Newtec

MDM2210
IP SATELLITE MODEM

WI-FI ENABLED

Newtec

Dialog®

Newtec MDM2210 IP Satellite Modem

The Newtec MDM2210 IP Satellite Modem is a two-way, high throughput modem. It is combined with a range of different antenna sizes and interactive LNBs (iLNBs) to create a **cost-effective satellite terminal** on the Newtec Dialog® platform.

It supports a wide range of IP services like Internet/intranet access, Voice over IP (VoIP) and multicasting services. Its **ease of installation, high-performance modulation techniques** and **integrated Wi-Fi** enable network operators to offer IP broadband services in a cost-effective way over Ku- and Ka-band networks.

It is perfectly suited to service consumers, Small Office and Home Office (SOHO) and Small and Medium Enterprises (SMEs), as well as supporting applications such as telemetry networks, Point Of Sale (POS) or banking.

Cost Effective Service Offerings

Thanks to a **unique design of both the compact modem and the iLNB**, the cost of the terminal is kept to a minimum.

The IP Satellite Modem is available with unique Point & Play® easy-install technology, supporting the installation of the complete terminal without specific qualifications or expensive tools. **Point&Play provides correct satellite identification and facilitates pointing.** This can happen through audio feedback, or through the Terminal Installation App. This smartphone app connects to the modem through Wi-Fi. It supports a number of key functionalities required during an antenna installation: Site acceptance, polarization adjustment, fully aided antenna pointing, storm testing etc. After mounting and positioning, the integrated certification assures correct installation by giving instant link quality approval. It guarantees that each terminal works at maximum efficiency without any interference risk.

True Broadband Experience

For a true broadband experience, the IP Satellite Modem incorporates the most efficient technologies available, such as DVB-S2X Adaptive Coding Modulation (ACM) in the forward link, and an Adaptive Return Link with advanced 4CPM modulation and IP traffic enhancement software for TCP acceleration, compression and encryption.

Main Advantages of the MDM2210

- Low initial investment per user, thanks to a very low terminal cost and unique Point & Play easy installation capability.

- High efficiency, exploiting up to 500 Mbaud wideband S2X carriers and high statistical multiplexing.

- Optional Wi-Fi support (hardware option).

- Easy-to-use multilanguage web Graphical User Interface (GUI) for installation, diagnostics and troubleshooting.

- Adaptive Return Link based on different 4CPM modulations/coding and multiple channel bandwidths.

- High service satisfaction ensured through a true broadband experience.

- Optimal availability and efficiency of DVB-S2X transmission thanks to Newtec's FlexACM® and ThiMM® technologies.

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Satellite Terminals

The Newtec MDM2210 IP Satellite Modem is packaged with an easy to install, high-performance Outdoor Unit (ODU). This terminal package is highly optimized for cost, efficiency and ease of use. The ODU consists of a high quality, easy-to-install antenna, an integrated transmitter and low noise block down converter (iLNB).

Straightforward Logistics

The MDM2210 terminal is delivered in a compact package. The modem and outdoor unit are copackaged in a single box with the following accessories: RF cable, ethernet cable, documentation and Point & Play devices. Antennas are shipped in bulk for cost-optimized freight.

Power Efficiency

The MDM2210 return technology is compatible with fully saturated transmitters. On top of the power efficient technology, the saturated output power gives even higher power efficiency.

Ease of Installation

The antenna mast-head for 75cm and 1m antennas is completely pre-mounted and does not require additional assembly work. The complete ODU Portfolio is compatible with Point & Play easy-installation technology, supporting the installation of the complete terminal without any specific qualification or expensive tools needed.

Wide Coverage and Flexibility

The antenna portfolio covers both Ku- and Ka-band for different sizes. For 75cm and 1m, the antennas can be used both in Ku- and Ka-band. Therefore, a network in Ku-band can be set up and transferred to Ka-band at the appropriate time with limited extra investment.

	Ku			Ka		
	75 cm	1 m	1.2 m	75 cm	1 m	1.2 m
0.5 W	✔	✔				
0.8 W	✔	✔	✔			
2.0 W	✔	✔	✔	✔	✔	✔
2.0 W quad	✔	✔				

Key Features

- Small size, table top or wall mounted
- Optional Wi-Fi and advanced routing support
- Wideband DVB-S2X ACM Forward
- 4CPM MF-TDMA Adaptive Return Link
- Embedded TCP acceleration and encryption
- Multilevel Quality of Service
- Layer 3 support with versatile IP routing and addressing
- Low jitter for real-time applications
- DNS Cache/Relay
- Support of IPv4 and IPv6
- Multiple virtual networks behind the modem
- Over-the-air software upgradeability
- Over-the-air monitoring and diagnostics tools
- Dual satellite configuration settings
- Ka- and Ku-band terminal solutions
- Support for single cable iLNBs

