MRT Technology (Taiwan) Co., Ltd
Phone: +886-3-3288388
Fax:    +886-3-3288918
Web:    www.mrt-cert.com

Report No.: 2306TW5401-U2
Report Version:        1.0
Issue Date:     2023-07-28

# RF Exposure Evaluation

**FCC ID**            :   CHQ7253T

**APPLICANT**         :   RHINE ELECTRONIC CO., LTD.

**Application Type**  :   Certification

**Product**           :   Transmitter

**Model No.**         :   UC7253T

**Brand Name**        :   RHINE

**FCC Rule Part(s):** :   Part 2.1093 (Portable)

**Received Date**     :   July 25, 2023

**Tested By**         :   *Kaunaz Lee*

( Kaunaz Lee )

**Reviewed By**       :   *Paddy Chen*

( Paddy Chen )

**Approved By**       :   *Chenz Ker*

( Chenz Ker)

**ilac-MRA**

**TAF**
Testing Laboratory
3261

# Revision History

| Report No. | Version | Description | Issue Date | Note |
|---|---|---|---|---|
| 2306TW5401-U2 | 1.0 | Original Report | 2023-07-28 | |

# 1. PRODUCT INFORMATION

## 1.1. Equipment Description

| | |
|---|---|
| Product Name | Transmitter |
| Model No. | UC7253T |
| Brand Name | RHINE |
| Frequency Range | 303.875 MHz |

## 2. RF Exposure Evaluation

### 2.1. FCC Limits

According to FCC KDB 447498 D04V01 - SAR-Based Exemption

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). Pth is given by Formula .

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}}(d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10}\left(\frac{60}{ERP_{20 \text{ cm}}\sqrt{f}}\right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20cm}$ is per Formula.

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

The example values shown as below are for illustration only.

### Example Power Thresholds (mW)

| Frequency (MHz) | Distance (mm) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| 300 | 39 | 65 | 88 | 110 | 129 | 148 | 166 | 184 | 201 | 217 |
| 450 | 22 | 44 | 67 | 89 | 112 | 135 | 158 | 180 | 203 | 226 |
| 835 | 9 | 25 | 44 | 66 | 90 | 116 | 145 | 175 | 207 | 240 |
| 1900 | 3 | 12 | 26 | 44 | 66 | 92 | 122 | 157 | 195 | 236 |
| 2450 | 3 | 10 | 22 | 38 | 59 | 83 | 111 | 143 | 179 | 219 |
| 3600 | 2 | 8 | 18 | 32 | 49 | 71 | 96 | 125 | 158 | 195 |
| 5800 | 1 | 6 | 14 | 25 | 40 | 58 | 80 | 106 | 136 | 169 |

Note: when 10-g extremity SAR applies, SAR test exemption may be considered by applying a factor of 2.5 to the SAR-based exemption thresholds.

## 2.2. Test Result of RF Exposure Evaluation

| Mode | Frequency Band (MHz) | Maximum EIRP (dBm) | EIRP (mW) | FCC SAR Test Exclusion Threshold (mW) |
|---|---|---|---|---|
| Sub-1G | 303.875 | -34.23 | -64.23 | 2.5 |

So, this device can complies the SAR test exclusion.

———————————— The End ————————————