Laird TECHNOLOGIES®

Innovative Technology
for a **Connected** World

High-Performance 802.11b/g Module
WLM400

Ideal for all wireless video streaming applications, Laird Technologies' WLM400 802.11b/g wireless LAN module delivers a new level of performance to embedded designers requiring the high data rates available from Wi-Fi networks. The WLM400 offers both simplicity of use and ultimate data throughput by utilizing a powerful ARM9 application processor that provides a streaming channel that delivers in excess of 12Mbps real data throughput with a 54Mbps 802.11g link that uses minimal power consumption.

The only embedded wireless LAN module providing this level of performance, the WLM400 is designed to make wireless integration simple with its ultimate throughput, low-power consumption, and ease of use. Based on the Marvell 8686 Wi-Fi chipset, the additional application processor includes a robust, industrial grade TCP/IP stack and driver implementation to save months of embedded firmware development. It is ideal for streaming wireless applications, whether as infrastructure connections or video cable replacement in ad-hoc mode.

FEATURES
- Actual streaming data rates in excess of 12Mbps
- Full embedded TCP/IP stack
- Support for 802.11b and g specification
- Comprehensive encryption support including WEP, WPA , & WPA2 Enterprise and Personal
- Low power operation
- Supports antenna diversity
- Excellent range
- ARM9 application processor for maximum throughput
- Host interfaces include USB. UART, SPI, Ethernet
- Development tools and support

APPLICATION AREAS
- Video Streaming
- Security Camera
- Video Cable Replacement
- POS Advertising

global solutions: **local** support ™

USA: +1.800.492.2320
Europe: +44.1628.858.940
Asia: +852.2268.6567

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CATEGORIES	FEATURE	IMPLEMENTATION
Wireless Specification	Standards Supported	IEEE 802.11b, IEEE 802.11g
	Frequency	2.412 – 2.484 GHz
	Channels	11 channels – USA 13 channels – Europe
	Max Transit Power	802.11b: +17 dBm @ antenna connector 802.11g: +17 dBm @ antenna connector
	Receive Sensitivity	802.11b: -91dBm @ 1 Mbps, -84dBm @ 11Mbps 802.11g: -84dBm @ 6Mbps, -67dBm @ 54Mbps
	Data Rates	54Mbps – 1Mbps with automatic fallback
	Modulation Schemes	802.11b – BPSK, QPSK, CCK, DSSS 802.11g – BPSK, QPSK, 16-QAM, 64-QAM, OFDM
	Range (802.11b)	1000 m (Wism+ to Wism+)
	Connection Modes	Infrastructure and ad-hoc (IBSS)
Antenna Modes	External Antenna	Dual 50 Ohm U.FL connections
UART Interface	Serial Interface	RS-232 bi-directional for commands and data 16550 compatible
	Baud Rate	Configurable from 9,600 to 921,600bps
	Bits	8
	Parity	Odd, even, none
	Stop bits	1 or 2
	Default Serial parameters	38400,n,8,1
	Levels	3.0V CMOS
	Modem Control	DTR, DSR, DCD, RI, RTS, CTS †
SPI Interface	Transfer Rate	12Mbps continuous streaming data
USB Interface	Transfer Rate	12Mbps continuous streaming data
I2C Interface	Optional Real-Time Clock Interface	1 x I2C Interface
Ethernet Interface	Interface	MII Interface for wired 802.3 PHY
Security		Open Connection WEP encryption 64 and 128 bit options WPA-PSK WPA2 Enterprise & Personal (EAP-TLS, EAP-TTLS/MSCHAPV2, PEAPv0/EAP-MSCHAPv2) SSL2 / SSL3 / TLS1 Hardware Acceleration for security features
Protocols	Network Drivers	802.11b, 802.11g
	Internet	IPv4, TCP, UDP, DHCP Client, ARP
Supply Voltage	Supply	3.0V – 5.5V DC
	Regulation	On-board regulators, brown-out detection and watchdog

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CATEGORIES	FEATURE	IMPLEMENTATION
Power Consumption	Powersave modes	IEEE Powersave Modes 0,1,5 & 6
	Current Consumption	260 mA@3V, 150mA@5.5V
Upgradeability	Upgradeability	Firmware upgradeable via all host interfaces
Connections	Interface	64 way Surface Mount package
	External Antenna	Dual U.FL connectors for 50 Ohm antennas
Module Configuration		Configurable over all host interfaces
Physical	Dimensions	32.0mm x 58.1mm x 3.5mm
	Weight	10 grams
Environmental	Operating Temperature	-20°C to +70°C
	Storage Temperature	-40°C to +105°C
Approvals		FCC, IC, CE
Miscellaneous	Lead free	Lead-free and RoHS compliant
	Warranty	1 Year
Development Tools	Development Kit	Development board and software tools
	Configuration Tools	USB-based graphical configuration tool

Preliminary specifications – subject to change. Please consult Laird Technologies before starting design work.

ORDERING INFORMATION
WLM400 Streaming 802.11b/g Module - US
WLM402 Streaming 802.11b/g Module - CE

The details contained within the document are subject to change. Download the product specification from www.lairdtech.com/wireless for the most current specification.

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LAIRD TECHNOLOGIES—WIRELESS MODULES FOR EVERY APPLICATION

Bluetooth®
- Modules for data and multimedia applications
- Pre-qualified modules for rapid integration

802.11
- Modules for connection to Wi-Fi networks
- Low power M2M modules
- Video streaming modules

Proprietary
- Modules for 868MHz, 900MHz and 2.4GHz

ZigBee™
- Modules for low power mesh networking

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Telematics
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- Rugged wireless connectivity products, bridges, and access points

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