



Modus – RIA 22A

Robust outdoor solution for WISP providers and WLAN systems

- Wi-Fi AP/bridge/WDS/client and Hot Spot
- PtMP, PtP, proprietary polling protocol
- 2 radios 802.11abg with N-female antenna ports, high power option
- selectable bands 2.4 GHz ISM, 5 GHz CEPT (EU) and 5.8 GHz ISM
- data rates 1-11 Mbps DSSS, 6-54 Mbps OFDM
- 2 Ethernet ports 10/100 RJ45
- Power over Ethernet 802.3af/at or pasive PoE 20-56 VDC
- Eth/PoE/antenna ports surge protection
- PoE chaining, outdoor clustering
- operating temperature -30 to +60 °C
- IEC IP68
- RouterOS SW
- mounting on mast or wall
- CE conformity

Modus-RIA22A is ideal solution for Internet Service Providers, outdoor installations of Hot Spots, private networks over large geographic area, campus networks, IP-video security systems, and another WLAN applications especially in harsh environments. The compact unit, rugged design and flexible SW provides robust wireless solution for quick deployment a broad range of applications.

Dual multi-mode 802.11abg radios are controlled independently of each other. So you can configure to run multiple 802.11b, b/g, g or a/h mode on the radio/ antenna ports, as appropriate. 5GHz 802.11a high power radios as option provide more power for long-distance link.

Dual 10/100 Ethernet ports with PoE and power chaining provides simple installation and outdoor clustering more units without any other network components as switches or routers.

Embedded Mikrotik RB433AH / 680 MHz CPU and RouterOS system provides rich functionality in wireless, bridging, routing, security, data throughput shaping and QoS, that can meet any application in

converged networks carrying data, VoIP and IP-video traffic. SW provides diagnostic tools for both wired and wireless media to quickly analyze network problems.

Fully sealed cast aluminum box with pressure vent and stainless steel mounting hardware provides solution in any harsh environments as a telecom towers, city area with smog, heavy-industry plants, see coasts and harbours with salt fog. Mounting kit on the mast or wall for a simple installation is provided.

Product models:

Modus-RIA22A-NX-ML5 – universal unit for 2,4 / 5GHz bands with RouterOS

Modus-RIA22A-H5-ML5 – 5 GHz RF optimized high power radio unit, especially for full-duplex operations with dual polarized antennas using Dual Nstreme (recommended antennas Jirous JRC 24/29 DuplEX)

Technical specifications

Radio performance

Frequency bands	2,400 – 2,483 GHz ISM (13 channels) 5,150 – 5,350 GHz (8 channels - indoor) a 5,470 – 5,725 GHz (11 channels indoor / outdoor) CEPT WAS/RLAN 5,725 – 5,875 ISM (5 channels) Selectable channel width 5/10/20/40 MHz
Radio standard	802.11 abg,h (DFS and TPC)
Modulation	OFDM / BPSK, QPSK, 16QAM 802.11ag DSSS / DBPSK, DQPSK, CCK 802.11b
Data rates	OFDM 6,9,12,18,24,36,48,54 Mbps DSSS 1,2,5,5,11 Mbps
Transmitt power	typ. 17 dBm (2,4/5GHz) 1-36 Mbps, on antenna ports, 5 Ghz 23dBm radio option
Receiver sensitivity	802.11b: -93 dBm/1 Mbps, -86 dBm/11 Mbps 802.11g: -86 dBm/6 Mbps, -80 dBm/36 Mbps 802.11a: -86 dBm/6 Mbps, -75 dBm/36 Mbps
Antenna port	2 N-female, 1 per radio

Wireless protocol

Wi-Fi	Wi-Fi 802.11 abgh AP, bridge/WDS/client, virtual AP (up 7 per radio), Hot Spot
N-streme protocol	P-MP, P-P mode Proprietary protocol for throughput optimization – client stations polling, adaptive radio link, packet aggregation

Networking

Ethernet	2 ports 10/100 Base – TX (RJ45)
Transparent bridge	MAC address/protocol ID/multicast/broadcast filters, Spanning tree, VLAN bridging
IP router	NAT, static routing, RIP v1/v2, OSPF v2, BGP v4 PPTP, PPPoE, L2TP, EoIP DHCP client/server
Data Rate Mgmt	CIR, MIR, QoS

Security

802.11abgh HW	64/128 WEP, WPA – PSK/TKIP, WPA – PSK/AES-CCM
SW	ACL, RADIUS authentication, firewall, IP Sec

Configuration / Management

Config	GUI for Windows (WinBox), monitoring, wireless link test, reset, reboot over Ethernet or wireless interface http (WebBox),Telnet, MACTelnet, SSH, serial port (service)
Firmware upgrade	FTP,HTTP

Electrical parameters

Power consumption	max. 10 W
Power	Indoor PoE injector 100 - 250 VAC, 47-63 Hz / 48 VDC, 20 W Outdoor PoE 802.3af /at or pasive PoE 20-56 VDC, PoE chaining
Surge protection	Ethernet, PoE, antenna ports – for all bands up to 6 GHz

Fysical parameters

Dimensions	190x190x55 mm (w x h x d), without mounting hardware
Weight	1,58/1,65 kg, without mounting hardware
Operating temperature	-30 to + 60°C
Storage temperature	-40 to + 75°C
Protection	IEC IP68

Mounting hardware

Options	Mast bracket (for 30-80mm diameter) Wall bracket, security option
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Standards

Radio	ETSI EN 300 328, ETSI EN 301 893
EMC	ETSI EN 301 489 – 17, EN 61000-4-5
Safety	EN 60950
Conformity	CE,RoHS

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