



MOD-WiFi development board

Users Manual



All boards produced by Olimex are ROHS compliant

Rev. A, February 2010

Copyright(c) 2010, OLIMEX Ltd, All rights reserved

INTRODUCTION

MOD-WiFi is simple and cost-effective way to incorporate an application with TCP-IP Stack and provide a simple means of wirelessly enabling any device which has communication via SPI. The radio communication is realized with Wi-Fi Low Power Transceiver Module - ZG2100MC made by Microchip Technology Inc. MOD-WiFi contains UEXT female connector, so it can be connected to other Olimex development boards with UEXT male connectors.

BOARD FEATURES

- Wi-Fi Module - ZG2100MC
- UEXT connector
- Reset Circuit
- On-board antenna
- PCB: FR-4, 1.00 mm (0,039"), solder mask, silkscreen component print
- Dimensions: 29.00x22.50 mm (1.14x0.89")

ELECTROSTATIC WARNING

The MOD-WiFi board is shipped in protective anti-static packaging. The board must not be subject to high electrostatic potentials. General practice for working with static sensitive devices should be applied when working with this board.

BOARD USE REQUIREMENTS

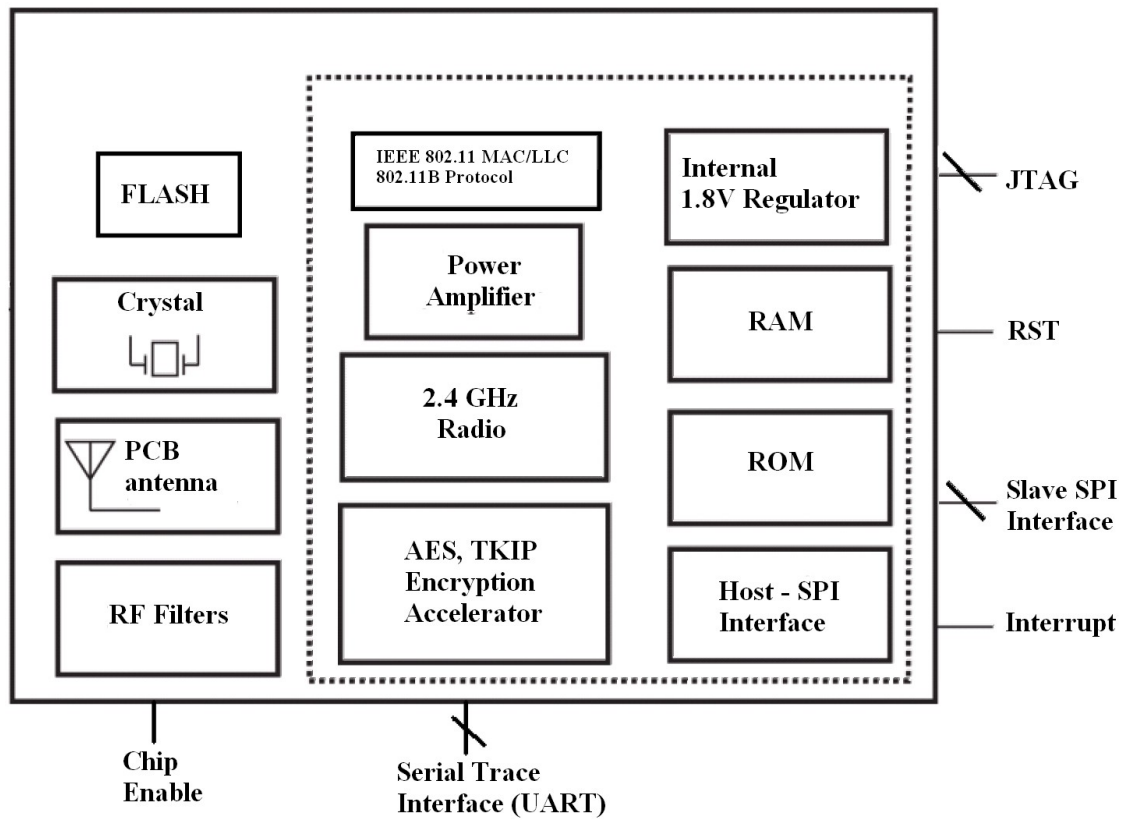
Hardware: Some of Olimex development boards with male UEXT connector.

