

# M.2-FPC EVB

# User Guide

**5G & LTE-A Module Series**

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The following safety precautions must be observed during all phases of operation, such as usage, service or repair of any cellular terminal or mobile incorporating the module. Manufacturers of the cellular terminal should notify users and operating personnel of the following safety information by incorporating these guidelines into all manuals of the product. Otherwise, Quectel assumes no liability for customers' failure to comply with these precautions.



Full attention must be paid to driving at all times in order to reduce the risk of an accident. Using a mobile while driving (even with a handsfree kit) causes distraction and can lead to an accident. Please comply with laws and regulations restricting the use of wireless devices while driving.



Switch off the cellular terminal or mobile before boarding an aircraft. The operation of wireless appliances in an aircraft is forbidden to prevent interference with communication systems. If there is an Airplane Mode, it should be enabled prior to boarding an aircraft. Please consult the airline staff for more restrictions on the use of wireless devices on an aircraft.



Wireless devices may cause interference on sensitive medical equipment, so please be aware of the restrictions on the use of wireless devices when in hospitals, clinics or other healthcare facilities.



Cellular terminals or mobiles operating over radio signal and cellular network cannot be guaranteed to connect in certain conditions, such as when the mobile bill is unpaid or the (U)SIM card is invalid. When emergency help is needed in such conditions, use emergency call if the device supports it. In order to make or receive a call, the cellular terminal or mobile must be switched on in a service area with adequate cellular signal strength. In an emergency, the device with emergency call function cannot be used as the only contact method considering network connection cannot be guaranteed under all circumstances.



The cellular terminal or mobile contains a transceiver. When it is ON, it receives and transmits radio frequency signals. RF interference can occur if it is used close to TV sets, radios, computers or other electric equipment.



In locations with explosive or potentially explosive atmospheres, obey all posted signs and turn off wireless devices such as mobile phone or other cellular terminals. Areas with explosive or potentially explosive atmospheres include fuelling areas, below decks on boats, fuel or chemical transfer or storage facilities, and areas where the air contains chemicals or particles such as grain, dust or metal powders.

# About the Document

## Revision History

Version	Date	Author	Description
-	2022-01-16	Fung ZHU	Creation of the document
1.0	2023-02-17	Fung ZHU	First official release

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# 1 Introduction

This user guide describes the application details of M.2-FPC EVB (evaluation board), which is an assistant tool for developers to develop applications and test basic functionalities of applicable modules.

## 1.1. Applicable Modules

For details about the applicable modules of this EVB, see **document [1]**.

## 1.2. Special Mark

**Table 1: Special Mark**

Mark	Definition
*	Unless otherwise specified, when an asterisk (*) is used after a function, feature, interface, pin name, AT command, or argument, it indicates that the function, feature, interface, pin, AT command, or argument is under development and currently not supported; and the asterisk (*) after a model indicates that the sample of the model is currently unavailable.

# 2 Product Overview

## 2.1. Top View

The size of M.2-FPC EVB is 120 mm × 135.2 mm, and the top view is shown as below:

