a module solution provider

MM5D91E00

MM5D91-00 Presence Detection

Evaluation Kit

User Guide

Draft 0.1

Prepared By	Reviewed By	Approved By

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1. INTRODUCTION

The MM5D91-00 is the presence detection sensor module which integrates 60GHz mmWave technology. The module simplifies the implementation of mmWave sensors in the band of 61.0 to 61.5GHz, and it includes the ARM Cortex-M4F based processor system, 1Tx 3Rx antenna and onboard regulator. This presence detection sensor module targets low power and high resolution presence detection in smart home, office, security and diverse applications.

Based on the MM5D91-00 Radar sensor module, the MM5D91E00 evaluation board is built to demonstrate the function of presence detection of the 60 GHz radar sensor with its sophisticated radar presence detection algorithms.
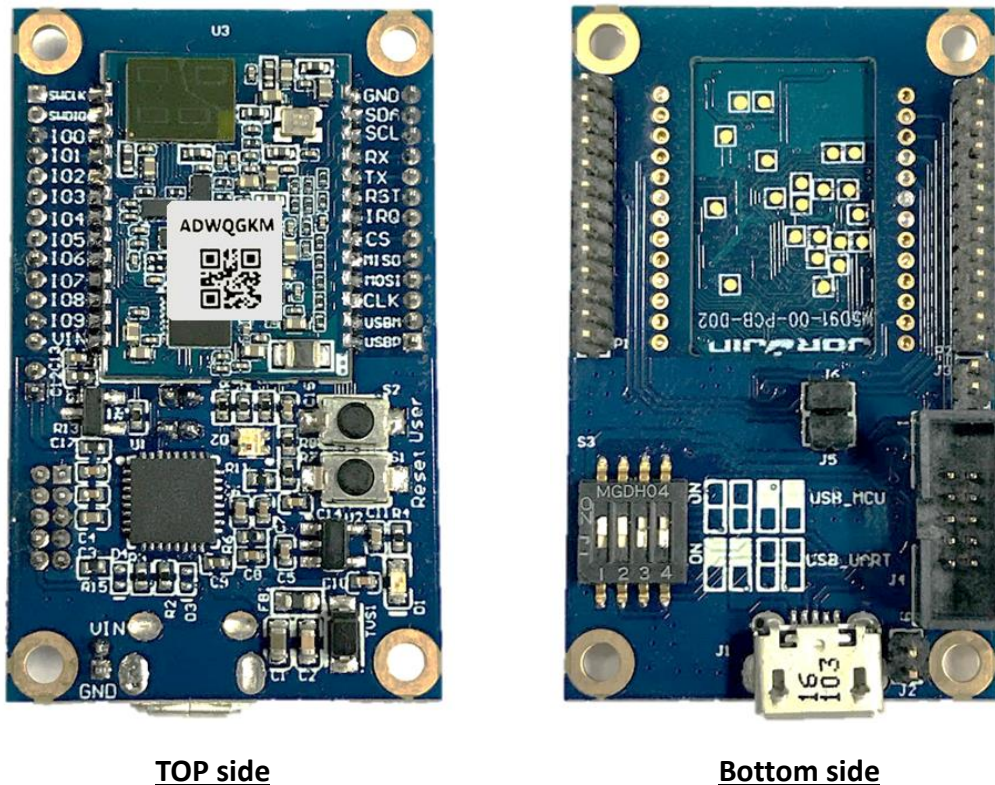
TOP side	Bottom side

