

UC-2200A Series

Arm Cortex-A53 dual-core 64-bit 1 GHz Industrial Computers with built-in LTE Cat. 4 module, -40 to 70°C operating temperature



Features and Benefits

- Armv8 Cortex-A53 dual-core 1 GHz processor
- 2 auto-sensing 10/100/1000 Mbps Ethernet ports
- Rich set of programmable LEDs and a programmable button for easy installation and maintenance
- LTE-ready computer with Verizon/AT&T certification and industrial-grade CE/FCC/UL certifications
- Moxa Industrial Linux with 10-year superior long-term support
- IEC 62443-4-2 Security Level 2 certified
- -40 to 70°C operating temperature range

Certifications



Introduction

The UC-2200A computing platform is designed for embedded data acquisition applications. The computer comes with dual RS-232/422/485 serial ports and dual 10/100/1000 Mbps Ethernet ports, as well as a Mini PCIe socket to support a wireless module. These versatile capabilities let users efficiently adapt the UC-2200A to a variety of complex communications solutions.

The UC-2200A is built around a Cortex-A53 processor that has been optimized for use in energy monitoring systems, but is widely applicable to a variety of industrial solutions. With flexible interfacing options, this tiny embedded computer is a reliable and secure gateway for data acquisition and processing at field sites as well as a useful communications platform for many other large-scale deployments.

Wide-temperature and LTE-enabled models are available. All units are thoroughly tested in a testing chamber, guaranteeing that the LTE-enabled computing platforms are suitable for wide-temperature applications.

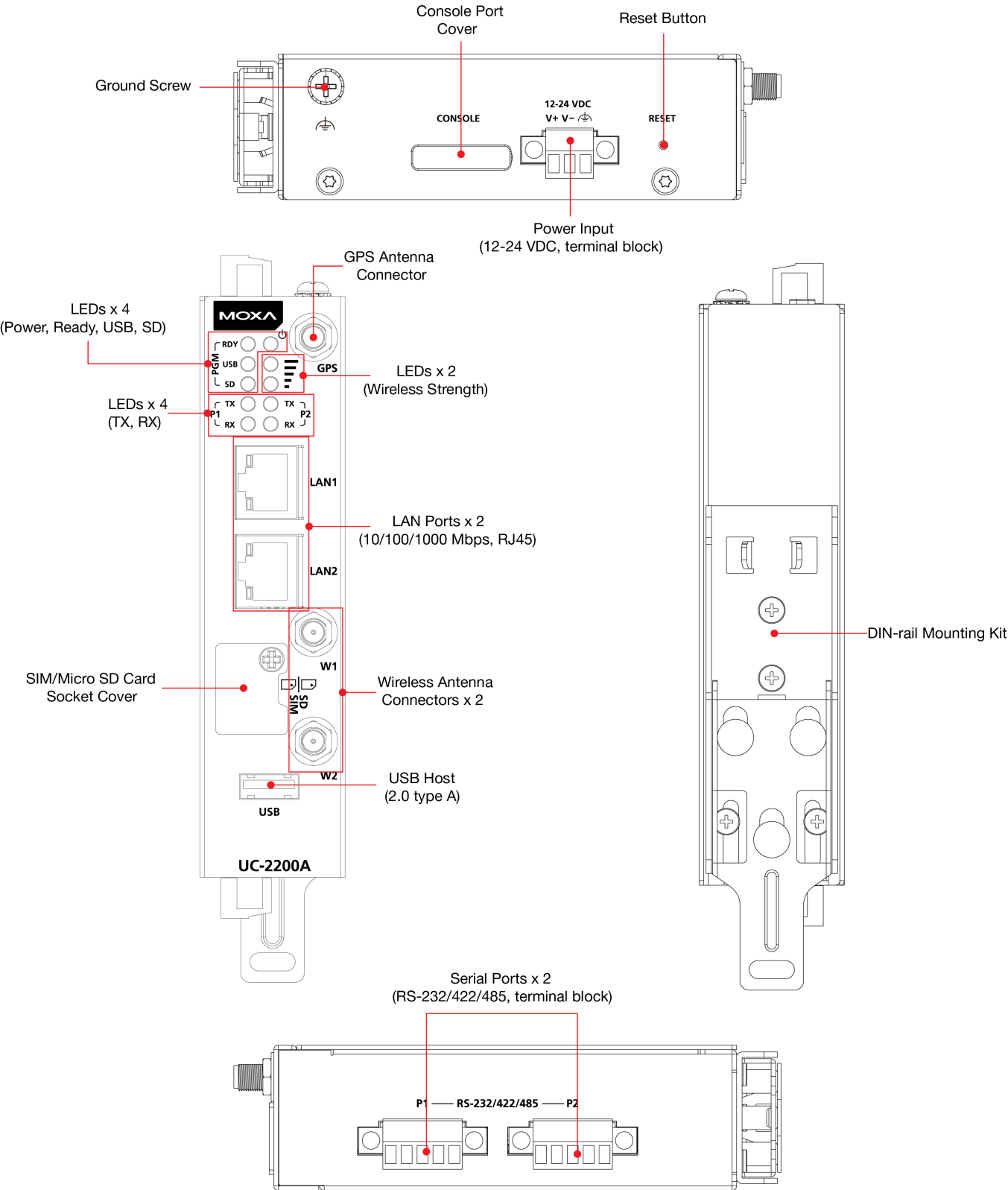
IEC 62443-4-2 Security Level 2 Certified

