

PICO-WIZARD-IMX8M Quickstart Guide



1 Safety Precautions

Thank you for purchasing a TechNexion PICO series evaluation kit based on NXP i.MX8M applications processor. This installation guide will be helpful in the installation, wiring and inspection of your TechNexion evaluation kit. Before using the product, please read this guide to ensure correct use. You should thoroughly understand all safety precautions before proceeding with the installation, wiring, and operation. Place this instruction sheet in a safe location for future reference.

1.1 Storage and Installation



- Keep the device dry. Precipitation, humidity, and all types of liquids or moisture can contain minerals that will corrode electronic circuits. If your device does get wet, allow it to dry completely.
- Do not use or store the device in dusty or dirty areas. Its parts and electronic components can be damaged.
- Do not store the device in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store the device in cold areas. When the device returns to its normal temperature, moisture can form inside the device and damage electronic circuit boards.
- This product is designed for specific applications and needs to be installed by qualified personnel.
- Do not drop, knock, or shake the device. Rough handling can break internal circuit boards and fine mechanics.
- Do not paint the device. Paint can clog the parts and prevent proper operation.
- Unauthorized modifications or attachments could damage the device and may violate regulations governing radio devices.

1.2 Wiring



- Make sure that the available power source matches the required input power of the device. Failure to observe this caution may result in electric shock or fire.

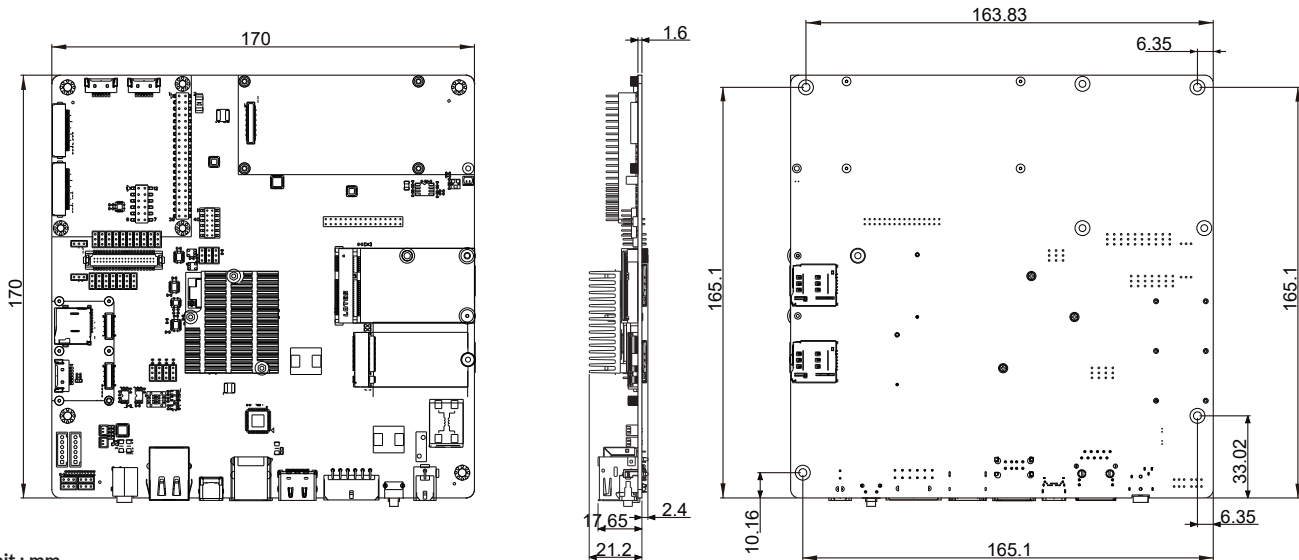
1.3 Maintenance and Inspection



- Do not touch any internal or exposed parts of the device as electrical shock may result.
- Do not open the device while power is on. Otherwise electrical shock may result.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the device.
- Be sure the ventilation holes are not obstructed during operation. Otherwise malfunction may result due to bad ventilation or overheating.

These suggestions apply equally to your device, battery, charger, or any enhancement. If any device is not working properly, take it to the nearest authorized service facility for service.

