



OPTIMAX GIGABIT PtMP SOLUTION

Solution Technical Overview

Ibetor are industry leaders in driving a unique Point to Multipoint solution based on ultra-high IP Gigabit capacity, based on microwave DOCSIS technology, allowing operators to organically grow their networks to meet the future capacity demands from Business Access and Triple Play customers.

OptiMax offers scalable Gigabit capacity in traditional LMDS frequency bands 10.50/26/28GHz, but also offers the unique ability to customise and tailor its PtMP solution to meet the frequency challenges and requirements faced by Operators and Data Providers around the world in different frequency bands and is the only vender who can deliver a PtMP solution from 23GHz to 38GHz.

TRANSMISSION HUB & SECTOR RADIO

Using patients DOCSIS technology, the **OptiMax** CMTS is a low energy Transmission Hub that maximises spectrum usage to provide scaleable multi-channel channel capacity upto 3.6Gbps.

Combining multiple channels into a single 1GHz wide Outdoor Radio compact transmitter for maximum Return on Investment for operators.



TERMINAL STATION

The **OptiMax** Terminal Station offers an initial carrier grade FDD performance of 240Mbps at 64QAM downstream and 80Mbps upstream, powered by the latest DOCSIS 3.0 technology. Power and Data are provided over Coax cable to AC or DC variants, supporting a universal vertical or horizontal mounting bracket. Lightweight, compact and easy to install.



SERVICES

OptiMax is a carrier grade Ethernet/IP solutions with Layer2 QoS, offering very low latency, **OptiMax** boasts a power SNMP based Carrier Grade NMS solution based on the world wide in DOCSIS industry standard.



OPTIMAX GIGABIT TECHNICAL SPECIFICATIONS

Definition	10.50GHz	23GHz	26/28GHz
Duplex Tx/Rx Bands	10.15 - 10.24GHz 10.50 - 10.59GHz	23.21 - 23.59GHz 21.20 - 21.25GHz	24.54 - 25.44GHz 25.55 - 26.45GHz 27.55 - 28.55GHz 28.55 - 29.55GHz
Duplex Spacing	350 MHz	2005 MHz	1008 MHz
Radio Access Method	TDM DS / TDMA or CDMA US		
Channel Sizes	6MHz DS 3.2 or 6.4 MHz US		
Modulation	256 QAM to 64QAM DS / 32QAM to QPSK US		
Latency	<4ms		
Synchronisation	Internal to the OptiMax system		
System Range	5km #1	5km #1	4km #1
Sector Capacity	240Mbps @ 256QAM DS // 150Mbps @ 32QAM US	3.6Gbps @ 256QAM DS // 2Gbps @ 16QAM US	3.6Gbps @ 256QAM DS // 2Gbps @ 16QAM US

TRANSMISSION SECTOR

Definition	10.50GHz	23GHz	26/28GHz
Network Interfaces	Ethernet/RJ45		
Indoor Powering	AC/DC Options		
Indoor Dimensions	Dimensions of the chosen CMTS		(3 RU)
Outdoor Dimensions	19 x 19 x 4cm #2	55 x 20 x 20 cm #2	51 x 30 x 14 cm #2
Outdoor Powering	<0.6A @ 48VDC	<250W (VAC)	1A @ 48VDC
90° Sector Antenna Gain	90° 15dBi antenna 60° 17dBi antenna	90° 23dBi antenna <i>120/180° upon request</i>	90° 21dBi antenna 180° 18dBi antenna
Radio Transmit Power	21dBm	27dBm	21dBm

TERMINAL STATION

Definition	10.50GHz	23GHz	26/28GHz
Antenna Gain	25dBi	36.5dBi	36.6dBi 30cm antenna 42.6dBi 60cm antenna
Power Requirements	<12W (22 – 40VDC)	< 1A @ 24VDC	<1A @ 32VDC
Outdoor Dimensions	19 x 19 x 4 cm #3	31 x 31 x 10 cm #3	23 x 23 x 8 cm #3
Throughput	320Mbps @ 256QAM DS // 100Mbps @ 32QAM US		

STANDARDS COMPLIANCE

Definition	10.50GHz	23GHz	26/28GHz
Radio Compliance	ETSI EN 301 997-1, ETSI EN 301 997-2		
Safety & EMC	CE and FCC (ETSI EN 301 489-1, ETSI EN 301 489-4, EN 60950)		
Regulatory Compliance	RoHS & WEEE		

NETWORK MANAGEMENT SOLUTION

OptiMax Command Centre is a device provisioning solution with a service provider–grade DHCP provisioning and management component that supports the latest standards and technologies including DOCSIS 3.0, PacketCable, and SIP.

OptiMax Broadband Command Centre delivers world-class performance, availability and scalability in device and IP address provisioning.

OptiMax supports CableLabs and Broadband Forum provisioning and management standards as well as a number of vendor specific devices, with the ability to range in size from hundreds to millions of subscribers and IP addresses managed.



DOCSIS and PacketCable Device Provisioning



Quick & Easy Self-Activation & Self-Care



Automatic Firmware Management



Fraud & Network Usage Control



Network Monitoring & Planning



Captive Portal & Debt Management



Value-added Internet Business Models



Softswitch & Voicemail Provisioning

Ibetor provides tailored PtMP telecom solutions in the 31GHz, 32GHz and 38GHz and further information is available upto request from your Ibetor sales representative.

To confirm pricing information and further technical information, please contact sales@ibetor.es or visit our website at www.ibetor.es.

#1 : 2 Range information based on 39 carriers with 6MHz bandwidth for DS at 64QAM, 1 carrier per terminal station with 6.4MHz for US at 16QAM, a total of 39 US carriers per sector), 90° sector antenna in rain zone G 99.9% availability (26/28GHz only)

#2: Information shown is only the transceiver and does not include the antenna dimensions.

#3: Information shown is only the transceiver and does not include the antenna and mounting brackets.