UC-2200A Series models with Moxa Industrial Linux 4(MIL4) Secure are IEC 62443-4-2 Security Level 2 certified, making it easier for asset owners and system integrators to integrate IIoT applications by providing a secure platform that has already been tested and validated to protect IIoT data and infrastructure against cyberthreats.

IEC 62443-4-2 Security Level 2 certificate:

<https://certificates.iecee.org/#/deliverables/CERT/2180763/view>

Appearance



Specifications

Computer

CPU	Armv8 Cortex-A53 dual-core 1GHz
DRAM	2 GB DDR4
Storage Pre-installed	16 GB eMMC
Storage Slot	micro SD slots x 1
Supported OS	Moxa Industrial Linux 3 (Debian 11, kernel 5.10), 2031 EOL Moxa Industrial Linux 4 (Debian 13, kernel 6.12), 2035 EOL See www.moxa.com/MIL

Computer Interface

Ethernet Ports	Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 2
Serial Ports	RS-232/422/485 ports x 2 (software-selectable, terminal-block connector)
USB 2.0	USB 2.0 hosts x 1, type-A connectors
Console Port	RS-232 (TxD, RxD, GND), 4-pin header output (115200, n, 8, 1)
Expansion Slots	mPCIe slots x 1
Number of SIMs	1
SIM Format	Nano
Buttons	Reset button
TPM	TPM v2.0

Ethernet Interface

Ethernet Ports	Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 2
Magnetic Isolation Protection	1.5 kV (built-in)

Serial Interface

Baudrate	300 bps to 921.6 kbps
Data Bits	5, 6, 7, 8
Parity	None, Even, Odd, Space, Mark
Stop Bits	1, 1.5, 2
Flow Control	RTS/CTS XON/XOFF Automatic Data Direction Control (ADDC) for RS-485 RTS Toggle (RS-232 only)

Serial Signals

RS-232	TxD, RxD, RTS, CTS, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND

Cellular Interface

Cellular Standards	LTE Cat. 4
Band Options	UC-2222A-T-US: LTE Band 2 (1900 MHz) / LTE Band 4 (1700 MHz) / LTE Band 5 (850 MHz) / LTE Band 12 (700 MHz) / Band 13 (700 MHz) / Band 14 (700 MHz) / Band 66 (1700 MHz) / Band 71 (600 MHz) UMTS/HSPA B5 (850 MHz) / B4 (1700 MHz) / B2 (1900 MHz) Carrier Approvals: Verizon, AT&T UC-2222A-T-EU: LTE Band 1 (2100 MHz) / LTE Band 3 (1800 MHz) / Band 7 (2600 MHz) / LTE Band 8 (900 MHz) / LTE Band 20 (800 MHz) / LTE Band 28A (700 MHz) UMTS/HSPA B8 (900 MHz) / B3 (1800 MHz) / B1 (2100 MHz) GSM DCS (1800 MHz) / GSM 900 (900 MHz) UC-2222A-T-AP: LTE Band 1 (2100 MHz) / LTE Band 3 (1800 MHz) / LTE Band 5 (850 MHz) / LTE Band 8 (900 MHz) / LTE Band 9 (1800 MHz) / LTE Band 18 (800 MHz) / LTE Band 19 (800 MHz) / LTE Band 26 (850 MHz) / LTE Band 28 (700 MHz) UMTS/HSPA B19 (800 MHz) / B8 (900 MHz) / B6 (850 MHz) / B5 (850 MHz) / B1 (2100 MHz)