Figure 1-1. MM5D91E00 mmWave Radar Evaluation Kit

2. HARDWARE DESCRIPTION

The following figure and table describe physical sections of the board.
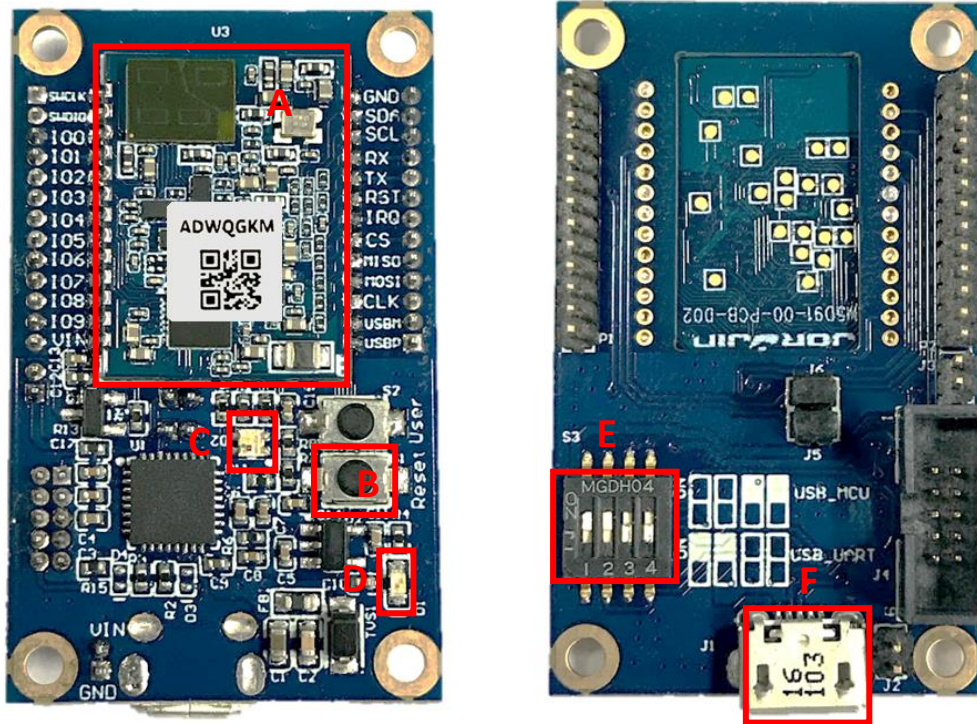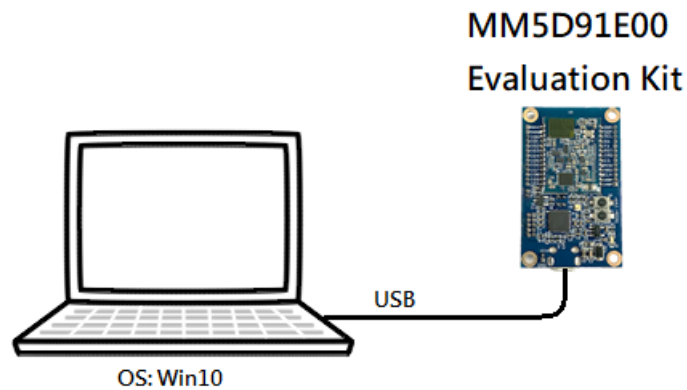

Figure 2-1. Hardware description of Evaluation Kit

Table 2-1. Evaluation Kit component descriptions list

Region	Description
A	Jorjin mmWave Radar sensor module.
B	Radar sensor module reset switch.
C	Red LED light when the evaluation kit is power on.
D	LED of radar detect status: - Green color : No presence. - Red color : Presence detected.
E	Interface setting: Turn up of left two / Turn down of right two. Please keep the setting always.
F	Micro USB connector. Connected to PC (config tool) or power bank to demo.

3. CONFIGURABILITY

- Easy Configuration UART port for the end user to change parameters

- Standard mode: Detection range, Sensitivity, Reset etc.

- The detection range, sensitivity and status settings are stored in the flash and remain set after power reboot.

If the OS is win7 or lower , please find the USB driver as the link.
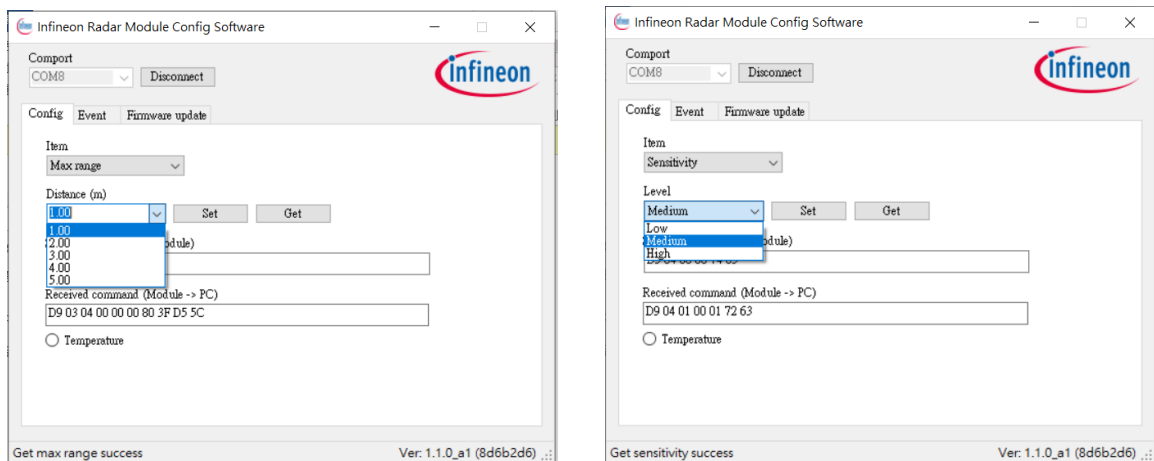
Figure 3-1. Radar module connect to PC

