

# Market Specifications for model DCMA-82 High Power WLAN 802.11a/g Mini-PCI Adapter(MMCX)



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## Feature List

1. High Power Design, peak power up to 30dBm
2. RoHS compliant product
3. Atheros AR5414A, Dual Band MAC/BB/Radio single chip solution supports super mode
4. RF connector: 2\*MMCX
5. Heat sink design provide reliable high power RF performance
6. Two DC supply options: +3.3Vdc only or +3.3Vdc plus +5Vdc.
7. Screw hole reserved for assembly with AP main board for AP application
8. High speed for wireless LAN connection: IEEE802.11b 11Mbps data rate by incorporating Direct Sequence Spread Spectrum (DSSS); IEEE802.11a 54Mbps data rate with Orthogonal Frequency Division Multiplexing (OFDM) and up to 108Mbps with Turbo mode; IEEE802.11g 54Mbps data rate with OFDM (108Mbps in Turbo mode) and 11Mbps with DSSS. Provide seamless roaming within the IEEE 802.11a/b WLAN infrastructure
9. IEEE 802.11a/b/g compatible: allowing inter-operation among multiple vendors
10. Support Atheros Super A/G™ Mode
11. Provide seamless roaming within the IEEE 802.11 a/b/g WLAN infrastructure
12. Site survey function
13. Support MicroSoft Windows XP, 2000
14. Interoperability – Complying with WiFi
15. Extended range supporting
16. Support 802.1x, AES-CCM & TKIP, Power Saving Mode
17. 64/128/152-bit WEP Encryption
18. 802.11e standard compatible bursting
19. Wireless multimedia enhancements quality of service support (QoS)
20. Support for draft IEEE 802.11e,h,i and j standards

## DCMA-82 Market Product Specification, WLAN 802.11a/b/g® Mini-PCI Adapter

Item	Key specifications
Main Chipset	➤ DCMA-82: AR5414A-BGA Single Chip (with Super AG function)
Frequency Band	<ul style="list-style-type: none"> <li>➤ <b>A Mode:</b> <ul style="list-style-type: none"> <li>5.15~5.35 &amp; 5.725~ 5.85 GHz for US</li> <li>5.15~5.35 GHz for Japan</li> <li>5.15~5.35 &amp; 5.47~5.725 GHz for ETSI</li> <li>5.725~5.85 GHz for China</li> <li>4.94~4.989Ghz for US safety band</li> </ul> </li> <li>➤ <b>B/G Mode:</b> <ul style="list-style-type: none"> <li>2400~2483.5 MHz (for US, Canada, EU, China and Japan)</li> </ul> </li> </ul>
Modulation technique	<ul style="list-style-type: none"> <li>➤ <b>802.11 a/b/g</b> <ul style="list-style-type: none"> <li>DSSS (DBPSK, DQPSK, CCK)</li> <li>OFDM (BPSK,QPSK, 16-QAM, 64-QAM)</li> </ul> </li> </ul>
Host interface	➤ Mini-PCI form factor; Mini-PCI Version 1.0 type 3A
Channels support	<ul style="list-style-type: none"> <li>➤ <b>802.11b/g</b> <ul style="list-style-type: none"> <li>US/Canada: 11 (1 ~ 11)</li> <li>Major European country: 13 (1 ~ 13)</li> <li>France: 4 (10 ~ 13)</li> <li>Japan: 11b: 14 (1~13 or 14<sup>th</sup>), 11g: 13 (1 ~ 13)</li> <li>China: 13 (1 ~ 13)</li> </ul> </li> <li>➤ <b>802.11a</b> <ul style="list-style-type: none"> <li>1). US/Canada: 12 non-overlapping channels (5.15~5.35GHz, 5.725~5.825GHz)</li> <li>2). Europe: 19 non-overlapping channel (5.15~5.35GHz, 5.47~5.725GHz)</li> <li>3). Japan: 8 non-overlapping channels (5.15~5.35GHz)</li> <li>4). China: 5 non-overlapping channels (5.725 ~ 5.85GHz)</li> </ul> </li> </ul>
Operation voltage	➤ 3.3V +/- 10%
Power consumption	<ul style="list-style-type: none"> <li>➤ <b>A Mode:</b> <ul style="list-style-type: none"> <li>Cont. Tx: 1100mA (typical)~1300mA (max)</li> <li>Cont. Rx: 250mA (typical)~270mA (max)</li> <li>Stand by: 280mA (typical)~290mA (max)</li> </ul> </li> <li>➤ <b>G Mode:</b> <ul style="list-style-type: none"> <li>Cont. Tx: 730mA (typical)~780mA (max)</li> <li>Cont. Rx: 240mA (typical)~260mA (max)</li> <li>Stand by: 280mA (typical)~290mA (max)</li> </ul> </li> <li>➤ <b>B Mode:</b> <ul style="list-style-type: none"> <li>Cont. Tx: 730mA (typical)~780mA (max)</li> <li>Cont. Rx: 200mA (typical)~220mA (max)</li> <li>Stand by: 230mA (typical)~240mA (max)</li> </ul> </li> <li>➤ <b>Power saving: 40mA (typical)</b></li> </ul>
Output power	<ul style="list-style-type: none"> <li>➤ <b>A Mode:</b> <ul style="list-style-type: none"> <li>+22.5dBm at 6, 9, 12, 18Mbps</li> <li>+21.5dBm at 36Mbps</li> <li>+19dBm at 48Mbps</li> <li>+18dBm at 54Mbps</li> </ul> </li> <li>➤ <b>B Mode:</b> <ul style="list-style-type: none"> <li>+24dBm at 1,2, 5.5, and 11Mbps</li> </ul> </li> <li>➤ <b>G Mode:</b> <ul style="list-style-type: none"> <li>+23dBm at 6, 9, 12, 18Mbps</li> <li>+22.5dBm at 36Mbps</li> <li>+20dBm at 48Mbps</li> <li>+19.5dBm at 54Mbps</li> </ul> </li> </ul>
Operation distance	<ul style="list-style-type: none"> <li>➤ <b>802.11a</b> <ul style="list-style-type: none"> <li>Outdoor: 85m@54Mbps, 350m@6Mbps</li> <li>Indoor: 25m@54Mbps, 60m@6Mbps</li> </ul> </li> <li>➤ <b>802.11b</b> <ul style="list-style-type: none"> <li>Outdoor: 350m@11Mbps, 400m@1Mbps</li> <li>Indoor: 45m@11Mbps, 70m@1Mbps</li> </ul> </li> <li>➤ <b>802.11g</b> <ul style="list-style-type: none"> <li>Outdoor: 90m@54Mbps, 400m@6Mbps</li> <li>Indoor: 30m@54Mbps, 65m@6Mbps</li> </ul> </li> </ul>
Operation System	➤ Windows® 98SE, ME, 2K, XP, NT4.0

