HORIZON COMPACT+
ALL-OUTDOOR HIGH CAPACITY PACKET MICROWAVE

DragonWave

SERVICE PROVIDERS CAN NOW DO MORE OUTDOORS WITH THE ZERO FOOTPRINT HORIZON COMPACT+ FROM DRAGONWAVE.

This high capacity packet microwave system delivers big performance in a small package. Because the radio and modem are integrated into a single highly compact outdoor unit, Horizon Compact+ is a zero footprint solution – eliminating rack congestion and minimizing collocation space. Equipped with DragonWave's Bandwidth Accelerator technology, the Horizon Compact+ achieves the highest degree of spectral efficiency, delivering more capacity per channel than any other all-outdoor microwave system.

With unmatched radio performance, simple installation and operation, as well as sophisticated remote management capability, the Horizon Compact+ delivers significant lifecycle cost savings for service providers and enterprises alike.
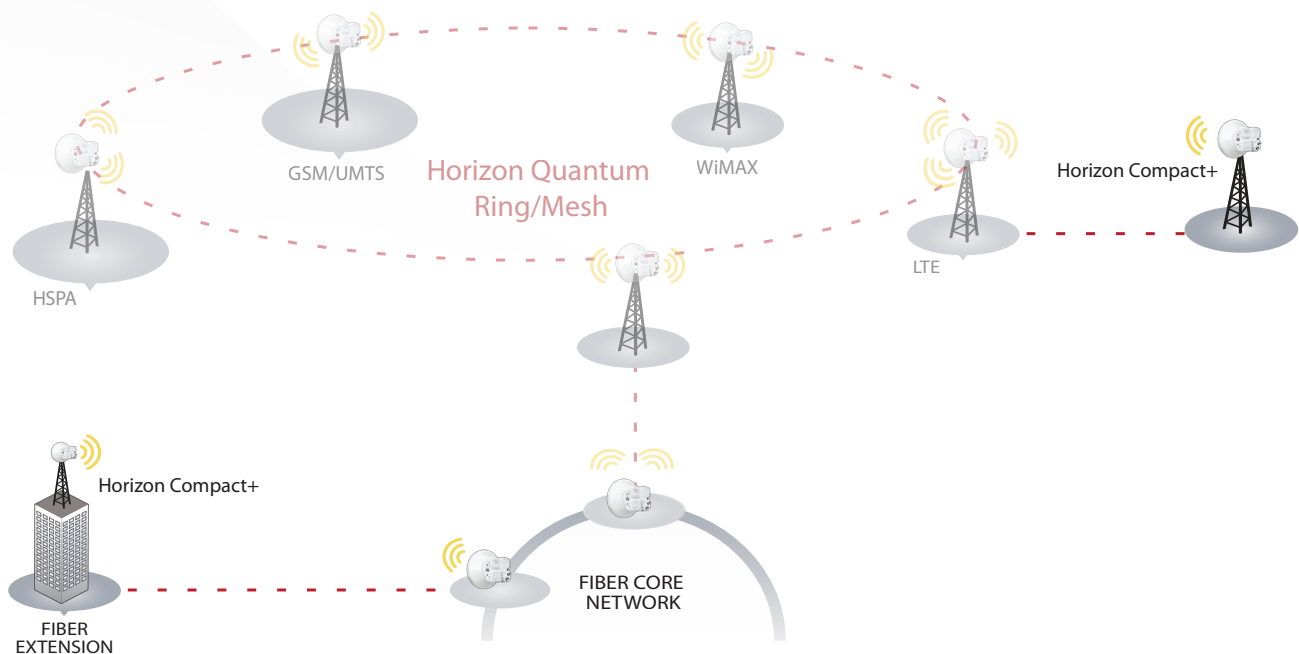
This innovative, carrier-grade packet microwave solution operates in licensed or unlicensed spectrum from 6 to 60 GHz.