Markets

- Consumer
- SOHO
- SME
- Government
- Education
- Enterprise

Applications

- Internet / intranet access
- Streaming video and audio with TV quality
- VoIP telephony (SIP, H.323, G.729, …)
- Content distribution and management
- Telemetry (SCADA)
- Point of Sale terminals
- Banking

Satellite Link Interface

FORWARD CARRIER (RX)
- Standard: DVB-S2/DVB-S2X
- Modulation: QPSK, 8PSK, 16APSK, 32APSK, 64APSK
- Coding: According to standard MODCOD definition
- Roll-off: 5, 10, 15, 20, 25, 35%
- Symbol rate: 3.6 Mbaud to 500 Mbaud

RETURN CARRIER (TX)
- Modulation: 4CPM (Quaternary Continuous Phase Modulation)
- Access Scheme: Multi Frequency TDMA (Time Division Multiple Access)
- Channel bandwidth: 128, 192, 256, 384, 512, 788, 1024, 1536, 2048, 2560, 3072, 3584, 4096 kHz
- MODCODs: 0, 1, 2, 3, 4, 5

Performance

Max RX rate TCP:	100 Mbit/s
Max RX rate UDP:	120 Mbit/s
Max TX rate TCP:	5 Mbit/s
Max TX rate UDP:	5 Mbit/s

Modem Interfaces

RF INPUT/OUTPUT
Connector:	F-connector 75 Ohm
RX frequency range:	950-2150 MHz
RX level:	-65 to -25 dBm
TX frequency range:	2750-3000 MHz
TX level:	0 dBm

LOCAL AREA CONNECTION 1x 802.3ab 1000T Ethernet
OPTIONAL WI-FI: 802.11 b/g/n, 2.4 GHz
MASS STORAGE MicroSD card (future use)

Mechanical & Environment

Housing:	186 x 153 x 18 mm
Weight:	475 g
Operating temperature:	0 to 40°C
Humidity:	5%-95% non-condensing
Storage:	-10 to 60°C

Power Supply

DC voltage:	18 or 24 V (depending on iLNB)
Mains adaptor input:	Mains AC, 50 Hz\210-260 V and 60 Hz \100-130 V
Power consumption:	<30 W (0.8 W Ku iLNB) <60 W (2 W iLNB)

IP Features

Protocols:	UDP, IPv4&IPv6, ICMP, TCP, IGMPv1, IGMPv2, ARP, DHCP, DNS, NTP, Diffserv Marking
Networking:	Static routes, Terminal VLAN VRF, NAT (Wi-Fi option)

Management Interfaces

- Multilingual web GUI
- Over-the-air software & configuration updates
- Over-the-air monitoring, self-test and diagnostics
- SNMP v2c

Software Release

- Specifications valid for Newtec Dialog R2.1

Standards

EN302307:	DVB-S2
EN301428:	Ku-band VSAT conformity
EN301459:	Ka-band VSAT conformity
IEEE802.3:	10T Ethernet
IEEE 802.3u:	100TX Ethernet
IEEE 802.3ab:	1000T Ethernet

Key Features

- High level of integration
- Low power consumption
- Suitable for all weather conditions
- Offset feed clamp option or Quad iLNB for DTH reception
- Ku/Ka-dual band antennas support operational flexibility

Performance

ODU TYPE	Ku-band								Ka-band			
	ILB2120 ANT2010 0.75 m	ILB2120 ANT2025 1 m	ILB2121 ANT2035 1.2 m	ILB2140 ANT2010 0.75 m	ILB2140 ANT2025 1 m	ILB2141 ANT2035 1.2 m	ILB2145 ANT2010 0.75 m	ILB2145 ANT2025 1 m	ILB2220 ANT2010 0.75 m	ILB2220 ANT2025 1m	ILB2221 ANT2035 1.2 m	
Rated Power	0.8	0.8	0.8	2	2	2	2	2	2	2	2	Watt
RX frequency range	10.7-12.75								18.1-20.2			GHz
XPD RX	24	24	26	24	24	26	24	24	22			dB
G/T (mid-band)	15.4	17.9	19.4	15.4	17.9	19.4	15.1	17.6	18.6	21.1	22.2	dB/K
TX frequency range	13.75-14.5								28.1-30			GHz
XPD TX	24	24	26	24	24	26	24	24	24			dB
EIRP (mid-band)	37.8	40.3	41.9	41.8	44.3	45.9	41.7	44.2	47.9	50.4	52.0	dBW

iLNB Interface

- 2 F-connectors
- ILB2220/ILB2221: 1 F-connector
- ILB2145: 5 F-connectors

Standards

- RoHS compliance
- CE compliance
- WEEE

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SHAPING THE FUTURE OF SATELLITE COMMUNICATIONS