



## High Power N MiniPCI 5.8GHz XN58-26

5GHz Single-Band 802.11n MIMO 2 x 2 miniPCI

### Features

- Atheros XSPAN family chipset
- IEEE 802.11n compliant and backward compatible with 802.11a
- Enhanced sensitivity
- Optimized isolation path
- Superior thermal performance
- Maximum output power 26dBm@802.11a / 28dBm MIMO aggregate
- Built-in ESD Protection with ESD/EMP Immunity Threshold: 15KeV<sup>①</sup>
- Multi-Country Roaming Supported (IEEE802.11d Global Harmonization Standard)
- 2 x MMCX connectors allowing for improved mechanical stability and low loss

Technical Specifications									
Chipset	Atheros AR9220								
Host Interface	32-bit mini-PCI Type IIIA+ (6.55mm longer than IIIA type)								
Operating Voltage	3.3 VDC								
Power Consumption	11a Cont. Tx @6M	4.9W							
	11na Cont. Tx@HT20 MCS0	4.3W							
	11na Cont. Tx@HT40 MCS0	4.8W							
	11a Cont. Rx	2.5W							
	Standby	0.8W							
Antenna Connector	2 x MMCX connector								
Data Rate	IEEE 802.11a :	54Mbps	48Mbps	36Mbps	24Mbps	18Mbps	12Mbps	9Mbps	6Mbps
	IEEE 802.11n :	20MHz	1Nss: 65Mbps @ 800GI, 72.2Mbps @ 400GI (Max.)						
			2Nss: 130Mbps @ 800GI, 144.4Mbps @ 400GI (Max.)						
	40MHz	1Nss: 135Mbps @ 800GI, 150Mbps @ 400GI (Max.)							
2Nss: 270Mbps @ 800GI, 300Mbps @ 400GI (Max.)									
Frequency Range	IEEE 802.11a/n:	5.725 ~ 5.850 GHz (US & Canada)							
		5.725 ~ 5.875 GHz (Europe)							
Modulation Techniques	OFDM: BPSK, QPSK, 16-QAM, 64-QAM								
RoHS Compliance	Yes								
Temperature Range	Operating: -20°C to 70°C Storage: -40°C to 90°C								
Humidity	Operating: 5% to 95% (non-condensing) Storage: Max.90% (non-condensing)								
Dimension	59.6mm x 57.5mm x 7.5mm								

XN58-26 MIMO MINIPCI CARD RADIO									
TX SPECIFICATIONS									
	DataRate	TX Power		Tolerance		DataRate	TX Power		Tolerance
		(per chain)	(2 chains)				(per chain)	(2 chains)	
802.11a	6-24Mbps		26dBm				28dBm		±2dB
	36Mbps		25dBm				28dBm		±2dB
	48Mbps		24dBm				27dBm		±2dB
	54Mbps		23dBm				26dBm		±2dB
5GHz 11n HT 20	MCS 0/8	25dBm	28dBm	±2dB	5GHz 11n HT 40	MCS 0/8	24dBm	27dBm	±2dB
	MCS 1/9	25dBm	28dBm	±2dB		MCS 1/9	24dBm	27dBm	±2dB
	MCS 2/10	23.5dBm	26.5dBm	±2dB		MCS 2/10	22.5dBm	25.5dBm	±2dB
	MCS 3/11	23.5dBm	26.5dBm	±2dB		MCS 3/11	22.5dBm	25.5dBm	±2dB
	MCS 4/12	22.5dBm	25.5dBm	±2dB		MCS 4/12	22dBm	25dBm	±2dB
	MCS 5/13	22dBm	25dBm	±2dB		MCS 5/13	20.5dBm	23.5dBm	±2dB
	MCS 6/14	21dBm	24dBm	±2dB		MCS 6/14	20.5dBm	23.5dBm	±2dB
	MCS 7/15	20dBm	23dBm	±2dB		MCS 7/15	17dBm	20dBm	±2dB
RX SPECIFICATIONS									
	DataRate	Sensitivity		Tolerance		DataRate	Sensitivity		Tolerance
		(2 chains)					(2 chains)		
802.11a	6M	-96dBm		±2dB	802.11a	24M	-89dBm		±2dB
	9M	-96dBm		±2dB		36M	-86dBm		±2dB
	12M	-95dBm		±2dB		48M	-82dBm		±2dB
	18M	-93dBm		±2dB		54M	-79dBm		±2dB
5GHz 11n HT 20	MCS0	-95dBm		±2dB	5GHz 11n HT 40	MCS0	-92dBm		±2dB
	MCS1	-93dBm		±2dB		MCS1	-90dBm		±2dB
	MCS2	-90dBm		±2dB		MCS2	-87dBm		±2dB
	MCS3	-89dBm		±2dB		MCS3	-84dBm		±2dB
	MCS4	-85dBm		±2dB		MCS4	-81dBm		±2dB
	MCS5	-81dBm		±2dB		MCS5	-77dBm		±2dB
	MCS6	-79dBm		±2dB		MCS6	-76dBm		±2dB
	MCS7	-75dBm		±2dB		MCS7	-74dBm		±2dB

ESD CABLE SPECIFICATION	
Cable Dimensions	26cm length
Terminal Material	Copper
Attachment Procedure	End of ESD Cable tied to Earth Ground

### Ordering Information <sup>②</sup>

CODES	Connectors type	Carton Dimension
XN58-26	MMCX	For 50pcs (pcs/ctn), 0.40m * 0.22m * 0.085m / 0.006 = 1.5KG For 250pc (pcs/ctn), 0.45m * 0.45m * 0.24m / 0.006 = 8.1KG

- ① Module grounding cable included
- ② Configurations are subject to change without notice  
Please contact Compex sales representatives for other available configurations



## COMPLIANCE INFORMATION

This device complies with the following radio frequency and safety standards.

