

USER INSTALLATION MANUAL

ALERTx AX7910 Transceiver Module


TITLE: User Manual		 L.S. RESEARCH Wireless Product Development	W66 N220 Commerce Ct. Cedarburg, WI 53012 USA (262) 375-4400 fax (262) 375-4248 eng@lsr.com http://www.lsr.com	
PROJECT: ALERTx 7910 Transceiver Module				
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TABLE OF CONTENTS

1.0	SCOPE.....	3
2.0	REVISION CONTROL	3
3.0	APPLICABLE DOCUMENTS	3
4.0	DESCRIPTION.....	4
5.0	ELECTRICAL SPECIFICATIONS	4
6.0	CONNECTOR PINOUT	4
7.0	MOUNTING LOCATION	5
8.0	ANTENNAS.....	5
9.0	LABELING REQUIREMENTS.....	6
10.0	RF EXPOSURE	6
11.0	FCC NOTIFICATIONS	7

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1.0 SCOPE

This manual covers the necessary items to install a XETI RF transceiver module into a piece of host equipment. Antenna considerations, electrical specifications, and labeling requirements are addressed.

2.0 REVISION CONTROL

DATE	CHANGES	REVISION
11/14/03	ORIGINAL RELEASE	0.0
11/18/03	UPDATE COVER PAGE	1.0
12/11/03	ADD WIRE ANTENNA SPECIFICATIONS	1.1
1/14/04	UPDATE ANTENNA REQUIREMENT DESCRIPTION	1.2

3.0 APPLICABLE DOCUMENTS

[1] "XETI HOST INTERFACE PROTOCOL" **L.S. Research / Henry Wagner**,
Version 2.3/ October 22, 2003

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REVISION:

1.2

PAGE:

3 OF 7

4.0 DESCRIPTION

The XETI module is a frequency hopping spread spectrum transceiver capable of 2 way transportation of message packets in the 900 MHz ISM band. A standard serial interface operating at 3 volt CMOS levels is used to communicate with the host device. Exact protocol and messaging details are available in the XETI Host Interface Protocol document.

Power is supplied by the host device through the interface connector in accordance with the operating voltage and current requirements.

5.0 ELECTRICAL SPECIFICATIONS

The module should be operated within the electrical limits provided in the section. Operation outside of the parameters may damage the unit.

Parameter	Min	Typ	Max	Units
Operating Voltage	2.70	3.00	3.60	VDC
Transmit Current		800	1000	mA
Receive Current		20		mA
Sleep Current		5	10	μA
Operating Temperature	-40		+85	°C

6.0 CONNECTOR PINOUT

Pin #	Name	Description
1	Neg Supply	Power supply ground
2	Pos Supply	Positive power supply input
3	RX_J2	Serial receive input
4	TX_J2	Serial transmit output
5	P3.2	CTS output
6	P3.1	RTS input (not used)
7	P2.0/ACLK	General I/O
8	P6.0/A0	General I/O

7.0 MOUNTING LOCATION

A vertical orientation is required. Mounting is accomplished via the 8 pin 0.1" header along the edge of the board. The product integrator should provide additional mechanical support for the opposite edge of the board by means of either a standoff with a slot for the edge of the board or by supporting the antenna connector.

In order to maintain compliance with the FCC modular certification it is necessary to mount the module in such a way that user is never closer than 20 cm to the antenna.

The manual for end users of the product must contain a warning about the 20 cm separation as outlined in Section 10.0.

Additionally, the transceiver may not be co-located with any other antenna or transmitter.

8.0 ANTENNAS

Compliance with FCC regulations may only be maintained using the specified antennas. This module is designed for use with either a Nearson model S321AH-915 $\frac{1}{4}$ wave monopole antenna or a permanent wire antenna. Use of any other antenna is a violation of FCC rules.

When using the Nearson antenna a reverse polarity SMA connector is supplied to prevent the use of other types of antennas.

The specified wire antenna will be attached at the factory and should not be altered.

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FILENAME, FILES AFFECTED:	ALERTx Users Manual v1.2	REVISION:	PAGE:
		1.2	5 OF 7

9.0 LABELING REQUIREMENTS

The FCC requires that the Part 15 statement be installed on the outside of the final product in a manner which allows it to be seen and read. The accepted statement and a sample label format are as follows:

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.

FCC ID: RMP-ABNX03

Canada ID:

S/N: XXXYYYYZZZ

MODEL: 66009

Actall

Made in USA

The label should be printed or molded into the case using a type front and size that is readable with the unaided eye. The FCC identification number is required.

10.0 RF EXPOSURE

This module has been designed to comply with FCC RF exposure requirements outlined in Parts 2.1091, 2.1093, and 15.247(b)(4). Deviation from the recommended installation may violate RF exposure requirements.

The manual for end users of the final product which incorporates the XETI module must contain the following statement in a prominent location:

To comply with FCC RF exposure requirements for mobile transmitting devices, this transmitter should only be used or installed at locations where there is at least 20cm separation distance between the antenna and all persons.

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11.0 FCC NOTIFICATIONS

The XETI module generates radio frequency energy. It must be installed according to the manufacturer's guidelines or it has the potential to cause interference with other radio devices. Testing has been performed to assure that it conforms with the FCC Part 15 rules for intentional and unintentional radiators.

No further EMI compliance testing of the *transmitter* is required as long as the 20 cm separation and co-location requirements are observed. Each new use of the module will, however, always need to be scanned for unintentional radiation from digital clocks, etc.

All necessary calibration has been performed at the time of manufacture. Any modification of the device after it leaves the factory is a violation of FCC rules.

Compliance Statement (Part 15.19)

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. 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.

Warning (Part 15.21)

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF Exposure (OET Bulletin 65)

To comply with FCC RF exposure requirements for mobile transmitting devices, this transmitter should only be used or installed at locations where there is at least 20cm separation distance between the antenna and all persons.

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7 OF 7