WISE-1020

Features

- Self-forming and self-healing mesh network
- Interference robust by time synchronization and transmission frequency hopping design
- Network-wide reliability and power optimization
- AES-128 bit encryption with NIST certified security
- Compliant to 6LoWPAN Internet Protocol (IP) and IEEE
- Industry-leading low power radio technology with:
  - \> 4.5mA to Receive a packet
  - \> 5.4mA to Transmit at 0dBm
  - \> 9.7mA to Transmit at 8dBm
- Supports various power sources: USB DC power, battery power and solar power
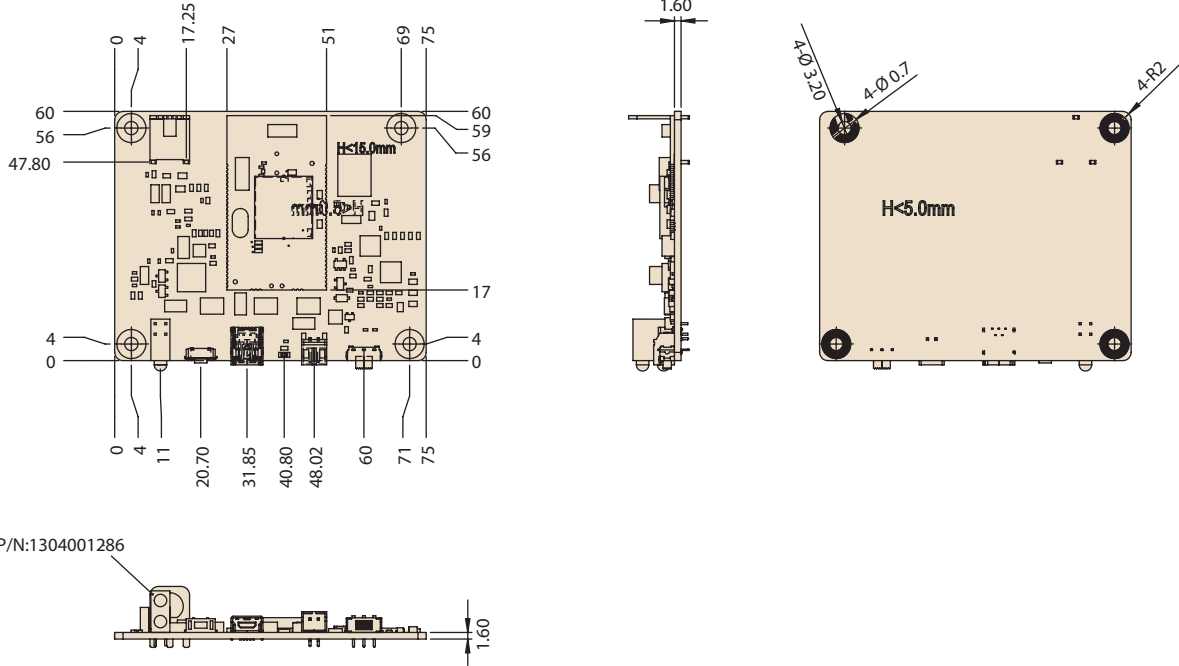
CE FCC RoHS COMPLIANT 2002/95/EC

Introduction

Advantech WPAN IP Node, WISE-1020, features a highly-integrated, low power radio with self management and IP network. With time synchronization, channel hopping and full mesh network, it offers wire-like reliability and the worlds lowest power WSN solution.

Specifications

Processor System	MCU	Linear/ Dust Network ARM Cortex-M3 Processor
	SRAM	72kB
	Flash	512kB
Radio	Frequency Band	2.4000 ~ 2.4835 GHz
	Number of Channels	15
	Channel Separation	5 MHz
	Modulation	IEEE 802.15.4 Direct Sequence Spread Spectrum (DSSS)
	Raw Data Rate	250 kbps
	Antenna Pin ESD Protection	±6000 V
I/O Interface	Analog (I)	4
	Digital (I/O)	DI 4/DO3, up to 16 (by customized request)
	PWM	Up to 1 (by customized request)
	UART	Up to 1 set
	I²C	Up to 1 (by customized request)
	SPI	Up to 1 (by customized request)
Power Source	Mini USB DC power	DC 5V
	Battery Power	DC 6-9V
	Solar Power	DC 6-9V
Radio Power Consumption	Receive a Packet	4.5mA
	Transmit at 0dBm	5.4mA
	Transmit at 8dBm	9.7mA
Mechanical & Environmental	Dimensions	75 x 60 x 14.7 mm
	Weight	35g
	Operating Temperature	-40 ~ 85° C
	Operating Humidity	5% ~ 95% Relative Humidity, non-condensing

Dimensions

Unit: mm (inch)

P/N:1304001286

Ordering Information

Model Name	Description
WISE-1020	WPAN IP Node, 802.15.4e standard, integrated ARM Cortex M3 MCU and Ultra-low power 2.4GHz ISM band radio