Product Brochure

Airmux-5000D

1.5 Gbps PtMP dual carrier solution

Delivering ultra-capacity and unmatched reliability in harsh unlicensed spectrum while reducing TCO per Mbit

Airmux-5000D 5 GHz is the ideal solution for dense areas that demand ultra-high capacity.

Airmux-5000D 5 GHz is a dual carrier base station that encapsulates independent beamforming antennas per each individual carrier to provide up to 1.5 Gbps.

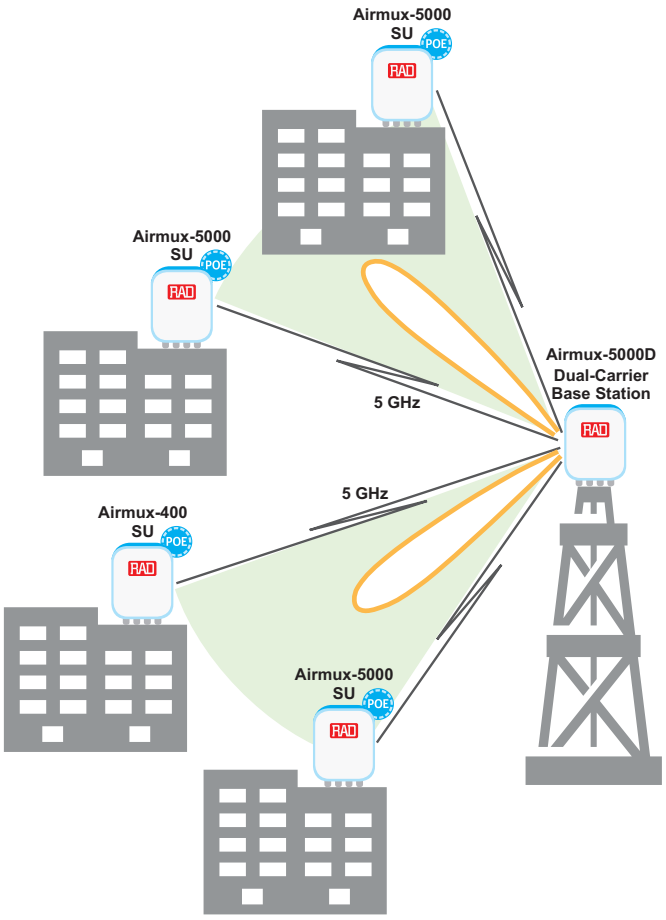
A dual carrier beamforming base station allows for maximum interference immunity to extract highest available capacity while securing minimal tower space and cost.

RAD

Your Network's Edge®

Airmux-5000D 5 GHz

- Dual carrier base station 4.9-6.0 GHz
- Up to 1.5 Gbps
- Up to QAM 256, 2 x 10 / 20 / 40 / 80 MHz
- Exceptional interference immunity
- Support up to 128 customers
- WAN Interfaces: Fiber (SFP) and GbE
- Backward compatible with Airmux Subscriber Unit install base
- Network synchronization via built-in GPS

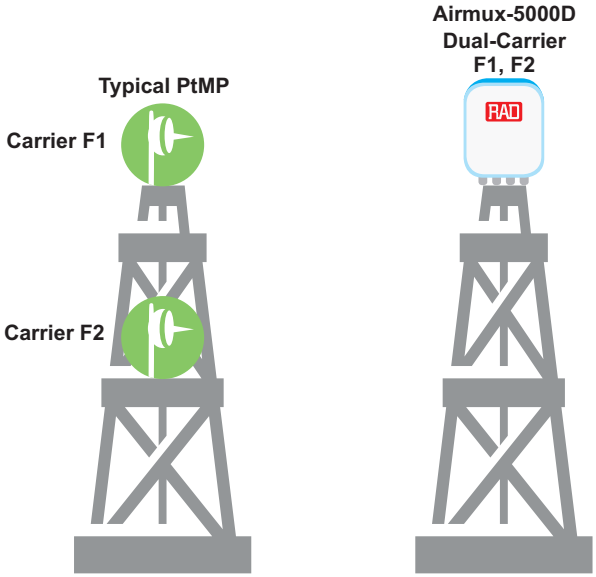


Increase capacity and save upon installation and maintenance costs

By supporting dual carriers in a single compact unit, Airmux-5000D 5 GHz eliminates the costs associated with the deployment of multiple single-carrier base stations.

A dual-carrier outdoor base station reduces:

- Tower space and rental costs
- Cabling (single fiber cable)
- Traffic aggregator data ports

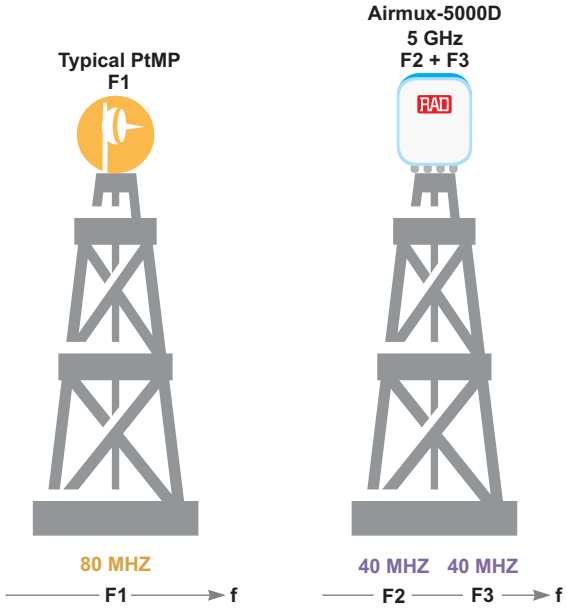


Extracting greater capacity from the congested 5 GHz spectrum

Optimized channel selection

Using a single carrier base station, the widest available channel bandwidth is typically utilized to obtain greater capacity. However, in the unlicensed 5 GHz spectrum, the wider the bandwidth the more chance the channel contains radio interference, ultimately reducing base station capacity.

