



XTREMERange5

Carrier-Class 5GHz 802.11a Radio Module



The XtremeRange series of radio modules by Ubiquiti leverages the knowledge and experiences gained from customer interaction, field performance evaluations, and lab research -- and improves upon the original and highly successful SuperRange series of high-performance 802.11 radio cards. The XtremeRange5 represents the first true carrier-class 802.11a based 5GHz radio module specifically designed for mesh, bridging, and infrastructure applications requiring the highest levels of performance and reliability without compromise.

Designed to Link Farther and Faster

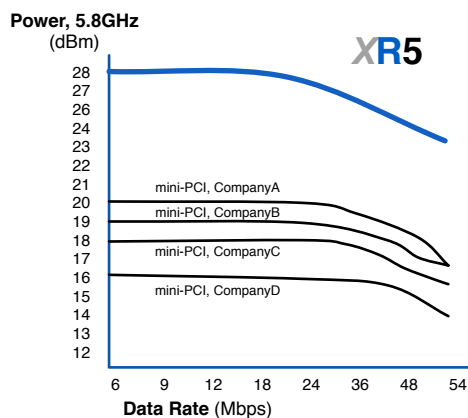
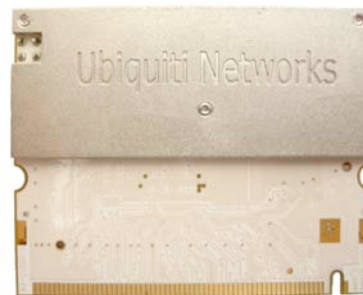
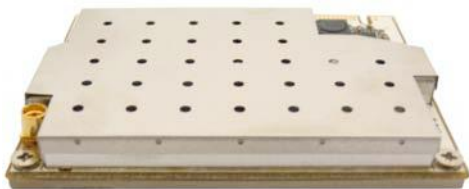
| FEATURES |
|---------------------------|
| 600mW Output Power |
| Industry-Best Sensitivity |
| Extended Temperature |
| Enhanced Filtering |
| 5/10/20/40 MHz Channels |
| MMCX Ant. Connector |



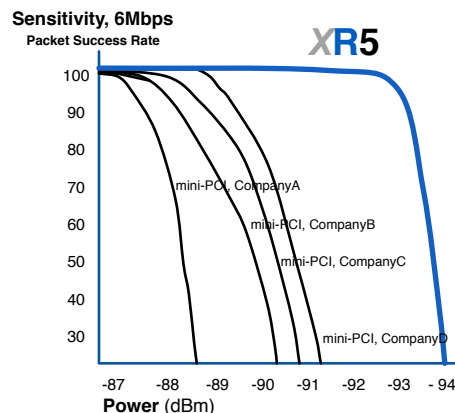
Hi-Performance PCB for Maximum RF Performance

Built-in HeatSink for Temperature Performance

Built for Industrial / Rugged Applications



Mikrotik is a trademark of Mikrotiks SIA, Latvia



XTREMERange5

TECHNICAL SPECIFICATIONS

| CARD INFORMATION | | | | | | | |
|---|---|-----------|-----------|--|----------|---------------|-----------|
| Chipset | Atheros, 6th Generation, AR5414 with SuperA/Turbo Support | | | | | | |
| Radio Operation | IEEE 802.11a, 5GHz | | | | | | |
| Interface | 32-bit mini-PCI Type IIIA | | | | | | |
| Operation Voltage | 3.3VDC | | | | | | |
| Antenna Ports | Single MMCX | | | | | | |
| Temperature Range | -40C to +80C (extended temp version up to +95C) | | | | | | |
| Security | WPA, WPA2, AES-CCM & TKIP Encryption, 802.1x, 64/128/152bit WEP | | | | | | |
| Data Rates | 6Mbps, 9Mbps, 12Mbps, 24Mbps, 36Mbps, 48Mbps. 54Mbps | | | | | | |
| TX Channel Width Support | 5MHz / 10MHz / 20MHz / 40MHz | | | | | | |
| RoHS Compliance | YES | | | | | | |
| REGULATORY INFORMATION | | | | | | | |
| Wireless Modular Approvals | FCC Part 15.247 (23dBi Antenna), IC RS210, CE with Notified Body Number | | | | | | |
| RADIO OPERATING FREQUENCY 5.20-5.825GHz | | | | | | | |
| TX SPECIFICATIONS | | | | RX SPECIFICATIONS | | | |
| | DataRate | Avg.Power | Tolerance | | DataRate | Sensitivity | Tolerance |
| 802.11a OFDM | 6Mbps | 28 dBm | +/-1.5dB | 802.11a OFDM | 6Mbps | -94 dBm | +/-1.5dB |
| | 9Mbps | 28 dBm | +/-1.5dB | | 9Mbps | -93 dBm | +/-1.5dB |
| | 12Mbps | 28 dBm | +/-1.5dB | | 12Mbps | -91 dBm | +/-1.5dB |
| | 18Mbps | 28 dBm | +/-1.5dB | | 18Mbps | -90 dBm | +/-1.5dB |
| | 24Mbps | 28 dBm | +/-1.5dB | | 24Mbps | -86 dBm | +/-1.5dB |
| | 36Mbps | 26 dBm | +/-1.5dB | | 36Mbps | -83 dBm | +/-1.5dB |
| | 48Mbps | 24 dBm | +/-1.5dB | | 48Mbps | -77 dBm | +/-1.5dB |
| | 54Mbps | 23 dBm | +/-1.5dB | | 54Mbps | -74 dBm | +/-1.5dB |
| ADJUSTABLE CHANNEL SIZE SUPPORT (Increase Channel Capacity or Increase Throughput) | | | | | | | |
| 5MHz | | 10MHz | | 20MHz | | 40MHz (Turbo) | |
| CURRENT CONSUMPTION INFORMATION | | | | | | | |
| TX CURRENT CONSUMPTION | | | | RX CURRENT CONSUMPTION | | | |
| | DataRate | Current | Tolerance | | DataRate | Current | Tolerance |
| 802.11a OFDM | 6Mbps | 1.80 A | +/-100 mA | 802.11a OFDM | 6Mbps | 300 mA | +/-100 mA |
| | 9Mbps | 1.80 A | +/-100 mA | | 9Mbps | 300 mA | +/-100 mA |
| | 12Mbps | 1.80 A | +/-100 mA | | 12Mbps | 300 mA | +/-100 mA |
| | 18Mbps | 1.80 A | +/-100 mA | | 18Mbps | 300 mA | +/-100 mA |
| | 24Mbps | 1.80 A | +/-100 mA | | 24Mbps | 300 mA | +/-100 mA |
| | 36Mbps | 1.50 A | +/-100 mA | | 36Mbps | 300 mA | +/-100 mA |
| | 48Mbps | 1.30 A | +/-100 mA | | 48Mbps | 300 mA | +/-100 mA |
| | 54Mbps | 1.10 A | +/-100 mA | | 54Mbps | 300 mA | +/-100 mA |
| RANGE PERFORMANCE | | | | | | | |
| Indoor (Antenna Dependent): | | | | Up to 150meters | | | |
| Outdoor (Antenna Dependent): | | | | Over 50km | | | |
| 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 Certified Driver/Utility also available from Ubiquiti | | | |
| For help with MADWIFI or other Special Driver Support, Please e-mail support@ubnt.com | | | | | | | |



