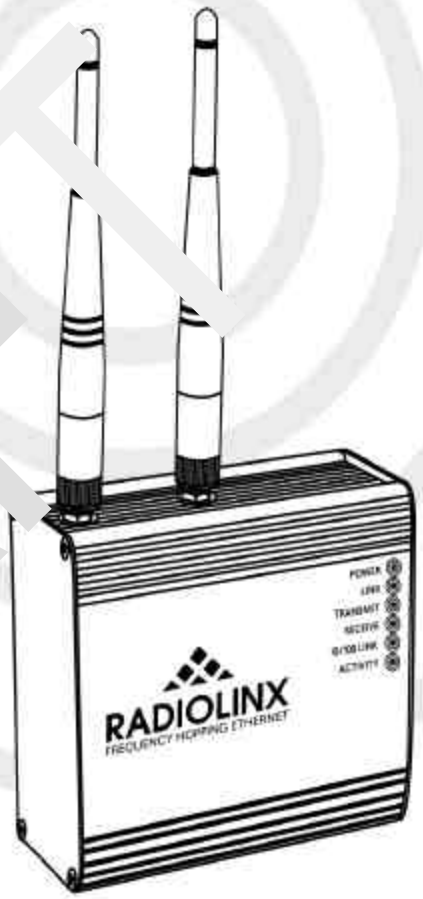
RADIOLINX



RLX-IHW-OEM

Industrial Hotspot

802.11a, b, g

User Guide

September 06, 2007

ProSoft TECHNOLOGY

Compliance Statement

The following statements must be included in the product documentation for the end device in which the radio module is embedded:

*This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

CAUTION: Changes or modifications to this radio module not expressly approved by its manufacturer may void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Product Labeling

This radio module is labeled with an FCC ID number and a Canadian Certification Number. If this label is not visible when installed in an end-device, the outside of the device MUST also display a label referring to the enclosed radio module. Use wording on the label similar to the following:

"Transmitter Module FCC ID: OQ7IHW, Canada 3656AIHW".

OR

"This device contains Transmitter Module FCC ID: OQ7IHW, Canada 3656AIHW"

Radio Frequency Interference Requirements

For the channels in the frequency band 5.15 to 5.25 GHz operation is limited to indoor use only due to FCC and Canada requirements.

Antenna spacing requirements for user safety

It is important to keep the radio's antenna a safe distance from the user. To meet the requirements of FCC part 2.1091 for radio frequency radiation exposure, the following information must be provided to the end user:

> "In order too comply with FCC RF exposure requirements, this device must be operated in such a way that a minimum 20cm separation distance is maintained between the antenna, and all persons, during normal operation."

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF fields in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication.

Approved Antennas

Two antenna port connections (for diversity) are provided. The radio uses SMT Ultra Miniature Coax Connector, Hirose, CL331-0471-0-10 (U.FL-R-SMT). An adaptor cable or interface board is used to connect to the approved antennas.

