FLUIDMESH 4500 MOBI

FLUIDMESH NETWORKS

WIRELESS BROADBAND FOR TRAINS AND VEHICLES MOVING UP TO 225MPH/362KMH

Powered by the FLUIDITY™ technology, the FLUIDMESH 4500 MOBI delivers fast and stable connectivity to vehicles and trains.
The FLUIDMESH 4500 MOBI has already been awarded numerous railway and transport certifications, making it a popular choice for deployment on many transport systems both in the U.S. and worldwide.

WI-FI ON BOARD

Your passengers expect wireless high-speed connectivity everywhere and FLUIDITY delivers it. With our trackside technology we are able to deliver connectivity up to 500 Mbps to fast moving vehicles and trains.

WORKS WITH FLUIDITY, OUR UNIQUE MOBILITY SOLUTION

The FLUIDMESH 4500 MOBI supports FLUIDITY, the ultimate broadband connectivity solution for high speed vehicles. Providing up to 500 Mbps of usable throughput to vehicles travelling up to 225mph/362Kmh is now a reality.
There is no handoff time with FLUIDITY thanks to the "make before brake" seamless approach, and it will maintain persistent network sessions and streams for any type of traffic.

REDUCE THE COST OF NETWORK OWNERSHIP SELECT THE AMOUNT OF THROUGHPUT YOU NEED

Limit the cost of network ownership with FluidThrottle by selecting only the amount of throughput required. More throughput can be easily achieved by upgrading the system with software plug-ins when the traffic requirements increase.
FluidThrottle makes Fluidmesh cost-effective and future-proof.

PRODIGY 2.0 FOR RELIABLE MISSION-CRITICAL APPLICATIONS

Our MPLS-based transmission protocol is built to overcome the limits of standard wireless protocols and to deliver an infrastructure with a higher level of reliability. At the base of our innovative transmission protocol, there is a traffic optimization algorithm that allows every Fluidmesh radio to assign a specific level of priority and reliability to every packet transmitted. The result is a better, more reliable, multi-service wireless infrastructure.

WEB INTERFACE CONFIGURES, MONITORS AND TROUBLESHOOTS THE WIRELESS NETWORK

The FLUIDMESH 4500 MOBI includes the FMQuadro web interface that allows you to configure, monitor, and troubleshoot the wireless network in real time, without any additional software. To simplify the configuration of the wireless network, the radio has a built-in spectrum analyzer and a real-time bandwidth monitoring tool.

QUICK PEEK

RUGGED DIE CAST ALUMINUM HOUSING
Specific for harsh environments and long lasting performances

FLUIDTHROTTLE
Select only the throughput you need

PRODIGY 2.0
MPLS transmission protocol with intelligent QoS

FMQUADRO
Web-based interface to easily configure, monitor, and troubleshoot the network

FLUIDMAX
Change network's architecture not the radios

FLUIDITY™
Connectivity solution for vehicles and trains

MULTI FREQUENCY
4.9 GHz and 5.1-5.8 GHz

ETHERNET PORT
802.3at Gigabit Port

PORTS AND CONNECTORS
Industrial-grade anti-vibration M12 ports and QMA connectors, EN50155 certified.
Optional SFP fiber port with XCO connector

OPERATIONAL APPLICATIONS
- Communication Based Train Control (CBTC)
- Remote system configuration and diagnostics
- Telemetry
- 24/7 Maintenance & Service Data
- On-board ticketing
- On-board point of sale (POS)
- VoIP communications

SECURITY APPLICATIONS
- LIVE video streaming
- LIVE front facing camera streaming
- Level crossing monitoring
- Incident analysis
- On-line virtual Black Box
- Emergency VoIP Intercom

PASSENGER SERVICES
- Internet on-board (Wi-Fi)
- Passenger information system
- Entertainment
- Digital Advertising
- Emergency service phone
- On-board Femtocells

