

# Corning SpiderCloud SCRN-250 Radio Node for Enterprise Radio Access Network (E-RAN)

CORNING

## Features and Benefits

<b>Supported service</b>	Small cell module for widely deployed Cisco 3600 and 3700 series Wi-Fi APs
<b>Supported bands/channels</b>	Enables zero-cable installation. Modules get power and connectivity from Wi-Fi APs
<b>UMTS performance</b>	Software configurable to operate on UMTS or LTE in Band 2 or Band 4
<b>LTE capacity</b>	High capacity, supports 64 active LTE subscribers
<b>LTE performance</b>	150/50 Mbps peak DL/UL LTE throughput
<b>Fronthaul network</b>	Deployable over existing Wi-Fi network without the need for new network elements
<b>Power source</b>	Powered via Cisco Aironet APs
<b>Installation</b>	Wall and ceiling mountable
<b>Authentication</b>	Certificate-based authentication with SpiderCloud services node

### High-performance LTE or UMTS clip-on small cell for scalable indoor and venue deployments

The SCRN-250 radio node modules are part of the SpiderCloud® small-cell solution, which offers mobile operators a licensed radio network extension that can be rapidly deployed onto the footprint of the Cisco Aironet 3600 and Aironet 3700 Series.

SCRN-250 connects to Cisco Aironet 3600 and Aironet 3700 Wi-Fi access points (APs) via a proprietary connector to get its power and connectivity. SCRN-250 does not require any new cable installations or LAN equipment. It leverages the LAN equipment of Wi-Fi APs to connect to services node to create an enterprise RAN network.

The SpiderCloud scalable small-cell system, called an enterprise radio access network (E-RAN), hides the complexity of radio management and mobility and provides operators with a single touchpoint to aggregate and manage a large network of small cells.



SCRN-250 | Figure 1

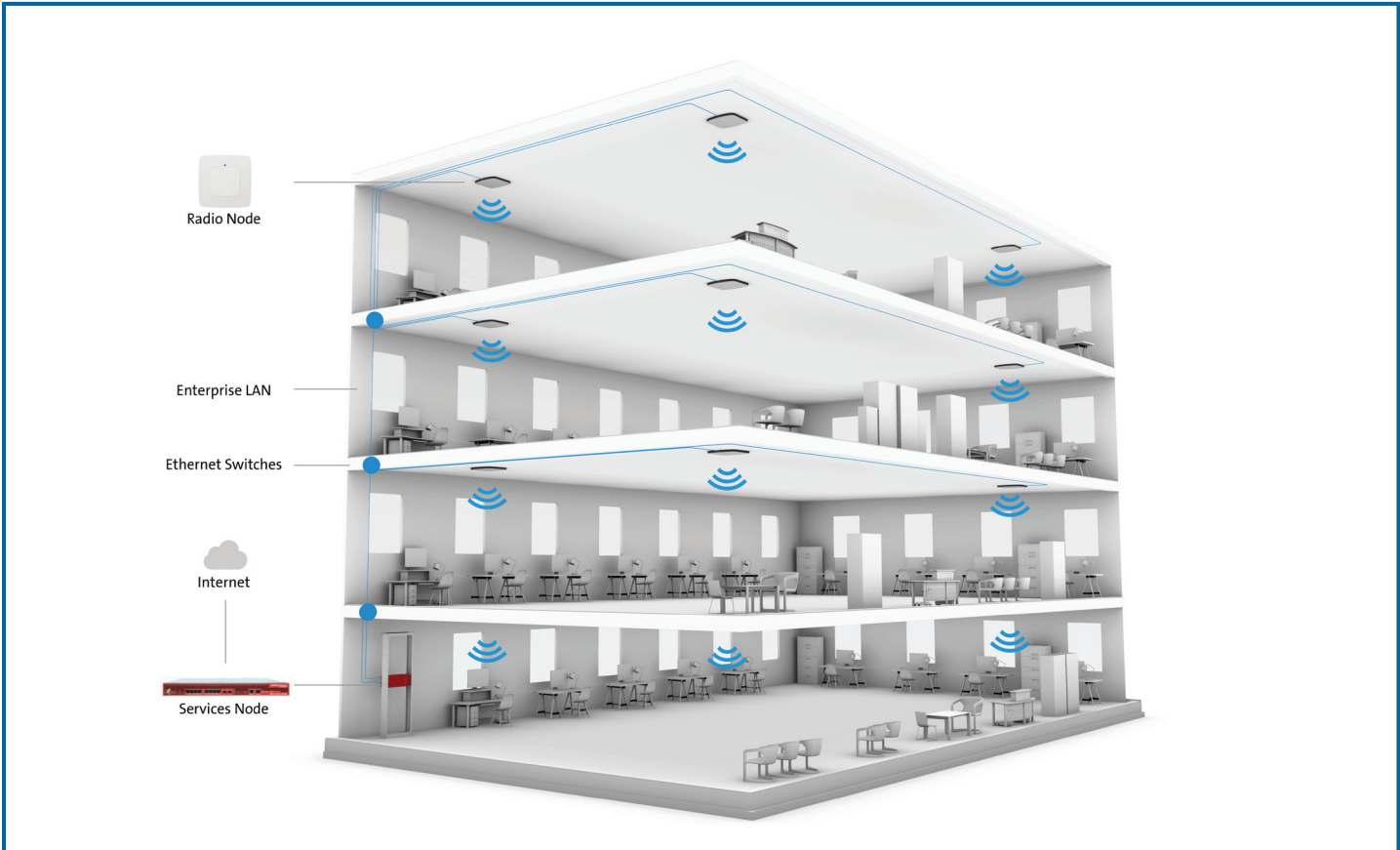
# Corning SpiderCloud SCRN-250 Radio Node for Enterprise Radio Access Network (E-RAN)



