

CCU3100

900 MHz Unlicensed, PoE
Base Station Wireless Modem

www.vecimanetworks.com



The WaveRider CCU3100 by Vecima Networks is the central base station radio modem for the LMS4000 which is the world's highest capacity NLOS (non-line-of-sight) broadband wireless system designed specifically for the 900 MHz spectrum.

The CCU3100 base station wireless modem delivers the high speeds, reliability and advanced management features required to serve both business and residential subscribers. The CCU3100 connects to standard base station antennas allowing for flexible saturation coverage.

Features

Supports True 'Plug and Play' Capabilities for Subscriber Installs

WaveRider has developed features in the CCU3100 that support true 'Plug and Play' user installations. Features supported include automatic channel discovery, extended RADIUS attributes, and DHCP relay that makes it fast and easy to install subscriber units and eliminates the need for truck rolls.

Ease of Installation

The CCU3100 allows the operator to install the base station modem indoors for easy access or outdoors (enclosure required) utilizing the Power-over-Ethernet feature and the extended operating temperature range.

Non-Line-of-Sight Capabilities

The CCU3100 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 end user modem.

High Capacity

The CCU3100 is fully scalable, supporting up to 300 business or residential subscribers on a single modem, and over 1,000 users from one location. WaveRider's 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 and latencies for their customers.

Advanced Management Features

WaveRider's CCU3100 is fully compatible with RADIUS AAA and specific extended attributes. Combined SNMP monitoring and PPPoE support, operators can easily manage large numbers of subscribers on a single system.

Rapid ROI

With thousands of installations around the world, WaveRider offers extremely competitive pricing for the CCU3100. With discount prices for volume purchases, the CCU3100 is an affordable solution for wireless broadband networks of all sizes.

Advantages

- Best in class Dynamic Polling MAC
- Operates in unlicensed 902 to 928 MHz band
- Choice of forwarding modes: routed, switched, thru-only
- QoS supporting VoIP
- Secure Authentication and User Data Encryption
- Industry standard interfaces and management
- Signaling Rate of 2.75 Mbps and access speeds of 2.0 Mbps
- Up to 2 miles Indoor range; 5 miles NLOS range; LOS range up to 25 miles
- Proven capacity with thousands of installations



Radio Specifications

Radio Type & Wireless Topology	Base Station for STAR Topology
Subscriber/Terminal Unit Compatibility	EUM3000/3/4/5/6, MMT9000
Operating Frequency	902 to 928 MHz
Radio Access	DSSS w/ Dynamic Polling MAC & ARQ
Radio Modulation	Complementary Code Keying (CCK)
Transmit Output Power	+26 to +15 dBm at antenna port (software selectable)
RF Rx Threshold	-89 dBm (BER<10 ⁻⁶) at antenna port
Minimum/Maximum Center Channel Frequency	905/925 MHz
Channel Bandwidth	5.5 MHz
Number of Channels / Center Frequency Spacing Increment	101 / 0.2 MHz
Orthogonal Channels	4 (recommend external bandpass filter for each)
Orthogonal Channel Separation	6.6 MHz
Channel Selection	Supports subscriber unit modes: Nomadic, Auto, RADIUS, Static
LED Indication	Power On, Signal Level, Ethernet Link, Ethernet Activity
Data Type	IP with QoS for VoIP; Forwarding mode: routed, switched, thru-only PPPoE
User Access Protocols	Telnet w/ Password
Management Protocols	RADIUS, DHCP, SNMP, NTP, ftp, Telnet, IP Port filtering

Radio Performance

Signaling Rate	2.75 Mbps
User Data Rate	Up to 2.0 Mbps (user-definable)
Number of Users	Up to 300, dependant on assigned GoS and data traffic
Over-the-Air Encryption	TKIP with 256 bit keys
Maximum Link Path Distance	Up to 25 miles (40 km) LOS First Fresnel Zone Clearance

Power Specifications

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

Interface Specifications

Data Interface	10BaseT RJ-45 HDX Ethernet Jack (TIA - T568A)
Power Over Ethernet	48 VDC, 802.3af Mode B compatible, pairs 1 & 4
Max. Ethernet Cable Length	330 feet (100 m)
RF Connector	N-type female
Ground Post on front panel	#10-32 Thread w/ Nut, Washer, Terminal Lug #12-10
Mounting	Wall, CCU shelf or enclosure

Dimensions

L x W x H	7.0" x 5.75" x 2.13" (15.8 cm x 12.9 cm x 4.8 cm)
Weight	4.2 lb (1.9 kg)
Materials	Extruded Aluminum, Black

Environmental Specifications

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

Approvals

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

Ordering Information

SKU: WR200-3115

Includes: (1) CCU3100 Base Station Wireless Modem; (1) Universal AC/DC adapter with integrated 48 VDC PoE injector; (1) NA AC cord; (1) 5-ft (1.5m) N-(m) to N-(m) LMR200 cable; (1) Pair wall mount brackets; (1) setup antenna; (2) 5-ft (1.5 m) CAT5 Straight Jumper; (1) 5-ft (1.5 m) CAT5 X-over Jumper; (1) N-(f) to N-(f) Lightning arrestor; (1) PoE Surge Arrestor.

Vecima Networks' Continuous Improvement Policy means that specifications are subject to change without notice.



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