cnReach Hotsheet:
Wireless Connectivity for Industrial SCADA Communications

cnReach – Process Control and Monitoring Radio

Target Verticals

- Oil/Gas/Mining
- Electric Utilities
- Water/Wastewater/Stormwater Management
- Rail/Trackside Automation

Initial Pitch (Hook)

- IIoT (Industrial IoT) portfolio from Cambium Networks now supports SCADA process control and monitoring.
- Reduce interference levels in field area networks.
- Migration from serial to IP networks supporting IIoT initiatives.
- Efficiently use licensed narrow-band channels (220 MHz, 450 MHz, 700 MHz, 900 MHz)
- Centralized security, configuration, and performance management with cloud-based or premises-based cnMaestro™

Key Selling Points

- Mitigates interference
  - Access Point synchronization
  - Adaptive modulation
- Flexible for next-generation deployments
  - Licensed and unlicensed
  - PTP, PMP, and relay
  - Single- and dual-radios
  - Serial, IP, and analog/digital I/O
- Rugged, long life cycle
  - Low power for solar applications
  - 100% factory burn-in testing
- Secure, encrypted communications
- Centrally Managed with cnMaestro

Probing Questions:

1. Are you involved with your company's field area network?
2. Are you currently deploying SCADA solutions? If yes, which products?
3. Are those products serial only? Do they support remote management?
4. What are the biggest issues with the network today (interference, power consumption, management, security)?
5. Do you have plans to expand into new geographies or add capacity to existing networks?
6. What is your migration plan to a next-generation network? What are the requirements you are hearing about?
7. Are you considering pushing broadband for applications like remote access, WiFi, or video surveillance?
8. Do you have company-wide initiatives to improve IIoT cybersecurity and capacity?
9. Do you have budgeted programs for this year or next year for maintaining or expanding your wireless communications?
10. What throughput requirements are you seeing for your field area network? Are they increasing?
11. How are you remotely managing your SCADA radios today?
12. Which frequencies do you have access to for sub-1GHz wireless communications (licensed-900, 700, 450, 220, other)?
13. Do you have leased lines that need replacing as the carriers stop supporting those services?
14. Do you have the locations of towers for your network that could be dropped into LINKPlanner for a quick assessment?

Key Differentiators

Differentiation	cnReach Benefit	Competition
Single/Dual Radios	Back-to-back high-capacity relay mode; reduced radio count and power consumption.	Multiple radios lose capacity in relays; consume more power.
Multiple Band Support	900 MHz radio supports licensed and unlicensed; same radio supports serial, IP, and I/O.	Some support licensed only; some support serial OR IP only.
Licensed Band Features	Streamlined serial communications strip IP & Ethernet headers for high efficiency; layer 3 routing/IP filtering/VPN/NAT reduce unnecessary over-the-air traffic.	IP overhead clogs licensed narrow band links.
Access Point Synchronization	Reducing self-interference from adjacent APs allows denser deployments with more efficient use of spectrum.	Self-interference increases as network expands.
Hitless Adaptive Modulation	More efficient use of spectrum as each end point is optimized for range and RF conditions automatically.	Need to configure for worst-case environment, reducing efficiency.
Built-In General Purpose I/O	Reduces RTU/PLC count; enables integrated monitoring (temperature, voltage, enclosure opening, etc.).	Requires separate PLC in all cases.
Cloud-Based Management with cnMaestro	Reduces staff-power needed to maintain, secure, and plan the network.	Manual configurations of password changes.

Models, Options, and Accessories - LINKPlanner builds BOMs (Bill of Materials) automatically.

Radios	• Single or dual • With or without I/O • 450 MHz, 700 MHz, 900 MHz
Antennas	• Yagis (406, 450, 700, 900) • Omnis (400, 700, 900) • Rabbit/whip (400, 700, 900)
Power Supplies	• 24 VDC DIN rail • 24 VDC indoor brick

Key Specifications

	700 MHz	900 MHz	450 MHz
Frequencies	757–758 & 787–788 MHz (licensed)	ISM Mode: 902–928 MHz MAS Mode (Licensed): 928–960 MHz	406–430 MHz & 450–470 MHz (licensed)
Output Power	Up to 10 W (40 dBm)	ISM: Up to 1 W (30 dBm) MAS: Up to 3W (34.8 dBm)	8 W (39 dBm)
Usable Throughput	Up to 650 Kbps	ISM: Up to 2.4 Mbps MAS: Up to 160 kbps	Up to 30 Kbps
Distance	Up to 70 Miles		
Licensed Channel BW's	12.5, 25, 50, 100, 200, 250 KHz	MAS: 12.5 & 25 KHz	12.5 KHz and 25 kHz
Interfaces	2 x Ethernet, 2 x serial,oOptional General purpose analog/digital IO		
Security	128/256-bit encryption, https		