

# MultiHaul™ cTU - Small PtMP 60GHz Radio Datasheet



## Full Range and Throughput of the MultiHaul™ TU in a Form Factor 85% Smaller

The MultiHaul™ system consists of a Base Unit (BU) operating over millimeter waves and connecting Terminal Units (TU) and now the new ultra small compact TU (cTU). MultiHaul™ brings the advantages of mmWave spectrum – multi-gigabit capacity, immunity to interference and massive amounts of available spectrum - to a cost effective small form factor PtMP solution. With the cTU, the customer premise side of the system has been reduced over 85% in total volume when compared to the standard TU with no loss in performance, features, range or throughput. A size only 6.5”x3.1”x1” and a selection of colours will blend the cTU into existing surroundings, making it even easier to deploy.

### A Wide Range of Applications

- Security / Safe City Networks
- Gigabit to the Home
- Smart City
- Business Services
- Wi-Fi Backhaul

### Small but Powerful – Virtually Invisible

There can be no doubt that the smaller the TU is, the more options customers have for deployment. Typically, in wireless systems, going smaller means sacrificing performance in either throughput or range. With the cTU Siklu has broken new ground delivering the exact same performance as the TU but in a form factor that is dramatically smaller.

In addition to the technology that goes into enabling identical performance in an ultra-small package comes the ability to choose from a selection of colours to further reduce the sight lines of deployed cTUs.

### Secure and Physically Immune Narrow Beams

The MultiHaul™ cTU operates over the millimeter wave spectrum using narrow beams. This confers several advantages including complete immunity to interference and network jamming, as well as high security. In contrast to wide-beam wireless systems that need to use multiple strategies to perform in dense areas, and are not successful 100% of the time, the MultiHaul™ cTU is inherently interference-free and secure under any circumstances thanks to a unique combination of narrow beams and high frequencies, same as they are implemented on the standard TU. 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 system is designed for an easy single person installation with a goal of self-installation. The patent-pending scanning antenna automatically aligns with the Base Units. For buildings with difficult roof-top access, a single base unit needs to be installed on a roof to serve multiple locations. The Base Unit (BU) supports advanced auto-provisioning: Terminal Units (TU and cTU) configuration files are stored in the BU to enable early and advanced provisioning, optionally with no IP address on the TU/cTU. The TU/cTU can be located on building sides with no need for internal re-wiring of building to achieve net gigabit throughput.

### 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™ delivers a network you can count on.

### Self-Installation

When operators and Smart Cities are considering deployments of mmWave networks, the total cost of ownership is reviewed, just like with any new product. At Siklu we understand the large role in a business case that installation can play with costs anywhere from \$100 to upwards of \$500 or more. The cTU represents the first of several advances Siklu will be introducing over the next 12 months enabling a true, outdoor self-install system for our customers

### 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's 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.



# MultiHaul™ cTU - Small PtMP 60GHz Radio Specifications



The main specifications of the MultiHaul™ compact Terminal Units (cTU) are outlined in the following table.

Topologies	Point to Multi-point Point to Point
Built-in Antenna	Horizontal scanning: 90° Vertical beam-width: 20°
Frequency & Duplexing	57-64GHz TDD
Channels & Width	2 non-overlapping channels, 2160MHz wide
Modulation & Coding	9 level of adaptive coding and modulation
Line Rate (PHY)	Line rate up to 2300 (Mbps)
Aggregate Throughput <sup>(1)</sup>	Max capacity 1000 (Mbps), license dependent
System Gain (link budget)	128.5dB (including antenna gain)
Typical Reach	900-1300ft. (280-400m). Detailed performance calculations - see Siklu's online link budget calculator: <a href="http://siklu.com/toolsetherhaul_lbc/">siklu.com/toolsetherhaul_lbc/</a>
Interfaces	1x RJ-45 100/1000 Base-T
Ethernet Features	IEEE 802.1d transparent bridging Provider bridge - VLAN & VLAN stacking Jumbo frames; LLDP
Security	AES 128-bits
Management & Provisioning	TU auto-provisioning from BU, no IP address required on TU; In-band, Out-of-band management Web GUI (one-click configuration of local and remote units) & Embedded CLI SNMPv2/3, TACACS+, RADIUS
Conformance	Radio: US FCC 47 CFR Part 15.255; EN 302 567; Japan Radio Equipment Certification Ordinance 2-1-19-4-2. EMC: US FCC 47 CFR Part 15; EN 301 489 Safety: UL 60950
Power Supply	PoE, 10W (IEEE 802.3af)
Environmental	Operating Temperature: -22°F±131°F(-30°C±55°C); Ingress Protection Rating: IP65
Dimensions (HxWxD)	6.5 x 3.1 x 1 in. / 165 x 80 x 25 mm.
Weight	1/2 lbs. (250 gm), including the Anymount mounting kit.

<sup>1</sup> Actual throughput varies with traffic patterns to/from the Terminal Units