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PP09W1 General description of operation

The PP09W1 consists of "Gamepad" (QIWPP9W1M-1) and "DONGLE" (QIWPP9W1M-2) units, and is designed to operate with a Personal Computer(PC).

The PP09W1 provides an RF link, which allows data to pass between the Gamepad and the PC.

The Gamepad and DONGLE are RF units which operate within the 2.400GHz - 2.4835GHz unlicensed frequency band using Direct Sequence Spread Spectrum (DSSS) techniques. This frequency band is designated as an Industrial, Scientific and Medical (ISM) frequency band. Both the Gamepad and DONGLE units use bi-directional RF communications.

The Gamepad contains a battery socket, with removable battery compartment. The battery compartment may contain a standard 1.5V AA battery. All the necessary power used by the Gamepad is supplied by the battery located in the compartment. Note that the Gamepad does not contain any ability to recharge batteries.

The DONGLE contains a standard USB connectors which allows the DONGLE to be connected to the PC. This connector provides the power supplies necessary to power the DONGLE unit. The supply is nominally 5V.



WirelessUSB LS™ Radio Module

1.0 Features

- The CYWM6934 LS™ 2.4-GHz DSSS Radio SoC Module includes radio (CYWUSB6934), antenna, and all external components
- Complete Radio Module with PCB Trace Antenna
- Operates in the unlicensed Industrial, Scientific, and Medical (ISM) band (2.4 GHz–2.483 GHz)
- –90-dBm receive sensitivity
- Up to 0-dBm output power
- Range of up to 10 meters or more
- Data throughput of up to 62.5 kbits/sec
- SPI microcontroller interface (up to 2 MHz data rate)
- Operating voltage from 2.7V to 3.6V
- Small PCBA Design: 0.975" (24.38 mm) by 0.65" (16.25 mm) by 0.212" (5.3 mm) (L x W x H)
- FCC Modular Approval Grant to meet FCC Part 15, EN 300 328-1, EN 301 489-1, and Industry Canada RSS-210 standards
- An FCC Module Approval (MA) Grant provides customers significant cost savings, by allowing customers to adopt the CYWM6934 FCC ID into their own products

2.0 Functional Description

The CYWM6934 WirelessUSB LS™ Radio Module offers a complete radio module solution for integration into existing or new 2.4-GHz products.

The CYWM6934 is tested for functional operation and is FCC/ETSI(EU)/Industry pre-certified. The module is supplied with an integrated PCB trace antenna.

The CYWM6934 is available in a small PCBA design and can be mounted horizontally to the device PCB via a 12-pin header. The pin-out of the header is shown in *Figure 4-1*.

3.0 Applications

- PC Human Interface Devices (HID)
 - Mice
 - Keyboards
 - Joysticks
- Peripheral Gaming Devices
 - Game Controllers
 - Console Keyboards
- General
 - Presenter Tools
 - Remote Controls
 - Consumer Electronics
 - Barcode Scanners
 - POS Peripherals
 - Toys

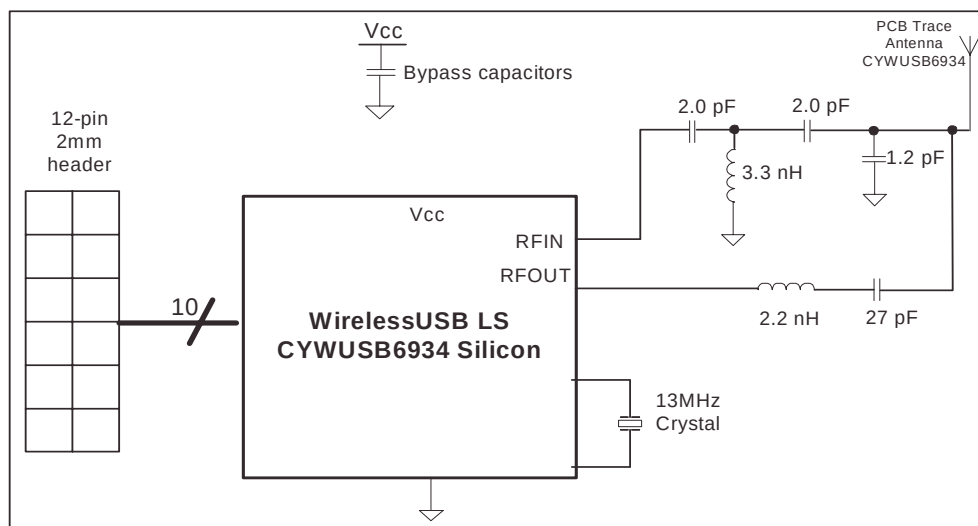


Figure 3-1. CYWM6934 Module

3.1 Reference Documentation

For information on technical details of the WirelessUSB LS™ 2.4-GHz DSSS Radio SoC such as register settings, timing, application interfaces, clocking, and power management, refer to the data sheet of the CYWUSB6934 Radio SoC.

