

FCC RF Exposure

Applicant : Dongguan Xintai instrument Co.,Ltd.
Address : Room 201, Building 16, # 3, Yongtai Road, Tangxia Town,
Dongguan City,Guangdong Province,China,523710
Product Name : Thermal Imagers
Brand Mark : N/A
Model no. : HT A201
Series model : HT A202, HT A203
FCC ID : 2AVBO-A201
Report Number : BLA-EMC-202412-A6102
Date of Receipt : Dec. 19, 2024
Date of Test : Dec. 19, 2024 to Jan. 08, 2025
Test Standard : 47 CFR Part 15, Part1.1307
47 CFR Part 15, Part2.1093
KDB447498D04 General RF Exposure Guidance v01
Test Result : Pass

Compiled by:

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Review by:

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Approved by:

13 Jan. Zheng

Issued Date:

Jan. 20, 2025



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Revise Record

| Version No. | Date | Description |
|-------------|---------------|-------------|
| 01 | Jan. 20, 2025 | Original |
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BlueAsia

1 General information

1.1 General information

| | |
|--------------|---|
| Applicant | Dongguan Xintai instrument Co.,Ltd. |
| Address | Room 201, Building 16, # 3, Yongtai Road, Tangxia Town, Dongguan City,Guangdong Province,China,523710 |
| Manufacturer | Dongguan Xintai instrument Co.,Ltd. |
| Address | Room 201, Building 16, # 3, Yongtai Road, Tangxia Town, Dongguan City,Guangdong Province,China,523710 |
| Factory | Dongguan Xintai instrument Co.,Ltd. |
| Address | Room 201, Building 16, # 3, Yongtai Road, Tangxia Town, Dongguan City,Guangdong Province,China,523710 |

1.2 General description of EUT

| | |
|-----------------------------|--|
| Product Name | Thermal Imagers |
| Model No. | HT A201 |
| Series model | HT A202, HT A203 |
| Differences of Series model | Their electrical circuit design layout, components used and internal wiring are identical, only the model name are different. |
| Operation Frequency: | 2412MHz-2462MHz |
| Operation Frequency: | 802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz |
| Modulation Type: | 802.11b: DSSS(CCK/QPSK/BPSK) 802.11g: OFDM(BPSK/QPSK/16QAM/64QAM) 802.11n (HT20 and HT40): OFDM (64QAM, 16QAM, QPSK, BPSK) |
| Channel Spacing: | 5MHz |
| Number of Channels: | 802.11b/g/n(HT20):11 802.11n(HT40):7 |
| Antenna Type: | PCB antenna |
| Antenna Gain: | 3dBi(Provided by customer) |
| Power supply: | Battery DC 3.70V |
| Hardware Version | N/A |
| Software Version | N/A |

Note: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

2 RF Exposure Compliance Requirement

2.1 Standard Requirement

According to 447498 D04 Interim General RF Exposure Guidance v01

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.

2.2 Limits

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B. 2})$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

Example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

| Frequency (MHz) | Distance (mm) | | | | | | | | | | |
|-----------------|---------------|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| | | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| | 300 | 39 | 65 | 88 | 110 | 129 | 148 | 166 | 184 | 201 | 217 |
| | 450 | 22 | 44 | 67 | 89 | 112 | 135 | 158 | 180 | 203 | 226 |
| | 835 | 9 | 25 | 44 | 66 | 90 | 116 | 145 | 175 | 207 | 240 |
| | 1900 | 3 | 12 | 26 | 44 | 66 | 92 | 122 | 157 | 195 | 236 |
| | 2450 | 3 | 10 | 22 | 38 | 59 | 83 | 111 | 143 | 179 | 219 |
| | 3600 | 2 | 8 | 18 | 32 | 49 | 71 | 96 | 125 | 158 | 195 |
| | 5800 | 1 | 6 | 14 | 25 | 40 | 58 | 80 | 106 | 136 | 169 |

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B. 1})$$

2.3 Result

$$\text{EIRP} = \text{pt} \times \text{gt} = (\text{E} \times \text{d})^{2/30}$$

Where:

pt = transmitter output power in watts,

gt = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m

d = measurement distance in meters (m)

$$\text{Spot} = (\text{E} \times \text{d})^{2/30} \times \text{gt}$$

$$\text{Ant gain} = 3\text{dBi}$$

2.4GWIFI 802.11n40(Worst):

Max Output power = 1.418dBm @2452MHz

$$\text{ERP} = 1.418\text{dBm} + 3\text{dBi} - 2.15 = 2.268\text{dBm} = 1.686\text{mW} < 2.742\text{ mW}$$

Comply with RF exposure exemption limit.

----END OF REPORT----

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