
Title:

Wireless 802.11abgn MiniPCI Adapter
SX-10WAN

Drawing Type : Specification Sheet

Drawing No. : JW13150XD

Product No. : ZXE01948

Date : November 13, 2008

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Rev. check	Approved	Checked	Prepared

1. Application

This document is applied to "Wireless 11abgn MiniPCI Adapter SX-10WAN"

2. Overview

This hardware is mini-PCI TypeIIIA wireless LAN module compliant to Dual Band IEEE802.11abgn std. and EU RoHS Directive.

This module implements the AR9160B and AR9106A that supports MIMO 3x3 made by Atheros and 3 antenna connectors for corresponding to the diversity function.

4. General specifications

Item	Specification	Unit	Note
Storage temperature	-10 ~ +80	°C	
Storage humidity	5 ~ 90	%RH	Non condensation
Operating temperature	0 ~ 70	°C	
Operating humidity	20 ~ 90	%RH	Non condensation
Power supply voltage	3.3±0.3	V	
Current consumption	1000 (Tx)	mA	Max.
	600 (Rx)	mA	Max.
Device interface	MiniPCI TypeIII-A	—	
Antenna connector	I-PEX product 20279-001E-01 ×3	—	
Approved I/F and std.	MiniPCI Specifications Ver1.0	—	
	IEEE802.11a/b/g/n	—	
Weight	15	g	Max.
MTBF	90, 000	h	
Origin	Japan	—	

5. Wireless part specifications

Item	Specification		unit	Note	
Chipset	AR9160B (Atheros) AR9106A (Atheros)		—		
Country code	EEPROM MAP		—		
Radiowaveform	Spread spectrum		—		
Center frequency	11b/11g	2412—2484	MHz	Ch1—Ch13/Ch14	
	11a	5180—5825	MHz	UNII-1/2/3 ETSI W52, W53, W56	
	11n	2412—2472 5180—5825	MHz	Ch1—Ch13 UNII-1/2/3 ETSI W52, W53, W56	
Channelinterval	11b/11g	5	MHz		
	11a	20			
	11n	2.4GHz			5 (HT20) / 40(HT40)
		5GHz			20 (HT20) / 40(HT40)
Communication rate	11g : 6, 9, 12, 18, 24, 36, 48, 54 11b : 1, 2, 5.5, 11 11a : 6, 9, 12, 18, 24, 36, 48, 54		Mbps		
Modulation Coding Scheme	11n HT20 : MCS 0-15 11n HT40 : MCS 0-15		—		
Modulation type	11g : OFDM-CCK (64QAM,16QAM,QPSK,BPSK) 11b : DSSS (CCK,DQPSK,DBPSK) 11a : OFDM (64QAM,16QAM,QPSK,BPSK) 11n : OFDM (64QAM,16QAM,QPSK,BPSK)		—		

8. Approved standards

Approved standard :

- ARIB STD-T66
- RCR STD-33
- ARIB STD-T71
- FCC Part15 Subpart C
- IC RSS210
- EU Directive R&TTE (EN300 328, EN301 893, EN60950)
- EU Directive RoHS

Scheduled countries for sales :

- Japan

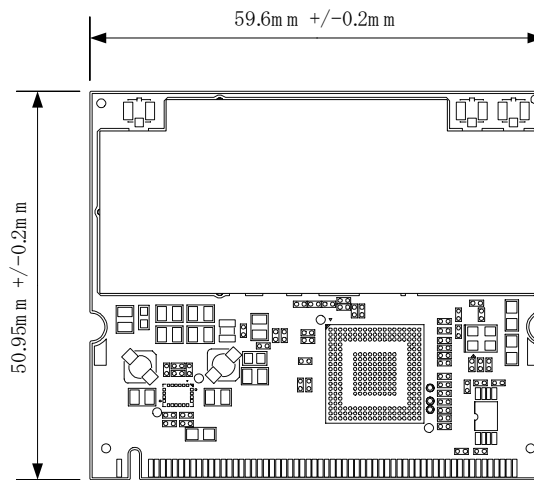
- North America
 - US
 - Canada

- EUROPE
 - Germany
 - Britain
 - France
 - Italy
 - Belgium
 - The Netherlands
 - Greece
 - Ireland
 - Spain
 - Portugal
 - Austria
 - Denmark
 - Sweden
 - Finland
 - Norway
 - Switzerland
 - Liechtenstein
 - Iceland

※ It's required EMC certification of each country at the final product form.

