

# SPEEDAccess LMS4000

## 900 MHz Non-Line-of-Sight System

[www.vecimanetworks.com](http://www.vecimanetworks.com)

### WaveRider SPEEDAccess LMS4000

Vecima Networks is the developer of the WaveRider SPEEDAccess LMS4000 product line, the world's most advanced NLOS (non-line-of-sight) broadband wireless system designed specifically for the 900 MHz spectrum.

The LMS4000 delivers the high speeds, reliability and advanced management features you need to serve both business and residential subscribers.



CCU31000 Base Station



EUM3005 CPE with active diversity antenna



EUM3006 Integrated Outdoor Modem

## Features

### True 'Plug and Play' Capabilities

Vecima has developed built-in deployment tools for the LMS4000 that enable true 'Plug and Play' user installations. Features include automatic CCU discovery, alignment tools, and DHCP client and a SETUP Menu Installation Tool that makes it fast and easy to install and eliminates the need for truck rolls.

### Non-Line-of-Sight Capabilities

The LMS4000 is the ideal solution for areas with heavy tree coverage or other line-of-sight barriers. Developed specifically for the 900 MHz spectrum, the system delivers non-line-of-sight (NLOS) connections averaging 3 miles using the Wave Wireless indoor antenna and 5 miles with the outdoor modem. Customers have experienced LOS links of up to 25 miles using the outdoor modem.

### High Capacity

The LMS4000 is fully scalable, supporting up to 300 business or residential subscribers on a single radio, and over 1,000 users on one access point. Wave Wireless' **Dynamic Polling MAC**, which provides the most efficient channel use in the industry, enables Grade-of-Service controls that permits operators to guarantee access speeds for their customers.

### Advanced Management Features

The LMS4000 is fully compatible with RADIUS AAA. It also offers SNMP management and PPPoE support, enabling operators to easily manage large numbers of subscribers on a single system.

### Rapid ROI

With thousands of installations around the world, Vecima offers extremely competitive pricing for the LMS4000 CCUs, EUMs and the WaveRider indoor antenna. With discount prices for volume purchases, the LMS4000 is an affordable solution for wireless broadband networks of all sizes.

### Advantages:

- True 'Plug and Play' end-user equipment
- Choice of indoor or outdoor-installable user equipment
- Supports VoIP
- Over-the-air data rates of 2.75 Mbps and access speeds of 2.0 Mbps
- Enables Open Access networking
- Up to 5 miles NLOS range; LOS range up to 25 miles
- Up to 300 users per base station radio
- Dynamic Polling MAC
- Built-in spectrum analyzer
- Mobile-survey utility
- Supports RADIUS AAA

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# LMS4000 Technical Specifications

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## Communications Access Point (CAP) Specifications

### CAP Specifications

Maximum Number Operational CCUs & Orthogonal Channels	4
Maximum Number Subscribers per CCU	300 (Varies depending on user profile)
Maximum Number Subscribers per CAP site	1200 (Varies depending on user profile)

### CAP Channel Unit (CCU) (for End User Modem (EUM) Specifications see EUM spec sheets)

#### Radio Specifications

Operating Frequency	902 to 928 MHz
Radio Type	DSSS
Radio Modulation	Complementary Code Keying (CCK)
Maximum Output Power	High setting: +26 dBm; Low setting: +15 dBm (software selectable)
RF Rx Threshold	-89 dBm (BER<10 <sup>-6</sup> ) at antenna port
Minimum/Maximum Center Channel Frequency	905/925 MHz
Channel Bandwidth	5.5 MHz
Center Frequency Spacing Increment	0.2 MHz
Orthogonal Channels	4 (recommend external bandpass filter for each)
Orthogonal Channel Separation	6.6 MHz
Orthogonal Channel Set Center Frequencies	905 MHz, 911.6 MHz, 918.4 MHz, 925 MHz
Alternate Channel Isolation Requirement	82 dB (w/ recommended cavity filters 37 dB)
Antenna Connector	N-type female

#### Radio Performance

Maximum Over-the-Air Raw Data Rate	2.75 Mbps
User Data Rate	Up to 2.0 Mbps
Maximum Link Path Distance	Up to 25 miles (40 km)

#### Power Specifications

PoE Power Injector Input	Auto sensing 100-240 VAC, 47-63 Hz
PoE Power Injector Output	48 350 mA max VDC, 802.3af Mode B compatible Power over Ethernet
Power Consumption (typical)	10 W with AC adapter; 6 W Radio Only

#### Interface Specifications

Data Interface CCU & EUM Ethernet	10BaseT RJ-45 HDX
Configuration/Console Port	RS-232C DB9 DCE
RF Interface	N-type female

#### Dimensions

L x W x H	5.8" x 8.3" x 2"
Weight	4.2 lbs (1.9 kg)
Materials	Aluminum housing

## Environmental Specifications

Operating / Storage Temperature	(-40° C to 50° C) / (-40° C to 70° C)
Operating Humidity	0% to 95% RH (non-condensing)

## Approvals

Radio Transmitter	FCC Class A, CFR 47 Part 15. Industry Canada RSS-102 and RSS-210.
Safety	UL, CSA

Version 1.0 December 2006 Note: Vecima's Continuous Improvement Policy means that specifications are subject to change without notice.

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