CORNING

Corning SCRN-520 Radio Node for Enterprise Radio Access Network (E-RAN)
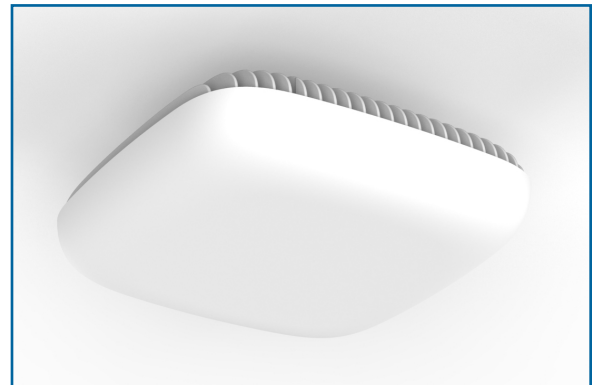
Features and Benefits

Supported service	Small Cell supporting NR on mmWave band n261
Supported bands/channels	28 GHz n261 (27.5–28.35 GHz)
Capacity	64 active users
Performance	1.8 Gbps DL, 60 Mbps UL (DL:UL slot ratio of 4:1) @ 64QAM with 4CC DL, 1CC UL
SON	Built-in self-organizing networks (SON) features for ease of deployment for seamless mobility with macro network
Fronthaul network	Deployable over Corning® ActiFi® 2-fiber/2-copper conductor composite cable
Power source	48 VDC delivered via ActiFi 2-fiber/ 2-copper conductor composite cable
Installation	Ceiling and wall mountable with 4 tilting options for wall mount only: 0°, 15°, 30° and 45° tilt
Authentication	Certificate-based authentication with Corning CU (Centralized Unit)

High-performance 5G mmWave small cell for scalable indoor and venue deployments

The SCRN-520 is an integrated 5G mmWave small cell.

The Corning scalable small-cell system, called an enterprise radio access network (E-RAN), simplifies the complexity of radio management and mobility and provides operators with a single touchpoint to aggregate and manage a large network of 5G small cells.

SCRN-520 | Figure 1

Functional Overview

Radio Capabilities	Each SCRN-520 supports 2 x 2 MIMO operation on NR band n261, enabling high user capacity and high data rates per radio node coverage footprint. Each radio node carrier supports 64 active NR users. When used with 4 x 100 MHz channel bandwidth on downlink, a radio node supports a peak downlink rate of 1.8 Gbps and a peak uplink rate of 60 Mbps @ 64QAM. The coverage area for each small cell is approximately 3,500 sq. ft.
Easy to Install	Corning radio nodes can be installed on walls or ceilings. Both network connectivity and power are provided via Corning® ActiFi® fiber/copper composite cable. Antennas are built in for Band n261.
Secure	SCRN-520 utilizes on-chip trusted platform module (TPM) functions to implement secure boot, and establish certificate-based connection to CU (Centralized Unit). There is no management or console port on the radio node, and the radio node can be physically locked to prevent theft.

