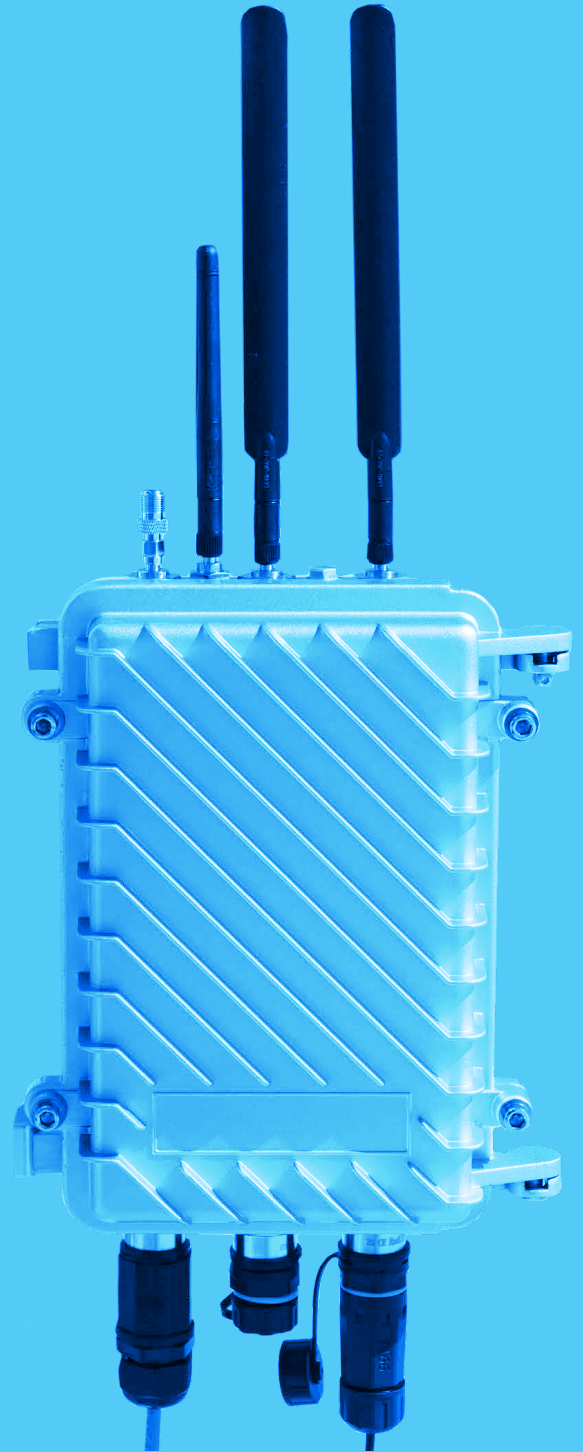


ATSC 3.0 ALL WEATHER
DATACASTING RECEIVER

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**

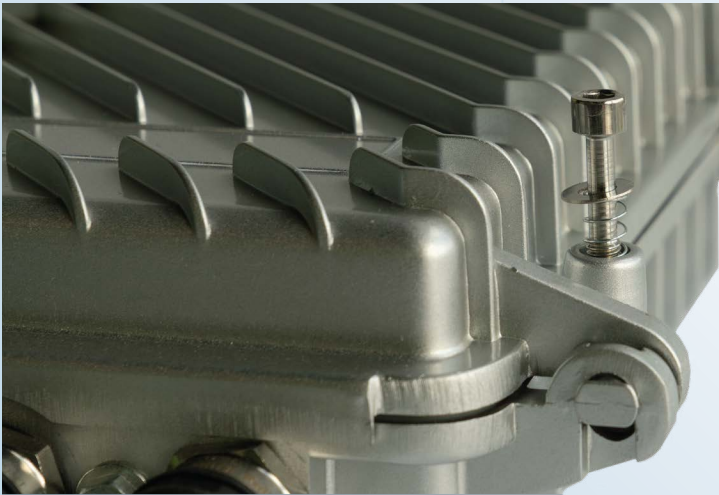


Lets get started! Open the box, and begin at the package contents section below!

Package Contents

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

- One Raspberry Pi 4 Developer Kit unit with pre-installed Micro SD and 4G SIM card, mounted in a weather resistant IP67 enclosure (NEMA-67 rated)
- One USB power supply and USB-C power cord
- Two TX4G-JKC-19 4G cellular modem antennas
- One TX-GB-JK-11 GPS Antenna
- Three IP68 weathertight connectors
- Pole mounting brackets and hardware
- One 5G/LTE inline filter
- 5mm hex wrench for internal access to enclosure



IP67 Enclosure

The EdgeBeam Wireless Developer Kit is based off of the Raspberry Pi 4 computing platform. The IP67 enclosure contains the Raspberry Pi computer, as well as the two additional communication HAT's (Hardware Attached on Top).

