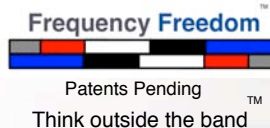




# SuperRange9

900MHz Hi-Performance mini-PCI Radio

The SuperRange9 is a revolutionary 900MHz wireless solution which uses Ubiquiti's patent-pending Frequency Freedom radio technology to seamlessly transform standard 802.11 silicon to non-standard and proprietary frequencies. The SR9 features high-output power, great receive sensitivity combined with noise immunity performance needed for fast data rates and robust operation in the 902-928MHz ISM band



Ubiquiti  
Frequency  
Freedom Radio  
operating at  
900MHz

802.11b/g  
silicon with full  
standard  
features



FEATURES
700mW Output Power
FCC Compliant
Non Line-of-Sight
MADWiFi Compatible
Enhanced Filtering
5/10/20 MHz Channels
Noise Immunity

**1,000's of SR9 links deployed worldwide**

**Proven non-line-of sight distances at 20km+**

**Real TCP/IP Data Rates of 25Mbps+**



Mikrotik is a trademark of Mikrotikls SIA, Latvia



# SuperRange9

## TECHNICAL SPECIFICATIONS

CARD INFORMATION	
Radio Operation	Proprietary 900MHz based on 802.11b/g CCK/OFDM
Interface	32-bit mini-PCI Type IIIA
Operation Voltage	3.3VDC
Antenna Ports	Dual u.fl (Primary only required; secondary optional for diversity)
Temperature Range	-20C to +70C
Security	WPA, WPA2, AES-CCM & TKIP Encryption, 802.1x, 64/128/152bit WEP
Data Rates	1Mbps-11Mbps (802.11b), 6-54Mbps (802.11g)
RoHS Compliance	NO

REGULATORY INFORMATION	
Wireless Modular Approvals	FCC and Industry Canada

OPERATING FREQUENCY 907-922MHz							
900MHz TX SPECIFICATIONS				900MHz RX SPECIFICATIONS			
	DataRate	TX Power	Tolerance		DataRate	Sensitivity	Tolerance
802.11b	1Mbps	28 dBm	+/-1.5dB	802.11b	1Mbps	-93 dBm	+/-2dB
	2Mbps	28 dBm	+/-1.5dB		2Mbps	-92 dBm	+/-2dB
	5.5Mbps	28 dBm	+/-1.5dB		5.5Mbps	-91 dBm	+/-2dB
	11Mbps	28 dBm	+/-1.5dB		11Mbps	-88 dBm	+/-2dB
802.11g OFDM	6Mbps	28 dBm	+/-1.5dB	802.11g OFDM	6Mbps	-91 dBm	+/-2dB
	9Mbps	28 dBm	+/-1.5dB		9Mbps	-90 dBm	+/-2dB
	12Mbps	28 dBm	+/-1.5dB		12Mbps	-88 dBm	+/-2dB
	18Mbps	28 dBm	+/-1.5dB		18Mbps	-87 dBm	+/-2dB
	24Mbps	28 dBm	+/-1.5dB		24Mbps	-83 dBm	+/-2dB
	36Mbps	26 dBm	+/-1.5dB		36Mbps	-83 dBm	+/-2dB
	48Mbps	23 dBm	+/-1.5dB		48Mbps	-74 dBm	+/-2dB
	54Mbps	21 dBm	+/-1.5dB		54Mbps	-71 dBm	+/-2dB

