



**BUREAU  
VERITAS**

Test Report No.: FM200420N022

# RF EXPOSURE REPORT

|           |                                                                                                            |
|-----------|------------------------------------------------------------------------------------------------------------|
| Applicant | Shenzhen Everbest Machinery Industry Co., Ltd.                                                             |
| Address   | 19th Building, 5th Region, Baiwangxin Industrial Park, SongBai Rd., Baimang, Xili, Nanshan, Shenzhen China |

|                                      |                                                                                                                   |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Manufacturer or Supplier             | Shenzhen Everbest Machinery Industry Co., Ltd.                                                                    |
| Address                              | 19th Building, 5th Region, Baiwangxin Industrial Park, SongBai Rd., Baimang, Xili, Nanshan, Shenzhen China        |
| Product                              | High performance thermal imager with Bluetooth                                                                    |
| Brand Name                           | CEM                                                                                                               |
| Model                                | DT-870YS                                                                                                          |
| Additional Models & Model Difference | DT-982Y, DT-980Y, DT-9875Y, DT-9897Y, DT-9896Y, DT-9895Y, DT-988Y, DT-9887Y, DT-983Y, DT-984Y, DT-870Y, DT-9875HY |
| Date of tests                        | Apr. 20, 2020 ~ Jun. 05, 2020                                                                                     |

☒ FCC Part 2 (Section 2.1093)

☒ KDB 447498 D01

☒ IEEE C95.1

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

|                                                                                     |                                                                                                             |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Tested by Breeze Jiang<br>Project Engineer / EMC Department                         | Approved by Glyn He<br>Assistant Manager / EMC Department                                                   |
|  | <br>Date: Jun. 29, 2020 |

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## RELEASE CONTROL RECORD

| ISSUE NO.    | REASON FOR CHANGE | DATE ISSUED   |
|--------------|-------------------|---------------|
| FM200420N022 | Original release  | Jun. 29, 2020 |



## 1. CERTIFICATION

|                        |                                                                                                                         |
|------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>FCC ID:</b>         | WIGDT-870YS                                                                                                             |
| <b>PRODUCT:</b>        | High performance thermal imager with Bluetooth                                                                          |
| <b>BRAND NAME:</b>     | CEM                                                                                                                     |
| <b>MODEL NO.:</b>      | DT-870YS                                                                                                                |
| <b>ADDITIONAL NO.:</b> | DT-982Y, DT-980Y, DT-9875Y, DT-9897Y, DT-9896Y,<br>DT-9895Y, DT-988Y, DT-9887Y, DT-983Y, DT-984Y,<br>DT-870Y, DT-9875HY |
| <b>TEST SAMPLE:</b>    | Engineering Sample                                                                                                      |
| <b>APPLICANT:</b>      | Shenzhen Everbest Machinery Industry Co., Ltd.                                                                          |
| <b>STANDARDS:</b>      | FCC Part 2 (Section 2.1093)                                                                                             |
|                        | KDB 447498 D01                                                                                                          |
|                        | IEEE C95.1                                                                                                              |

Note: Additional models (see above table) are identical with the test model DT-870YS except the model number for marketing purpose



## 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  $\leq 50$  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  $\leq 7.5$  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  $\leq 50$  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) · (f(MHz)/150)] mW, at 100MHz to 1500 MHz
- b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · 10] mW at  $> 1500$  MHz and  $\leq 6$  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  $\leq 50$  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. SAR TEST EXCLUSION THRESHOLDS

The tuned conducted Average Power (declared by client)

| Mode | Frequency (MHz) | Target Power (dBm) | Tolerance (dBm) | Lower Tolerance (dBm) | Upper Tolerance (dBm) |
|------|-----------------|--------------------|-----------------|-----------------------|-----------------------|
| GFSK | 2402-2480       | -5                 | +/-2            | -7                    | -3                    |

The measured conducted Average Power

| Mode | Frequency (MHz) | Averaged Power (dBm) |
|------|-----------------|----------------------|
| GFSK | 2402            | -4.96                |

### 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 | Limit for 10-g extremity SAR | Verdict         |
|-----------------|-----------------------------------------------------------------|----------------------------------|-----------------|-------------------|------------------------------|-----------------|
| 2402-2480       | -3                                                              | 5                                | 0.06365         | 3.0               | 7.5                          | Exempt from SAR |

### Conclusion

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