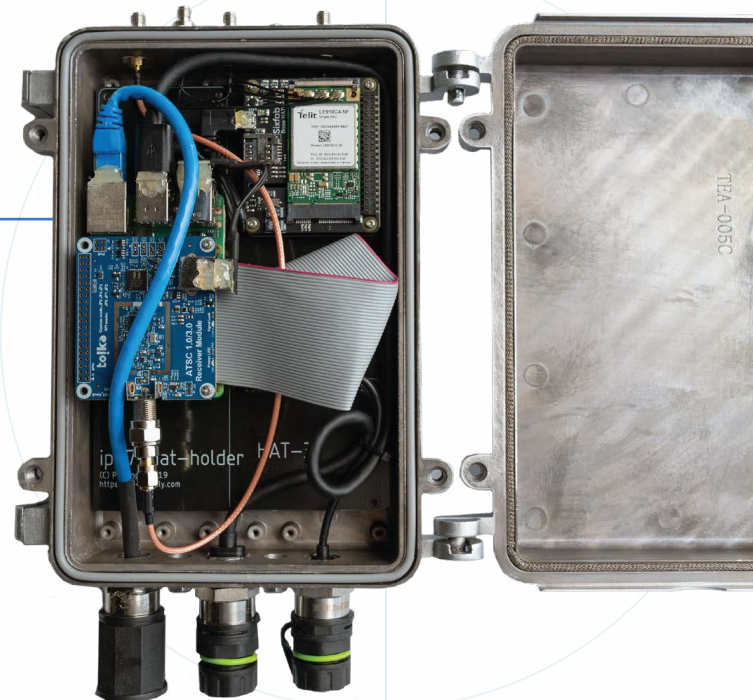
Opening the IP67 Enclosure

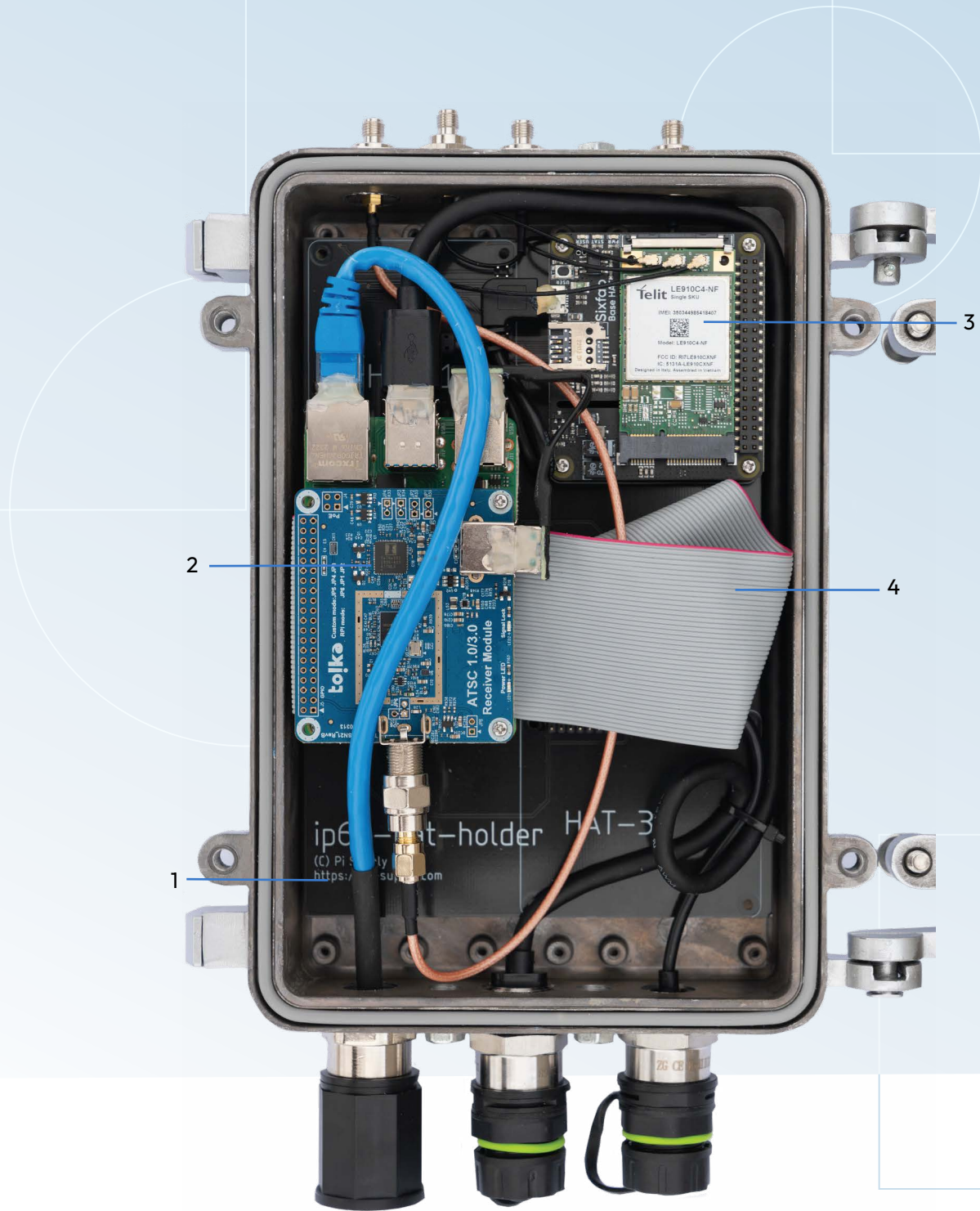
Using the included 5mm hex key, loosen the 4 chrome spring-loaded captive bolts located at each corner of the case

