K60168-M DONGLE

USER MANUAL

Vision 1.0

Nov. 2021 (Initial Version)

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1.0	Initial Version	2021/10/13

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Headquarters:
KaiKuTeK TECHNOLOGY INC.
9F, No.3-2, Park St., Nangang Dist.,
Taipei City 115, Taiwan, R.O.C.
TEL: 886-2-26558953, 26558956
FAX: 886-2-26558955

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1.0 Dongle overview

1.1 Introduction to Dongle

K60168-M Dongle is a development Dongle base on 60 GHz FMCW transceiver with 1 transmitter (TX) and 3 receivers (RX) of the K60168-M main chip. Power and gesture commands/ sensing are provided via an external computer and a USB Type-C interface.

1.2 Dongle features

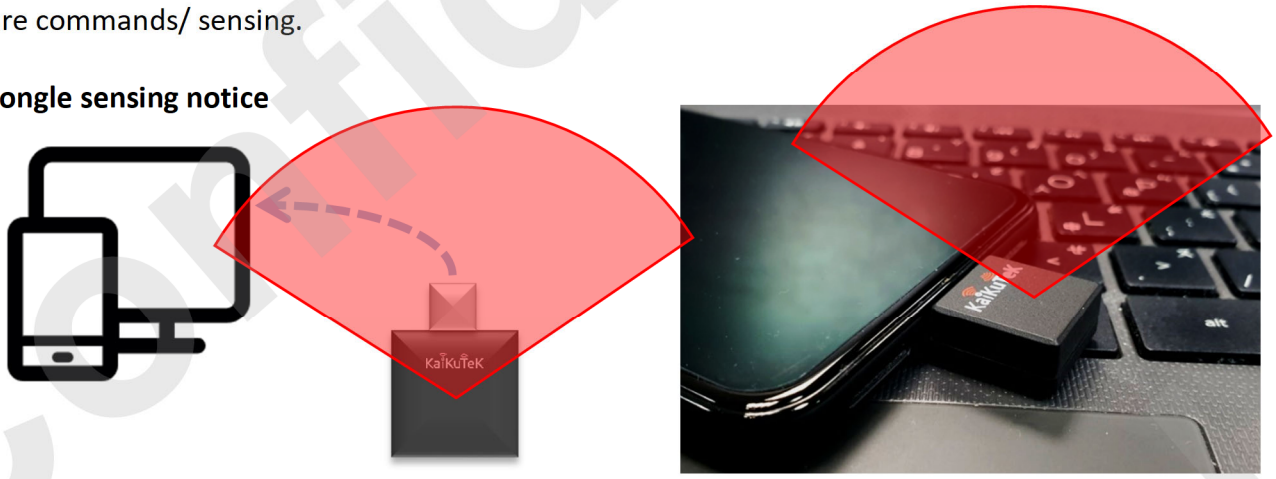
- K60168-M in BGA196 package
- JMS580 for USB to 2 channel SPI interfaces.
- SPI flash for K60168-M boot-code
- Power supply by USB port 5V
- Type-C plug

2.0 Dongle Application

2.1 System connection

The Dongle can communicate with Windows OS PC and Android Smartphone through Type-C plug for gesture commands/ sensing.

2.2 Dongle sensing notice



The K60168-M main chip place on the top side, thus the antenna radiation direction will be KaiKuTek logo side.

3.0 USB driver installation

3.1 USB connector

The K60C EV requires a micro-B to type-A USB cable.J20 should be tied close to supply whole power source

3.2USB Serial Bridge

The bridge controller is a JMicron's JMS580, which is a USB 3.0 USB-Serial bridge controller. This bridge offers a SPI interface.

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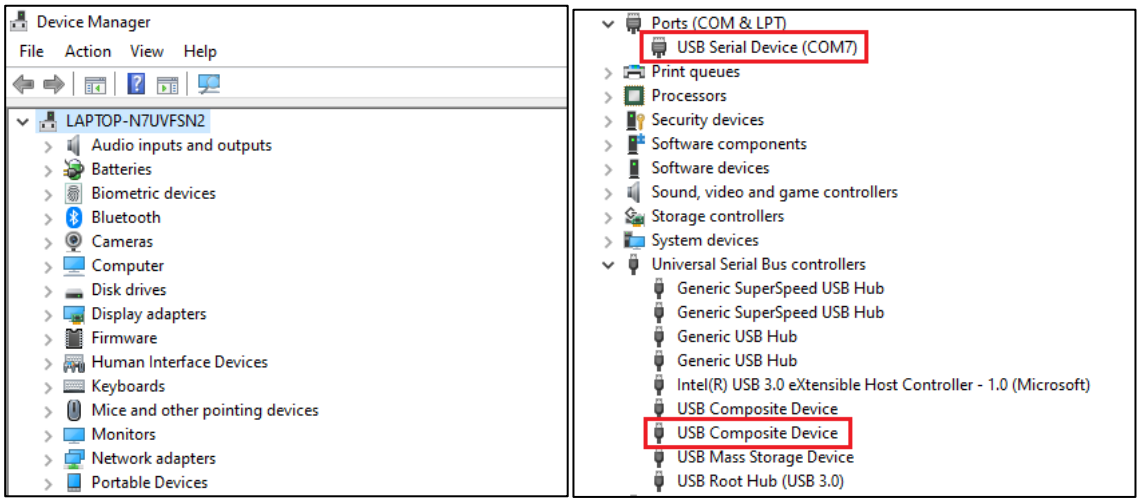
3.3 MS580 driver installation

3.3.1 Install JMS580 driver:

3.3.2 In this EV board, JMS580 acts as virtual COM (VCOM) port device. Since the inbox driver of Windows 7/8/10 can support VCOM device, a user does not need to install any driver to use this EV board.

3.3 Hardware Manager

When a user connects the EV board to a PC, the hardware manager-tab will appear similar to the figure below.



Federal Communications Commission (FCC) Statement

15.105(b)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

15.21

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. For body worn operation, this device has been tested and meets FCC RF exposure guidelines. When used with an accessory that contains metal may not ensure compliance with FCC RF exposure guidelines.

15.19

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
1) this device may not cause harmful interference and
2) this device must accept any interference received, including interference that may cause undesired operation of the device.

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