2 Dimensions



Unit : mm

3 Installation Instructions

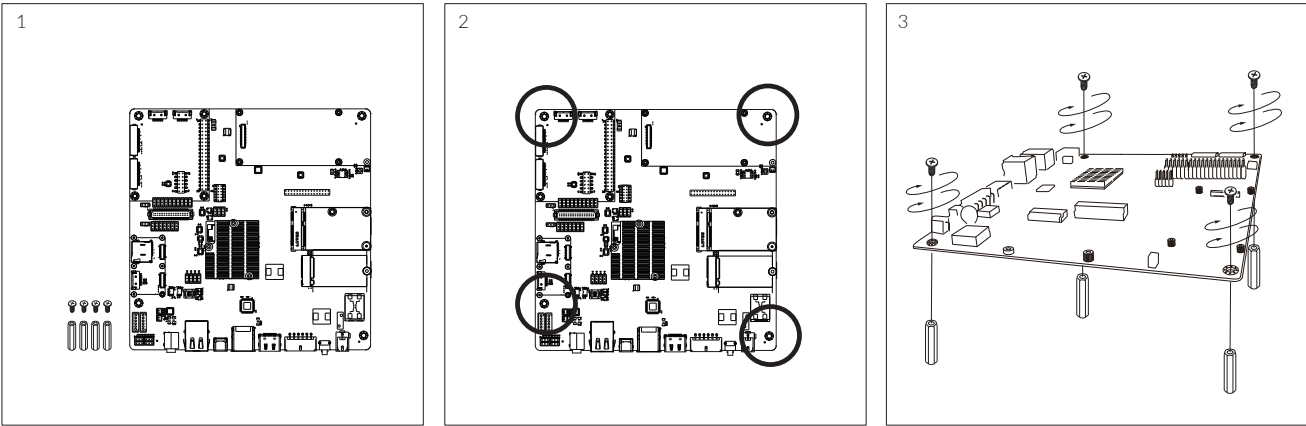
This installation guide will help you to assemble your development kit using step-by-step instructions to make sure all parts (development board, display, camera module and Wi-Fi antenna) are working.

3.1 Connect the parts

Connect the parts in the following order. Note that some versions of the PICO-WIZARD-IMX8M evaluation kit do not include the multi-touch display, camera/HDMI capture module and/or HDMI expander card.
Tips: Do not power your board during the installation process.