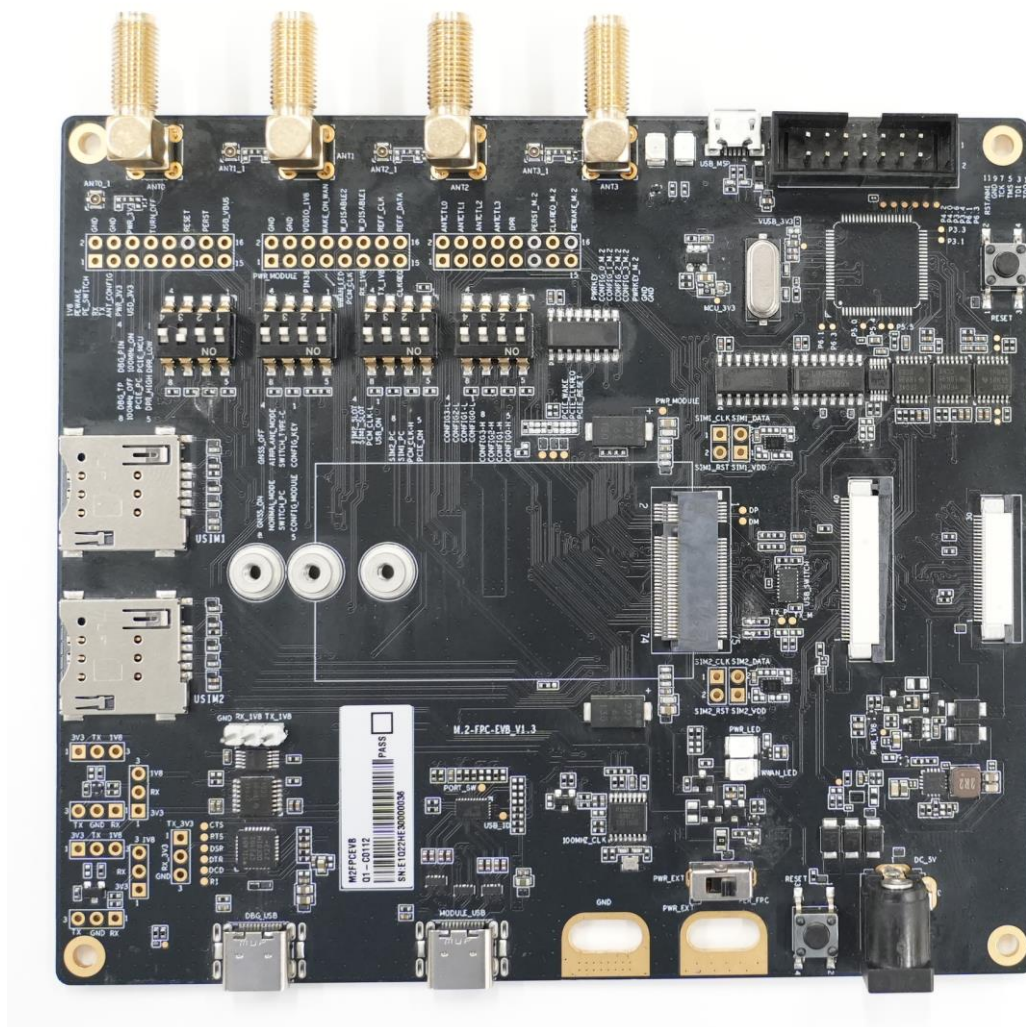


Figure 1: Top View

## 2.2. Component Placement

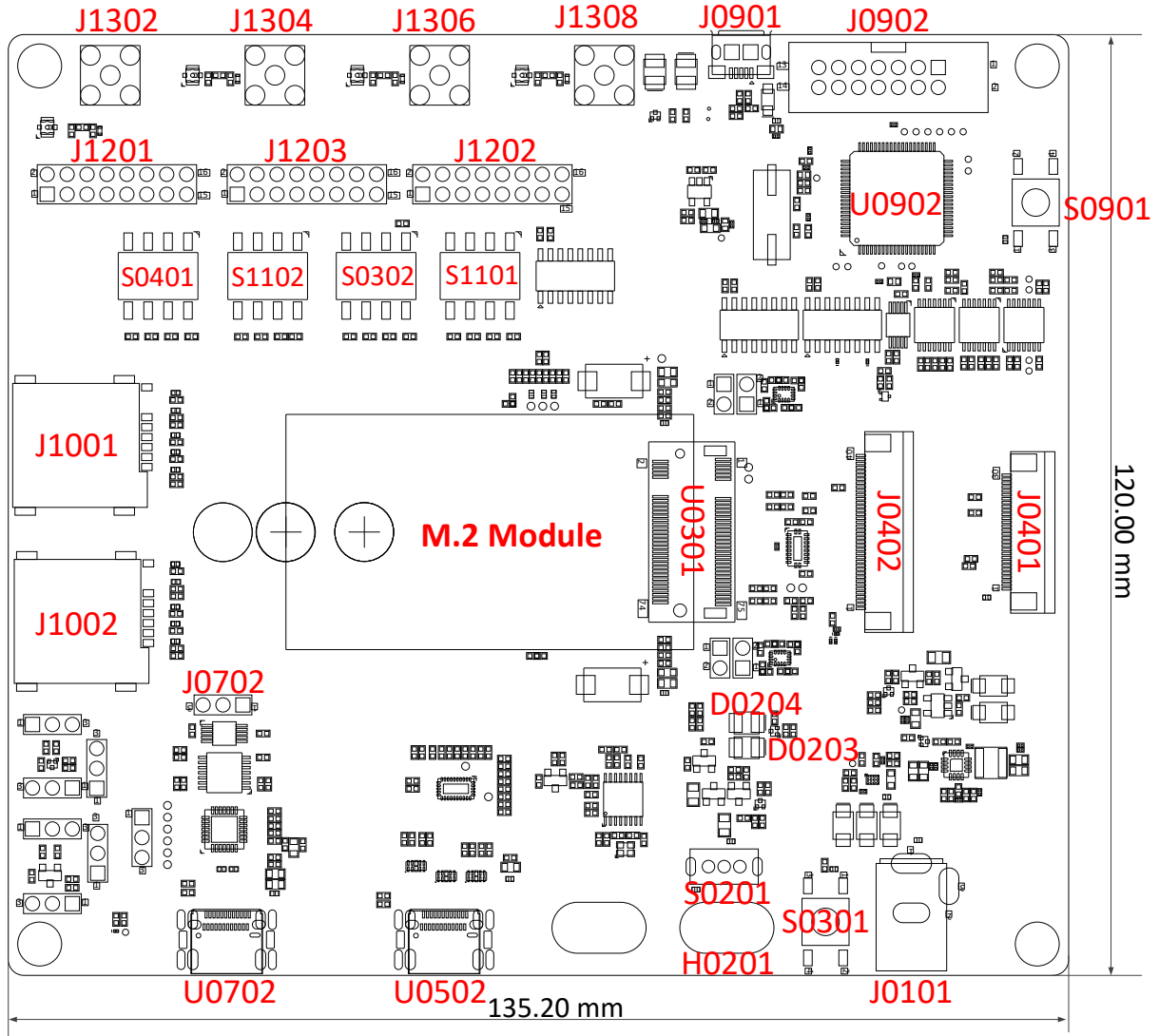


Figure 2: Top View for Component Placement

Table 2: Components &amp; Functions

Components	RefDes.	Description	Implementation
Power Supply	J0101	Power jack on the EVB, external power supply interface	Typical supply voltage: +5 V
	H0201	External power supply interface for current consumption test	Typical supply voltage: +3.3 V
Power Switch	S0201	Select the module's power supply path	Select power supply interface between H0201 and FPC
RESET	S0301	M.2 module reset button	Used to reset the M.2 module
	S0901	MCU* reset button	Used to reset the MCU*
M.2 Interface	U0301	Standard PCI Express M.2 interface	Used to connect the module to the EVB
USB Interface	U0502	USB Type-C interface	<ul style="list-style-type: none"> <li>● Used for USB 3.0, USB 3.1 and USB 2.0 communication</li> <li>● Used as power supply for the EVB, typical supply voltage is +5 V</li> </ul>
USB-to-UART Interface	U0702	USB Type-C interface for debug	<ul style="list-style-type: none"> <li>● Used to convert debug UART to USB 2.0 signal</li> <li>● Used as power supply for the EVB, typical supply voltage is +5 V</li> <li>● Used to connect the module's test points DBG_TXD, DBG_RXD and GND to the EVB</li> </ul>
(U)SIM Card Interfaces	J1001	(U)SIM1 card connector	● Support (U)SIM card insertion detection
	J1002	(U)SIM2 card connector	● Dual (U)SIM card supported: 1.8 V and 3.0 V
Status Indicators	D0204	Indicates whether the power supply for module is ready. <ul style="list-style-type: none"> <li>● Light ON: VBAT ON</li> <li>● Light OFF: VBAT OFF</li> </ul>	2 LEDs available for signal indication
	D0203	Indicates the operation status of the module's RF state. <ul style="list-style-type: none"> <li>● Light ON: the RF state is turned ON</li> <li>● Light OFF: the RF state is turned OFF</li> </ul>	

---

FPC Interfaces	J0401, J0402	FPC connector	Used to connect the laptop and the EVB
DIP Switches	S0401, S1102, S0302, S1101	DIP switch	Used to switch functions in different modes
MCU*	U0902	MCU	
	J0901	MCU USB interface	
	J0902	MCU JTAG interface	
Antenna Interfaces	J1302, J1304, J1306, J1308	4 Antenna connectors	
Test Points	J1201, J1202, J1203, J0702	4 test points	

---

# 3 EVB Kit & Assembly

## 3.1. Kit Assembly



Figure 3: M.2-FPC EVB and Kit Assembly

### 3.2. Accessories List

All accessories of the M.2-FPC EVB kit are listed as below. Contact the supplier if there is something missing.

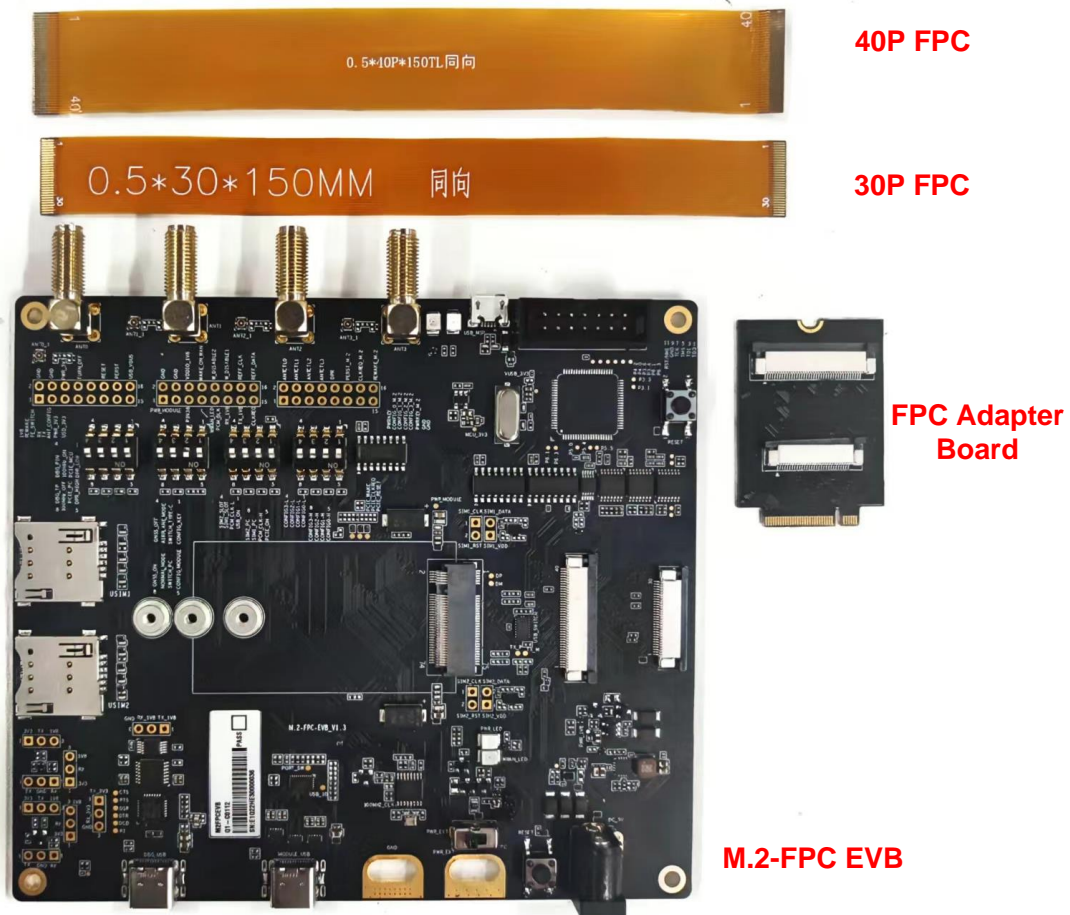


Figure 4: M.2-FPC EVB Accessories

Table 3: Accessories List

Items	Description	Quantity (pcs)
M.2-FPC EVB	EVB mainboard	1
FPC Adapter Board	Used to connect the EVB to the laptop for testing	1
30P FPC	Used to connect the EVB mainboard to the FPC adapter board	1
40P FPC	Used to connect the EVB mainboard to the FPC adapter board	1



# 4 Application Interfaces

This chapter describes the following application interfaces of the M.2-FPC EVB, and provides information about the status indicators, switches and test points so that you can use the M.2-FPC EVB better.

- Power supply interfaces
- M.2 interface
- USB interface
- USB-to-UART interface
- (U)SIM card interfaces
- Status indicators
- MCU\*
- 100 MHz clock
- Antenna interfaces
- Switches
- Test points

## 4.1. Power Supply Interfaces

M.2-FPC EVB can be powered by an external power adapter through the power jack (J0101), or by two USB Type-C interfaces (U0502 and U0702). The J0101, U0502, and U0702 are all connected to a DC-DC chip, which can convert the 5 V power supply to 3.3 V power supply for the module. The EVB can also be powered by the laptop through FPC.

The module can be directly powered by external power supply through H0201. This power supply method is commonly used for current consumption test.

**Table 4: Description of Power Supply**

RefDes.	Description
J0101	Power jack on the EVB, external power supply interface
U0502	USB Type-C interface
U0702	USB Type-C interface for debug

H0201

Current consumption test power supply interface

The following figures show the simplified power supply block diagram of the EVB.