Set the enclosure on a hard surface, and open the case.

On the left side of the case, briefly inspect the gasket (1) to make sure no part of it is lifting out of the retaining groove.

1





Main component identification

1. IP67 HAT holder mainboard
2. ATSC 3.0 Receiver module, below this HAT is the Raspberry Pi Model 4
3. 4G/LTE Cellular Modem with pre-installed and tested 4G/LTE SIM card
4. Ribbon Cable connecting Raspberry Pi 40-pin GPIO header to the 4G/LTE Cellular Modem HAT

IP68 Connector Identification

1. RJ-45 for optional ethernet
2. USB-A 3.0 port
3. External USB-C Power supply input for Raspberry Pi 4



Top view port identification

1. Main Antenna Interface (SMA-J) for TX4G-JKC-19 4G cellular modem antenna
2. Diversity Antenna Interface (SMA-J) for TX4G-JKC-19 4G cellular modem antenna
3. GNSS Antenna Interface (SMA-J) for TXGB-JK-11 GPS antenna
4. SMA-J Interface for RF input to ATSC 3.0 Receiver module. Type F Coaxial Female adapter is also included



External view

1. SMA-J Interface for RF input to ATSC 3.0 Receiver module. Type F Coaxial Female adapter is also included
2. GNSS Antenna Interface (SMA-J) for TXGB-JK-11 GPS antenna
3. Diversity Antenna Interface (SMA-J) for TX4G-JKC-19 4G cellular modem antenna
4. Main Antenna Interface (SMA-J) for TX4G-JKC-19 4G cellular modem antenna
5. RJ-45 for optional ethernet
6. USB-A 3.0 port
7. USB-C Power supply for Raspberry Pi 4

Installing IP68 cable connectors



Disassemble the the IP68 weathertight connector as shown above.



Insert cable thru the end and the split grommet.



Slide connector over the cable and push the grommet into the splined opening until it is flush with the end.



Begin threading the end cap to the main body of the connector, starting just a few threads.



Plug cable into the chassis-side connector, in this case the USB-C port.



Tighten the main body of the connector to the male connector on the IP67 chassis. The green o-ring will flatten out which indicates a complete seal.

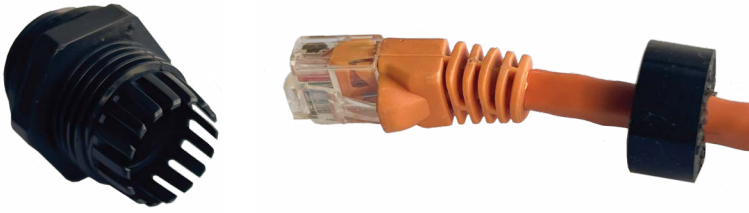


Tighten the end cap by hand, continue until the green grommet squeezes completely down around the cable.



Repeat this process for the USB 3.0 port, however if there is no cable to be run thru the grommet since a USB thumbdrive might be installed, simply tighten the end cap to secure the dummy plug, then tighten the connector to the IP67 chassis.

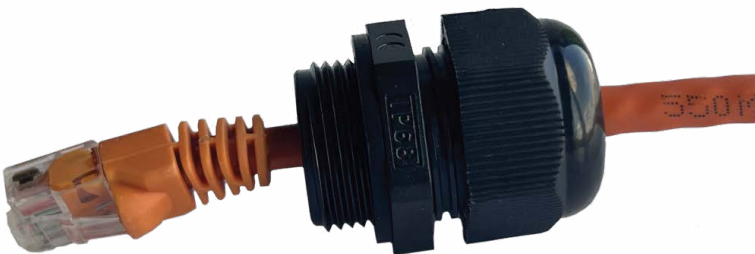
Installing IP68 cable connectors



Disassemble the the IP68 weathertight connector and insert the cable into the split grommet.



Slide the IP68 connector over the grommet until the grommet is flush with the end of the connector.



Tighten the end cap only a few threads by hand, this leaves the cable free to spin in the assembly.



Tighten the end cap only a few threads by hand, this leaves the cable free to spin in the assembly.

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.

The background features a solid blue color with a faint white grid. Two large, faint white circles are positioned in the upper and lower right quadrants of the page.

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