

AN-622 IEEE 802.11a/b/g/n Mini PCI Module AirRunner™ WiFi Series

The Zcomax AN-622 is an extremely versatile mPCI module, supporting the ISM 2.4GHz and 5GHz UNII bands. Utilizing the field proven Atheros AR9220 802.11a/b/g/n chipset ensures use of the latest technology while remaining a cost effective choice for a wide array of projects. The AR9220 chipset enables 300Mbps performance on either band (2.4GHz or 5GHz). This wireless mini PCI module has been purposely designed with integrated applications in mind. Its low profile external antenna connectors and standard mini PCI interface, ensure that the AN-622 will fit into any design supporting the mini PCI form factor.

The AN-622's reliable design helps to reduce the overall costs associated with wireless integration by eliminating the need for the debugging and driver support commonly associated with designing a product from the "ground up". The AN-622 module is a robust plug and play ready device.

For more information on this or any other Zcomax product please contact one of our sales professionals today.



AN-622 mPCI Module

Key Features

- IEEE 802.11a/b/g/n compliant
- 2.4GHz / 5GHz dual-band MIMO
- Standard 32-bit mPCI Type III-A interface
- Based on Atheros XSPAN® family
- Chipset: Atheros AR9220
- Tx power up to 24dBm
- Receive sensitivity to -93dBm
- 2 x Hirose u.FL
- RoHS compliant
- Temperature range: -20 to +60°C

AN-622 at a Glance

| | |
|----------------|-------------------------|
| Chipset | Atheros AR9220 (XSPAN®) |
| Transmit Power | Up to 24 dBm |
| Performance | 300 Mbps performance |
| MIMO | 2x2 dual-band |

| IEEE | Radio | RoHS | Interface |
|------|-------|------|-----------|
| | | | |

| Radio Specification | | | | | |
|----------------------------|---|------------------------------|--------------|-------|-------|
| 802.11 Standard | IEEE 802.11a/b/g/n compliant | | | | |
| Chipset | Atheros AR9220 (Single chip, dual-band) | | | | |
| Modulation | OFDM: BPSK, QPSK, 16-QAM, 64-QAM / DSS: DBPSK, DQPSK, CCK | | | | |
| Supported Frequency Ranges | ISM Band: FCC-2.412GHz ~ 2.462GHz, ETSI-2.412GHz ~ 2.472GHz | | | | |
| | UNII : FCC-5.15GHz~5.850GHz, ETSI 5.15GHz~5.35GHz, 5.47GHz~5.725GHz | | | | |
| RF Output Power (± 2dB) | IEEE 802.11a | 5150-5350MHz 5470-5725MHz | 6-24Mbps | 21dBm | |
| | | | 36Mbps | 21dBm | |
| | | | 48Mbps | 20dBm | |
| | | | 54Mbps | 19dBm | |
| | | 5725-5825MHz | 6-24Mbps | 21dBm | |
| | | | 36Mbps | 20dBm | |
| | | | 48Mbps | 19dBm | |
| | | | 54Mbps | 17dBm | |
| | IEEE 802.11b | 1-11Mbps | | 21dBm | |
| | IEEE 802.11g | 6-24Mbps | | 24dBm | |
| | | 36Mbps | | 23dBm | |
| | | 48Mbps | | 22dBm | |
| | | 54Mbps | | 20dBm | |
| | IEEE 802.11gn | HT20 MCS0/8 | | 24dBm | |
| | | HT20 MSC1/9 | | | |
| | | HT 20 MSC2/10 | | | |
| | | HT 20 MSC3/11 | | | |
| | | HT 20 MSC4/12 | | | |
| | | HT 20 MSC5/13 | | 23dBm | |
| | | HT 20 MSC6/14 | | | |
| | | HT 20 MSC7/15 | | 19dBm | |
| | | HT 40 MSC0/8 | | 23dBm | |
| | | HT 40 MSC1/9 | | | |
| | | HT 40 MSC2/10 | | | |
| | | HT 40 MSC3/11 | | | |
| | | HT 40 MSC4/12 | | 22dBm | |
| | | HT 40 MSC5/13 | | | |
| | HT 40 MSC6/14 | | 21dBm | | |
| | HT 40 MSC7/15 | | 19dBm | | |
| | IEEE 802.11an | 5150~5350 | HT20 MCS0/8 | | 24dBm |
| | | | HT20 MCS1/9 | | |
| | | | HT20 MCS2/10 | | |
| HT20 MCS3/11 | | | 23dBm | | |
| HT20 MCS4/12 | | | | | |
| HT20 MCS5/13 | | | | | |
| HT20 MCS6/14 | | | | | |
| HT20 MCS7/15 | | 19dBm | | | |
| 5470~5725 | | HT20 MCS0/8 | | 22dBm | |
| | | HT20 MCS1/9 | | | |
| | | HT20 MCS2/10 | | | |
| | | HT20 MCS3/11 | | | |
| | | HT20 MCS4/12 | | | |
| | | HT20 MCS5/13 | | | |
| | | HT20 MCS6/14 | | 17dBm | |
| HT20 MCS7/15 | | | | | |
| 5725~5825 | | HT20 MCS0/8 | | 22dBm | |
| | | HT20 MCS1/9 | | | |
| | | HT20 MCS2/10 | | | |
| | | HT20 MCS3/11 | | | |
| | | HT20 MCS4/12 | | | |
| | | HT20 MCS5/13 | | | |
| | | HT20 MCS6/14 | | 21dBm | |
| HT20 MCS7/15 | | 17dBm | | | |
| 5150~5350 | HT40 MCS0/8 | | 22dBm | | |