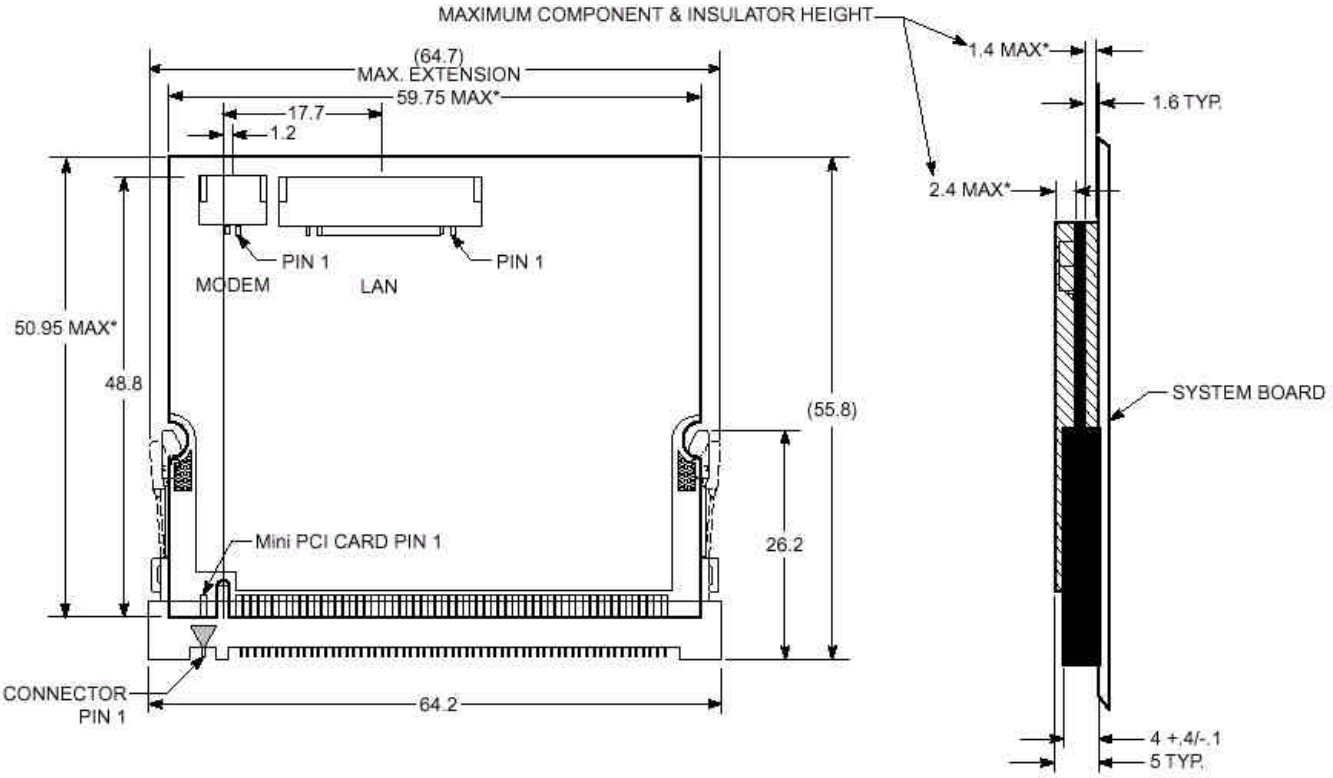
The following antennas are approved for use with this module:

Frequency Bands

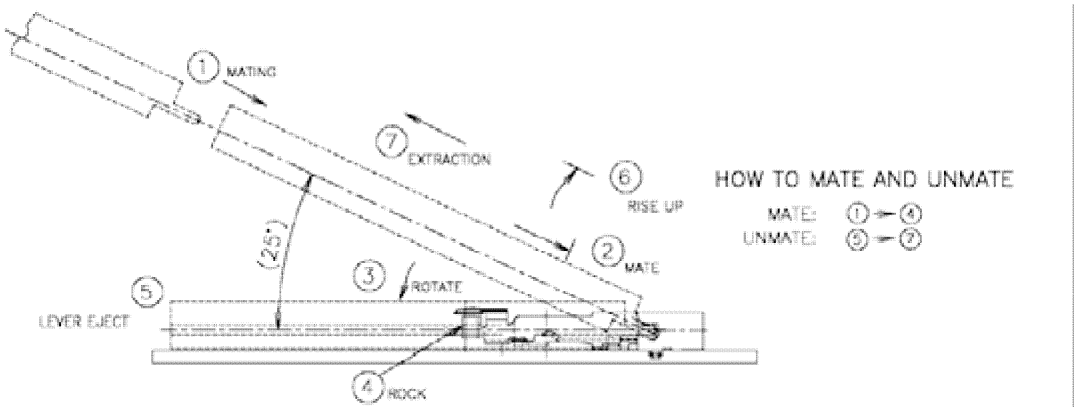
Type	Gain	Connector	Freq	Part#
Omni	2	SMA-RP	2.4,5.2,5.8	A2505S-OA
Omni	**2**	**F-RP**	**2.4,5.2,5.8**	**-**
Omni	2	RP-SMA	2.4	A2402S-OA
Omni	2	RP-SMA	2.4	A2402S-OS
Omni	2	RP-SMA	2.4	A2402S-OSLP
Omni	3	N	2.4	A2403NJ-OCD
Omni	4	N	2.4	A2404NBHB-O
Omni	4	N	2.4	A2404NBHW-O
Omni	4	N	2.4	A2404NJ-OC
Omni	5	RP-SMA	2.4	A2405S-OA
Omni	5	RP-SMA	2.4	A2405S-OM
Omni	5	RP-SMA	2.4	A2405S-OS
Omni	6	N	2.4	A2406NJ-OC
Omni	6	N	2.4	A2406NJ-OCD
Omni	6	N	5.8	A5006NJ-OC
Omni	**6,8**	**N**	**2.4,5.8**	**A2506NJ-OC**
Patch	8	N	2.4	A2408NJ-DP
Patch	**8,9**	**N**	**2.4,5.8**	**A2508NJ-DP**
Parabolic	**29**	**N**	**5.8**	**A5829NJ-DB**

Installation

The Radiolinx IHW-OEM module fits into a MiniPCI connector. The diagram below shows the dimensions of a MiniPCI TypeIIIA card.



