

TEST REPORT

Report Number.....:	90108-24-72-24-PP002	
Date of issue	2024-01-20	
Prepared by (+signature)	Pale	<i>Pale Cai</i>
Reviewer (+signature)	Duke	<i>Duke Chen</i>
Approved by (+signature)	Jason	<i>Jason gao</i>
Testing Laboratory name	SLG-CPC Testlaboratory Co., Ltd.	
Address	No. 11, Wu Song Road, Dongcheng District, Dongguan, Guangdong Province, China 523117	
Applicant's name	Rigel Technology (S) PTE LTD	
Address	20 CHANGI BUSINESS PARK CENTRAL 2, RIGEL INNOVATION CENTRE, Singapore 486031	
Manufacturer's name	Rigel Technology (S) PTE LTD	
Address	20 CHANGI BUSINESS PARK CENTRAL 2, RIGEL INNOVATION CENTRE, Singapore 486031	
Factory's name	Rigel Technology (S) PTE LTD	
Address	20 CHANGI BUSINESS PARK CENTRAL 2, RIGEL INNOVATION CENTRE, Singapore 486031	
Standard(s).....:	FCC 1.1310: §1.1307(b)	
Test item description.....:	BLE sensor	
Trade Mark.....:	Rigel	
Model/Type reference	SA-BLETD01, SA-BLEPH01, SA-BLESB01, SA-BLEWB01, SA-BLETMPHMD01	
FCC ID.....:	2BDLPR1002TOF	
Date of receipt of test item	2024-01-09	
Date (s) of performance of test:	2024-01-10 to 2024-01-19	
Summary of Test Results.....:	Pass	
The Summary of Test Results based on a technical opinion belongs to the standard(s).		
General disclaimer: This report shall not be reproduced except in full, without the written approval of SLG-CPC Testlaboratory Co., Ltd. The test results in the report only apply to the tested sample.		

Table of Contents

1. EUT SPECIFICATION	4
2. TEST REQUIREMENT:.....	5
3. MEASUREMENT RESULT.....	6

Modified History

Report No.	Revision Date	Summary
90108-24-72-24-PP003	2024-01-20	Original Report

1. EUT Specification

Characteristics	Description
Product:	BLE sensor
Model Number:	SA-BLETD01, SA-BLEPH01, SA-BLESB01, SA-BLEWB01, SA-BLETMPHMD01 (All models are identical except for the model name and color; All tests were performed on model SA-BLETD01)
Sample:	1#
Device Type:	Bluetooth V5.0 BLE
Data Rate:	1Mbps for GFSK modulation
Modulation:	GFSK for BLE
Operating Frequency Range(s) :	2402-2480MHz for Bluetooth DTS
Number of Channels:	40 Channels for Bluetooth DTS
Transmit Power Max:	-2.59 dBm (0.000550 W) for BLE
Antenna Gain:	2.12 dBi for BLE
Power supply:	Input: DC 3V battery
Evaluation applied:	☒ MPE Evaluation ☐ SAR Evaluation

2. Test Requirement:

RF EXPOSURE EVALUATION

According to 447498 D01 V06: 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
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	F/1500	6
1500-100000	--	--	1	30

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

Where

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π = 3.1416

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

P_d the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

RF Exposure Information: The radiated output power of this device meets the limits of FCC/IC radio frequency exposure limits. This device should be operated with a minimum separation distance of 20cm (8 inches) between the equipment and a person's body.

3. Measurement Result

BT/BLE

Antenna gain: 2.12 dBi

modulation	Channel Freq. (MHz)	Measured power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm ²)	Power density Limits (mW/cm ²)
GFSK (BLE: 1Mbps)	2402	-2.94	-3±1	-2	1.63	0.000204	1
	2440	-2.67	-3±1	-2	1.63	0.000204	1
	2480	-2.59	-3±1	-2	1.63	0.000204	1

Therefore the worst-case situation is 0.000204, which is less than “1”,
This confirmed that the device comply with FCC 1.1310 MPE limit.

*** End of Report ***

声明 Statement

1. 本报告无授权批准人签字无效;

This report will be void without authorized signature for testing report.

2. 未经许可本报告不得部分复制;

This report shall not be copied partly without authorization.

3. 本报告的检测结果仅对送测样品有效, 委托方对样品的代表性和资料的真实性负责;

The test results or observations are applicable only to tested sample. Client shall be responsible for representativeness of the sample and authenticity of the material.

4. 本检测报告中检测项目标注有特殊符号则该项目不在资质认定范围内, 仅作为客户委托、科研、教学或内部质量控制等目的使用;

The observations or tests with special mark fall outside the scope of accreditation, and are only used for purpose of commission, research, training, internal quality control etc.

5. 本检测报告以实测值进行符合性判定, 未考虑不确定度所带来的风险, 本实验室不承担相关责任, 特别约定、标准或规范中有明确规定的除外;

The test results or observations are provided in accordance with measured value, without taking risks caused by uncertainty into account. Without explicit stipulation in special agreements, standards or regulations, SLG-CPC shall not assume any responsibility.

6. 对本检测报告若有异议, 请于收到报告之日起 20 日内提出;

Objections shall be raised within 20 days from the date receiving the report.