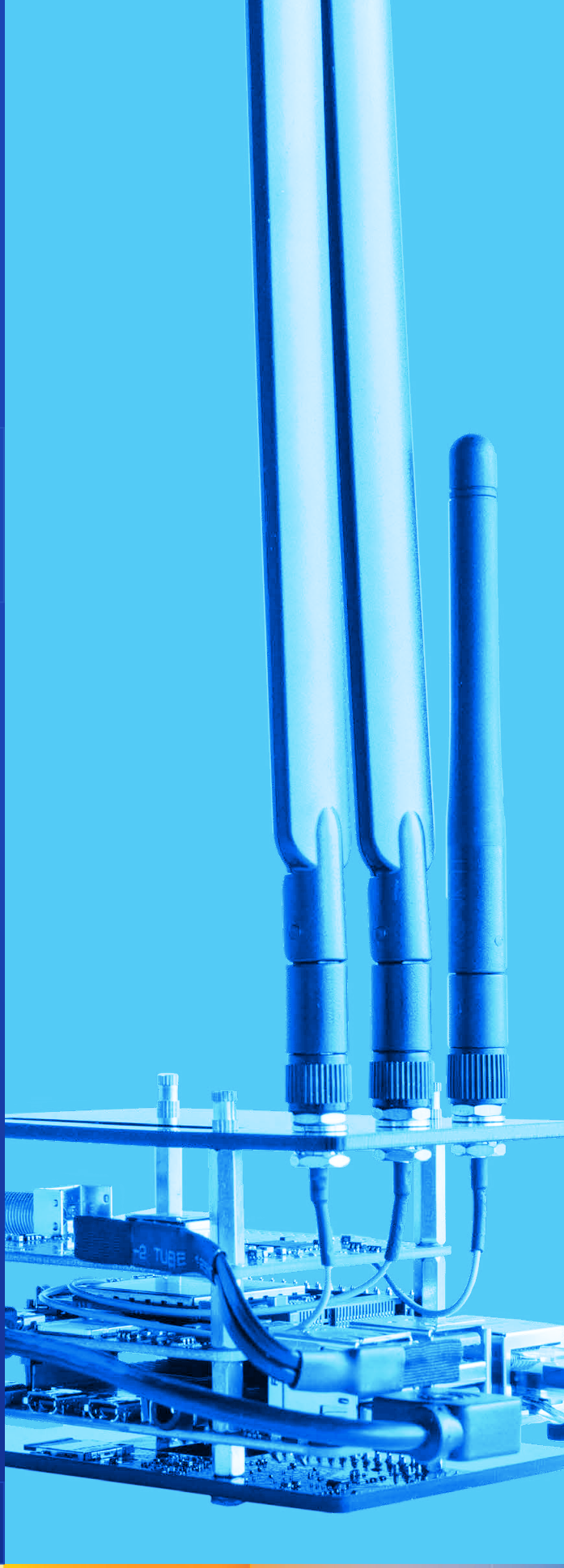
DEVELOPER KIT

Setup Guide

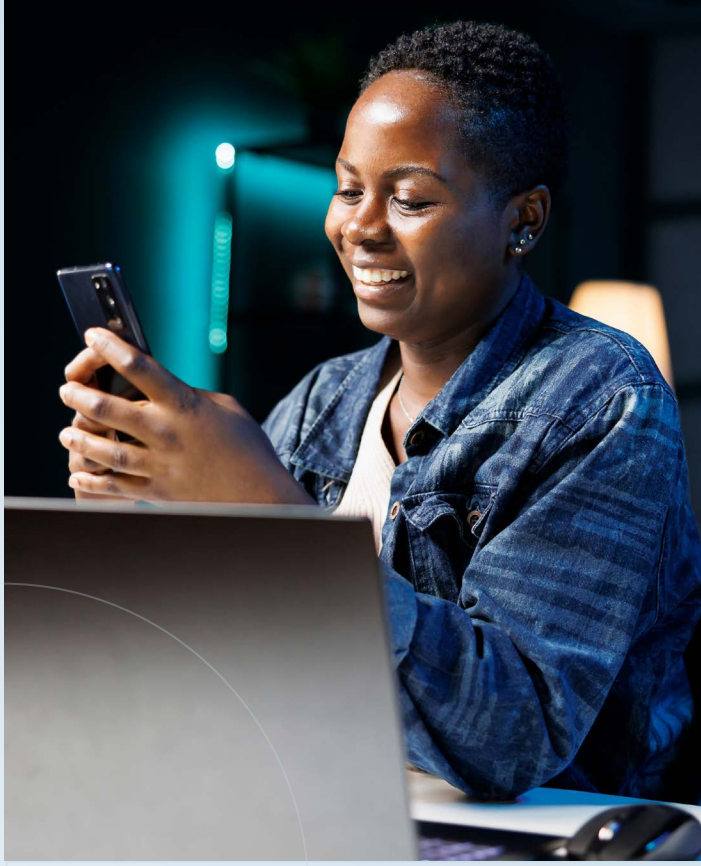
EDGE BEAM



Thank you for taking the time to review the EdgeBeam Wireless datacasting Developer Kit!

This setup guide will walk you thru the simple assembly steps of the unit. Once these steps are complete, you can move to our User Guide which covers:

- Connectivity
- Configuration
- Tour of the Web UI
- Live market and test lab features
- File handling logic and workflow
- Return path API
- Using Developer Kit API's with Postman



Lets get started! Open the box, and begin at the package contents section below!

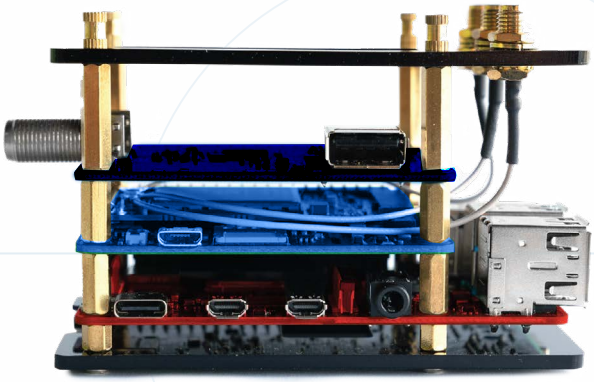
Package Contents

Your EdgeBeam Wireless Developer Kit will have the following items in the package:

