Corning SpiderCloud SCRN-220 Radio Node for Enterprise Radio Access Network (E-RAN)

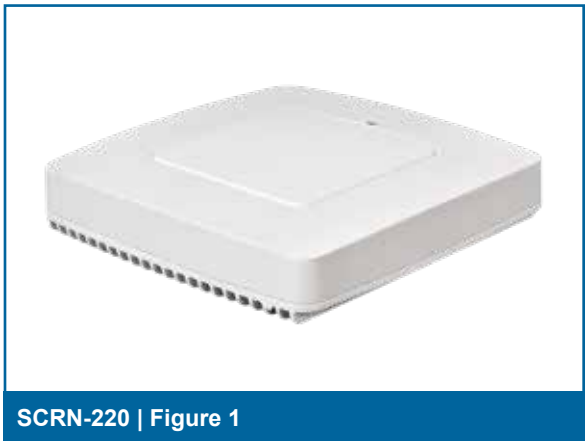
Features and Benefits

Supported service	LTE small cell with support for Rel 13 IOT features
Supported bands/channels	Software-configurable LTE radio bands
Capacity	128 active users
Performance	150/50 Mbps peak DL/UL LTE throughput (with 20 MHz licensed channel)
SON	Built-in self-organizing networks (SON) features for ease of deployment for seamless mobility with macro network
Fronthaul network	Deployable over existing Ethernet switching infrastructure (VLAN)
Power source	Power-over-Ethernet (PoE+)
Installation	Wall and ceiling mountable
Authentication	Certificate-based authentication with SpiderCloud services node

High-performance LTE small cell for scalable indoor and venue deployments

The SCRN-220 is an integrated LTE small cell with support for Rel13 IOT devices.

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 LTE small cells.



SCRN-220 | Figure 1

Corning SpiderCloud SCRN-220 Radio Node for Enterprise Radio Access Network (E-RAN)

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Functional Overview

Radio Capabilities	Each SCRN-220 supports 2 x 2 MIMO operation on configurable LTE bands, enabling higher-user capacity and average data rates per radio node coverage footprint. Each LTE carrier supports 128 active LTE users, of which 64 can be VoLTE users. 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	The radio node implements SON capability by listening to other radio nodes within the E-RAN and neighboring LTE macro cells in multiple frequency bands, and performing continuous self-optimization to provide high-quality radio coverage and mobility.
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.
Secure	SCRN-220 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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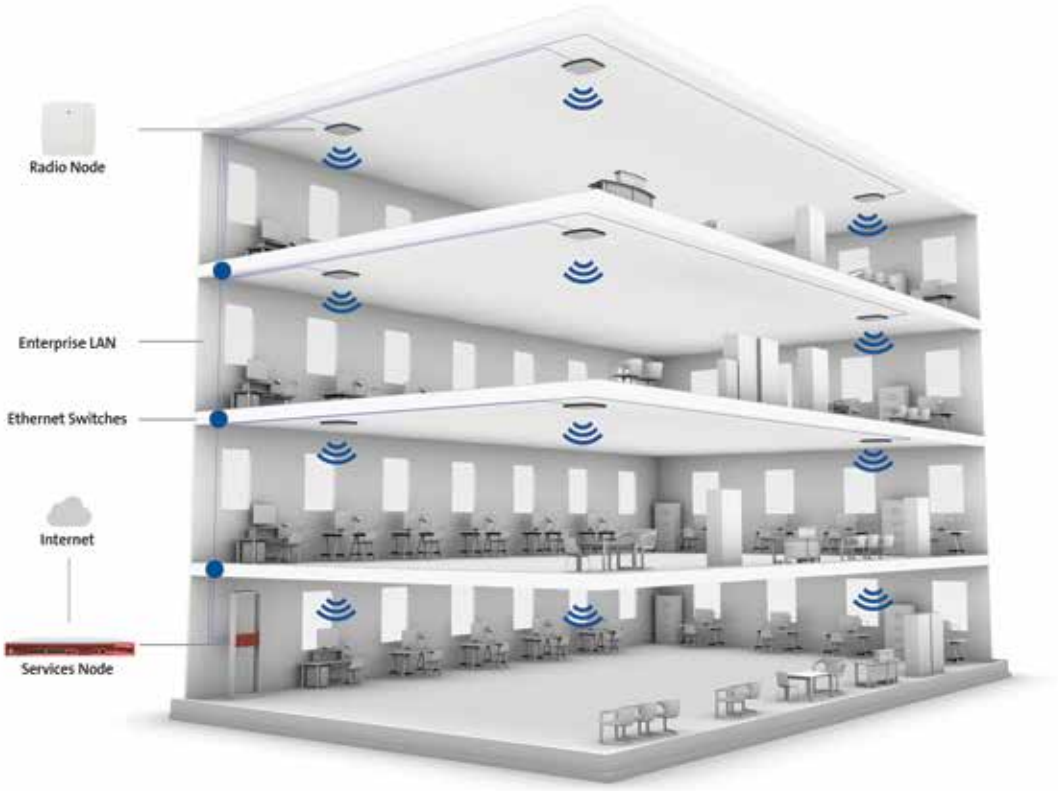

Building Diagram | Figure 2

Corning SpiderCloud SCRN-220 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) synchronization to services node
Ciphering	SNOW 3G and AES air interface encryption

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Radio Specifications

Performance	Peak rates: 150/50 Mbps DL/UL (with 20 MHz)
	128 active users, of which 64 can be VoLTE
	Support for Rel 13 IOT features
Licensed Radio	Multiple band class options (see product SKUs)
	Channel sizes: 5, 10, 15, 20 MHz
	2 x 2 MIMO
	Maximum transmit power: 2 x 250 mW (27 dBm)
Mobility	Inter radio node handover anchored at the services node
	Inter-frequency S1 handover to/from macro
	Intra-frequency S1 handover to/from macro
RF Management	LTE network listen
	Inter- and intra-frequency neighbor cell detection
	Auto assignment of physical cell identities (PCI)
	Automatic neighbor relation (ANR) management

Radio Specifications (cont.)

QoS Features	Support for all LTE QCIs
	Guaranteed bit rate (GBR)
	Maximum bit rate (MBR)
	Aggregate maximum bit rate (AMBR)
Voice Services	VoLTE
	Eight data radio bearers (DRB) per UE

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Physical Specifications (cont.)

Enterprise Installation	Wall and ceiling mountable Mounting hardware included Padlock option Power-over-Ethernet: 802.3at Power consumption: 20 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) Option for QMA antenna connectors for use with external antennas. Orderable as separate SKU.
Physical and Environmental	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 40ºC Storage temperature: 0 to 85ºC Operating humidity: 0 to 90% noncondensing Storage humidity: 0 to 90% noncondensing Ingress protection rating: IP30

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 General CE and NRTL marking MPE: FCC 47 CFR 1.1307(b)

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Ordering Information

Part Number	Description
SCRN-220-020412	Configurable single-mode LTE cell SW configurable licensed band with support for Band 4 (66), Band 2 (25), or Band 12 Monitors LTE 700/1900/2100 MHz
SCRN-220-020412-EQ	Same as SCRN-220-020412 with QMA antenna connectors for external antennas
SCRN-220-020413	Configurable single-mode LTE Cell SW configurable licensed band with support for Band 4 (66), Band 2 (25), or Band 13 Monitors LTE 700/1900/2100 MHz
SCRN-220-020413-EQ	Same as SCRN-220-020413 with QMA antenna connectors for external antennas

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Notes:

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