CURRENT CONSUMPTION INFORMATION							
900MHz TX SPECIFICATIONS				900MHz RX SPECIFICATIONS			
	DataRate	Current	Tolerance		DataRate	Current	Tolerance
802.11b	1Mbps	1.2 A	+/-100 mA	802.11b	1Mbps	500mA	+/-100 mA
	2Mbps	1.2 A	+/-100 mA		2Mbps	500mA	+/-100 mA
	5.5Mbps	1.2 A	+/-100 mA		5.5Mbps	500mA	+/-100 mA
	11Mbps	1.2 A	+/-100 mA		11Mbps	500mA	+/-100 mA
802.11g OFDM	6Mbps	1.2 A	+/-100 mA	802.11g OFDM	6Mbps	500mA	+/-100 mA
	9Mbps	1.2 A	+/-100 mA		9Mbps	500mA	+/-100 mA
	12Mbps	1.2 A	+/-100 mA		12Mbps	500mA	+/-100 mA
	18Mbps	1.2 A	+/-100 mA		18Mbps	500mA	+/-100 mA
	24Mbps	1.2 A	+/-100 mA		24Mbps	500mA	+/-100 mA
	36Mbps	1.1 A	+/-100 mA		36Mbps	500mA	+/-100 mA
	48Mbps	1.0 A	+/-100 mA		48Mbps	500mA	+/-100 mA
	54Mbps	0.85 A	+/-100 mA		54Mbps	500mA	+/-100 mA

900MHz FREQUENCY CHANNEL SUPPORT							
Frequency	5MHz	10MHz	20MHz	Frequency	5MHz	10MHz	20MHz
907 MHz				917 MHz			
912 MHz				922 MHz			

RANGE PERFORMANCE	
Indoor (Antenna Dependent):	Up to 100meters
Outdoor (Antenna Dependent):	Over 1km

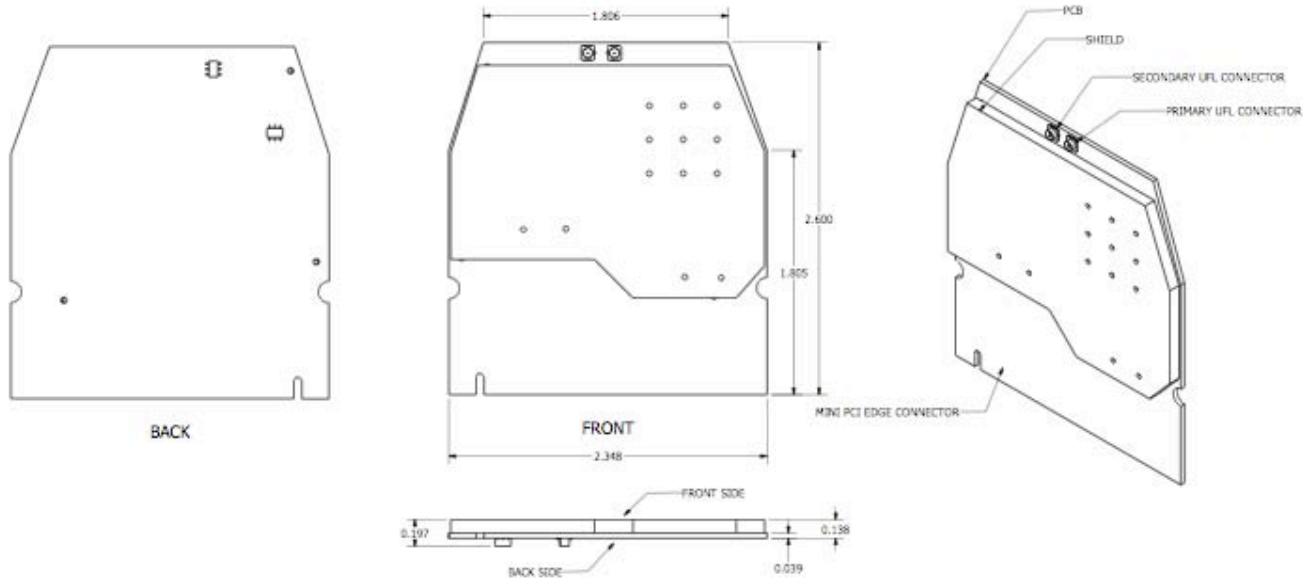
DRIVER INFORMATION	
Operating System Support	Linux MADWIFI, WindowsXP, Windows2000
Advanced Mobility / QuickHandoff	WindowsXP/2000 Utility with Enhanced Mobility Driver from Ubiquiti
Cisco Support	CCX 4.0 Supported Driver/Utility also available from Ubiquiti
For help with MADWIFI or other Special Driver Support, Please e-mail support@ubnt.com	

