JET DUO 5 GHz

1.5 Gbps PtMP dual carrier solution

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

JET DUO 5 GHz is the ideal solution for dense areas that demand ultra-high capacity. JET DUO 5GHz is a dual carrier base station that encapsulates independent beamforming antennas per each individual carrier to provide up to 1.5Gbps.

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

JET DUO 5 GHz Highlights

» Dual carrier base station 4.9-6.0 GHz

» Up to 1.5Gbps per Unit

» Up to 5Gbps per site @ 4 x 40MHz

» Exceptional service reliably and interference mitigation

» Support 128 customers

» WAN Interfaces: Fiber (SFP) and GbE

» Backward compatible with RADWIN Subscriber Unit install base

» Network synchronization via built-in GPS

» Configurable sector width: 90°, 60°, 45°

Dual-Carrier
Base station
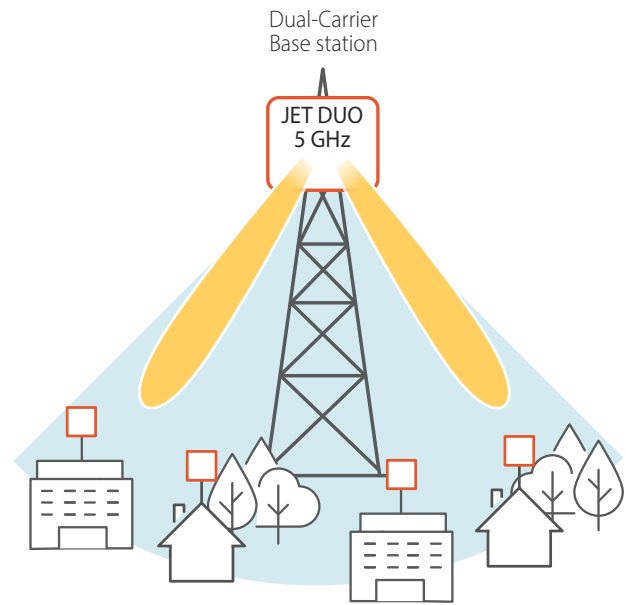
JET DUO
5 GHz

Increase capacity and save upon installation and maintenance costs

By supporting dual carriers in a single compact unit, JET DUO 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

Typical
PtMP

Carrier F1

Carrier F2

JET DUO
5 GHz

Dual Carrier
F1,F2
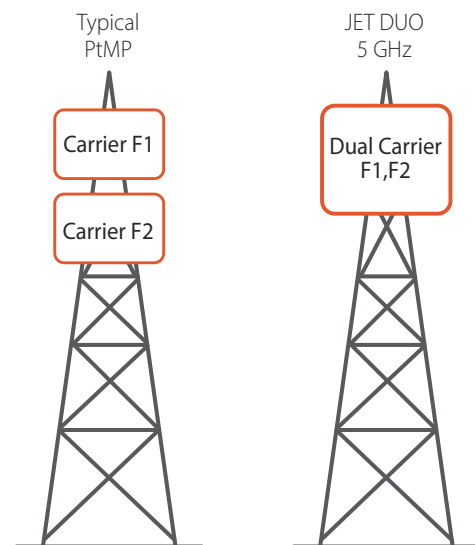
Unmatched service reliability

Superior Interference immunity with beamforming antenna

JET DUO 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.

Typical PtMP passive antenna pattern

20dB interference rejection

RADWIN beamforming antenna pattern
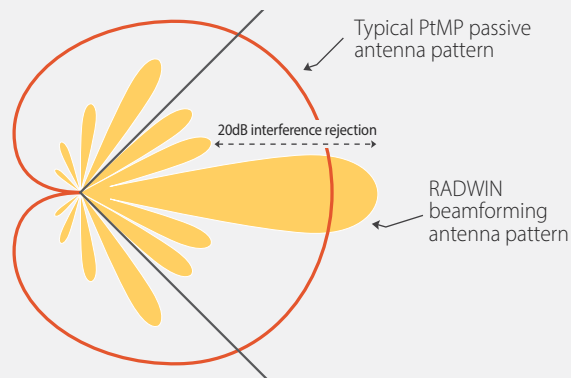
**JET DUO 5 GHz beamforming antenna pattern
vs. a typical PtMP antenna**

PrimeCarrier: Dynamic carrier selection per SU

DUO *PrimeCarrier* is a unique capability that evaluates non-stop transmission performance of the dual carriers to dynamically select the best carrier per SU, maximizing capacity, link reliability and guaranteeing virtually 100% service uptime.

PrimeCarrier removes the burden of carrier frequency change that is mandatory in other PtMP networks, even when one SU suffers from deteriorated performance due to interference.

This feature also enables service providers to leverage upon the wide DFS bands while eliminating the risk of service interruption due to radar detection.

Downlink capacity deterioration

Downlink traffic carrier overload

RADAR detection

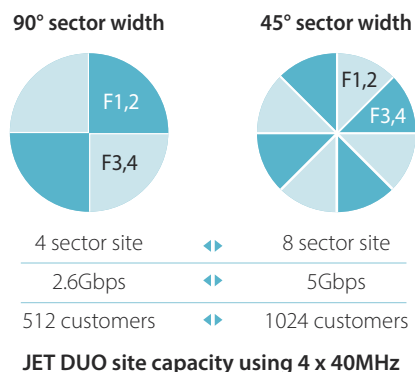Adverse scenarios initiate carrier selection

Extract double capacity upon demand without requiring additional spectrum

Software Defined Sector (SDS)

JET DUO is the first ever base station to enable configurable sector width capabilities through its innovative SDS technology. With SDS, network owners have the flexibility to choose from three sector widths of 90°, 60° or 45°, assuring minimal investment for initial coverage while securing future capacity growth.

90°

45°
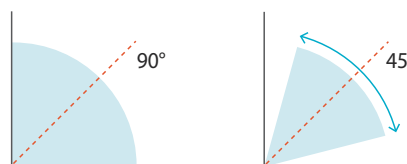
SDS enables frequency channel reuse of up to 4 times per site when working in 45° sector width. Upon demand, network owners can reconfigure part or all their JET DUO to a 45° sector width, add additional JET DUO units and double site capacity and customer numbers without the need for additional spectrum or the expense associated with adding new towers.

90° sector width

F1,2

F3,4

45° sector width

F1,2

F3,4

4 sector site	◄►	8 sector site
2.6Gbps	◄►	5Gbps
512 customers	◄►	1024 customers

JET DUO site capacity using 4 x 40MHz

Product Specifications:

Architecture	Outdoor unit with dual smart beamforming antenna integrated antennas
Max net aggregate capacity	1.5Gbps
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
Sector width	Configurable 90° (default), 60°, 45°

Radio

Channel Bandwidth	Configurable 10, 20, 40, 80 MHz (automatic bandwidth selection in 20,40,80MHz)
Max Tx Power	25dBm 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	RADWIN NMS (WINManage) 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

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