WE-2100T Series

Wireless LAN embedded serial device servers

> Connects serial devices to IEEE 802.11a/b/g networks
> Choice of operation modes: Real COM, TCP Server, TCP Client, UDP, and RFC2217
> Windows (including Vista!) real COM and Linux fixed TTY drivers provided
> Wireless security with WEP, WPA, and WPA2
> Select Any Baudrate between 50 bps and 921.6 Kbps
> 9 programmable digital I/O channels
> SSL/SSH encryption for configuration
> Compact size and easily mounted housing

The certification logos shown here apply to some or all of the products in this section. Please see the **Specifications** section or Moxa's website for details.

: Overview

The WE-2100T is a secure and compact embedded wireless module for connecting serial devices to access points in infrastructure mode, or to other WE-2100T's in ad-hoc mode. When using the WE-2100T, complex RF know-how is not needed to connect serial devices to a wireless Ethernet network. Encryption for secure data transfer is supported, along with the 802.11a/b/g radio specifications.

: Operation Modes for Embedded Applications

The WE-2100T supports Real COM, TCP Server, TCP Client, UDP, and RFC 2217 operation modes, which are designed to fulfill the requirements of embedded module applications. Complete driver support for Real COM mode is included and easy to install.

: On-site Configuration with Serial Command Mode

- Easy on-site configuration of network settings
- Simple command frame format
- Comprehensive command set for serial and network configuration
- Easily switch between software and hardware triggers
- Software reset

: Specifications

Form Factor
Type: Small metal housing that encloses advanced ARM-based 32-bit processor; supports both wireless and Ethernet connections
Dimensions: 54 x 40 x 13.3 mm (2.13 x 1.57 x 0.52 in)

Automatic Network Selection
Wireless or Ethernet: The WE-2100T will activate the Ethernet connection if detected at boot-up. If an Ethernet connection is not detected, the WE-2100T will choose wireless as the communication interface. Which interface to use can also be configured with the WE-2100T's configuration utilities.

Ethernet Interface
Number of Ports: 1
Speed: 10/100 Mbps, Auto MDI/MDIX
Connector: 44-pin dual-in-line
Magnetic Isolation Protection: 1.5 KV built-in

WLAN Interface
Standard Compliance: IEEE 802.11a/b/g
Network Mode: Infrastructure mode (a/b/g), Ad-Hoc mode (b/g)
Spread Spectrum Technology: DSSS, CCK, OFDM

5.15 to 5.25 GHz: 15 dBm @ 6 Mbps; 12 dBm @ 54 Mbps 5.725 to 5.825 GHz: 15 dBm @ 6 Mbps; 12 dBm @ 54 Mbps
2.412 to 2.483 GHz: 17 dBm @ 6 Mbps; 15 dBm @ 54 Mbps
2.412 to 2.472 GHz: 18 dBm @ 1 to 11 Mbps

5.15 to 5.25 GHz: 6 Mbps @ -90 dBm; 54 Mbps @ -72 dBm
5.725 to 5.825 GHz: 6 Mbps @ -89 dBm; 54 Mbps @ -72 dBm
2.412 to 2.483 GHz: 6 Mbps @ -90 dBm; 54 Mbps @ -73 dBm
2.412 to 2.472 GHz: 11 Mbps @ -87 dBm; 1 Mbps @ -94 dBm

Transmission Rate:
802.11a: 54 Mbps
802.11b: 11 Mbps
802.11g: 54 Mbps

Transmission Distance: Up to 100 meters (in open areas)

Wireless Security: AES, WEP 64/128-bit, WPA, WPA2, 802.11i

802.11i Authentication: TLS, PEAP/GTC, PEAP/MD5, PEAP/MSCHAPv2, TTLS/PAP, TTLS/CHAP, TTLS/MSCHAP, TTLS/MSCHAPv2, TTLS/EAP-MSCHAPv2, TTLS/EAP-GTC, TTLS/EAP-MD5, LEAP

Channels:
North America: CH1 to CH11, 5150-5825 MHz
Europe: CH1 to CH13, 5150-5875 MHz
Japan: CH1 to CH14, 5150-5350 MHz

Antenna Connector: Reverse SMA

Antenna Gain: 2 DBi

Serial Interface

Number of Ports: 1

Serial Standards for Port 1: TTL

Serial Standards for Port 2: TTL console port

Serial Communication Parameters

Data Bits: 5, 6, 7, 8

Stop Bits: 1, 1.5, 2

Parity: None, Even, Odd, Space, Mark

Flow Control: RTS/CTS, XON/XOFF, DTR/DSR

Baudrate: 50 bps to 921.6 Kbps (supports Any Baudrate in this range)

