FEATURES

- Compatible with MityARM-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 MityARM-335x based development kits; one is required to interface with this expansion kit. All MityARM-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 MityARM-335x System on Modules. It is based upon the TiWi-R2 from LS Research utilizing a Texas Instruments WL1271 Transceiver.

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CL TiWi-R2 Interface Description

The CL TiWi-R2 interfaces directly with a MityARM-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 MityARM-335x module that is installed in a MityARM-335x Development Kit.

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

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

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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 MityARM-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	

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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	-65 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

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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.

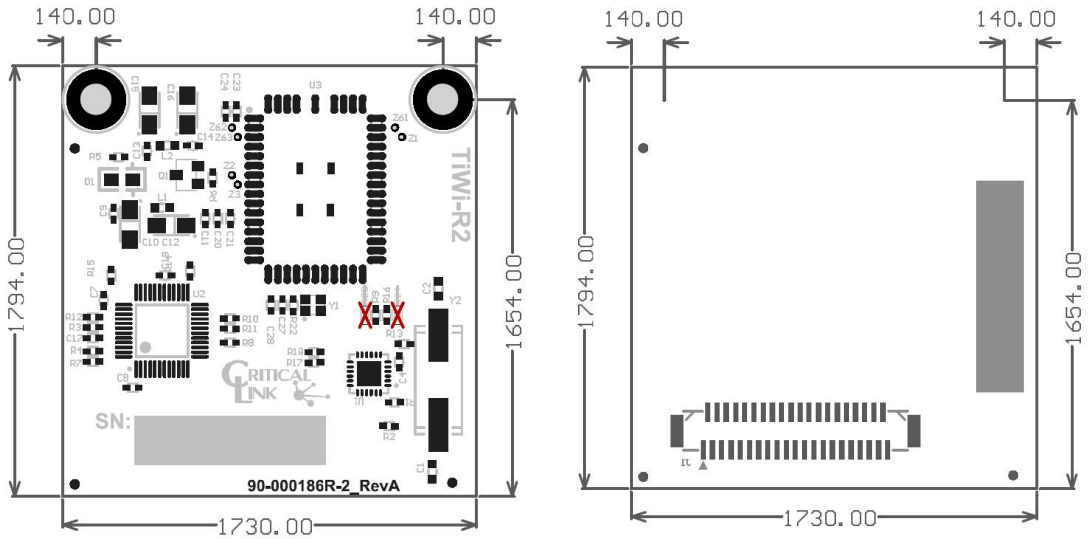

Figure 1: Dimensions 1.73" x 1.79" – Top and Bottom Mechanicals

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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

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