



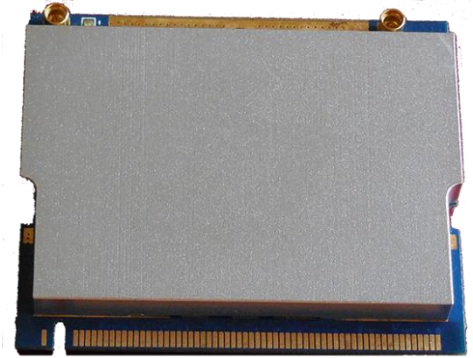
## **nM2-5925**

### **2x2 IEEE 802.11 a/n High Power Mini PCI Radio Module**

nM2-5925 is an IEEE 802.11 a/n 5925 MHz to 6000 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, nM2-5925 offers ultra-low receive sensitivity to achieve long range.



## **FEATURES**

- IEEE 802.11n standards compliant operating in the Public Safety Band 5925 MHz to 6000 MHz
- Backward compatible with legacy IEEE 802.11a systems
- 2x2 MIMO with 2xMMCX Antenna connector supports spatial multiplexing
- High TX Power of up to +29 dBm for lower data rates
- Atheros AR9220 Chipset
- Mini PCI Type IIIA form factor – 59.6mm(W)x51mm(L)
- Military grade Shield Cover with option for integrated bracket to secure the Radio Module to OEM system
- Support for Customization for OEM integration
- Operating Temperature range (-20 deg C to +70 deg C)

**TECHNICAL SPECIFICATION**

<b>RADIO MODULE – GENERAL INFO</b>	
Chipset Info	Atheros AR9220-AC1A
Operating Frequency Channels	5925 MHz to 6000 MHz
Security	WPA,WPA2, 802.11i with AES-CCM & TKIP Encryption, 802.1x, 64/128/152bit WEP
Data Rates Legacy 11a up to 54 Mbps	6Mbps, 9Mbps, 12Mbps, 24Mbps, 36Mbps, 48Mbps,54Mbps
11n HT20-1S up to 65Mbps @ 800GI, 72.2Mbps @ 400GI /11n HT40-1S up to135Mbps @ 800GI, 150Mbps @ 400GI	MCS0,MCS1,MCS2,MCS3,MCS4,MCS5,MCS6,MCS7 IEEE 802.11n HT20/HT40 Single Stream
11n HT20-2S up to 130Mbps @ 800GI, 144.4Mbps @ 400GI/11nHT40-2S up to 270Mbps @ 800GI, 300Mbps @ 400GI	MCS8,MCS9,MCS10,MCS11,MCS12,MCS13,MCS14,MCS15 IEEE 802.11n HT20/HT40 Dual Stream
Channel Bandwidth	5 MHz/10 MHz/20 MHz/40 MHz
RoHS Compliance	Compliant
Operating System Support	Linux Open WRT and Ath9K driver
<b>INTERFACE SPECIFICATIONS</b>	
Interface	PCI 32 bit,33 MHz, mini PCI Form Factor
Operating Voltage	3.3V
RF Antenna connector	Dual MMCX, VERTICAL
<b>PHYSICAL SPECIFICATIONS</b>	
Mechanical Dimension (Assembled condition)	(L) 59.6 mm x (W) 51 mm x (H) 8.5 mm
Weight of the Module without ESD Bag	31 g
Weight of the module with ESD Bag	33 g
<b>CUSTOM FEATURES</b>	
MAC ID	74-E2-77- 00 series
PCI Sub Vendor ID	168C
PCI Sub Device ID	1502
TX Power offset	6 dB
Labels	MAC Label x1 pc on the Radio Module Model Label x pc with dual barcode on the ESD bag
<b>REGULATORY INFORMATION</b>	
FCC	TBD
IC,CE	TBD
<b>PACKAGING INFORMATION</b>	
100 UNITS PER CARTON	520 mm (L) x 240 mm (W) x 133 mm (H)
<b>ORDERING INFORMATION</b>	
nM2-5925	Mini PCI Radio Module, 2x2 IEEE 802.11 a/n , 5.925 GHz, 29 dBm

**RADIO SPECIFICATION - RX**

Receiver Maximum input level (10% PER)	> -10 dBm
Receive Chain Noise Figure	5.5 dB
Frequency Accuracy	Within $\pm$ 15 PPM
Receiver Adjacent Channel Rejection (ACR) 10 to 20 MHz, 10% PER	6 Mbps > 30 dB HT20 MCS0,MCS8 > 30 dB HT40 MCS0,MCS8 > 20 dB
Receiver Alternate Channel Rejection (ALCR) 20 to 30 MHz, 10% PER	6 Mbps > 40 dB HT20 MCS0,MCS8 > 40 dB HT40 MCS0,MCS8 > 35 dB
Receiver Blocking	TBD

