

# RF EXPOSURE REPORT

|           |                                                                                      |
|-----------|--------------------------------------------------------------------------------------|
| Applicant | Shenzhen Arashi Vision Company Limited                                               |
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|                                     |                                                                                             |
|-------------------------------------|---------------------------------------------------------------------------------------------|
| Manufacturer or Supplier            | Shenzhen Arashi Vision Company Limited                                                      |
| Address                             | 6/F, Building A, Logan Century Center, Haixiu Road, Bao'an District, Shenzhen, China        |
| Product                             | Insta360 ONE R                                                                              |
| Brand Name                          | Insta360                                                                                    |
| Model                               | CINORAH/A                                                                                   |
| Additional Model & Model Difference | CINORAH/X (X can be changed with the way change of packing, from B,C,D to Z), see items 1.1 |
| Date of tests                       | Sep. 19, 2019 ~ Nov. 07, 2019                                                               |

☒ 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 Andy Zhu<br>Project Engineer / EMC Department                             | Approved by Glyn He<br>Assistant Manager / EMC Department                                                       |
|  | <br><br>Date: Nov. 15, 2019 |

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Test Report No.: FM190919N042

## RELEASE CONTROL RECORD

| ISSUE NO.    | REASON FOR CHANGE | DATE ISSUED   |
|--------------|-------------------|---------------|
| FM190919N042 | Original release  | Nov. 15, 2019 |

## 1. CERTIFICATION

|                        |                                                                              |
|------------------------|------------------------------------------------------------------------------|
| <b>FCC ID:</b>         | 2AFSH-CINORAH-A                                                              |
| <b>PRODUCT:</b>        | Insta360 ONE R                                                               |
| <b>BRAND NAME:</b>     | Insta360                                                                     |
| <b>MODEL NO.:</b>      | CINORAH/A                                                                    |
| <b>ADDITIONAL NO.:</b> | CINORAH/X (X can be changed with the way change of packing, from B,C,D to Z) |
| <b>TEST SAMPLE:</b>    | Engineering Sample                                                           |
| <b>APPLICANT:</b>      | Shenzhen Arashi Vision Company Limited                                       |
| <b>STANDARDS:</b>      | FCC Part 2 (Section 2.1093)                                                  |
|                        | KDB 447498 D01                                                               |
|                        | IEEE C95.1                                                                   |

Note1: Additional model (See above table) is identical with the test model CINORAH/A except the packing method and 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:

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

- $f(\text{GHz})$  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

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) |
|-------------------|-----------------|--------------------|-----------------|-----------------------|-----------------------|
| 802.11b           | 2412-2462MHz    | 8.5                | +1              | 7.5                   | 9.5                   |
| 802.11g           | 2412-2462MHz    | 8.5                | +1              | 7.5                   | 9.5                   |
| 802.11n HT20      | 2412-2462MHz    | 8.5                | +1              | 7.5                   | 9.5                   |
| Wi-Fi 5GHz(Band1) | 5150-5250MHz    | 7                  | +1              | 6                     | 8                     |
| Wi-Fi 5GHz(Band4) | 5725-5850MHz    | 6.5                | +1              | 5.5                   | 7.5                   |

The measured conducted Average Power

| Mode              | Frequency (MHz) | Averaged Power (dBm) |
|-------------------|-----------------|----------------------|
| 802.11b           | 2412            | 9.22                 |
| 802.11g           | 2412            | 9.05                 |
| 802.11n HT20      | 2462            | 9.17                 |
| Wi-Fi 5GHz(Band1) | 5240            | 7.86                 |
| Wi-Fi 5GHz(Band4) | 5825            | 7.32                 |

**SAR Test Exclusion Thresholds**

| Mode               | 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         |
|--------------------|-----------------|-----------------------------------------------------------------|----------------------------------|-----------------|-------------------|------------------------------|-----------------|
| Wi-Fi 2.4GHz       | 2462            | 9.5                                                             | 5                                | 2.797           | 3.0               | 7.5                          | Exempt from SAR |
| Wi-Fi 5GHz (Band1) | 5240            | 8                                                               | 5                                | 2.889           | 3.0               | 7.5                          | Exempt from SAR |
| Wi-Fi 5GHz (Band4) | 5825            | 7.5                                                             | 5                                | 2.714           | 3.0               | 7.5                          | Exempt from SAR |

**Conclusion**

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