

# MPE ESTIMATION

FCC ID: 2BMCS-STDW109

1,Per FCC Part 2.1091 Radiofrequency radiation exposure evaluation: mobile devices, the limit for General Population/ Uncontrolled Exposures

| Frequency        | Power density (mW/ cm <sup>2</sup> ) | Averaging time(minutes) |
|------------------|--------------------------------------|-------------------------|
| 300MHz----1.5GHz | F/1500                               | 30                      |
| 1.5GHz---100GHz  | 1.0                                  | 30                      |

Note: F= Frequency in MHz

## 2, Estimation Result

| Mode      | Frequency (MHz) | Max PK Output power(dBm) | Tune Up Power(dBm) | Max Tune Up power(mW) | Antenna Gain(dBi) | Antenna Gain (linear) | MPE (mW/cm <sup>2</sup> ) |
|-----------|-----------------|--------------------------|--------------------|-----------------------|-------------------|-----------------------|---------------------------|
| 2.4g WiFi | 2437            | 15.07                    | 15±1(16)           | 39.81                 | -0.25             | 0.94                  | 0.00744                   |
| BLE       | 2402            | 3.46                     | 3±1(4)             | 2.51                  | -1.56             | 0.70                  | 0.00034                   |

$$Pd = \frac{P_{out} * G}{4\pi r^2} :$$

Note:

Note: The estimation distance is 20cm

Note:

PK Output power= conducted power.

Conducted power see the test report **HK2411086606-1E/2E**, antenna gain=-0.25dBi(2.4g WiFi), -1.56dBi(BLE)

2.4G WIFI (max)= 0.00744 (mW/cm<sup>2</sup>)

BLE (max)= 0.00034 (mW/cm<sup>2</sup>)

simultaneously MPE=0.00744+0.00034=0.00778(mW/cm<sup>2</sup>)

When the minimum test separation distance is >20 cm, a distance of 20 cm is applied to determine RF Exposure test exclusion. The test exclusion threshold is 0.00778 mW/cm<sup>2</sup> which is < 1.0mW/cm<sup>2</sup>, RF Exposure testing is not required.

-----The End-----