MODULE FEATURES

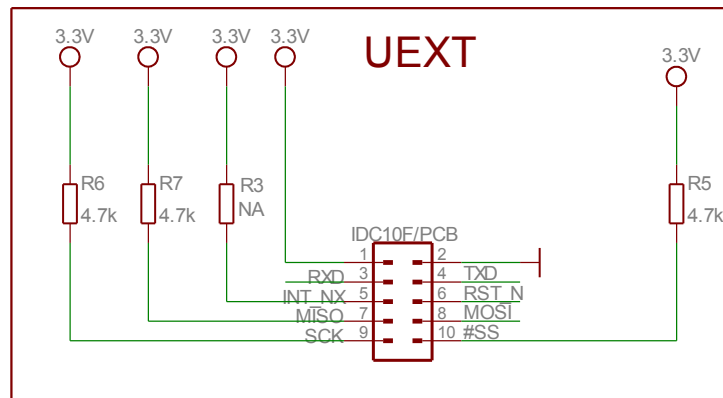
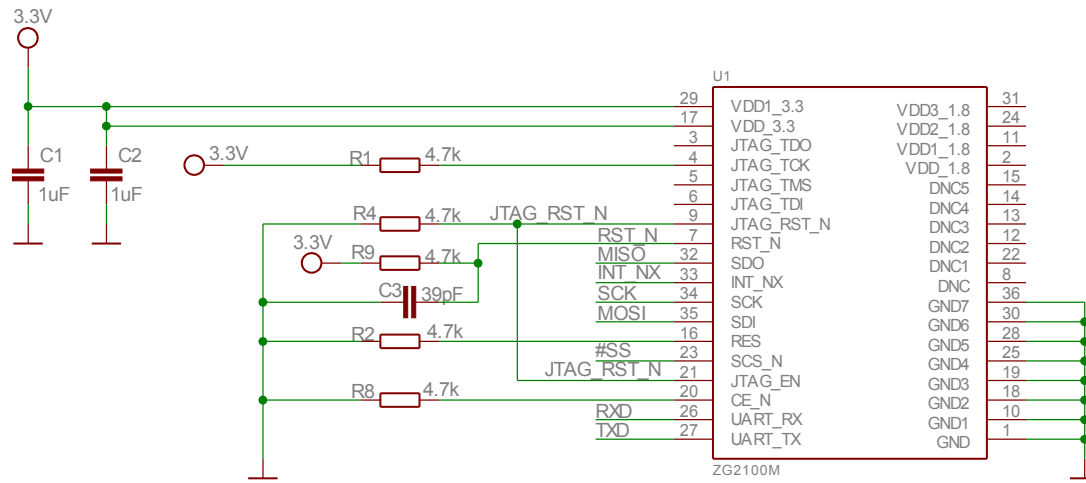
MOD-WiFi use 36-pin 2.4 GHz 802.11b Low Power Transceiver Module, with these features:

- Single-chip 802.11b including MAC, baseband, RF and power amplifier
- Data Rate: 1 & 2 Mbps
- Serialized MAC address, each device comes with an unique MAC address in range 001EC0xxxxxx
- Simple usage model, no requirement for OS
- 802.11b/g/n compatible
- Targeted for low resource host processors
- Low power, 250uA sleep mode with fast wake up, 0.1uA hibernate
- Sleep power state managed by ZG2100, enabling low average power while maintaining AP association without host control
- API for embedded markets, no OS required
- PCB or external antenna options
- Hardware support for AES and RC4 based ciphers (WEP, WPA, WPA2 security)
- SPI slave interface with interrupt
- Single 3.3V supply, operates from 2.7V to 3.6V
- 21mm x 31mm 36-pin Dual Flat pack PCB SM Package
- Wi-Fi Certified, RoHS and CE compliant