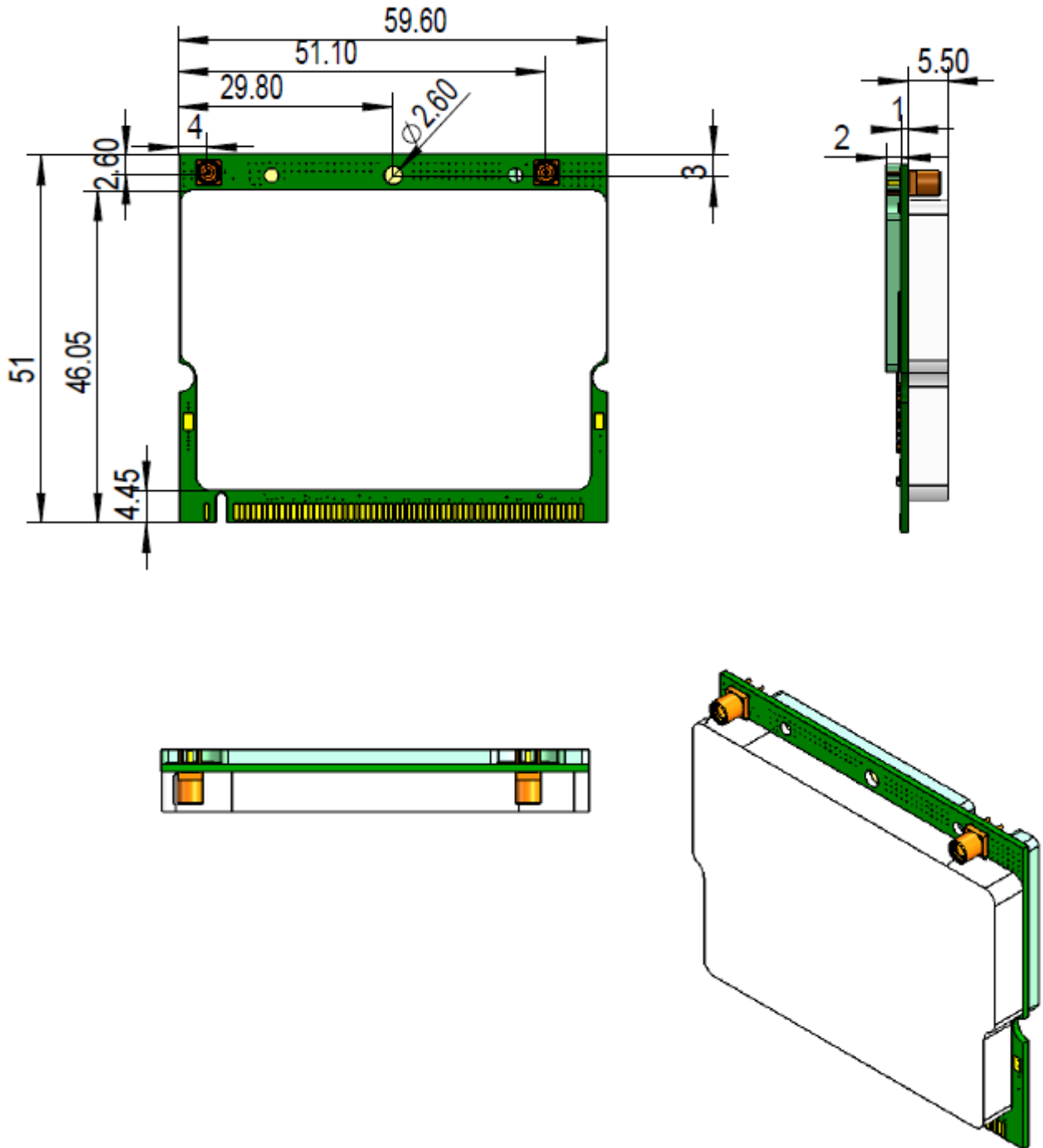
**RADIO SPECIFICATION - TX**

Transmit Spectral mask	At 11 MHz Offset > -20 dBr At 20 MHz Offset > -28 dBr At 30 MHz Offset > -40 dBr
RF Power control Step	0.5 dBm
Second Harmonic Spurious Emission	-45 dB
Third Harmonic Spurious Emission	-45 dB
Transmitter Spurious Emission	TBD

**RADIO SPECIFICATION - TX/RX**

RADIO TX/RX PERFORMANCE, FOR 2 CHAINS, 20 MHz CH BW						
	DATA RATE	MODULATION	TX POWER $\pm$ 1 dBm	TX CURRENT (A) AT 3.3V $\pm$ 0.1A	RX SENSITIVITY $\pm$ 2 dBm	RX CURRENT(A) AT 3.3V $\pm$ 0.1A
11 a	6 Mbps	BPSK	29	1.2	-95	0.15
	9 Mbps	BPSK	29	1.2	-95	0.15
	12 Mbps	QPSK	29	1.2	-94	0.15
	18 Mbps	QPSK	29	1.2	-93	0.15
	24 Mbps	16QAM	29	1.2	-89	0.15
	36 Mbps	16QAM	26	1.0	-86	0.15
	48 Mbps	64QAM	24	0.8	-82	0.15
	54 Mbps	64QAM	23	0.7	-80	0.15
11 n HT 20	MCS0/8	BPSK	28	1.1	-94	0.15
	MCS1/9	QPSK	28	1.1	-93	0.15
	MCS2/10	QPSK	28	1.1	-91	0.15
	MCS3/11	16QAM	28	1.1	-88	0.15
	MCS4/12	16QAM	27	1.0	-85	0.15
	MCS5/13	64QAM	25	0.8	-81	0.15
	MCS6/14	64QAM	23	0.7	-79	0.15
	MCS7/15	64QAM	22	0.6	-77	0.15
11 n HT40	MCS0/8	BPSK	27	1.0	-91	0.15
	MCS1/9	QPSK	27	1.0	-90	0.15
	MCS2/10	QPSK	27	1.0	-88	0.15
	MCS3/11	16QAM	27	1.0	-85	0.15
	MCS4/12	16QAM	26	0.9	-82	0.15
	MCS5/13	64QAM	25	0.8	-78	0.15
	MCS6/14	64QAM	23	0.7	-77	0.15
	MCS7/15	64QAM	22	0.6	-74	0.15

**MECHANICAL DIMENSIONS**



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