

RF Exposure Evaluation Report

Report No.: 2605P42910ED

Applicant: Chengdu Yunjiu Intelligent Control Technology Co., Ltd

Address: Room 605, Building 1, No.777, Chengdu High-Tech Zone, Pilot Free Trade Zone Chengdu China

Product Name: AI Pointer

Product Model: M-CTR100

Multiple Models: N/A

Trade Mark: N/A

FCC ID: 2BTOQ-M-CTR100

Standards: 47 CFR §1.1310
KDB 447498 D01 General RF Exposure Guidance v06

Test Result: Complied

Report Date: 2026-02-04

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Revision History

Version No.	Issued Date	Description
00	2026-02-04	Original

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1 General Information

1.1 Client Information

Applicant:	Chengdu Yunjiu Intelligent Control Technology Co., Ltd
Address:	Room 605, Building 1, No.777,Chengdu High-Tech Zone, Pilot Free Trade Zone Chengdu China
Manufacturer:	Chengdu Yunjiu Intelligent Control Technology Co., Ltd
Address:	Room 605, Building 1, No.777,Chengdu High-Tech Zone, Pilot Free Trade Zone Chengdu China

1.2 Product Description of EUT

The EUT is AI Pointer that contains BLE and UBW radios.

Sample Serial Number	3GG2-2, 3GG2-3 (assigned by WATC)
Sample Received Date	2026-01-22
Sample Status	Good Condition
Frequency Range	BLE: 2402MHz - 2480MHz UBW: 7987.2MHz
Maximum Conducted Output Power	BLE: -7.19dBm UBW: -5.01dBm/50MHz
Modulation Technology	BLE: GFSK UBW: BPSK
Antenna Gain [#]	BLE: 0.74dBi UBW: 3.46dBi
Spatial Streams	BLE: SISO (1TX, 1RX) UBW: SIMO (1TX, 2RX)
Power Supply	DC 3.7V from battery or DC 5V from USB port
Adapter Information	N/A
Modification	Sample No Modification by the test lab

1.3 Laboratory Location

World Alliance Testing & Certification (Shenzhen) Co., Ltd

No. 1002, East Block, Laobing Building, Xingye Road 3012, Xixiang street, Bao'an District, Shenzhen, Guangdong, People's Republic of China

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The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 463912, the FCC Designation No. : CN5040.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0160.

2 RF Exposure Evaluation-SAR

2.1 Standard

According to §1.1310, radio frequency devices shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to KDB447498 D01 General RF Exposure Guidance v06:

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:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ 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 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.

2.2 Result

Radio	Frequency (MHz)	Maximum Conducted Power including Tune-up Tolerance		Min. test separation distance (mm)	Result (1-g SAR)	Exclusion Limit (1-g SAR)	Verdict
		(dBm)	(mW)				
BLE	2402-2480	-7.0	0.2	5	0.1	3.0	Pass

Note: The Maximum Conducted Power including Tune-up Tolerance was declared by manufacturer.

Result: Complied, No need standalone SAR test.

3 RF Exposure Evaluation-MPE

3.1 Standard

According to §1.1310, radio frequency devices shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

Table 1 to § 1.1310(e)(1)—Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3–3.0	614	1.63	*(100)	≤6
3.0–30	1842/f	4.89/f	*(900/f ²)	<6
30–300	61.4	0.163	1.0	<6
300–1,500			f/300	<6
1,500–100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	<30
1.34–30	824/f	2.19/f	*(180/f ²)	<30
30–300	27.5	0.073	0.2	<30
300–1,500			f/1500	<30
1,500–100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density.

Calculation formula:

Prediction of power density at the distance of the applicable MPE limit

$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm²);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

3.2 Result

According to FCC part 1.1310(d)(3), At operating frequencies above 6 GHz, the MPE limits listed in Table 1 in paragraph (e)(1) of this section shall be used in all cases to evaluate the environmental impact of human exposure to RF radiation as specified in § 1.1307(b) of this part.

Radio	Frequency (MHz)	Maximum Tune-up EIRP		Min. test separation distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)	Verdict
		(dBm)	(mW)				
UWB	7987.2	-4.5	0.355	0.5	0.11	1.0	Pass

Note: The Maximum Tune-up EIRP was declared by manufacturer.

Simultaneously transmit Consideration:

BLE and UWB transmit at same time:

For BLE, the estimated SAR value are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}/x] \text{ W/kg}$,

where $x = 7.5$ for 1-g SAR and $x = 18.75$ for 10-g SAR.

So estimated $\text{SAR}_{\text{BLE}} = 0.2/5 \cdot \sqrt{2.48/7.5} = 0.01 \text{ W/kg}$

The ratio = $\text{SAR}_{\text{BLE}}/\text{Limit}_{\text{BLE}} + \text{MPE}_{\text{UWB}}/\text{Limit}_{\text{UWB}} = 0.01/1.6 + 0.11/1.0 = 0.116 < 1$

Result: the device comply with the RF exposure limit, no SAR test was required.

---End of Report---