HARMONY RADIO LITE

HARMONY RADIO LITE IS A SUB-6 GHZ POINT-TO-POINT MICROWAVE SOLUTION PROVIDING COST-EFFECTIVE AND EASILY DEPLOYED WIRELESS CONNECTIVITY FOR RURAL DEPLOYMENTS, GOVERNMENT, AND PRIVATE NETWORKS, VERTICAL INDUSTRIES AND MOBILE BACKHAUL.

Harmony Radio Lite is a complete microwave system housed within a single all-outdoor unit with standard Ethernet interfaces and integrated antenna. This packet microwave radio offers a host of benefits, including:
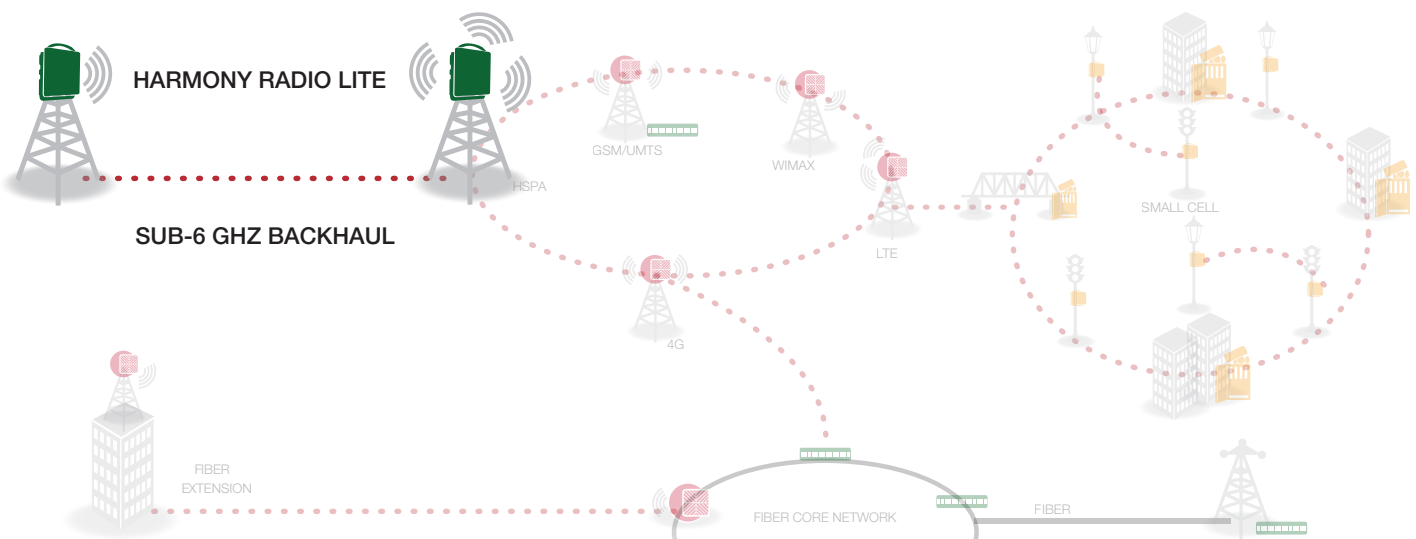
- Non-line-of-sight (NLOS) support across both licensed and unlicensed TDD spectrum
- Complete scalability, supporting 5/10/20/40 MHz channel bandwidth
- Advanced Interference avoidance features including site synchronization, Dynamic Frequency Selection, Transmit Power Control)
- Flexible network architecture options

An integral part of DragonWave's microwave product portfolio, this solution enables end-to-end network capabilities, including advanced QoS, synchronization and advanced network management.

When using unlicensed spectrum, the Harmony Radio Lite facilitates fast and easy deployment and savings on spectrum licensing, resulting in reduced operating expenses and a rapid return on investment for the operator. A complete set of interference counter measures guarantees proper behavior even in an unlicensed environment. When deployed using licensed spectrum, the Harmony Radio Lite allows a 1:1 frequency reuse scheme.

