



gM1-420

1x1 IEEE 802.11 b/g High Power Mini PCI Radio Module

gM1-420 is an IEEE 802.11b/g 420 MHz to 450 MHz Radio Module built over Vizmonet's innovative Built-to-Customize™ platform engineered for carrier class long range high data capacity applications.

With superior TX power efficient RF design, the product supports high TX Power offering best-in class EVM performance at higher modulation schemes. This facilitates to achieve long range without compromising data throughput.

With well-engineered RX Design, gM1-420 offers ultra-low receive sensitivity to achieve long range.

Backed by military grade technology, the product is ideal for deployment in harsh outdoor environment and available with plenty of options for customization to enable easy integration into OEM systems.



FEATURES

- IEEE 802.11b/g standards compliant operating in the frequency range 420 MHz to 450 MHz
- High TX Power of up to +29 dBm for lower data rates
- Atheros AR5414A-001 Chipset
- Mini PCI Type IIIA form factor – 59.6mm(W)x64mm(L)
- Support for Customization for OEM integration
- Operating Temperature range (-20 deg C to +70 deg C)

TECHNICAL SPECIFICATION**RADIO MODULE – GENERAL INFO**

Chipset Info	Atheros AR5414A-001
Operating Frequency	420 MHz to 450 MHz
Security	WPA,WPA2, 802.11i with AES-CCM & TKIP Encryption, 802.1x, 64/128/152bit WEP
Data Rates	1Mbps to 11Mbps - 11b, 6Mbps to 54Mbps - 11g
Channel Bandwidth	5 MHz/10 MHz/20 MHz
RoHS Compliance	Compliant
Operating System Support	Linux Open WRT and Ath5K driver

INTERFACE SPECIFICATIONS

Interface	PCI 32 bit,33 MHz, mini PCI Form Factor
Operating Voltage	3.3V
RF Antenna connector	SINGLE MMCX, VERTICAL

PHYSICAL SPECIFICATIONS

Mechanical Dimension (Assembled condition)	(L) 59.6 mm x (W) 64 mm x (H)8.7 mm
Weight of the module without ESD Bag	41 g
Weight of the Module with ESD Bag	43 g

CUSTOM FEATURES

MAC ID	74-E2-77-00 series
PCI SUB VENDOR ID	168C
PCI SUB DEVICE ID	1206
TX POWER OFFSET	10 dB
FREQUENCY OFFSET	TBD
LABELS	MAC LABEL – 1 PC ON THE RADIO MODEL LABEL – DUAL BARCODE – 1 PC ON THE ESD BAG

REGULATORY INFORMATION

REGULATORY APPROVALS	TBD
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PACKAGING INFORMATION

100 UNITS PER CARTON	520 mm (L) x 240 mm (W) x 133 mm (H)
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ORDERING INFORMATION

gM1-420	Mini PCI Radio Module, 1x1 IEEE 802.11 b/g, 420 MHz, 30 dBm
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RADIO SPECIFICATION - RX

Receiver Maximum input level (10% PER)	> -10 dBm
Receive Chain Noise Figure	5.5 dB
Frequency Accuracy	Within ± 15 PPM
Receiver Adjacent Channel Rejection (ACR)	
10 to 20 MHz, 10% PER	1 Mbps > 35 dB
	6 Mbps > 20 dB
Receiver Alternate Channel Rejection (ALCR)	
20 to 30 MHz, 10% PER	1 Mbps > 45 dB
	6 Mbps > 30 dB

