



Fiber Optic, Wireless and Network Transmission

MiniLink[®] Mesh Series

2.4 & 5.8 GHz Wireless Ethernet Mesh Network Node (900 MHz optional)

Product Description

The MiniLink Wireless Mesh is a dual radio mesh networking product designed to transmit/receive video, voice at speeds of up to 54 Mbps. Each node operates in the license free 2.4 and 5.8 GHz bands and replaces a CAT5/Ethernet cable connection where it is not possible, cost effective or desirable to run a cable. Redundant Mesh networks can be established by connecting multiple nodes to one another in order to enable a variety of IP devices such as IP cameras, video servers, NVR/DVRs, etc. for maximum reliability and flexibility. The system is designed to route Ethernet traffic along the strongest connected path ensuring the best possible throughput and system performance. A secure encryption method is used to prevent unauthorized access to the system. Multiple nodes can be configured as a stand alone system or as part of a larger wired network using fiber, UTP, and/or Ethernet cabling.

Product Features

- Dual or single radio nodes available
- 802.11g/a user selectable; frequency modulation DSSS/OFDM
- Layer 3 routing; supports all TCP/IP protocols
- Compact billet aluminium NEMA-67 rated casing
- Secure Encrypted Transmission
- Web browser interface for advance operation
- Tunnelling technology designed for high bandwidth video transmission
- Non-line of sight capabilities (900 MHz)



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Version No. 090119

RF Modules

RADIO SPECIFICATION

Transmitting Frequency	
USA:	2.400 – 2.483GHz, 5.15 ~ 5.35 GHz, 5.725 ~ 5.825 GHz
Europe:	2.400 – 2.483GHz, 5.15~ 5.35 GHz, 5.47 ~ 5.725 GHz
Japan:	2.400 – 2.483GHz, 4.90 – 5.091GHz, 5.15 – 5.25GHz
China:	2.400 – 2.483GHz, 5.725 ~ 5.85 GHz

Channel Capacity 802.11b/g	
US/Canada:	11 (1 ~ 11)
Major European Countries:	13 (1 ~ 13)
France:	4 (10 ~ 13)
Japan:	11b: 14 (1~13 or 14th), 11g: 13 (1 ~ 13)
China:	13 (1 ~ 13)

Non-overlapping Channels 802.11a	
US/Canada – 12:	(5.15 ~ 5.35GHz, 5.725 ~ 5.825GHz)
Europe - 19:	(5.15 ~ 5.35GHz, 5.47 ~ 5.725GHz)
Japan – 4:	(5.15 ~ 5.25GHz)
China – 5:	(5.725 ~ 5.85GHz)

Modulation	
802.11b/g:	DSSS (DBPSK, DQPSK, CCK) / OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
802.11a:	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)

Data Throughput Rate	
802.11b/g:	11, 5.5, 2, 1 Mbps, auto-fallback,
802.11g:	up to 54 Mbps
802.11g:	(Super mode): up to 108 Mbps
802.11a:	(Normal mode): 54, 48, 36, 24, 18, 12, 9, 6Mbps, auto-fallback
802.11a:	(Turbo mode): 108, 96,72,48,36,24,18,12 Mbps, auto-fallback

TX Power	
802.11b:	18dBm
802.11g:	18dBm @6Mbps, 15dBm @54Mbps
802.11a:	17dBm @6Mbps, 13dBm @54Mbps

Receiver Sensitivity	
802.11a:	-88dB@6Mbps, -87dB@9Mbps, -85@12Mbps, -83dB@18Mbps, -80dB@24Mbps,-75dB@36Mbps, -73dB@48Mbps, -71dB@54Mbps
802.11b:	-95dB@1Mbps, -94dB@2Mbps, -92dB@5.5Mbps, -90dB@11Mbps
802.11g:	-90dB@6Mbps, -89dB@9Mbps, -87@12Mbps, -85dB@18Mbps, -82dB@24Mbps,-79dB@54Mbps

Antenna Connectors: 2x N-Type Female (dual radio nodes)

NETWORK MANAGEMENT

Interface:	Web GUI
Protocols Used:	All TCP/IP
Multicast Support:	Yes
Quality of Service:	802.11e (WME), ToS, QoS

Each ML-MESH Node kit includes:
1 – RF Mesh Node and appropriate antenna(s)
1 – Pole/wall mount bracket and hardware
1 – PoE power injection modules with power supply

SECURITY

Routing , VPN, MAC address filtering, Encryption Support (802.1x, AES-CCM, TKIP, WEP, WPA, WPA2)

MECHANICAL

Physical Dimensions:	7.125”H x 8.375”W x 2.188”D
Weight:	3.2 lbs
Environmental:	NEMA-67, IP65
Enclosure Material:	Die-Cast Aluminum
Mounting Hardware:	Pole Bracket and U-bolts

POWER

Power Requirements:	7VDC – 20VDC
Power Method:	Power-over-Ethernet (PoE) via power injector module (“mid-span” compliant – pins 4,5 positive – pins 7,8 ground)
Connector:	RJ45 – in and out of power injection module
Cable Specifications:	100 Meters (328 Feet) on 24 AWG CAT-5 cable

ENVIRONMENTAL

Operating Temperature:	-25F to +180F
Humidity:	95% non-condensing

APPROVALS

FCC	NKRDCMA82
IC	7286-S4X0082
CE	N/A (Will be CE certified soon)

Power Injection Module

MECHANICAL

Physical:	Plastic housing, not weatherproof
Dimensions:	1.0”H x 2.125”W x 1.625”D
Weight:	1.1oz

POWER

Power Requirements:	12 VDC 1A (wall transformer supplied)
Power-over-Ethernet (PoE):	PoE “mid-span” compliant (pins 4,5 positive – pins 7,8 ground)
Connectors:	DC Jack 2.5 mm x 5.5 mm center positive, 2 – RJ45

ENVIRONMENTAL

Humidity:	95% non-condensing
Operating Temperature:	TBD

Warranty

2 YEAR LIMITED WARRANTY

Part Numbers

ML MESH	Dual radio node kit; 2.4 & 5.8 GHz
ML MESH-S	Single radio node kit; 2.4 & 5.8 GHz
ML MESH9	Dual radio node kit; 900 MHz & 2.4/5.8 GHz
ML MESH-S9	Single radio node kit; 900 MHz
ML MESH-D9	Dual radio node kit; 900 MHz

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