



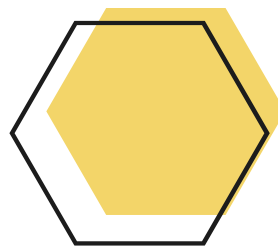
# DATASHEET

## nE2-2400



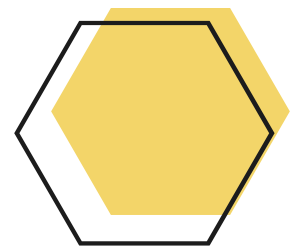
### IEEE 802.11 b/g/n, MIMO

High-Performance,  
2x2 MIMO  
MiniPCIe Radio  
Module



### Wide Band

2300 MHz to 2700 MHz  
Operating Frequency



### Industrial grade

-40 deg C to +85 deg C  
operation temperature

dun & bradstreet



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HW REV# 06.00

# TECHNICAL SPECIFICATION

RADIO MODULE – GENERAL INFO	
Chipset	AR 9592-AR1B
EEPROM	EEPROM, SERIAL 32KBIT
Operating frequency (11b/g/n)	2300 MHz to 2700 MHz (Operating frequency)
Data rate -11b	1 Mbps, 2 Mbps, 5.5 Mbps, 11 Mbps
Data rate-11g	6Mbps, 9Mbps, 12Mbps, 24Mbps, 36Mbps, 48Mbps,54Mbps
Data rate-11n (SISO)	MCS0, MCS1, MCS2, MCS3, MCS4, MCS5, MCS6, MCS7
Data rate-11n (MIMO)	MCS8.MCS9.MCS10,MCS11,MCS12,MCS13,MCS14,MCS15
Channel BW	5 MHz/10 MHz/20 MHz/40 MHz
RoHS Compliance	Compliant
INTERFACE SPECIFICATIONS	
Operating Voltage	3.3V DC
RF Antenna connector	x2 MMCX Female(Jack) connectors
ENVIRONMENTAL SPECIFICATIONS	
Operating Temperature Range	-40 deg C to +85 deg C
PHYSICAL SPECIFICATIONS	
Mechanical Dimension	(L) 50.9 mm x (W) 30 mm x (H) 13.6 mm
Weight	TBD
REGULATORY INFORMATION	
Compliance	TBD
PACKAGING INFORMATION	
No of units	TBD

## ORDERING INFORMATION

nE2-4950

Mini PCIe Radio Module, MIMO, IEEE 802.11 b/g/n , 2.4 GHz 29 dBm

**RADIO SPECIFICATION****TX/RX Specification – 2412 MHz to 2462 MHz**

Data Rate	TX Power (dBm)	Current 24V (A)	RX Sensitivity (dBm)
54 Mbps	19	0.19	-77
48 Mbps	20	0.20	-80
36 Mbps	22	0.22	-82
24 Mbps	23	0.23	-85
18 Mbps	23	0.23	-87
12Mbps	23	0.23	-89
9 Mbps	23	0.23	-92
6 Mbps	23	0.23	-94
HT20-MCS7	18	0.19	-71
HT20-MCS6	19	0.19	-74
HT20-MCS5	20	0.20	-75
HT20-MCS4	22	0.22	-79
HT20-MCS3	23	0.23	-82
HT20-MCS2	23	0.23	-86
HT20-MCS1	23	0.23	-88
HT20-MCS0	26	0.27	-92
HT40-MCS7	18	0.19	-68
HT40-MCS6	19	0.19	-71
HT40-MCS5	20	0.20	-72
HT40-MCS4	22	0.22	-76
HT40-MCS3	23	0.23	-79
HT40-MCS2	23	0.23	-83
HT40-MCS1	23	0.23	-85
HT40-MCS0	26	0.27	-89

