USER'S MANUAL

2.4 GHz 54 Mbps Wireless LAN Compact Flash

WN3320M-A7

Version 1.0

Change History:

Revision	Date	Author	Change List
Version 1.0	2006/01/19	Brian Liu	Preliminary

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PRODUCT SPECIFICATION

2.4 GHz 54 Mbps Wireless LAN Compact Flash

WN3320M-A7

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Networking B.U.

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(Please Sign Back by FAX. For Confirming the Spec Only, not an Official Agreement for OEM/ODM Business)

CONTENT

PRODUCT DESCRIPTION

The WN3320M Wireless LAN Compact Flash Card is a sleek miniature Wireless LAN card working under 2.4GHz ISM frequency brand. The WN3320M is a compatible with IEEE 802.11b standards. It provides full functional wireless access within wireless environments anytime, anywhere at a data rate of up to 54Mbps. WN3320M can provide speed and convenience of wireless networking on your mobile device, such like PDA, mobile phone. The wireless Compact Flash Card can install directly into your mobile devices.

The WN3320M is developed using advanced chipsets designed by Marvell Technology. To ensure that user's privacy is well protected, the WN3320M is developed to feature enterprise-class security, i.e. Wired Equivalent Privacy (WEP) encryptions, and Advanced Encryption Standard (AES) encryptions. It also supports 802.11x which is a centralized, server-based authentication.

PRODUCT FEATURES

- Operate at ISM frequency bands (2.4GHz) with 54Mbps data rate
- IEEE standards support: IEEE 802.11b, 802.11g
- Enterprise-class security
- Superior range and throughput
- Full-featured software utility for easy configuration and management
- Power savings features and low power consumptions for mobile powered applications

Product specifications

Main chipset

Baseband / MAC: Marvell 88W8385

RF / PA: Marvell 88W8015

Functional Specifications

Standard	IEEE802.11b; IEEE 802.11g; IEEE 802.11i compliance	
Bus Interface	Compact Flash Type I	
Data Rate	802.11g compliant: 11, 5.5, 2, 1 (DSSS/CCK); 6, 9, 12, 18, 24, 36, 48, 54 (OFDM) Mbps data rates	
Media Access Control	CSMA/CA with ACK	
Radio Technology	***802.11b:*** DSSS (Direct Sequence Spread Spectrum) / CCK ***802.11g***: DSSS/CCK, OFDM (Orthogonal Frequency Division Multiplexing)	
Modulation Techniques	***802.11b*** DSSS: CCK @ 11, 5.5 Mbps DQPSK @ 2 Mbps DBPSK @ 1 Mbps	***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	

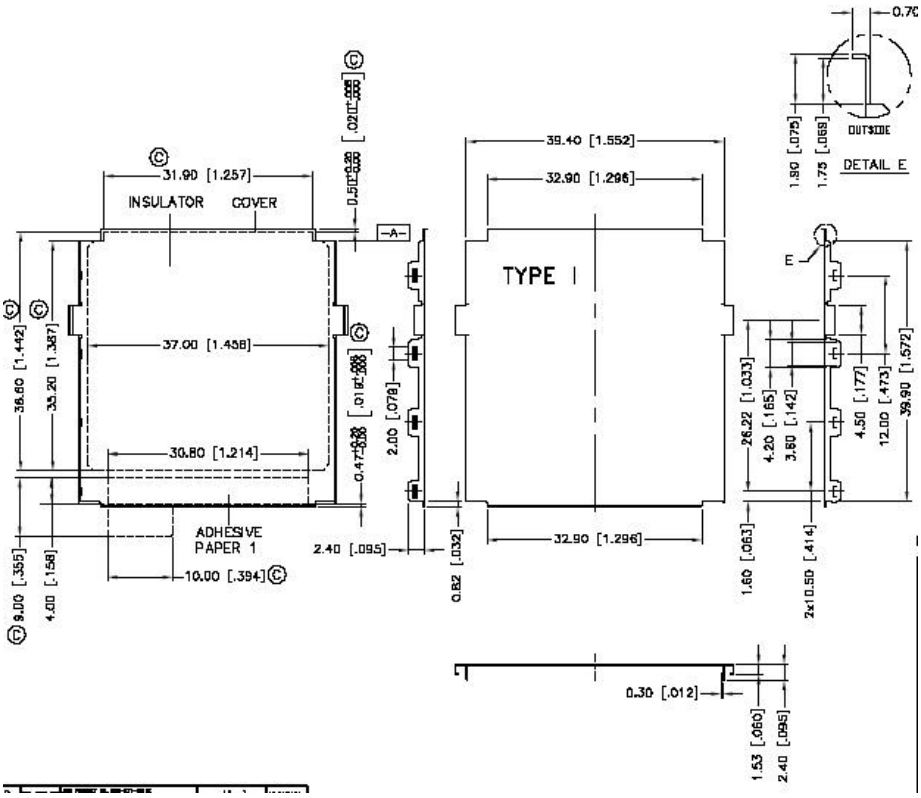
Operating Channel	***802.11b & g*** 11: (Ch. 1-11) – N. America 14: (Ch. 1-14) – Japan 13: (Ch. 1-13) – Europe ETSI	
Frequency Range	***802.11 b & g*** 2.412 ~ 2.462 GHz – N. America 2.412 ~ 2.484 GHz – Japan 2.412 ~ 2.472 GHz – Europe ETSI	
Transmit Output Power	***802.11b*** 10 +-1 dBm (1, 2, 5.5, 11 Mbps)	***802.11 g*** 10 +-1 dBm (6, 9, 12, 18, 24, 36, 48, 54 Mbps)
Receiver Sensitivity	***802.11b*** @FER<8% 11 Mbps: -85 dBm 5.5 Mbps: -87 dBm 2 Mbps: -89 dBm 1 Mbps: -92 dBm	***802.11 g*** @PER<10% 54 Mbps: -70 dBm 48 Mbps: -71 dBm 36 Mbps: -75 dBm 24 Mbps: -81 dBm 18 Mbps: -83 dBm 12 Mbps: -84 dBm 9 Mbps: -85 dBm 6 Mbps: -85 dBm
Security	64-bit, 128-bit WEP, AES, 802.11i compliance	
Operating Voltage	3.3 V ±5% I/O supply voltage	
OS supported	WinCE 4.2, 5.0, Linux	
Power Consumption	***802.11b*** Rx: 3.3V / 270 mA Tx: 3.3V / 435 mA Standby: 3.3V / 240 mA	***802.11g*** Rx: 3.3V / 270 mA Tx: 3.3V / 460 mA Standby: 3.3V / 240 mA
Antenna Type	1 RF connector + 1 PIFA omni-oriented antenna	

