



## MULTIHAUL™ TG NODE N265

### Scalable Options in Terragraph deployments

The MultiHaul™ TG system marks the release of Siklu's 3rd generation point to multipoint 60GHz products, this one with Terragraph certification. The solution consists of Nodes operating over millimetre waves in a redundant mesh topology which connect a suite of Terminal Units (TU). The MultiHaul TG family of products brings the advantages of mmWave spectrum – multi-gigabit capacity, immunity to interference and massive amounts of available spectrum - to an easy to deploy solution with the addition of L2 SDN mesh, enabled by Siklu's SmartHaul™ NMS with the Runner subsystem, for stress-free coverage extension and multi-path reliability. MultiHaul TG Node N265 is an additional Node option when either significant vertical tilt adjustment or a focused 90° coverage are required.

#### A Wide Range of Applications

- Fixed 5G Wireless Access, Gigabit to the Home, the MDU and the Enterprise
- Wi-Fi Hotspot Backhaul
- Security / Safe City Networks
- Smart City Business Services, Municipal networks
- Small Cell Backhaul
- Fiber hand-off

#### Flexibility in Radio Coverage

The MultiHaul TG N265 enhances the MultiHaul TG series of nodes with flexibility in radio coverage, for examples when one needs “just 90°” to backhaul a few cameras in a parking lot from a pole in a corner, or significant down-tilt to connect adjacent structures from a large and tall roof in dense urban locales.

#### Always-On Mission Critical Networks

When you can't afford to lose a video stream, critical safe city sensor data or any other mission critical data, you need a wireless network that's as reliable and secure as fiber. With maximal immunity to interference and hacker-proof links with embedded AES encryption, MultiHaul™ TG delivers a network you can count on. With the mesh topology there are built in redundant paths for traffic if an outage occurs in a given link.

#### Simple Integrated Future-safe Multi-Functional Node

Wireless infrastructure should be simple, and future proof. Organizations want to quickly deploy a single box across the target neighbourhood, knowing that this infrastructure will address the needs of self-backhaul, distribution, local services, redundancy, SLA enforcement, with enough horsepower to scale the bandwidth and accommodate new features over the foreseeable future, achieving a long and useful lifetime.

#### Fiber Quality with Wireless Flexibility

Siklu's millimeter wave radios successfully combine the capacity of fiber with the flexibility, speed of deployment and low TCO of wireless networks. That is what makes them the world's best-selling millimeter wave radios every year since 2011. They provide rock solid performance, even in very dense networks or under severe weather conditions, in thousands of networks around the globe.

#### Highly Secure and Physically Immune Beams

The narrow beamwidth confers several advantages including immunity to interference and network jamming. In contrast to wide-beam wireless systems that need to use multiple strategies to perform in dense areas. Multiple subscribers and services can be connected with complete isolation based on physical port, VLAN ID and/or a Terminal Unit.

#### Ready Set Go

The plug and play node is designed for an easy single person installation. The patent-pending scanning antennas automatically aligns with other Node(s) or served TUs.



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### 60GHz 90° wireless L2 SDN mesh Node Specifications

The main specifications of the MultiHaul TG N265 model are outlined in the following table.

<b>Topologies</b>	Point to Point, Point to Multi-point, Self-Backhaul L2 SDN Mesh.
<b>Frequency &amp; Duplexing</b>	57-66GHz, TDD/TDMA. 4 channels.
<b>Channel Bandwidth, Modulation &amp; Coding, TPC</b>	2160MHz, BPSK to QAM16, up to 10 levels of hitless adaptive coding and modulation – boost gain by over 29dB. Automatic Transmit Power Control (ATPC), per link.
<b>Radio OTA Rate (over the air) / Throughput</b>	OTA up to 4,600 Mbps, Throughput > 3,800 Mbps.
<b>System Gain (link budget)</b>	110dB (Node to TU, including antenna gain), RF2 HW ready.
<b>Sector</b>	Scanning: horizontal 90°, vertical 25°. Mechanical tilt adjustment ±10° with supplied MK, ±60° with optional EH-MK-SM. Links: up to 15 links.
<b>Network synchronization</b>	On-board internal GPS
<b>Interfaces</b>	3 ports: 1x RJ-45 10/5/2.5/1GbE with PoE-In, 1x RJ-45 1GbE with PoE-Out (63W), 1x SFP+ 10GbE.
<b>Ethernet Features</b>	IEEE 802.1d transparent bridging, IEEE 802.1q Virtual LAN, IEEE 802.1ad Provider bridge VLAN stacking.
<b>Security</b>	AES 128-bits OTA, GUI over HTTPS, CLI over SSH, file transfer over SSH.
<b>Management &amp; Provisioning</b>	In-band, Out-of-band management, Web GUI (one-pane configuration of local and remote units) & Embedded CLI, NETCONF.
<b>PoE-Out</b>	1 port, 63W POE-Out (IEEE 802.3bt)
<b>Power Supply</b>	PoE-In (IEEE 802.3bt or passive), or 48V DC (via RJ-45 adaptor), 27W no POE-Out, up to 90W with up to 63W POE-Out.
<b>Terragraph</b>	Terragraph certified.
<b>Conformance</b>	Radio: US FCC 47 CFR Part 15.255; EN 303 722, EMC: US FCC 47 CFR Part 15; EN 301 489, Safety: UL/IEC 62368-1; UL/IEC 60950-22.
<b>Environmental</b>	Operating Temperature: -49° ÷ +131°F (-45° ÷ +55°C); Ingress Protection Rating: IP67.
<b>Dimensions</b>	6.9 x 8.6 x 4.9 in. / 175 x 220 x 125 mm. (W x H x D).
<b>Weight</b>	4.84 lbs. / 2.2 Kg.
<b>In the Box</b>	N265 with attached mounting kit, metallic bands, grounding cable, 1x AWS (All Weather Shell, aka gland). Optional accessories: PoE injector, extended elevation mounting kit

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