![InfiNet wireless]

InfiMAN 2x2

4.9 – 6.4 GHz Frequency Bands

The **InfiMAN 2x2** is the highest capacity Point-to-Multipoint solution available for unlicensed and licensed bands including 4.9 – 6.0 GHz and 6.0 – 6.4 GHz. The innovative base station and subscriber terminal models are available for both licensed and unlicensed bands. As an example, the base station units provide a high sector capacity of up to 240 Mbps and uses leading-edge radio protocols providing unrivalled spectral efficiency.

Compared to traditional Point-to-Multipoint systems, both operating range and link reliability have increased significantly through the use of advanced Multiple Antenna Technology and Adaptive Multipoint Access Protocol.

The **InfiMAN 2x2** portfolio represents a unique proposition to all types of operators (e.g. WISP's, organisations of all sizes, government authorities, etc.) wishing to deliver Fast Ethernet data, voice and video services at ultra long ranges, whilst at the same time providing a wide set of networking features and maintaining strict QoS control. With their increased aggregate bit rates and improved coverage range, our base stations now allow operators to cater for more and higher capacity remote subscriber units than ever before, thus reducing capital expenditure on network infrastructure.

Applications

▶ High-Speed local or wide area corporate networks

▶ CCTV and Video surveillance Networks

▶ Triple-play services for Wireless ISP's

▶ Long-range Rural Connectivity

▶ Government & Municipal Networks

MIMO 2X2 TECHNOLOGY

MIMO 2x2 stands for Multiple Input / Multiple Output innovative technology and it requires the use of two antennas at both the transmitter and receiver to improve communication performance.

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Product Highlights

- Available in multiple frequency bands 4.9 – 6.05 GHz and 6.05 – 6.4 GHz

- 240 Mbps base station sector capacity with just 40 MHz of spectrum

- Increased NLOS range and performance

- Supports channel width size from 5 to 40 MHz, reducing licence expenditure

- Advanced Quality-of-Service features, offering a reliable and robust solution

- Integrated Sector Antenna Base Stations, ensuring maximum RF performance and quick & simple installation

- Unparalleled selection of integrated antenna subscriber terminals ranging from compact and lightweight 19 dBi antenna model to unique 28 dBi terminal ideally suitable for long-range connectivity in excess of 15-20 km from a base station

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

ENVIRONMENTAL

▸ **Outdoor Units:** -40..+60C, 100% humidity, condensing
▸ **Indoor Unit:** 0..+40C, 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 limiting (absolute, relative, mixed)
▸ Traffic redirection

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

SECURITY FEATURES

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

InfiNet wireless

Technical Specifications

SYSTEM COMPONENT	InfiMAN 2x2 Base Stations		
Model	**R5000-Mmxb**	**R5000-Omxb**	**R5000-Smnb**
Device description	High-capacity Integrated Sector Antenna Base Station	High-capacity Integrated Sector Antenna Base Station	Medium-capacity Integrated Sector Antenna Base Station
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 ½ 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 • Instant DFS support (optional)		• Radio technology: MIMO 2x2 with OFDM 64/128 • Modulation types: BPSK ½ to QAM64 5/6 • Duplex method:TDD • Transmit power: up to 18 or 23 dBm (model-dependent) • Receiver sensitivity: -67..-97 dBm • Channel bandwidth: 5/10/20/40 MHz
Antenna	• 16 dBi dual-pol integrated 90 degrees antenna	• 2 x N-type (Female) connectors	• 16 dBi dual-pol integrated 90 degrees antenna
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
Form Factor and Dimensions	**Outdoor Unit (ODU)** **R5000-Mmxb** **16 dBi antenna** 370 x 370 x 85 mm, 3.7 kg **Indoor Unit (IDU-BS-G)** 124 x 72 x 38 mm 0.3 kg	**Outdoor Unit (ODU)** **R5000-Omxb** **External antenna** 240 x 240 x 51 mm, 2.3 kg **Indoor Unit (IDU-BS-G)** 124 x 72 x 38 mm 0.3 kg	**Outdoor Unit (ODU)** **R5000-Smnb** **16 dBi antenna** 371 x 371 x 83 mm, 2.8 kg **Indoor Unit (IDU-CPE)** 85 x 76 x 36 mm 0.15 kg

InfiMAN 2x2   4.9 – 6.4 GHz Frequency Bands   Technical Specifications

SYSTEM COMPONENT	InfiMAN 2x2 Subscriber Terminals		
Model	**R5000-Smn**	**R5000-Lmn**	**R5000-Smnc**
Device description	High-capacity Integrated Antenna Subscriber Terminal	High-capacity Integrated Antenna Subscriber Terminal	High-capacity Reduced Form Factor Integrated Antenna Subscriber Terminal
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)

Frequency Bands / Antenna	• 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

Radio	• Radio technology: MIMO 2x2 with OFDM 64/128
	• Modulation types: BPSK ½ 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		

Form Factor and Dimensions	**Outdoor Unit (ODU)** **R5000-Smn. 27 or 28 dBi antenna** 600 x 600 x 75 mm, 6.1 kg **R5000-Smn. 23 dBi antenna** 371 x 371 x 83 mm, 2.8 kg **R5000-Smn. 21 or 24 dBi antenna** 305 x 305 x 73 mm, 2.0 kg **Indoor Unit (IDU-CPE)** 85 x 76 x 36 mm 0.15 kg	**Outdoor Unit (ODU)** **R5000-Lmn. External antenna** 240 x 240 x 51 mm, 1.6 kg **Indoor Unit (IDU-CPE)** 85 x 76 x 36 mm 0.15 kg	**Outdoor Unit (ODU)** **R5000-Smnc. 19 dBi antenna** 207 x 207 x 67 mm, 1.0 kg **Indoor Unit (IDU-CPE)** 85 x 76 x 36 mm 0.15 kg