

TEST REPORT

Product Name : Animal tag reader
Brand Mark : SYCREADER
Model No. : W90
Extension model : W90A, W90B, W90C, W90D, W90H,
W91A, W91B, W91C, W91D, W91H,
W70, W80, W81, W82, W86, R16, R17,
R58B, R58C, R58D, R58BC, R58BD,
R58H, S10, S20, U1, U2, U3, U4, U6, U8,
U10, V1, V2, V3, V4, V5, V6, V8, V10
FCC ID : 2A5HC-W90
Report Number : BLA-EMC-202203-A7605
Date of Sample Receipt : 2022/3/21
Date of Test : 2022/3/21 to 2022/4/20
Date of Issue : 2022/4/20
Test Standard : 47 CFR Part 1.1307, Part 2.1093, KDB
447498
Test Result : Pass

Prepared for:

Sycreader Guangzhou Co., Ltd.
Room 502, Building 15, Xincheng Venture Center, Zengcheng
Low-Carbon Headquarters Park, 400 Xincheng Avenue, Zengcheng
District, Guangzhou

Prepared by:

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2022/4/20



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REPORT REVISE RECORD

Version No.	Date	Description
00	2022/4/20	Original

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1 TEST SUMMARY

Test item	Test Requirement	Test Method	Class/Severity	Result
RF Exposure	47 CFR Part 1.1307, Part 2.1093, KDB 447498	CFR 47 Part 2.1093	CFR 47 Part 2.1093	Pass

2 GENERAL INFORMATION

Applicant	Sycreader Guangzhou Co., Ltd.
Address	Room 502, Building 15, Xincheng Venture Center, Zengcheng Low-Carbon Headquarters Park, 400 Xincheng Avenue, Zengcheng District, Guangzhou
Manufacturer	Sycreader Guangzhou Co., Ltd.
Address	Room 502, Building 15, Xincheng Venture Center, Zengcheng Low-Carbon Headquarters Park, 400 Xincheng Avenue, Zengcheng District, Guangzhou
Factory	Sycreader Guangzhou Co., Ltd.
Address	Room 502, Building 15, Xincheng Venture Center, Zengcheng Low-Carbon Headquarters Park, 400 Xincheng Avenue, Zengcheng District, Guangzhou
Product Name	Animal tag reader
Test Model No.	W90
Extension model	W90A, W90B, W90C, W90D, W90H, W91A, W91B, W91C, W91D, W91H, W70, W80, W81, W82, W86, R16, R17, R58B, R58C, R58D, R58BC, R58BD, R58H, S10, S20, U1, U2, U3, U4, U6, U8, U10, V1, V2, V3, V4, V5, V6, V8, V10
Note	All above models are identical in the same PCB layout, interior structure and electrical circuits. The differences are model name for commercial purpose.

3 GENERAL DESCRIPTION OF E.U.T.

Hardware Version	N/A
Software Version	N/A
BDR+EDR	
Operation Frequency:	2402MHz-2480MHz
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Channel Spacing:	1MHz
Number of Channels:	79
Antenna Type:	PCB Antenna
Antenna Gain:	3dBi(Provided by the applicant)

BLE	
Operation Frequency:	2402MHz-2480MHz
Modulation Type:	GFSK
Channel Spacing:	2MHz
Number of Channels:	40
Antenna Type:	PCB Antenna
Antenna Gain:	3 dBi(Provided by the applicant)

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4 LABORATORY LOCATION

All tests were performed at:
BlueAsia of Technical Services(Shenzhen) Co., Ltd.
Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province,
China
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No tests were sub-contracted.

5 RF EXPOSURE COMPLIANCE REQUIREMENT

5.1 STANDARD REQUIREMENT

According to KDB447498D01 General RF Exposure Guidance v06

Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

5.2 LIMITS

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:

$$\left[\frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \cdot \sqrt{f(\text{GHz})} \right] \leq 3.0$$
 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

The result is rounded to one decimal place for comparison

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 is applied to determine SAR test exclusion

5.3 EUT RF EXPOSURE

Operational Mode: EDR (8-DPSK worst case)						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dB)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
2402MHZ	-8.094	±1	-7.094	0.20	0.06	3.0
2441MHz	-6.928	±1	-5.928	0.26	0.08	
2480MHz	-4.131	±1	-3.131	0.49	0.15	
Operational Mode: BLE (worst case)						
2402	-9.559	±1	-8.559	0.14	0.04	3.0
2442	-8.075	±1	-7.075	0.20	0.06	
2480	-5.4	±1	-4.4	0.36	0.11	
Conclusion: the calculated value ≤3.0. SAR is exempted.						

----END OF REPORT----

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