

5G System-On-Chip (SoC) Small Cell (5GSC-250)



Converged 5G & Wi-Fi for Indoor Experiences

The 5GSC-250 System-On-Chip (SoC) Small Cell is uniquely designed to enable robust, high-performance, and sustainable deployment of 5G connectivity at scale. It is highly scalable, accommodating the expansion and densification of indoor networks as demand increases. This versatility supports various deployment scenarios, from large office buildings and shopping malls to stadiums and other indoor venues.

The fully integrated small cell combines both 5G-NR and Wi-Fi 7 capabilities into a single, compact, and energy-efficient device. It ensures seamless integration into existing indoor infrastructures and is supported by easy configuration and management.

Application Scenarios

- Smart factories & manufacturing
- Hospitals & healthcare environments
- Retail & commercial spaces
- Transportation platforms & hubs
- Schools & learning environments

Key Features

- **High Performance and Throughput**
4T4R Dual RAT Cell supports up to 128 active devices and carrier aggregation with up to 4 component carriers (CC). Provides maximum aggregated throughputs of 6.5 Gbps for both 5G and Wi-Fi.
- **Integrated Wi-Fi 7 capabilities**
2T2R Triband Wi-Fi 6E/7 AP
- **Multiple 5G-NR frequency bands**
Supports n48, n77, n78 frequency bands.
- **Low Power Consumption**
Optimally efficient device which provides a sustainable and cost-effective solution for scalable deployment.
- **Versatility & Ease of Operations**
With an all-in-one architecture and integrated antennas, this device allows for plug-and-play deployment without the need for additional network equipment, providing 360° network coverage.
- **Intelligent Automation**
Automation and manageability with EMS and SON suite for scalable configuration and optimal operations.

Technical Specifications

5G Specifications	
3GPP Compliance	3GPP Rel. 16 SA
5G Frequency Bands	n48, n77, n78 bands (3.3GHz - 4.2 GHz)
5G MIMO Order	4T4R, MU-MIMO
5G RF Tx Power Per Port / Aggregate (4x4)	23 / 29 dBm
5G RF Antenna Peak Gain	7 dBi
5G IBW/OBW	200/100 MHz (optional: 200/200MHz)
5G Bandwidth	10MHz, 20MHz, 40MHz, 60MHz, 100MHz
5G NR Duplex Mode	TDD
Frame Structure	DDDSUUDDDD, DDSSUUDDDD, DDSSUUUUDD
Dual RAT	5G/ LTE option
Modulation	DL: 256 QM / UL: 64 QAM
Synchronisation	IEEE 1588v2 and SyncE
Wi-Fi Specifications	
Wi-Fi Standard	Wi-Fi 7 (802.11be)/ 2.4GHz, 5.x GHz, 6.x GHz
Wi-Fi MIMO	2T2R
Wi-Fi Max. Tx Power Per Port / Aggregate (2x2)	23 / 26 dBm
Wi-Fi Antenna Peak Gain	7 dBi (Omni)
Channel Bandwidth	Up to 320 MHz
Wi-Fi Mesh	Easy Mesh, Multi-Link
Performance	
5G NR Radio Standard Support/ Quality of Service (QoS)	5G NR/ 3GPP Compliance
Aggregated Throughput	5G NR: 2 Gbps Wi-Fi: 4.5 Gbps
5G Component Carriers (CC)	Up to 4 CC
Max Users	Up to 64 active users (upgradable to 128 active users*)
Physical and Electrical	
Power Supply	PoE (IEEE 802.3bt)
Power Consumption	65 W
Dimensions	275 x 275 x 101 mm
Weight	3.75 kg
Temperature	0°C - 50°C
Physical Interfaces	10G Ethernet with PoE & 10G SFP+

*Upgradable through future release

Software	
Management Protocols	O-RAN based (NETCONF, WebSocket, REST/HTTPS), TR-069, TR-369
Network	IPv4, IPv6, IPsec, Wireguard, VLANs, MOCN
Core Connectivity	5G Standalone (SA) Optional: 5G Non-Standalone (NSA); 4G LTE
Wi-Fi Security	WPA3-Enterprise, Firewall, Passpoint/Hotspot 2.0
Encryption	AES, CCMP, TKIP
Configuration	Zero-Touch Provisioning (via EMS), CLI
Safety and Environmental Compliance	
FCC Title 47 CFR Part 15, Subpart B	Yes
FCC Part 96 Base Station	Yes