

AMPAK

AP6203BM

Evaluation Kits

User manual

Version 1.2

Revision History

Date	Revision Content	Revised By	Version
2020/03/10	Initial released	Milk	1.0
2021/10/04	Added the picture of AP620XXX EVB's bottom view	Richard	1.1
2022/06/02	PCBA updated	Richard	1.2



1. AP620XXX Evaluation Board Introduction

AP6203BM Evaluation board (EVB) likes as figure1. That is designed for IEEE802.11 a/b/g/n WLAN with integrated Bluetooth application. It is subject to provide a convenient environment for customer's verification on Wi-Fi or Bluetooth function. There are many controller pins and reserved GPIOs on Evaluation board which describes as below.



Figure1. Top view of AP620XXX EVB

Interface highlights:

- 1. U1: AP6203BM SIP module.
- 2. J1: UART interface connects with UART transport board for BT measuring
- 3. J15: Enable(H) or disable(L) Bluetooth, Wi-Fi function
- 4. J7: 5V DC mini USB input connector.
- 5. J17: WL_VIO power path for 1V8
- 6. J18: VBAT power path for 3V3.
- 7. S1: SMA connector let RF signal in/out path, you could connect with RF cable or Dipole antenna.



2. Wi-Fi function verification steps

WI-FI SDIO: Using external pull up resistors depends on the SDIO supply voltage.



Figure2. Wi-Fi verification connection interface to Host SDIO

Hardware Setup:

- Refer to Figure3 SDIO pin definition connects the J8 interface of AP620XXX evaluation board to Host SDIO control interface.
- Using pull high resistors (R6, R7, R10, R28, R29) that resistance is 30K ohm for 1.8V VDDIO pull up voltage. (Pull high resistors are un-necessary if at verification phase.)
- Connects an external antenna at SMA connector on the evaluation board.
- Note to the VDDIO voltage level should be the same with GPIO voltage level of Host CPU.

Wi-Fi software setup:

Please follow up software guideline of Ampak official released.



3. Bluetooth function verification step



Figure3. Bluetooth verification connection interface to Host UART

Hardware Setup:

- Refer to Figure4 UART pin definition connects the J1 interface of AP6203BM evaluation board to Host UART control interface.
- Connects an external antenna at SMA connector on the evaluation board.
- Note to the VDDIO voltage level should be the same as GPIO voltage level of Host CPU.

Wi-Fi and Bluetooth software setup:

Please follow up software guideline of Ampak official released.



3. Test Point Description



Figure4. Module key function test point.

WL_HWAKE connected to WL_HW_OOB(module_pin13, output, to SoC) BT_H_W connected to BT_WAKE_HOST(module_pin7, output, to SoC) BT_W connected to HOST_WAKE_BT(module_pin6, input, to MCU) WL_GPIO5 connected to WL_GPIO5/WL_INT_RX(module_pin40, input, to MCU) WL_GPIO4 connected to WL_GPIO4/UART_RX(module_pin39, input, to MCU) WL_GPIO3 connected to WL_GPIO3/WL_INT_TX(module_pin38, output, to MCU) WL_GPIO6 connected to WL_GPIO6/UART_TX(module_pin45, output, to MCU)

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Figure5. AP6203BM connection block diagram