

# Corning SpiderCloud SCRN-330 Radio Node for Enterprise Radio Access Network (E-RAN)

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## Features and Benefits

<b>Supported service</b>	LTE-TDD small cell
<b>Supported bands/channels</b>	Supports LTE band 41 (2.5 GHz) and band 48 (3.5 GHz or CBRS)
<b>LTE capacity</b>	128 active LTE users
<b>UMTS performance</b>	100/50 Mbps peak DL/UL LTE throughput (with 20 MHz IBW)
<b>LTE performance</b>	Built-in SON capabilities
<b>Fronthaul network</b>	Deployable over existing Ethernet switching infrastructure (VLAN)
<b>Power source</b>	Power over Ethernet plus (PoE+)
<b>Installation</b>	Wall and ceiling mountable
<b>Authentication</b>	Certificate-based authentication with SpiderCloud services node

### High-Performance LTE-TDD Small Cell for Scalable Indoor and Venue Deployments

The SCRN-330 is an LTE-TDD small cell with self-organizing network (SON) capability. The SpiderCloud® enterprise radio access network (E-RAN) is part of the scalable small cell system. 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-330 | Figure 1

# Corning SpiderCloud SCRN-330 Radio Node for Enterprise Radio Access Network (E-RAN)

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

## Functional Overview

### Radio Capabilities

The SCRN-330 is a dual-band LTE-TDD small cell. It supports one 10 MHz or one 20 MHz wide LTE-TDD channel in a 2x2 MIMO configuration with a peak transmit power of 500 mw (27 dBm) in one of the two bands supported by the small cell. The band used is software configurable. The TDD frame configurations that can be used depends upon the software installed on the SCRN-330.

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### 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.

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### Easy to Install

SpiderCloud radio nodes can be installed on walls or ceilings. Both network connectivity and power are provided over Ethernet. The radio node has no fans and is completely convection cooled. Antennas are built in for both LTE bands, with an orderable option for QMA connectors for use with external antennas.

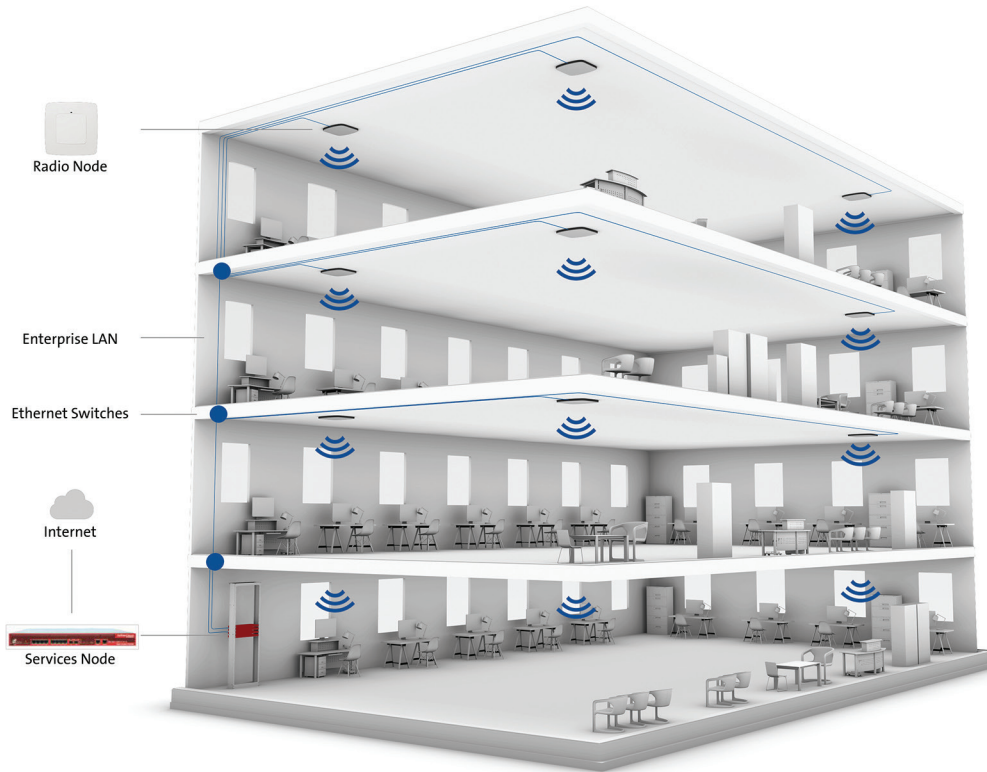
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### Secure