BLOCK DIAGRAM



SCHEMATIC



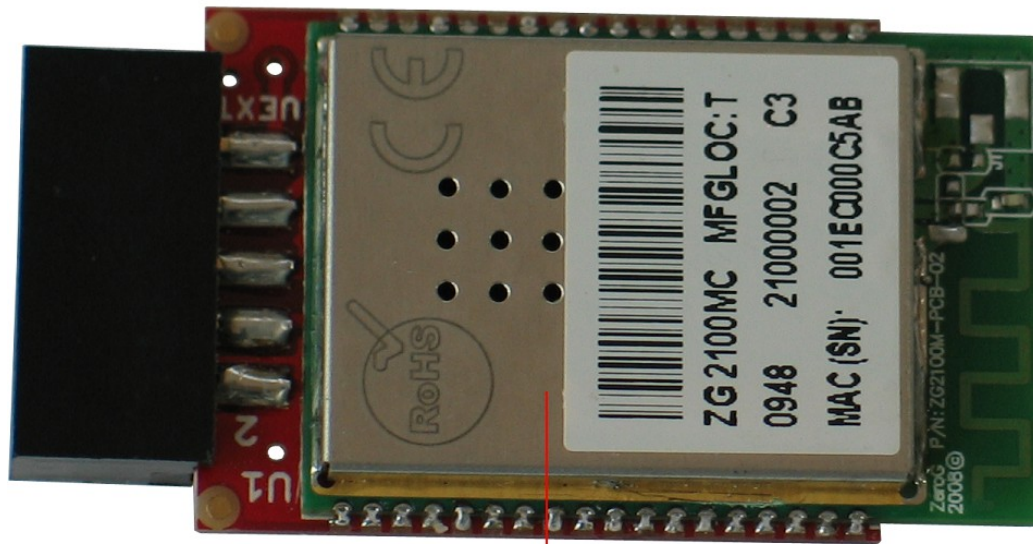
MOD-WiFi

Rev. A

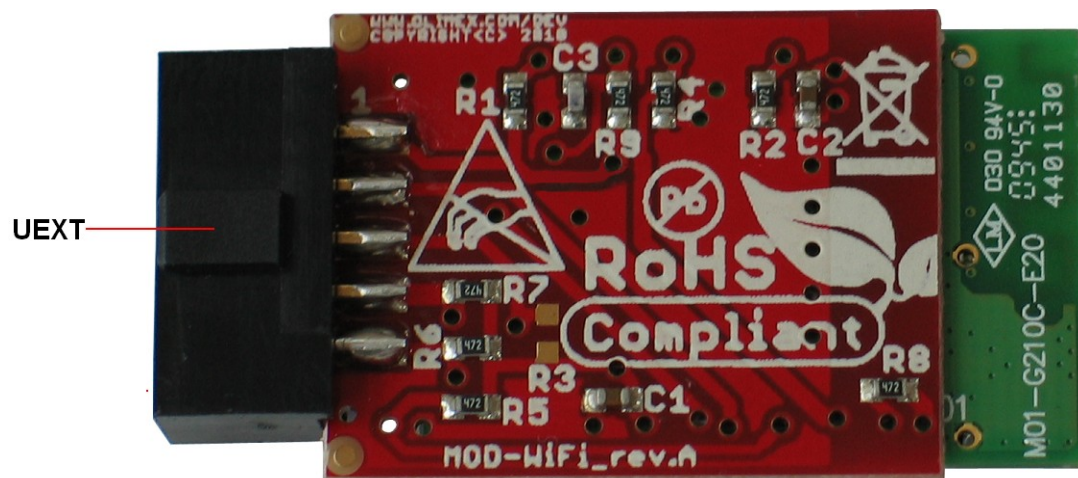
COPYRIGHT(C) 2010, OLIMEX Ltd.

<http://www.olimex.com/dev>

BOARD LAYOUT



WiFi Module



UEXT

POWER SUPPLY CIRCUIT

MOD-WiFi can be power supplied via UEXT connector pins 1 and 2.

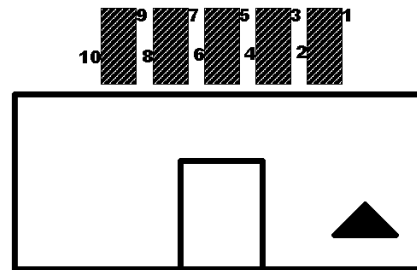
RESET CIRCUIT

MOD-WiFi reset circuit includes ZG2100MC pin 7, R9 (4.7k) and C3 (39pF).