- Quickstart one sheet, providing the URL to this document, as well as the API documentation in Github
- One Raspberry Pi 4 Developer Kit unit with pre-installed Micro SD and 4G SIM card
- One USB power supply and USB-C power cord
- Two TX4G-JKC-19 4G cellular modem antennas
- One TX-GB-JK-11 GPS Antenna
- One USB-A to USB-A cable
- One USB-A to USB Micro cable
- One 5G/LTE inline filter
- One external OTA RF Antenna

Raspberry Pi 4 computer side view

The EdgeBeam Wireless Developer Kit is based off of the Raspberry Pi 4 computing platform. In addition to the Pi 4 computer, there are two additional Pi communication HAT's (Hardware Attached on Top). Outlined below are the three major components color coded for indentification:



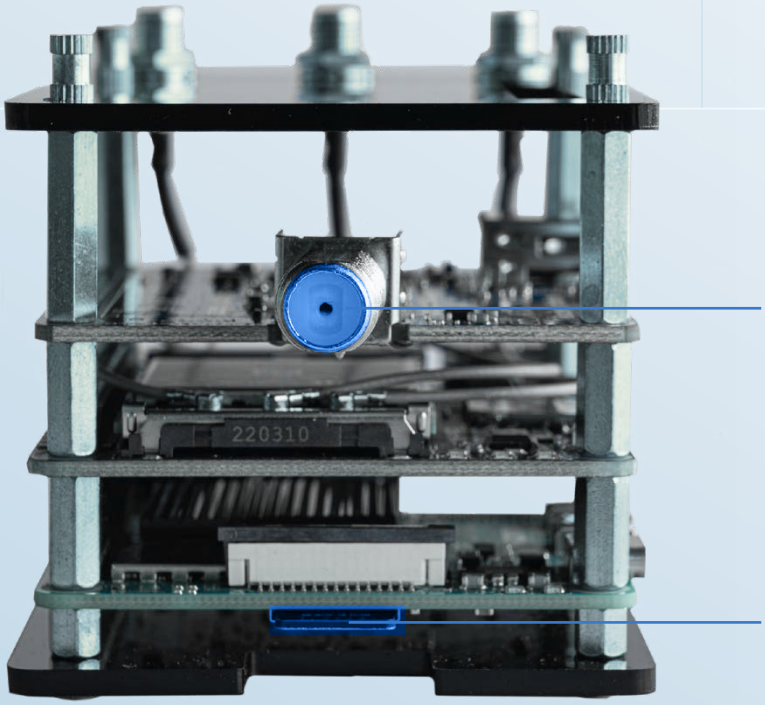
Raspberry Pi 4 HAT identification

The entire computer consists of 3 boards:

ATSC 3.0 Receiver Module

4G/LTE Cellular Modem

Raspberry Pi Model 4

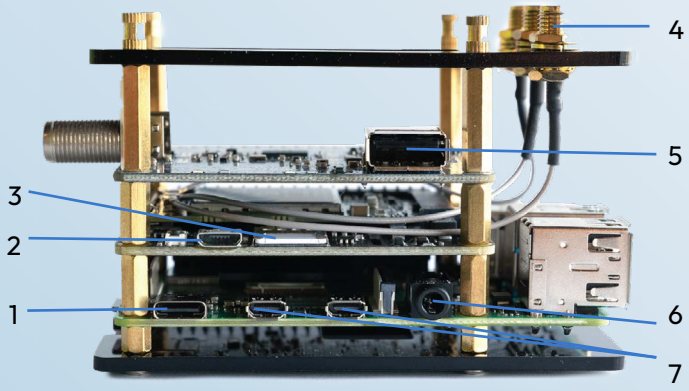


Rear view port identification

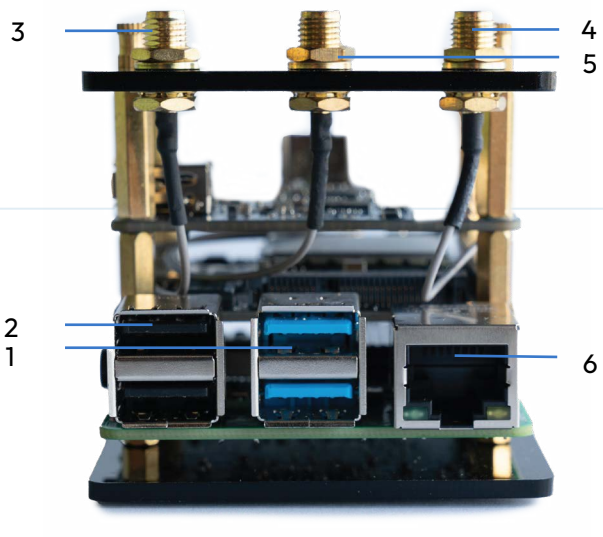
1. Type F Coaxial Female connector (RF input to ATSC 3.0 Receiver module)

