



中国认可
国际互认
检测
TESTING
CNAS L5313



DEKRA

RF Exposure Evaluation Declaration

Product Name : 915MHz LoRa Module

Model No. : LTRF8888A1

FCC ID : 2AN2J-LTRF8888A1

Applicant : Yueqing Blue Sky Hi-Tech CO.,LTD

Address : Sulv industry zone, Liushi Town, Yueqing, Zhejiang
province, China

Date of Receipt : Aug. 23, 2017

Test Date : Aug. 23, 2017~ Oct. 20, 2017

Issued Date : Aug. 24, 2018

Report No. : 1782106R-RF-US-P20V01

Report Version : V1.1

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by CNAS, TAF, A2LA or any agency of the

The test report shall not be reproduced without the written approval of DEKRA Testing & Certification (Suzhou) Co., Ltd.

Test Report Certification

Issued Date : Aug. 24, 2018

Report No. : 1782106R-RF-US-P20V01



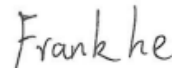
Product Name : 915MHz LoRa Module
Applicant : Yueqing Blue Sky Hi-Tech CO.,LTD
Address : Sulu industry zone, Liushi Town, Yueqing, Zhejiang province, China
Manufacturer : Shanghai Coremoon Electronic & Technology Co., Ltd
Address : No. 165, Lane 111, Sunjian Road, Pudong District Shanghai
Model No. : LTRF8888A1
FCC ID : 2AN2J-LTRF8888A1
EUT Voltage : 2.8V-3.7VDC, 130mA
Brand Name :



Applicable Standard : KDB 447498D01V06
FCC Part1.1310(b)
Test Result : Complied
Performed Location : DEKRA Testing & Certification (Suzhou) Co., Ltd.
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006, Jiangsu, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
FCC Registration Number: CN1199;

Documented By : 

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Approved By : 

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1. RF Exposure Evaluation

1.1. Limits

According to FCC 1.1310: 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 1.1307(b)

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)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 0.601mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

1.2. Test Procedure

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

The temperature and related humidity: 18°C and 78% RH.

1.3. Test Result of RF Exposure Evaluation

Product	:	915MHz LoRa Module
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-6

● Antenna Information

Model No.		N/A								
Antenna manufacturer		N/A								
Antenna Delivery		☒	1*TX+1*RX		☐	2*TX+2*RX		☐	3*TX+3*RX	
Antenna technology		☒	SISO							
		☐	MIMO	☐	Basic					
				☐	CDD					
				☐	Sectorized					
				☐	Beam-forming					
Antenna Type		☐	External	☐	Dipole					
				☐	Sectorized					
		☒	Internal	☐	PIFA					
				☐	PCB					
				☒	helical antenna					
				☐	Ceramic Chip Antenna					
				☐	Metal plate type F antenna					
Antenna Technology		Ant Gain (dBi)				Directional Gain (dBi)				
						For Power		For PSD		
		☒	SISO	-1				-1		-1

- Output Power into Antenna & RF Exposure Evaluation Distance:

Frequency Band (MHz)	Maximum Output Power to Antenna (dBm)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Limit of Power Density S(mW/cm ²)
902~928MHz	15.96	-1	0.006	0.601

Note: The power density is 0.006mW/cm² for 915MHz LoRa Module without any other radio equipment.

_____ The End _____