



# **TEST REPORT**

**Report Number. :** 13947251-E4V2

**Applicant :** ENERGOUS CORPORATION  
3590 NORTH FIRST STREET  
SAN JOSE, CA 95134, U.S.A.

**Model :** VN15

**Brand :** ENERGOUS

**FCC ID :** 2ADNG-VN15

**EUT Description :** WIRELESS CHARGER

**Test Standard(s) :** FCC 47 CFR PART 1 SUBPART I  
FCC 47 CFR PART 2 SUBPART J

**Date Of Issue:**

September 29, 2021

**Prepared by:**

UL Verification Services Inc.  
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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	8/18/2021	Initial Issue	---
V2	9/29/2021	Updated Section 2 KDB 447498 version and updated Section 5	Tina Chu

## TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS.....	4
2. TEST METHODOLOGY .....	5
3. REFERENCES .....	5
4. FACILITIES AND ACCREDITATION.....	5
5. RF EXPOSURE RESULTS .....	6

## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** ENERGOUS CORPORATION  
3590 NORTH FIRST STREET  
SAN JOSE, CA 95134, U.S.A.

**EUT DESCRIPTION:** WIRELESS CHARGER

**MODEL:** VN15

**BRAND:** ENERGOUS

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

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

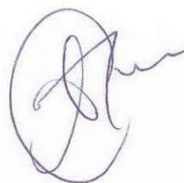
This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, any agency of the Federal Government, or any agency of the U.S. government.

Approved & Released For  
UL Verification Services Inc. By:



Dan Corona  
Operations Leader  
UL Verification Services Inc.

Prepared By:



Tina Chu  
Senior Project Engineer  
UL Verification Services Inc.

## 2. TEST METHODOLOGY

All calculations were made in accordance with FCC Parts 1.1310, 2.1091, 2.1093, Draft KDB 447498 D01 v07-DR04, KDB 447498 D03 V01, IEEE Std C95.1-2005, IEEE Std C95.3-2002.

## 3. REFERENCES

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.

All measurements were made as documented in test reports;  
UL Verification Services Inc. Document 13947251-E1 for WPT operation in the 900 MHz band,  
UL Verification Services Inc. Document 13947251-E2 for BLE operation in the 2.4 GHz band,

Maximum measured output power and duty cycle data is excerpted from the applicable test reports.

Antenna gain data is provided by the customer.

## 4. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, Certificate Number 0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
<input type="checkbox"/>	Building 1: 47173 Benicia Street, Fremont, California, USA	US0104	2324A	208313
<input type="checkbox"/>	Building 2: 47266 Benicia Street, Fremont, California, USA	US0104	22541	208313
<input type="checkbox"/>	Building 4: 47658 Kato Rd, Fremont, California, USA	US0104	2324B	208313

## 5. RF EXPOSURE RESULTS

The EUT was assessed against the MPE-based exemption criteria of 447498 D01 General RF Exposure Guidance DR04

The EUT does not qualify for MPE-based exemption per table B.1 of the KDB so was assessed against Formula (B.1) in the KDB:

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

In the table(s) below, Power and Gain are entered in units of dBm and dBi respectively and conversions to linear forms are used for the calculations.

### Multiple chain or colocated transmitters

Frequency	(GHz)	0.918	2.45
Mode		WPT	BLE
Transmitter		SISO	SISO
Separation Distance	(cm)	20	20
Output Power	(dBm)	29.65	-3.00
Antenna Gain	(dBi)	5.0	2.0
Duty Cycle	(%)	100	62.60
Source Based EIRP	(mW)	2917.4	0.5
Source Based ERP	(mW)	1779	0.3
$P_{th}$	(mW)	1873	3060
ERP/ERP <sub>th</sub>	-	0.95	0.00
Sum of ERP/ERP <sub>th</sub>	<b>0.95</b>		

#### Notes:

- 1) The output power in the table above is the maximum power per antenna among various channels and various modes within the specific band.
- 2) The antenna gain in the table above is the maximum antenna gain among various channels within the specified band.
- 3)  $ERP = EIRP/1.64$

As  $P_{TH}$  is greater than the higher of conducted power or ERP the transmitters qualify for standalone MPE-based exemption.

As the SUM of the ERP/ERP<sub>TH</sub> ratios is <1 the EUT is exempt from further simultaneous transmission RF exposure evaluation.

## END OF REPORT