2. Micro SD card with host operating system and our Developer kit software

Side view port identification

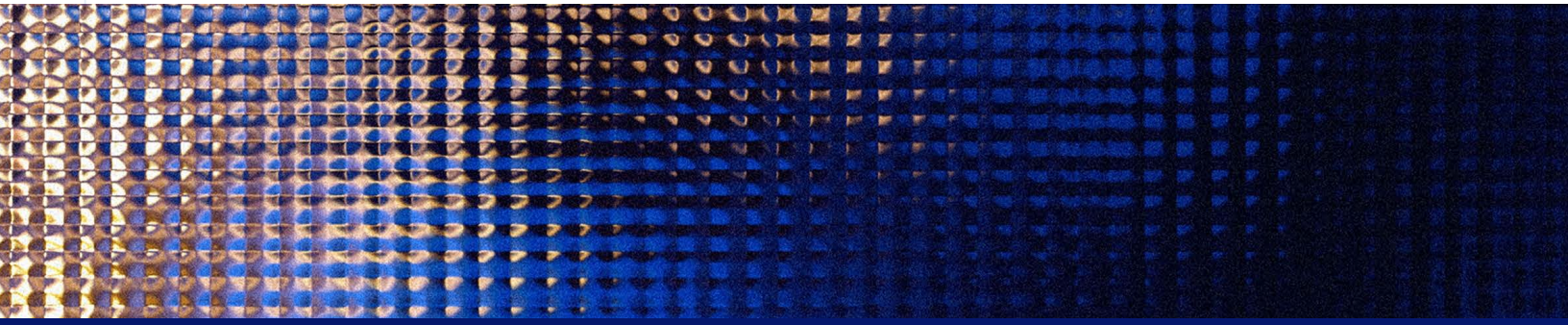


1. USB-C Power supply for Raspberry Pi 4
2. USB Micro (connects communication and power from this port to the Raspberry Pi USB-A port)
3. Pre-Installed and tested 4G/LTE SIM card
4. Three SMA-J Interfaces for Antennas
5. USB-A (connects communication and power from this port to the Raspberry Pi USB-A port
6. (Unused) 1/8” Audio/Composite Video
7. (Optional) Two Micro HDMI Ports



Front view port identification

1. (2x) USB-A 3.0 ports
2. (2x) USB-A 2.0 ports
3. Diversity Antenna Interface (SMA-J) for TX4G-JKC-19 4G cellular modem antenna
4. GNSS Antenna Interface (SMA-J) for TXGB-JK-11 GPS antenna
5. Main Antenna Interface (SMA-J) for TX4G-JKC-19 4G cellular modem antenna
6. Gigabit Ethernet port

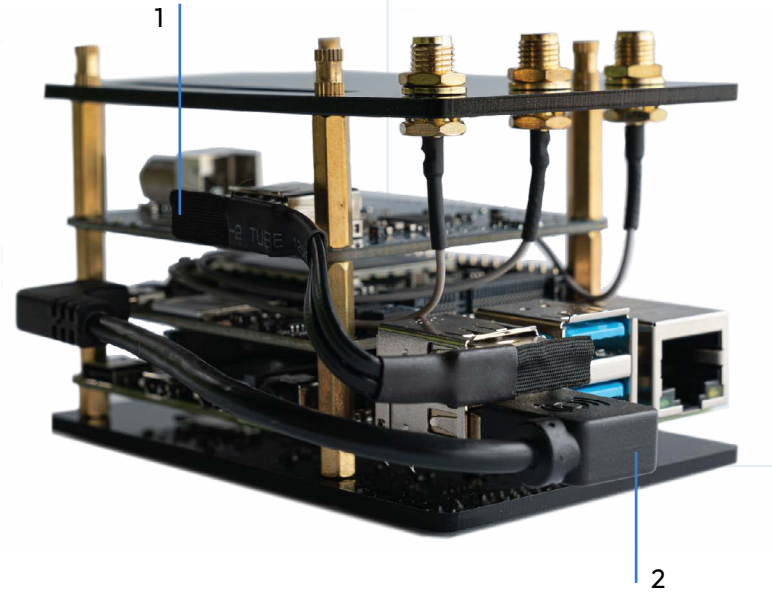


Connecting the Pi HAT's via USB

Please collect the following USB cables:

USB-A to USB-A cable

USB-A to USB Micro cable



1. Connect the USB-A to USB-A cable from the ATSC 3.0 Receiver HAT to the top USB 2.0 port on the Pi 4
2. Connect the USB Micro to USB-A cable from the Cellular Modem HAT to the bottom USB 2.0 port on the Pi 4

