



ADTRAN

Metnet 60G

mmWave (60GHz) Mesh Node



Gigabit



Mesh



Low TCO

Key Applications

- 4G/5G small cell backhaul
- MDUs access and backhaul
- FWA residential and business access
- Wi-Fi backhaul
- Fiber extension and Gfast backhaul
- CCTV smart city backhaul

Overview

The ADTRAN CCS Metnet 60G mmWave 12 Gbps backhaul and access mesh technology enables mobile operators and broadband service providers to offer Gigabit services at a fraction of the cost and speed of rolling out fiber networks.

Operating in the high-band mmWave spectrum from 57GHz to 71GHz, the ADTRAN Metnet 60G mesh node is designed to enable rapid deployment of Gigabit connectivity to hundreds of customers.

MDU Capture and Fiber Monetization

The Metnet 60G mesh node is a high-capacity (up to 12Gbps) unit that simplifies extending fiber for dense urban deployments and mobile backhaul applications, allowing faster expansion of service coverage. With native support for GPON or XGS-PON networks, one or more of the Metnet 60G mesh nodes can be connected into the core network using dual 1G or 10G connections, and the Metnet 60G nodes form automatic multi-gigabit backhaul links to neighboring nodes to extend fiber-like connectivity to Gigabit-capable Gfast DPUs (for MDU applications) or Wi-Fi access points (public Wi-Fi) or CCTV cameras (surveillance). The Metnet solution is also ideal for 4G/5G small cell connectivity, offering low-latency, high-capacity backhaul links (up to 12 Gbps), with QoS and clock synchronization.

In addition, the Metnet60G also supports direct broadband access to connect up to 32 CPE within a 500m range to quickly expand business and residential gigabit services.

Industry First Self-Organizing Network

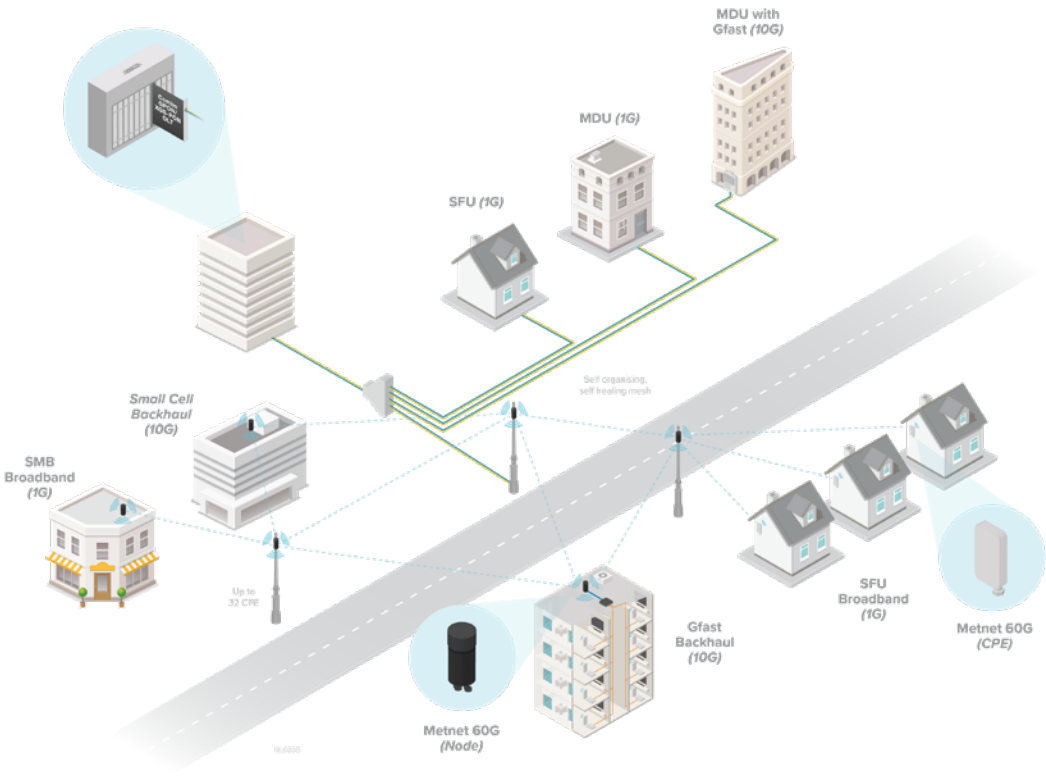
The Metnet system is built on the industry's first self-organizing and self-healing network (SON) technology delivering advanced interference avoidance to continuously optimize network performance. The Metnet 60G connect autonomously to form Multipoint-to-Multipoint mesh links with neighboring nodes, enabling rapid time-to-market with broadband services. When new nodes are added, the system automatically reorganizes and realigns, enabling faster scaling of the network. In addition, self-organizing, self-healing links automatically reroute traffic in the event of node failure or line-of-sight obstacles providing higher resiliency and redundancy.