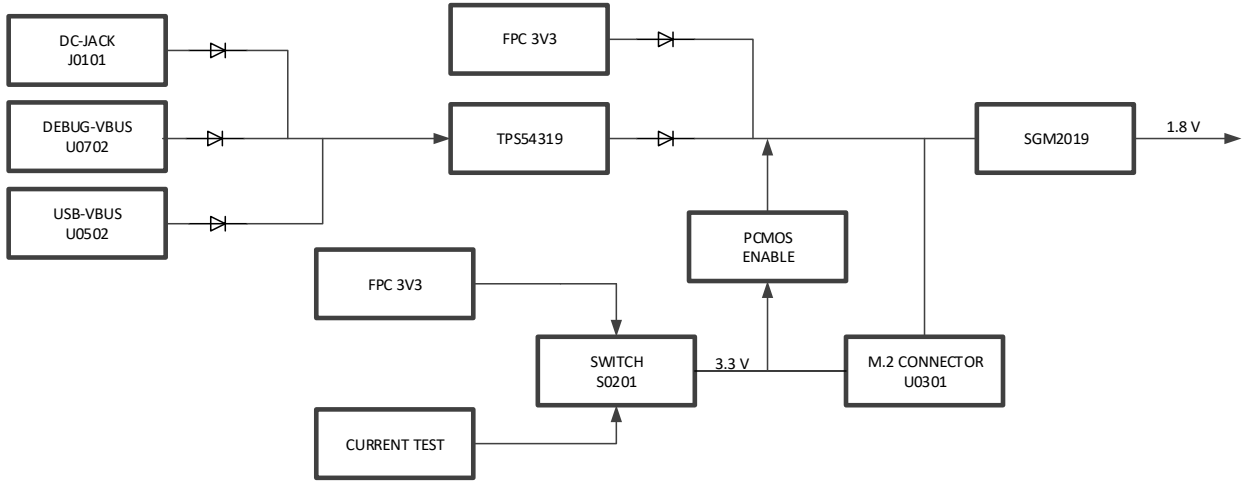


Figure 5: Block Diagram of EVB Power Supply

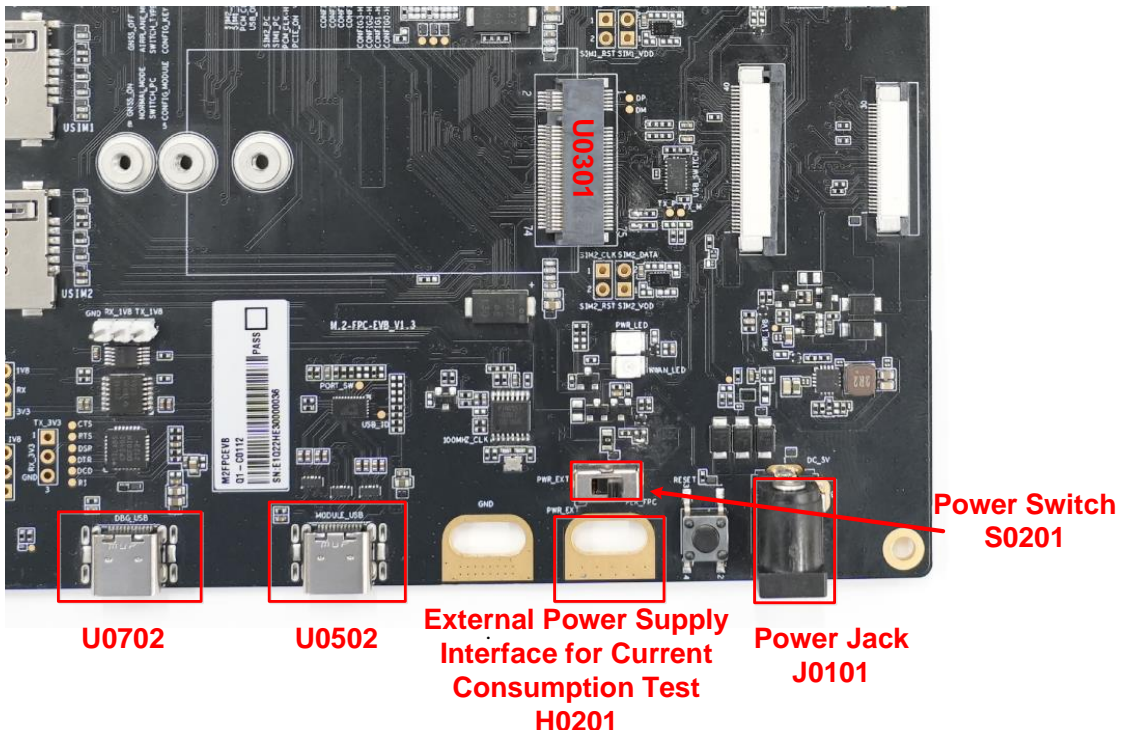
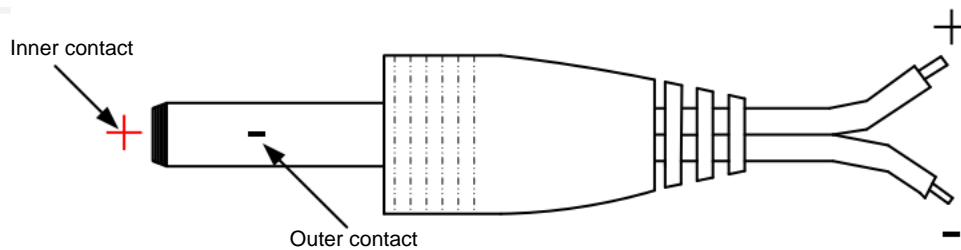


Figure 6: EVB Power Supply Interfaces

If the power jack is used for power supply, the power plug design of the adapter is shown as below.



**Figure 7: Power Plug Design**

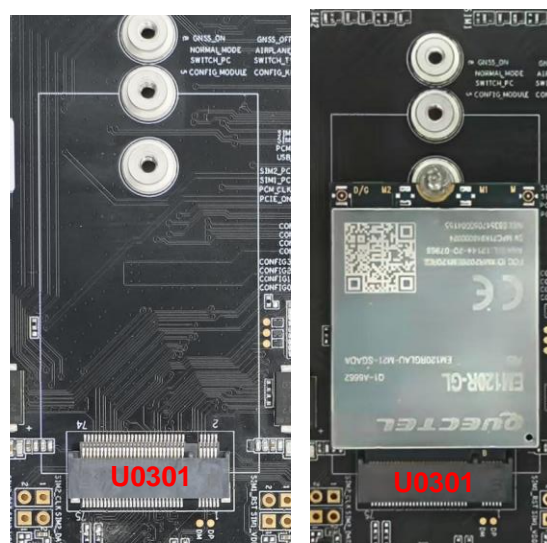
## 4.2. M.2 Interface

The M.2 interface is designed to accommodate the applicable modules. The module connects to the EVB through the M.2 connector (U0301). This interface is used to test functionalities of the module or to develop applications based on the module.

**Table 5: Description of M.2 Interface**

RefDes.	Description
U0301	Standard PCI Express M.2 interface

The following figure shows the connection between the module and the EVB.



**Figure 8: Connection Between Module and EVB**

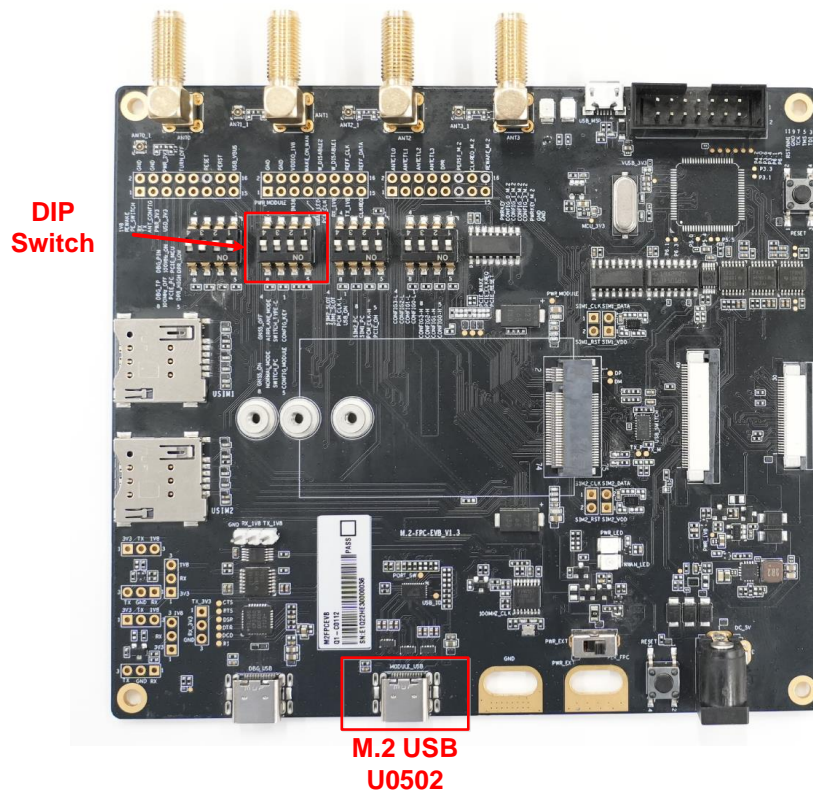
### 4.3. USB Interface

The EVB provides a USB 3.1/3.0/2.0 Type-C interface and supports SuperSpeed (5 Gbps), high-speed (480 Mbps) and full-speed (12 Mbps) for connection with a host device. This USB interface is used for AT command communication, data transmission, GNSS NMEA sentences output, software debug and firmware upgrade.

