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Report No.: 2107RSU041-U2 Report Version: V01 Issue Date: 08-25-2021

# **RF Exposure Evaluation Declaration**

**FCC ID:** 2AQV6RABBIT

APPLICANT: Suzhou Pairlink Network Technology Ltd.

Address: Room 117, No.55, Su hong xi Road, Suzhou Industrial

Park, Suzhou City, Jiangsu Province, China.

**Application Type:** Certification

**Product:** Rabbit Bluetooth 5 BLE module

Model No.: Rabbit-B, Rabbit-C

Brand Name: Pairlink

FCC Rule Part(s): FCC Part 2 (Section 2.1091)

Reviewed By:

Sunny Sun

Approved By:

Kobin wu

Rohin Wu





The test results relate only to the samples tested.

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

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# **Revision History**

Report No.	Version	Description	Issue Date	Note
2107RSU041-U2	Rev. 01	Initial Report	08-25-2021	Valid



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## 1. General Information

## 1.1. Applicant

Suzhou Pairlink Network Technology Ltd.

Room 117, No.55, Su hong xi Road, Suzhou Industrial Park, Suzhou City, Jiangsu Province, China.

#### 1.2. Manufacturer

Suzhou Pairlink Network Technology Ltd.

Room 117, No.55, Su hong xi Road, Suzhou Industrial Park, Suzhou City, Jiangsu Province, China.

## 1.3. Test Facility

$\boxtimes$	Test Site – MRT Suzhou Laboratory  Laboratory Location (Suzhou - Wuzhong)  D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China  Laboratory Location (Suzhou - SIP)  4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China					
	Laboratory Accreditations					
	A2LA: 3628.01 CNAS: L10551					
FCC: CN1166 ISED: CN0001						
	VCCI: R-20025, R-20141, G-2003	4, G-20134, C-20020, C-20103, T-20020, T-20104				
	Test Site – MRT Shenzhen Laboratory					
	Laboratory Location (Shenzhen)  1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China  Laboratory Accreditations					
	A2LA: 3628.02 CNAS: L10551					
	FCC: CN1284	ISED: CN0105				
	Test Site – MRT Taiwan Laboratory					
	Laboratory Location (Taiwan)  No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)					
	Laboratory Accreditations					
	TAF: L3261-190725					
	FCC: 291082, TW3261	ISED: TW3261				



#### 1.4. Product Information

Product Name	Rabbit Bluetooth 5 BLE module		
Model No.	Rabbit-B, Rabbit-C		
Brand Name	Pairlink		
Hardware Version	V2		
Software Version	V1		
Bluetooth Specification	v5.0 single mode, BLE only		
Operating Temperature	-40 ~ 85°C		
Power Type	DC 1.8V ~ 3.6V		

#### Remarks:

- The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.
- 2. The only difference between Rabbit-B and Rabbit-C is different antenna type.

### 1.5. RF Specification

Frequency Range	2402~2480MHz			
Channel Number	40			
Type of Modulation	GFSK			
Data Rate	1Mbps & 2Mbps			
Antenna Type	For Rabbit-B: PCB Antenna			
	For Rabbit-C: Dipole Antenna			
Antenna Gain	For Rabbit-B: -0.41 dBi			
	For Rabbit-C: 0.30 dBi			

### 1.6. Applied Standards

KDB 447498 D01v06



## 2. RF Exposure Evaluation

#### 2.1. Test Limit

#### SAR Test Exclusion Thresholds for 100 MHz - 6 GHz and ≤ 50 mm

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table. The equation and threshold in Note 1 must be applied to determine SAR test exclusion.

MHz	5	10	15	20	25	mm
150	39	77	116	155	194	SAR Test
300	27	55	82	110	137	Exclusion
450	22	45	67	89	112	Threshold
835	16	33	49	66	82	(mW)
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	
MHz	30	35	40	45	50	mm
150	232	271	310	349	387	SAR Test
300	164	192	219	246	274	Exclusion
450	134	157	179	201	224	Threshold
835	98	115	131	148	164	(mW)
900	95	111	126	142	158	
1500	73	86	98	110	122	
1900	65	76	87	98	109	
2450	57	67	77	86	96	
3600	47	55	63	71	79	
5200	39	46	53	59	66	
5400	39	45	52	58	65	
5800	37	44	50	56	62	



Note: The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] \*  $[\sqrt{f(GHz)}] \le 3.0$  for 1-g SAR and  $\le 7.5$  for 10-g extremity SAR, where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

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#### 2.2. Test Result

Product	Rabbit Bluetooth 5 BLE module
Test Item	RF Exposure Evaluation

Test Mode Frequency		Maximum	Tune Up	Output	SAR Test Exclusion
	Band	Output Power	Power	Power	Threshold
	(MHz)	(dBm)	(dBm)	(mW)	(mW) @ 5mm
Bluetooth-LE	2402 ~ 2480	7.23	8	6.31	10

Note: Per FCC KDB 447498 D01v06, the SAR exclusion threshold for distances <50mm is defined by the following equation:

$$\frac{Max\ Power\ of\ Channel\ (mW)}{Test\ Separation\ Dist\ (mm)}*\sqrt{Frequency(GHz)} \leq 3.0$$

Based on the maximum conducted power of Bluetoothand the antenna to use separation distance, Bluetooth SAR was not required;

For Bluetooth-LE,  $(6.31 / 5) * \sqrt{2.402} = 1.96 < 3.00$ 

So SAR test exclusion can be applied for Rabbit Bluetooth 5 BLE module.



# Appendix - EUT Photograph

Refer to "2107RSU041-UE" file.