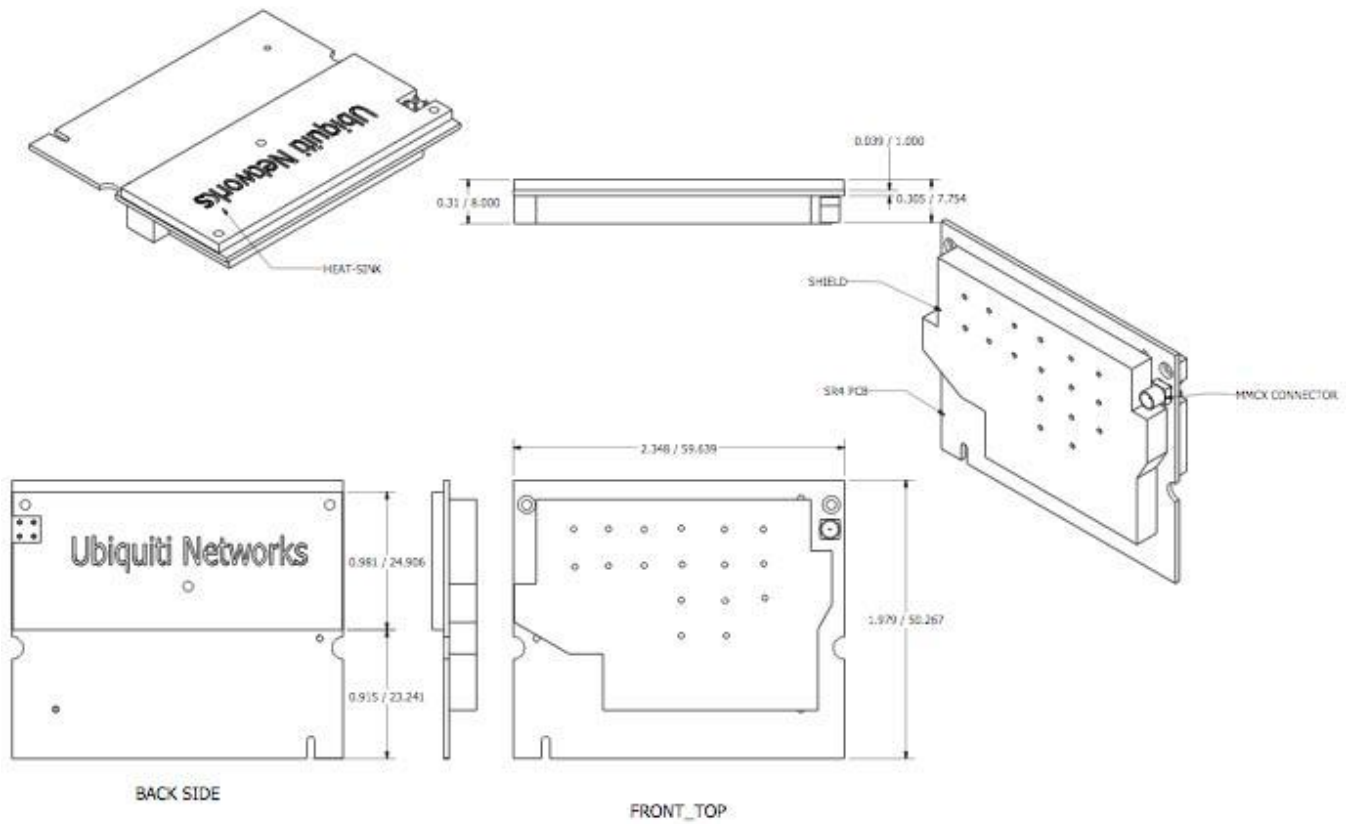
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MINI-PCI INTERFACE PINOUT

| # | 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 |

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MECHANICAL DIMENSIONS



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