

Sanpyl Sanpyl8gz9xgpbk78326

Sanpyl 3G/4G LTE Base Hat Module Instruction Manual

Model: Sanpyl8gz9xgpbk78326

1. PRODUCT OVERVIEW

The Sanpyl 3G/4G LTE Base Hat Module is designed to provide 3G/4G LTE connectivity to various single board computers. It features a Mini PCI-E socket for compatible cellular modules and a Nano SIM card slot. This module can also operate independently via a Micro USB connection.

Key Features:

- Compatible with 40-pin GPIO header boards such as Raspberry Pi 4, 3, 2, B+.
- Efficient power circuit supporting up to 3 Amps.
- Wide operating temperature range: -40°C to 80°C.
- Clip-in Mini PCI-E socket for various LTE, UMTS/HSPA+, and GSM/GPRS/ modules.
- Accessible Nano SIM card socket.
- Can be used standalone with a PC/Laptop via Micro USB.

2. PACKAGE CONTENTS

Verify that all items listed below are included in your package. If any items are missing or damaged, please contact customer support.

- 1 x 3G/4G LTE Base Hat Module
- 1 x USB 2.0 to Micro USB Cable
- 1 x Screw Driver
- 1 x Accessories Package (screws, standoffs)
- 1 x User Manual (this document)

Package Contents

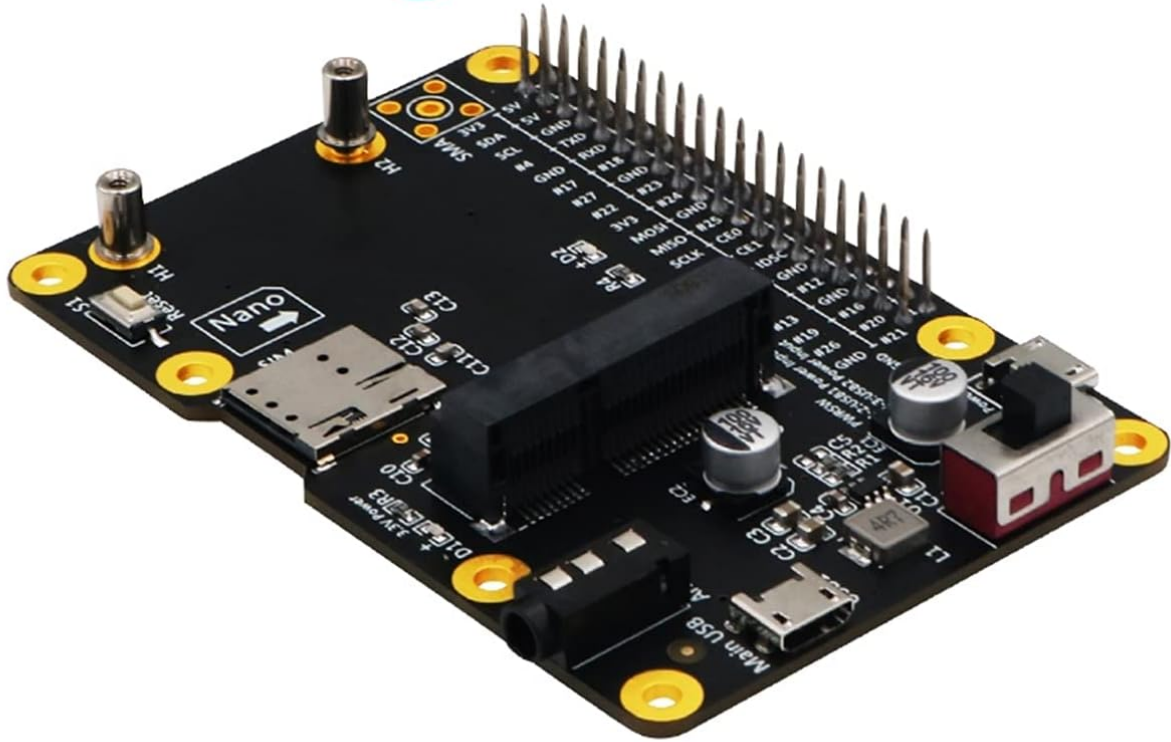


Figure 2.1: Package Contents

3. PRODUCT SPECIFICATIONS

Feature	Specification
Item Type	3G/4G LTE Base Hat
Working Temperature Range	-40°C ~ 80°C
Hardware Interface	USB
Data Link Protocol	USB
Power Support	Up to 3 Amps

Product Dimensions (L x W x H)	85 x 55mm (3.3 x 2.2 inches)
Weight	0.11 Kilograms
Model Number	Sanpyl8gz9xgpbk78326

4. COMPATIBILITY

Compatible Host Boards:

- Raspberry Pi 4
- Raspberry Pi 3
- Raspberry Pi 2
- Raspberry Pi B+
- Asus Tinker Board
- Rock 64
- Samsung ARTIK's Board
- Latte Panda

Compatible Mini PCI-E Modules:

- For Quectel: EC25/EC21/EC20/UC20/LTE-EP06 Series
- For Sierra Wireless: AirPrime MC Series
- For Telit: LM960, LE910V2, HE910, LE910Cx Series
- For Huawei: ME909s-120, ME909s-821 Series
- For Simcom: SIM7100, SIM7230 Series
- For ZTE: ZM8620 Series
- For U-Blox: MPCl-L2 Series
- For Thales: PLS62W, mPLS8, mPLAS9 Series



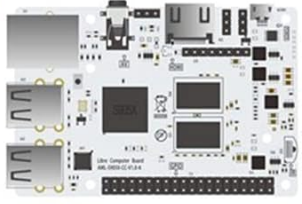
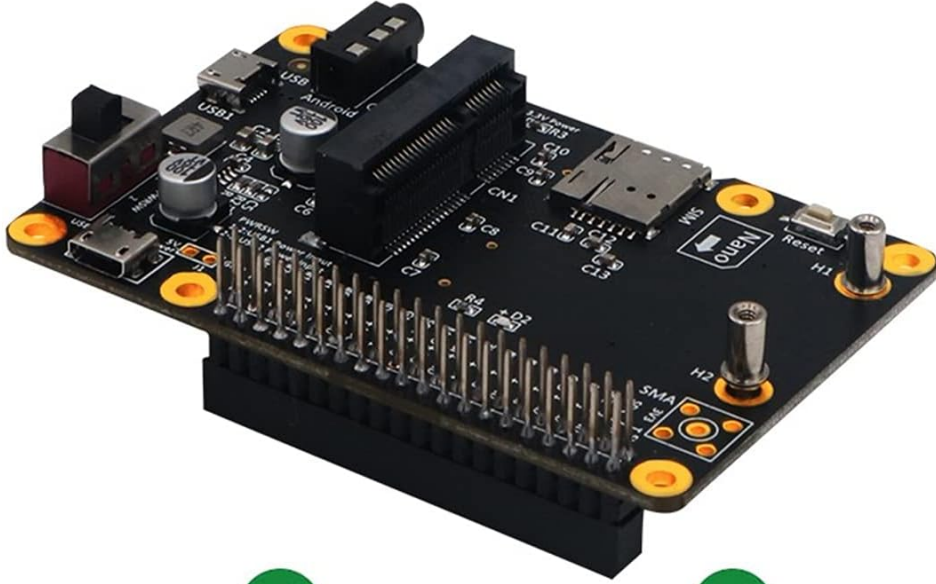
For Raspberry Pi



For Asus Tinker Board



For Samsung ARTIK



For Liber Computer Board



For Rock64 Media Board



For VIM 2SBC

Figure 4.1: Compatible Single Board Computers

5. PRODUCT LAYOUT AND DIMENSIONS

Familiarize yourself with the various components and their locations on the module.