Figure 3-2. Radar Module Configuration software
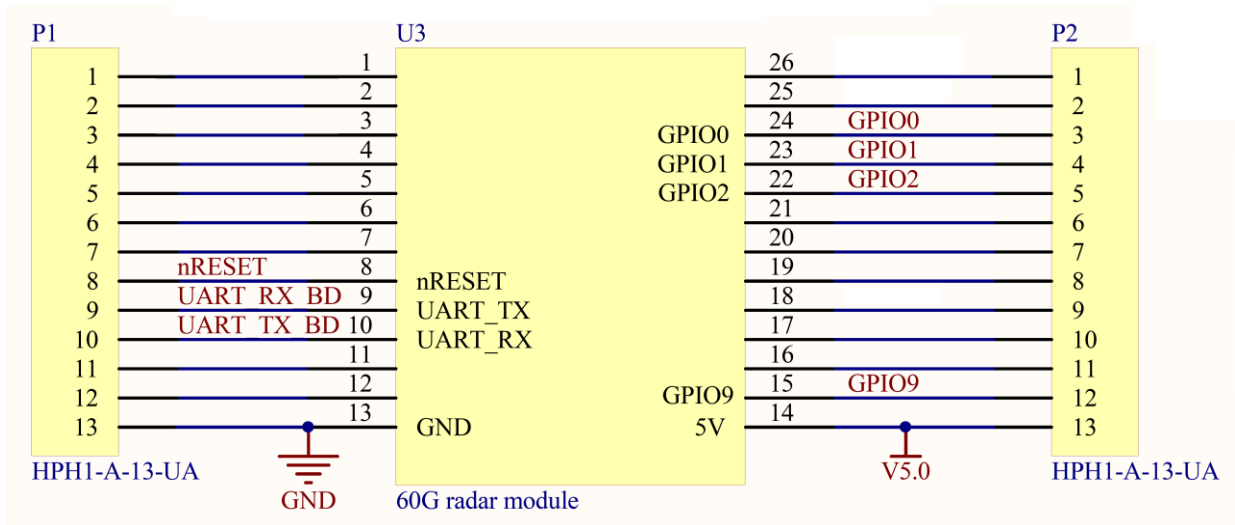
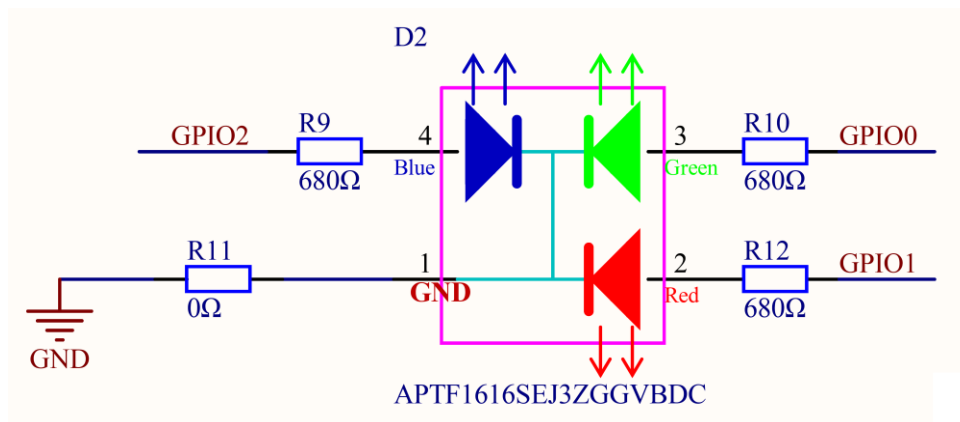## 4. SCHEMATIC DIAGRAMS

