

## SPECIFICATION

Customer : \_\_\_\_\_

Customer's Model No. : \_\_\_\_\_

Model No. : MIR3+ Module

Date: 2017.08.01

Sample Serial No. : \_\_\_\_\_

Spec. Version & Revision Date: V00 2017/08/01

| Received/Approved by |  |
|----------------------|--|
|                      |  |

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**Revision History**

| Version | Date       | Context |
|---------|------------|---------|
| V00     | 2017.08.01 | Release |

## TABLE OF CONTENTS

|    |                                     |   |
|----|-------------------------------------|---|
| A. | General Description .....           | 1 |
| B. | Physical Characteristics .....      | 2 |
| C. | Electrical Characteristics.....     | 3 |
| D. | Performance .....                   | 3 |
| E. | Depth of field .....                | 4 |
| F. | Environmental .....                 | 4 |
| G. | Readable Symbologies .....          | 5 |
| H. | Decoder Data Output Connector ..... | 6 |
| I. | Reliability .....                   | 6 |

**Due to Champtek's / Scantech ID's continuing product improvement programs, specifications and features are subject to change without notice.**

## **A. General Description**

The MIR3+ module is a high performance, omni-directional area imager bar code scanner. It uses digital imaging technology to provide intuitive and fast reading of 1D and 2D bar codes as well as supporting more advanced features like image capture deactivation. It is designed for various built-in and OEM solutions, such as self-service kiosks, POS (Point-of-Sales) terminals, ATM, price checkers, healthcare and Mobile device solutions etc.

It supports up to 300mm reading depth of 1D and 2D barcode, its scan rate is up to 60 images per second. Based on CMOS technology for optimal image sensitivity and dynamic range, the MIR3+ Module features scanning speeds two times faster than traditional 2D imagers.

MIR3+ Module is a high performance area imager scanner, provides customers with the most cost- effective solution in the market and perfectly suitable and definitely the best choice for any OEM and built-in application.

## B. Physical Characteristics

### Weight

Body weight                      Approx. 0.67 oz ( 19.2 g )

### Material

Polycarbonate

### Connector

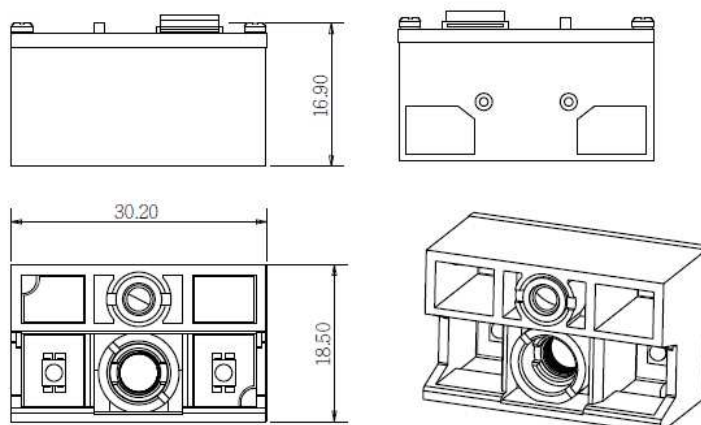
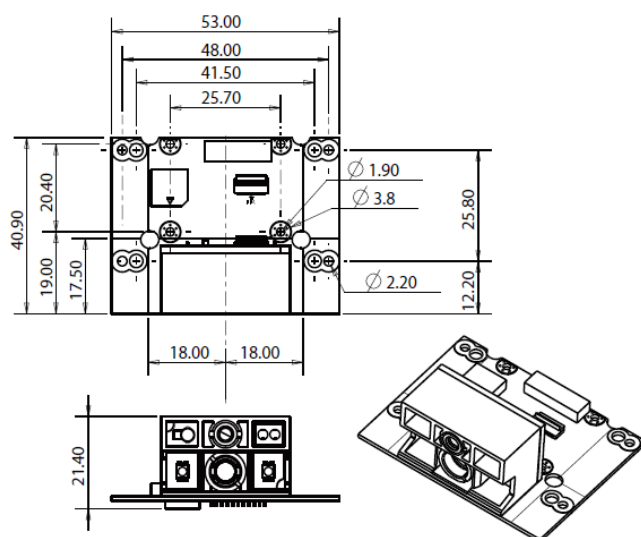
11 pin Pitch 1.25

### Dimension

53.0mm H x 40.9mm W x 21.4mm D

## Mechanical drawing

Unit: mm



## C. Electrical Characteristics

|                  |                  |
|------------------|------------------|
| Interface        | USB/RS232        |
| Supply Voltage   | DC +5V $\pm 5\%$ |
| Stand by (Typ.)  | 180mA            |
| Operation (Typ.) | 360mA            |

