



Preliminary Data Sheet – JN5121-xxx-Myy

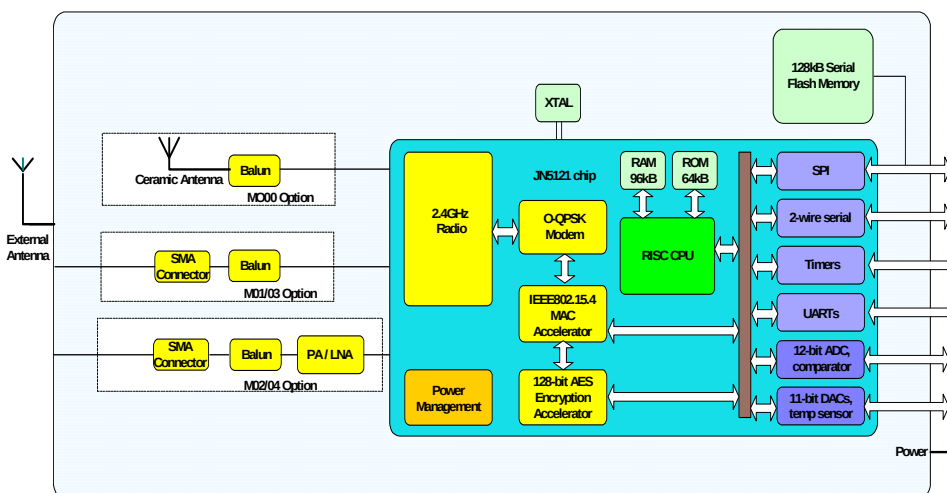
IEEE802.15.4/ZigBee Module Family

Overview

The JN5121-xxx-Myy is a family of surface mounted modules that enable users to implement IEEE802.15.4 or ZigBee compliant systems 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 JN5121 wireless microcontroller to provide a comprehensive solution, including all RF components. 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, sensors, considerably simplifying product development.

Three basic hardware module variants are available: JN5121-xxx-M00 with an integrated antenna, JN5121-xxx-M01/M03 with an antenna connector and JN5121-xxx-M02/M04 with a power amplifier and LNA for extended range. Each of these can be provided pre-programmed with a ZigBee network stack (JN5121-Z01-Myy) or with customer-specific software.

Block Diagram



Benefits

- Microminiature module solutions
- Ready to use in products
- Minimises product development time
- No RF test required for systems
- Compliant with FCC part 15 rules, ETSI ETS 300-328 and Japan ARIB STD-T66
- Production volumes supplied pre-programmed with application software

Applications

- Robust and secure low power wireless applications
- Wireless sensor networks, particularly IEEE802.15.4 / ZigBee systems
- Home and commercial building automation
- Home networks
- Toys and gaming peripherals
- Industrial systems
- Telemetry and utilities (e.g. AMR)

Features: Module

- 2.4GHz IEEE802.15.4 compliant
- 2.7-3.6V operation
- Sleep current (with active sleep timer) < 14µA
- **JN5121-xxx-M00/01/03**
Standard module, 0dBm power
M00: on board antenna or
M01: SMA connector,
M03: RP-SMA connector
> 400m range
 - o Receiver sensitivity -90dBm
 - o TX current < 45mA
 - o RX current < 50mA
 - o 18x30mm
- **JN5121-xxx-M02/04**
18.5dBm power with LNA and SMA connector, > 4km range
Receiver sensitivity -93dBm
 - o TX current < 120mA
 - o RX current < 55mA
 - o 18x40mm

Features: Microcontroller

- 16MHz 32-bit RISC CPU
- 96kB RAM, 64kB ROM
- 4-input 12-bit ADC, 2 11-bit DACs, comparator, temperature sensor
- 2 Application timer/counters, 3 system timers
- 2 UARTs (one for in-system debug)
- SPI port with 5 selects
- 2-wire serial interface
- 21 GPIO
- Evaluation kits available with full, unlimited, Software Development Kit

Industrial temperature range
(-20°C to +70°C)

Lead-free and RoHS compliant