

## Maximum Permissible Exposure Evaluation

### FCC ID: 2AV7VMLD-B22

According to FCC 1.1310: 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).

#### EUT Specification

|                            |                                                                                                                                                                                                                                |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name:              | TPMS                                                                                                                                                                                                                           |
| Trade Mark:                | Malide                                                                                                                                                                                                                         |
| Model/Type Reference:      | MLD-B22                                                                                                                                                                                                                        |
| Listed Model(s):           | MLD-B22D                                                                                                                                                                                                                       |
| Model Differences:         | These models are identical in printed circuit board, electrical layout and circuitry; they differ only in model designation.                                                                                                   |
| Frequency Band (Operating) | BLE: 2402MHz ~ 2480MHz                                                                                                                                                                                                         |
| Device Category            | <input type="checkbox"/> Portable (<5mm separation)<br><input type="checkbox"/> Mobile (>20cm separation)<br><input checked="" type="checkbox"/> Fixed (>20cm separation)<br><input type="checkbox"/> Others ____              |
| Exposure Classification    | <input type="checkbox"/> Occupational/Controlled exposure (S=5mW/cm <sup>2</sup> )<br><input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm <sup>2</sup> )                                    |
| Antenna Diversity          | <input checked="" type="checkbox"/> Single antenna<br><input type="checkbox"/> Multiple antennas<br><input type="checkbox"/> Tx diversity<br><input type="checkbox"/> Rx diversity<br><input type="checkbox"/> Tx/Rx diversity |
| Antenna Gain (Max)         | BLE: 1.05dBi                                                                                                                                                                                                                   |
| Evaluation Applied         | <input checked="" type="checkbox"/> MPE Evaluation<br><input type="checkbox"/> SAR Evaluation                                                                                                                                  |

### Limits for Maximum Permissible Exposure (MPE)

| Frequency Range (MHz)                                   | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm <sup>2</sup> ) | Averaging Time (minutes) |
|---------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| (A) Limits for Occupational/Controlled Exposure         |                               |                               |                                     |                          |
| 300-1500                                                | --                            | --                            | F/300                               | <6                       |
| 1500-100000                                             | --                            | --                            | 5                                   | <6                       |
| (B) Limits for General Population/Uncontrolled Exposure |                               |                               |                                     |                          |
| 300-1500                                                | --                            | --                            | F/1500                              | <30                      |
| 1500-100000                                             | --                            | --                            | 1                                   | <30                      |

### Calculation Method

Friis transmission 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

$\pi$  = 3.1416

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

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

### Measurement Result

| Mode | Frequency (MHz) | Antenna Gain (dBi) | Maximum Power (dBm) | Max. Tune Up Power (dBm) | Power Density at 20cm (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) |
|------|-----------------|--------------------|---------------------|--------------------------|---------------------------------------------|-----------------------------|
| BLE  | 2402            | 1.05               | 5.32                | 6                        | 0.001009                                    | 1                           |

Note:

1. Calculate in the worst-case mode.
2. Max. Tune Up Power is declared by manufacturer, and used to calculate.
3. For a more detailed features description, please refer to the RF Test Report.

\*\*\*\*\*THE END\*\*\*\*\*