## D. Performance

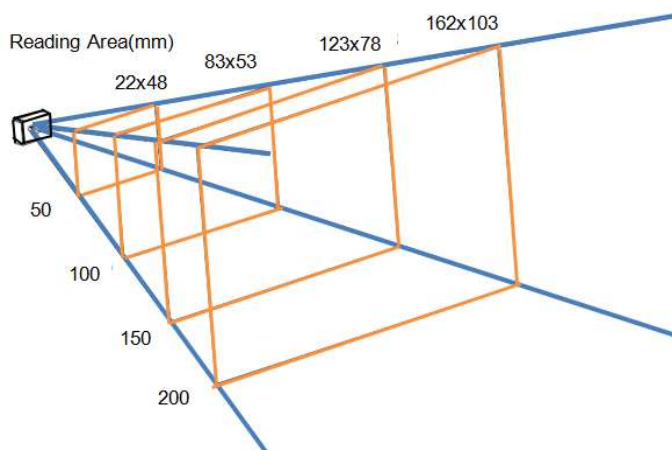
|                      |                                                        |
|----------------------|--------------------------------------------------------|
| Light Source         | Visible Red light 625nm( $\pm 5$ nm) LED               |
| Sensor               | 752 (H) x 480 (V) pixels                               |
| Field of view        | Horizontal – 40°, Vertical – 25°                       |
| Scan Rate            | 60 fps (at full resolution)                            |
| Reading Distance     | 300mm@20mil/0.5mm, PCS90%                              |
| Print Contrast Ratio | PCS45%@5mil/0.127mm                                    |
| Resolution           | 4mil/0.1mm@PCS90% Code39,<br>10mil/.26mm@PCS90% QRCode |
| Reading Angle        | <i>Test Conditions : Code 39, 10mil/0.25mm, PCS90%</i> |
| Pitch Angle          | 5°~60° ( $\pm 5^\circ$ )                               |
| Skew Tolerance       | 5°~60° ( $\pm 5^\circ$ )                               |
| Ambient Light        | 100,000 Lux Max.                                       |

## E. Depth of field

| Barcode           | Depth of field |
|-------------------|----------------|
| 4mil Code39       | 40~ 80 mm      |
| 5mil Code39       | 40~110 mm      |
| 6mil Code39       | 40~120 mm      |
| 10mil Code39      | 40~180 mm      |
| 13mil Code39      | 30~250 mm      |
| 20mil Code39      | 30~300 mm      |
| 20mil QR Code     | 40~180 mm      |
| 10mil PDF417      | 35~120 mm      |
| 20mil PDF417      | 50~150 mm      |
| 20mil Data Matrix | 50~240 mm      |

Note:

1. The test is under ambient light 700 ~ 800 Lux.
2. Reading area



## F. Environmental

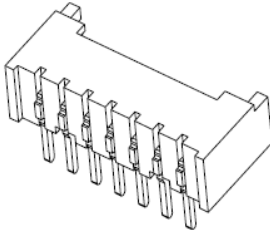
|                       |                                    |
|-----------------------|------------------------------------|
| Operating Temperature | 0 °C to 50 °C (14 °F to 122 °F)    |
| Storage Temperature   | -20 °C to 70 °C ( -4 °F to 158 °F) |
| Relative Humidity     | 20% to 95% (Non-condensing)        |

## G. Readable Symbolologies

| 1D Symbolologies     | Readable | Default Enable |
|----------------------|----------|----------------|
| UPC-A                | V        | V              |
| UPC-E                | V        | V              |
| EAN-8/JAN-8          | V        | V              |
| EAN-13/JAN-13        | V        | V              |
| Code 39              | V        | V              |
| Code 128             | V        | V              |
| Interleaved 25       | V        |                |
| Industrial 25        | V        |                |
| Matrix 25            | V        |                |
| Codabar/NW7          | V        |                |
| Code 93              | V        |                |
| China Post           | V        |                |
| MSI/Plessey          | V        |                |
| Telepen              | V        |                |
| GS1 Databar          | V        |                |
| Omni-directional     |          |                |
| GS1 Databar Limited  | V        |                |
| GS1 Databar Expanded | V        |                |

| 2D Symbolologies | Readable | Default Enable |
|------------------|----------|----------------|
| Aztec            | Optional |                |
| Aztec Mesas      | Optional |                |
| Data Matrix      | V        | V              |
| Maxi Code        | Optional |                |
| PDF 417          | V        | V              |
| Micro PDF 417    | Optional |                |
| QR Code          | V        | V              |
| Micro QR Code    | Optional |                |
| GM Code          | Optional |                |
| Han Xin Code     | Optional |                |

## H. Decoder Data Output Connector

| Pin No. | Function  |  |
|---------|-----------|------------------------------------------------------------------------------------|
| 1       | GND       |                                                                                    |
| 2       | VCC       |                                                                                    |
| 3       | TXD       |                                                                                    |
| 4       | RXD       |                                                                                    |
| 5       | USB+      |                                                                                    |
| 6       | USB-      |                                                                                    |
| 7       | Trigger   |                                                                                    |
| 8       | ID        |                                                                                    |
| 9       | RTS       |                                                                                    |
| 10      | CTS       |                                                                                    |
| 11      | SHIELDING |                                                                                    |

## I. Reliability

|                  |                                                      |
|------------------|------------------------------------------------------|
| Life Time        |                                                      |
| MTBF(Calculated) | 50,000 hours                                         |
| Thermal Shock    |                                                      |
| High Temp.       | 50 °C (122 °F)                                       |
| Low Temp.        | -20 °C (-4 °F)                                       |
| Cycle time       | 30 minutes for high temp. , 30 minutes for low temp. |
| Cycles           | 24 cycles                                            |
| Mechanical Shock | 2000G, 0.7ms, 3 axes                                 |