WISE-1021
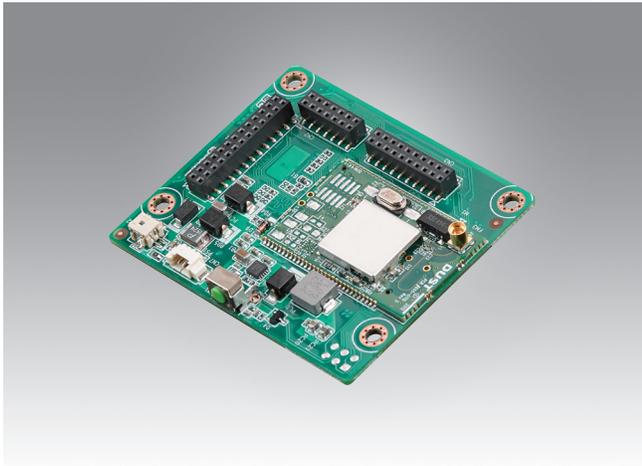
Wireless IoT Node

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 with NIST certified security
- Compliant to 6LoWPAN Internet Protocol (IP) and IEEE 802.15.4e
- Multiple interface for sensor Integration, include I2C, SPI, UART, GPIO, ADC
- Wide temperature: -40 ~ 85° C
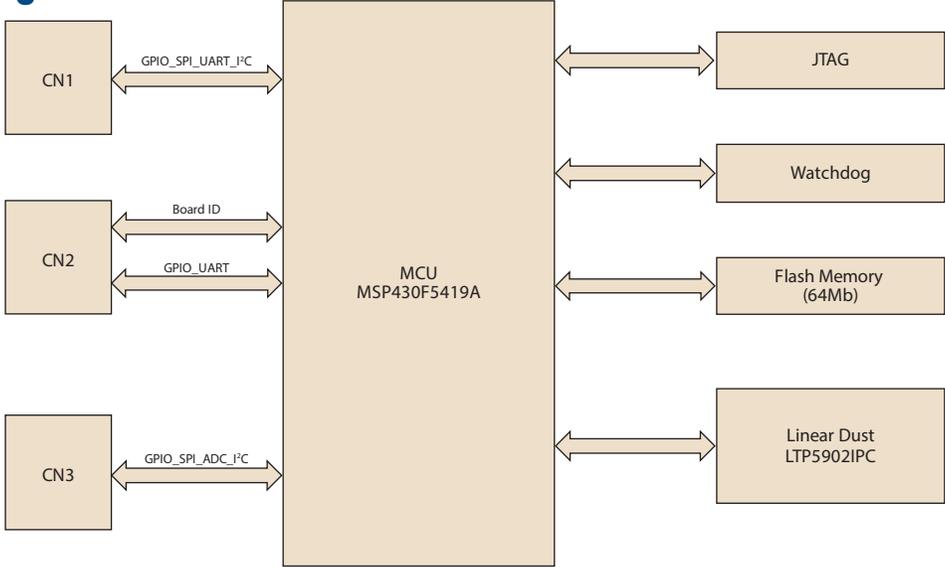
CE FCC RoHS COMPLIANT 2002/95/EC

Introduction

Advantech Wireless IoT Node, WISE-1021, 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 Cortex-M3 and TI MSP430 MCU
	Flash	64Mb
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	GPIO	Up to 6
	UART	Up to 2
	UART	Up to 2
	SPI	Up to 3
	ADC	Up to 10
Power Source	DC-In	
Radio Power Consumption	Receive a Packet	4.5mA
	Transmit at 0dBm	5.4mA
	Transmit at 8dBm	9.7mA
Mechanical	Dimensions	65 x 55 mm
	Weight	35g
Environmental	Operating Temperature	-40 ~ 85° C
	Operating Humidity	5% ~ 95% Relative Humidity, non-condensing

Block Diagram

Ordering Information

Model Name	Description
WISE-1021WR-1100E	Wireless IoT Node, IEEE 802.15.4e Linear/Dust Mesh network with TI MSP430 MCU
WISE-DB1021-1W00E	Development board for WISE-1021

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