

Operational Description of Wireless Outdoor Mount Ethernet Router SPEEDLAN 9201

The outdoor wireless Ethernet router, FCC ID: KINSL9201, is a high performance router that creates interconnectivity between buildings, and it provides links for LAN-to-LAN applications. This system can be used in mesh configuration. The functional block diagram of the bridge is presented on Figure 1.

The outdoor wireless Ethernet routers are installed on the pole or tower. The router containing the Atheros 2.4 GHz Transmitter / Receiver, Embedded Processor and Voltage Regulator is enclosed in a metal enclosure that is connected to the ground. The Ethernet data and DC supply voltage (36 Vdc) are injected through a junction box via a 300 ft. CAT5 Ethernet cable (2 pairs are used for DC voltage and other 2 for Ethernet data), and then it is connected to the router. Then, the DC voltage is separated and connected to a Voltage Regulator, and Ethernet data are processed and transferred to an Atheros transmitter that is connected to a 8 dBi integrated omni antenna.

If the system is not transmitting, it is in a receiving mode. The received signal from the antenna is amplified, processed and demodulated via CAT5 Ethernet cable connected to the LAN system.

Technical Specification of SPEEDLAN 9201 Router			
RF INFORMATION			
Topologies	Mesh		
Compatibility	Full Interoperable with 2.4 GHz DSSS/OFDM		
Channels	2.4 GHz DSSS/OFDM: 11		
Regulatory	FCC Part 15		
Frequency Range	US/Canada-2.4 GHz DSSS/OFDM: 2.412-2.462GHz		
Frequency Band	Spread Spectrum	Signaling Rate (Mb/s)	Modulation
2.4 GHz	DSSS	1	DBPSK
		2	DQPSK
		5.5	CCK
		11	
2.4 GHz	OFDM	6	BPSK
		9	QPSK
		12	
		18	
		24	16 QAM
		36	64 QAM
		48	
		54	
Communication Method	Half duplex		
Receive Sensitivity @ PER < 0.10			
2.4 GHz OFDM	-82 dBm @ 6 Mb/s		
2.4 GHz DSSS	-87 dBm @ 1 Mb/s		

Tx Power		
Frequency	2.4GHz	
Specific Channels	1, 2, 10, and 11	3-9
Tx Power Supported	13 dBm (20mW) 17 dBm (50mW)	
Power Supply	Wall unit: 100/240 VAC, 47/63Hz, 0.7A; output 24V DC, 1.0A	
Media Access Protocol	CSMA/CA	
SECURITY		
Wireless Encryption	128 bit-AES (for 92xx) and WEP (for SPEEDMesh-enabled client)	
ENVIRONMENTAL		
Storage Temperature	-40°C to 60°C	
Working Temperature	-33°C to 55°C	
Start-up Temperature	-20°C to 55°C	
WIRED LAN INTERFACE		
Compliance	IEEE 802.3 Ethernet	
Physical Interface	10Base-T, 10/100Base-TX	
WIRELESS LAN INTERFACE		
RF Physical Interface	RTNC bulkhead RF connector or integrated antenna	
Bit Error Rate	Better than 10 ⁻⁵	
CONFIGURATION & MANAGEMENT		
Upgradeability	Firmware is upgradeable via in-band management	
Configuration & Monitoring	Web-based, HTTPS	
MECHANICAL		
92xx Enclosure	NEMA 4 metal chassis; tower or pole-mount	
Dimensions (H x W x D)		
9201	31.5" x 7" x 3.5" (80.0 cm x 17.8 cm x 8.9 cm)	
9204	25.0" x 7" x 3.5" (63.5 cm x 17.8 cm x 8.9 cm)	
9205	9" x 7" x 3.5" (22.9 cm x 17.8 cm x 8.9 cm)	
Weight		
9201	5.5 lbs	
9204	5.1 lbs	
9205	4.5 lbs	
WARRANTY		
Service Warranty	1 year depot warranty, extended warranty available	