The diagram below shows inseration and removal of the Mini-PCI card.



Digital connection is through Mini PCI type III defined by the Mini PCI Specification document published by the PCI Special Interest Group. As a recommendation, the Molex 67315-0011 can be used.

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal

1	TIP Key	2	RING Key	63	3.3V	64	FRAME#
3	8PMJ-3[3, 4]	4	8PMJ-1[3, 4]	65	CLKRUN#	66	TRDY#
5	8PMJ-6[3, 4]	6	8PMJ-2[3, 4]	67	SERR#	68	STOP#
7	8PMJ-7[3, 4]	8	8PMJ-4[3, 4]	69	GROUND	70	3.3V
9	8PMJ-8[3, 4]	10	8PMJ-5[3, 4]	71	PERR#	72	DEVSEL#
11	LED1_GRNP	12	LED2_YELP	73	C/BE[1]#	74	GROUND
13	LED1_GRNN	14	LED2_YELN	75	AD[14]	76	AD[15]
15	CHSGND	16	RESERVED	77	GROUND	78	AD[13]
17	INTB#	18	5V	79	AD[12]	80	AD[11]
19	3.3V	20	INTA#	81	AD[10]	82	GROUND
21	RESERVED	22	RESERVED	83	GROUND	84	AD[09]
23	GROUND	24	3.3VAUX	85	AD[08]	86	C/BE[0]#
25	CLK	26	RST#	87	AD[07]	88	3.3V
27	GROUND	28	3.3V	89	3.3V	90	AD[06]
29	REQ#	30	GNT#	91	AD[05]	92	AD[04]
31	3.3V	32	GROUND	93	RESERVED	94	AD[02]
33	AD[31]	34	PME#	95	AD[03]	96	AD[00]
35	AD[29]	36	RESERVED	97	5V	98	RESERVED_WIP[5]
37	GROUND	38	AD[30]	99	AD[01]	100	RESERVED_WIP[5]
39	AD[27]	40	3.3V	101	GROUND	102	GROUND
41	AD[25]	42	AD[28]	103	AC_SYNC	104	M66EN
43	RESERVED	44	AD[26]	105	AC_SDATA_IN	106	AC_SDATA_OUT
45	C/BE[3]#	46	AD[24]	107	AC_BIT_CLK	108	AC_CODEC_ID0#
47	AD[23]	48	IDSEL	109	AC_CODEC_ID1#	110	AC_RESET#
49	GROUND	50	GROUND	111	MOD_AUDIO_MON	112	RESERVED
51	AD[21]	52	AD[22]	113	AUDIO_GND	114	GROUND
53	AD[19]	54	AD[20]	115	SYS_AUDIO_OUT	116	SYS_AUDIO_IN
55	GROUND	56	PAR	117	SYS_AUDIO_OUT GND	118	SYS_AUDIO_IN GND
57	AD[17]	58	AD[18]	119	AUDIO_GND	120	AUDIO_GND
59	C/BE[2]#	60	AD[16]	121	RESERVED	122	MPCIACT#
61	IRDY#	62	GROUND	123	VCC5VA	124	3.3VAUX

The signal CHSGND is a chassis ground contact and is connected on the Mini PCI Card via a spring contact clip.

Technical Specifications

Radio Technology	IEEE 802.11 a\b\g Turbo (DSSS and OFDM)
Operating Frequency	2412-2484 MHz and 4900-5900 MHz
Modulation Schemes	OFDM with BPSK, QPSK, 16QAM, 64QAM DSSS: DBPSK, DQPSK, CCK
RF Channel Availability	United States: 11 channels (2412 to 2462 MHz) Europe: 13 channels (2412 to 2472 MHz) Japan:13 channels (2412 to 2472 MHz); channel 14 (2484 MHz) United States: 12 channels (5180 to 5805 MHz)

Data Rate	Europe: 12 channels (5180 to 5805 MHz) Japan:11 channels (4920 to 5230 MHz) OFDM: 54,36,24,18,12,9 and 6 Mbps CCK: 11 and 5.5 Mbps QPSK: 2 Mbps BPSK: 1 Mbps
Media Access Protocol	CSMA/CA with ACK
Transmitter RF Output Power	<20 dBm EIRP (typical) including antenna gain
Operating Voltage	3.3 Vdc (mini PCI slot of host computer)
Interface	PC Card mini PCI
Device Driver	Microsoft Windows 98SE/ME/NT/2000/XP

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