**Table 6: Description of USB Interface**

RefDes.	Description
U0502	USB Type-C interface, used for USB 3.1, USB 3.0 and USB 2.0 communication

Usage: Switch P2 of the DIP switch (S1102) to ON side so that the USB of the module can be connected to U0502 and be used normally. (For details, see **Chapter 4.10.2**)



**Figure 9: USB Interface**

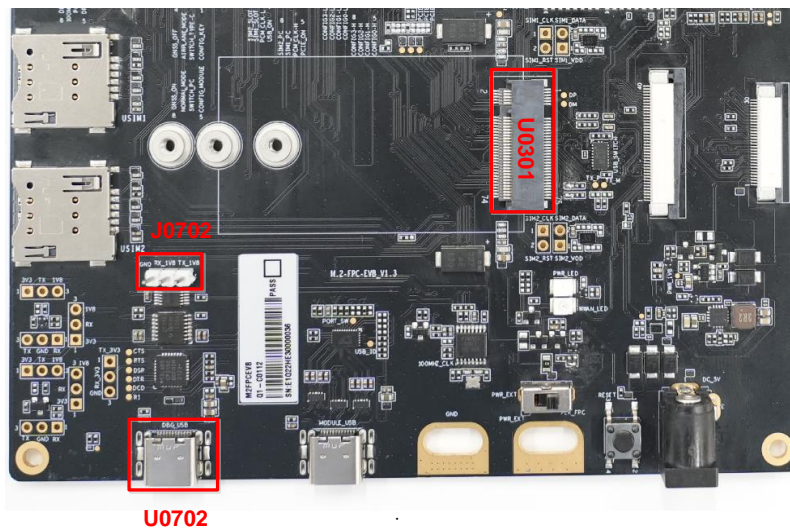
### 4.4. USB-to-UART Interface

The EVB provides a USB-to-UART interface. This interface is used for Linux console and converting log UART signal to USB 2.0 signal for debugging.

**Table 7: Description of USB-to-UART Interface**

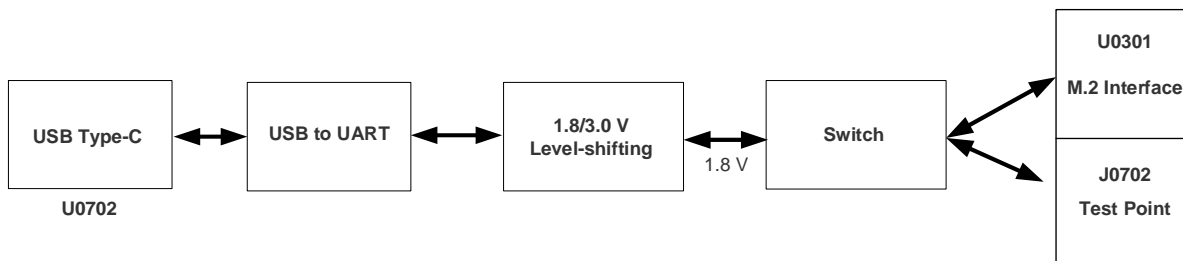
RefDes.	Description
U0702	Used to convert debug UART to USB 2.0 signal
J0702	Used to connect the module's test points DBG_TXD, DBG_RXD and GND to the EVB

Before using the USB-to-UART interface, DBG\_TXD and DBG\_RXD of the module should be connected to the corresponding positions of J0702 on the EVB.



**Figure 10: USB-to-UART Interface**

The following figure shows the diagram of USB-to-UART interface.



**Figure 11: Diagram of USB-to-UART Interface**

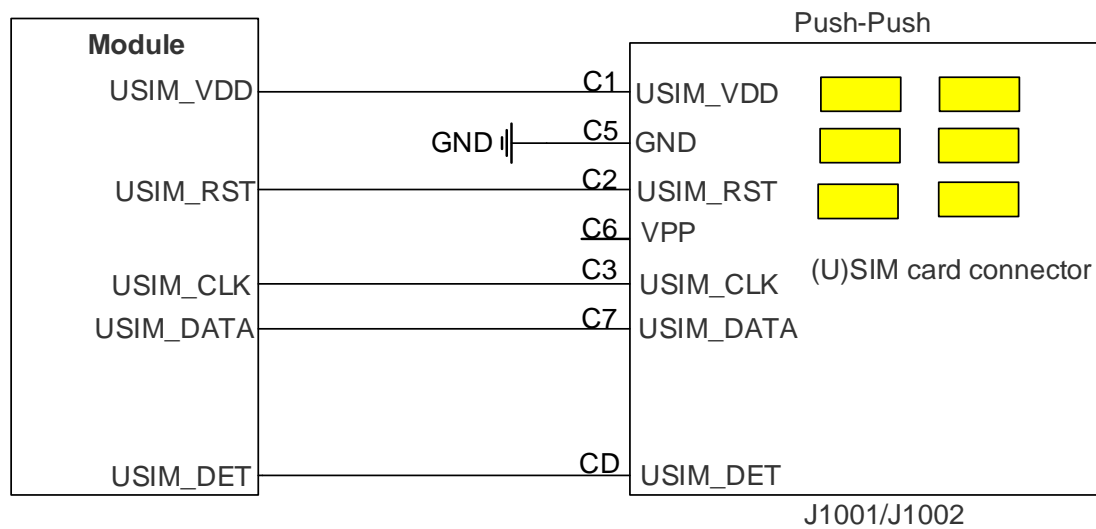
### 4.5. (U)SIM Card Interfaces

The EVB has two push-push type (U)SIM card interfaces J1001 and J1002 which support 1.8/3.0 V (U)SIM card.

**Table 8: Description of (U)SIM Card Interfaces**

RefDes.	Description
J1001	(U)SIM1 card connector
J1002	(U)SIM2 card connector

The following figure shows a simplified connector schematic for these connectors.



**Figure 12: Simplified Connector Schematic for (U)SIM Card Connectors**

The figure and table below illustrate the pin assignment and definition of (U)SIM card connectors J1001 and J1002.

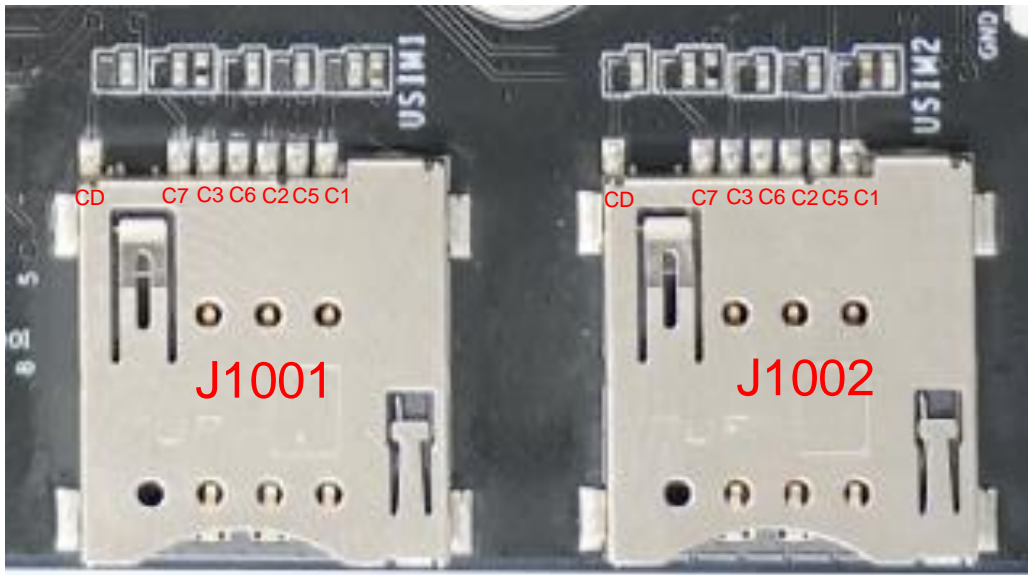


Figure 13: Pin Assignment of (U)SIM Card Connectors

Table 9: Pin Definition of J1001/J1002

Pin No.	Pin Name	I/O	Description
C1	USIM_VDD	PO	U(SIM) card power supply, provided by module
C2	USIM_RST	DO	U(SIM) card reset
C3	USIM_CLK	DO	U(SIM) card clock
C5	GND	-	Ground
C6	VPP	-	-
C7	USIM_DATA	DIO	U(SIM) card data
CD	USIM_DET	DI	U(SIM) card detection

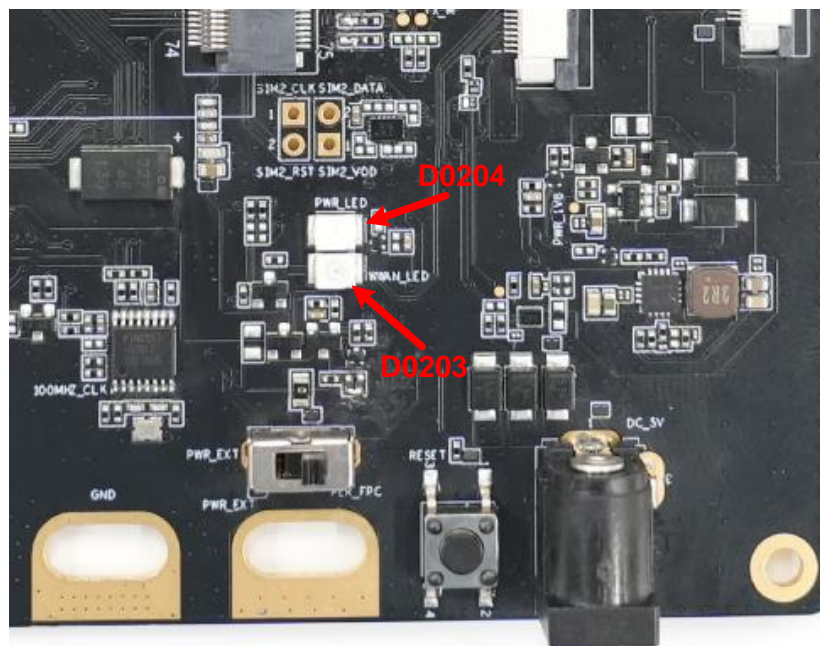
### 4.6. Status Indicators

There are two status indication LEDs on the EVB.

