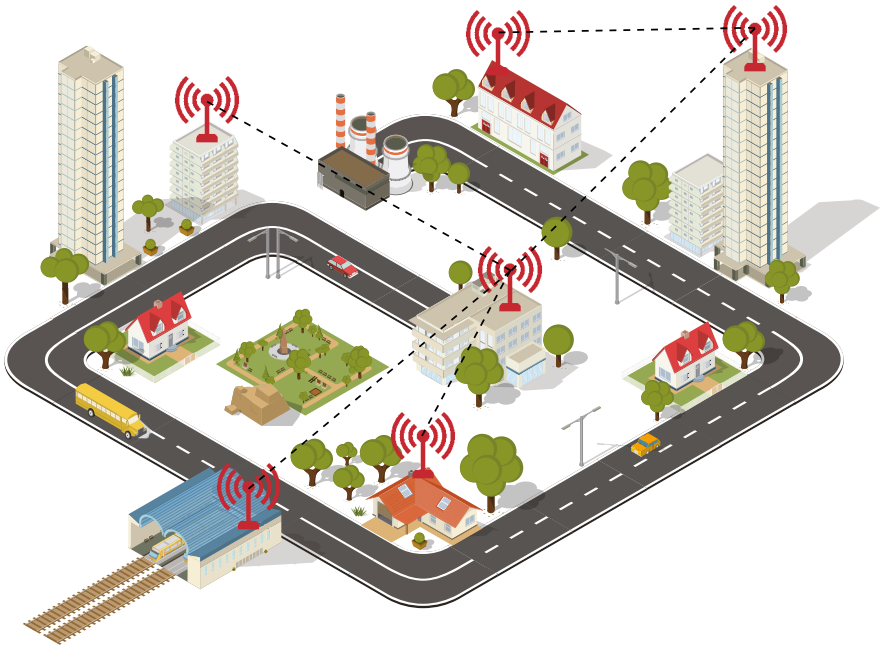
EC SYSTEM

EC-Multipoint

4.9 – 6.4 GHz
Frequency Bands



EC SYSTEM professional High Capacity point to multipoint microwave units allow radio data transmition up to 35 Km and up to 300 Mb throughput per sector. All models use MIMO technology with Adaptive Multipoint Acces Protocol to improve the communication performance. The units have incorporated L2/L3 routers, allows GPS synchronization. Our base stations and subscriber terminal software gives to the customer the possibility of upgrade their networks adding transmition capability.

EC SYSTEM is the choice of excellence for Public Safety Authorities, all type of operators and professional applications that require guaranteed bandwidth per subscriber.
The models with integrated antennas and a dedicated PoE port for video camera connectivity reduce the cost and simplify the CCTV camera installation.

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.

Applications

- ✓ Triple-play services for Wireless ISPs operating in licensed bands
- ✓ Guaranteed-availablity CCTV and video surveillance networks
- ✓ Long-range rural connectivity

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Key Features

- ✓ Multiple frequency bands 4,9 - 6,05 GHz and 6,05 - 6,4 GHz
- ✓ Base station sector capacity 240 Mbps using 40 MHz channel
- ✓ Supports channel width 5, 10, 20, 40 MHz
- ✓ Advanced network features VLAN, 16 priority QoS
- ✓ Enhanced Non Line of Sight range
- ✓ Integrated sector antenna base stations allows maximum performance and quick and easy installation
- ✓ Wide range of subscriber terminals with license upgrade option

Features

RADIO

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

STANDARD COMPLIANCE

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

ENVIRONMENTAL

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

NETWORKING

- ✓ Ethernet-over-IP tunneling
- ✓ ARP protocol support
- ✓ MAC/IP filtering
- ✓ Full-fledged 2nd layer switch
- ✓ RIPv2 / OSPFv2 /static routing
- ✓ Tunneling (Ethernet-over-IP, IP-over-IP)
- ✓ L2/L3 Firewall
- ✓ NAT (multipool, H.323-aware)
- ✓ DHCP client/server/relay

QUALITY-OF-SERVICE

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

SECURITY FEATURES

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

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EC-Multipoint 4.9 – 6.4 GHz Frequency Bands Technical Specifications

