WISE-3610

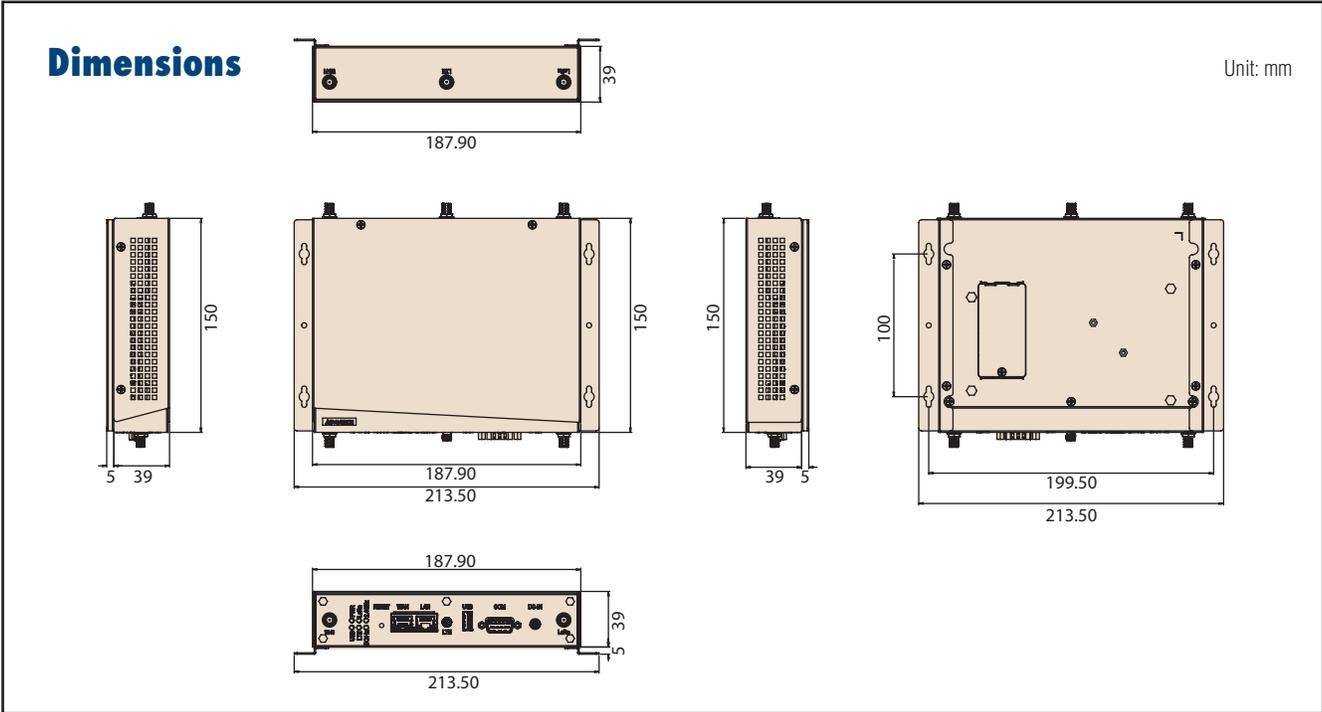## Wireless IoT LoRa Network Gateway

Features

- Qualcomm Atheros Quard-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 Scanrio 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 1 x Full size mini PCIe Module	For LoRa Host
	SIM	2 x Micro SIM slot	
I/O (Edge)	USB	1 x USB 3.0 type A	
	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 LoRa: 2 x SMA 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 communicaiton network support - NorthBond: WWAN (4G), WAN, Wi-Fi (2.4Ghz or 5Ghz) - 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(RED Compliance)/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-LSJP0	WISE-3610 Private LoRa IoT Gateway Starter Kit JP923

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

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

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

* System bundles wireless modules; which need RED compliance