**Table 10: Description of Status Indication LEDs**

RefDes.	Description
D0204	Indicates whether the power supply for module is ready. <ul style="list-style-type: none"> <li>● Light ON: VBAT ON</li> <li>● Light OFF: VBAT OFF</li> </ul>
D0203	Indicates the operation status of the module's RF state. <ul style="list-style-type: none"> <li>● Light ON: the RF state is turned ON</li> <li>● Light OFF: the RF state is turned OFF</li> </ul>

The following figure shows the positions of these LED indicators:



**Figure 14: Status Indicators**



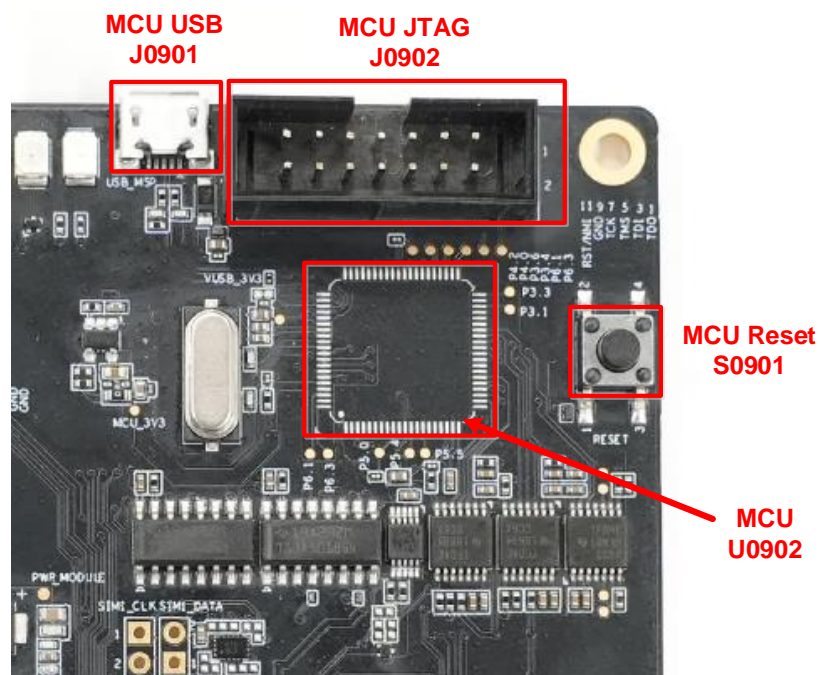
### 4.7. MCU\*

The EVB has a MCU.

**Table 11: Description of MCU**

RefDes.	Description
U0902	MCU
J0901	MCU USB interface
J0902	MCU JTAG interface
S0901	MCU reset button

The following figure shows the position of MCU.



**Figure 15: Position of MCU Related Components**

MCU related functions are under development and verification.

### 4.8. 100 MHz Clock

This section describes the 100 MHz clock output of PCIe. The 100 MHz clock is only used for verification in specific software and hardware versions.

Before turning on the 100 MHz clock of the EVB, the following operations must be completed:

- Mount the two 0 Ω resistors R0350 and R0351.
- Turn on the third switch (P3) of S0401 (switch to the left side in the following figure, see *Chapter 4.10.2* for details).

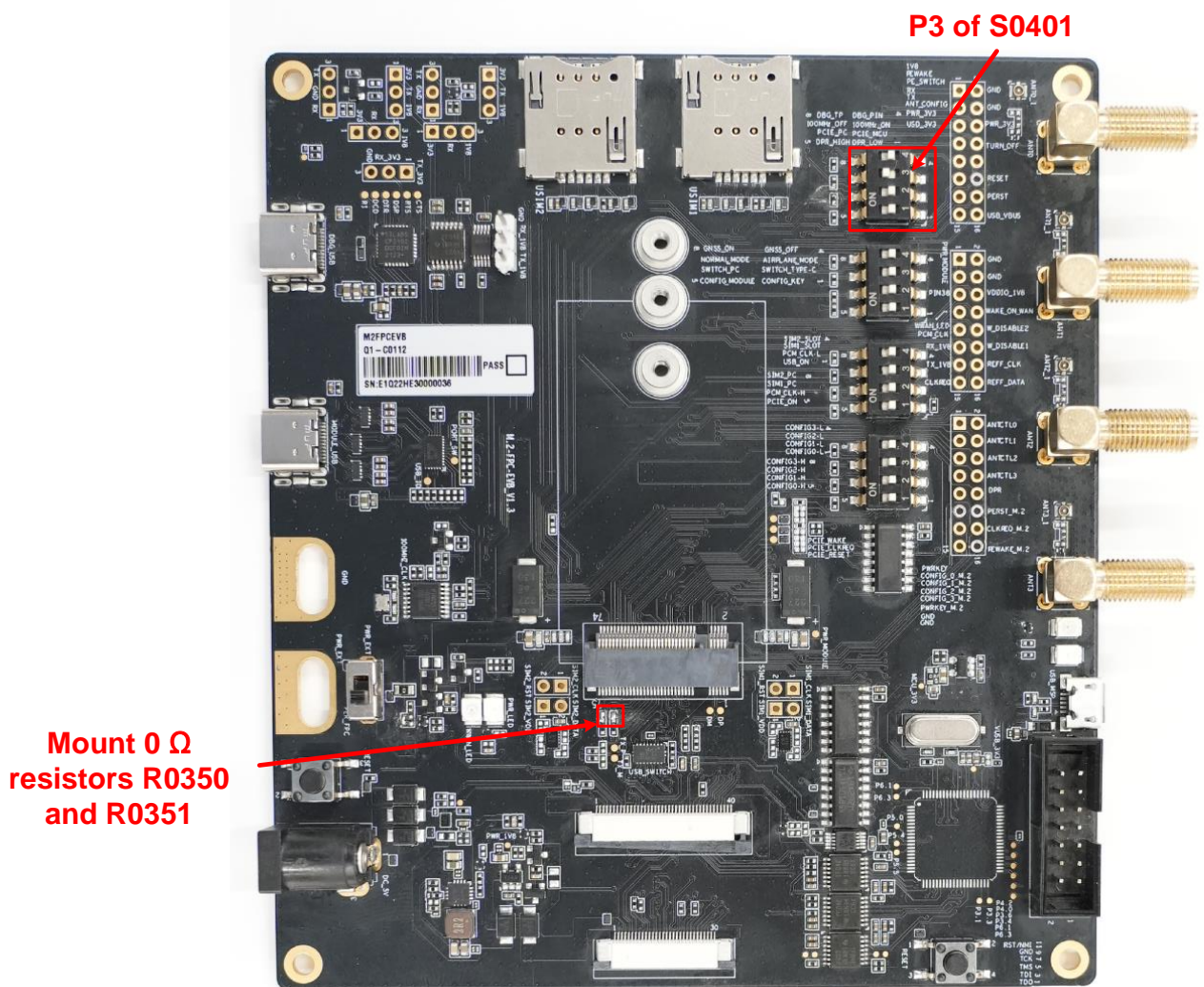


Figure 16: 100 MHz Clock

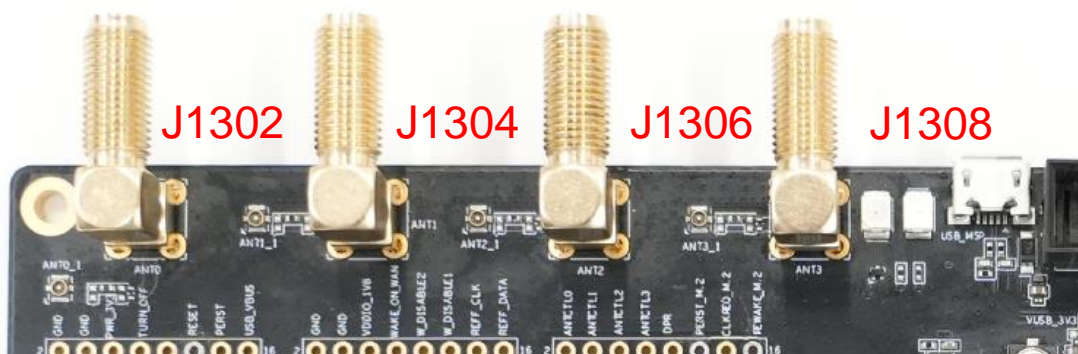
## 4.9. Antenna Interfaces

The EVB includes four antenna interfaces:

**Table 12: Description of Antenna Interfaces**

RefDes.	Description
J1302	Antenna connectors
J1304	
J1306	
J1308	

The following figure shows the position of these antenna interfaces:



**Figure 17: Antenna Interfaces**

## 4.10. Switches

### 4.10.1. Power Switch

**Table 13: Description of Power Switch**

RefDes.	Description
S0201	Select the module's power supply path

This switch controls EVB power supply, as shown in the following figure.

