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# RF Exposure Evaluation Report

**Report No. :** CQASZ20210500033EX-02

**Applicant:** Shenzhen ThreeNH Technology Co.,Ltd

**Address of Applicant:** Floor 6, Building 5B, Skyworth Innovation Valley, Tangtou No.1 Road, Shiyan Street, Bao an District, Shenzhen, Guangdong, China

**Manufacturer:** Shenzhen ThreeNH Technology Co.,Ltd

**Address of Manufacturer:** Floor 6, Building 5B, Skyworth Innovation Valley, Tangtou No.1 Road, Shiyan Street, Bao an District, Shenzhen, Guangdong, China

**Equipment Under Test (EUT):**

**Product:** Color Haze meter

**All Model:** YH1600, YH1860, YH1810, YH1800, YH1610, YH1210, YH1200, YH1100, YH1000, YH900, YH800, YH1260, YH1060, YH1102

**Test Model No.:** YH1600

**Brand Name:** 3nh

**FCC ID:** 2AMRM-YH1600

47 CFR Part 1.1307

**Standards:** 47 CFR Part 1.1310

KDB447498D01 General RF Exposure Guidance v06

**Date of Test:** Apr. 28, 2021 to Jul. 19, 2021

**Date of Issue:** Jul. 19, 2021

**Test Result :** PASS

**Tested By:**

*Lewis Zhou*

( Lewis Zhou )

**Reviewed By:**

*Timo Lei*

( Timo Lei )

**Approved By:**

*Jack Ai*

( Jack Ai )



## 1 Version

### Revision History Of Report

| Report No.            | Version | Description    | Issue Date    |
|-----------------------|---------|----------------|---------------|
| CQASZ20210500032EX-02 | Rev.01  | Initial report | Jul. 19, 2021 |

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### 3 General Information

#### 3.1 Client Information

|                          |                                                                                                                                 |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Applicant:               | Shenzhen ThreeNH Technology Co.,Ltd                                                                                             |
| Address of Applicant:    | Floor 6, Building 5B, Skyworth Innovation Valley, Tangtou No.1 Road, Shiyan Street, Bao an District, Shenzhen, Guangdong, China |
| Manufacturer:            | Shenzhen ThreeNH Technology Co.,Ltd                                                                                             |
| Address of Manufacturer: | Floor 6, Building 5B, Skyworth Innovation Valley, Tangtou No.1 Road, Shiyan Street, Bao an District, Shenzhen, Guangdong, China |

#### 3.2 General Description of EUT

|                      |                                                                                                                    |
|----------------------|--------------------------------------------------------------------------------------------------------------------|
| Product Name:        | Color Haze meter                                                                                                   |
| Test Model No.:      | YH1600                                                                                                             |
| Trade Mark:          | 3nh                                                                                                                |
| Hardware Version:    | V1.6                                                                                                               |
| Software Version:    | V1.0                                                                                                               |
| Operation Frequency: | 2402-2480MHz                                                                                                       |
| Modulation Type:     | GFSK                                                                                                               |
| Transfer Rate:       | 1Mbps(Test software see page 6)                                                                                    |
| Number of Channel:   | 40                                                                                                                 |
| Product Type:        | <input type="checkbox"/> Mobile <input type="checkbox"/> Portable <input checked="" type="checkbox"/> Fix Location |
| Antenna Type:        | Ceramic antenna                                                                                                    |
| Antenna Gain:        | 2dBi                                                                                                               |
| EUT Power Supply:    | AC ADAPTER                                                                                                         |
| Adapter              | MODEL: B06240300<br>INPUT:110-240 50/60Hz 1.3A max<br>OUTPUT: 24V 3A                                               |

Note:

All model: YH1600, YH1860, YH1810, YH1800, YH1610, YH1210, YH1200, YH1100, YH1000, YH900, YH800, YH1260, YH1060, YH1102

Only the model YH1600 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being model name.

## 4 RF Exposure Evaluation

### 4.1 RF Exposure Compliance Requirement

#### 4.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

##### 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 Exclusion Threshold condition, listed below, is satisfied.

#### 4.1.2 Limits

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:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$
$$f(\text{GHz}) \text{ is the RF channel transmit frequency in GHz}$$

Power and distance are rounded to the nearest mW and mm before calculation<sup>17</sup>

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

### 4.1.3 EUT RF Exposure

#### 1) For BLE

#### Measurement Data

| GFSK mode        |                         |                         |                       |       |                  |       |
|------------------|-------------------------|-------------------------|-----------------------|-------|------------------|-------|
| Test Channel     | Peak Output Power (dBm) | Tune up tolerance (dBm) | Maximum tune-up Power |       | Calculated value | LIMIT |
|                  |                         |                         | (dBm)                 | (mW)  |                  | 3     |
| Lowest(2402MHz)  | 2.558                   | 3±1                     | 4                     | 2.512 | 0.779            |       |
| Middle(2440MHz)  | 2.708                   | 3±1                     | 4                     | 2.512 | 0.785            |       |
| Highest(2480MHz) | 2.960                   | 3±1                     | 4                     | 2.512 | 0.791            |       |

Conclusion: the calculated value< 3.0 ,SAR is exempted

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20210500033EX-01