

# WISE-1020

## Wireless IoT Node



### 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 security
- Compliant to 6LoWPAN Internet Protocol (IP) and IEEE 802.15.4e
- 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, 3-pin DC input power

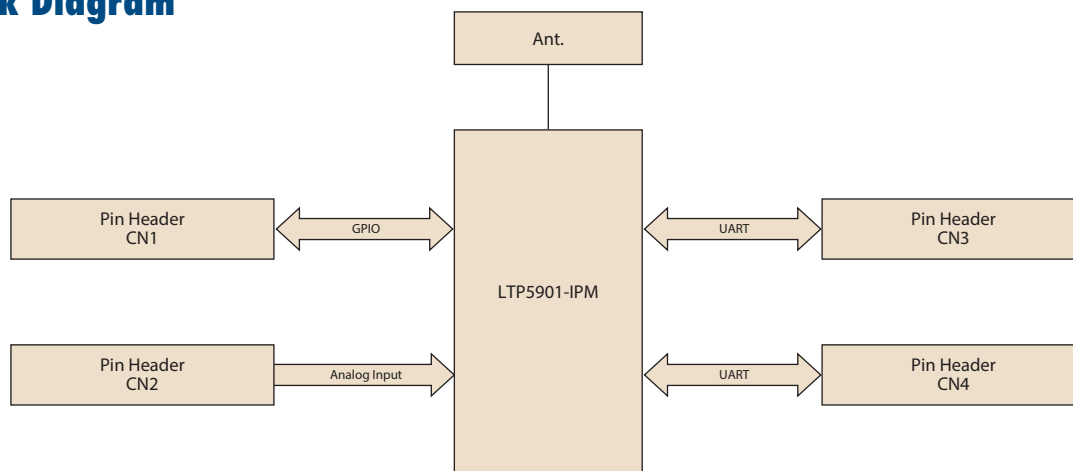
### Introduction

WISE-1020 series is a wireless IoT node with Linear/Dust Network ARM Cortex-M3 Processor, which is a self-forming and self-healing mesh network compliant to 6LoWPAN Internet Protocol (IP) and IEEE802.15.4e standard. With time synchronization, channel hopping and full mesh network, it offers wire-like reliability and the world's lowest power WSN solution.

### Specifications

Processor System	MCU	Linear/ Dust Network ARM Cortex-M3 Processor
	SRAM	72kB
	Flash	512kB
Wireless	Standard-based	Based on 6LoPAN and IEEE 802.15.4e standards
	Frequency Band	2.4000 ~ 2.4835 GHz
	Number of Channels	15
	Channel Separation	5 MHz
	Raw Data Rate	250 kbps
	Antenna Pin ESD Protection	±6000 V
I/O Interface	Analog (I)	3
	Digital (I/O)	DI 4/D0 3 (up to 16 DIO by OCSDK development request)
	UART	1
Power Source	Micro USB DC Power	DC 5V
	3-Pin DC Input Power	DC 5-12V
Radio Power Consumption	Receive a Packet	4.5mA
	Transmit at 0dBm	5.4mA
	Transmit at 8dBm	9.7mA
Mechanical	Dimensions (L x W)	75 x 60 mm
	Weight	35g
Environmental	Operating Temperature	-40 ~ 85° C
	Operating Humidity	5% ~ 95% Relative Humidity, non-condensing
Certification	EMC	CE, FCC Class B
	RF	R&TTE, FCC, TELEC
	Safety	CE LVD

## Block Diagram



## Ordering Information

Order Number	Description
WISE-1020-0S01E	Wireless IoT Node with SMA connector and antenna
WISE-1020-0C01E	Wireless IoT Node with chip antenna

## Optional Accessories

Part Number	Description
1700023619-01	A cable USB-A 4P(M)/micro USB 5P(M) 1m
WISE-ED10-00A1E	WISE-1020 Expansion Debug Board

## Packing List

Part Number	Description	Quantity
1750000318	2dBi 2.4GHz Antenna (WISE-1020-0S01E only)	1

## Related Models

Model Name	Description
WISE-3310-D200L1E	WISE-3310 WPAN GW, 200-Node, Linux OS
WISE-3310-D100L1E	WISE-3310 WPAN GW, 100-Node, Linux OS