Dual-Band 802.11n MIMO

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|--------------|-----------|--|--------------|--------------|-------|-------|
| | | | HT40 MCS1/9 | 21dBm | | |
| | | | HT40 MCS2/10 | | | |
| | | | HT40 MCS3/11 | | | |
| | | | HT40 MCS4/12 | | | |
| | | | HT40 MCS5/13 | | | |
| | | | HT40 MCS6/14 | | | |
| | 5470~5725 | | | HT40 MCS7/15 | 16dBm | |
| | | | | HT40 MCS0/8 | 20dBm | |
| | | | | HT40 MCS1/9 | | |
| | | | | HT40 MCS2/10 | | |
| | | | | HT40 MCS3/11 | | |
| | | | | HT40 MCS4/12 | | |
| | 5725~5825 | | | HT40 MCS5/13 | | 21dBm |
| | | | | HT40 MCS6/14 | | |
| | | | | HT40 MCS7/15 | | |
| | | | | HT40 MCS0/8 | 20dBm | |
| | | | | HT40 MCS1/9 | | |
| | | | | HT40 MCS2/10 | | |
| HT40 MCS3/11 | | | | | | |
| HT40 MCS4/12 | | | | | | |
| HT40 MCS5/13 | | | | | | |
| | | | | 20dBm | | |
| | | | | 16dBm | | |

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|----------------------|--------------------|-----------------|-----------------|
| Receiver Sensitivity | OFDM Data Rate | 2.4GHz | 5GHz |
| | 1Mbps / 11Mbps | -93dBm / -88dBm | N/A |
| | 6Mbps / 9Mbps | -91dBm / -90dBm | -88dBm / -87dBm |
| | 12Mbps / 18Mbps | -88dBm / -86dBm | -86dBm / -84dBm |
| | 24 Mbps / 36 Mbps | -83dBm / -79dBm | -81dBm / -77dBm |
| | 48Mbps / 54Mbps | -75dBm / -74dBm | -75dBm / -74dBm |
| | 802.11n Data Rates | 2.4GHz | 5GHz |
| | HT20 MSC0/MSC7 | -90dBm / -71dBm | -90dBm / -71dBm |
| | HT40 MSC0/MSC7 | -86dBm / -68dBm | -86dBm / -68dBm |

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|-------------------|---|
| Power Consumption | IEEE 802.11a/b/g Tx ≤ 750mA, Rx ≤ 400mA |
|-------------------|---|

| Physical Specification | |
|------------------------|---|
| Interface | 32-bit mini-PCI Type III-A |
| Dimensions | 59.6mm x 50.95mm x 4.5mm ± 0.15mm |
| Weight | ≤ 15g |
| Operating voltage | DC 3.3V ± 5% |
| Working Temperature | -20°C to 60°C, < 95% relative humidity (non-condensing) |
| Storage Temperature | -30°C to 80°C, 5-90% relative humidity (non-condensing) |
| Green Information | RoHS Compliant |
| Antenna Connectors | 2 x u.FL |

| Warranty | |
|-----------------|---|
| Warranty Period | 1 Year limited warranty from the date of purchase |