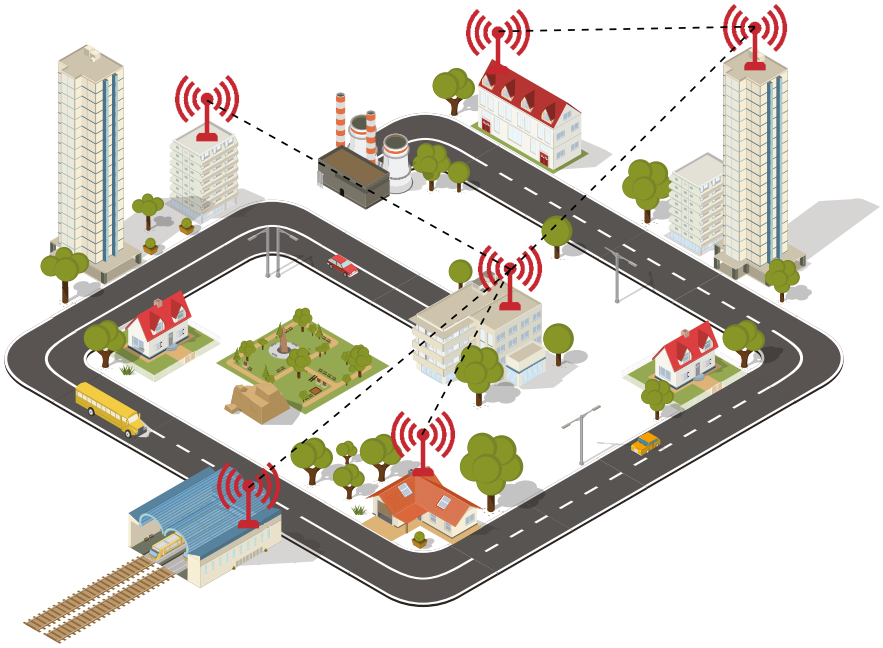
EC SYSTEM

EC-Link

3.1 – 4.0 GHz
Frequency Bands



EC LINK is a Professional wireless Point-to-Point solution, which combines high-speed capability, up to 300 Mbps throughput and can achieve distances in excess of 80 Km. All models use MIMO technology to improve the communication performance. The units have incorporated L2/L3 routers and are fully compatible with our EC System multipoint solutions.

EC SYSTEM is the choice of excellence to connect remote corporate sites to the headquarters, thus allowing the simultaneous transmission of multi-protocol services such as voice, video and data. The EC-link is an integral part of our EC System family of solutions. EC-link supports GPS synchronization and can also be deployed by mobile operators requiring multi-megabit capacity for their backhaul links.

EC SYSTEM is a unique solution for operators to deliver Fast Ethernet data, voice and video services over long distances providing a wide range of networking features and maintaining strict QoS control.The EC-link range of solutions comprises of a number of high performance Fixed Broadband Wireless Access (FBWA) units, which operate in both LOS (line-of-sight) and NLOS (nonline-of-sight) environments, in both licensed and unlicensed frequency bands.

Applications

- ✓ GSM/3G/LTE High-capacity backhaul
- ✓ WISP infrastructure backhaul
- ✓ Building-to-building connectivity at Fast Ethernet speeds
- ✓ Cost-effective alternatives to legacy microwave links or wired leased lines
- ✓ NLOS backhauling using lower frequency bands
- ✓ Reliable backup for fibre lines, high-speed FSO or millimetre- wave links

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Key Features

- ✓ Available in 3.1 to 4.0 GHz frequency bands Wide range of Terminals with license upgrade option
- ✓ High capacity – up to 280 Mbps net throughput
- ✓ 3.5/5/7/10/14/15/20/28/30/40 MHz channel widths
- ✓ Possible operational distances in excess of 80 km
- ✓ LOS (line-of-sight) and NLOS (non-line-of-sight) deployments
- ✓ Advanced Quality-of-Service Support
- ✓ Gigabit Ethernet port
- ✓ Flexible uplink/downlink reallocation

