

# Tx Realm

**PT2645-S Pan-and-Tilt Platform**  
Microcontroller + IMU

**Communication Subsystem B**  
Upconverter + Antenna (RF)

**Real-Time Monitoring and Troubleshooting API**  
USB Serial + Android Debug Bridge + WLAN

**Communication Subsystem A**  
Baseband + IF

**CPU (USB Serial)**

# Rx Realm

**Communication Subsystem**  
RF + IF + Baseband + USRP

**PT2645-S Pan-and-Tilt Platform**  
Microcontroller + IMU + GPS

**Real-Time Monitoring and Troubleshooting API**  
GNURadio + WLAN | Plotly Dash + MapBox

**CPU (USB Serial | Bluetooth Serial | NTRIP Client)**

**Near-Edge Compute (Kafka-Zookeeper | Data Store | RPyC | NTPLib)**