## RF Exposure Evaluation

## For

# Shenzhen Zhiyu Technology Co., Ltd.

## Prechat agent

Test Model: V3

Prepared for : Shenzhen Zhiyu Technology Co., Ltd.

Address : Room A-505, Productivity Building, No. 5, Gaoxin Middle Second

Road, Science Park Community, Yuehai Street, Nanshan District,

Shenzhen City

Prepared by : Guangzhou LCS Compliance Testing Laboratory Ltd.

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Date of receipt of test sample : July 23, 2025

Number of tested samples : 2

Sample No. : A250722070-1, A250722070-2

Serial number : Prototype

Date of Test : July 23, 2025 ~ July 31, 2025

Date of Report : August 01, 2025

Report No.: LCSC07235008EC

RF Exposure E	valuation
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Report Reference No. .....: LCSC07235008EC

Date of Issue.....: August 01, 2025

Testing Laboratory Name.....: Guangzhou LCS Compliance Testing Laboratory Ltd.

Address......: No.44-1, Qianfeng North Road, Shiqi, Panyu District, Guangzhou,

Guangdong, China

Testing Location/ Procedure.....: Full application of Harmonised standards ■

Partial application of Harmonised standards

Other standard testing method

Applicant's Name.....: Shenzhen Zhiyu Technology Co., Ltd.

Address......: Room A-505, Productivity Building, No. 5, Gaoxin Middle Second

Road, Science Park Community, Yuehai Street, Nanshan District,

Shenzhen City

**Test Specification** 

Standard.....: FCC KDB publication 447498 D01 General RF Exposure Guidance

v06

FCC CFR 47 part1 1.1310 FCC CFR 47 part2 2.1093

Test Report Form No.....: TRF-4-E-215 A/0

TRF Originator...... : Guangzhou LCS Compliance Testing Laboratory Ltd.

Master TRF.....: Dated 2011-03

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EUT Description.....: Prechat agent

Trade Mark....: N/A
Test Model....: V3

Ratings.....: Please Refer to Page 6

Result .....: PASS

Compiled by: Supervised by: Approved by:

I Jan 20.

Lifeng Le / File administrators

Justin Zhu / Technique Director

Gavin Liang/ Manager

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## RF Exposure Evaluation

Test Report No. : LCSC07235008EC August 01, 2025

Date of issue

Test Model.....: V3 EUT..... : Prechat agent Applicant..... : Shenzhen Zhiyu Technology Co., Ltd. Address..... : Room A-505, Productivity Building, No. 5, Gaoxin Middle Second Road, Science Park Community, Yuehai Street, Nanshan District, Shenzhen City Telephone..... Fax..... : / : Shenzhen Zhiyu Technology Co., Ltd. Manufacturer..... Address..... : Room A-505, Productivity Building, No. 5, Gaoxin Middle Second Road, Science Park Community, Yuehai Street, Nanshan District, Shenzhen City Telephone..... Fax..... : Shenzhen Zhiyu Technology Co., Ltd. Factory..... : Room A-505, Productivity Building, No. 5, Gaoxin Middle Second Address..... Road, Science Park Community, Yuehai Street, Nanshan District, Shenzhen City Telephone..... Fax.....

Test Result	PASS

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

## **Revision History**

Report Version	Issue Date	Revision Content	Revised By
000	August 01, 2025	Initial Issue	

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## 1. Product Information

Product name : Prechat agent

Test Model : V3

Ratings : Input: DC 5V-0.5A

DC 3.7V by Rechargeable Li-ion Battery, 450mAh

Hardware Version : V1.1 Software Version : V2.1.0

Bluetooth : 2402MHz ~ 2480MHz

Channel Number : 79 channels for Bluetooth V5.3 (DSS)

40 channels for Bluetooth V5.3 (DTS)

Channel Spacing : 1MHz for Bluetooth V5.3(DSS)

2MHz for Bluetooth V5.3(DTS)

Modulation Type : GFSK , π/4-DQPSK, 8-DPSK for Bluetooth V5.3 (DSS)

GFSK for Bluetooth V5.3 (DTS)

Bluetooth Version : V5.3

Antenna Type : Chip Antenna

Antenna Gain : 1.75dBi

Exposure category : General population/uncontrolled environment

EUT Type : Production Unit
Device Type : Portable Device

Note: For a more detailed antenna description, please refer to the antenna specifications or the antenna report provided by the customer.s-Middle Channel

### 2. Evaluation method and Limit

According to KDB447498 D01 General RF Exposure Guidance v06 Section 4.3.1 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 Test Exclusion Threshold condition, listed below, is satisfied. These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.22 The minimum test separation distance is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander (see 5) of section 4.1). To qualify for SAR test exclusion, the test separation distances applied must be fully explained and justified by the operating configurations and exposure conditions of the transmitter and applicable host platform requirements, typically in the SAR measurement or SAR analysis report, according to the required published RF exposure KDB procedures. When no other RF exposure testing or reporting is required, a statement of justification and compliance must be included in the equipment approval, in lieu of the SAR report, to qualify for the SAR test exclusion. When required, the device specific conditions described in the other published RF exposure KDB procedures must be satisfied before applying these SAR test exclusion provisions; for example, handheld PTT two-way radios, handsets, laptops & tablets etc."