**Important to OEM Manufacturer:**  
**This following FCC Warning must be included in the HOST User Manual.**

### FCC Warning

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.

NOTE 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance.

**Note 1:** This module certified that complies with RF exposure requirement under mobile or fixed condition, this module is to be installed only in mobile or fixed applications.

A mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons. Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20 centimeter separation requirement.

A fixed device is defined as a device is physically secured at one location and is not able to be easily moved to another location.

**Note 2:** Any modifications made to the module will void the Grant of Certification, this module is limited to OEM installation only and must not be sold to end-users, end-user has no manual instructions to remove or install the device, only software or operating procedure shall be placed in the end-user operating manual of final products.

**Note 3:** The device must not transmit simultaneously with any other antenna or transmitter.

**Note 4:** To ensure compliance with all non-transmitter functions the host manufacturer is responsible for ensuring compliance with the module(s) installed and fully operational. For example, if a host was previously authorized as an unintentional radiator under the Declaration of Conformity procedure without a transmitter certified module and a module is added, the host manufacturer is responsible for ensuring that the after the module is installed and operational the host continues to be compliant with the Part 15B unintentional radiator requirements. Since this may depend on the details of how the module is integrated with the host, Microhard System Inc. shall provide guidance to the host manufacturer for compliance with the Part 15B requirements.

**Note 5:** FCC ID label on the final system must be labeled with “Contains FCC ID: NS912XN58-26” or “Contains transmitter module FCC ID: NS912XN58-26”.

The transmitter module must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the host product. Microhard Systems Inc. is responsible for the compliance of the module in all final hosts.



## Compliance Information

### IC Radiation Exposure Statement for Canada

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. To maintain compliance with IC RF exposure compliance requirements, please avoid direct contact to the transmitting antenna during transmitting. End users must follow the specific operating instructions for satisfying RF exposure compliance.

Operation is subject to the following two conditions:

- This device may not cause interference and
- This device must accept any interference, including interference that may cause undesired operation of the device.

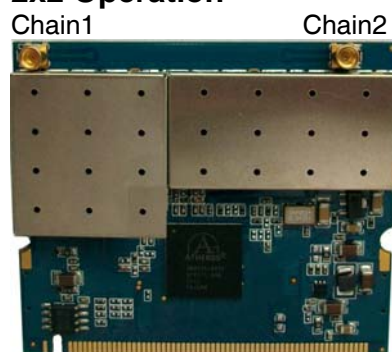
## XN58-26

High Power N MiniPCI 5.8GHz

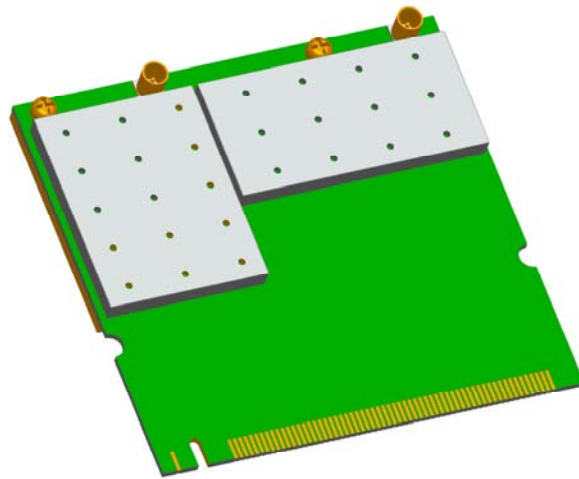
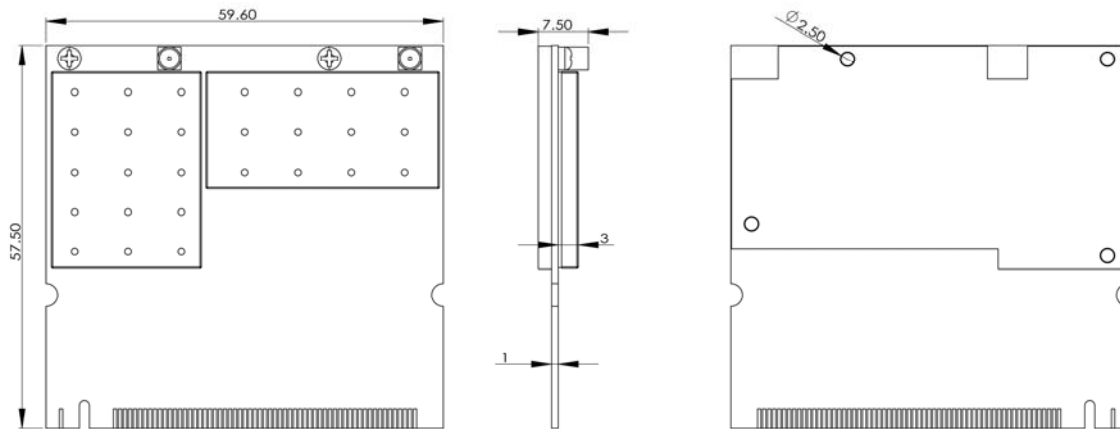
FCC ID: NS912XN58-26

IC: 3143A-12XN5826

### IMPORTANT NOTE REGARDING ANTENNA USE Antenna Use (Point to Multipoint) 2x2 Operation



## Dimensions Drawing



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