SOLUTION HIGHLIGHTS
- Zero footprint, fully integrated all-outdoor unit
- 1 to 2 Gbps capacity with DragonWave's Bandwidth Accelerator
- Industry first XPIC in an all-outdoor microwave system
- Service aware Hitless Automatic Adaptive Modulation (HAAM)
- 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

GSM/UMTS Horizon Quantum Ring/Mesh WiMAX Horizon Compact+

HSPA

LTE

Horizon Compact+

FIBER EXTENSION

FIBER CORE NETWORK

HORIZON COMPACT+

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
32 GHz	ETSI
38 GHz	FCC/ETSI/AUS/NZ/MX
60 GHz	UNLICENSED

FEATURES

Capacity w/Accelerator	Variable from 10 to 1000 Mbps full duplex CIR 2x capacity up to 2 Gbps with Dual Pole Radio Mount (DPRM)
Base Capacity	Variable from 10 to 800 Mbps full duplex CIR 2x capacity up to 800 Mbps with DPRM
Interface	Software selectable: 2xGE or 4 x10/100bT or 1xGE + 2x10/100bT
Latency GigE	120μs @ 256QAM. 50 MHz
Packet Size	64 to 9600 Bytes
Flow Control	Yes
Prioritization	8 levels served by 8 hardware queues, based on 802.1p/q, MPLS, DSCP ToS Bits
Modulation Shifting	Yes, Hitless
Loopback	Yes, Radio loopback
XPIC	Yes, enables Co-Channel Cross Polarization
Synchronization	Synchronous Ethernet ready
Encryption	Integrated 256-bit AES encryption

POWER

Input	-40.5 VDC to -56 VDC	
Optional Adapter	110/240 VAC	
Consumption*	6 GHz	55W
	7/8 GHz	80W
	13/15 GHz	47W
	18 GHz	49W
	23 GHz	48W
	38 GHz	43W

*Measured at the radio with 30M of CAT5E cable and 48V input to PonE.

MECHANICAL

Radio/Modem (without antenna)	10.2 cm x 24.3 cm x 22.1 cm; 3.4 kg 4 in x 9.6 in x 8.7 in; 7.5 lbs
Power Adapter	15 cm x 7 cm x 3.5 cm 5.91 in x 2.76 in x 1.38 in
Antenna Wind Loading	112 kph (70 mph) Operational, 200 kph (125 mph) Survival
Antenna Mount Adjustment	+/- 45° Azimuth; +/- 22° Elevation

CONNECTIONS

Power	-48V, Power on Ethernet
Payload (+ Inband NMS)	RJ45 or optical LC
NMS (when out-of-band)	RJ45

NETWORK MANAGEMENT (NMS)

Alarm Management	SNMP Traps, Enterprise MIB
NMS Compatibility	DragonVision NMS; any SNMP based network manager; SNMP v1, v2c and v3
Ethernet OAM Support	802.3ah, 802.1ag, Y.1731
Security	3 Level Authentication
EMS	Web Based Management, SSL HTTP, SSH, Radius, Telnet

ENVIRONMENTAL

Operating Temperature	-40°C to + 60°C (-40°F to +140° F)
Humidity	100 % Condensing
Altitude	4500 m (14,760 ft)
Water Tightness	Nema4X, IP56 (directed hose test)
Operational Shock	ETSI 300-019-1-4; 5g 11ms
Operational Vibration	ETSI 300-019-1-4 Class 4m5, NEBS GR-63
Earthquake	NEBS GR-63

	Modulation	Rx Sensitivity	Base Throughput	With Bandwidth Accelerator		Tx Power
				Typical Mobile Traffic Mix	Maximum Throughput	
56 MHz	QPSK	-82	65	90	160	27
	32QAM	-72	216	300	540	21
	256QAM	-61	385	540	1000	19.5
28 MHz	QPSK	-86	48	70	120	23.5
	32QAM	-77	100	140	250	21
	256QAM	-66	190	265	475	19.5
14 MHz	QPSK	-89	23	30	60	23.5
	32QAM	-76	47	65	120	23
	256QAM	-70	95	130	240	19.5
7 MHz	QPSK	-90	11	15	30	27
	64QAM	-80	33	45	80	20.5
	128QAM	-76	39	55	100	20
50 MHz	QPSK	-83	67	95	170	27
	32QAM	-74	171	240	430	24
	256QAM	-61	364	500	900	19.5
40 MHz	QPSK	-83	57	80	145	27
	32QAM	-75	142	200	350	23
	256QAM	-62	277	390	700	19.5
30 MHz	32QAM	-77	107	150	270	23
	128QAM	-70	165	230	410	20
	256QAM	-64	212	300	530	19.5
20 MHz	16QAM	-86	28	40	70	27
	32QAM	-82	54	75	135	23
	256QAM	-66	142	200	350	19.5
10 MHz	QPSK	-89	14	20	35	27
	64QAM	-76	48	70	120	21.5
	256QAM	-70	65	90	160	21

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