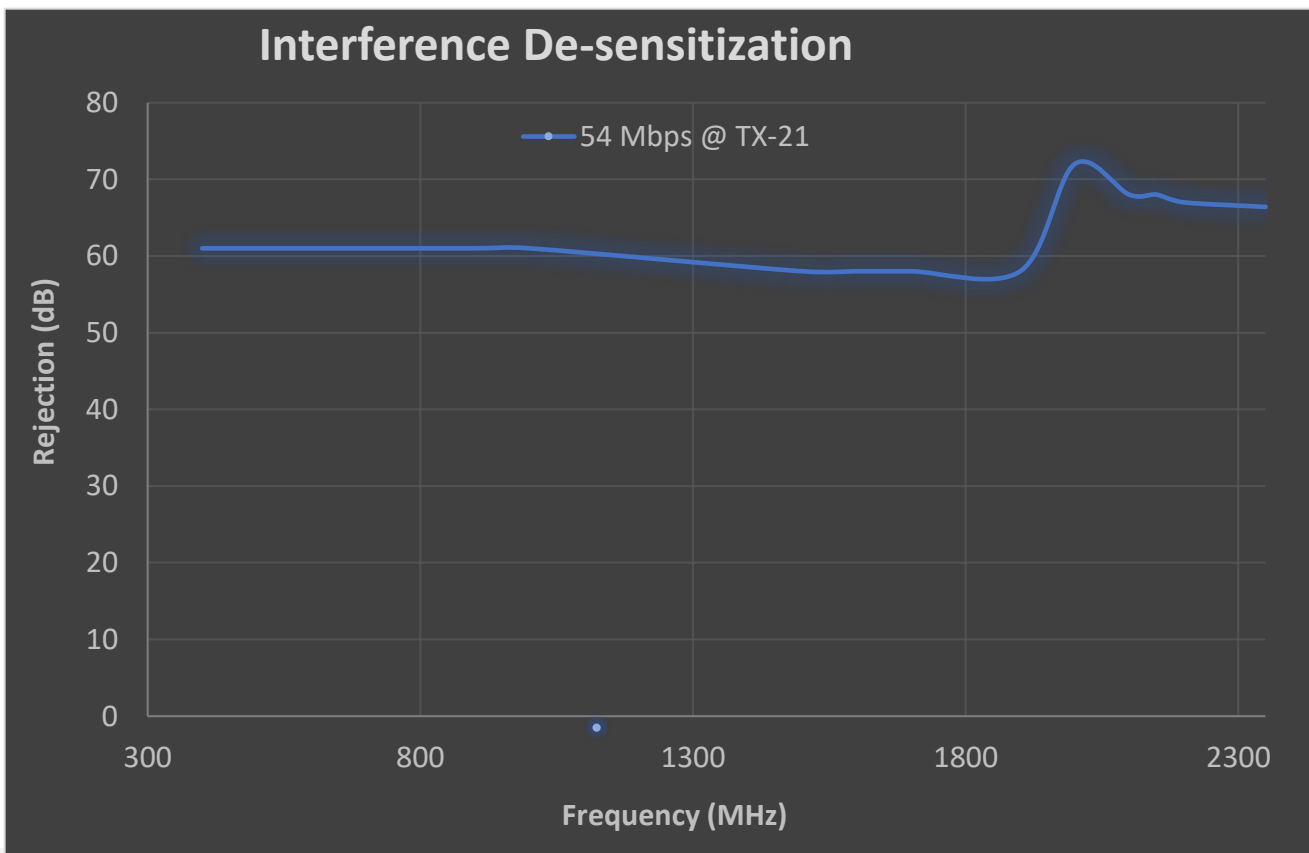
