TEST REPORT

Reference No.	:	WTU19S06035807W002
FCC ID.....	:	2ATL8VZACATXX-01
Applicant	:	Vesta Lighting Inc.
Address	:	815 Brazos Street, Austin,Texas, 78701 USA
Manufacturer	:	Jiaxing Hanri Electronics Co,.Ltd.
Address	:	No.1352-1 Road, Nanhu District, Jiaxing, Zhe Jiang Province, China
Product	:	See the Model List of section 4.3.
Model(s).....	:	See the Model List of section 4.3.
Standards	:	FCC CFR47 Part 1 Section 1.1037:2019 FCC CFR47 Part 2 Section 2.1091:2019
Date of Receipt sample....	:	2019-06-03
Date of Test	:	2019-10-15 to 2019-10-23
Date of Issue	:	2019-10-29
Test Result	:	**Pass**

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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1 Contents

2 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTU19S06035807W002	2019-06-03	2019-10-15 to 2019-10-23	2019-10-29	original	-	Valid

3 General Information

3.1 General Description of E.U.T

Product :See the Model List of section 4.3.

Model(s) :See the Model List of section 4.3.

Operation Frequency : 2405-2480MHz

Antenna installation : Integrated Antenna

Antenna Gain : 0dBi

Type of Modulation : O-QPSK

3.2 Details of E.U.T

Ratings :See the Model List of section 4.3.

3.3 Model List

Product	Model	Ratings
zigbee module	VZACATXX-01	DC 3.3V

Remark:

1. All models are same with all other aspect but model name for the same Product.

2. For modes code:

First character: can be V (represent “VESTA”);

Second character: can be Z (represent “ZIGBEE”);

Third character: can be A (represent the voltage:3.3V);

Fourth character and Fifth character : can be “CA” or “PA” (“CA” represent Ceramic Antenna, “PA” represent PCB Antenna);

Sixth character: can be T (represent universal type);

Seventh and Eighth character: can be the value of output power(dBm);

Ninth character: can be “-”;

The other character: can be 01(represent serial number)

4 RF Exposure

Test Requirement: FCC Part 1.1307

Test Method: FCC Part 2.1091

4.1 Requirements

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric 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)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric 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)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

4.2 Evaluation Result

E (V/m) $= \frac{\sqrt{30 \times P \times G}}{d}$ Power Density: *Pd* (W/m²) $= \frac{E^2}{377}$

E = Electric field (V/m)
P = RF output power (W)
G = EUT Antenna numeric gain (numeric)
d = Separation distance between radiator and human body (m)
The formula can be changed to

Pd $= \frac{30 \times P \times G}{377 \times d^2}$

From the EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Output Power (mW)	Power Density (mW/cm2)	Limit of Power Density (mW/cm2)
0	1.0	13.80	23.99	0.0048	1

Result: Compliance

No SAR measurement is required.

======End of Report======