



InfiMAN 2x2

3.1 – 4.0 GHz
Frequency Bands

InfiMAN 2x2 3 GHz is InfNet's latest family of solutions, designed to operate in 3.1 to 4.0 GHz licensed bands. It comprises a number of high-performance broadband wireless point-to-multipoint systems, designed primarily to cater for the specific requirements of service providers, local authorities and organisations that have purchased WiMAX licences. The innovative base stations provide an unparalleled sector capacity of up to 250 Mbps and use leading-edge radio protocols to provide unrivalled spectral efficiency. They enable operators to deploy more efficient and scalable networks for data, video and voice transmission, whilst at the same time offering up to five times the throughput of existing systems in this frequency range.

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 3 GHz series represents a unique proposition to operators who have already invested in a WiMAX license but now wish to deliver Fast Ethernet data, voice and video services over long distances, whilst at the same time providing a wide set of networking features and maintaining strict QoS control.

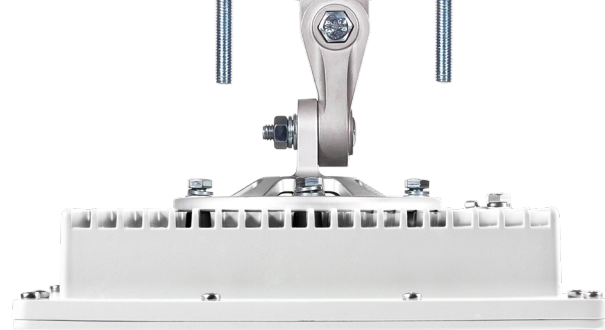
Applications

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

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.

Product Highlights



- ✓ Available in 3.1 to 4.0 GHz licensed frequency bands
- ✓ Unrivalled spectral efficiency of 6.5 Bit/s/Hz
- ✓ Increased NLOS range and performance
- ✓ 3.5/5/7/10/14/15/20/28/30/40 MHz channel widths
- ✓ Advanced Quality-of-Service features, offering a reliable and robust solution
- ✓ High Transmit Power Base Stations
- ✓ Integrated sector antenna base stations, ensuring maximum RF performance and quick and simple installation
- ✓ CCTV optimised subscriber terminals with PoE output for camera power supply

Features

RADIO

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

ENVIRONMENTAL

- ▶ Outdoor Units: -40..+60°C
(-55..+60°C models with index «t» in PN),
100% humidity, condensing
- ▶ Indoor 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

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

MAC

- ▶ Dynamic adaptive polling
- ▶ Pseudo-radio Interface
- ▶ Automatic over-the-air firmware upgrade





SECURITY FEATURES

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

Technical Specifications

System component	Infiman 2x2 3GHz Base Stations		Infiman 2x2 3GHz Subscriber Terminals	
Model	R5000-Mmxb	R5000-Omxb	R5000-Smnc	R5000-Lmnc
Device description	High-capacity 14 dBi 90 deg flat panel integrated sector antenna base station	High-capacity external antenna base station	Medium-capacity 19 or 22 dBi integrated antenna subscriber terminal	Medium-capacity external antenna subscriber terminal
			All LITE models and subscriber terminals can be easily configured to operate in either Point-to-Point or Point-to-Multipoint modes. A simple licence only is required to change their mode of operation from PtMP to PtP or vice-versa	
Performance	Up to 250 Mbps sector net throughput		Up to 180 Mbps net throughput • 8 Mbps (up to 8 Mbps net) • 20 Mbps (up to 20 Mbps net) • 50 Mbps (up to 50 Mbps net) • 300 Mbps (up to 180 Mbps net) License upgradeable	
Distance	Middle-to-long range (20 km)	Middle-to-long range (25 km)	Short-to-Middle range (up to 12 km)	Middle-to-long range (in excess of 25+ km)
Antennas	• 14 dBi dual-pol 90° sector antenna	• 2 x N-type (Female) connectors for external antenna	• 19 and 22 dBi dual-pol integrated antenna	• 2 x N-type (Female) connectors for external antenna
Radio	<ul style="list-style-type: none"> 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: -70...-97 dBm Channel bandwidth: 3.5/5/7/10/14/15/20/28/30/40 MHz Centre frequency adjustment step: 125 kHz Frequency bands: <ul style="list-style-type: none"> ▶ 3.1-3.4 GHz ▶ 3.4-3.7 GHz ▶ 3.7-3.9 GHz ▶ 3.9-4.0 GHz 			
Wired interfaces	<ul style="list-style-type: none"> 1x Gigabit Ethernet port (10/100/1000 Base-T) RJ-45 connector Serial port (RS-232) 		<ul style="list-style-type: none"> 2 x Fast Ethernet (10/100 Base-T) RJ-45 connector PoE output at the second Ethernet port 	
Power consumption	<ul style="list-style-type: none"> Consumption: Up to 20 W Power options: 90-240 VAC @ 50/60 Hz ±43.56 VDC Proprietary PoE 		<ul style="list-style-type: none"> Consumption: Up to 15 W Power options: 110-240 VAC @ 50/60 Hz ±9.56 VDC Proprietary PoE 	

Technical Specifications

System component	InfiMAN 2x2 3GHz Base Stations		InfiMAN 2x2 3GHz Subscriber Terminals	
Model	R5000-Mmxb	R5000-Omxb	R5000-Smnc	R5000-Lmnc
Form Factor and Dimensions	<p>Outdoor Unit (ODU)</p> <p>R5000-Mmxb 14 dBi antenna</p>  <p>371 x 371 x 83 mm, 2.8 kg</p>	<p>Outdoor Unit (ODU)</p> <p>R5000-Omxb External antenna</p>  <p>240 x 240 x 50 mm, 1.6 kg</p>	<p>Outdoor Unit (ODU)</p> <p>R5000-Smnc 22 dBi antenna</p>  <p>371 x 371 x 83 mm, 2.8 kg</p> <p>R5000-Smnc 19 dBi antenna</p>  <p>305 x 305 x 74 mm, 2.3 kg</p>	<p>Outdoor Unit (ODU)</p> <p>R5000-Lmnc External antenna</p>  <p>240 x 240 x 50 mm, 1.6 kg</p>
	<p>Indoor Unit IDU-BS-G</p> <p>125 x 72 x 38 mm, 0.3 kg</p>		<p>Indoor Unit (IDU-CPE-G (24W))</p> <p>97 x 53.5 x 33.5 mm, 0.133 kg</p>	