# Information Brief

**Brief:** Artem ComPoint Embedded

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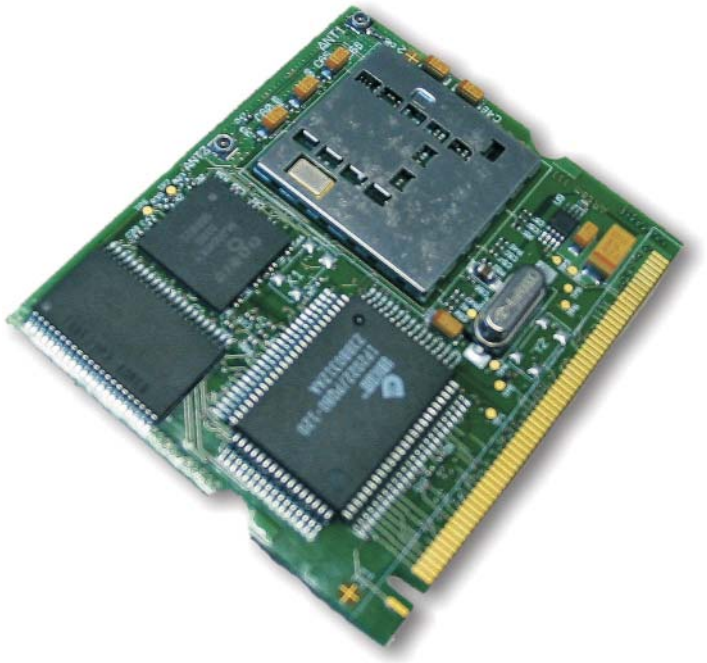

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## Content



### Wireless LAN and your health

The Artem Wireless LAN products, like other radio devices, emit radio frequency electromagnetic energy. The level of energy emitted by Wireless LAN devices however is far much less than the electromagnetic energy emitted by wireless devices like for example mobile phones. Because Wireless LAN products operate within the guidelines found in radio frequency safety standards and recommendations, Artem believes Wireless LAN is safe for use by consumers. These standards and recommendations reflect the consensus of the scientific community and result from deliberations of panels and committees of scientists who continually review and interpret the extensive research literature.

### Regulatory information

This device must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. For country-specific radio and telecommunications approvals, please consult page 2 of this flyer. In some situations or environments, the use of wireless devices may be restricted by the proprietor of the building or responsible representatives of the organization. These situations may for example include: Using the wireless equipment on board of airplanes, or in any other environment where the risk of interference to other devices or services is perceived or identified as harmful. If you are uncertain of the policy that applies on the use of wireless equipment in a specific organization or environment (e.g. airports), you are encouraged to ask for authorization to use this device prior to turning on the equipment. The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of the devices included with this kit, or the substitution or attachment of connecting cables and equipment other than specified by manufacturer. The correction of interference caused by such unauthorized modification, substitution or attachment will be the responsibility of the user. The manufacturer and its authorized resellers or distributors are not liable for any damage or violation of government regulations that may arise from failing to comply with these guidelines.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

When integrating the Module, the following information must be considered:

All products containing the module must be labelled. The label must be affixed on an exterior surface of the end product such that it will be visible upon inspection in compliance with the modular approval guidelines developed by the FCC.

The label must state "This device contains FCC ID R8G-CM11B-01"

In addition, the user manual for the end product must contain the following information:

"This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2)this device must accept any interference received, including interference that may cause undesired operation."

## General Description

The Core Module combines all needed components to build an IEEE 802.11b wireless device.

It contains:

- Network processor (Ubicom IP2022 @ 120MHz)
- IEEE 802.11b radio (Agere Hermes 2 and Penguin)
- Clock (4.8MHz crystal, CPU internal PLL to generate 120MHz and 240MHz)
- Optional: 32kHz crystal for RTC and sleep mode
- Voltage supervisor including debounced reset input
- 1 MBit SRAM and 4 MBit Serial Flash for packet buffering and firmware storage
- 2.5V LDO
- 2 U.FL antenna connectors (Rx/Tx and Rx diversity)

The module is designed in the form factor of a MiniPCI Type IIIA card (50.95 x 59.75 x 8 mm (L x W x H)) , however with a proprietary pinout. Please see the MiniPCI standard for mechanical details (MiniPCI Spec Rev. 1.0, Figure 5-7 on page 45).

Power consumption: max. 500mA @ 3.3V (avg.: tbd ; sleep: tbd)