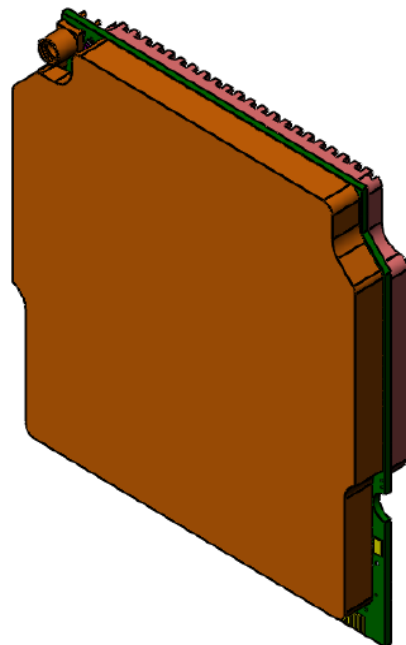
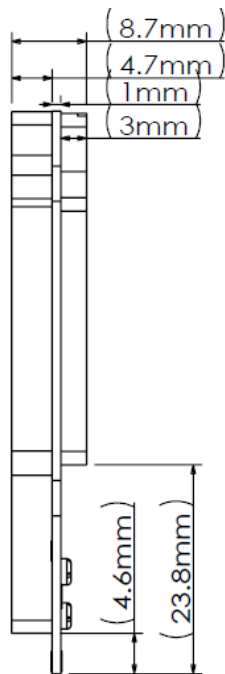
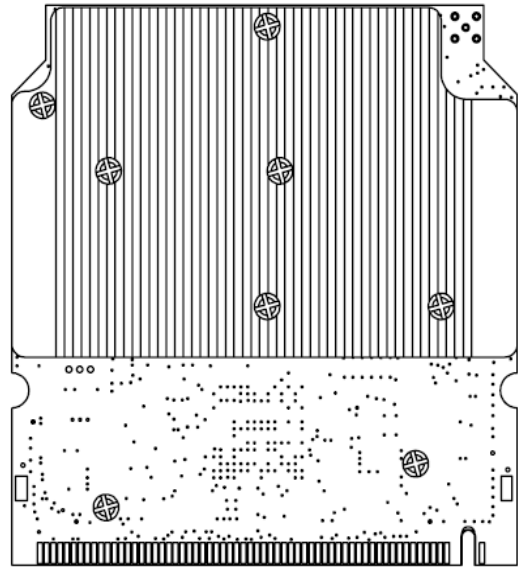
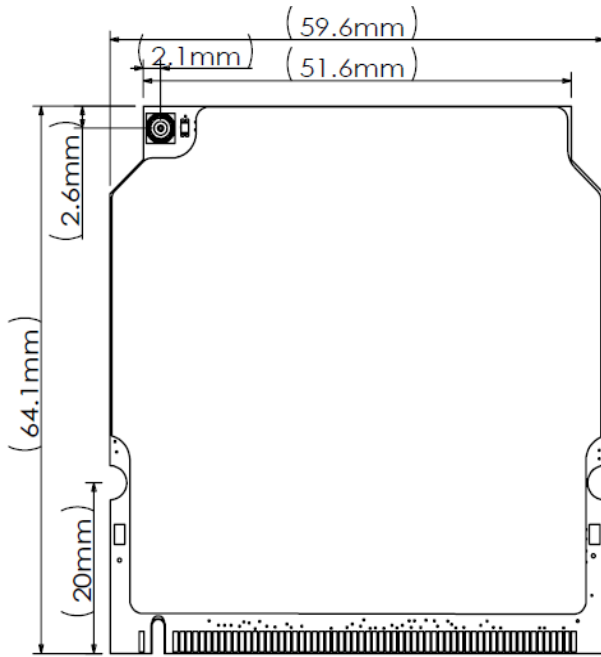
RADIO SPECIFICATION - TX

Transmit Spectral mask	
11 MHz/20 MHz/30MHz Offset	> -20 dBr/> -28 dBr/> -40 dBr
RF Power control Step	0.5 dBm
Second Harmonic Spurious Emission	-30 dB
Third Harmonic Spurious Emission	-40 dB
Transmitter Spurious Emission	TBD

RADIO SPECIFICATION – TX/RX

RADIO TX/RX PERFORMANCE, 20 MHz BW						
	DATA RATE	MODULATION	TX POWER ± 1 dBm	TX CURRENT (A) AT 3.3V ± 0.1A	RX SENSITIVITY ± 2 dBm	RX CURRENT(A) AT 3.3V ± 0.1A
11 g	6 Mbps	BPSK	29	1.3	-92	0.38
	9 Mbps	BPSK	29	1.3	-91	0.38
	12 Mbps	QPSK	29	1.3	-91	0.38
	18 Mbps	QPSK	29	1.3	-88	0.38
	24 Mbps	16QAM	29	1.3	-84	0.38
	36 Mbps	16QAM	27	1.2	-81	0.38
	48 Mbps	64QAM	25	1.1	-75	0.38
	54 Mbps	64QAM	24	1.1	-72	0.38
11 b	1 Mbps	BPSK	30	1.3	-95	0.38
	2 Mbps	QPSK	30	1.3	-93	0.38
	5.5 Mbps	CCK	30	1.3	-91	0.38
	11 Mbps	CCK	30	1.3	-90	0.38

MECHANICAL DIMENSIONS



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