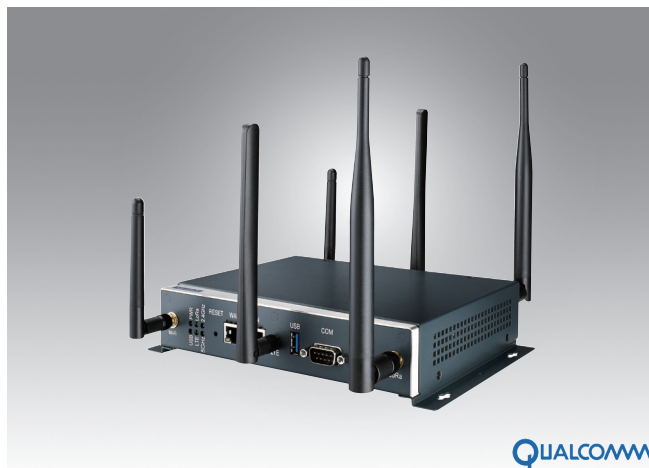


# WISE-3610

## Wireless IoT LoRa Network Gateway



### Features

- Qualcomm Atheros Quad-Core ARM Cortex-A7 SoC
- Built-in Dual Band Concurrent Wi-Fi MU-MIMO (2x2)
- LPWAN LoRa Private (WISE-Link) Connectivity
- WAN x1 / LAN x1 Gigabit Ethernet
- Integration of Modbus TCP Networks
- IPSec / L2TP VPN Traffic Encryption
- Rich Network Scenario by Easy S/W Configuration
- Modularization Hardware Design with 2 miniPCIe Slots
- OpenWRT BSP Embedded
- Web UI User Interface

### Introduction

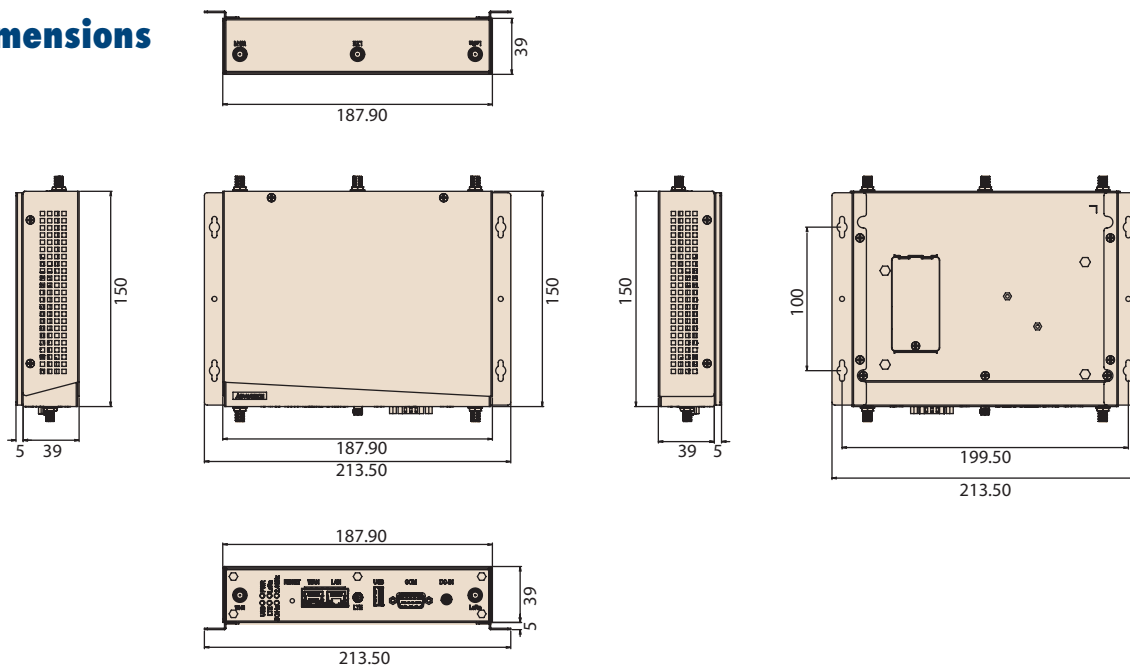
WISE-3610 is a Qualcomm ARM Cortex A based hardware platform, which operates at OpenWRT, described as a Linux distribution for embedded devices. Leveraging wireless sensor technology, the Advantech WISE-3610 Industrial Router is as Advantech IoT gateway designed for smart cities and Industry 4.0 applications, even those in harsh environments. This IoT gateway can aggregate both wireless sensor networks (WSN), including Low Power WAN (LPWAN) technology by Advantech private LoRa technology, wired sensors and ties them into an IP network. With a modular slot design, it can agilely adapt to a variety of wireless technologies at regional RF bands with wireless communication protocols by various uplink requirements and quickly go to market.