[(max. power of channel, including tune-up tolerance, mW)/ (min. test separation distance, mm)]  $\cdot [\sqrt{f} (GHz)] \le 3.0$  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 f) in section 4.1 is applied to
  determine SAR test exclusion.

When one of the following test exclusion conditions is satisfied for all combinations of simultaneous transmission configurations, further equipment approval is not required to incorporate transmitter modules in host devices that operate in the mixed mobile and portable host platform exposure conditions. The grantee is responsible for documenting this according to Class I permissive change requirements. Antennas that qualify for standalone SAR test exclusion must apply the estimated standalone SAR to determine simultaneous transmission test exclusion.

a) The [ $\sum$  of (the highest measured or estimated SAR for each standalone antenna configuration, adjusted for maximum tune-up tolerance) / 1.6 W/kg] + [ $\sum$  of MPE ratios] is  $\leq$  1.0.

b)The SAR to peak location separation ratios of all simultaneously transmitting antenna pairs operating in portable device exposure conditions are all ≤ 0.04, and the [∑ of MPE ratios] is ≤ 1.0.

### 3. Refer Evaluation Method

<u>ANSI C95.1–1999:</u> IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

FCC KDB publication 447498 D01 General RF Exposure Guidance v06: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

FCC CFR 47 part1 1.1310: Radiofrequency radiation exposure limits.

FCC CFR 47 part2 2.1093: Radiofrequency radiation exposure evaluation: portable devices

# 4. Conducted Power Results

## <BT>

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
	0	2402	-1.13
GFSK	39	2441	1.54
	78	2480	0.41
	0	2402	0.60
π/4DQPSK	39	2441	3.15
	78	2480	2.01
	0	2402	1.01
8DPSK	39	2441	3.57
	78	2480	2.24

## < BLE 1M>

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
	0	2402	-2.10
GFSK	19	2440	0.68
	39	2480	-0.28

## < BLE 2M>

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
	0	2402	-2.24
GFSK	19	2440	0.32
	39	2480	-0.47

# 5. Manufacturing Tolerance

#### <BT>

107						
GFSK (Peak)						
Channel	Channel 0	Channel 39	Channel 78			
Target (dBm)	-1.0	1.0	0			
Tolerance ±(dB)	1.0	1.0	1.0			
	π/4DQPS	SK (Peak)				
Channel	Channel 0	Channel 39	Channel 78			
Target (dBm)	0	3.0	2.0			
Tolerance ±(dB)	1.0	1.0	1.0			
	8DPSK (Peak)					
Channel	Channel 0	Channel 39	Channel 78			
Target (dBm)	1.0	3.0	2.0			
Tolerance ±(dB)	1.0	1.0	1.0			

#### < BLE 1M>

GFSK (Peak)					
Channel Channel 0 Channel 19 Channel 39					
Target (dBm)	-2.0	0	0		
Tolerance ±(dB)	1.0	1.0	1.0		

### <BLE 2M>

GFSK (Peak)					
Channel Channel 0 Channel 19 Channel 39					
Target (dBm)	-2.0	0	0		
Tolerance ±(dB)	1.0	1.0	1.0		

### 6. Evaluation Results

### **6.1 Standalone Evaluation**

Ran	d/Mode	Distance		Antenna Distance RF output power	SAR Test Exclusion	SAR Test	
Dan	d/Wode	(GHz)	(mm)	dBm	mW	Threshold	Exclusion
	GFSK	2.441	5	2.0	1.5849	0.4952< 3.0	Yes
ВТ	π/4DQPSK	2.441	5	4.0	2.5119	0.7849< 3.0	Yes
	8DPSK	2.441	5	4.0	2.5119	0.7849< 3.0	Yes
BLE 1M	GFSK	2.480	5	1.0	1.2589	0.3965< 3.0	Yes
BLE 2M	GFSK	2.480	5	1.0	1.2589	0.3965< 3.0	Yes

#### Remark:

- 1. Output power including tune up tolerance;
- 2. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to f) in section
- 4.1 is applied to determine SAR test exclusion.

#### 6.2 Simultaneous Transmission for SAR Exclusion

The sample support one BT modular. No need consider simultaneous transmission.

### 7. Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06.

## 8. Description of Test Facility

Site Description

CNAS Registration Number is L11555 : A2LA Certificate Number: 5099.01

EMC Lab. : A2LA Certificate Number: 5099.01 FCC Designation Number is CN1379

Test Firm Registration Number: 729882

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# 9. Measurement Uncertainty

BT/BLE:

Test Item	Frequency Range	Uncertainty	Note
Output power	: 1GHz-40GHz	±0.57dB	(1)

(1). This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
THE END OF REPORT