Figure 4-1. Pin assignment of P1 and P2

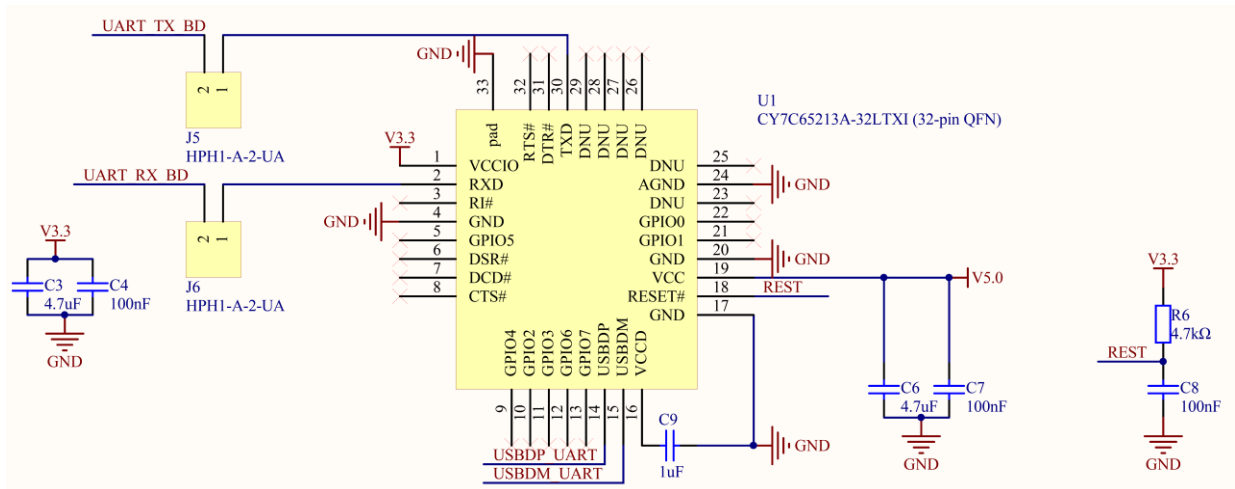**Figure 4-2. LED indication for presence detection**

Figure 4-3. UART to USB Conversion
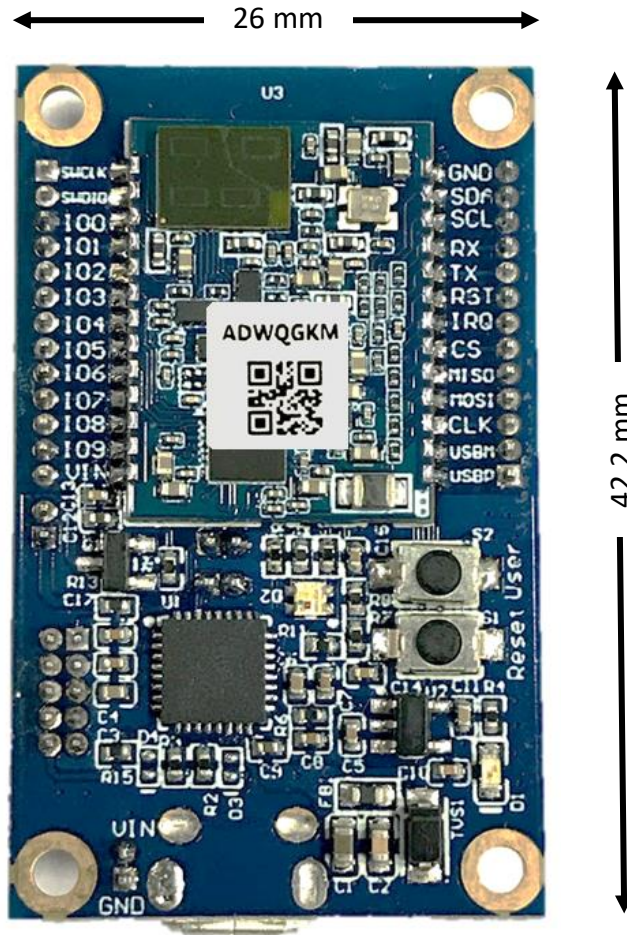
5. DIMENSION

Figure 5-1. MM5D91E00 Board Dimension

6. HISTORY CHANGE

Revision	Date	Description
Draft 0.1	2020-07-21	Draft version.