RF Exposure Evaluation Declaration

Product Name	:	Wireless SPI transceiver module
Model No.	:	LCR1-1276H
FCC ID	:	2AQXP-LCR1-1276H

Applicant	:	Shanghai leeyz Electronic Technology Co., Ltd.
Address	:	Room 205, 2588 Jinhai Road, Pudong New Area, Shanghai

Date of Receipt	:	Aug. 13, 2018
Test Date	:	Aug. 14, 2018~ Aug. 28, 2018
Issued Date	:	Aug. 31, 2018
Report No.	:	1882082R-RF-US-P20V01
Report Version	:	V1.0

Test Report Certification

Issued Date : Aug. 31, 2018
Report No. : 1882082R-RF-US-P20V01

roduct Name	:	Wireless SPI transceiver module
Applicant	:	Shanghai leeyz Electronic Technology Co., Ltd.
Address	:	Room 205, 2588 Jinhai Road, Pudong New Area, Shanghai
Manufacturer	:	Shanghai leeyz Electronic Technology Co., Ltd.
Address	:	Room 205, 2588 Jinhai Road, Pudong New Area, Shanghai
Model No.	:	LCR1-1276H
FCC ID	:	2AQXP-LCR1-1276H
EUT Voltage	:	DC 3.3V
Brand Name	:	N/A
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 : Kitty Li

(Project Assistant: Kitty Li)

Reviewed By : Frank he

(Senior Project Manager: Frank He)

Approved By : Jack zhang

(Engineering Supervisor: Jack Zhang)

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/cm2)	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: Pd = (Pout*G)/(4*pi*r2)

Where

Pd = power density in mW/cm2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

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

Pd id 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℃and 78% RH.

1.3. Test Result of RF Exposure Evaluation

Product	:	Wireless SPI transceiver 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)
☒ SISO	2.0

- 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	13.86	2.0	0.0077	1.0

Note: The power density is 0.0077mW/cm^2 for Wireless SPI transceiver module without any other radio equipment.

The End