

# TEST REPORT

|                                       |                                                                                                                                                     |                                                                                       |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| FCC ID.....:                          | 2A578-T08                                                                                                                                           |                                                                                       |
| Test Report No. ....:                 | TCT230103E024                                                                                                                                       |                                                                                       |
| Date of issue .....                   | Feb. 01, 2023                                                                                                                                       |                                                                                       |
| Testing laboratory.....:              | SHENZHEN TONGCE TESTING LAB                                                                                                                         |                                                                                       |
| Testing location/ address:            | 2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China |                                                                                       |
| Applicant's name .....                | INTRO UNION ELECTRONICS CO., LIMITED                                                                                                                |                                                                                       |
| Address .....                         | 501, 2 Building, NO.280-2, Dabutou Village, Songyuansha Community, Guanhu Sub-district, Longhua District, Shenzhen, China                           |                                                                                       |
| Manufacturer's name .....             | INTRO UNION ELECTRONICS CO., LIMITED                                                                                                                |                                                                                       |
| Address .....                         | 501, 2 Building, NO.280-2, Dabutou Village, Songyuansha Community, Guanhu Sub-district, Longhua District, Shenzhen, China                           |                                                                                       |
| Standard(s) .....                     | FCC CFR Title 47 Part 2.1091                                                                                                                        |                                                                                       |
| Product Name .....                    | Bluetooth FM transmitter                                                                                                                            |                                                                                       |
| Trade Mark.....:                      | N/A                                                                                                                                                 |                                                                                       |
| Model/Type reference .....            | MTG BT FM Transmitter, 6132510, T08                                                                                                                 |                                                                                       |
| Rating(s) .....                       | Input: DC 12V-24V<br>Output: QC18W+5V/2.4A                                                                                                          |                                                                                       |
| Date of receipt of test item .....    | Jan. 03, 2023                                                                                                                                       |                                                                                       |
| Date (s) of performance of test ..... | Dec. 28, 2022 - Feb. 01, 2023                                                                                                                       |                                                                                       |
| Tested by (+signature).....:          | Yannie ZHONG                                                                                                                                        |  |
| Check by (+signature) .....           | Beryl ZHAO                                                                                                                                          |  |
| Approved by (+signature):             | Tomsin                                                                                                                                              |  |

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## 1. General Product Information

### 1.1. EUT description

|                            |                                                       |
|----------------------------|-------------------------------------------------------|
| Product Name.....:         | Bluetooth FM transmitter                              |
| Model/Type reference.....: | MTG BT FM Transmitter                                 |
| Sample Number.....:        | TCT230103E022-0101                                    |
| Operation Frequency .....  | For BT: 2402MHz~2480MHz<br>For FM: 88.1MHz – 107.9MHz |
| Modulation Type .....      | For BT: GFSK, $\pi/4$ -DQPSK, 8DPSK<br>For FM: FM     |
| Antenna Type.....:         | For BT: PCB Antenna<br>For FM: Internal Antenna       |
| Antenna Gain.....:         | 2.12dBi                                               |
| Rating(s).....:            | Input: DC 12V-24V<br>Output: QC18W+5V/2.4A            |

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

### 1.2. Model(s) list

| No.          | Model No.             | Tested with                         |
|--------------|-----------------------|-------------------------------------|
| 1            | MTG BT FM Transmitter | <input checked="" type="checkbox"/> |
| Other models | 6132510, T08          | <input type="checkbox"/>            |

Note: MTG BT FM Transmitter is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names. So the test data of MTG BT FM Transmitter can represent the remaining models.

## 2. Facilities and Accreditations

### 2.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

- FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

SHENZHEN TONGCE TESTING LAB

CAB identifier: CN0031

The testing lab has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

### 2.2. Location

SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

### 3. Test Results and Measurement Data

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 (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 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                       |

Note: f = frequency in MHz

#### EVALUATION METHOD

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;

$P_i$  = 3.1416,  $R$  = distance between observation point and center of the radiator in cm

#### Assessment Result

☒ Passed ☐ Not Applicable

| Frequency range (MHz) | Type   | Conducted Power (dBm) | Maximum Tune-up (dBm) | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) | Result |
|-----------------------|--------|-----------------------|-----------------------|-------------------------------------|-----------------------------|--------|
| 2402-2480             | BT-EDR | 0.36                  | 1.00                  | 0.000408                            | 1.0000                      | Pass   |
| 88.1 – 107.9          | FM     | -33.143               | -32.00                | 0.0000001                           | 0.2000                      | Pass   |

Note: The exposure evaluation safety distance is 20cm.

**\*\*\*\*\*END OF REPORT\*\*\*\*\***