Recommended Applications

- ✓ GSM/3G/LTE high-capacity backhaul
- ✓ WISP infrastructure backhaul
- ✓ WISP Internet POP for remote areas
- ✓ LAN-to-LAN connectivity at Fast Ethernet speeds
- ✓ Ultra-high spectral efficiency backhaul
- ✓ A cost-effective alternative for legacy microwave links
- ✓ Reliable backup for fiber lines, high-speed FSO or millimeter-wave links
- ✓ High-capacity CCTV backhaul
- ✓ A cost-effective alternative for legacy microwave links
- ✓ Lightweight high spectral efficiency backhaul
- ✓ Redundant Cellular backhaul, Ethernet/IP transport

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EC-Link 3.1 – 4.0 GHz Frequency Bands

Technical Specifications

	Product family			
Model	**H3-A**	**H3-C**	**S3-A**	**S3-C**
Antenna	• 22 dBi dual-pol integrated antenna	• 2 x N-type (Female) connectors for external antenna	• Integrated 19 or 22 dBi Dual-polarization Antenna	• 2 x N-type (Female) connectors for external antenna
Performance	• 300 Mbps (Up to 280 Mbps net throughput)		• 8 Mbps (up to 8 Mbps net) • 50 Mbps (up to 50 Mbps net) • 300 Mbps (up to 180 Mbps net) • License upgradeable	
Distance	• Middle-to-long range (30+ km)	• Long range (80+ km with high-gain external antenna)	• 19 dBi antenna: short -to-middle range (up to 5-10 km) • 22 dBi antenna: middle range (7-12 km)	• Long range (up to 60 km with high-gain external antenna)
Radio	• Radio technology: MIMO 2x2 with OFDM 64/128 • Modulation types: BPSK 1/2 to QAM64 5/6 • Transmit power: up to 23 dBm • Receiver sensitivity: -67..-97 dBm • Frequency bands: › 3.1-3.4 GHz › 3.4-3.7 GHz › 3.7-3.9 GHz › 3.9-4.0 GHz • Channel bandwidth: 3.5/5/7/10/14/15/20/28/30/40 MHz • Center frequency adjustment step: 125 kHz • Channel duplex: TDD			
Wired interfaces	• Gigabit Ethernet port (10/100/1000 Base-T) RJ-45 connector • Serial port (RS-232)		• 2x Fast Ethernet (10/100 Base-T) PoE output at the second Ethernet port RJ-45 connector	
Power consumption	• Consumption: Up to 12 Watts • Power options: 110-240 VAC @ 50/60 Hz ±43..56 VDC IEEE 802.3 at		• Consumption: Up to 7 Watts • Power options: 110-240 VAC @ 50/60 Hz +9..56 VDC	

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Features

RADIO

- ✓ Voice/RTP Aware Superpacketing
- ✓ Automatic Bitrate Control
- ✓ Automatic Transmit Power Control
- ✓ Automatic Distance Learning
- ✓ Channel Time Adjustment
- ✓ Spectrum Analyzer mode
- ✓ Channel testing tools

MAC

- ✓ Dynamic adaptive Polling
- ✓ Pseudo-radio Interface
  unique EC-link Wireless feature
  to join EC-link Wireless networks via
  3rd party equipment
- ✓ (Wired Ethernet segments, IP clouds)
  Automatic over-the-air
  firmware upgrade

QUALITY-OF-SERVICE

- ✓ 16 priority queues IEEE
- ✓ 802.1p support
- ✓ IP TOS / DiffServ support
- ✓ Full voice support
  Traffic limiting
  (absolute, relative, mixed)
- ✓ Traffic redirection

STANDARD COMPLIANCE

- ✓ **Radio**
  - ETSI EN 301 893 v.1.7.1
  - ETSI EN 302 502 v.1.2.1
  - FCC Part 15.247
- ✓ **EMC**
  - ETSI EN 301 489-1
  - ETSI EN 301 489-17
  - FCC Part 15 Class B
- ✓ **Safety**
  - ETSI EN 60 950-1:2006
- ✓ **RoHS**
  - Directive 2002/95/EC

SECURITY FEATURES

- ✓ Storm / flood protection
- ✓ Password protection
- ✓ Secure command-line access
  via SSH protocol

ENVIRONMENTAL

- ✓ **Outdoor Units:** -40..+60°C,
  100% humidity, condensing
- ✓ **Indoor Unit:** 0..+40°C,
  95% humidity, non-condensing

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