

MRF89XAMxA PICtail™/PICtail Plus Daughter Board Information Sheet

Overview

The MRF89XAMxA PICtail™/PICtail Plus Daughter Board is a demonstration and development daughter board for the following modules:

- MRF89XAM8A Ultra Low-Power Sub-GHz Transceiver module – 868 MHz (AC164138-1)
- MRF89XAM9A Ultra Low-Power Sub-GHz Transceiver module – 915 MHz (AC164138-2)

The daughter board can be plugged into multiple Microchip Technology demonstration and development boards. For example, the daughter board is appropriate for 8-bit microcontroller development using the PIC18 Explorer Board (DM183032) or for 16-bit and 32-bit microcontroller development using the Explorer 16 Development Board (DM240001).

User's Guide

The “MRF89XAMxA PICtail™/PICtail Plus Daughter Board User's Guide” (DS70653A) is available for download from the Microchip website <http://www.microchip.com/wireless>. The User's Guide contains more detailed information on the features, operation, schematics and Printed Circuit Board (PCB).

Software

Sample source code is available at Microchip Wireless Design Environment, Microchip Wireless Media Access Controller (MiMAC) and Microchip Wireless Application Programming Interface (MiApp), and each are described in Application Notes AN1283 and AN1284. A Quick Start Guide is included in the software installation package that explains the installation and operation of the demonstration program. The Quick Start Guide is available for download from the Microchip website <http://www.microchip.com/wireless>.

The MRF89XA Radio Utility Driver Program provides design engineers a development and testing utility program that operates on the PIC18 Explorer Board (DM183032) and Explorer 16 Development Board (DM240001). This program is available for download from the Microchip website <http://www.microchip.com/wireless>, and detailed information is given in the Application Note AN1340.

Operation

Programming and configuration options for the MRF89XAMxA transceiver modules are provided in the “MRF89XA Ultra Low-Power, Integrated ISM Sub-GHz Transceiver Data Sheet” (DS70622).

Sample source code is the best place to start. Refer to the compile options when enabling the MRF89XAMxA transceiver modules.

CAUTION

Voltage and current to the MRF89XAMxA PICtail™/PICtail Plus Daughter Board should be in the range of 2.1-3.6V. Ensure that the daughter board is plugged into a development/demonstration board that meets this power requirement; otherwise, damage to the MRF89XAMxA PICtail™/PICtail Plus Daughter Board may occur.

Jumper Configuration

Power Disconnect/Current Measure Jumpers (JP1/JP2) – Two 2-pin headers are connected in parallel. A shunt connects power to the MRF89XAMxA module. A current meter can be placed on the header and shunt can be removed to measure the current consumption.

TIP: To prevent power interruption to the MRF89XAMxA module, keep the shunt on the header while connecting the current meter. After connecting, remove the shunt to measure current.

INT2 Jumper (JP3) – For the PIC18 Explorer Board, jumpering JP3 with a shunt allows the connection of RA5 to RB2/INT2 and enables push-button switch S2 to trigger an interrupt.

Americas	Asia/Pacific	Europe
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Boston - 774-760-0087	China - Beijing - 86-10-8528-2100	Denmark - Copenhagen - 45-4450-2828
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Toronto - 905-673-0699	China - Wuhan - 86-27-5980-5300	08/04/10
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