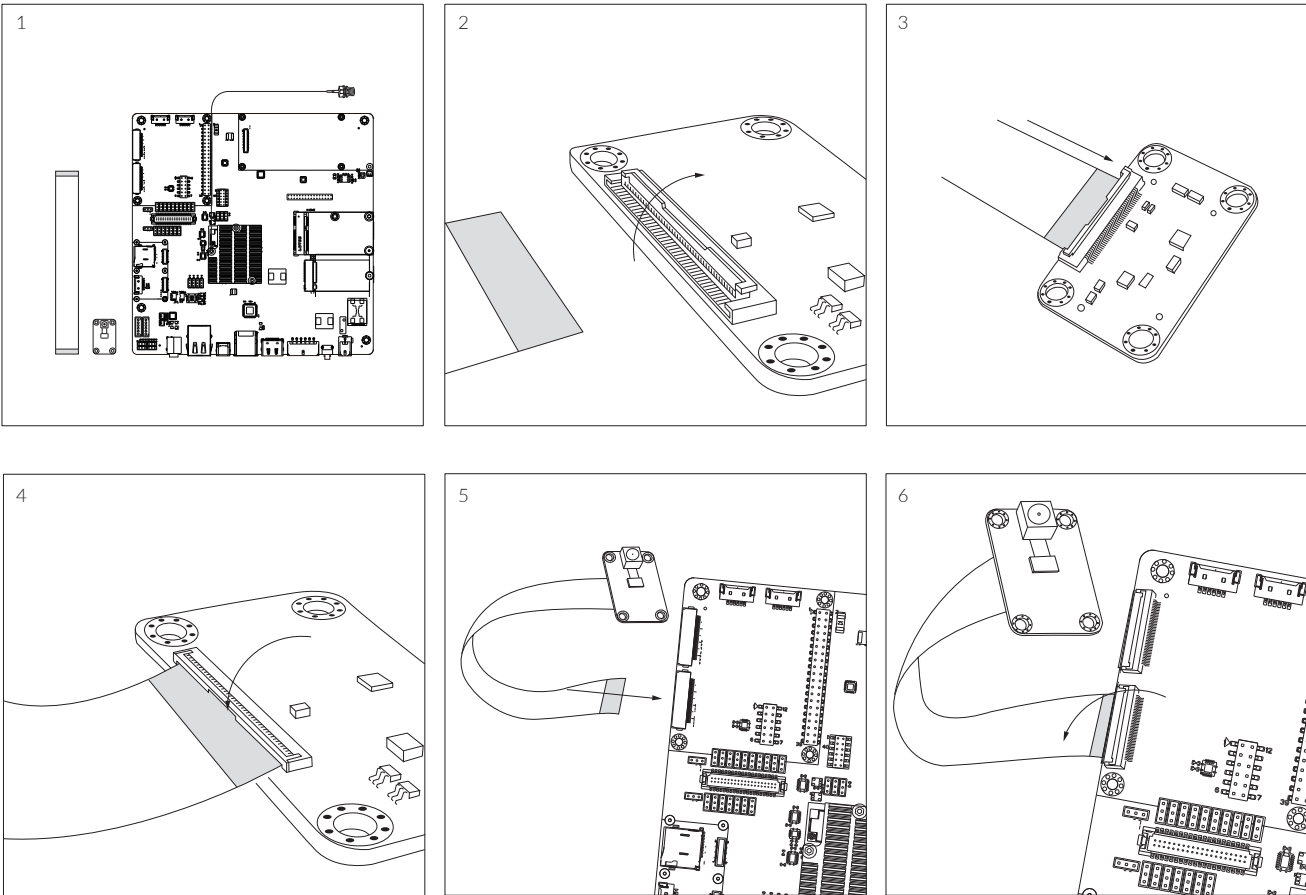
3.2 Standoffs

Let's prepare four standoffs It only takes a few minutes.
Step 1: Prepare evaluation board and standoffs.
Step 2: Locate four standoffs holes on the evaluation board.
Step 3: Locate a screw and insert it into the hole. Screw a standoff on the underside. Attach the standoffs for the remaining three holes.



3.3 Camera module / HDMI capture card (optional)

Please follow the steps below to properly install the camera module. The same steps can be applied to the installation of the HDMI capture card.
Step 1: Prepare camera module, FPC cable and evaluation board.
Step 2: Turn the camera module over to reveal a white connector near the edge of the module. Swivel the black retaining clip upward.
Step 3: Insert either end of the camera module cable into the white connector. Make sure that the blue side of the ribbon is facing up and is aligned straight with the connector. The silver pins on the FPC cable should be facing down.
Step 4: Swivel the retaining clip back down to hold the FPC cable in place.
Steps 5 and 6: Repeat these same steps with the other end of the cable and the connector on the board.
Tips: After installation remove the protective blue film from the camera lens.



3.4 Display (optional)



- If you buy your evaluation kit with 8" or 10.1" panel, please refer to the separate 8" / 10.1" panel installation guide included with the panel for more details. After you finish the panel installation, return to this guide.

Please follow the steps below to properly install the 5" display.

Step 1: Prepare evaluation board, MIPI expander board and screws.

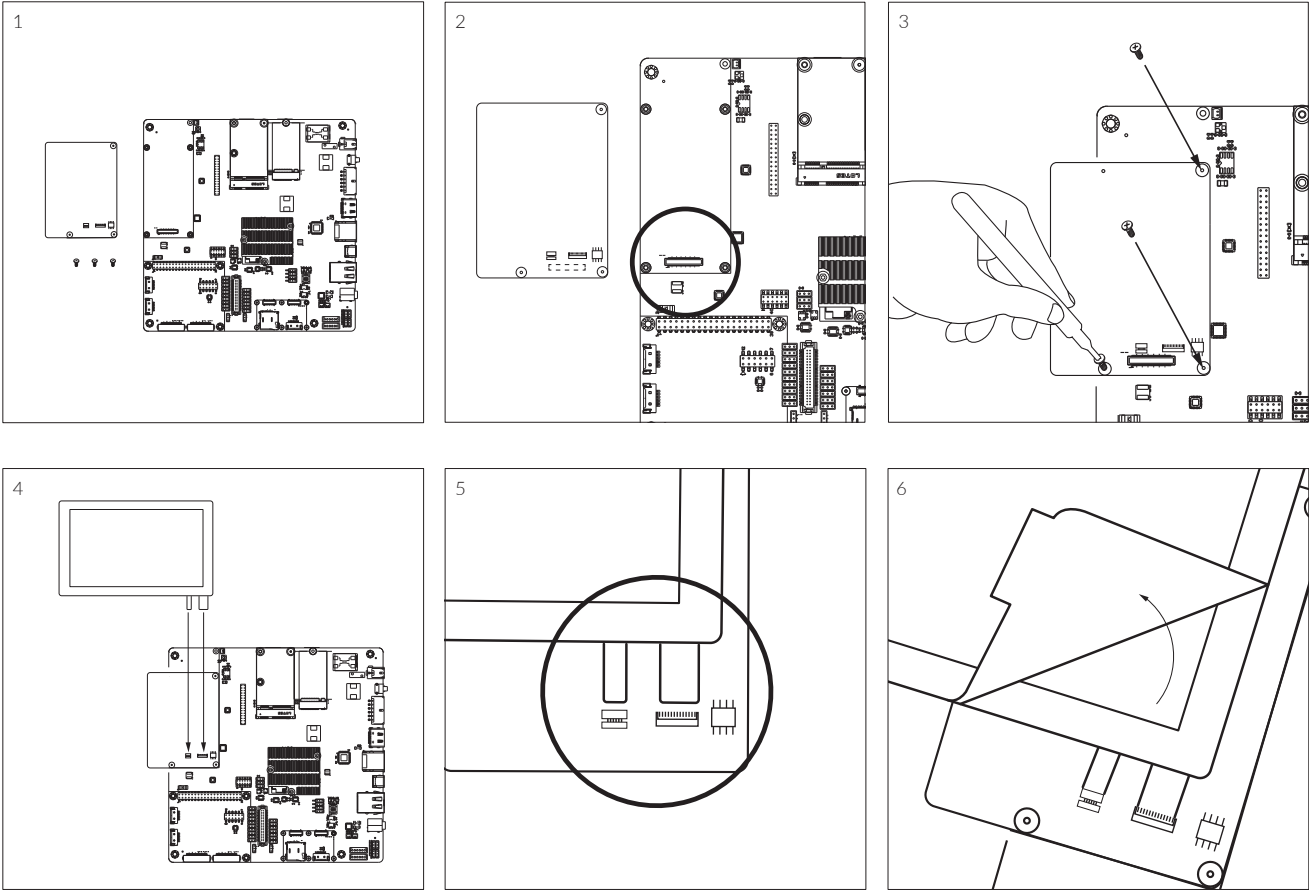
Step 2: Locate the MIPI expander board and align the 70-pin connectors, gently press the connector on the back of the expander board onto the connector on the evaluation board until you hear a click sound.