Product Dimension

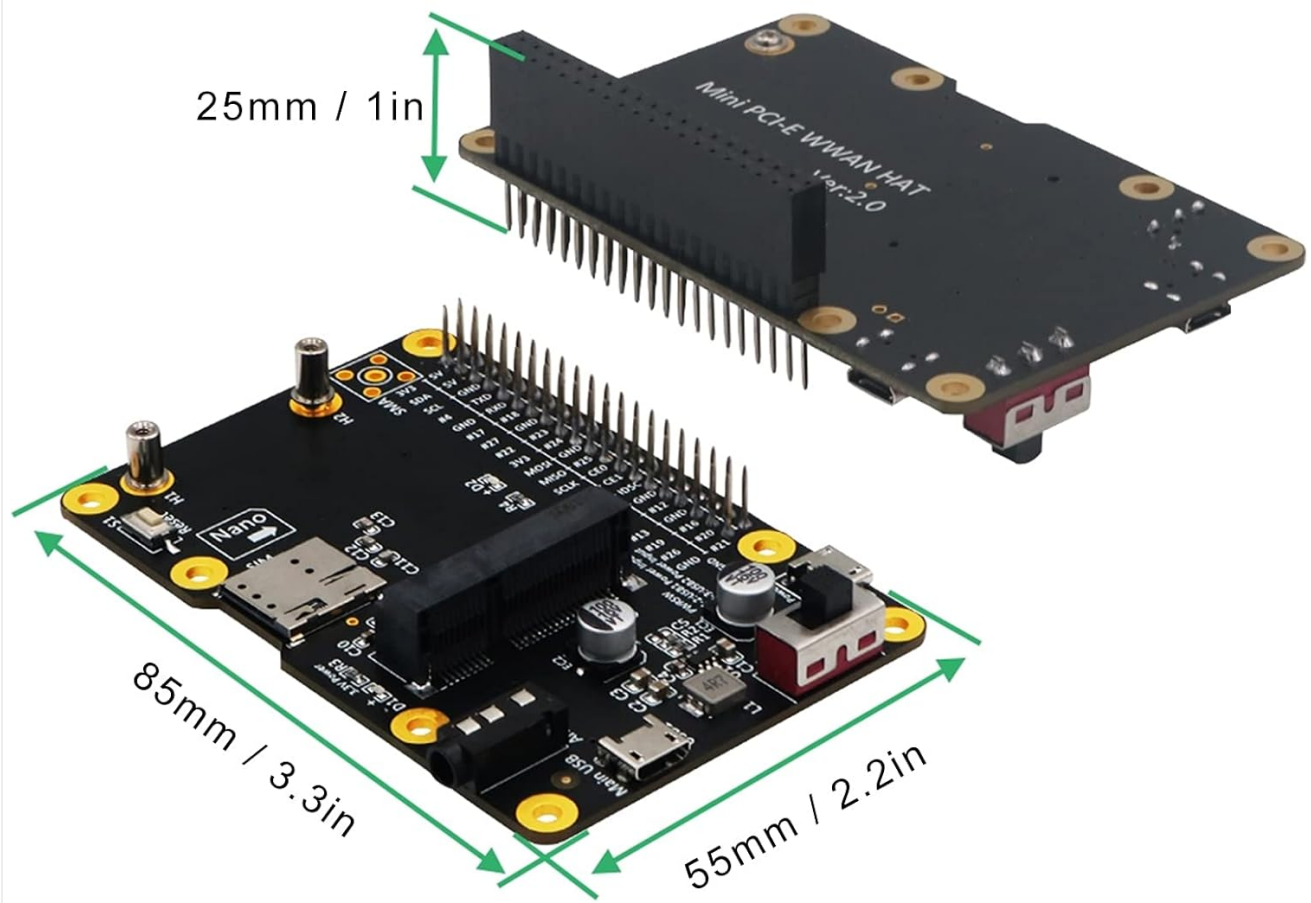


Figure 5.2: Product Dimensions

6. SETUP INSTRUCTIONS

Follow these steps to set up your 3G/4G LTE Base Hat Module.

1. **Attach the HAT to your Host Board:** Carefully align the 40-pin GPIO header of the Base Hat Module with the corresponding pins on your compatible single board computer (e.g., Raspberry Pi). Press down gently until it is securely seated.
2. **Install Mini PCI-E Module:** Insert your compatible 3G/4G LTE Mini PCI-E module into the designated slot on the Base Hat. Secure it with the provided screws if necessary.
3. **Insert Nano SIM Card:** Locate the Nano SIM card socket on the Base Hat. Insert your activated Nano SIM card into the slot until it clicks into place. Ensure the card is oriented correctly.
4. **Connect Antennas (Optional):** If your Mini PCI-E module requires external antennas, connect them to the appropriate SMA connectors on the Base Hat.
5. **Power Connection:** Connect the Micro USB cable to the 'Main USB' port on the Base Hat. Connect the other end to a power source or your host board's USB port. Alternatively, if using the module standalone, connect it to a PC/Laptop via Micro USB.
6. **Power Selection Switch:** Adjust the power selection switch (PWR SW) if needed, based on your specific setup and power requirements.

8. MAINTENANCE

To ensure the longevity and optimal performance of your Sanpyl 3G/4G LTE Base Hat Module, observe the following maintenance guidelines:

- **Keep Clean:** Regularly clean the module with a soft, dry cloth. Avoid using liquid cleaners or solvents.
- **Avoid Extreme Conditions:** Do not expose the module to extreme temperatures, humidity, or direct sunlight beyond its specified operating range.
- **Handle with Care:** Avoid dropping or subjecting the module to physical shock. When inserting or removing components, do so gently to prevent damage to connectors and pins.
- **Firmware Updates:** Periodically check for firmware updates for your Mini PCI-E module, as these can improve performance and stability.

9. TROUBLESHOOTING

If you encounter issues with your 3G/4G LTE Base Hat Module, refer to the following common troubleshooting steps:

- **No Power LED:** Ensure the Micro USB cable is securely connected and the power source is active. Check the power selection switch (PWR SW) position.
- **Module Not Detected:** Verify that the Mini PCI-E module is correctly seated in its slot. Ensure the Base Hat is properly connected to the host board's GPIO or via Micro USB to a PC. Check for necessary drivers on your operating system.
- **No Network Connection:** Confirm that the Nano SIM card is correctly inserted and activated with a data plan. Check your operating system's network settings, especially the APN configuration. Ensure external antennas (if used) are properly connected.
- **Intermittent Connectivity:** This could be due to weak cellular signal. Try relocating the device or using external antennas. Ensure the power supply is stable and sufficient (up to 3 Amps).
- **Module Overheating:** Ensure adequate ventilation around the module and host board. Operating within the specified temperature range (-40°C ~ 80°C) is crucial.
- **Reset Function:** If the module becomes unresponsive, press the 'Reset' button (S1) to restart the module.

If problems persist after attempting these steps, consult the documentation for your specific Mini PCI-E module or contact Sanpyl customer support.