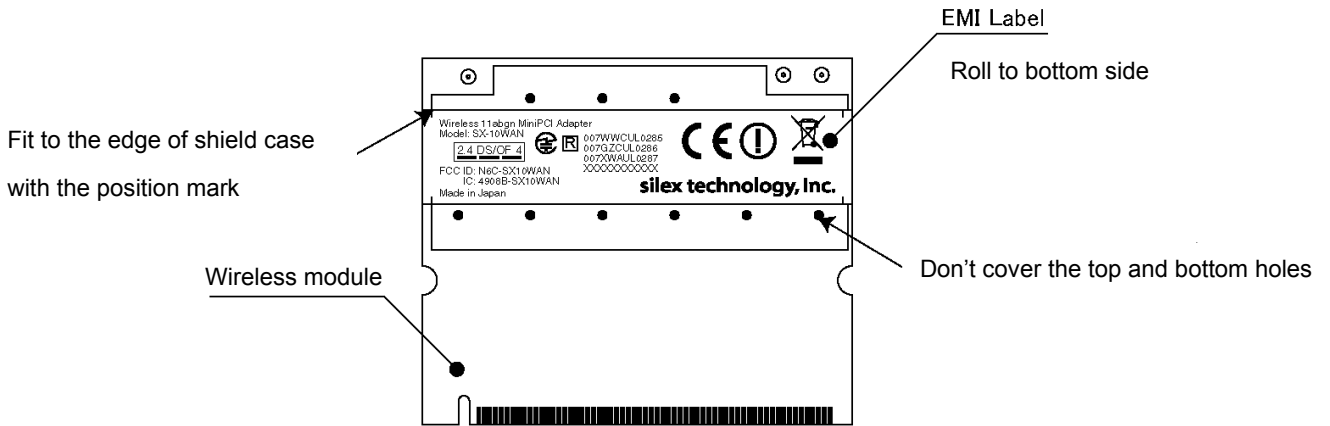
※ The above certification is only effective with the antenna silex has specified. But the re-certification may be required depending on the specification of final product form regardless of using the antenna silex has specified.

9. Dimension

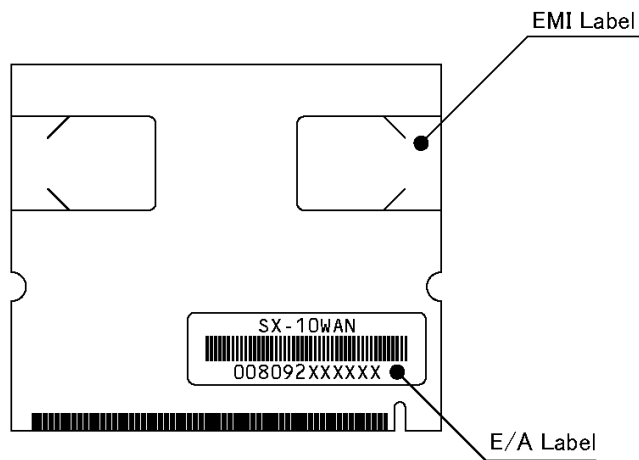


- Dimension ● 50.95 × 59.6 × 4.2 [mm] (MiniPCI Type IIIA)
- PCB Thickness ● t=1.0[mm]

10. Label diagram



Top side



Bottom side

11. Components composition list

Division	Item	Qty.	Note
Board	The main board	1	
Label	The label of corresponded standards	1	Combind Sealing the Shield Case
	The label of Ethernet Address	1	

12. Directions

- This product (SX-10WAN) is the wireless module that utilizes 2.4GHz band and 5GHz band.
An operation of the wireless module in the 5GHz band at outdoor field is limited in some countries by the law. Please do not operate in the channel not admitted.
- This product is designed to be embedded into the general electric devices, and not designed for aircraft instruments, atom control, artificial life support and any other devices requiring extremely high reliability and quality.
- As this product communicates via radio wave, it is strongly recommended to perform configuration regarding security to prevent the information leakage to the third person.
- This product is the wireless module for embedded purpose. Please understand the function and feature of this module and test the final product which has this module implemented. Also, as EMC measurement of this module has not been performed, EMC test and application must be performed with the final product which has been implemented this module.
- This product may effect or be affected by the surrounding devices utilizing the same bandwidth. Please investigate the environment to install this module before installing it.
- Disassembling or modifying this product may lead to punishment based on radio law.
- SX-10WAN is the embedded module that has the connectors and parts exposed. Please be careful for static electricity, water drop, and other power dust.
- The certifications with this product are effective in case of you operate it with the specified antenna. If you operate it with another one, you may get certified some standards.