

WIT934

900MHz Spread Spectrum Wireless Industrial
Transceiver



Integration Guide



CIRRONET™

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Important Regulatory Information

Cirronet Product FCC ID: HSW-934 / IC 4492A-934

Note: This unit 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 their expense.

FCC and IC MPE Requirements

Information to user/installer regarding FCC's Maximum Permissible Exposure (MPE) limits.

Notice to users/installers using the following fixed antennas:

2 dBi Cirronet Omni092
-5 dBi ThinkWireless TWP900A

"Remote Operation"

The field strength radiated by both of these antennas, when connected to a transmitting WIT934, does not exceed FCC-mandated RF exposure limits for **Portable** operation (<2.5 cm from body of user) for the General Population.

Note that the WIT934 must be configured as a "Remote" with a maximum transmitted duty cycle of 7.4% if it is to be used as a **Portable** device with either of these antennas.

"Access Point Operation"

The 2 dBi Cirronet Omni092 may also be connected to a WIT934 configured in "Access Point" operating mode with a higher transmitted duty cycle. In this mode, the radio is considered a **Mobile** device and the antenna must be placed at least 20 cm away from any personnel. End users of these systems must also be informed that RF exposure limits may be exceeded if personnel come closer than 23 cm to the aperture of this antenna.

9 dBi L-Comm Yagi

The field strength radiated by this antenna, when connected to a transmitting WIT934 does not exceed FCC-mandated RF exposure limits for **Mobile** operation. This antenna must be placed at least 20 cm away from any personnel. End users of these systems must also be informed that RF exposure limits may be exceeded if personnel come closer than 23 cm to the aperture of this antenna.

The antennas used with the WIT934 transceiver must not be co-located or operating in conjunction with any other antenna or transmitter.

Additional Regulatory Statements

WARNING: This device operates under Part 15 of the FCC rules. Any modification to this device, not expressly authorized by RFM, Inc., may void the user's authority to operate this device.

FCC NOTICE: 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.

IC Notice - This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry 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 (e.i.r.p.) is not more than that necessary for successful communication.

This radio transmitter, IC: 4492A-934 has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

RFM/Cirronet, OMNI092, Omnidirectional Antenna, 2 dBi, 50 ohms
L-Comm, HG909YE Yagi Antenna, 9 dBi, 50 ohms
ThinkWireless Patch Antenna, -5 dBi, 50 ohms

Canadian ICES-003 - This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of Industry Canada.

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de Classe B prescrites dans le reglement sur le brouillage radioelectrique edicte par Industrie Canada.

The FCC ID label must be visible through a window, or it must be visible on an access panel, door or cover that is easily removed. If neither of the above is possible, a second label must be placed on the outside of the device that contains the following text: "Contains FCC ID: HSW-934."

1.1 Technical Specifications

1.1.1 Ordering Information

WIT934 OEM module, serial connector, pins down

1.1.2 Power Specifications

Vcc Input Range:	3.3v to 10.0v
Operating Temp Range:	-40 degrees C to +70 degrees C
Transmit Current	600 mA
Receiver Current	100 mA
Sleep Current	<1 mA

1.1.3 RF Specifications

FCC Certification type	Part 15.247, Frequency Hopping Device
Rated RF Power	24 dBm
Line of Sight Range	20+ miles
Frequency range	902-928 MHz
Number of Channels	37
Receiver Sensitivity	-100 dBm
Channel data rate	345 Kbps
ACR	>55 dBc

1.1.4 Mechanical Specifications

Weight	35 g
Dimensions	80.2 mm X 46.5 mm X 8.6 mm
RF Connector	MMCX 50-0-1
Mating RF Connector	MMCX 50-2-3
Data/Power Connector	DIS5-108-51-L-D
Mating Power Connector	CLP-108-02-G-D