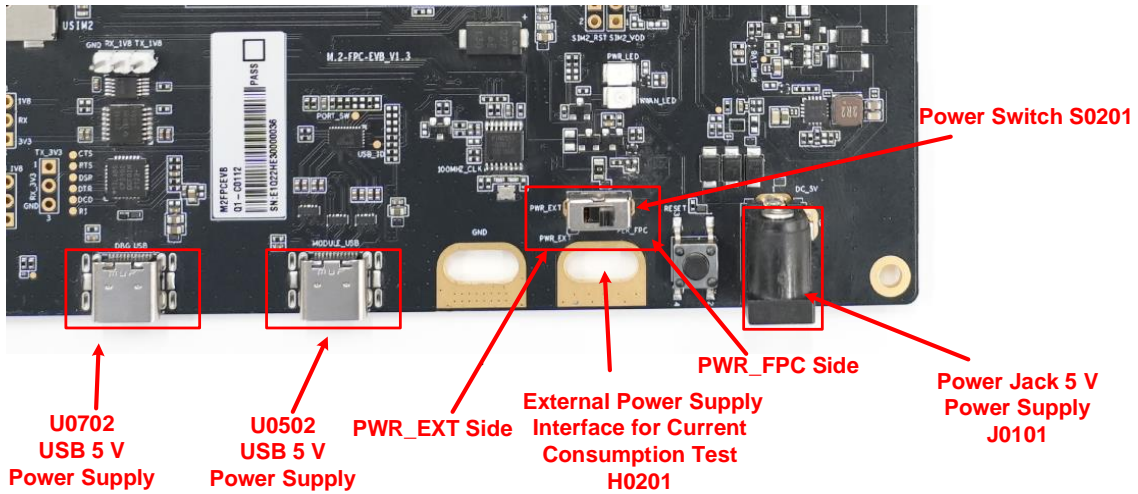


Figure 18: Diagram of Power Switch

Table 14: Power Switch Instructions

Switch Position	Description
Switch to PWR_EXT side	When testing current consumption of the module, H0201 is utilized first. The external 5 V power supply or USB 5 V power supply is disconnected. When H0201 is unavailable, use the external 5 V power supply or USB 5 V power supply.
Switch to PWR_FPC side	The external FPC of laptop power supply is utilized first. The external 5 V power supply or USB 5 V power supply is disconnected. When the external FPC power supply is unavailable, use the external 5 V power supply or USB 5 V power supply.

Usage scenarios and methods:

- When connecting the EVB to a laptop through FPC, external power supply is not needed. Switch S0201 to PWR\_FPC side in **Figure 18**.
- When the EVB is only used for testing, external power supply is not needed. Switch S0201 to PWR\_FPC side in **Figure 18**.
- When testing current consumption of the module, connect the test power supply (PWR\_EXT\_3V3) to H0201 position. Switch S0201 to PWR\_EXT side in **Figure 18**.

**NOTE**

Do not switch this power switch when power supply is connected. Please disconnect the power supply before switching.

### 4.10.2. DIP Switches

There are four DIP switches, and the positions are shown as follows:

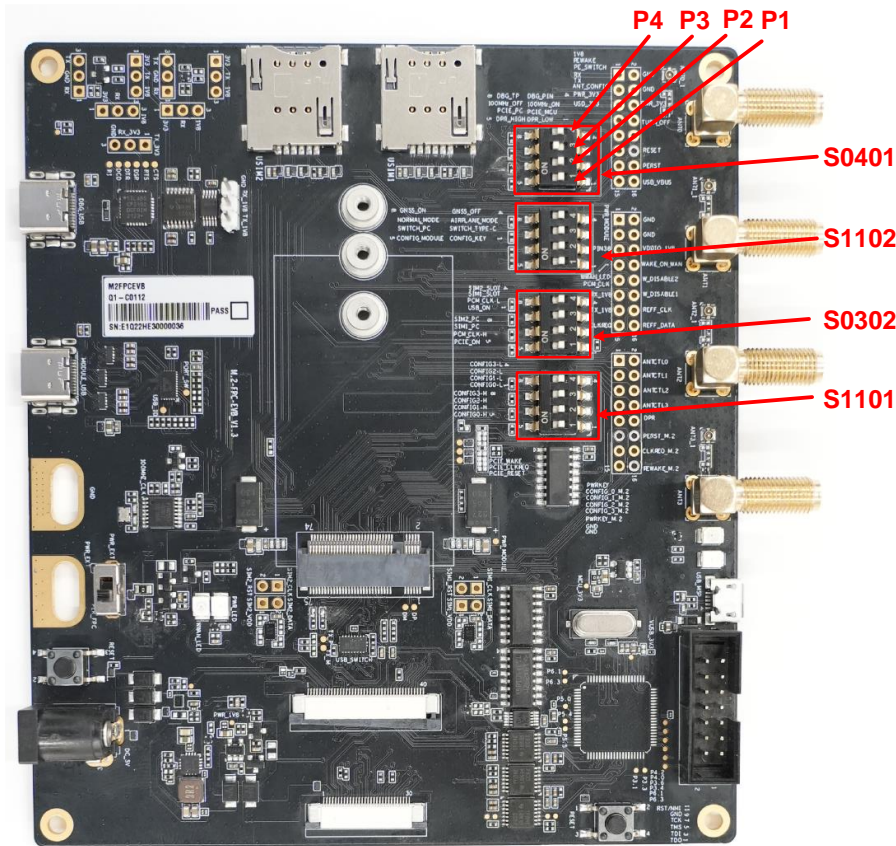


Figure 19: Diagram of DIP Switches

Table 15: DIP Switches Instructions

RefDes	No.	Description	OFF (The switch is on the right side)	ON (The switch is on the left side)
S0401	P1	DPR signal	Pull up to 1.8 V by default	Connect to ground
	P2	FULL_CARD_POWER_OFF#PC PCIE_RESET#_PC PCIE_CLOCK#PC PCIE_WAKE#PC Four signals control	Controlled by laptop through FPC	Controlled by U0902 MCU*
	P3	PCIe 100 MHz clock IC control	The 100 MHz clock IC is not used	Clock IC power supply; Output PCIe 100 MHz clock; Pull up PCIE_RESET#

	P4	U0702 connection direction	Connect to J0702 test points	Connect to the module's pin 22 and pin 28
S1102	P1	Control the CONFIG 0 to 3 connection direction of the FPC	Connect to the M.2 module	Connect to DIP switch S1101
	P2	Control the module's USB connection direction	Connect the module to the laptop	Connect the module to the USB Type-C interface (U0502) of the EVB
	P3	W_DISABLE1# signal	Pull up to 3.3 V by default	Connect to ground to enter airplane mode
	P4	W_DISABLE2# signal	Pull up to 3.3 V by default	Connect to ground to close GNSS function
S0302	P1	COEX3/USB-PCIE_SWITCH signal	Pull down the 100 k $\Omega$ resistor to ground by default	Pull up the 10 k $\Omega$ resistor to 1.8 V
	P2	PCM_CLK signal	Pull up to 1.8 V by default	Connect to ground
	P3	Select whether the (U)SIM1 card connector of the EVB or the laptop is adopted	Connect to the (U)SIM1 card connector of the laptop with FPC	Adopt (U)SIM1 card connector of the EVB
	P4	Select whether the (U)SIM2 card connector of the EVB or the laptop is adopted	Connect to the (U)SIM2 card connector of the laptop with FPC	Adopt (U)SIM2 card connector of the EVB
S1101	P1	CONFIG_0_DBG	Pull up to 3.3 V by default	Connect to ground
	P2	CONFIG_1_DBG	Pull up to 3.3 V by default	Connect to ground
	P3	CONFIG_2_DBG	Pull up to 3.3 V by default	Connect to ground
	P4	CONFIG_3_DBG	Pull up to 3.3 V by default	Connect to ground

## 4.11. Test Points

The EVB provides test points which help you obtain the corresponding waveforms of some signals. The following figures show the details of all test points.

