Operational Description of Wireless Outdoor Mount
Ethernet Router SPEEDLAN 9202

The outdoor wireless Ethernet router, FCC ID: KINSL9202, is a high performance router that creates interconnectivity between buildings, and it is provides links for LAN-to-LAN applications. This system can be used in star or 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 Dual Band 2.4 & 5 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 9 dBi external omni, 10 dBi external omni, 17 dBi directional grid, 23 dBi flat panel or 29 dBi directional dish antenna.

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

Technical Specification of SPEEDLAN 9202 Series Router

Operational Description of Wireless Outdoor Mount Ethernet Router SPEEDLAN 9200 Series			
RF INFORMATION			
Topologies	Star & Mesh		
Compatibility	Full Interoperable with 2.4 GHz DSSS/OFDM & 5 GHz OFDM		
Channels	**2.4 GHz DSSS/OFDM:** 11		
	5 GHz OFDM: 5		
Regulatory	FCC Part 15, CE		
Frequency Range	**US/Canada-5 GHz OFDM :** 5.725-5.825 GHz		
	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 & 5 GHz	OFDM	6	BPSK
		9	
		12	QPSK
		18	
		24	16 QAM
		36	
		48	64 QAM
		54	
Communication Method	Half duplex		
Receive Sensitivity @ PER < 0.10			
5 GHz OFDM	-82 dBm @ 6 Mb/s		
2.4 GHz OFDM	-82 dBm @ 6 Mb/s		
2.4 GHz DSSS	-87 dBm @ 1 Mb/s		

	Tx Power			
Frequency	**5GHz**		**2.4GHz**	
Specific Channels	All		1, 2, 10, and 11	3-9
Tx Power Supported	13 dBm (20mW)		13 dBm (20mW)	17 dBm (50mW)
	15 dBm (30mW)			
	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)			
9202	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			
9202	4.5 lbs			
WARRANTY				
Service Warranty	1 year depot warranty, extended warranty available			