mmWave Radio Nodes

LTE Radio Nodes

Ethernet Switch

Services Node
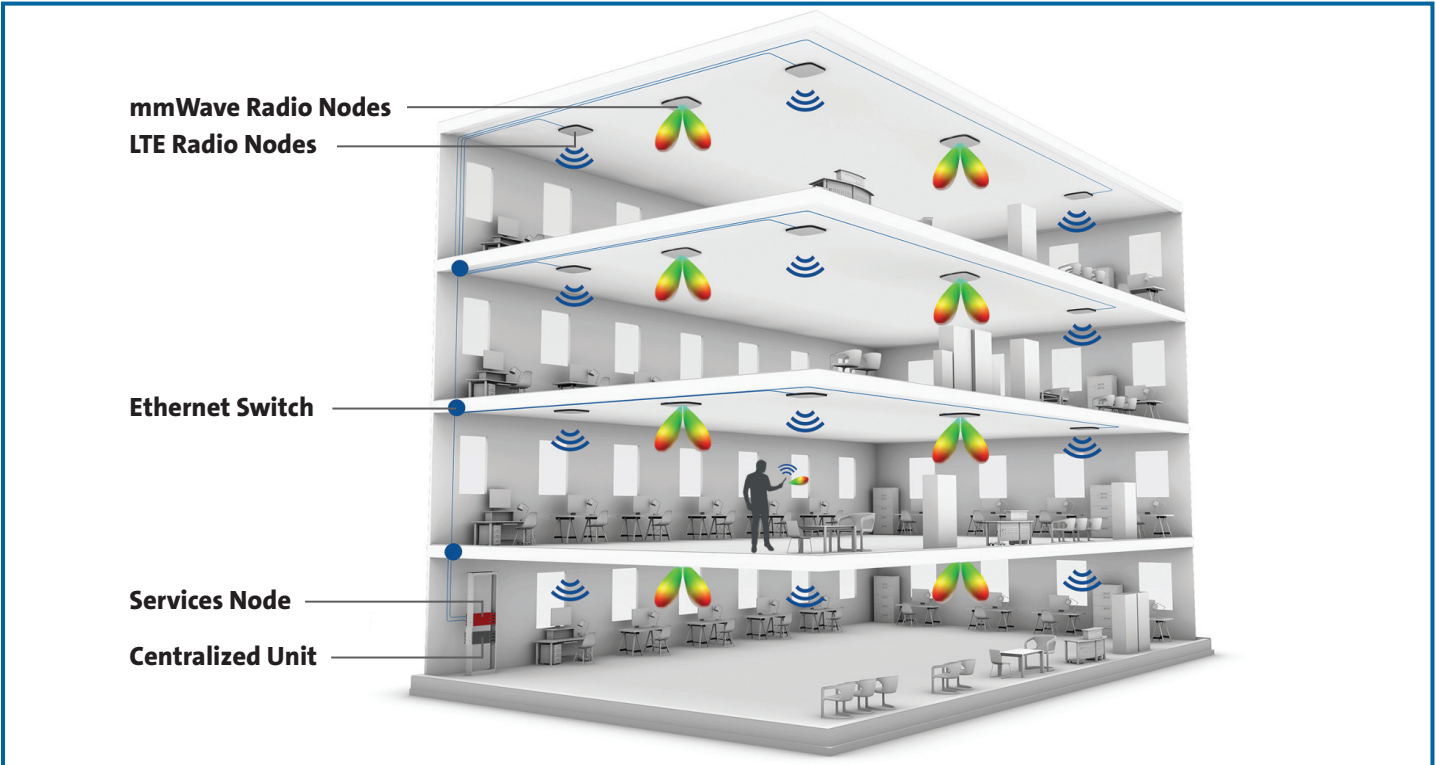
Centralized Unit

Building Diagram | Figure 2

System Specifications

Security	Secure boot and secure key storage using trusted platform module (TPM) functions
	IPsec tunneling to NR CU (Centralized Unit)
	X.509 certificate-based authentication
Timing and Synchronization	IEEE 1588v2-based (PTP) synchronization with an external PTP grandmaster clock.

Radio Specifications

Performance	1.8 Gbps DL, 60 Mbps UL (DL:UL slot ratio of 4:1) @ 64QAM with 4CC DL, 1CC UL 64 active users
Licensed Radio	n261 (27.5–28.35 GHz)
	Component Carrier (CC) bandwidth: 100 MHz
	2 x 2 MIMO with 8 x 8 dual polarized antenna array
	EiRP: 43 dBm
RF Management	Beam Management
	Auto assignment of physical cell identities (PCI)
QoS Features	Non-GBR bearer support per UE

Physical Specifications

Enterprise Installation	Wall and ceiling mountable with 4 tilting options for wall mount only: 0°, 15°, 30° and 45° tilt
	Mounting hardware included
	Power: 48VDC Phoenix
	Power consumption: 70 W
LED Indication	1 x tri-color LED (RGB)
	Status indications: boot, normal, disabled, fault, and radio node tracking
Antenna Options	8 x 8 dual polarized antenna array for beamforming
	Beamforming: Scan range: +/- 60 degrees
	Beamforming: Peak gain = 22.5 dBi
Physical and Environmental	Dimensions: 279.4 x 279.4 x 80.3 mm (11.0 x 11.0 x 3.16 in)
	Weight: 9.72 lbs / 5.31kg
	Data: 10GbE SFP+
	Operating temperature: 0°C to +45°C
	Storage temperature: -40°C to +70°C
	Operating humidity: 5% to 90% noncondensing
	Storage humidity: 0% to 90% noncondensing
	Ingress protection rating: IP30
	Cooling Method: Convection cooling

Regulatory Compliance and Certification

Certifications   TUV Safety (Including UL-62368-1 2nd Edition)
FCC Compliant - Part 15 (Class A), Part 30

UR: FCC 47 CFR 1.1307(b)

MPE: FCC 47 CFR 1.1310

Part Number	Description
SCRN-520-28	28 GHz band n261 mmWave RN with 8 x 8 dual-pol antenna array 43 dBm EIRP @ 64QAM