## Functional Overview

Radio Capabilities	Each SCRN-250 supports either UMTS or LTE on licensed bands, enabling higher-user capacity and average data rates per radio node coverage footprint. Each SCRN-250 supports 32 simultaneous voice and data sessions when operating in UMTS mode with peak throughput of 21 Mbps. SCRN-250 supports 64 active LTE users and up to 128 RRC connections when operating in LTE mode. When used with 20 MHz channel bandwidth, an LTE carrier supports a peak downlink rate of 150 Mbps and a peak uplink rate of 50 Mbps.
Self-Organizing Networks	SpiderCloud® radio nodes implement SON capability by listening to other radio nodes within the E-RAN and neighboring macro cells in multiple frequency bands, and performing continuous self-optimization to provide high-quality radio coverage and mobility.
Easy to Install	SCRN-250 connects to Cisco Aironet AP 3600 and 3700 and receives power and connectivity via the Cisco AP. The radio node module has no fans and is completely convection cooled. Antennas are built in for both LTE bands.
Secure	SCRN-250 utilizes on-chip trusted platform module (TPM) functions to implement secure boot, and establish certificate-based IPsec tunnel to SpiderCloud services node for all LTE traffic. There is no management or console port on the radio node.

# Corning SpiderCloud SCRN-250 Radio Node for Enterprise Radio Access Network (E-RAN)



Building Diagram | Figure 2

# Corning SpiderCloud SCRN-250 Radio Node for Enterprise Radio Access Network (E-RAN)



## System Specifications

Security	Secure boot and secure key storage using trusted platform module (TPM) functions  IPsec tunneling to services node  X.509 certificate-based authentication
Timing and Synchronization	IEEE 1588v2-based (PTP) frequency synchronization to services node  Cellular network listen for phase synchronization with LTE macro eNodeBs
Ciphering	SNOW 3G air interface encryption

## Radio Specifications

Performance	LTE peak rates: 150/50 Mbps DL/UL  LTE sessions: 64 active users, 128 RRC connected users  UMTS peak rates: 21/5 Mbps DL/UL UMTS sessions: 32 simultaneous
Licensed Radio	Configurable licensed band  LTE channel sizes: 5, 10, 15, 20 MHz  2 x 2 MIMO (LTE), Rx diversity (UMTS)  Maximum transmit power: 2 x 50 mW (17 dBm)
Mobility	Inter radio node handover anchored at the services node  Handover to/from macro  Inter-RAT and Inter-Freq Handovers
RF Management	LTE, UMTS, and GSM network listen (NL)  Inter- and intra-frequency neighbor cell detection  Auto assignment of physical cell identities (PCI)  Automatic neighbor relation (ANR) management
QoS Features	Support for all LTE QCI's  Guaranteed bit rate (GBR)  Maximum bit rate (MBR)  Aggregate maximum bit rate (AMBR)
Voice Services	Voice over LTE (VoLTE)  4 data radio bearers (DRB) per UE

# Corning SpiderCloud SCRN-250 Radio Node for Enterprise Radio Access Network (E-RAN)



## Physical Specifications

Enterprise Installation	Connects to Cisco Aironet 3600 and 3700  Power and connectivity provided by Wi-Fi AP  Power consumption: 10 W
LED Indication	1 x tri-color LED (RGB)  Status indications: boot, normal, disabled, fault, emergency call, radio node tracking
Antenna Options	Two internal Tx/Rx antennas (peak gain 5 dBi)  One internal network listen antenna
Physical and Environmental	Dimensions: 5.96 x 34 x 14.3 cm (2.3 x 13.4 x 5.6 in)  Weight: 0.55 kg (1.22 lbs)  Clip-on module to Cisco Aironet Wi-Fi AP  Operating temperature: 0 to 40°C  Storage temperature: 0 to 85°C  Operating humidity: 0 to 90% noncondensing  Storage humidity: 0 to 90% noncondensing  Ingress protection rating: IP30

# Corning SpiderCloud SCRN-250 Radio Node for Enterprise Radio Access Network (E-RAN)



## Regulatory Compliance and Certification

Certifications	Safety EN 60950, CB certification (IEC 60950, UL 60950-1)
	FCC Part 15, Class A
	FCC Part 24 and 27
	Materials: Directive 2011/65/EU on RoHS
	General CE and NRTL marking

# Corning SpiderCloud SCRN-250 Radio Node for Enterprise Radio Access Network (E-RAN)



## Ordering Information

Part Number	Description
SCRN-250-0402-2L	SW configurable LTE/UMTS in Band 4 (AWS) or Band 2 (PCS)  Monitors LTE 700/1900/2100 MHz, UMTS B2/B4/B5, and GSM 850/1900
SCRN-250-0301	SW configurable LTE in Band 3 or UMTS in Band 1  Monitors LTE B3/B7/B20, UMTS B1/B8, and GSM 900/1800

# Corning SpiderCloud SCRN-250 Radio Node for Enterprise Radio Access Network (E-RAN)

The Corning logo consists of a solid blue square with the word "CORNING" written in white, uppercase, sans-serif font centered within the square.

Notes:

**Corning Optical Communications LLC • PO Box 489 • Hickory, NC 28603-0489 USA  
800-743-2675 • FAX: 828-325-5060 • International: +1-828-901-5000 • [www.corning.com/opcomm](http://www.corning.com/opcomm)**

A complete listing of the trademarks of Corning Optical Communications is available at [www.corning.com/opcomm/trademarks](http://www.corning.com/opcomm/trademarks). All other trademarks are the properties of their respective owners. Corning Optical Communications is ISO 9001 certified.

© 2018 Corning Optical Communications. All rights reserved.

The Corning logo consists of the word "CORNING" written in a large, black, serif font.