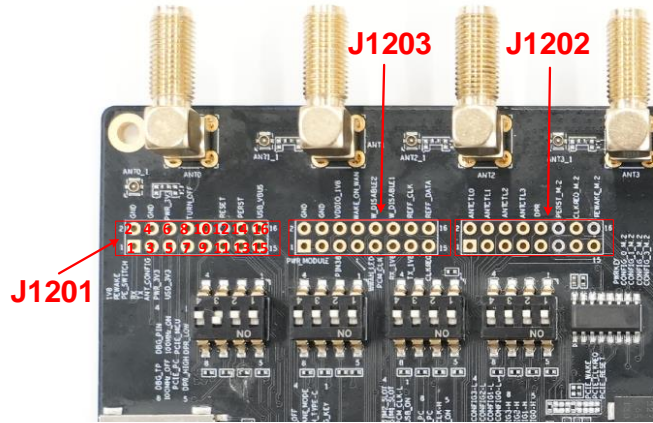


Figure 20: Test Points of J1201 and J1203 and J1202

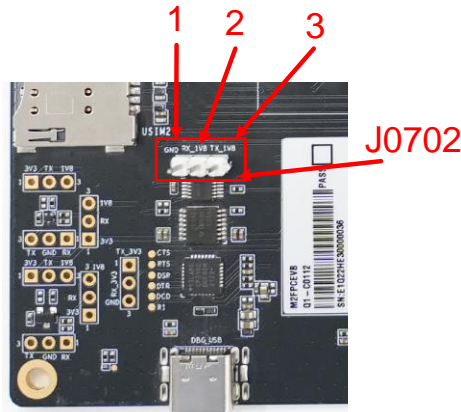


Figure 21: Test Points of J0702

Table 16: Pin Definition of Test Points

J1201				
Pin No.	Pin Name	Module Pin No.	Description	
1	PWR_1V8	-	1.8 V power supply	
2	GND	-	Ground	
3	PCIE_WAKE#_PC	-	PCIE_WAKE signal of the laptop	
4	GND	-	Ground	
5	COEX3/USB-PCIE_S	-	COEX3/USB-PCIE_SWITCH signal,	

	WITCH		100 kΩ pull-down resistor by default
6	PWR_3V3_FPC	-	3.3 V power supply
7	COEX_RXD	62	Connect to the module's pin 62
8	PWR_INT_TURN_OFF	-	Enables power supply from PWR_3V3 to PWR_MODLE_3V3
9	COEX_TXD	64	Connect to the module's pin 64
10	NC	-	-
11	ANT_CONFIG	68	Connect to the module's pin 68
12	RESET#_PC	-	RESET signal output of the laptop, control the module reset
13	PWR_3V3	-	3.3 V power supply
14	PCIE_RESET#_PC	-	PCIE_RESET# control signal of the laptop
15	USB_VDD_3V3	-	TTL to USB 3.3 V power supply
16	USB_VBUS_DBG	-	USB power supply

**J1202**

Pin No.	Pin Name	Module Pin No.	Description
1	FULL_CARD_POWER_OFF#_PC	-	FPC start-up signal
2	ANTCTL0	59	Connect to the module's pin 59
3	CONFIG_0_M.2	21	Connect to the module's pin 21
4	ANTCTL1	61	Connect to the module's pin 61
5	CONFIG_1_M.2	69	Connect to ground internally
6	ANTCTL2	63	Connect to the module's pin 63
7	CONFIG_2_M.2	75	Unconnected internally
8	ANTCTL3	65	Connect to the module's pin 65
9	CONFIG_3_M.2	1	Unconnected internally
10	DPR	25	Connect to the module's pin 25



11	PWRKEY	6	Module ON/OFF control signal
12	PCIE_RESET#	50	PCIe reset, active low
13	GND	-	Ground
14	PCIE_CLKREQ#	52	PCIe clock request, active low
15	GND	-	Ground
16	PCIE_WAKE#	54	PCIe wake up, active low

**J1203**

Pin No.	Pin Name	Module Pin No.	Description
1	PWR_MODULE_3V3	2、4、70、72、74	Module power supply
2	GND	-	Ground
3	PWR_MODULE_3V3	2、4、70、72、74	Module power supply
4	GND	-	Ground
5	NC	38	Connect to the module's pin 38
6	VDDIO_1V8	24	Connect to the module's pin 24
7	WWAN_LED#	10	Radio indicator, active low
8	WAKE_ON_WAN#	23	Connect to the module's pin 23
9	PCM_CLK	20	Connect to the module's pin 20
10	W_DISABLE2#	26	GNSS function control, active low, turn off GNSS function
11	PCM_IN/DBG_UART_RX_1V8	22	Connect to the module's pin 22
12	W_DISABLE1#	8	Airplane mode control, active low
13	PCM_SYNC/DBG_UART_TX_1V8	28	Connect to the module's pin 28
14	RFFE_CLK	56	Connect to the module's pin 56
15	PCIE_CLKREQ#_PC	-	PCIe clock request control signal of the laptop
16	RFFE_DATA	58	Connect to the module's pin 58

J0702			
Pin No.	Pin Name	Module Pin No.	Description
1	GND	-	Ground
2	RX_1V8	-	URTA's RX signal
3	TX_1V8	-	URTA's TX signal

# 5 Operation Procedures

This chapter introduces how to use the M.2-FPC EVB for testing and evaluation of applicable modules. Before the procedures below, please ensure modules and the EVB are correctly assembled.

M.2-FPC EVB mainly has two application scenarios: testing M.2 module on the laptop through FPC adapter board and cables and testing M.2 module on the EVB.

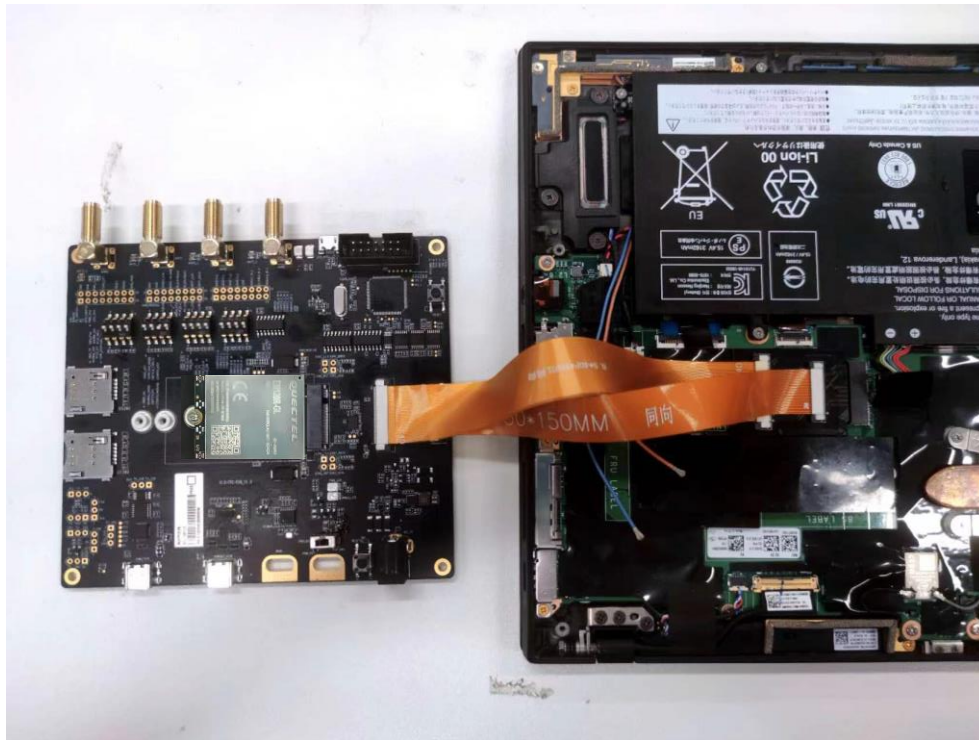
## 5.1. Test on the Laptop

### 5.1.1. Connection for Testing on the Laptop

When testing M.2 module on the laptop, the EVB assembly should be connected in the following way:



Figure 22: M.2-FPC EVB Assembly



**Figure 23: Assembly of M.2-FPC EVB and the Laptop**

### 5.1.2. Preset DIP Switches for Testing on the Laptop

Since there are many DIP switches on the EVB, there will be different DIP switches presets in different application scenarios. This chapter describes the positions of DIP switches when the module is tested on the laptop through FPC. Configuration is shown in the following figure (see **Chapter 4.10.2** for details):

The power switch (S0201) is switched to PWR\_FPC side. The DIP switches (S0401, S1102, S0302, and S1101) are all switched to the OFF side, which is the right side shown in the figure below.

