FEATURES

- Compatible with MitySOM-335x based Development Kits from Critical Link
- WiFi Support
  - IEEE 802.11 b/g/n
- Bluetooth Support
  - 2.1+EDR
  - Power Class 1.5
- Utilizing LSR's TiWi-R2 Module
  - Based on TI WL1271 Transceiver

(1.7" x 1.8" – actual size)

DESCRIPTION

The CL TiWi-R2 Expansion Kit is compatible with Critical Link's line of MitySOM-335x based development kits; one is required to interface with this expansion kit. All MitySOM-335x based System on Modules support the CL TiWi-R2 expansion kit and can be added to a development kit to add WiFi and Bluetooth functionality.

Each kit comes complete with a U.FL cable and a 2.4GHz 2dbi external antenna. It seamlessly integrates into the Sitara™ application processor that is used in Critical Links MitySOM-335x System on Modules. It is based upon the TiWi-R2 from LS Research utilizing a Texas Instruments WL1271 Transceiver.

CL TiWi-R2 Interface Description

The CL TiWi-R2 interfaces directly with a MitySOM-335x Development Kit through the 41-pin Hirose connector on the bottom of the Development Kit, J700. This interface provides the necessary communications and voltage signals used by the CL TiWi-R2 Expansion Kit.

Linux Driver and API examples are available to support the WiFi functionality. The 802.11 b/g/n WiFi interface works directly with the Linux operating system and common wireless LAN utilities such as WPA Supplicant and WPA_CLI are compatible.

For further information concerning the configuration and specifications of the TiWi-R2 module that the kit is based upon please visit LS Research: http://www.lsr.com/wireless-products/tiwi-r2

CL TiWi-R2 Electrical Description

The CL TiWi-R2 Expansion Kit provides standard WiFi IEEE 802.11 data rates up to 65Mbps. The communications interface is routed to I2C0 on the MitySOM-335x module that is installed in a MitySOM-335x Development Kit.

The electrical interface between the CL TiWi-R2 Expansion Kit and MitySOM-335x based Development Kit is provided via the 41-pin Hirose header described in Table 1.

Please reference the MitySOM-335x Development Kit documentation for further details on the pin-out of this connector.

CL TiWi-R2 Expansion Kit Pinout

Table 2 shows the 41-pin Hirose header, J1, used to interface the CL TiWi-R2 Expansion Kit to a MitySOM-335x based development kit.

Table 1: CL TiWi-R2 Expansion Kit 41-Pin Header

Pin	Name	Type	Note
1	SPI_CSX/SDIO_D3_B	I/O	
2	+3.3V	Power	
3	SDIO_D2_B	I/O	
4	+3.3V	Power	
5	SDIO_D1_B	I/O	
6	GND	Power	
7	SPI_DOUT/SDIO_D0_B	I/O	
8	Reserved	-	
9	RESETn	I	
10	Reserved	-	
11	CB_HOST_WL_IRQ_3V3	I/O	
12	Reserved	-	
13	UART_IRQ	O	
14	Reserved	-	
15	Reserved	-	
16	Reserved	-	
17	Reserved	-	
18	GND	Power	
19	Reserved	-	
20	Reserved	-	
21	Reserved	-	
22	SPI_DIN/SDIO_CMD_B	I/O	
23	Reserved	-	
24	Reserved	-	
25	Reserved	-	
26	Reserved	-	
27	Reserved	-	
28	Reserved	-	
29	Reserved	-	
30	HOST_CB_SPI/SDIO_CLK_B	I/O	
31	Reserved	-	
32	GND	Power	
33	GND	Power	
34	VIO_1P8	Power	
35	Reserved	-	
36	Reserved	-	
37	HOST_CB_WL_EN_3V3	I/O	
38	Reserved	-	
39	I2C0_SDA	I/O	
40	Reserved	-	
41	I2C_SCL	I/O	

ABSOLUTE MAXIMUM RATINGS

If Military/Aerospace specified cards are required, please contact the Critical Link Sales Office or unit Distributors for availability and specifications.

Maximum Supply Voltage, Vcc	3.4 V
Storage Temperature Range	-65C to 85C

OPERATING CONDITIONS

Industrial Temperature Range	-40 to +85C
Humidity	0 to 95% Non-condensing

ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Vcc	Voltage supply, 3.3 volt input.			3.3	3.4	Volts
Icc	Quiescent Current draw, 3.3 volt input			TBD	TBD	Milliamps

ORDERING INFORMATION

The following table lists the orderable module configurations. For shipping status, availability, and lead time of these or other configurations please contact your Critical Link representative.

A compatible 802.11 antenna and cable (may vary) are provided with each CL TiWi-R2 Expansion Kit.

Table 2: Orderable Model Numbers

Part Number	Protocol(s) Supported
80-000535	802.11 b/g/n and Bluetooth 2.1

MECHANICAL INTERFACE

A mechanical outline of the CL TiWi-R2 Expansion Board is illustrated below.

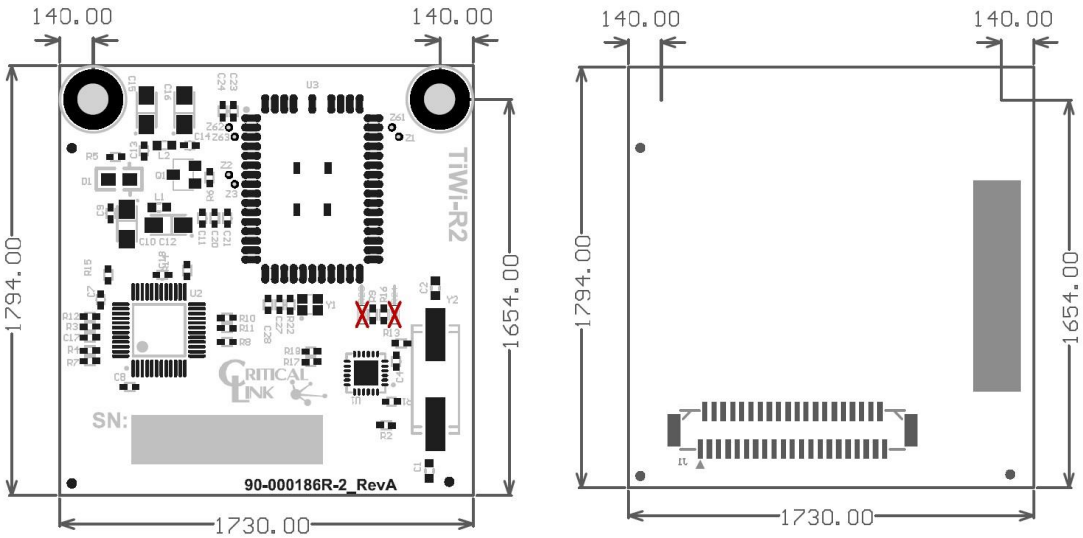

Figure 1: Dimensions 1.73" x 1.79" – Top and Bottom Mechanicals

REVISION HISTORY

Date	Change Description
10-OCT-2012	Initial release.
17-OCT-2012	Update part number
26-OCT-2012	Update product images
23-APR-2013	Remove Bluetooth from Linux Driver and API support
5-MAR-2014	Update MitySOM product name

Mouser Electronics

Authorized Distributor

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Critical Link:
80-000535