SCRN-330 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, and the radio node can be physically locked to prevent theft.

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Building Diagram | Figure 2

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## System Specifications

<b>Security</b>	Secure boot and secure key storage using trusted platform module (TPM) functions  IPsec tunneling to services node  X.509 certificate-based authentication
<b>Timing and Synchronization</b>	IEEE 1588v2 based (PTP) phase and frequency synchronization to services node
<b>Ciphering</b>	SNOW 3G and AES air interface encryption

## Radio Specifications

<b>Performance</b>	LTE-TDD only  Frame configurations (FC): 1, 2, 3, and 4  Special subframe configurations: 0-9  Peak DL rate of 100 Mbps with FC2  128 active users per LTE carrier  64 VoLTE users (subset of 128 total active users)
<b>Radio</b>	Hardware capable of supporting two LTE carriers  Channel sizes: 10 and 20 MHz per carrier  2x2 MIMO  Maximum transmit power: 2x250 mW (27 dBm) per carrier  Only one LTE carrier can be operational with the SpiderCloud R8.x software release
<b>Mobility</b>	Inter-radio node handover anchored at the services node  Inter-frequency S1 handover to/from macro  Intra-frequency S1 handover to/from macro

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## Radio Specifications (cont.)

<b>RF Management</b>	LTE network listen Inter- and intra-frequency neighbor cell detection Auto assignment of physical cell identities (PCI) Automatic neighbor relation (ANR) management
<b>QOS Features</b>	Support for all LTE QCI Guaranteed bit rate (GBR) Maximum bit rate (MBR) Aggregate maximum bit rate (AMBR)
<b>Voice Services</b>	Voice over LTE (VoLTE) Eight data radio bearers (DRB) per UE

## Physical Specifications

<b>Enterprise Installation</b>	Ceiling or wall mount Mounting hardware included Padlock option Power over Ethernet: 802.3at Power consumption: 18 W (single-band operation)
<b>LED Indication</b>	1 x tri-color LED (RGB) Status indications: boot, normal, disabled, fault, emergency call, radio node tracking
<b>Antenna Options</b>	Four internal Tx/Rx antennas (peak gain 5 dBi) One internal network listen antenna Separate SKU with four QMA antenna connectors for use with external antennas
<b>Physical Specifications</b>	Dimensions: 183 x 183 x 36 mm (7.2 x 7.2 x 1.4 in) Weight: 1.23 kg (2.7 lbs) 1 x 1000 Mbps Ethernet (RJ45) 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

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## Regulatory Compliance and Certification

<b>Certifications</b>	Safety EN 60950, CB certification (IEC 60950, UL 60950-1)
	FCC Part 15, Class A
	FCC Part 27 (for Band 41)
	FCC Part 96 (CBRS)
	Materials: Directive 2011/65/EU on RoHS
	General CE and NRTL marking

# Corning SpiderCloud SCRN-330 Radio Node for Enterprise Radio Access Network (E-RAN)



## Ordering Information

Part Number	Description
SCRN-330-4148	Band 41 (2496-2690 MHz) Band 48 (3550-3700 MHz) Monitors LTE bands 41, 48, 5, 26, B25, B66
SCRN-330-4148-EQ	Band 41 (2496-2690 MHz) Band 48 (3550-3700 MHz) Monitors LTE bands 41, 48, 5, 26, B25, B66 External antenna connectors (QMA)

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Notes:

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