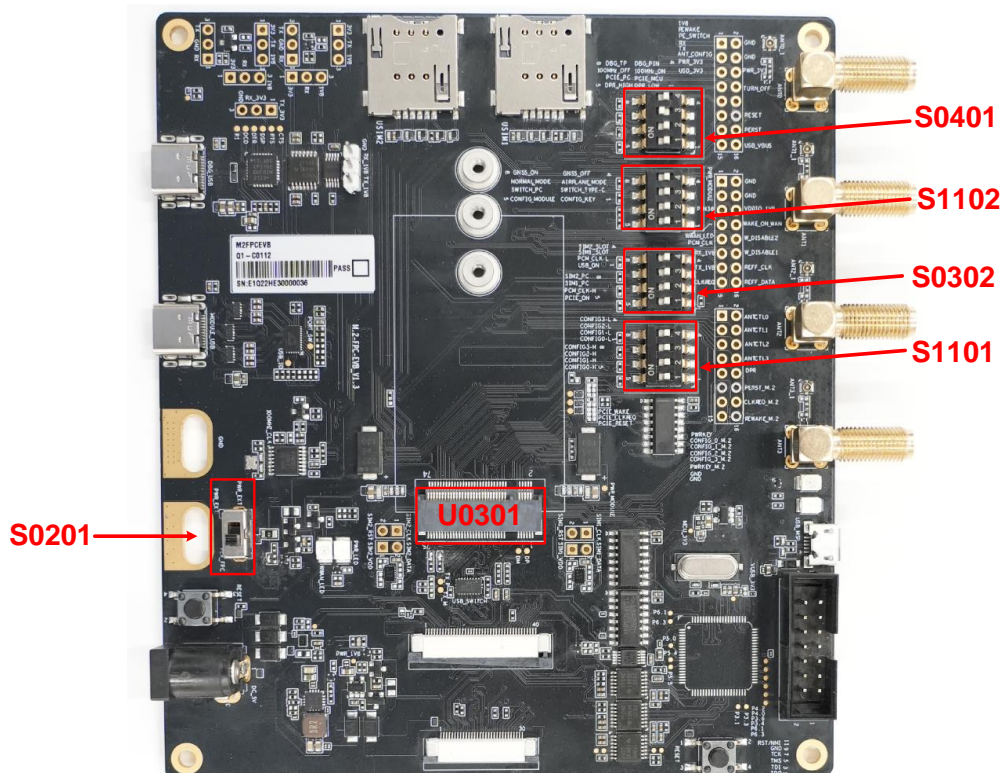


Figure 24: DIP Switches Position When the M.2-FPC EVB is Connected to Laptop

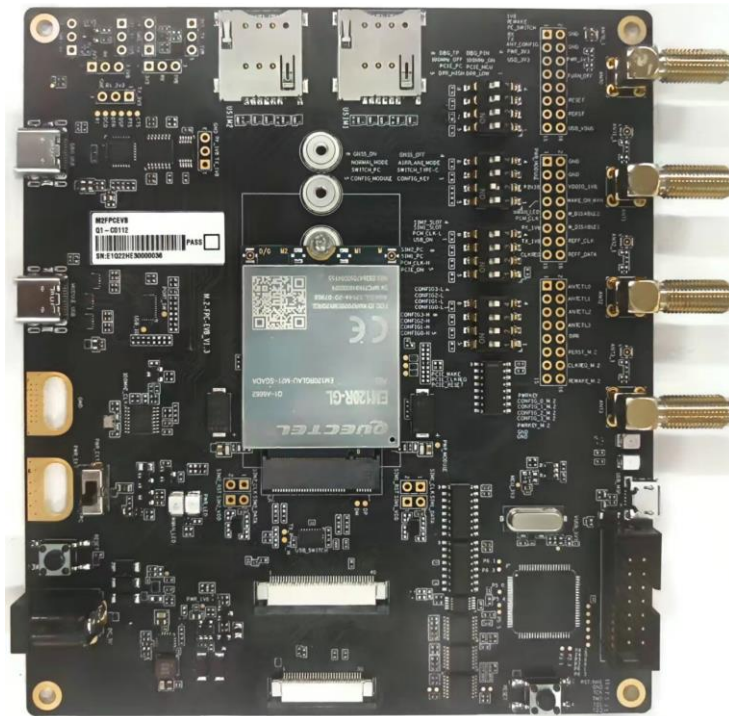
### 5.1.3. Turn On the Module

1. Connect the module to the EVB: insert the module into the M.2 connector (U0301) on the EVB, and then fix the module with screws.
2. Connect antennas to the module.
3. Switch S0201 (power switch) to PWR\_FPC side. Do not power the EVB through other power supply interfaces.
4. Connect the EVB to the laptop through FPC. D0204 (power ON/OFF indicator) lights up, which indicates that the power supply for the EVB is ready and the module is turned on. At this time, when the RF function is turned on, D0203 (module RF status indicator) lights up. See **Chapter 4.6** for specific information.

## 5.2. Test on the EVB

### 5.2.1. Connection Between the Module and the EVB

When testing M.2 module on the EVB, the EVB assembly should be connected in the following way:



**Figure 25: M.2-FPC EVB Assembly for Testing**

### 5.2.2. Preset DIP Switches for Testing on the EVB

Since there are many DIP switches on the EVB, there will be different DIP switches presets in different application scenarios. This chapter describes the positions of DIP switches when the module is tested on the EVB. See **Chapter 4.10.2** for detailed information.

The power switch (S0201) is switched to PWR\_FPC side. P3 of S0401, P2 of S1102, P3 and P4 of S0302 are switched to the ON side, which is the left side shown in **Figure 24**. Other DIP switches are switched to the OFF side, which is the right side shown in **Figure 24**.

### 5.2.3. Turn On the Module

1. Connect the module to the EVB: insert the module into the M.2 connector (U0301) on the EVB, and then fix the module with screws.
2. Insert the (U)SIM card into the (U)SIM card connector on the EVB and connect antennas to the module.
3. Switch S0201 (power switch) to PWR\_FPC side.
4. Connect the EVB to the 5 V power adapter or use the USB Type-C cable to connect the EVB to the laptop. D0204 (power ON/OFF indicator) lights up, which indicates that the power supply for the EVB is ready and the module is turned on. At this time, when the RF function is turned on, D0203 (module RF status indicator) lights up. See **Chapter 4.6** for specific information.

### 5.2.4. Communication Via USB

1. Turn on the module according to the procedure in **Chapter 5.2.3**.
2. Connect the EVB and laptop with USB cable through USB Type-C interface (U0502), and then install the CP210X USB driver on the laptop. The USB port numbers can be viewed in Device Manager of the PC when the USB driver is installed, as shown below.

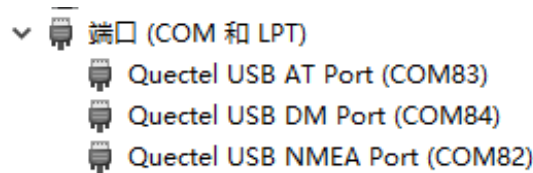


Figure 26: USB Ports

3. Install and then use QCOM provided by Quectel to realize the communication between the module and the laptop. The following figure shows the COM Port Setting of QCOM: select the correct “COM Port” (USB AT Port, which is shown in figure above) and set correct “Baudrate” (e.g. 115200 bps). For more details about QCOM usage and configuration, please refer to **document [2]**.



Figure 27: COM Port Setting on QCOM (USB AT Port Connection)

## 5.3. Turn Off the Module

There are two methods to turn off the module.

- Turn off the module with **AT+QPOWD**. This is the best and the safest method. The module will log off from the network and save data before shutdown. When turning off the module with AT command, please keep PWRKEY at a high level after the execution of the power-off command, otherwise, the module will be turned on again after successful turn-off.
- Turn off the module by powering down.

**NOTE**

For more details about **AT+QPOWD**, see the AT commands manual of the corresponding module.

### 5.4. Reset the Module

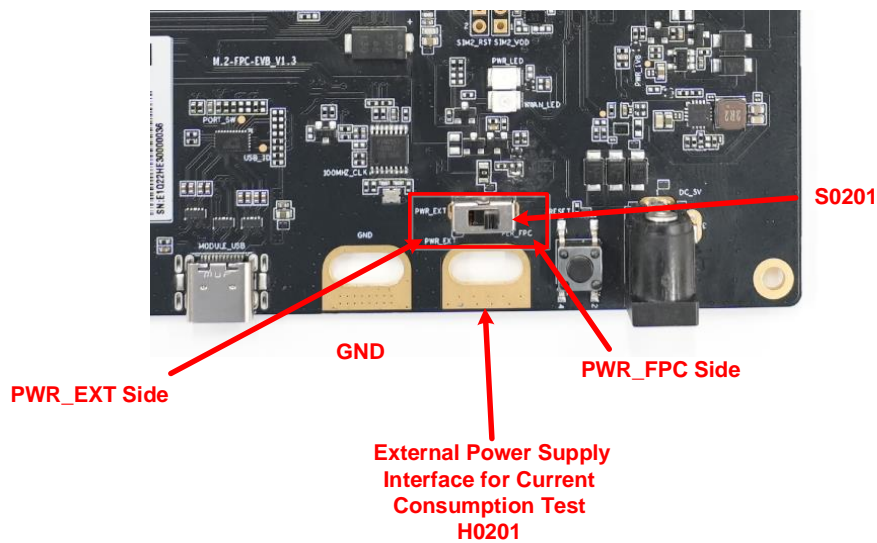
Reset is only used in case of emergency or abnormality. For example, the software fails to respond for more than 5 seconds due to some serious problems.

Press the button S0301, and then release it to reset the module. Please note that this operation may cause loss of information in the memory as the module will be initialized after the resetting.

### 5.5. Current Consumption Test

M.2-FPC EVB can be used to test the current consumption of the module. The specific test steps are as follows:

1. Switch S0201 to PWR\_EXT side. H0201 is connected to the external power supply to supply power for the module separately.
2. Use EVB to operate the module according to the process described in **Chapter 5.1** and **5.2**, and then test the current consumption.



**Figure 28: Current Consumption Power Supply Connection Diagram**



# 6 Appendix References

**Table 17: Related Documents**

Document Name
[1] Quectel_List_of_EVB_Applicable_Modules
[2] Quectel_QCOM_User_Guide
[3] Quectel_QFlash_User_Guide
[4] Quectel_LTE&5G_Windows_USB_Driver_Installation_Guide

**Table 18: Terms and Abbreviations**

Abbreviation	Description
COM	Communication Port
DC	Direct Current
DI	Digital Input
DIP	Dual In-line Package
DO	Digital Output
EVB	Evaluation Board
FPC	Flexible Printed Circuit
GND	Ground
GNSS	Global Navigation Satellite System
I/O	Input/Output
JTAG	Joint Test Action Group
LED	Light Emitting Diode

---

LTE	Long Term Evolution
MCU	Microcontroller Unit
NC	Not Connected
PCB	Printed Circuit Board
PCM	Pulse Code Modulation
PCIe	Peripheral Component Interconnect Express
PO	Power Output
RF	Radio Frequency
UART	Universal Asynchronous Receiver/Transmitter
USB	Universal Serial Bus
(U)SIM	(Universal) Subscriber Identity Module

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