# MINI-PCI INTERFACE PINOUT

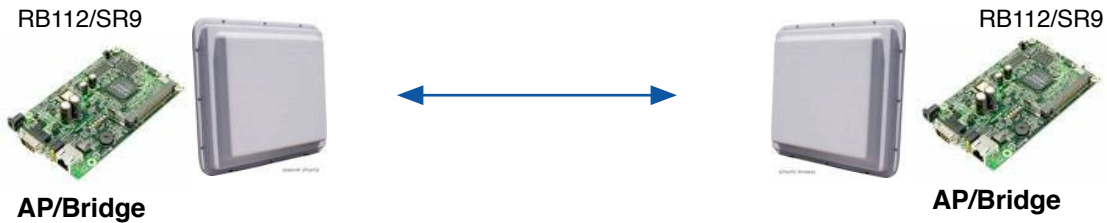
#	InUse	Pin Name	Description	#	InUse	Pin Name	Description
1	X	TIP	1 Conductor, local loop wire pair	63	YES	3.3V	3.3 V Supply voltage
2	X	RING	1 Conductor, local loop wire pair	64	YES	FRAME#	Indicates Bulk Transfer
3	X	8PMJ-3	Pin 3 of optional 8-pin modular jack	65	YES	CLKRUN#	Stops clock on certain mobile PCI
4	X	8PMJ-1	Pin 1 of optional 8-pin modular jack	66	YES	TRDY#	Target Ready
5	X	8PMJ-6	Pin 6 of optional 8-pin modular jack	67	YES	SERR#	Catastrophic system error
6	X	8PMJ-2	Pin 2 of optional 8-pin modular jack	68	YES	STOP#	Target wishes to end transfer
7	X	8PMJ-7	Pin 7 of optional 8-pin modular jack	69	YES	GROUND	Ground
8	X	8PMJ-4	Pin 4 of optional 8-pin modular jack	70	YES	3.3V	3.3 V Supply voltage
9	X	8PMJ-8	Pin 8 of optional 8-pin modular jack	71	YES	PERR#	Indicates Parity Error
10	X	8PMJ-5	Pin 5 of optional 8-pin modular jack	72	YES	DEVSEL#	PCI Device Select
11	X	LED1_GRP	Interface for external LEDs	73	YES	C/BE[1]#	Byte Enable
12	X	LED2_YELP	Interface for external LEDs	74	YES	GROUND	Ground
13	X	LED1_GRNN	RF Silent input	75	YES	AD[14]	Multiplexed Address/Data Bus
14	X	LED2_YELN	Interface for external LEDs	76	YES	AD[15]	Multiplexed Address/Data Bus
15	YES	CHSGND	Chassis Ground	77	YES	GROUND	Ground
16	X	RESERVED	-	78	YES	AD[13]	Multiplexed Address/Data Bus
17	X	INTB#	Interrupt Request B	79	YES	AD[12]	Multiplexed Address/Data Bus
18	X	5V	5 V Supply voltage	80	YES	AD[11]	Multiplexed Address/Data Bus
19	YES	3.3V	3.3 V Supply voltage	81	YES	AD[10]	Multiplexed Address/Data Bus
20	YES	INTA#	Interrupt Request A	82	YES	GROUND	Ground
21	X	RESERVED	-	83	YES	GROUND	Ground
22	X	RESERVED	-	84	YES	AD[09]	Multiplexed Address/Data Bus
23	YES	GROUND	Ground	85	YES	AD[08]	Multiplexed Address/Data Bus
24	YES	3.3VAUX	3.3 V supply-uninterrupted	86	YES	C/BE[0]#	Byte Enable
25	YES	CLK	PCI Clock	87	YES	AD[07]	Multiplexed Address/Data Bus
26	YES	RST#	PCI Reset	88	YES	3.3V	3.3 V Supply voltage
27	YES	GROUND	Ground	89	YES	3.3V	3.3 V Supply
28	YES	3.3V	3.3 V Supply voltage	90	YES	AD[06]	Multiplexed Address/Data Bus
29	YES	REQ#	PCI Bus Request	91	YES	AD[05]	Multiplexed Address/Data Bus
30	YES	GNT#	PCI Bus Grant	92	YES	AD[04]	Multiplexed Address/Data Bus
31	YES	3.3V	3.3 V Supply voltage	93	X	RESERVED	-
32	YES	GROUND	Ground	94	YES	AD[02]	Multiplexed Address/Data Bus
