HORIZON QUANTUM

HIGH CAPACITY PACKET MICROWAVE

THE HORIZON QUANTUM ALLOWS SERVICE PROVIDERS AND ENTERPRISES TO SATISFY RAPIDLY INCREASING CAPACITY NEEDS IN A SIMPLE, COST EFFECTIVE AND TIMELY FASHION.

Delivering from 2 to 4 Gbps per link, Horizon Quantum represents the next generation in packet microwave technology and sets a new benchmark for performance. With dual-channel capability, this split-mount system is a step change in spectral efficiency, capacity, nodal intelligence, and operational simplicity; all while occupying only half a rack unit and consuming the lowest power per bit of any solution today. In addition, the Horizon Quantum's integrated switching means that it can provide aggregation and restoration in a single unit.

With this level of performance – in a packet microwave system that is remarkably simple to install and operate – operators can now avoid the high cost and long delays associated with fiber deployments, yet achieve the capacity and reliability they require for all of their future applications and services.

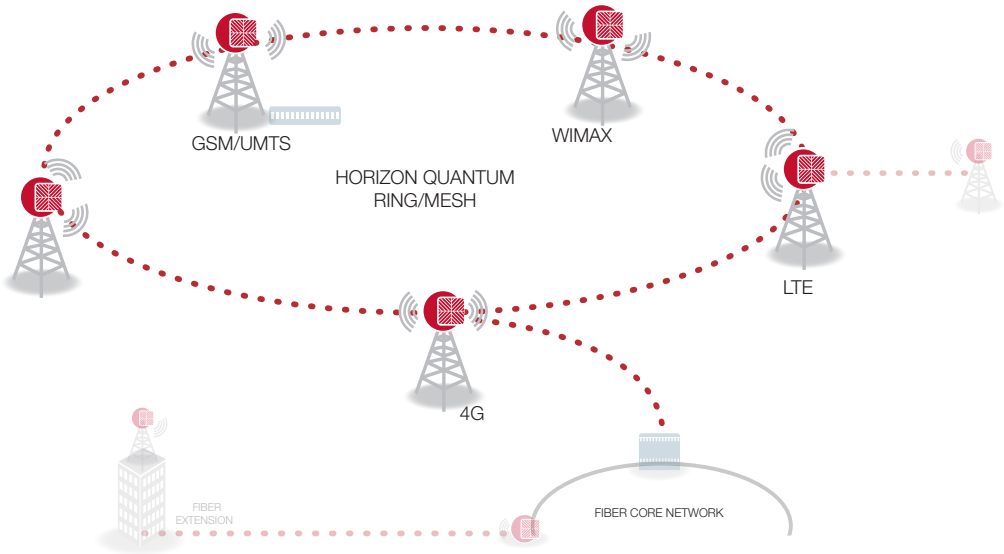
This Horizon Quantum, carrier-grade packet microwave system operates in licensed spectrum from 6 to 38 GHz.

SOLUTION HIGHLIGHTS

- 2 to 4 Gbps capacity with DragonWave's Bandwidth Accelerator
- 8 GbE ports with intelligent nodal ring and mesh switching for carrier-grade reliability
- Highest spectral efficiency
- Advanced radio features including service aware Hitless Automatic Adaptive Modulation (HAAM) and XPIC
- SyncE support and optimized transport of 1588v2
- Pay-as-you-grow with automatic remote scalability
- Advanced security with integrated 256-bit AES encryption
- Comprehensive Ethernet OAM support (802.3ah, 802.1ag, Y.1731)
- Advanced QoS support with 8 levels of prioritization
- Comprehensive management and provisioning with DragonVision NMS
- Lowest total cost of ownership solution

KEY APPLICATIONS

- Mobile Backhaul
- Leased Line Replacement
- Last Mile Fiber Extension
- Private and Enterprise Networks



HORIZON QUANTUM

PRODUCT SPECIFICATIONS

FREQUENCIES

6 GHz	FCC/IC/ETSI/ITU
7 GHz	ETSI/ITU/MX
8 GHZ	ETSI/ITU
11 GHz	FCC/IC/ETSI/ITU
13 GHz	ETSI/AUS/NZ/ITU
15 GHz	IC/ETSI/AUS/NZ/MX/ITU
18 GHz	FCC/IC /ETSI/AUS/NZ/ITU
23 GHz	FCC/IC/ETSI/AUS/NZ/ITU/MX
24 GHz UL	FCC/IC/ETSI
24 GHz DEMS	FCC/IC
26 GHz	ETSI
28 GHz	FCC/ETSI
38 GHz	FCC/ETSI/AUS/NZ/MX
38 GHz	FCC/ETSI/AUS/NZ/MX
60 GHz	UNLICENSED

FEATURES

Capacity w/Accelerator	Variable from 10 to 2000 Mbps full duplex CIR 2x capacity up to 4 Gbps with Dual Pole Radio Mount (DPRM)
Base Capacity	Variable from 10 to 800 Mbps full duplex CIR 2x capacity up to 1.6 Gbps with DPRM
Interface	6X 10/100/1000bT + 2 SFP Ports
Packet Size	64 to 9600 Bytes
Flow Control	Yes
Prioritization	8 levels served by 4 queues, based on 802.1p/q, MPLS, DSCP ToS Bits
Modulations	QPSK to 1024QAM
Modulation Shifting	Yes: Hitless
Loopback	Yes: IF, Modem, Microwave loopback
XPIC	Yes, enables Co-Channel Cross Polarization
Synchronization	SynchE support and optimized transport of 1588v2
Encryption	Integrated 256-bit AES encyption

POWER

Input	-36 VDC to -60 VDC or +36 VDC to +60 VDC
Optional Adapter	110/240 VAC
Typical Consumption:	
Single Channel, Single Radio	91 Watts
Dual Channel, Single Radio	105 Watts
Dual Channel, Dual Radio	146 Watts

MECHANICAL

Modem (IDU)	4.3 cm x 32 cm x 22 cm; 2.4 kg 1.7 in x 12.75 in x 8.6 in; 5.3 lbs
Radio (without antenna)	20 cm x 20 cm x 9 cm; 3.2 kg 7.8” x 7.8” x 3.6”; 7 lbs
Antenna Wind Loading	110 kph (70 mph) Operational 200 kph (125 mph) Survival
Antenna Mount Adjustment	+/- 45° Azimuth; +/- 22° Elevation

CONNECTIONS

Power	Dual Feed 48V
Data	6XRJ45 (100/1000bT) + 2XSFP
IF Cable	N-Type female connector
CTL Port	RJ45 (RS232)

NETWORK MANAGEMENT (NMS)

Management Access	In or out of band
Alarm Management	SNMP Traps, Enterprise MIB
NMS Compatibility	DragonVision NMS; any SNMP based network manager; SNMP v1, v2c and v3
Security	3 Level Authentication, Radius, SSL, SSH
EMS	Web based management system
Ethernet OAM Support	802.3ah, 802.1ag, Y.1731
Logging	Syslog, alarms logging, bandwidth logging and performance logging

ENVIRONMENTAL

Radio Operating Temp. Std Power & Solar Shield	-40°C to +60°C (-40°F to +140° F)
IDU Operating Temp.	0°C to +50°C (32°F to +122° F)
Extended IDU Operating Temp.	-40°C to +60°C (-40°F to +140° F)
ODU Humidity	100 % Condensing
IDU Humidity	95% Non-Condensing
Altitude	4500 m (14,760 ft)
NEB-3 Compliant	Yes

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DragonWave

www.dragonwaveinc.com