



MPE Test Report

Report No.: ZEK-ESH-P20050862B-2

FCC ID: 2AFGR- APS2530H

Product: Zigbee module

Model: APS2530H

Received Date: May.14, 2020

Test Date: May.15 to May.29, 2020

Issued Date: Jun.02, 2020

Applicant: ALTENERGY POWER SYSTEM INC.

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Manufacturer: ALTENERGY POWER SYSTEM INC.

Address: No.1 Yatai Road, Jiaxing 314050 Zhejiang Province, P.R. China

Issued By: BUREAU VERITAS ADT (Shanghai) Corporation

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Release Control Record

Issue No.	Description	Date Issued
ZEK-ESH-P20050862B-1	Original release	Jun.02, 2020



1 Certificate of Conformity

Product: Zigbee module

Brand: --

Test Model: APS2530H

Applicant: ALTENERGY POWER SYSTEM INC.

Test Date: May.15 to May.29, 2020

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

The above equipment has been tested by **BUREAU VERITAS ADT (Shanghai) Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by :

, **Date:**

Jun.02, 2020

Will YAN

Project Engineer

Approved by :

, **Date:**

Jun.02, 2020

Daniel SUN

EMC Lab Manager



2 General Description of EUT

Product	Zigbee module
Brand	--
Test Model	APS2530H
Power Rating	DC 3.3V
Modulation Type	DSSS
Modulation Technology	O-QPSK
Operating Frequency	2405MHz to 2480MHz
Number of Channel	16
Antenna Type	Wire Antenna
Antenna Connector	--
Antenna Gain	2.0dBi

Note:1. For more details, please refer to the User's manual of the EUT.

3 RF Exposure

3.1 Limits For Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
300-1,500	-	-	F/1500	30
1,500-100,000	-	-	1.0	30

F = Frequency in MHz

3.2 MPE Calculation Formula

Power density (S) is calculated according to the formula:

$$S = PG / (4\pi R^2)$$

Where S = power density in mW/cm²

P = transmit power in mW

G = numeric gain of transmit antenna (numeric gain=Log-1(dB antenna gain/10))

R = distance (cm)

3.3 MPE Calculation Formula

The antenna of this product, under normal use condition, is at least 20cm from the body of the user. So the device is classified as Mobile Device.

3.4 Calculation Result of Maximum Permissible Exposure

Frequency Band (MHz)	Max. Conducted output power(dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
Zigbee 2.4GHz					
2405-2480	13.34	2.0	20	0.0068069	1

Conclusion:

The calculation result of MPE is less than the limit.

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