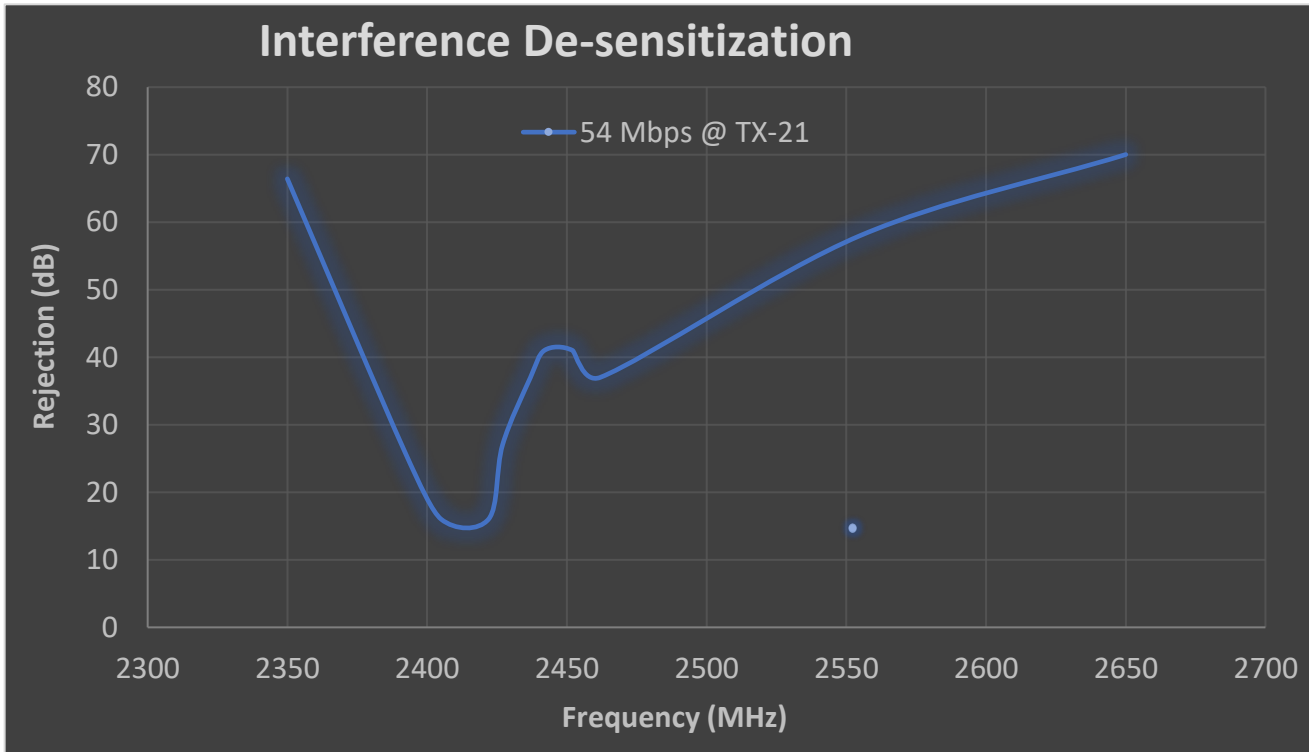
### Tx Specification

