# FCC RF EXPOSURE REPORT

## FCC ID: 2AZ3IMP2000PRO

| | | |
|---|---|---|
| **Project No.** | : | 2109C030 |
| **Equipment** | : | Projector |
| **Brand Name** | : | |
| **Test Model** | : | MP2000 PRO |
| **Series Model** | : | MP2000 |
| **Applicant** | : | GT Technology Chongqing Limited |
| **Address** | : | 3-1,No,20 Qixin Road Yanjia Street Changshou District Chongqing China |
| **Manufacturer** | : | GT Technology Chongqing Limited |
| **Address** | : | 3-1,No,20 Qixin Road Yanjia Street Changshou District Chongqing China |
| **Factory** | : | METOO Technology(Shenzhen) Co.,LTD |
| **Address** | : | 2/F of Building,ChuangJian phase II Industrial Zone,YingRenShi Community,ShiYan street,BaoAn District,Shenzhen |
| **Date of Receipt** | : | Sep. 03, 2021 |
| **Date of Test** | : | Sep. 08, 2021 ~ Nov. 08, 2021 |
| **Issued Date** | : | Nov. 30, 2021 |
| **Report Version** | : | R00 |
| **Test Sample** | : | Engineering Sample No.: DG2021090610-1 |
| **Standard(s)** | : | FCC Guidelines for Human Exposure IEEE C95.1 & FCC Part 2.1091<br>FCC Title 47 Part 2.1091, OET Bulletin 65 Supplement C |

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

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**Approved by :** Ethan Ma

TESTING CERT #5123.02

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## REPORT ISSUED HISTORY

| Report Version | Description | Issued Date |
|---|---|---|
| R00 | Original Issue | Nov. 30, 2021 |

## 1. TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 3 Jinshagang 1st Rd. Shixia, Dalang Town, Dongguan City, Guangdong, People's Republic of China.
BTL's Test Firm Registration Number for FCC: 357015
BTL's Designation Number for FCC: CN1240

## 2. MPE CALCULATION METHOD

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi r^2} = \frac{EIRP}{4\pi r^2}$$

where:
S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

Table for Filed Antenna:
For BT &LE:

| Ant. | Manufacturer | Model Name | Antenna Type | Connector | Gain (dBi) |
|---|---|---|---|---|---|
| 1 | Shenzhen YiJiaXingSheng Technology CO., Ltd | F8-BT | FPC | N/A | 3.41 |

Note: The antenna gain is provided by the manufacturer.

For 2.4GHz:

| Ant. | Manufacturer | Model Name | Antenna Type | Connector | Gain (dBi) |
|---|---|---|---|---|---|
| 1 | Shenzhen YiJiaXingSheng Technology CO., Ltd | F8-WIFI-A | Copper Tube | N/A | 3.92 |
| 2 | Shenzhen YiJiaXingSheng Technology CO., Ltd | F8-WIFI-B | Copper Tube | N/A | 4.08 |

Note:
1) This EUT supports MIMO 2X2, any transmit signals are correlated with each other, so Directional gain=10log[($10^{G1/20}$+$10^{G2/20}$+...$10^{GN/20}$)$^2$/N]dBi, that is Directional gain=10log[($10^{3.92/20}$+$10^{4.08/20}$)$^2$/2]dBi =7.01. So, the output power limit is 30-(7.01-6)=28.99, the power spectral density limit is 8-(7.01-6)=6.99.
2) The antenna gain is provided by the manufacturer.

For 5GHz:

| Ant. | Manufacturer | Model Name | Antenna Type | Connector | Gain (dBi) |
|---|---|---|---|---|---|
| 1 | Shenzhen YiJiaXingSheng Technology CO., Ltd | F8-WIFI-A | Copper Tube | N/A | 3.57 |
| 2 | Shenzhen YiJiaXingSheng Technology CO., Ltd | F8-WIFI-B | Copper Tube | N/A | 3.40 |

Note:
1) This EUT supports MIMO 2X2, any transmit signals are correlated with each other, so Directional gain=10log[($10^{G1/20}$+$10^{G2/20}$+...$10^{GN/20}$)$^2$/N]dBi, that is Directional gain=10log[($10^{3.57/20}$+$10^{3.40/20}$)$^2$/2]dBi =6.50. So, the UNII-1 output power limit is 23.98-(6.50-6)=23.48, the UNII-3 output power limit is 30-(6.50-6)=29.50. The UNII-1 power spectral density limit is 11-(6.50-6)=10.50, the UNII-3 power spectral density limit is 30-(6.50-6)=29.50.
2) The antenna gain is provided by the manufacturer.

## 3. TEST RESULTS

| Tune up tolerance(dBm) | | | | |
|---|---|---|---|---|
| BT | LE | 2.4GHz | 5GHz | |
| | | | UNII-1 | UNII-3 |
| ≤ 7.20 | ≤ 5.50 | ≤ 27.50 | ≤ 20.50 | ≤ 20.30 |

For BT:

| Antenna Gain (dBi) | Antenna Gain (numeric) | Max. Peak Output Power (dBm) | Max. Peak Output Power (mW) | Power Density (S) ($mW/cm^2$) | Limit of Power Density (S) ($mW/cm^2$) | Test Result |
|---|---|---|---|---|---|---|
| 3.41 | 2.1928 | 7.20 | 5.2481 | 0.00229 | 1 | Complies |

For LE:

| Antenna Gain (dBi) | Antenna Gain (numeric) | Max. Peak Output Power (dBm) | Max. Peak Output Power (mW) | Power Density (S) ($mW/cm^2$) | Limit of Power Density (S) ($mW/cm^2$) | Test Result |
|---|---|---|---|---|---|---|
| 3.41 | 2.1928 | 5.50 | 3.5481 | 0.00155 | 1 | Complies |

For 2.4GHz:

| Directional gain (dBi) | Directional gain (numeric) | Max. Output Power (dBm) | Max. Output Power (mW) | Power Density (S) ($mW/cm^2$) | Limit of Power Density (S) ($mW/cm^2$) | Test Result |
|---|---|---|---|---|---|---|
| 7.01 | 5.0234 | 27.50 | 562.3413 | 0.56228 | 1 | Complies |

For 5GHz UNII-1:

| Directional gain (dBi) | Directional gain (numeric) | Max. Output Power (dBm) | Max. Output Power (mW) | Power Density (S) ($mW/cm^2$) | Limit of Power Density (S) ($mW/cm^2$) | Test Result |
|---|---|---|---|---|---|---|
| 6.50 | 4.4668 | 20.50 | 112.2018 | 0.09976 | 1 | Complies |

For 5GHz UNII-3:

| Directional gain (dBi) | Directional gain (numeric) | Max. Output Power (dBm) | Max. Output Power (mW) | Power Density (S) ($mW/cm^2$) | Limit of Power Density (S) ($mW/cm^2$) | Test Result |
|---|---|---|---|---|---|---|
| 6.50 | 4.4668 | 20.30 | 107.1519 | 0.09527 | 1 | Complies |

**For the max simultaneous transmission MPE:**

| Power Density (S) ($mW/cm^2$) | Power Density (S) ($mW/cm^2$) | Total | Limit of Power Density (S) ($mW/cm^2$) | Test Result |
|---|---|---|---|---|
| BT | 2.4GHz | | | |
| 0.00229 | 0.56228 | 0.56457 | 1 | Complies |

Note: The calculated distance is 20 cm.
Output power including tune up tolerance.

**End of Test Report**