SOLUTION HIGHLIGHTS

- Integrated all-outdoor unit for simple installation
- Optimized for suburban and rural Ethernet backhaul
- Fully integrated or external antenna options
- Up to 230 Mbit/s aggregate capacity
- Green design – minimized footprint and power consumption of under 15W
- Simple single cable repeater configuration
- License free or licensed spectrum
- OFDM adaptive modulation, with 2x2 MIMO
- Advanced Quality of Service with 8 queues
- Advanced Ethernet features (UNI, E-Line/E-LAN services, Ethernet OAM, Performance Monitoring)
- Quick Return on Investment
- Minimized Total Cost of Ownership, pay-as-you-grow
- Comprehensive network management system for simple remote configuration and monitoring
- Interoperability with Avenue Link Lite

NON-LINE-OF-SIGHT BACKHAUL

The Harmony Radio Lite's NLOS operation is ideally suited for links where obstructions – such as trees, street curves and building corners – are found between link endpoints. By supporting both licensed and unlicensed spectrum, the Harmony Radio Lite allows the operators to select a spectrum strategy that best meets their requirements.

This wireless backhaul solution delivers significant Total Cost of Ownership (TCO) improvement over existing macrocell backhaul solutions, allowing operators to expand their networks cost effectively.

The Harmony Radio Lite can be deployed using a tree topology, with macrocell traffic aggregation points on rooftops, and tail, chain or small hub microsites at street level. This architecture provides:

- Less network interference than Point to Multipoint systems due to the use of directive antennas
- Flexible network connectivity
- Simple network expansion
- An evolution path toward protected network architectures

RURAL BACKHAUL

The mobile coverage required in rural areas requires a backhaul solution that achieves the most attractive TCO while delivering on stringent link throughput and distance requirements.

PUBLIC SAFETY AND VERTICAL APPLICATIONS

DragonWave has extensive experience building advanced packet microwave networks for critical communications in all areas of public safety. The Harmony Radio Lite delivers secure, reliable and cost effective transport for first responders (police, fire, and medical), video surveillance backhaul, sensor networks, P25 communications, ports, utilities, oil and gas, border security and other applications.

NETWORK MANAGEMENT

DragonView provides Network Management functionality for Harmony Radio Lite, along with the rest of the DragonWave product portfolio. An overall view of the complete network structure and its ability to drill down to Network Element details provides a clear picture of the whole network, its configuration and events. Inventory, Fault, Configuration and Performance management are carried out at the Network Element level, while Service configuration and OAM are supported at the Network layer.

PRODUCT SPECIFICATIONS

RF Band	2.3 to 2.6 GHz; 3.4 to 3.8 GHz; 4.9 GHz to 5.875 GHz
Diplexing Scheme	TDD
Interfaces	2xFE/GE Interfaces
Modulation	OFDM adaptive modulation with 2x2 MIMO
Channel Spacing	5/10/20/40 MHz
Power Consumption	<15W
Throughput	Up to 230 Mbit/s aggregate with 2x2 MIMO
Mechanical Size (Microwave and integrated antenna)	19 cm x 19 cm x 5 cm; 7.5" x 7.5" x 1.9" (with 0.5 foot integrated antenna)
Weight	1.8 kg; 4 lbs
Installation	Fully outdoor; pole and wall mounting
Powering	Via Ethernet P+E/PoE+; optional power injector with AC or DC input
Ethernet OAM	Connectivity Fault Management (CFM), according to 802.1ag and ITU-T Y.1731. Performance monitoring (PM) according to ITU-T Y.1731.
Synchronization Support	Synchronous Ethernet (SyncE), 1588-2008 (ToP)
Interference Avoidance Features	Site Synchronization, Dynamic Frequency Selection (DFS), Transmit Power Control (TPC), 1+1 polarization diversity
Management system	DragonView