GPS Interface

Receiver Types	GPS, GLONASS, BeiDou, Galileo, QZSS
Accuracy	Position: 2.0 m @CEP50
Time to First Fix (TTFF)	Hot start: 1.1 s Warm start: 22.1 s Cold start: 29.9 s
Sensitivity	Acquisition: -147 dBm Cold starts: -145 dBm Tracking: -160 dBm
Update Rate	1 Hz

LED Indicators

System	Power x 1 SW ready (programmable) USB (programmable) x 1 micro SD slot (programmable) x 1 Serial Ports: TX x 2, RX x 2
Wireless Signal Strength	Cellular x 2, programmable Disconnected: None Very Poor Signal: 1 LED (blinking) Poor Signal: 1 LED Good Signal: 2 LEDs

Power Parameters

Input Current	UC-2222A-T: 600 mA @ 12 VDC 300 mA @ 24 VDC UC-2222A-T-US/EU/AP: 900 mA @ 12 VDC 450 mA @ 24 VDC
Input Voltage	12 to 24 VDC
Power Consumption	Models Without Built-in LTE: 4.5 W (without external USB device) 7.2 W (with external USB device attached) Models With Built-in LTE: 7.8 W (without external USB device) 10.5 W (with external USB device)

Reliability

Alert Tools	External RTC (real-time clock)
Automatic Reboot Trigger	External WDT (watchdog timer)

Physical Characteristics

Housing	Metal SECC
IP Rating	IP30
Dimensions	102 x 32 x 128 mm (4.20 x 1.26 x 5.04 in)
Weight	546 g (1.2 lb)
Installation	DIN-rail mounting Wall mounting (with optional kit)

Environmental Limits

Operating Temperature	UC-2222A-T: -40 to 75°C (-40 to 167°F) UC-2222A-T-US/EU/AP (with LTE module): -40 to 70°C (-40 to 158°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Shock	IEC 60068-2-27
Vibration	2 Grms @ IEC 60068-2-64, random wave, 5-500 Hz, 1 hr per axis (without USB devices attached)