Step 3: Use three screws to secure the MIPI expander board to the development board.

Step 4: Locate the MIPI Display connectors on the expander board. Swivel the black retaining clips upward.

Step 5: Insert end of the TOUCH and MIPI Display FPC cables into the connectors on the board. The silver pins on the FPC cable should be facing down. Then swivel the retaining clips back down to hold the FPC cables in place.

Step 6: Remove the protective transparent film from the display.



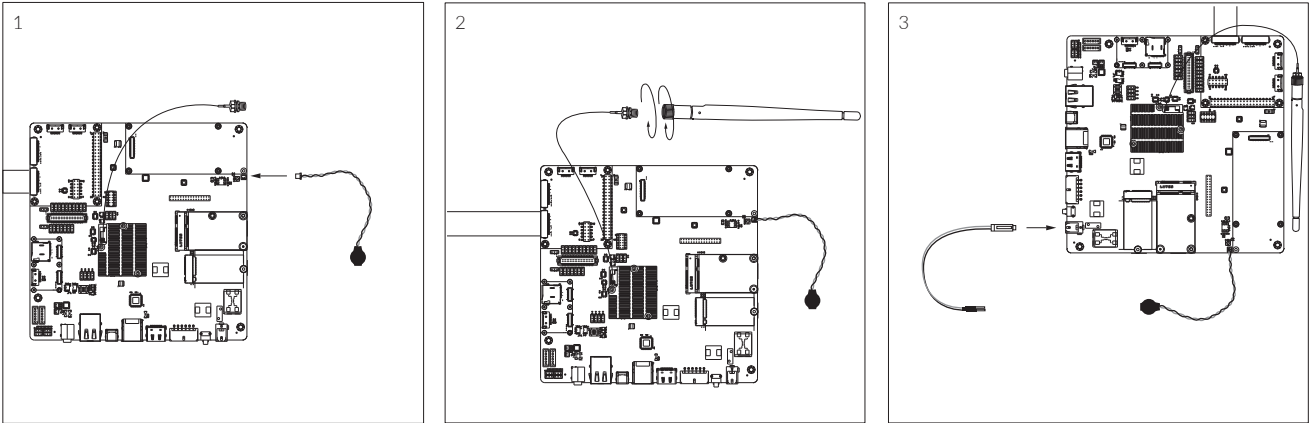
3.5 Final steps

Now your kit is almost assembled.

Step 1: Connect the RTC backup battery.

Step 2: Attach the extender cable to the Wi-Fi antenna.

Step 3: Connect the 2-pin Micro-Fit 3.0 cable to power up the evaluation kit.



