The next wave of transport

Microwave Anyhaul designed for your 5G world
Nokia 5G
Microwave Anyhaul

As pressure on networks increases, the capacity and capabilities of transport will be tested to the full in the 5G era. This makes transport a central building block for providing the services and connectivity that customers and enterprises demand.

As 50% of global connections are currently carried by microwave transport, communications service providers’ (CSPs) existing radio and baseband infrastructure will continue to play a vital role. They’re vital for meeting customer expectations for faster and cheaper connectivity, and then for delivering innovative digital services.

Continuous evolution
Since the first microwave packet transport solution, Microwave Anyhaul technologies have been continuously evolving to address the increasingly stringent transport requirements of the 5G era.

Experience the performance of 5G-ready microwave transport
Microwave Anyhaul enables today’s CSPs to experience high-performance levels of 5G-ready microwave transport. It also helps them meet the demands that 5G will place on the transport layer.
Wavence for the 5G world

As part of Microwave Anyhaul, Wavence provides innovative, high-capacity ultra-broadband transceivers (UBTs) to support operators as they transition from existing mobile networks to 5G.

Transport evolution: the future is compact

Wavence provides state-of-the-art UBTs: the UBT-S – a single carrier, the UBT-T – a dual carrier in a box configuration that supports multiple standard frequencies in the same transceiver, and the UBT-m 80 – a compact E-band radio.

With the most advanced radio technologies and multi-frequency carrier aggregation, these UBTs support backhaul and fronthaul evolution. This is an ideal foundation for high-capacity macro and metro cell backhaul.

Our UBT family offers multi-gigabit capacity up to 10 Gbps over long links, along with telco-grade reliability, low-latency transport and best-in-class transmission power. Plus, there’s 10G high-speed connectivity and programmability through software defined networking (SDN) to support your evolution towards telco cloud. When the time is right, this product platform is ready to support future capacities of more than 10 Gbps.

In addition, the innovative design of Wavence UBTs reduces the number of parts and allows support of multiple frequencies in the same equipment. This enables the use of multiband antennas, while simplifying installation, maintenance and spare-part management.

10G capacity over the air

Wavence UBTs natively deliver multi-gigabit capacities and can support 10G interfaces. The UBT-S delivers 1.3 Gbps in a single carrier while with its dual-carrier design, the UBT-T delivers up to 2.5 Gbps in one box. This features two carriers in the same or different bands, for highly reliable links.

5G-ready low latency

With latency reduced to 50μs and 10μs respectively, the UBT-S, UBT-T and UBT-m 80 are designed to meet every 5G network requirement.
Addressing all 5G transport architectures

Microwave Anyhaul enables a comprehensive multi-service, full-packet solution for microwave transport covering fronthaul and backhaul, aggregation and longhaul applications.

Modular macro cell backhaul
Microwave Anyhaul backhaul radio units can be deployed in split-mount configuration. This allows for future capacity growth and full outdoor deployments with zero footprint.

Small cell backhaul options
Compact radios are available in the E-band and V-band for small cell backhaul.

Ethernet fronthaul
With low latency and high capacity, Microwave Anyhaul addresses the different variants of Ethernet fronthaul architectures. This enables cost-effective, rapidly deployable cloud RAN architectures.

Scalable microwave aggregation
Microwave Anyhaul networking units can accommodate up to 24 radios. This compact footprint makes them easy to scale at minimum cost.

Long distance links
Microwave Anyhaul is the market-leading longhaul solution. It can deliver high capacity over very long links of up to 150km.

Integration with our portfolio
Microwave Anyhaul technologies integrate with the Nokia portfolio. So, they can be deployed with our base station family, our IP portfolio for native IP/MPLS services and our Network Service Platform. Together, these provide end-to-end, integrated network management and carrier SDN services.
Meeting future demands with fully programmable microwave transport

Network function virtualization (NFV) and SDN are changing how networks are built, run and managed. Operators can create, manage, optimize and even terminate functions and services across the network at will. This means transport networks must be more agile, scalable and responsive to fast-changing requirements.

Microwave Anyhaul supports dynamic end-to-end service management and network slicing with carrier SDN and Layer-3 VPN.

Dynamic creation of IP VPN services to match demand

Carrier SDN solutions will achieve this scalability by performing end-to-end path computation and establishing Layer-3 Virtual Private Network (L3VPN) services.

In SDN-driven microwave transport, policies are derived from service requirements. Those policies are then used by the carrier SDN solution to compute and configure the best path, or L3VPN, based on the specific capabilities (capacity, latency, reliability and so on) of each link.

Microwave Anyhaul supported by the Nokia carrier SDN solution

With its 10G high-speed connectivity, Microwave Anyhaul can be supported by the Nokia carrier SDN solution to provide full programmability. This is a key step toward network slicing and cloudifying network resources.
Operational excellence

With the innovative design of Wavence, the installation and operation of the microwave is optimized to reduce cost and tower space.

Multi-band antennas

Multiband or wideband antennas can be mounted for minimum space occupancy which reduces installation effort and occupied space.

Easy mounting

Once the antenna is installed on the pole, the radio unit can be easily mounted on the antenna. This saves time and effort due to the push-turn-screw system.

Fewer spare parts

The UBT radio’s modularity can be supported by a minimal spare parts inventory.
Summary

Microwave will continue to be a great choice as a transport technology for CSPs as it provides cost-effective 5G capacity and latency that’s relatively easy to deploy.

Virtualized functions and SDN will enable the rapid creation, optimization and termination of services. To cope with the changes ahead, microwave transport networks must become more flexible and responsive – and that’s why Nokia has developed Microwave Anyhaul.
Discover how Microwave Anyhaul is designed for your 5G world.

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