Supply voltage: 3.3V +/- 3%

Operating temperature: -20 °C .. +70°C

## Usable CPU Ports

| Port | Vmax | Imax | | Assignment | Preferred usage |
|---|---|---|---|---|---|
| RA1 | 3.3V | 24mA | DI / DO | SPI SCK (fixed) | SPI SCK |
| RA2 | 3.3V | 24mA | DI / DO | SPI SI (fixed) | SPI SI |
| RA3 | 3.3V | 24mA | DI / DO | SPI SO (fixed) | SPI SO |
| RB0 | 3.3V | 8mA | DI / DO / Ext. Interrupt | | SPI CS |
| RB1 | 3.3V | 8mA | DI / DO / Ext. Interrupt | | |
| RE4 | 3.3V | 8mA | DI / DO | SERDES 1 | Ethernet 1 |
| RE5 | 3.3V | 24mA | DI / DO | SERDES 1 | Ethernet 1 |
| RE6 | 3.3V | 24mA | DI / DO | SERDES 1 | Ethernet 1 |
| RE7 | 3.3V | 8mA | DI / DO | SERDES 1 | Ethernet 1 |
| RG4 | 2.5V | 4mA | AI / DO | SERDES 1 | Ethernet 1 |
| RG5 | 2.5V | 4mA | AI / DO | SERDES 1 | Ethernet 1 |
| RF0 | 3.3V | 8mA | DI / DO | SERDES 2 | Ethernet 2 / RS232 RTS |
| RF1 | 3.3V | 24mA | DI / DO | SERDES 2 | Ethernet 2 / RS232 TxD |
| RF2 | 3.3V | 24mA | DI / DO | SERDES 2 | Ethernet 2 / RS232 CTS |
| RF3 | 3.3V | 8mA | DI / DO | SERDES 2 | Ethernet 2 |
| RG6 | 2.5V | 4mA | AI / DO | SERDES 2 | Ethernet 2 |
| RG7 | 2.5V | 4mA | AI / DO | SERDES 2 | Ethernet 2 |
| RG0 | 2.5V | 4mA | AI / DO / ACOMP Out | | Act. LED 2 |
| RG1 | 2.5V | 4mA | AI / DO / ACOMP In - | | Link LED 2 |
| RG2 | 2.5V | 4mA | AI / DO / ACOMP In + | | Act. LED 1 & Monitor button |
| RG3 | 2.5V | 4mA | AI / DO / ADC Ref In | | Link LED 1 |
| RF7 | 3.3V | 8mA | DI / DO | SERDES 2 | RS232 RxD |

AI = Analog Input (ADC, 48kHz, 10bit)
DI = Digital Input
DO = Digital Output
Ext. Interput = Interupt Input
ACOMP = Analog Comparator

## Software Features

| | Access Point | Ethernet Client | Ethernet Serial Client |
|---|---|---|---|
| Current firmware & version | sm_ap V1.40 | sm_ac V1.40 | sm_sc V1.40 |
| Wireless | | | |
| Network Name | yes | yes | yes |
| Channel Setting | yes | yes (Ad-Hoc) | yes (Ad-Hoc) |
| 802.11d Support | yes | yes | yes |
| Transmission Rate (auto + fixed) | yes | yes | yes |
| Ad-Hoc Mode | n/a | yes | yes |
| Load Balancing | yes | yes | yes |
| AP Distance | yes | n/a | n/a |
| RTS Threshold (1 - 2347) | yes | yes | yes |
| Microwave robustness | yes | yes | yes |
| Medium Distribution Support | yes | yes | yes |
| DTIM Interval (1 - 65535) | yes | n/a | n/a |
| Multicast rate | yes | yes | yes |
| PS Multicast Buffering | yes | n/a | n/a |
| IAPP (ARtem proprietary) | yes | n/a | n/a |
| WLAN Node Table | yes | n/a | n/a |
| AP Scan List | n/a | yes | yes |
| LAN Node Table | n/a | yes | yes |
| Security | | | |
| 802.1x Authentication | MD5, TLS, TTLS, PEAP | MD5 | MD5 |
| 802.1x Reauthentication Timer | yes | n/a | n/a |
| RADIUS Client | yes | n/a | n/a |
| ACL Local | yes | n/a | n/a |
| Data Encryption | WEP64/128/Plus | WEP64/128/Plus TKIP | WEP64/128/Plus TKIP |
| Deny Unencrypted Data | yes | n/a | n/a |
| WPA-Personal (PSK) | Planned | yes | yes |
| WPA-Enterprise (802.1x) | Planned | Planned | Planned |
| Radio On/Off | yes | yes | yes |
| AP Visibility (Hide SSID) | yes | n/a | n/a |
| Inter Traffic Blocking (Repeating) | yes | n/a | n/a |
| Admin Password | yes | yes | yes |
| Configuration over WLAN Option | yes | yes | yes |
| Configuration & Management | | | |
| User-Friendly Web Interface | yes | yes | yes |
| ComPoint Manager - Discovery- & Rollout-Tool | yes | yes | yes |
| Configuration Management API | yes | yes | yes |
| DHCP Client | yes | yes | yes |
| Reboot | yes | yes | yes |
| Reset Configuration | yes | yes | yes |
| Reset All to Factory Default | yes | yes | yes |

## Software Features

| | Access Point | Ethernet Client | Ethernet Serial Client |
|---|---|---|---|
| Serial | | | |
| TCP Server | n/a | n/a | yes |
| TCP Client | n/a | n/a | yes |
| Transparent Serial Bridge | n/a | n/a | Planned |
| Virtual COM | n/a | n/a | Planned |
| Serial Statistics | n/a | n/a | yes |
| Baudrate | n/a | n/a | 2400 - 230400 |
| Data Bits (7/8) | n/a | n/a | yes |
| Parity (None, Even, Odd) | n/a | n/a | yes |
| Stop Bits (1, 2) | n/a | n/a | yes |
| Handshake HW (RTS/CTS, DTR/DSR) | n/a | n/a | yes (only for RS232) |
| Handshake SW (XON/XOFF) | n/a | n/a | Planned |
| Frame Send Trigger via Time-Out | n/a | n/a | yes |
| Frame Send Trigger via Byte Count | n/a | n/a | yes |
| Frame Send Trigger via Multi-Byte Delimiter | n/a | n/a | Planned |

## Legal Notices



## Contact

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