LM-WU110 Wireless Product Specification --

IEEE 802.11b WLAN USB

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Delta Networks Inc.

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1. Revision History

1.1. Product Revision History

Revision	Date	Remark
0	2000/12/11	▪ Product Initial

1.2. Document Revision History

Revision	Date	Remark
1.00	2000/12/11	▪ Preliminary specification
1.01	2000/12/13	▪ Modify the ID design(antenna) ▪ Modify RF Link LED definitions
		▪
		▪
		▪
		▪

2. General Description

LM-WU110 is a Wireless-to-USB product which provides a USB-to-wireless seamless connection. The Wireless interface is IEEE802.11b standard compatible. Its data transmission rate is 11Mbps. The USB interface is USB 1.0 compliant. It provides 12Mbps data rate. In this design, no extra power supply needs.

2.1. Features

- Complies with the IEEE 802.11b Direct Sequence Specification
- Complies with USB specification 1.0
- Supports 1, 2, 5.5 and 11Mbps Data Rate on the wireless interface
- Supports12Mbps Data Rate on the USB interface
- WEP 40-bit data encryption for security
- With Roaming capability
- Provides Firmware upgrade utility to do the upgrade
- No extra power supply needs
- FCC Certified under Part 15 to Operation in 2.4GHz ISM Band
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2.2 FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

2.2. Mechanical Design

2.3. LED Definitions

The LEDs on the LM-WU110 provide visual presentation to show the following status:

✓ USB ready

✓ RF Link

RF LED ←——————→ USB LED

USB LED

Green	USB is ready for operation
Off	System is not ready for operation.

RF Link LED

Solid Green	The wireless interface is ready for data transmission.
Blinking Green	There is a data transmission on the wireless interface
Off	The wireless interface is not ready for data transmission

2.4. IC Solution

The IC solution for LM-WU110 adopts Intersil PRISM II chip set:

P/N	Functionality	Description
Atmel AT79C503	USB 11Mbps WLAN medium access controller	AT76C503 is a single chip controller that provides all processing and functionality needed for the MAC protocol of wireless LANs. AT76C503 contains a USB Bus interface, a MAC control unit and a physical attachment interface(PAI). The PAI supports the new 5.5 and 11Mbps WLAN physical interfaces, and the IEEE 802.11 DSSS physical interfaces.
Intersil HFA3861B	Direct Sequence Spread Spectrum Baseband processor	HFA3861B Direct Sequence Spread Spectrum (DSSS) baseband processor is part of the PRISM 2.4GHz WLAN Chip set and contains all the functions necessary for a full or half duplex packet baseband transceiver. The HFA3861B has on-board A/D's and D/A for analog I and Q inputs and outputs for HFA3783.
Intersil HFA3783	I/Q Modulator/Demodulator and Sythesizer	HFA3783 is a highly integrated and fully differential SiGe baseband converter for half duplex wireless application. It features all the necessary blocks for quadrature modulation and demodulation of "I" and "Q" baseband signals.
Intersil HFA3683A	2.4GHz RF/IF Converter and Synhesizer	HFA3683A is a monolithic SiGe half-duplex RF/IF transceiver designed to operate in the 2.4GHz ISM band.
HFA3983	2.4GHz Power Amplifier and Detector	HFA3983 is a 2.4GHz monolithic SiGe Power Amplifier designed to operate in the ISM Band. It delivers a 18dBm(Typ.) of an output power for the typical DSSS signal. The HFA3983 is housed in a 28 lead exposed paddle EPTSSOP package well suited for PCMCIA board applications.

3. Technical Specifications

LM-WU110 Specifications

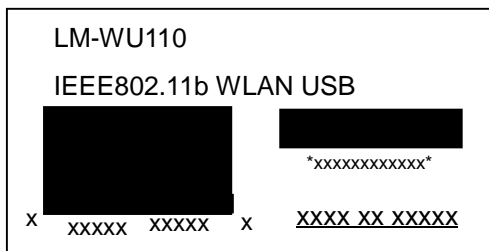|	
Standard Compliant	IEEE 802.11b Standard USB 1.0 Specification
Data Transmission Rate	11/5.5/2/1Mbps 12Mbps on USB interface
Security	Wired Equivalent Privacy (WEP) data encryption for security
Frequency Band	2.4GHz ISM frequency band 2400-2483.5MHz for US, Canada 2400~2497MHz for Japan and ETSI
Wireless Medium	Direct Sequence Spread Spectrum (DSSS)
Modulation Technique	DBPSK@1Mbps, DQPSK@2Mbps, CCK@5.5 and 11Mbps
Operating Channels	11 channels for US and Canada 13 channels for ETSI 14 channels for Japan

Operating Range (Typical)	Outdoor environment:
	  1Mbps – 1000 feet (305 meters)
	  2Mbps – 750 feet (228 meters)
	  5.5Mbps – 600 feet (183 meters)
	  11Mbps – 400 feet (122 meters)
	Indoor environment
	  1Mbps – 300 feet (91 meters)
	  2Mbps – 240 feet (73 meters)
	  5.5Mbps – 200 feet (61 meters)
	  11Mbps – 120 feet (37 meters)

Antenna	Dual diople antenna
Receive Sensitivity (Typical)	-87dBm@5.5Mbps (8% PER) -84dBm@11Mbps (8% PER)
Output Power (Typical)	13dBm
Operating System	Windows 95/98/NT 4.0, Windows 2000
Electromagnetic Emission	FCC Part 15
Operating Environment	Operation Temperature: 0~40℃ Storage Temperature: -20~70℃ Operation Humidity: 10~90% RH
Dimension (L x W x H)	
Weight	

4. Delivery Package

- Wireless USB
- User manual
- Driver diskette
-

4.1. Labels for Gift box and Carton

Giftbox label: The label must print out " FCC Class B" logo.

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LM-WU110

IEEE802.11b WLAN USB

          ████████       *xxxxxxxxxxx*

  x   xxxxx   xxxxx   x   XXXX XX XXXXX
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Carton label: The carton label need print out the "FCC

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MODEL  LM-WU110
       IEEE802.11b WLAN USB

  ████████        *xx PCS*

x  xxxxx  xxxxx  x

              FROM
S/N:          ████████
              *xxxxxxxxxxx*

              TO
              ████████
              *xxxxxxxxxxx*

 CARTON OF NO.
              XXXX XX XXXXX
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