

TEST REPORT



Applicant	Particle Industries, Inc
Address	126 Post St, 4th floor, San Francisco, CA 94108 USA

Manufacturer or Supplier	Particle Industries, Inc	
Address	126 Post St, 4th floor, San Francisco, CA 94108 USA	
Product	Xenon	
Brand Name	Particle Industries, Inc	
Model	XENN	
Additional Model & Model Difference	N/A	
Date of tests	Jul. 17, 2018 ~ Sep. 27, 2018	

The submitted sample of the above equipment has been tested according to the requirements of the following standard:

EN 62311:2008

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

<p>Tested by Breeze Jiang Project Engineer / EMC Department</p>	<p>Approved by Glyn He Supervisor / EMC Department</p>
	 <p>Date: Dec. 10, 2018</p>

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Test Report No.: SE180717N013-1

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SE180717N013-1	Original release	Dec. 10, 2018



1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Xenon
MODEL NO.	XENN
ADDITIONAL MODEL	N/A
NOMINAL VOLTAGE	Li+ PIN /Battery connector: DC 3.7V from Li-ion Battery or VUSB PIN /USB connector :DC 5V from USB Host Unit
OPERATING TEMPERATURE RANGE	-20 ~ +80°C
MODULATION TECHNOLOGY	DSSS(IEEE 802.15.4)
MODULATION TYPE	OQPSK
OPERATING FREQUENCY	2405-2480MHz
EIRP POWER	-0.77dBm (Measured Max.)
ANTENNA TYPE	PCB Antenna, 0dBi Gain

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions, but only the worst case was shown in test report.
3. Please refer to the EUT photo document (Reference No.: 180717N013) for detailed product photo.
4. The EUT is wireless module, it no any accessories.
5. The EUT provides completed transmitters and receivers.

MODULATION MODE	TX FUNCTION
DSSS(IEEE 802.15.4)	1TX/1RX

2. RF EXPOSURE MEASUREMENT

2.1 INTRODUCTION

This International Standard applies to electronic and electrical equipment for which no dedicated product- or product family standard regarding human exposure to electromagnetic fields applies.

The frequency range covered is 0 Hz to 300 GHz.

The object of this generic standard is to provide assessment methods and criteria to evaluate such equipment against basic restrictions or reference levels on exposure of the general public related to electric, magnetic and electromagnetic fields and induced and contact current.

2.2 LIMIT

According to EN 62311: 2008, the criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified 1999/519/EC.

FREQUENCY RANGE (GHz)	E-FIELD STRENGTH (V/m)
2 ~ 300	61

2.3 CLASSIFICATION OF THE ASSESSMENT METHODS

The antenna of the product, under normal use condition is at least 20 cm away from the body of the user. Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the WLAN easy install sheet. So, this product under normal use is located on electromagnetic far field between the human body.

Far Field Calculation Formula

$$E = \eta_0 H = \frac{\sqrt{30PG(\theta, \phi)}}{r}$$

G = antenna gain relative to an isotropic antenna
 θ, ϕ = elevation and azimuth angles to point of investigation
 r = distance from observation point to the antenna
 η_0 = Characteristic impedance of free space



2.4 TEST RESULTS

CALCULATION FOR MAXIMUM E.I.R.P.

Output Power E.I.R.P. (dBm)	Output Power E.I.R.P. (mW)	E-Field Strength (V/m)	E-Field Strength Limit (V/m)	PASS / FAIL
-0.77	0.838	0.793	61.00	PASS