Parameter	Specification
RF Power control Step	0.5 dBm
Second Harmonic Spurious Emission	-30 dBC
Third Harmonic Spurious Emission	-40 dBC
Transmitter Spurious Emission	FCC PART 15C COMPLIANT

### Rx Specification

Parameter	Specification
Receiver Maximum input level (10% PER)	
11g-6 Mbps	> 10 dBm
11g-54Mbps	> -16 dBm
Frequency Accuracy	Within $\pm$ 15 PPM
Receiver Adjacent Channel Rejection (ACR)	
10 to 20 MHz, 10% PER	54Mbps
	> 25 dB
	HT20 MCS7
	> 22 dB
Interference De-sensitization 54 Mbps(min)	
In Band (2412 to 2462 MHz)	25 dB
400 MHz to 2350 MHz	> 50 dB
4800 MHz to 5825 MHz	> 70 dB

### Interference Desensitization



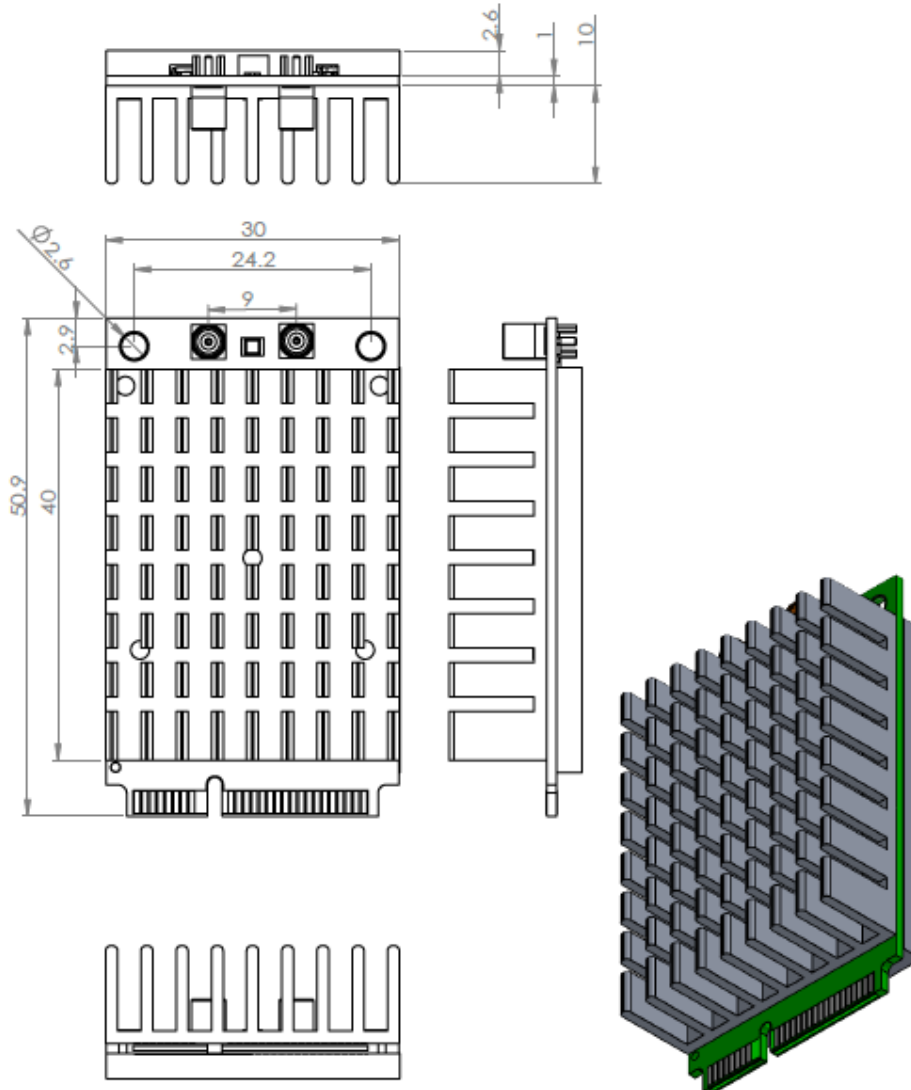
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**MINIPCIE (GOLD FINGER) PIN-OUT**

Pin#	Description
1	WAKE_L
2	3.3V
3	RESERVED (Connected to GPIO12)
5	RESERVED (NC)
6	1.5V (NC)
7	CLKREQ_L, connected to GND through a pull-down resistor of 0 Ohms.
8	UIM_PWR (NC)
10	UIM_DATA (NC)
11	REFCLK-
12	UIM-CLK (NC)
13	REFCLK+
14	UIM-RESET (NC)
16	UIM_VPP (NC)
17	UIM_C8 (NC)
19	UIM_C4 (NC)
20	W_DISABLE_L (Pulled up to 3.3V and connected to GPIO7 of AR9592)
22	RESET
23	PERNO
24	3.3VAUX (NC)
25	PERPO
28	1.5V (NC)
30	SMB_CLK (NC)
31	PETNO
32	SMB_DATA(NC)
33	PETPO
36	USB_D- (NC)
37	RESERVED (NC)
38	USB_D+ (NC)
39	3.3V
41	3.3V
42	LED_WWAN_L (NC)
44	LED_WLAN_L (Connected to GPIO10)
45	NC
46	LED_WPAN_L (NC)
47	NC
48	1.5V (NC)
49	NC
51	NC
52	3.3V
4,9,15,18,21,26,27,29,34,35,40,43,50	GND

## MECHANICAL DIMENSIONS



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