

SkyPilot

SkyGateway / SkyExtender

## Specifications

This appendix provides technical specifications for the SkyPilot SkyGateway/SkyExtender

### Radios, Antennas, and Security

|                       | 5 GHz mesh backhaul   | 802.11b/g AP                                   |
|-----------------------|---|--|
| Frequency band        | 4.960-4.980 GHz (center freq)   | 2.400-2.483 GHz                                |
| Antennas              | 8-antenna array (360° coverage), Each antenna: 45° horizontal x 6° vertical, 17 dBi | 1 external 7.4 dBi omnidirectional antenna     |
| EIRP                  | 6.5W / 38.35 dBm peak EIRP  | 400 mW / 26 dBm radio → 2.2 W / 33.4 dBm EIRP  |
| Media access          | Time Division Duplex (TDD)  | IEEE 802.11b/g CSMA/CA                         |
| Wireless Connectivity | SkyGateways, SkyExtenders, and SkyConnectors  | IEEE 802.11b/g Wi-Fi clients                   |
| Modulation technique  | OFDM  | OFDM (802.11g)<br>DSSS (802.11b)               |
| Modulation rates      | 6 to 54 Mbps  | 802.11b: 1 to 11 Mbps<br>802.11g: 6 to 54 Mbps |

|                     |  |   |
|---------------------|--|---|
| Throughput          | Up to 20 Mbps UDP / up to 12 Mbps TCP        |   |
| Latency             | 10-12 ms roundtrip per hop                   |   |
| Channel width       | 20 MHz                                       | 20 MHz  |
| Channel resolution  | 5 MHz frequency control                      | 5 MHz frequency control   |
| Receive sensitivity | -90 dBm at 6 Mbps modulation                 | -98 dBm at 1 Mbps modulation                                    |
| Authentication      | MD5-based certificates                       | RADIUS support for multiple servers<br>802.1x                   |
| Encryption          | 128-bit AES encryption on all wireless links | WEP, Dynamic WEP, & WPA (EAP-TTLS, EAP-PEAP/MSCHAPv2 with TKIP) |

## Physical Specifications

|                       |  |
|-----------------------|--|
| Connectors            | RJ-45: power & Ethernet (Power over Ethernet)<br>RJ-45: RS-232 serial for local management |
| Mounting              | Tower, utility pole, lampposts, building, or other infrastructure                          |
| LEDs                  | Wireless activity, wireless link   |
| Dimensions            | 33.0" (83.8 cm) H x 12.2" (31.0 cm) diameter   |
| Weight                | 15.0 pounds (6.75 kg)  |
| Operating temperature | -40° to 131° F (-40° to 55° C)   |
| Wind loading          | Up to 100 mph (160 km/h)   |

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|                        |   |
|------------------------|---|
| Enclosure/humidity     | NEMA-4X   |
| Power                  | 110VAC, 50-60 Hz input; 11 Watts typical - 35 W<br>Peak                                 |
| Certifications         | FCC Part 15/90, FCC 47 CFR Part 15, Class A USA;<br>compliance with UL safety standards |
| EMI and susceptibility | FCC Part 15.107 and 15.109  |

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