Faster Deployment

The Metnet SON technology simplifies network deployment enabling service providers to rapidly install and begin offering revenue-generating services. Each node has a wide 300-degree field of view, and can be installed in less than 15 minutes, with no radio planning or node alignment, allowing for installation by field technicians rather than highly-technical RF planners. In addition, the Metnet 60G is the smallest radio of its kind in the industry—its small size allows for discrete installation on street lights, sides of buildings or roofs.

ADTRAN Metnet 60G nodes are fully FCC and EU/CE certified to leverage the new license-free 60GHz spectrum.

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Product Specifications

Metnet 60G Mesh Radio Specifications	Mesh v1 RFM 2.5 Antenna	Mesh v2 RFM 3.2 Antenna
Frequency Band	57GHz to 66GHz band	57GHz to 71GHz band
Antenna	Vertical 20° fixed	Beamforming Phase array 21dBi gain
Channels	802.11ad WiGig Channels 1 to 4	802.11ad WiGig Channels 1 to 6
Modulation and encoding	10 levels of adaptive encoding MCS 0 – 9 up to 2.5Gbps	13 levels of adaptive encoding MCS 0 – 12 up to 4.6Gbps
Transmitter and EIRP	38dBm EIRP	40dBm EIRP
Number of sectors	4	4
Radio capacity per sector	2.5 Gbps	4.6 Gbps
Performance & Attributes		
Beam angle	Horizontal 300° electronic steerable, 5° beam width	
Topologies	Multipoint-to-Multipoint with SON /Point-to-Multipoint, Point-to-Point	
Range	Up to 1,500ft* (500m)* Dependent on location, availability, and capacity	
Interfaces	Up to 4 Ethernet interfaces <ul style="list-style-type: none"> • 2 x Fixed RJ45 100/1000 Base-T • 2 x optional 10G or 1G SFP optical 	
Max connections	32 CPE per mesh node	
Ethernet Services	<ul style="list-style-type: none"> • Native Ethernet based data service delivery • Tagged/untagged subscriber traffic classification • Single and double tagging w/ 802.1Q, 802.1ad QinQ • 802.1p, DSCP based prioritization • Strict Priority, WFQ scheduling • DHCP Option 82 Insertion • 802.1x Port Authentication • Bidirectional per subscriber rate limiting • High availability via interference aware SON mesh network • Network uplink redundancy via multiple nodes 	
Management	<ul style="list-style-type: none"> • In-band management • Web GUI <ul style="list-style-type: none"> • EMS w/ complete FCAPS support • Secure communication w/ nodes • Zero-touch on-boarding of nodes • Radio link budget calculator • Topology based network view • Configuration management, fault management, performance management • Software upgrades and configuration backup/restore • REST/SNMPv3 NBI 	
Physical Specifications		
Dimensions	10.6" x 6" x 4.5" (269mm x 150mm x 114mm) (H x W x D)	
Weight	~9lbs (~4 KG)	
Power	100-240V AC Mains 48V DC or 802.3bt 60W	
Environmental	-40°C to +55°C operating temperature IP-65 ingress protection rated	
Regulatory Compliance	Radio: US FCC 47 CFR Part15.255 and EN 302 567, EN 303 413 EMC: US FCC 47 CFR Part15B and EN 301 489 Safety: IEC62368-1:2014, IEC 60950-22:2005, EN50385:2017	

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Ordering Information

Equipment		Part No.
Metnet 60G Mesh AC FCC Black	60Ghz Mesh node, AC power, Includes pole mount kit.	119316113F1
Metnet 60G Mesh AC,SFP FCC Grey	60Ghz Mesh node, AC power, SFP fiber, Includes pole mount kit.	119316123F2
Metnet 60G Mesh DC/PoE FCC Grey	60Ghz Mesh node, -48VDC/PoE power, Includes pole mount kit.	119316212F2
Metnet 60G Mesh DC/PoE,SFP FCC Grey	60Ghz Mesh node, -48VDC/PoE power, SFP fiber, Includes pole mount kit.	119316222F2
Metnet 60G CPE PoE only, Black, V2	60Ghz 1Gbps CPE, 90 degree antenna, -PoE power	119326203F1
Metnet 60G CPE PoE only, Grey, V2	60Ghz 1Gbps CPE, 90 degree antenna, -PoE power	119326203F2



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