cnReach™ N550 900 MHz ISM Radio

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For outdoor critical infrastructure operations, *cn*Reach transports process monitoring and control data from the remote sensor back to the operations center supporting real-time automated decision making and on-going analytics. Covering large geographic areas, hard to reach terrain and challenging spectrum environments, *cn*Reach delivers reliable, secure connectivity to the petrochemical, electric utility, water/wastewater/stormwater and transportation industries. *cn*Reach eases the migration to modern networks by combining legacy serial data with TCP/IP and Ethernet connectivity. Fully integrated into a 'single pane-of-glass' management platform (*cn*Maestro™) *cn*Reach helps bridge the IT/OT sides of complex organizations. Combining *cn*Reach's licensed and unlicensed narrow-band radios with Cambium Networks' broadband technologies, industrial organizations are delivering end-to-end Industrial Internet of Things solutions today.

- 900 MHz ISM Band
- Secure communications with AES 128/256-bit encryption with password authentication
- Highly reliable communications with access point synchronization and adaptive modulation
- One serial port and one Ethernet port.
- Sophisticated network planning with LINKPlanner, a no-charge planning tool enabling network designers to predict both capacity and availability of networks crossing all of Cambium's technologies.
- Supported by *cn*Maestro software for monitoring the status of entire networks carrying traffic across sensors

PRODUCT	PRODUCT DESCRIPTION	MODEL NUMBERS
	N500 900 MHz Radio ISM Only	NB-N550940B-US
	N500 DIN Rail Mount	NB-N500004A-US

DEPLOYMENT TOPOLOGIES
Point to Point (PTP)
Point to Multipoint (PMP)

Specifications

RADIO PERFORMANCE	ISM MODE
Frequency Range	902 - 928 MHz
Output Power	10 mW to 1 W (10 dBm to 30 dBm)
Step Size	50 mW
Modulations	MSK / 2FSK / BPSK / QPSK / 8PSK / 16PSK / 16QAM / 32QAM
Capacity*	57 kbps up to 4.4 Mbps
Channel Bandwidths	FHSS: 76 / 154 / 207 / 310 kHz DTS: 600 / 1200 kHz
Range	Up to 70 miles

RECEIVE SENSITIVITY (ISM MODE)	76 kHZ CHANNEL		154 kHZ CHANNEL		207 kHZ CHANNEL		310 kHZ CHANNEL	
	Receive Sensitivity (dBm)	Capacity* (kbps)	Receive Sensitivity (dBm)	Capacity* (kbps)	Receive Sensitivity (dBm)	Capacity* (kbps)	Receive Sensitivity (dBm)	Capacity* (kbps)
MSK	-111	57	-109	114	-108	153	-106	229

	600 kHZ CHANNEL		1200 kHZ CHANNEL	
	Rx Sensitivity (dBm)	Capacity (kbps)	Rx Sensitivity (dBm)	Capacity (kbps)
BPSK	-101	530	-99	884
QPSK	-98	1061	-97	1768
8PSK	-93	1591	-91	2651
16QAM	-90	2121	-88	3535
32QAM	-84	2651	-82	4419

DATA CAPABILITIES	
Packet handling	Layer 2 bridge
	Layer 3 static routes
	VLAN support
Error Correction	Up to 32-bit CRC, Retransmit on error
Data Encryption	128/256-bit AES

Specifications

MANAGEMENT

	Web-based Interface via HTTP/HTTPS
	Remote Management via SNMP
	*cn*Maestro integration
	Support for configuration files, remote software upgrades
	Built-in diagnostic tools via web interface such as RF Ping and RF Throughput

INTERFACES

Ethernet Interface	1 x RJ-45
	10/100BaseT, Full Duplex, rate auto negotiated (802.3 compliant)
Serial Interface	1 x RJ-45
	RS-232/422/485, up to 230.4 kbps
RF / Antenna	SMA RF connector

POWER

Input	10-32VDC with reverse polarity protection		
Power Consumption (12VDC average)	1W Tx Power		
	Transmit	Receive	Idle
Single Radio Configuration (mA)	335	290	270

PHYSICAL

Dimensions	5.5" x 3.5" x 1.5" (140 mm x 89 mm x 38 mm)
Weight	0.55 lbs. (0.25 kg)
DIN Rail Mount	optional

ENVIRONMENTAL

Temperature	Operating: -40C to +85C; Storage: -40C to +85C; 100% of radio modules tested to +85C in factory;
Humidity	95% operating humidity @ 60C non-condensing

REGULATORY

UL	Approved
FCC ID	Z8H89FT0025
IC ID	109W-0025

* Capacities are over-the-air signalling rates. Usable throughput varies based on payload size, uplink/downlink ratio and protocol. UDP traffic is typically 55-60% of the over-the-air signalling rate.

