

RF EXPOSURE REPORT

Applicant	Guangzhou Bresser Optical Instruments Co., Ltd.
Address	No.12 Kangda RD., Dong Cheng Zone, Yunpu Industrial District, Huangpu, Guangzhou, China. (510760)

Manufacturer or Supplier	Guangzhou Jinghua Precision Optics Co., LTD.
Address	No.12 Kangda RD., Dong Cheng Zone, Yunpu Industrial District, Huangpu, Guangzhou, China. (510760)
Product	35mm Thermal Monocular
Additional Product	54mm Thermal Monocular, 25mm Thermal Monocular; see item 1
Brand Name	ALPEN
Model	ATM35
Additional Model & Model Difference	ATM54, ATM25; see item 1
Date of tests	Dec. 26, 2023 ~ Mar. 11, 2024

☒ FCC Part 2 (Section 2.1093)

☒ KDB 447498 D01 V06

☒ IEEE C95.1

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Lucas Chen
Project Engineer / EMC Department

Approved by Glyn He
Assistant Manager / EMC Department

Lucas

Glyn He

Date: Mar. 22, 2024

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Test Report No.: FM2309WDG0001

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM2309WDG0001	Original release	Mar. 22, 2024

1. CERTIFICATION

FCC ID:	2AE3N-BR90D
PRODUCT:	35mm Thermal Monocular
ADDITIONAL PRODUCT:	54mm Thermal Monocular, 25mm Thermal Monocular
BRAND NAME:	ALPEN
MODEL NO.:	ATM35
ADDITIONAL NO.:	ATM54, ATM25
APPLICANT:	Guangzhou Bresser Optical Instruments Co., Ltd.
STANDARDS:	FCC Part 2 (Section 2.1093)
	KDB 447498 D01 V06
	IEEE C95.1

Notes:

1. Additional models ATM54, ATM25 are identical with the test model ATM35 except product name, model number and external dimension for trading purpose.
2. The product name corresponding to the model, as below:

PRODUCT	MODEL NO.
35mm Thermal Monocular	ATM35
54mm Thermal Monocular	ATM54
25mm Thermal Monocular	ATM25

2. RF EXPOSURE DEFINE

The corresponding SAR Exclusion Threshold condition, listed below:

- 1) 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, 16 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

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.

- 2) At 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following:
- a) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) \cdot (f(MHz)/150)] mW, at 100MHz to 1500 MHz
 - b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) \cdot 10] mW at > 1500 MHz and ≤ 6 GHz
- 3) At frequencies below 100 MHz, the following may be considered for SAR test exclusion.
- a) The threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by $[1 + \log(100/f(\text{MHz}))]$ for test separation distances > 50 mm and < 200 mm.
 - b) The threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$ for test separation distances ≤ 50 mm.
 - c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable.

3. CLASSIFICATION

The antenna of this product, under normal use condition, is at less than 20cm away from the body of the user. So, this device is classified as **Portable Device**.

4. CALCULATED RESULT OF MAXIMUM CONDUCTED POWER

The tuned conducted Average Power (declared by client)

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
802.11b	2412-2462	6	± 2	4	8
802.11g	2412-2462	6	± 2	4	8
802.11n HT20	2412-2462	6	± 2	4	8

The measured conducted Average Power

Mode	Frequency (MHz)	Averaged Power (dBm)
802.11b	2412	6.98
802.11g	2412	7.10
802.11n HT20	2412	7.12

SAR Test Exclusion Thresholds

Frequency (MHz)	Maximum source-based time averaged conducted output power (dBm)	Minimum separation distance (mm)	Result of Eq. 1	Limit for 1-g SAR	Verdict
2412-2462	8	5	1.96	3.0	Exempt from SAR

Conclusion

Therefore, this device complies with FCC's RF radiation exposure limits for general population without SAR evaluation.