RF Exposure Evaluation Report

Product	:	Zigbee PCB Module
Trade mark	:	ENNFU
Model/Type reference	:	T30P127F2.4G
Serial Number	:	N/A
Report Number	:	EED32J00192902
FCC ID	:	2ANLK-T30C
Date of Issue	:	Sep. 27, 2017
Test Standards	:	47 CFR Part 1.1307(2015) 47 CFR Part 1.1310(2015) KDB447498D01v06
Test result	:	PASS

Prepared for:

ENNFU SCIENTIFIC COMPANY LIMITED
A606, 6F, Area A, University Of Pioneer Park, No. 99, Daxue Road, Tongshan District, Xuzhou, Jiangsu Province, P.R.China

Prepared by:

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Date:	Sep. 27, 2017		Check No.:2827583977

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2 Version

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00	Sep. 27, 2017	Original

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4 General Information

4.1 Client Information

Applicant:	ENNFU SCIENTIFIC COMPANY LIMITED
Address of Applicant:	A606, 6F, Area A, University Of Pioneer Park, No. 99, Daxue Road, Tongshan District, Xuzhou, Jiangsu Province, P.R.China
Manufacturer:	ENNFU SCIENTIFIC COMPANY LIMITED
Address of Manufacturer:	A606, 6F, Area A, University Of Pioneer Park, No. 99, Daxue Road, Tongshan District, Xuzhou, Jiangsu Province, P.R.China
Factory:	ENNFU SCIENTIFIC COMPANY LIMITED
Address of Factory:	A606, 6F, Area A, University Of Pioneer Park, No. 99, Daxue Road, Tongshan District, Xuzhou, Jiangsu Province, P.R.China

4.2 General Description of EUT

Product Name:	Zigbee PCB Module
Model No.(EUT):	T30P127F2.4G
Trade Mark:	ENNFU
EUT Supports Radios application	Zigbee

4.3 Product Specification subjective to this standard

Frequency Range:	2405MHz-2480MHz
Modulation Type:	QPSK
Test Power Grade:	SmartRF_Studio_7-2.6.0(manufacturer declare)
Test Software of EUT:	N/A
Antenna Type:	Modular antenna
Antenna Gain:	3dBi
Power Supply:	DC 3.3V
Conduct Peak Power:	4.945dBm
	The data refer to the report EED32J00192901
Sample Received Date:	Aug. 30, 2017
Sample tested Date:	Aug. 30, 2017 to Sep. 27, 2017
The tested sample(s) and the sample information are provided by the client.	

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd.

Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China 518101

Telephone: +86 (0) 755 3368 3668 Fax:+86 (0) 755 3368 3385

No tests were sub-contracted.

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 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)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*($900/f^2$)	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				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*($180/f^2$)	30
30–300	27.5	0.073	0.2	30
300–1500	.....	.....	f/1500	30
1500–100,000	.....	.....	1.0	30

A rough estimation of the expected exposure in power flux density on a given point can be made with the following equation:

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R= distance to the centre of radiation of the antenna

EIRP = P*G

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 user's manual. Therefore, the S of the device is calculated with R=20cm, and if it is below the limit S, then we can conclude the device complies with the rules.

5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit data at lowest, middle and highest channel individually.

5.1.3 EUT RF Exposure Evaluation

Antenna Gain: 3dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency (MHz)	Max Conducted Peak Output Power(dBm)	Gain (dBi)	EIRP* (dBm)	EIRP (mW)	R (cm)	S (mW/cm^2)	Limit (mW/cm^2)	Result
Lowest	2405	4.945	3	7.945	6.23	20	0.0012	1.0	Pass

Note: Refer to report No. EED32J00192901 for EUT test Max Conducted Peak Output Power value.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32J00192901 for EUT external and internal photos.

*** End of Report ***

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