	EC-Multipoint Base Stations		
Model	**H5B-A**	**H5B-C**	**S5B-A**
Antenna	• 16 dBi dual-pol integrated 90 degrees antenna	• 2 x N-type (Female) co-nnectors	• 16 dBi dual-pol integrated 90 degrees antenna
Performance	• Up to 240 Mbps sector net throughput		• Up to 150 Mbps sector net throughput
Distance	• Middle-to-long range (35+ km)	• Middle-to-long range (20+ km)	• Middle range (up to 15-20 km)
Frequency Bands / Antennae	• 4.9 – 6.0 GHz / Integrated 16 dBi dual-pol integrated 90 degrees sector antenna • 6.0 – 6.4 GHz / Integrated 16 dBi dual-pol integrated 90° sector antenna	• 4.9 – 6.0 GHz / Connectorised Antenna (2 x N-type (Female) connectors) • 6.0 – 6.4 GHz / Connectorised Antenna (2 x N-type (Female) connectors)	• 4.9 – 6.0 GHz / Integrated 16 dBi dual-pol integrated 90° sector antenna
Radio	• Radio technology: MIMO 2x2 with OFDM 64/128 • Modulation types: BPSK 1/2 to QAM64 5/6 • Duplex method: TDD • Transmit power: up to 23 dBm • Receiver sensitivity: -67..-97 dBm • Channel bandwidth: 5/10/20/40 MHz		• Radio technology: MIMO 2x2 with OFDM 64/128 • Modulation types: BPSK 1/2 to QAM64 5/6 • Duplex method:TDD • Transmit power: up to 18 or 23 dBm (model-dependent)
Wired interfaces	• Gigabit Ethernet port (10/100/1000 Base-T) RJ-45 connector Serial port (RS-232)		• 2 x Fast Ethernet (10/100 Base-T) RJ-45 connector • PoE output at the second Ethernet port
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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EC-Multipoint 4.9 – 6.4 GHz Frequency Bands Technical Specifications

	EC-Multipoint Subscriber Terminals		
Model	**S5-A**	**S5-C**	**S5T-A**
Frequency Bands / Antennae	• 4.9 – 6.0 GHz / Integrated 21, 23 or 28 dBi Dual-polarization Antenna • 6.0 – 6.4 GHz / Integrated 24 or 27 dBi Dual-polarization Antenna	• 4.9 – 6.0 GHz / Connectorised Antenna (2 x N-type connectors) • 6.0 – 6.4 GHz / Connectorised Antenna (2 x N-type connectors)	• 4.9 – 6.0 GHz / Integrated 19 dBi Dual-polarization Antenna • 6.0 – 6.4 GHz / Integrated 19 dBi Dual-polarization Antenna
Performance	• 8 Mbps (up to 8 Mbps net) • 50 Mbps (up to 50 Mbps net) • 300 Mbps (up to 180 Mbps net) • License upgradeable		
Distance	• 21 dBi antenna: middle range (up to 8-10 km) • 23 or 24 dBi antenna:middle -to-long range (10-12 km) • 28 dBi antenna: long range (15-25 km)	• Middle-to-long range (35+ km with external high-gain antenna)	• Short-to-middle range (up to 5-7 km)
Radio	• Radio technology: MIMO 2x2 with OFDM 64/128 • Modulation types: BPSK 1/2 to QAM64 5/6 • Duplex method: TDD • Transmit power: - Up to 18 or 23 dBm (4.9-6.0 GHz models) - Up to 23 dBm (6.0-6.4 GHz models) • Receiver sensitivity: -67..-97 dBm • Frequency bands: 4.9-6.0 GHz and 6.0-6.4 GHz • Channel bandwidth: 5/10/20/40 MHz		
Wired interfaces	• 2 x Fast Ethernet (10/100 Base-T) RJ-45 connector • PoE output at the second Ethernet port		• 1 x Fast Ethernet (10/100 Base-T) RJ-45 connector
Power consumption	• Consumption: Up to 7 Watts • Power options: 110-240 VAC @ 50/60 Hz +9..56 VDC		

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