

# NXP SEMICONDUCTOR Wireless Solutions



This product is RoHS compliant.



## WIRELESS MICROCONTROLLER

### JN5148 Single Chip JenNet, ZigBee PRO and IEEE802.15.4 Solution

The JN5148 is an ultra low power, high performance wireless microcontroller targeted at JenNet and ZigBee PRO networking applications. The device features an enhanced 32-bit RISC processor offering high coding efficiency through variable width instructions, a multistage instruction pipeline and low power operation with programmable clock speeds. It also includes a 2.4GHz IEEE802.15.4 compliant transceiver, 128kB of ROM, 128kB of RAM, and a rich mix of analogue and digital peripherals. The large memory footprint allows the device to run both a network stack (e.g. ZigBee PRO) and an embedded application or in a coprocessor mode. The operating current is below 18mA, allowing operation direct from a coin cell. Enhanced peripherals include low power pulse counters running in sleep mode designed for pulse counting in AMR applications and a unique Time of Flight ranging engine, allowing accurate location services to be implemented on wireless sensor networks. It also includes a 4-wire I2S audio interface, to interface directly to mainstream audio CODECs, as well as conventional MCU peripherals.

#### Features:

- Single chip integrates transceiver and microcontroller for wireless sensor networks
- Large memory footprint to run ZigBee PRO or JenNet together with an application
- Very low current solution for long battery life
- Highly featured 32-bit RISC CPU for high performance and low power
- System BOM is low in component count and cost
- Extensive user peripherals

#### Applications:

- Robust and secure low power wireless applications
- ZigBee PRO and JenNet networks
- Smart metering (e.g. AMR)
- Home and commercial building automation
- Location Aware services (e.g. Asset Tracking)
- Industrial systems
- Telemetry
- Remote Control
- Toys and gaming peripherals

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	NXP Part No.	Package Type	MIPS (MHz)	RAM	ROM	ROM Variant	ADC	DAC	Serial Interface	Digital Input-Output Pins	Timers	Price Each		
												1	10	100
771-JN5148/001531	JN5148/001,531	HVQFN-56	32	128K	128K	Supports all available network stacks	4-Ch 12-Bit	2x12-Bit	2-Wire, 2xUART, SPI	21	3	6.90	6.29	5.67

## ZIGBEE PRO EVALUATION KIT

Jennic's JN5148-EK010 ZigBee PRO evaluation kit provides a complete environment for the development of ZigBee PRO applications based on the JN5148 wireless microcontroller. The kit contains a complete package of hardware and software, including five wireless sensor nodes, an unrestricted software developer kit (SDK), an example code.

MOUSER STOCK NO.	NXP Part No.	Description	Price Each
771-JN5148EK010596	JN5148-EK010,596	Evaluation Kit for JN5148 family of wireless microcontrollers	646.60

## WIRELESS MODULES

The JN5139-xxx-Myy family is a range of surface mount modules that enables users to implement systems using Jennic's own JenNet networking stack or IEEE802.15.4 with minimum time to market and at the lowest cost. They remove the need for expensive and lengthy development of custom RF board designs and test suites. The modules use Jennic's JN5139 wireless microcontroller to provide a comprehensive solution with high radio performance and all RF components are included. All that is required to develop and manufacture wireless control or sensing products is to connect a power supply and peripherals such as switches, actuators and sensors, considerably simplifying product development.

### JN5139 Family - Supports ZigBee Network Stacks

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	NXP Part No.	Package Type	Description	Range	Rx Sensitivity	Tx Power	Tx Current	Rx Current	Module Size	Price Each		
										1	10	100
771-JN5139Z01M/00R1T	JN5139-Z01-M/00R1T	SOM-041	Module includes an on-board antenna	1km	-96dBm	+2.5dBm	37mA	37mA	18x30mm	28.76	25.88	23.72
771-JN5139Z01M/03R1T	JN5139-Z01-M/03R1T	SOM-041	Module includes a uFI connector	1km	-96dBm	+2.5dBm	37mA	37mA	18x30mm	32.78	29.50	27.04

### JN5139 Family - Supports IEEE802.15.4 Stacks

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	NXP Part No.	Package Type	Description	Range	Rx Sensitivity	Tx Power	Tx Current	Rx Current	Module Size	Price Each		
										1	10	100
771-JN5139001M/00R1T	JN5139-001-M/00R1T	SOM-041	Module includes an on-board antenna	1km	-96dBm	+2.5dBm	37mA	37mA	18x30mm	28.22	25.39	23.28

### JN5148 Family - Supports JenNet, ZigBee Pro as well as Commercial Applications

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	NXP Part No.	Package Type	Description	Range	Rx Sensitivity	Tx Power	Tx Current	Rx Current	Module Size	Price Each		
										1	10	100
771-JN5148001M00T534	JN5148/001M00T,534	SOM-041	Module includes integral antenna	1km	-95dBm	+2.5dBm	15mA	17.5mA	18x32mm	24.42	19.98	19.09
771-JN5148001M03T534	JN5148/001M03T,534	SOM-041	Module includes a uFI connector	1km	-95dBm	+2.5dBm	15mA	17.5mA	18x30mm	24.60	22.54	20.99

## RFID READER ICs

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	NXP Part No.	Package Type	Description	Freq. (MHz)	Standard	Price Each		
						1	25	100
771-CLRC63201TD	CLRC63201T/0FE,112	SO-32	Multiple protocol contactless reader IC (MIFARE/I-CODE1)	13.56	ISO 14443A, ISO 14443B, 15693	14.22	11.95	10.98
771-HTRC11001AD	HTRC11001T/02EE,11	SO-14	HITAG reader chip for use with HITAG transponder ICs	0.125	-----	3.00	2.42	2.17
771-HTRC11001TD-T	HTRC11001T/03EE,11	SO-14	HITAG reader chip for use with HITAG transponder ICs	0.125	-----	2.86	2.57	2.31
771-MFRC51T0FD	MFRC50001T/0FE,112	SO-32	Highly integrated reader IC (MIFARE)	13.56	ISO 14443A	10.85	8.89	8.02
771-MFRC52301HN1,151	MFRC52301HN1,151	HVQFN-32	Contactless reader IC (MIFARE)	13.56	ISO 14443A, ISO 14443B	5.75	4.71	4.25
771-MFRC53101TD	MFRC53101T/0FE,112	SO-32	Contactless reader IC (MIFARE)	13.56	ISO 14443A, ISO 14443B	9.14	8.19	7.53
771-SL3S1002AC0,118	SL3S1002AC0,118	FCS-2	UHF RFID passive smart tag and label (G2XM)	840-960	EPCglobal Class 1 Gen 2 UHF RFID	.19	.117	.111
771-SL3S1002FTT,118	SL3S1002FTT,118	TSSOP-8	UHF RFID passive smart tag and label (G2XM)	840-960	EPCglobal Class 1 Gen 2 UHF RFID	.27	.191	.173
771-SL3S1202FTT,118	SL3S1202FTT,118	TSSOP-8	UHF RFID passive smart tag and label (G2XL)	840-960	EPCglobal Class 1 Gen 2 UHF RFID	.26	.184	.156