FCC Part 1 Subpart I
FCC Part 2 Subpart J

RF EXPOSURE REPORT

FOR

WPT CLIENT DEVICE WITH BLE

FCC ID: 2ADNG-MS300a

REPORT NUMBER: 11717038-S1V1

ISSUE DATE: 1/5/2018

Prepared for
ENERGOUS CORPORATION
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Prepared by
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NVLAP TESTING
NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	1/5/2018	Original issue	--

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: ENERGOUS CORPORATION
3590 NORTH FIRST STREET
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EUT DESCRIPTION: WPT CLIENT DEVICE WITH BLE

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 1 SUBPART I & PART 2 SUBPART J	Complies

UL Verification Services Inc. calculated the RF Exposure of the above equipment in accordance with the requirements set forth in the above standards, using test results reported in the test report documents referenced below and/or documentation furnished by the applicant. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc., based on interpretations of these calculations. The results show that the equipment is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL Verification Services Inc. By:

Dave Weaver
Operations Leader
UL Verification Services Inc.

2. TEST METHODOLOGY

All calculations were made in accordance with FCC KDB 447498 D01 v06.

3. REFERENCES

Output power, Duty cycle and Antenna gain data is excerpted from the applicable test reports or client declarations.

4. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

5. Device under test

5.1. Description and Test Rationale

The MS-300a is a wireless power transfer (WPT) client device designed for use with MS-300 wireless charging system that delivers RF energy to a Client Device seeking to be charged when positioned within the Charging Zone. The MS-300 transfers RF energy to the MS-300a at a frequency of 913 MHz; the system does not transmit information at this frequency. Data communication, for example for the authentication of client devices, is performed through standard 2.4 GHz Bluetooth LE protocols.

The MS-300 / MS-300a fall under FCC Part 18.107(c) it because they are designed to generate and use RF energy locally to charge domestic consumer electronic devices. The MS-300 transfers RF energy from the front of the transmitter and creates a pocket around the authenticated Client Device (MS-300a) that will be charged. The MS-300a uses this energy to charge internal batteries. The system is intended to be used by the general public in a residential or office environment.

The MS-300a can be charged at any point within the Charging Zone of the MS-300 if three conditions are met; all self-checks passed, the device is determined to be positioned in the Charging Zone, and the device is receiving sufficient power to charge. Full details related to the MS-300 WPT charger are provided in the filing for the device under FCC ID 2ADNG-MS300.

As the MS300a may be used closer than 20 cm to the user it was assessed as a portable device used at 0 mm separation distance for RF exposure evaluation.

5.2. Maximum Output Power

The maximum rated output power of the device is declared as -1.90 dBm (0.65 mW).

6. STANDALONE SAR TEST EXCLUSION CONSIDERATIONS

SAR test exclusion in accordance with KDB 447498 D01 v06.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)]·[√f(GHz)] ≤ 3.0, for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f_{(GHz)}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

This test exclusion is applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

SAR Exclusion Calculation Table for Portable Devices (separation distance < 50mm)

Tx	Frequency (MHz)	Max Output power		Separation distances (mm)	Calculated Threshold Value
		dBm	mW		
BLE	2480	-1.9	1	0	0.3

Conclusion:

The Calculated Threshold is ≤3; therefore, this device qualifies for Standalone SAR test exclusion.

END OF REPORT