

AIRPAIR

Frequencies

11 GHz	FCC/IC/ETSI
13 GHz	ETSI/AUS/NZ
15 GHz	IC/ETSI/AUS/NZ/MX
18 GHz	FCC/IC /ETSI/AUS/NZ
23 GHz	FCC/IC/ETSI/AUS/NZ
24 GHz UL	FCC/IC/ETSI
24 GHz DEMS	FCC/IC
26 GHz	ETSI
28 GHz	FCC
38 GHz	ETSI/FCC

Mechanical

Radio (without antenna)	12 cm x 19 cm (diameter); 3.2 kg 4.7 in x 7.5 in (diameter); 7 lbs
Modem (ODU) - Post/Mast Mount	40 cm x 19.6 cm x 8.1 cm; 5.4 kg 15.7 in x 7.7 in x 3.2 in; 12 lbs
Modem (IDU) - Rack Mountable	4.3 cm x 25.4 cm x 42.5 cm; 4.1 Kg 1.7 in x 10 in x 16.7 in; 9 lbs
Antenna Wind Loading	110 kph (70 mph) Operational 200 kph (125 mph) Survival
Antenna Mount Adjustment	+/- 45° Az; +/- 22° El

Payloads

Capacity	Variable from 10 to 500 Mbps full duplex CIR (64 Byte Packet); 400 Mbps (1522 Byte Packet)
Max Capacity (1522 Byte Packet)	(14MHz) 50 Mbps (28 MHz-27.5 MHz) 150 Mbps (40 MHz) 170 Mbps (50/55/56 MHz) 200 Mbps
Interface	1000/100/10 BaseT
Latency 100 BT	< 400µs, Typical < 200µs FastE
Latency GigE	< 200µs, Typical 120µs GigE
Packet Size	64 to 1600 Bytes, up 9600 (GigE Mode)
Flow Control	Yes (GigE mode only)
802.1p	Yes – 8 levels served by 4 queues
802.1q	Yes
Modulation Shifting	Current to Lowest – 5 sec

Power

Input	-36 VDC to -60 VDC
Optional Adapter	110/240 VAC
Consumption	50 Watts (per link end) 70 Watts High Power (per end)

APX104/108E

General

Receiver Range	0 to 36 dB loss
Clock Mode	Configurable as Loopback , internal, external, adaptive, differential
Loopback	Supports per channel local analog remote digital dual loopback modes
Encoding/Decoding	B8ZS, AMI or HDB3
Line Buildout	0-133 ft, 133-266 ft, 266-399 ft, 399-533 ft, 533-655 ft
Latency	< 3 mSec
Delay Tolerance	+/- 2 Frames @ 100 mbps
Buffer Size	User Programmable (2-30 msec)
Timing Performance	H.823 compliant stratum 3 performance option for 50 ppB frequency stability

Environmental

Operating Temp	0°C to +50°C (32°F to +122°F)
Humidity	95 % Non Condensing
Altitude	4500 m (14,760 ft)

Environmental

ODU Operating Temperature (Modem + Radio)	
Standard Power (18-26 GHz)	-40°C to + 50°C [-40°F to +122° F]
High Power + Standard Power (11,13,15 GHz)	-40°C to + 45°C [-40°F to +113° F]
Standard Power + Solar Shield	-40°C to + 60°C [-40°F to +140° F]
IDU Operating Temperature (Modem Only)	0°C to + 50°C [0°F to +122° F]
Humidity	100 % Condensing
Altitude	4500 m (14,760 ft)

Connections ODU

Power	-48V, Cable Supplied
Payload (+ Inband NMS)	MIL Circular (outdoor) RJ45 or optical LC (indoor)
Craft Terminal	RS 232
IF Cable	N-Type Connector
NMS (when out-of-band)	MIL Circular (outdoor) RJ45 (indoor)

Connections IDU

Power	Dual 48V
Payload (+ Inband NMS)	RJ45 (1000/100 BaseT) or SFP with LC optical connector
Craft Terminal	RS 232
IF Cable	N-Type Connector
NMS (when out-of-band)	RJ45 (10 BaseT)

Network Management (NMS)

Alarm Management	SNMP Traps, Enterprise MIB
NMS Compatibility	OpenView, or any SNMP based network manager
Security	3 Level Authentication
EMS	Web Based Management System, SSL HTTP

System Gain

AirPair 50	Up to 98 dB
AirPair 50 High Power	Up to 108 dB
AirPair 100	Up to 90 dB
AirPair 100 High Power	Up to 100 dB
AirPair 200	Up to 82 dB
AirPair 200 High Power	Up to 92 dB

Management/System

Type	Command Line Interface, Web GUI, SNMP 1/2/3 (CLI) – In-band Management
Interfaces	RS 232 Craft Port, In-Band 100 BaseT port
Loopback	T1/E1 Port Loopback
Statistics	T1/E1 Stats and logging
System Management	Software upgrade through Craft Port RJ-45 Console Port

Connections

Primary Power	100-240 VAC
TDM	4 x T1/E1 Ports or 8 x T1/E1 ports
Ethernet (In/Out)	APX-108E 2 x 100 BaseT Wirespeed full duplex APX-104E- 6X 100 BaseT Wirespeed full duplex (IEEE 802.3 compliant)
Timing	External Clock

Mechanical

Dimensions APX-104E	28 cm x 21 cm x 4 cm (11 in x 8.3 in x 1.5 in)
Dimensions APX-108E	44 cm x 25 cm x 4 cm (17.3 in x 9.8 in x 1.5 in)
Weight APX-104E	(1.9Kg) 4.2 lbs
Weight APX-108E	(3.1Kg) 6.8 lbs