When using a dual carrier base station like Airmux-5000D, greater capacity is achieved when selecting two narrow bandwidth channels with low or no interference. For example, 2 x 20 MHz instead a single channel of 40MHz or 2x 40 MHz instead of a 80MHz channel.
The 5 GHz sub-band and channel bandwidth of each carrier can differ e.g., one carrier can work in the 5.1 GHz sub-band using 20 MHz and the other in 5.8 GHz using 40 MHz.

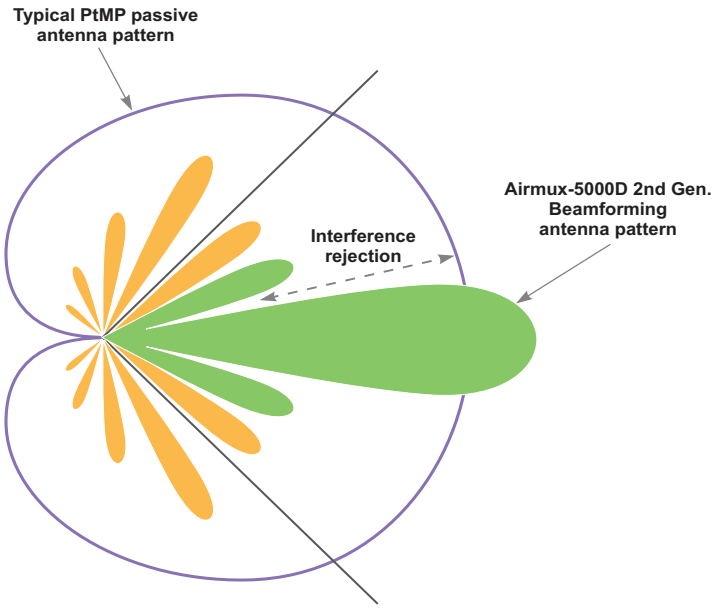


Unmatched service reliability via superior interference immunity

2nd generation beamforming antenna

Airmux-5000D 2nd gen. beamforming antenna significantly improves uplink interference immunity through radically smaller antenna side lobes to yield greater uplink capacity from the same spectrum. It also reduces self-interference between sectors and sites, to yield greater network capacity.

Dynamic carrier selection per Subscriber Unit
Airmux-5000D enables[1] dynamic carrier selection per SU to overcome capacity degradation upon interference created from afar, or within the vicinity of the subscriber premises (e.g. local Wi-Fi access point). In such instances, the service provider can recover the service by switching the Subscriber Unit from one carrier to the other.



Airmux-5000D 5 GHz beamforming antenna pattern vs. a typical PtMP antenna

Note1: Future feature, software upgradeable

Product Specifications:

Architecture	Outdoor unit with dual smart beamforming antenna integrated antennas
Max net aggregate capacity	1.5 Gbps
Frequency bands	UNI (4.9-6.0 GHz), FCC (5.1-5.8 GHz), IC (5.4-5.8 GHz), ETSI (5.4-5.8 GHz)
Radio General	
Subscriber Units supported	128 (2 x 64)
Range	Up to 40 km / 25 miles
Radio access scheme	OFDM, Auto MIMO 2x2 or Diversity per SU
Modulation	BPSK/QPSK/16QAM/64QAM/256QAM
SLA management	CIR, MIR, Best Effort
End to End Latency	Typical: 3.5msec
Duplex Technology	TDD, Configurable Uplink / Downlink ratio
TDD Synchronization	Inter & Intra site synchronization through built-in GPS
Encryption	AES 128
Radio	
Channel Bandwidth	Configurable 10, 20, 40, 80 MHz (automatic bandwidth selection in 20, 40, 80 MHz)
Max Tx Power	25 dBm per port (subject to the country regulation)
Antenna Gain	20 dBi
Interfaces	
PoE to ODU Interface	Outdoor CAT-5e; Maximum cable length: 100m for 10/100BaseT and 75m for 1000BaseT
Data Interfaces	1000BaseT (over PoE) or SFP
Networking	
Sub convergence layer	Layer 2, Bridging learning of 5K MAC addresses
QoS	Packet classification to 4 priority queues according to 802.1P or Diffserv
VLAN Support	802.1Q, QinQ, 4094 VLANs
Management	
Protocols	SNMPv1, SNMPv3, HTTP, HTTPS IPv4 & IPv6, RADIUS for AAA Server
NMS Applications	RAD NMS (RADview) or integration with 3rd party NMS system via standard MIBs
Power	
Power Feeding	Provided over ODU-PoE cable
Power Consumption	<55W
Mechanical	
ODU Dimensions	35.6(w) x 37.1(h) x 9.5(d) cm
ODU Weight	4.5Kg / 9.9 lbs
Environmental	
Operating Temperatures	-35°C to 60°C / -31°F to 140°F
Humidity	100% condensing, IP67 (totally protected against dust and against immersion in water up to 1m)
Safety	US/CAN (cTUVus), CE/IEC
EMC	ETSI

Contact us at market@rad.com to learn more or visit www.rad.com

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