

## FCC RF Exposure

EUT Description: Dehumidifier

Model No.: PD18R-06CE-F, PD18R-06CE, PD18R-06DE, PD18R-06DE-F, CAS-CF25(W)-US

FCC ID: 2BOX5-PD18R-06CE-F

Equipment type: mobile equipment

Test procedures according to the technical standards: KDB 447498 D01 V06 and FCC 2.1091.

### 1. Limits

The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

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

| Frequency range<br>(MHz)                                | Electric field<br>strength<br>(V/m) | Magnetic field strength<br>(A/m) | Power density<br>(mW/cm <sup>2</sup> ) | Averaging time<br>(minutes) |
|---------------------------------------------------------|-------------------------------------|----------------------------------|----------------------------------------|-----------------------------|
| (A) Limits for Occupational/Controlled Exposures        |                                     |                                  |                                        |                             |
| 0.3–3.0                                                 | 614                                 | 1.63                             | *(100)                                 | 6                           |
| 3.0–30                                                  | 1842/f                              | 4.89/f                           | *(900/f <sup>2</sup> )                 | 6                           |
| 30–300                                                  | 61.4                                | 0.163                            | 1.0                                    | 6                           |
| 300–1500                                                |                                     |                                  | f/300                                  | 6                           |
| 1500–100,000                                            |                                     |                                  | 5                                      | 6                           |
| (B) Limits for General Population/Uncontrolled Exposure |                                     |                                  |                                        |                             |
| 0.3–1.34                                                | 614                                 | 1.63                             | *(100)                                 | 30                          |
| 1.34–30                                                 | 824/f                               | 2.19/f                           | *(180/f <sup>2</sup> )                 | 30                          |
| 30–300                                                  | 27.5                                | 0.073                            | 0.2                                    | 30                          |
| 300–1500                                                |                                     |                                  | f/1500                                 | 30                          |
| 1500–100,000                                            |                                     |                                  | 1.0                                    | 30                          |

F = frequency in MHz

Formula:  $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where :

$P_d$  = power density in mW/cm<sup>2</sup>,

$P_{out}$  = output power to antenna in mW;

G = gain of antenna in linear scale,

$\pi = 3.14$ ;

R = distance between observation point and center of the radiator in cm

$P_d$  is the limit of MPE, 1 mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

### 2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

### 3. Test Result of RF Exposure Evaluation

#### WIFI

|           | Output power(dBm) | Max tune-up(mW) | Antenna Gain(dBi) | Power Density at R=20cm (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) | Result |
|-----------|-------------------|-----------------|-------------------|-----------------------------------------------|-----------------------------|--------|
| 802.11b   | 19.97             | 99.31           | 2.54              | 0.0355                                        | 1.0                         | Pass   |
| 802.11g   | 24.19             | 262.42          | 2.54              | 0.0937                                        | 1.0                         | Pass   |
| 802.11n20 | 23.50             | 223.87          | 2.54              | 0.0799                                        | 1.0                         | Pass   |

Wifi: Conclusion: the max result 0.0937:  $\leq 1.0$  compliance with FCC's RF Exposure.