33	YES	AD[31]	Multiplexed Address/Data Bus	95	YES	AD[03]	Multiplexed Address/Data Bus
34	X	PME#	Power Management Event	96	YES	AD[00]	Multiplexed Address/Data Bus
35	YES	AD[29]	Multiplexed Address/Data Bus	97	X	5V	5 V Supply voltage
36	X	RESERVED	-	98	X	RESERVED_WIP5	-
37	YES	GROUND	Ground	99	YES	AD[01]	Multiplexed Address/Data Bus
38	YES	AD[30]	Multiplexed Address/Data Bus	100	X	RESERVED_WIP5	-
39	YES	AD[27]	Multiplexed Address/Data Bus	101	YES	GROUND	Ground
40	YES	3.3V	3.3 V Supply voltage	102	YES	GROUND	Ground
41	YES	AD[25]	Multiplexed Address/Data Bus	103	X	AC_SYNC	AC97 Sync
42	YES	AD[28]	Multiplexed Address/Data Bus	104	X	M66EN	Enables 66 MHz PCI bus
43	YES	RESERVED	-	105	X	AC_SDATA_IN	AC97 Data Input
44	YES	AD[26]	Multiplexed	106	X	AC_SDATA_OUT	AC97 Data Output
45	YES	C/BE[3]#	Byte Enable	107	X	AC_BIT_CLK	AC97 Bit Clock
46	YES	AD[24]	Multiplexed Address/Data Bus	108	X	AC_CODEC_ID0#	Identifier for AC97 CODEC
47	YES	AD[23]	Multiplexed Address/Data Bus	109	X	AC_CODEC_ID1#	Identifier for AC97 CODEC
48	YES	IDSEL	Initialization Device Select	110	X	AC_RESET#	AC97 Reset
49	YES	GROUND	Ground	111	X	MOD_AUDIO_MON	Modem Audio Monitor
50	YES	GROUND	Ground	112	X	RESERVED	-
51	YES	AD[21]	Multiplexed Address/Data Bus	113	YES	AUDIO_GND	Analog Ground for line-level audio
52	YES	AD[22]	Multiplexed Address/Data Bus	114	X	GROUND	Ground
53	YES	AD[19]	Multiplexed Address/Data Bus	115	X	SYS_AUDIO_OUT	Telephone Audio Out
54	YES	AD[20]	Multiplexed Address/Data Bus	116	X	SYS_AUDIO_IN	Telephone Audio In
55	YES	GROUND	Ground	117	X	SYS_AUDIO_OUTG	Analog Ground for telephone audio
56	YES	PAR	Parity Bit	118	X	SYS_AUDIO_IN_G	Analog Ground for telephone audio
57	YES	AD[17]	Multiplexed Address/Data Bus	119	X	AUDIO_GND	Analog Ground for line-level audio
58	YES	AD[18]	Multiplexed Address/Data Bus	120	YES	AUDIO_GND	Analog Ground for line-level audio
59	YES	C/BE[2]#	Byte Enable	121	X	RESERVED	-
60	YES	AD[16]	Multiplexed Address/Data Bus	122	X	MPCLACT#	MiniPCI Function Active
61	YES	IRDY#	Initiator Ready	123	X	VCC5VA	5V Analog
62	YES	Ground	Ground	124	X	3.3VAUX	3.3 V supply-uninterrupted

# SuperRange9

## MECHANICAL DIMENSIONS



*Need help getting started?*



Full Documented Mikrotik / SR9 Test Reports available.  
Details available for use with MADWIFI driver.  
E-mail [support@ubnt.com](mailto:support@ubnt.com)



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