CONNECTOR DESCRIPTIONS

UEXT

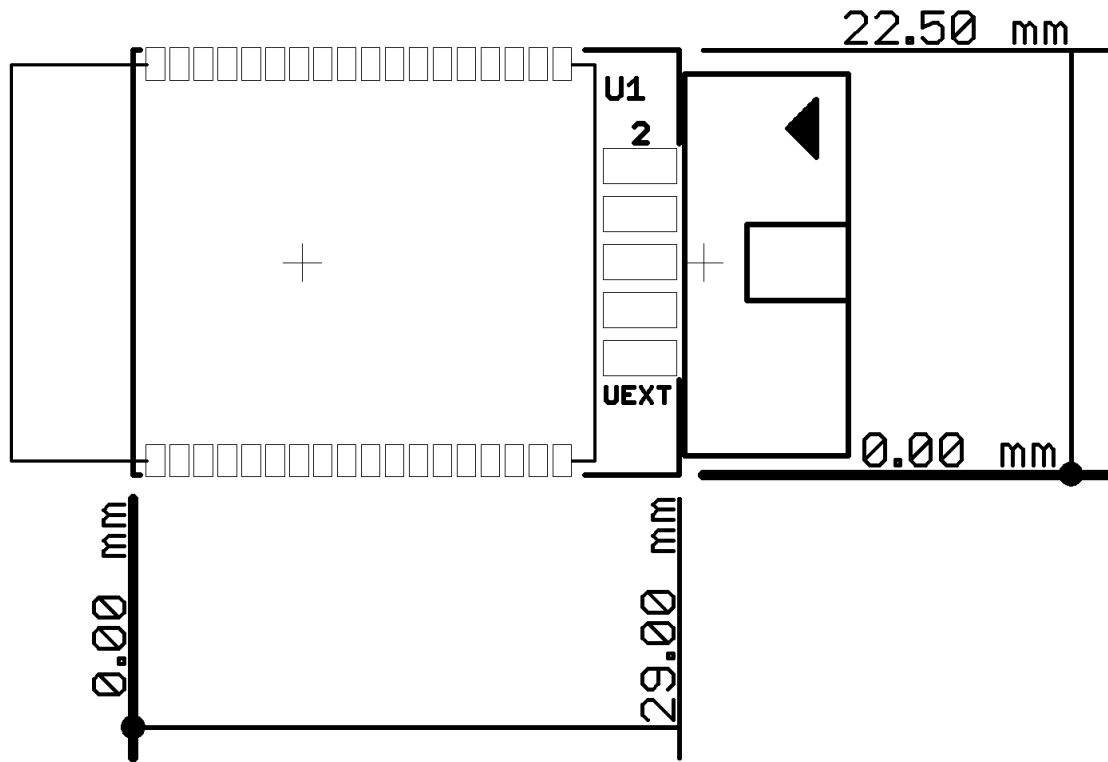
Pin #	Signal Name
1	3.3V
2	GND
3	RXD
4	TXD
5	INT_NX
6	RST_N
7	MISO
8	MOSI
9	SCK
10	#SS



JUMPER DESCRIPTION

There are no jumpers on this board.

MECHANICAL DIMENSIONS



AVAILABLE DEMO SOFTWARE

- MOD-WIFI demo for the PIC32-MX460 rev.B board

ORDER CODE

MOD-WiFi assembled and tested.

How to order?

You can order to us directly or by any of our distributors.

Check our web www.olimex.com/dev for more info.

Revision history:

REV. A - create February 2010

Disclaimer

© 2010 Olimex Ltd. All rights reserved. Olimex®, logo and combinations thereof, are registered trademarks of Olimex Ltd. Other terms and product names may be trademarks of others.

The information in this document is provided in connection with Olimex products. No license, express or implied or otherwise, to any intellectual property right is granted by this document or in connection with the sale of Olimex products.

Neither the whole nor any part of the information contained in or the product described in this document may be adapted or reproduced in any material form except with the prior written permission of the copyright holder.

The product described in this document is subject to continuous development and improvements. All particulars of the product and its use contained in this document are given by OLIMEX in good faith. However all warranties implied or expressed including but not limited to implied warranties of merchantability or fitness for purpose are excluded.

This document is intended only to assist the reader in the use of the product. OLIMEX Ltd. shall not be liable for any loss or damage arising from the use of any information in this document or any error or omission in such information or any incorrect use of the product.