*Enviromental factors dependent

Mechanical

Dimensions (Length x Width x Height): 61.0 x 42.8 x 3.30 mm (2.40” x 1.68” x 0.130”)

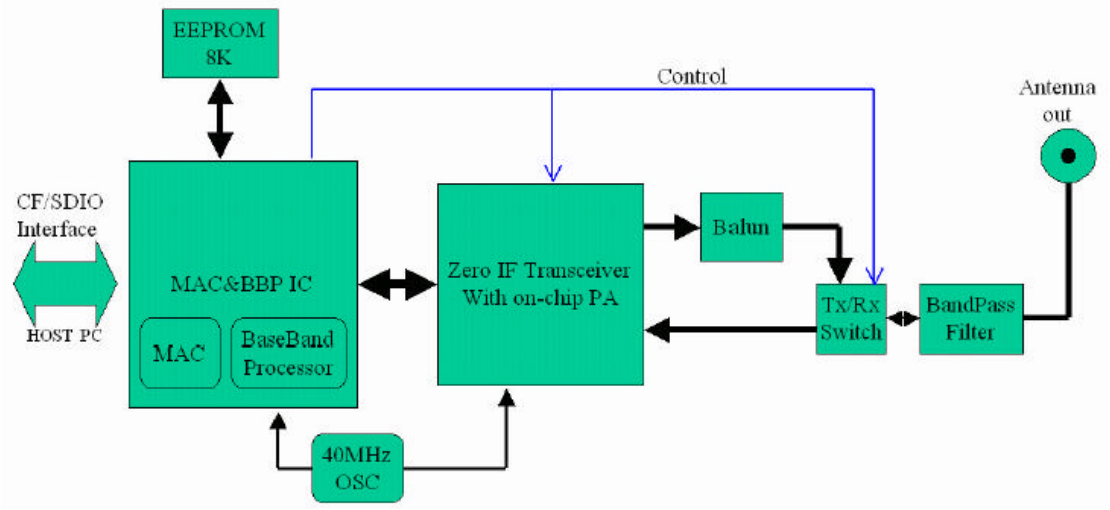
Weight: TBD



LED Definition

	LINK / ACT (Green)
OFF	All other states
ON	Link
Blink	Data Transmitting

Block Diagram



ENVIRONMENTAL

Operating

Operating Temperature: 0 to 45 °C (32 to 131 °F)
Relative Humidity: 5-90% (non-condensing)

Storage

Temperature: -20 to 70 °C (-4 to 158 °F)
Relevant Humidity: 5-95% (non-condensing)

FCC STATEMENT

Federal Communication Commission Interference Statement

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 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.

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

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

LITE-ON declares that WN3320M-A7 (FCC ID: CWU-CF80211G) is limited in CH1~CH11 for 2.4 GHz by specified firmware controlled in U.S.A.

This device is intended only for OEM integrators under the following conditions:

1) The transmitter module may not be co-located with any other transmitter or antenna.

As long as conduction above is met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, PDA, Tablet PC… etc.).

IMPORTANT NOTE:

In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling

The final end product must be labeled in a visible area with the following: “Contains TX FCC ID: CWU-CF80211G”.

Manual Information That Must be Included

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the users manual of the end product which integrate this module.

The users manual for OEM integrators must include the following information in a prominent location “ IMPORTANT NOTE: To comply with FCC RF exposure compliance requirements. The antenna must not be co-located or operating in conjunction with any other antenna.

CANADA-INDUSTRY CANADA (IC)

IC statement

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.

IMPORTANT NOTE:

IC Radiation Exposure Statement:

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.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.