/005	2019-7-6
Attenuator	Agilent	8491A	MY39264334	2019-7-6
3m Semi-anechoic chamber	TDK	9X6X6	----	2020-7-7
Test software	Rohde & Schwarz	EMC32	Version 9.15.00	N/A