### Specifications

|                      |   |  |   |
|----------------------|---|--|---|
| Processor System     | CPU   | QCA Quad-core ARM Cortex A7 CPU 716 MHz                        |   |
|                      | RAM   | DDR3L 256MB  |   |
|                      | Flash   | 128MB  |   |
| Ethernet             | WAN   | 1 10/100/1000 Mbps   |   |
|                      | LAN   | 1 10/100/1000 Mbps   |   |
| Security             | VPN Engine  | IPsec, L2TP  |   |
| Connectivity         | Wi-Fi   | 2x2 IEEE802.11ac MU-MIMO 2.4GHz / 5GHz                         | Qualcomm® VIVE™ technology  |
|                      | LoRa  | LoRa Private Network - WISE-Link                               | up-to 500 sensor nodes support  |
|                      | 4G/LTE (Option)   | 4G miniPCIe card   |   |
| Expansion            | SD socket   | 1 x Micro SD socket  |   |
|                      | mini PCIe   | 1 x Full size mini PCIe slot<br>1 x Full size mini PCIe Module | For LoRa Host   |
|                      | SIM   | 2 x Micro SIM slot   |   |
|                      | USB   | 1 x USB 3.0 type A   |   |
| I/O (Edge)           | Serial Port   | 1 x RS-232/422/485 (DB9 Male)                                  | Configure by hardware switch on board   |
|                      | Antenna   | 6 x SMA Connector  | Wi-Fi: 2 x RP-SMA<br>LoRa: 2 x SMA<br>Optional for 4G: 2 x SMA (1 x Rx Diversity) |
|                      | LED   | 6 x PWR/LoRa/Wi-Fi 2G/Wi-Fi 5G/USB/WWAN                        |   |
|                      | Button  | 1 x Reset button   |   |
|                      | Power   | Power Supply Voltage   | 9 - 24V   |
|                      | Power Type  | DC-in  |   |
|                      | Power Consumption   | 18 Watt  |   |
| Environment          | Operational Temperature   | -20 ~ 70 °C  |   |
|                      | Operating Humidity  | 5 ~ 95% Relative Humidity, non-condensing                      |   |
| Mechanical           | Dimensions (W x D x H)  | 187.9mm x 150mm x 39mm   |   |
| Operating System     | OpenWRT Barrier Breaker (Linux (3.14))  |  |   |
| Network Sub-System   | L2/3 multilayer switch / router   |  |   |
|                      | Access control list mask rules  |  |   |
|                      | Hardware network address translation (NAT) engine   |  |   |
| Network Connectivity | 4 x scenario configurations by corresponding communication network support<br>- NorthBond: WWAN (4G), WAN, Wi-Fi (2.4GHz or 5GHz)<br>- SouthBond: LAN, Wi-Fi (2.4GHz or 5GHz), LoRa |  | Depend on different application environment for corresponding configuration       |
| Cloud                | WebAccess / SCADA & WISEPaaS / EdgeSense & ARM Pelion   |  |   |
| Certification        | TELEC, CE/FCC/IC Class B, SRRC, VCCI, BSMI, NCC   |  |   |

## Dimensions

Unit: mm



## Software Key Features

### Completed Software Services

- Modbus TCP networks
- Rich network scenario configuration
- Point-to-point VPN encryption engine
- Network routing path acceleration

### Easy-Use from Sensor to Cloud

- WISE-Link LoRa Private Network
- Web UI setting for WSN, Gateway and Cloud
- IoT communication with MQTT protocol ( WebAccess / SCADA compatible)
- WISE-Agent connected to WISE-PaaS/EdgeSense
- Mbed Edge connected to ARM Pelion

## Ordering Information

| Model Name         | Description  |
|--------------------|--|
| WISE-3610ILS-51A1C | WISE-3610 Private LoRa Network IoT Gateway CN470     |
| WISE-3610ILS-51A1E | WISE-3610 Private LoRa Network IoT Gateway EU868     |
| WISE-3610ILS-51A1J | WISE-3610 Private LoRa Network IoT Gateway JP923     |
| WISE-3610ILS-51A1N | WISE-3610 Private LoRa Network IoT Gateway NA915     |
| WISE-3610ILS-51A1T | WISE-3610 Private LoRa Network IoT Gateway TW920     |
| WISE-DK3610-LSJPO  | WISE-3610 Private LoRa IoT Gateway Starter Kit JP923 |

## Related Models

| Model Name | Description                                |
|------------|--|
| WISE-1510  | Wireless IoT Private LoRa M2.COM Module    |
| WISE-1520  | Wireless IoT Wi-Fi M2.COM Module           |
| WISE-1530  | Wireless IoT Wi-Fi/BLE Combo M2.COM module |

## Packing List

| Part No.       | Description                            | Quantity |
|----------------|--|----------|
| 96PSA-A36W12R1 | ADP A/D 100-240V 36W 12V               | 1        |
| 1750008001-01  | Antenna 2.4Ghz / 5Ghz SMA Male Reverse | 2        |
| 1960082071N001 | Mounting BKT for WISE-3610             | 2        |

## Optional Items

| Part No.      | Description  |
|---------------|--|
| 1700001524    | Power Cable 3-pin 180cm, USA type                        |
| 170203183C    | Power Cable 3-pin 180cm, Europe type                     |
| 170203180A    | Power Cable 3-pin 180cm, UK type                         |
| 1700008921    | Power Cable 3-pin PSE Mark 183cm                         |
| 1750008424-01 | 4G/LTE Antenna Dipole 4dBi Full Band                     |
| 1750008669-01 | 4G/LTE RX Diversity Antenna Cable IPEX to IPEX Connector |
| EWM-C117FL02E | 4G/LTE/HSPA+/GPRS Cat.4 module                           |
| EWM-C117FL07E | 4G/LTE Cat.4 Module for Japan NTT DoCoMo                 |
| 1750008599-01 | LoRa Antenna Dipole 1dBi 863-870 MHz                     |
| 1750008598-01 | LoRa Antenna Dipole 1dBi 902-928 MHz                     |
| 1750008771-01 | LoRa Antenna Dipole 1.5dBi 470-510 MHz                   |