

NCL5800 Series

5.8 GHz Wireless Bridges/Routers

www.vecima.com

Vecima Networks, the leader in Non-Line-of-Sight (NLOS) wireless broadband, introduces its WaveRider NCL5800 series of 5.8 GHz bridge/routers with OFDM technology. The NCL5800 series is an ideal solution for short and long distance point-to-point and point-to-multipoint applications.

With data rates to **108 Mbps and up to 400 mW** of RF power, the NCL5800 series delivers more capacity, farther than ever before. Such capability allows end-users to download large data files, high resolution images, video clips, and MP3 files within a matter of seconds. Streaming video and multiple VoIP connections can now be delivered or backhauled seamlessly.

The NCL5800's advanced OFDM technology offers the near or non-line-of-sight characteristics needed for successful wireless deployments. With increased spectral frequency and multiple, non-overlapping channels, OFDM is much more immune to multi-path problems and more resistant to potential interferers than other wireless technologies.

The NCL5800 also features a priority queuing system to support a QoS-enabled network. Multiple queues allow higher priority traffic to 'jump ahead' of lower priority traffic within a network, to help avoid bottlenecks during peak times of network usage.

Equipped with a 400 mW (26 dBm) radio, the NCL5800 outperforms other 5.8 GHz products in its class.

NCL5800 Features:

- Delivers over-the-air data rates of up to 108 Mbps
- OFDM (orthogonal frequency division multiplexing) technology delivers increased spectral frequency, resulting in higher data rates and multiple, nonoverlapping channels.
- 400 mW radio (26 dBm) and excellent receive sensitivity eliminate the need for expensive external amplifiers
- Maintains optimal point-to-point links up to 30 miles (48km) and point-to-multipoint links up to 8 miles (13km)
- Operates in the 5.8 GHz ISM band, license-exempt in the U.S. Canada and many other countries
- VLAN support for enhanced security
- Integrated radio and high gain antenna in weatherized outdoor casing with PoE (Power over Ethernet) enable fast, easy installations
- PC-based GUI (Graphical User Interface), Command Line Interface, and Web Browser-based for programming and monitoring RF and IP network conditions
- Built-in SNMP functionality ensures trouble-free integration and management with existing networks
- Built-in RF Network Management and Diagnostic tools, and RSL (Receive Signal Level) monitor



NCL5800 Series Wireless Bridges/Routers

Technical Specifications

Point-to-Point Performance

Link Distance*	NCL5801 4 Miles (6 km)	NCL5802 15 Miles (24 km)	NCL5803 30+ Miles (48+ km)
Radio Power*	50 mW (17 dBm)	400 mW (26 dBm)	400 mW (26 dBm)
Antenna Gain/HPBW	23 dBi/9 degrees	23 dBi/9 degrees	26 dBi/6 degrees

Point-to-Multipoint Performance

Link Distance*	NCL5811	NCL5812	NCL5813
Using sectoral base station (NCL5815)	2 Miles (3 km)	5 Miles (8 km)	8 Miles (13 km)
Using omni base station (NCL5814)	1 Mile (1.6 km)	3 Miles (5 km)	4.5 Miles (7 km)

Radio Specifications

Data Rate*	108 Mbps, 72 Mbps, 54 Mbps, 36 Mbps, 18 Mbps, 12 Mbps, 9 Mbps, and 6 Mbps
Modulation	OFDM - BPSK, QPSK, 16 QAM, 64 QAM
Media Access	Prioritized CSMA/CA
Frequency	5.470 - 5.875 GHz, country dependent
DC Power	100-240 VAC 50/60 Hz; PoE Indoor DC Injector 48 VDC, 0.8A up to 200 ft CAT5 STP

Networking

Ethernet	10/100Base-T, Auto-negotiating, Full/Half duplex, up to 100 m separation between radio and network closet
QoS	Line speed packet inspection of 802.1p, IP ToS, IP DiffServ tags 4 queue prioritization engine RF MAC prioritization
Frame Aggregation	Dynamic, User enable/disable
Protocol Support	Transparent MAC layer bridging, IP Static Routing, RIP v1/v2 Transparent VLAN (802.1q)
Management	HTTP Web Server, FTP, VLAN, SNMP v1/v2 with trap support and custom MIB, custom Event Log, Integrated Spectrum Analyzer, Audible Tone Alignment Function
Security	Encryption Authentication Channel Plan
	Hardware accelerated, line speed 128-bit AES & 64,128,152-bit WEP MAC address-based access control Non-standard

Mechanical

Configuration	NCL5801 NCL5811	NCL5802 NCL5812	NCL5803 NCL5813
L x W x H	Outdoor, Integrated Unit, V-POL or H-POL Mountable 13" x 13" x 2.5" (33 x 33 x 6.4 cm)	13" x 13" x 2.5" (33 x 33 x 6.4 cm)	18" x 18" x 3.5" (46 x 46 x 9 cm)
Weight	7.5 lbs. (3.4 kgs)	8.0 lbs. (3.6 kgs)	14 lbs. (6.4 kgs)
Pole Mount Adapter	2-Axis Adjustment, Accommodates 1-3" pole diameter		

Environmental Specifications

Temperature	NCL5801 NCL5811	NCL5802 NCL5812	NCL5803 NCL5813
Humidity	-30 C to + 60 C		
Water/Dust protection	0 to 100% condensing Meets IP67 requirements		
Lightning Suppression	Integrated, IEC 61000-4-5 Class 5 compliant		
Wind	125 MPH survivability, 110 MPH operation		
Wind Load @ 125 MPH	83 lbs.	83 lbs.	128 lbs.

Approvals

Radio Compliance	FCC CFR47, 15.247; Industry Canada RSS 210; China MII [2002] 277 EU: EN 60950-1, EN 61000-3-2, EN61000-3-3, EN 301 489-1, EN 301 893; Mexico NOM
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* System performance and link distance for 36 Mbps RF link rate setting. Typical range based on Line of Sight. Actual throughput will vary with range.



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