CCS Enabling 5G

Self-organising mmWave access and backhaul

Metnet 60G unlicensed mmWave mesh

CCS Metnet 60G 12Gbps unlicensed mmWave backhaul and access system has been developed for both existing mobile operators and new entrants looking to harness the potential of the unlicensed spectrum opportunity.

Metnet 60G 12Gbps is the first element in CCS's new Software-Defined Network architecture, with multiple Metnet 60GHz nodes combining to function as a remotely managed SDN-capable networking switch.

Applications include:

- Small cell backhaul
- FWA residential and enterprise access
- Wi-Fi backhaul
- Fibre extension and G-Fast/DLSAM backhaul
- CCTV backhaul

Operating in the unlicensed mmWave spectrum band from 57GHz to 71GHz, ultra-high capacity 12Gbps multipoint Metnet 60G is optimised for performance edge and multi-gigabit capacity.

The CCS Metnet 12Gbps unlicensed 60GHz mmWave system enables flexible deployments which can easily be adapted to match customers changing requirements. Low-cost 1Gbps Metnet CPEs can be deployed in the mesh to support high capacity and low-cost FWA subscribers.

Metnet SON delivers advanced proprietary interference avoidance utilising time, frequency and space switching agility to manage co-ordination and co-existence with other 60GHz systems. With a wide 300° field of view, Metnet 12Gbps nodes connect autonomously to form flexible MPtMP (mesh) self-organising, self-healing networks that dynamically reconfigure to optimise performance and spectral efficiency as the physical environment or traffic levels change.

Applications include small cell backhaul, 5G FWA residential and enterprise access, Wi-Fi backhaul, fibre and G-Fast extension, and CCTV backhaul.

Metnet 12Gbps	
Frequency band	60GHz mmWave unlicensed Full 57GHz to 71GHz band
Topologies	MultiPoint-to-MultiPoint (MPtMP) mesh Point-to-MultiPoint (PtMP) Point-to-Point (PtP)
Capacity	12Gbps per node
Radio access	Metnet SON utilizing S-TDMA Dynamic TDD Self-organising zero frequency planning, interference aware with time and frequency switching agility
Beamwidth	Wide 300° field of view
Antennas	Beamforming Phase array 20dBi gain per antenna
Channels	Multiple 2160MHz wide channels 802.11ad Wi-Gig compliant
Modulation and coding	13 levels of adaptive encoding
Transmitter	20dBm SiGE based
Effective radiated power	40dBm per sector
Range	300m at MCS10 (3Gbps)
Interfaces	Up to 4 Ethernet interfaces 2 x fixed RJ45 100/1000 Base-T 2 x optional 10Gbps SFP (Optical or Electrical)
Ethernet services	Native Ethernet 802.1Q (VLAN tagging) 802.1p (Class of service) Differentiated Services Code Point (DSCP) 802.1ad (QinQ)
Power	100V - 240V AC / 50 - 60Hz 48V DC and PoE (1 x PD interface IEEE 802.3bt)
Dimensions	Height: 269mm, Width: 150mm, Depth: 114mm
Weight	3.5kg

All specifications are draft and subject to change.

February 2019

Cambridge Communication Systems Ltd,
Cambridge, UK
+44 1223 314197 | info@ccsl.com | ccsl.com