Overview

The Dense Urban Network Environment (DUNE) mmWave system provides Fixed Wireless Access for areas where other wireless solutions will not work due to congestion, poor infrastructure or cost.

Utilizing the license-free and interference-free 60 GHz band, it provides users with premium multi-gigabit service and can be simultaneously distribution Wi-Fi services. An optional Wi-Fi 6 hotspot allows a compact, low-cost solution for service and backhaul.

Utilizing the license-free, 60 GHz frequency band, DUNE is not impacted by Wi-Fi or 4G/5G interference and provides a highly reliable capacity of up to 2.5 Gbits/s at a ranges over 500m.

DUNE supports point-to-multipoint networks with up to 32 clients per sector. Peraso's unique network access protocol ensures fair traffic balancing for all users.

DUNE terminals are very energy efficient and can be powered by solar, or with battery backup for continuous service in areas with unreliable power. Models are currently available with two beamforming antenna options allowing selection of gain and field-of-view matching installation requirements.

60 GHz Features

- Unlicensed 57 to 71 GHz band
- 2.5 Gbps peak sector capacity
- Field of view options of 120˚ or 40˚
- Point-to-Multipoint sector range up to 750m
- Dynamic beamforming facilitates installation
- AP sectors support 32 client CPE

- 6 channels at 2.16 GHz or 13 channels at 1.08 GHz
- Automatic rate adaptation
- WPA3 security (128-bit data encryption)
- 40dBm EIRP [1]
- Automatic Transmit Power Control

System Features

- 2.5Gbit or 1Gbit Ethernet port (G or L model)
- Active POE input
- DC 24-48V power input terminal
- Solar and battery backup capable
- Polycarbonate and aluminum enclosure

- 5 to 95% noncondensing humidity
- IP66 water resistance
- FCC, CE certifications
- Pole or wall mount fixture options
- -30°C to 60°C operation

Management Features

- Either model configurable as AP or STA
- Data bridge between ports
- HTML Web Interface
- SNMP V2/3 and RESTful API management

- DHCP snooping
- Status indicator LEDs

Key Specifications

DUNE Common Terminal Features	
Parameter	**Value**
Frequency band (Depends on regulatory region)	57 – 71 GHz
Channel BW	2.16 or 1.08 GHz
Operating channels	1 -6 (full BW), 1-13 (half BW)
EIRP	40dBm max (regulatory limit)
Maximum throughput	2.5 Gbit/s total bi-directional traffic at AP
Point-to-Multipoint Operation	Up to 32 connections. Dynamic scheduling.

Latency (one way)	Point-to-multipoint, typical values. bi-directional traffic:
	        4 STA: 1 ms
	        16 STA: 4 ms

Data Ports	2.5Gbit Ethernet RJ-45 (G model), 1 Gbit Ethernet RJ-45 (L model)

Power Input Interfaces	38-52 VDC
	    1) RJ-45, active PoE. 2 or 4 pair power.
	    2) DC input terminal

Power Consumption	17W without PoE output
Dimensions	Height: 19.5 cm, Width: 15 cm, Depth: 5 cm
Weight	700 g
Model DC270G	
Application	Access Point (typically) or CPE
Antenna gain and polarization	20dBi (max), Vertical
3D Beamforming Field of View (-3dB)	120˚ (± 60˚) Azimuth, 50˚ (± 25˚) Elevation, 64 codebook vectors
Half Power Beamwidth (HPBW)	23° azimuth x 12° elevation (typical)
Model DC270L	
Application	CPE (typically) or Access Point
Antenna gain and polarization	22dBi (max), Vertical
3D Beamforming Field of View (-3dB)	40˚ (± 20˚) Azimuth, 40˚ (± 20˚) Elevation, 64 codebook vectors
Half Power Beamwidth (HPBW)	12° azimuth x 12° elevation (typical)
Management and Software	
Management	Web interface, SNMP v2 & v3, SNMP traps, & Restful API
Security Modes	WPA-PSK, WPA-Enterprise security (WPA/WPA2/WPA3)
Max MTU	7900 b
DHCP Snooping	STA mode: DHCP Option 82 injection, rogue DHCP server blocking
VLAN	VLAN passthrough, Management VLAN, STA Data VLAN
Services	Ping watchdog, remote syslog, local log, device discovery, speed test, ping, traceroute, NTP