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SYSTEM

Chipset	CPU	880MHz 1004Kc MIPS Network Processor
	RF	MIMO 2x2
Interface	Ethernet	2 x 10/100/1000 M12 Ports
	SFP-Fiber (optional)	1 x Dual LC ruggedised SFP XCO connector 100/1000 Mbit/s instead of one of the two M12 ports
	Reset	1 x Reset Button for factory default
Led 1		1 x Power
Led 2		1 x Ethernet 1
Led 3		1 x Ethernet 2
Led 4 - Led 7		4 x RSSI

RADIO

Operating frequencies*	5150 - 5350 MHz / 5470 - 5850 MHz 4940 - 4990 MHz 2350 - 2700 MHz 3350 - 3700 MHz
Channel width	20/40/80 MHz
Coaxial connectors	2x Cu-Sn-Zn-plated QMA compliant with ASTM B-117
Supported roaming veichle speed	Up to 225mph/362Kmh
MPLS Technology	Yes
Data Rate	6/9/12/18/24/36/48/54 Mbps 30/60/90/120/180/240/300 Mbps 65/130/195/260/390/520/585/ 650/780/866.6Mbps
Modulation	OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Output Power	Up to 30 dBm**
Handoff Latency	Make-before-break seamless handoff
Receiving Sensitivity	-96dB@6.5 Mbps; -70dB@300 Mbps; -67dB@866 Mbps

ELECTRICAL

Radio Power Input	48VDC Active 802.3at PoE 48VDC Passive PoE output*** 48VDC M12 power input
Max Power Consumption	20 Watts

PHYSICAL

Dimensions (in)	6.59 (h) x 5.21 (w) x 2.39 (d)
Dimensions (mm)	167,4 (h) x 132,4 (w) x 60,5 (d)
Weight	25oz - 700gr

PART NUMBERS

FM4500M-HW	Fluidmesh 4500 MOBI - Worldwide
FM4500M-HW-CN	Fluidmesh 4500 MOBI - Chinese market

SOFTWARE PLUG-INS

Ethernet Capacity Plugin up to 15 Mbps	Included
Ethernet Capacity Fixed Networks Plugins	30 Mbps, 60 Mbps, 120 Mbps, 200 Mbps, 300 Mbps, Unlimited
Fluidity Plugins Infrastructure	15 Mbps, 20 Mbps, 30Mbps, 60Mbps, 150Mbps, 250Mbps, Unlimited
Fluidity Mobile Units Plugins	5Mbps, 10Mbps, 15Mbps, 20Mbps, 30Mbps, 60Mbps, 150Mbps, 250Mbps, Unlimited
VLAN Support Plugin	Yes
802.1Q VLAN Support	Yes
AES Link Level Encryption	Yes

REGULATORY COMPLIANCE

Approvals	FCC Part 15.B, FCC Part 15.C, FCC Part 15.E, NII/RSS-210 Annex 9, FCC Part 90y, OET 65 MPE/RSS102, EN893+DFS, EN301189-1-17/ EN55022 EN 623111, EN60950, IC RS210, CE, ROHS24
Railway Certifications	EN50155, EN50121-3, EN50121-4, EN45545, EN50129, IEC 60571, AREMA 11.5.1, CBTC: EN50129
Environmental specs	T3

ENVIRONMENTAL

Operating Temperature	-40°F to 176˚F -40°C to 80°C
Humidity	5% - 95% non condensing
Mounting	Pole mounting kit and din-rail mounting included
Enclosure Characteristic	Die-cast Aluminum
IP Rating	IP66
Shock & Vibration	ETSI 300 – 019 - 1.4

NETWORK

Protocols	UDP, TCP, IP, RTP, RTCP, RTSP, HTTP, HTTPS, ICMP, ARP
Web Based interface	Yes
Multicast Support	Yes
UPnP Support	Yes
SNMP Support	Yes

SECURITY

VPN/L2TP	Yes
Full compatibility with AES, 3DES, RSA, HTTPS, SSL	Yes

* Some frequencies may require minimum order volumes or special licenses
** Depends on configuration and regulations
*** PoE injector and PoE converters available upon request

Fluidmesh Networks products are installed locally by professional System Integrators and are available worldwide through a network of Authorized Dealers.
For additional information please call +1.617.209.6080 or visit us at fluidmesh.com

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