3.2 Applications Support

The CYWM6934 is available as a reference design, complete with PCB layout files, schematics, and a bill of materials. The CYWM6934 can be used with the CY3635 WirelessUSB N:1 sensor development kit, and the CY3632 WirelessUSB LS development kit via a 1 x 14 adaptor board.

4.0 Pin Definitions

Table 4-1. Pin Description Table for the CYWM6934

Pin QFN	Name	Direction	Description
1	GND	–	Ground
2	VCC	–	Supply voltage for the entire Radio Module (2.7V-3.6V). It is recommended that 3.3V be used for most applications.
3	IRQ	Output	Interrupt signal from Radio Module to the MCU
4	nRESET	Input	Active low reset signal from MCU to Radio Module
5	MOSI	Input	Master out, slave in SPI signal from MCU to Radio Module
6	nSS	Input	Active low slave select signal from MCU to Radio Module
7	SCK	Input	SPI clock from MCU to Radio Module
8	MISO	Output	Master in, slave out SPI signal from Radio Module to MCU
9	GND	–	Ground
10	nPD	Input	Active low power-down signal from MCU to Radio Module
11	N/C	–	No connect—leave open
12	N/C	–	No connect—leave open

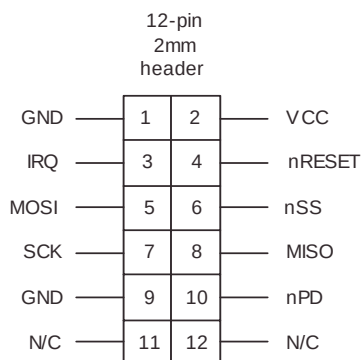


Figure 4-1. CYWM6934 Header Pin-out

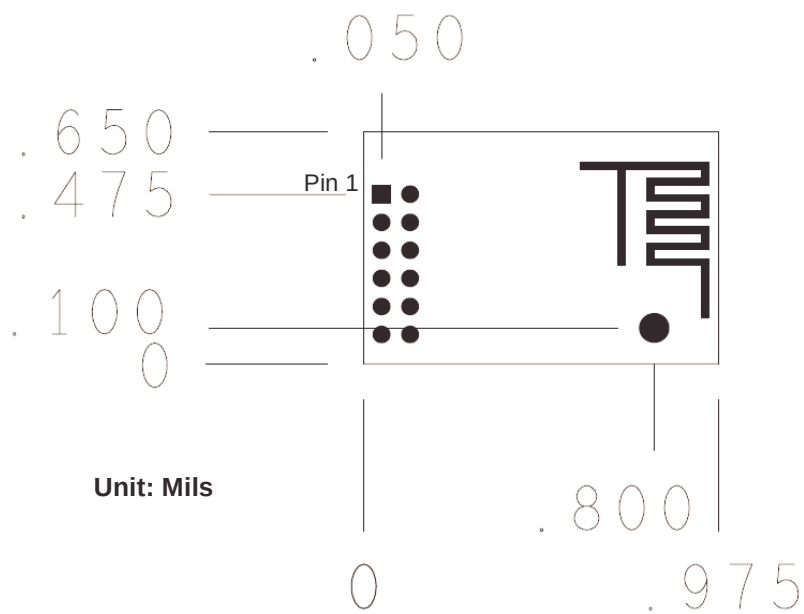


Figure 4-2. CYWM6934 Mechanical Drawing

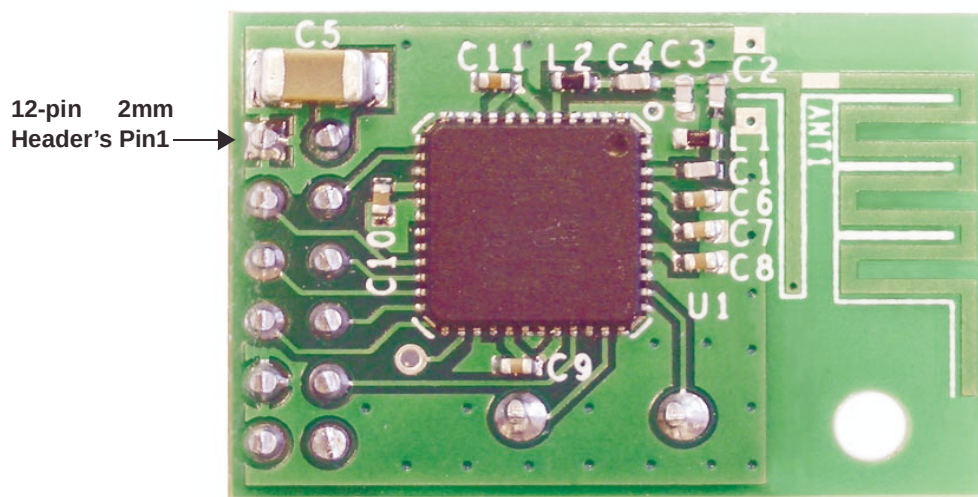


Figure 4-3. CYWM6934 Top View

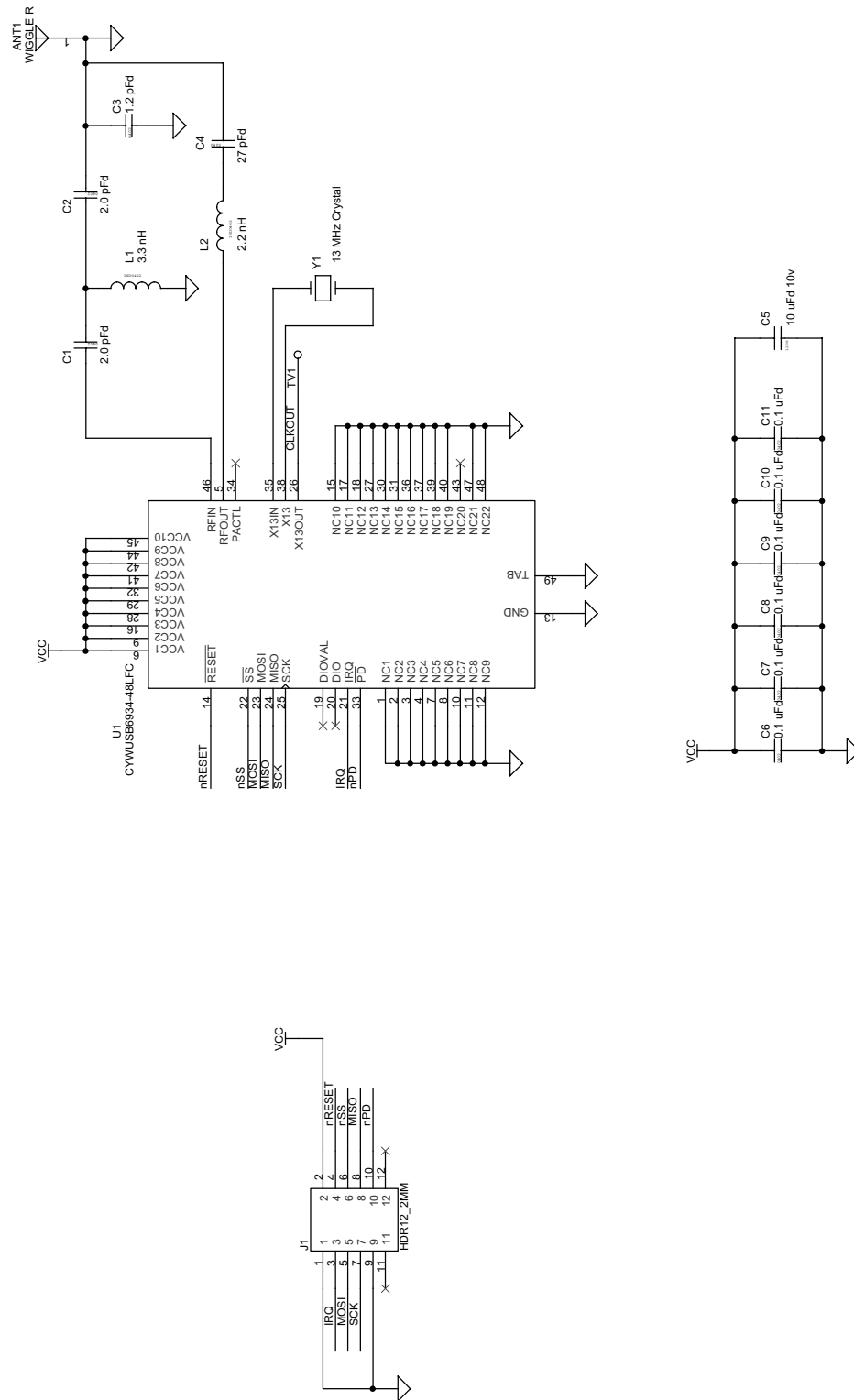


Figure 4-4. CYWM6934 Schematic

5.0 Ordering Information

Table 5-1. Ordering Information

Part Number	Radio	Package Name	Package Type	Operating Range
CYWM6934	Transceiver Module	N/A	N/A	Commercial

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Document History Page

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REV.	ECN NO.	Issue Date	Orig. of Change	Description of Change
**	329977	See ECN	BON	New data sheet