



Robonode is a highly efficient, low-latency, long-range data radio optimized for drones and robotic missions. Designed for critical communication in unmanned systems, this radio features Wi-Fi broadcasting with Forward Error Correction (FEC), fast frequency shifting, narrow channels, and additional capabilities to ensure stable and reliable connectivity in demanding environments.

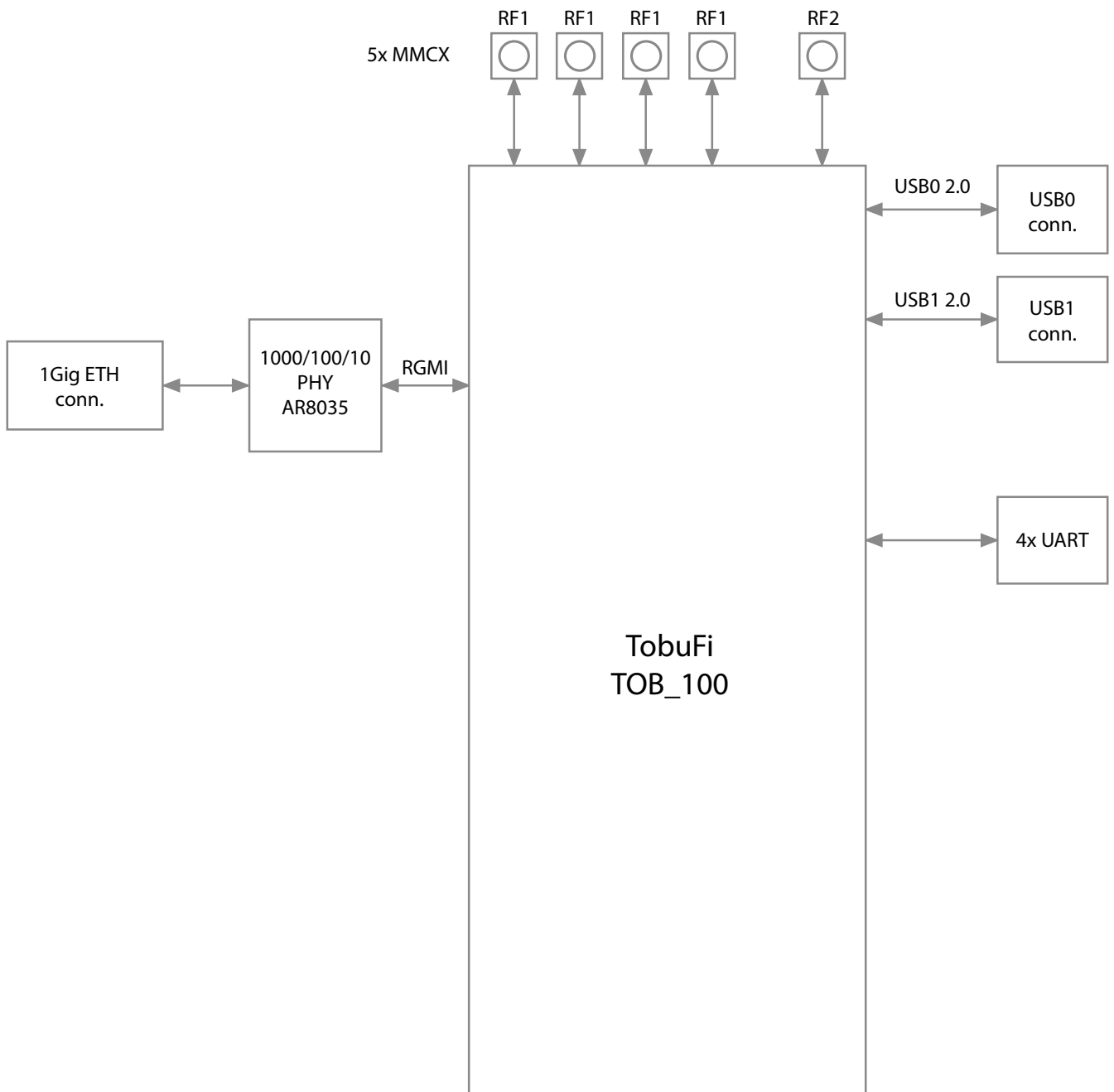
Powered by the advanced Qualcomm® QCS405 system-on-chip, it integrates a high-performance, dual-band Wi-Fi 6 radio using the QCN9074 chipset. The unit is enclosed in a durable aluminum housing with an integrated ventilator for superior cooling efficiency.