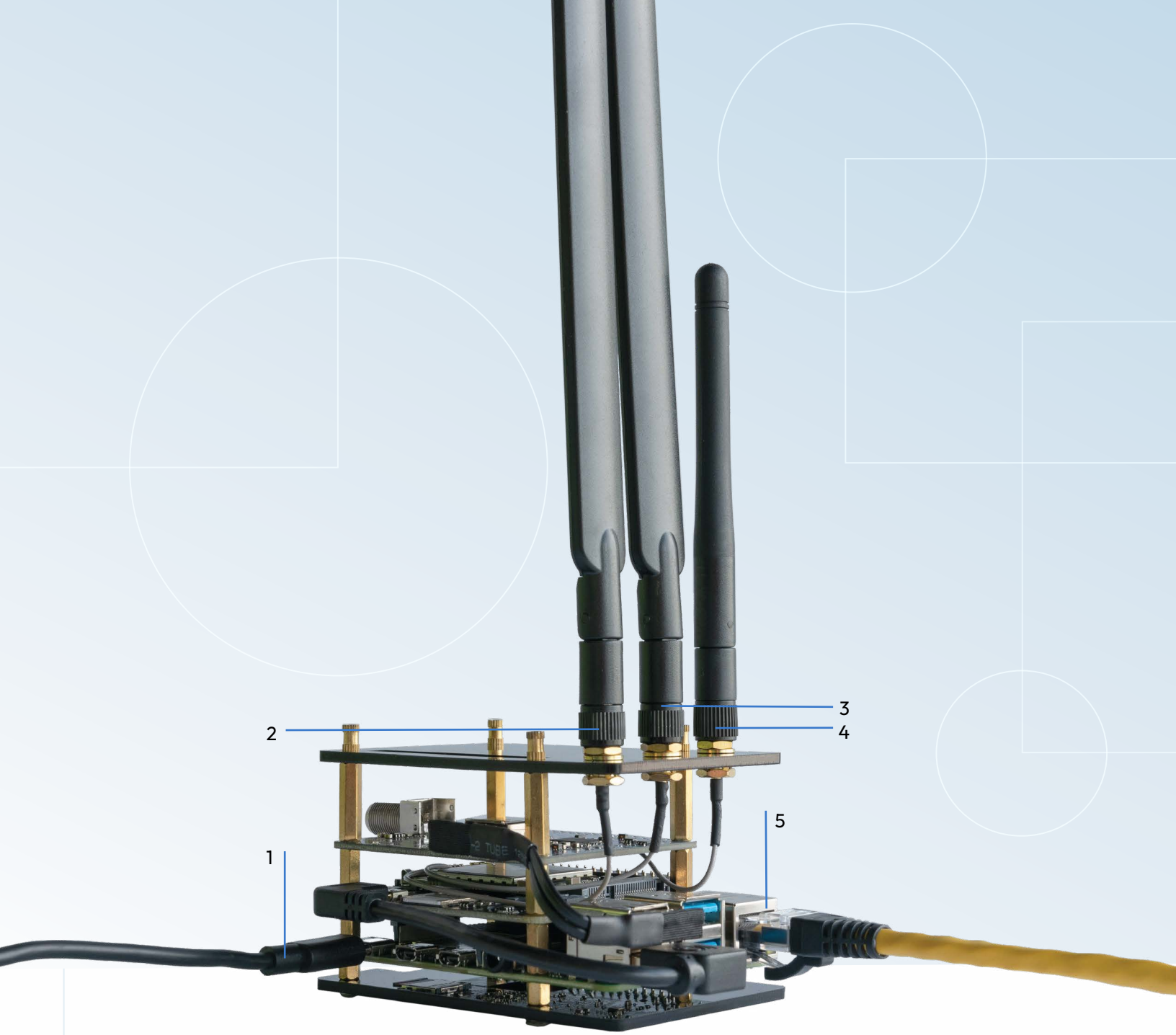
Connecting the antennas and power supply

Collect the following three antennas (the GPS antenna is the shortest one) and USB power supply:

(2) TX4G-JKC-19 4G cellular modem antennas

TXGB-JK-11 GPS antenna

Raspberry Pi 4 Power Supply and USB-A to USB-C cable. Use of this power supply is important due to its ability to provide a consistent 3 amp current to the Pi and the USB powered HATs.



With the EdgeBeam Wireless Developer Kit facing this orientation:

1. Connect the USB-C cable from the USB power supply to the Pi 4
2. Connect one of the two identical TX4G-JKC-19 4G cellular modem antennas to left-most SMA-J Interface (Diversity)
3. Connect the second of the two identical TX4G-JKC-19 4G cellular modem antennas to center SMA-J Interface (Main)
4. Connect the TXGB-JK-11 GPS antenna to the right-most SMA-J Interface (GPS)
5. Optional: connect the Pi 4 Ethernet to your LAN (on a DHCP enabled switchport)

OTA antenna and 5G filter installation:

When using the Developer Kit in a live ATSC 3.0 market, connect the 5G filter to the rear-facing ATSC 3.0 Type F Coaxial port (as shown on page 3). The OTA antenna will then connect to the female type-F connector on the 5G filter.

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