4 Pin Definition

4.1 Power Connector (DCIN1 DCIN2)

This product features one 2-pin Micro-Fit 3.0 power connector: DCIN1 +12v.

Header	Pin #	Signal	Description
	1	GND	Ground
	2	VCC	DC Voltage input (12V DC)

Header on PICO-WIZARD-IMX8M: Molex 43045-0212 (2-pin Micro-Fit 3.0).
Cable receptacle: Molex 43025-0200 (2-pin Micro-Fit 3.0) plug with crimp contact Molex 43030-0007.

4.2 SW3-8 Default Boot Mode Switches

The PICO-WIZARD-IMX8M features internal Default Boot Mode switches.

SW3-SW6:				SW7:			SW8:			
Switch #	eMMC (default)	MicroSD	Serial Downloader	ETH	SW7	I/O	SW8	1-8	2-7	3-6 4-5
SW3	2-3	1-2	X	IMX8M	3-6	2.5V	ON	ENABLE CANBUS1 TERMINATOR RESISTOR		ENABLE CANBUS2 TERMINATOR RESISTOR
SW4	2-3	2-3	1-2				OFF	DISABLE CANBUS1 TERMINATOR RESISTOR		DISABLE CANBUS2 TERMINATOR RESISTOR
SW5	1-2	2-3	X							
SW6	1-2	1-2	2-3							

* SW7 is default without setting

4.3 WI-FI Mode Setting

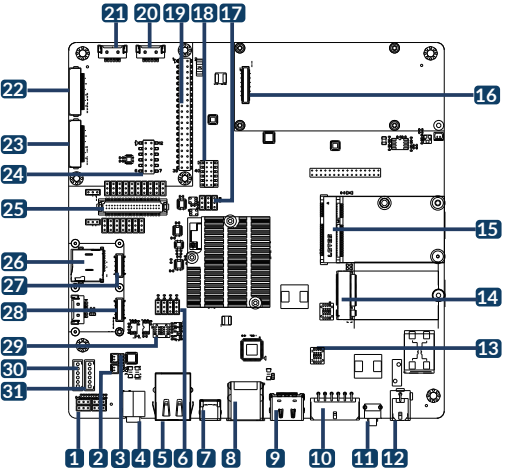
WI-FI	RJ11-RJ6	R488	R404	R470	R90
WI-FI	(1-2)	ADD	DEL	DEL	ADD
WO WIFI	(2-3)	DEL	ADD	ADD	DEL

4.4 IMX8M BOOT Device Jumper Settings

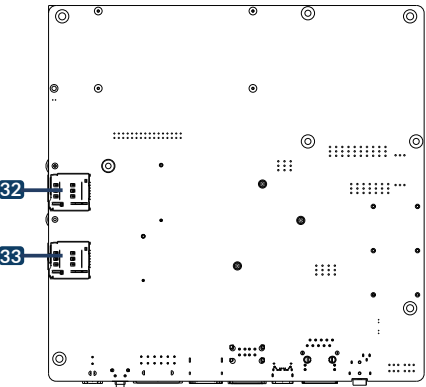
J9	pin3	pin7
eMMC	Low	High
SD2	High	Low

5 External Connectors

Front view:



Rear view:



No.	Description	No.	Description	No.	Description
1	SW3-SW6 switch	12	Power Input connector	23	MIPI Camera1 connector
2	L-Speaker connector	13	SW8 switch	24	VOICEHAT2 12-pin connector
3	R-Speaker connector	14	M.2 KEY-B connector	25	LVDS1 connector
4	3.5mm jack audio out	15	PCIe connector	26	MicroSD card slot
5	LAN RJ45 connector	16	MIPI Display connector	27	CLIX2 hole15 connector
6	JP17-JP20 select jumper	17	J3-J5 jumper	28	CLIX1 hole17 connector
7	USB OTG (Type-C) connector	18	J6 jumper	29	SW7 switch
8	USB Host connectors (2x)	19	40-pin expansion header	30	M1 Console
9	HDMI connector	20	TOUCH1 connector	31	M4 Console
10	CAN Bus connector	21	NTAG1 connector	32	Micro-SIM1 card slot
11	Reset1 button	22	MIPI Camera2 connector	33	Micro-SIM2 card slot

6 Software Installation

The unit is preloaded with software that can download and install a selection of OS images over hardwired network. Simply connect a network to the unit through the LAN RJ45 connector and power it up, then follow the steps on the screen to load the software. Local proxies will interfere with this process. For more information, go to our Knowledge Base at: <https://www.technexion.com/support/knowledge-base/>

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