## Quick Specs

- Main SoC: Qualcomm QCS40
- 2 Wi-Fi radios based on: QCS405
- Qualcomm QCN9074 Wi-Fi 6 SoC (802.11a/g/n/ac/ax) – for main connectivity
- Radio mode: MU-MIMO
- Frequency:
  - 2297 - 3150 MHz
  - 4550 - 6680 MHz
  - 5325 – 7500 MHz\*
- Maximum output power: 28 dBm per chain (RF chain configuration 2x4);
- Qualcomm WCN9380 Wi-Fi 5 SoC (802.11a/g/n/ac)- for local connectivity
- Memory: 1024MB LPDDR3
- Storage: 8192MB eMMC
- Size 108.5 x 73.5 x 20 mm
- Weight: 178 g
- WiFi broadcast with FEC (Forward Error Correction)
- Narrow channels (5, 10, 20, 40 MHz)
- Fast frequency shifting
- Easy USB configuration
- OpenHD support
- Available interfaces: 2x USB 2.0, 4x BLS (UART, I2C or SPI), 16x GPIO, 1Gig ETH port, 1x user configurable reset button
- Aluminum housing

\*New SKU with full 6GHz spectrum in development

# Block diagram



## HW Feature List

Feature	Description
<b>CPU</b>	Qualcomm QCS405 Arm Cortex A53 quad-core; 1.4GHz; 64-bit
<b>Memory</b>	LPDDR3 1GB + eMMC 8GB
<b>Graphics</b>	Qualcomm® Adreno™ 306 graphics processing unit (GPU) with 64-bit addressing; 600MHz
<b>DSP</b>	Qualcomm® Hexagon™ QDSP6 v66 with Low Power Island and Voice accelerators Qualcomm® Hexagon™ QDSP6 v66 ML accelerator for neural network applications
<b>Wi-Fi</b>	Qualcomm QCN9074 Wi-Fi 6 (802.11a/g/n/ac/ax) 2.4 GHz and 5 GHz with 2x4 (2 transmit chains and 4 receive chains) MU-MIMO 20/40/80/160 MHz, 2.4 GHz up to 28dBm; 5 GHz 27dBm RF output power per chain Qualcomm WCN9380 Wi-Fi 5 (802.11a/g/n/ac) 2.4 GHz and 5 GHz with 1x1 MU-MIMO 20/40/80 2.4 GHz up to 22dBm; 5 GHz 20dBm RF output power per chain
<b>Bluetooth</b>	Bluetooth 5.0 and FM RDS/RBDS
<b>USB</b>	USB 2.0, USB 3.0
<b>Ethernet</b>	RGMII
<b>Interfaces</b>	DMIC; UART; SPI; I2C; GPIO; FAN for active cooling
<b>Push buttons</b>	x1 Reset, x1 USB Boot, x1 GPIO
<b>Slide-Switch</b>	x1 Cut USB0 Power for USB recovery mode, x1 GPIO
<b>LEDs</b>	x3 GPIOs programmable, x1 power, x1 USB0, x1 USB1

## SW Feature List

- Wi-Fi broadcast with FEC (Forward Error Correction)
- Narrow channels
- Wide frequency ranges
- Fast frequency shifting
- Easy USB configuration
- OpenHD support

# Dimensions