Serial Signals

TTL (Port 1): TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND

TTL (Port 2): TxD, RxD, GND

Software

Internet Protocols: ICMP, IP, TCP, UDP, DHCP, Telnet, DNS, SNMP, HTTP, SMTP, SNTP, SSH, HTTPS

Configuration Options: Web Console, Serial Console, Telnet Console, Windows Utility (for Windows 98, ME, 2000, XP, 2003, Vista), Serial command mode (configured through the data port)

Driver Support: Windows COM driver (for Windows 98, ME, NT, 2000, XP, 2003, XP x64, 2003 x64, Vista), Linux Real TTY driver, SCO Unix, SCO OpenServer 5, UnixWare 7, UnixWare 2.1.x, SVR4.2, QNX

Supported Operating Modes: Real COM, TCP Server, TCP Client, UDP, RFC2217

Environmental Limits

Operating Temperature: 0 to 55°C (32 to 131°F)

Operating Humidity: 5 to 95% RH

Storage Temperature: -20 to 70°C (-4 to 158°F)

Surface Temperature (at full baudrate of 921.6 Kbps)

Top Panel:
43.0°C, when air temp = 25°C
55.0°C, when air temp = 55°C

Bottom Panel:
44.5°C, when air temp = 25°C
67.0°C, when air temp = 55°C

Power Requirements

Input Voltage: 3.3 VDC (±5%)

Power Consumption:
921.6 Kbps (full speed): 540 mA
Idle: 190 mA
Ethernet mode: 670 mA
Inrush current: 2100 mA

Regulatory Approvals

EMC: CE EN55022 Class A, FCC Part 15 Subpart B Class A

Safety: EN60950, CUL TÜV

Wireless:
CE ETSI EN 301 489-17
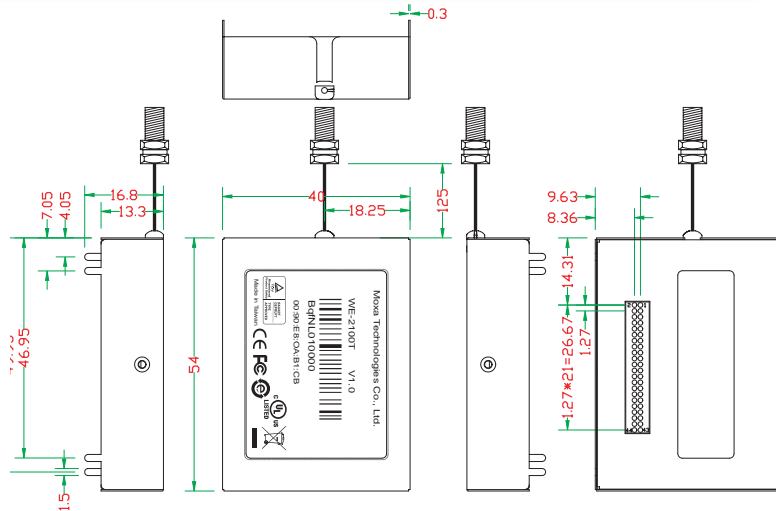CE ETSI EN 301 489-1
FCC Part 15, Subpart B, Class A
FCC Part 17, Subpart B, Class A

Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

Dimensions (unit: mm) and Pin Assignment

3.3V	1	2	GND
3.3V	3	4	GND
3.3V	5	6	GND
Console_TxD	7	8	Console_RxD
Console_RTS	9	10	Console_CTS
Console_DTR	11	12	Console_DSR
PIO0	13	14	Console_DCD
PIO1	15	16	PIO4(WLAN strength 1)
PIO2	17	18	PIO5(WLAN strength 2)
PIO3	19	20	PIO6(WLAN strength 3)
Data_TxD	21	22	PIO7(WLAN strength 4)
Data_RTS	23	24	Data_RxD
Data_DTR	25	26	Data_CTS
Ready_LED	27	28	Data_DSR
Fault_LED	29	30	Data_DCD
Eth_Tx+	31	32	WLAN_Active_LED
Eth_Tx-	33	34	SW_RESET
Eth_Center_TAP	35	36	HW_RESET
Eth_Center_TAP	37	38	Eth_100M_LED
Eth_Rx+	39	40	Eth_10M_LED
Eth_Rx-	41	42	Reserved
PIO8(WLAN strength 0)	43	44	Reserved

Ordering Information

Available Models

WE-2100T: 1-port wireless module supporting IEEE 802.11a/b/g
WE-2100T-ST: Starter Kit for the WE-2100T

Package Checklist (module)

- WE-2100T wireless module
- IEEE 802.11a/b/g Antenna

Package Checklist (starter kits)

- WE-2100T-ST evaluation board
- WE-2100T wireless module
- Power adaptor
- Document and Software CD
- Quick Installation Guide (printed)
- Warranty Card