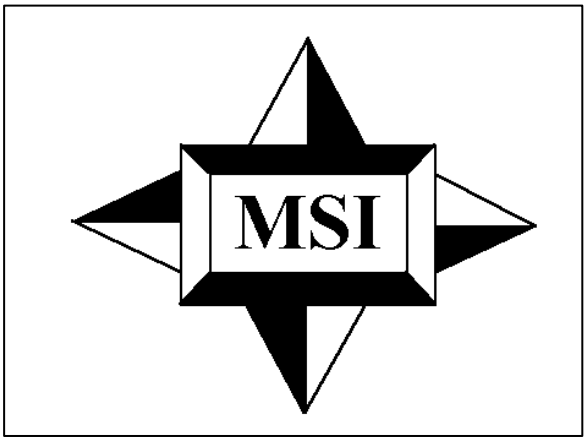

MS-6897

Realtek RTL8191SE

(802.11b/g/n PCIe 1T2R half minicard)

Product Specification

Marketing name: MN118GN5

PCB Version: 1.0
Prepared by: Judy Shih
Checked by: Jason Yang
Approved by: Jason Yang

REVISION HISTORY

EDITION #	DESCRIPTION	ISSUE DATE	AUTHOR
0.A	Initial Release	Feb. 25, 2009	Judy Shih

1. Introduction

MSI MS-6897(MN11BGN5) is an 802.11b/g/n draft 2.0 wireless 1T2R mini-card that delivers incomparable wireless performance for your device. This wireless module delivers faster speeds than 802.11b/g/n while staying backward compatible with 802.11b/g/n networks. Once connected, your device will share a high-speed Internet connection, photos, files, music, videos, printers, storage…etc.

1.1 Features & Benefits

- Compatible with IEEE 802.11n Draft 2.0 Specifications provides wireless speed up to 150Mbps receive and 300Mbps transmit data rate
- Backward compatible with IEEE 802.11b/g high rate standard to provide wireless Ethernet speeds of 54Mbps data rate
- Design based on the PCI Express Mini-Card Electromechanical Rev. 1.1 Specification
- Support Legacy, Mixed and Green Field modes
- Support the 20MHz/40MHz Bandwidth for the high throughput application
- Maximum reliability, throughput and connectivity with automatic data rate switching
- Support wireless data authorization and encryption with 64/128-bit WEP, WPA, WPA2, TKIP, AES, 802.1X and Cisco CCX standards for security
- Support 802.11e standard as QoS-WMM and WMM-PS for more multimedia applications
- Drivers support Windows XP 32/64-bit, Vista 32/64-bit, and Linux
- Simple user setup & diagnostics utilities

1.2 Applications

- Perfect for streaming data, video, music, online gaming and networking multiple PCs
- Building the wireless environment for extension traditional cable Ethernet coverage
- Designed for the mobile networking devices such as notebook, PCs and so on that needs the high performance and throughput wireless adapter embedded.

2. Product Specifications

2.1 General Specification

General specification		
Network Standard	IEEE 802.11n Draft 2.0 IEEE 802.11b IEEE 802.11g	
Frequency Band	2.400-2.4835 GHz	
Form factor	PCIe Mini Card v1.1 (single side)	
Data Rate	*IEEE 802.11g* (auto-fallback): - OFDM: 54, 48, 36, 24, 18, 12, 9 and 6 Mbps *IEEE 802.11b* (auto-fallback): - CCK: 11, 5.5 Mbps - DQPSK: 2 Mbps - DBPSK: 1 Mbps *IEEE 802.11n Draft 2.0* (auto-fallback): - OFDM: 6.5 to 150 Mbps (Follow MCS 0~7 standard)	
Media Access Control	CSMA/CA with ACK	
Channel	*IEEE 802.11g/n* Ch. 1-11 – N. America Ch. 1-13 – Japan Ch. 1-13– Europe ETSI Ch. 10-11 – Spain Ch. 10-13 – France	*IEEE 802.11b* Ch. 1-11 – N. America Ch. 1-14 – Japan Ch. 1-13– Europe ETSI Ch. 10-11 – Spain Ch. 10-13 – France
Transmission	IEEE 802.11b (DSSS)、IEEE 802.11g/n (OFDM)	
Modulation	*IEEE 802.11b* (DSSS): CCK @ 11, 5.5 Mbps DQPSK @ 2 Mbps DBPSK @ 1 Mbps *IEEE 802.11n Draft 2.0* (OFDM): OFDM @ 6.5 to 150 Mbps (Follow MCS 0~7 standard)	*IEEE 802.11g* (OFDM): BPSK @ 6, 9 Mbps QPSK @ 12, 18 Mbps 16-QAM @ 24, 36 Mbps 64-QAM @ 48, 54 Mbps

Network Architecture		Ad-Hoc Mode (Peer-to-Peer) Infrastructure Mode
Antenna radiation configuration		Two antenna RF connectors
Temperature	Operating Temperature	0° to 65°C
	Storage Temperature	-20° to 100°C
Humidity		10%-90% (non-condensing)
Power Consumption (TBD)		
Dimensions		26.8*30*3.3mm (half size)
Weight		4g
Operating Voltage		3.3V+/-10%
Output Power		802.11g (54Mbps): 14.0+/-1 dBm 802.11b (11Mbps): 17.5+/-1 dBm 802.11n Draft 2.0: 12.0+/-1 dBm
Receiver Sensitivity (Typical Value)		802.11b (11Mbps): CCK @ 8% PER = -76 dBm 802.11g (54Mbps): OFDM @ 10% PER = -65 dBm 802.11n Draft 2.0: HT20 @ 10% PER = -64 dBm / HT40 @ 10% PER = -61 dBm
Range		Up to 300m (outdoor operating range)
Security		64/128-bit WEP, WPA, WPA2, TKIP, AES, 802.1X, CCX
Operating System		Windows XP 32/64-bit, Vista 32/64-bit, Linux