

## FCC 47 CFR MPE REPORT

Arovast Corporation

Dual Blaze™ 6.8-Quart Air Fryer

Model Number: CAF-P583S-KUS

FCC ID: 2ARBY-CAF-P583S

|                          |   |
|--------------------------|---|
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|                 |                          |
|-----------------|--------------------------|
| Report Number:  | ESTE-R2308264            |
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| Date of Report: | Aug. 07, 2023            |

## Maximum Permissible Exposure

### 1. Applicable Standards

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

#### 1.1. Limits for Maximum Permissible Exposure (MPE)

##### (a) Limits for Occupational/Controlled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/cm <sup>2</sup> ) | Averaging Times   E   <sup>2</sup> ,   H   <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|---|--|
| 0.3-3.0               | 614                               | 1.63                              | (100)*                                  | 6  |
| 3.0-30                | 1842/f                            | 4.89/f                            | (900/f)*                                | 6  |
| 30-300                | 61.4                              | 0.163                             | 1.0                                     | 6  |
| 300-1500              |                                   |                                   | F/300                                   | 6  |
| 1500-10000            |                                   |                                   | 5                                       | 6  |

##### (b) Limits for General Population / Uncontrolled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/cm <sup>2</sup> ) | Averaging Times   E   <sup>2</sup> ,   H   <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|---|--|
| 0.3-1.34              | 614                               | 1.63                              | (100)*                                  | 30   |
| 1.34-30               | 824/f                             | 2.19/f                            | (180/f)*                                | 30   |
| 30-300                | 27.5                              | 0.073                             | 0.2                                     | 30   |
| 300-1500              |                                   |                                   | F/1500                                  | 30   |
| 1500-10000            |                                   |                                   | 1.0                                     | 30   |

Note: f=frequency in MHz; \*Plane-wave equivalent power density

## 1.2. MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric Field (V/m)

P = Peak RF output Power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

## 2. Calculated Result and Limit

| Mode | Peak<br>output<br>power<br>(dBm) | Antenna gain |          | Power<br>Density<br>(S)<br>(mW/cm <sup>2</sup> ) | Limited<br>Of Power<br>Density<br>(S)<br>(mW/cm <sup>2</sup> ) | Test<br>Result |
|------|----------------------------------|--------------|----------|--|--|----------------|
|      |                                  | (dBi)        | (Linear) |  |  |                |
| BLE  | 4.16                             | 6.83         | 4.82     | 0.00250  | 1  | Complies       |
| WIFI | 16.1                             | 6.83         | 4.82     | 0.03906  | 1  | Complies       |

**End of Test Report**