supported	
Dimension	➤ 59.6mm(L) * 50.8mm (W) * 5.5mm (H)
Security	<ul style="list-style-type: none"> <li>➤ 64-bit, 128-bit, 152-bit WEP Encryption</li> <li>➤ 802.1x Authentication</li> <li>➤ AES-CCM &amp; TKIP Encryption</li> </ul>
Operation mode	➤ Infrastructure & Ad-hoc mode
Transfer data rate	<ul style="list-style-type: none"> <li>➤ <b>802.11b/g</b> 11b: 11, 5.5, 2, 1 Mbps, auto-fallback, 11g: 54, 48, 36, 24, 18, 12, 9, 6Mbps, auto-fallback</li> <li>➤ <b>802.11g (Super mode)</b> up to 108 Mbps</li> <li>➤ <b>802.11a (Normal mode)</b> 54, 48, 36, 24, 18, 12, 9, 6Mbps, auto-fallback</li> <li>➤ <b>802.11a (Super mode)</b> 108, 96, 72, 54, 48, 36, 24, 18, 12 Mbps, auto-fallback</li> </ul>
Operation temperature	➤ 0° ~ 70° C (AR5414A)
Storage temperature	➤ -10° ~ 80° C (AR5414A)
Wi-Fi® Alliance	➤ WECA Compliant
WHQL	➤ Microsoft® 2K, XP Complaint
FAA	➤ S/W radio On/Off support
EMC certificate	<ul style="list-style-type: none"> <li>➤ FCC part 15 (USA)</li> <li>➤ Telec (Japan)</li> <li>➤ ETSI, EN301893, EN60950 (Europe)</li> </ul>
Media access protocol	➤ CSMA/CA with ACK architecture 32-bit MAC
Advance Function	<ul style="list-style-type: none"> <li>➤ Super AG</li> <li>➤ Extended Range</li> <li>➤ Support JumpStart V1.0 on Microsoft® 2K, XP</li> </ul>
Antenna connector	➤ 2 x SMT MMCX