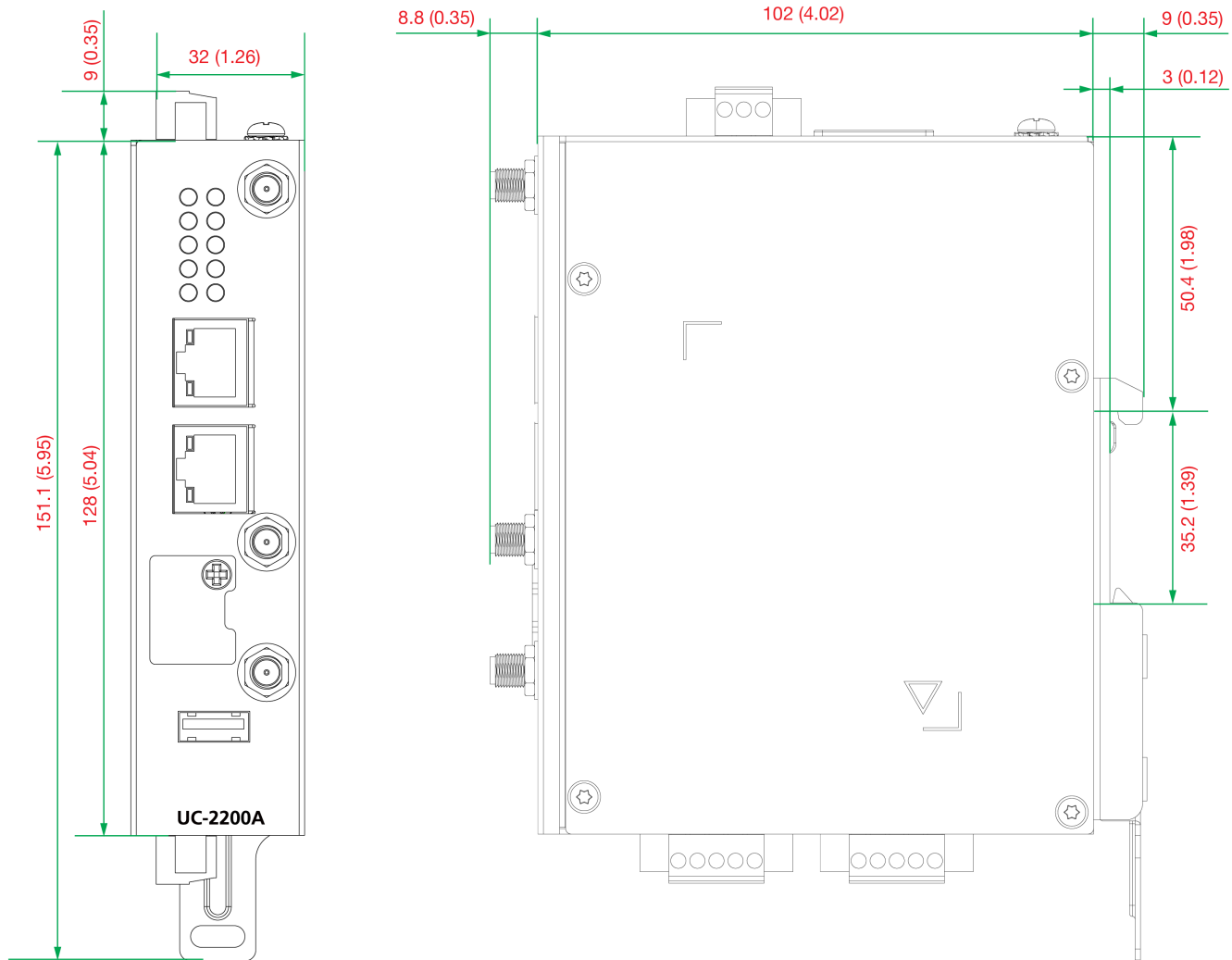
Standards and Certifications

EMC	EN 55032/35 EN 61000-6-2/-6-4 UKCA RCM KC BSMI
EMI	FCC Part 15B Class A ICES-003 Class A EN 55032 Class A EN 61000-6-4 Class A
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-3 RS: 1.4 GHz to 6 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 1 kV; Signal: 1 kV IEC 61000-4-5 L-PE: 1 kV ; L -L: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Cybersecurity	IEC 62443-4-2 Security Level 2 EN 18031-1
Safety	EN 62368-1 UL 62368-1
Hazardous Locations	ATEX Class I Division 2
International Approval	UKCA RCM FCC CE NCC

	ISED KC BSMI
Radio Frequency	FCC UC-2222A-T-EU: CE (RED) UC-2222A-T-AP: RCM, NCC
Carrier Approvals	AT&T Verizon PTCRB
Green Product	RoHS, CRoHS, WEEE
MTBF	
Time	UC-2222A-T: 924,676 hrs UC-2222A-T-US: 865,122 hrs UC-2222A-T-EU: 866,622 hrs UC-2222A-T-AP: 870,393 hrs
Standards	Telcordia (Bellcore) Standard TR/SR
Warranty	
Warranty Period	5 years
Details	See www.moxa.com/warranty
Package Contents	
Device	1 x UC-2200A Series computer
Documentation	1 x quick installation guide 1 x warranty card
Note	An additional power-jack-to-terminal block cable (model name: CBL-PJTB-10) is required when you use a power adapter to power the device.

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	CPU	OS	IEC 62443-4-2 SL2 Certified	mPCIe Slot	Operating Temperature
UC-2222A-T	Armv8 Cortex-A53, dual core, 1 GHz	Default: MIL3 Standard UC-2200A (CTO): Order MIL3 Secure or MIL4 Secure	Models with MIL4 Secure	mPCIe slot x 1, reserved for wireless module	-40 to 75°C
UC-2222A-T-EU	Armv8 Cortex-A53, dual core, 1 GHz	Default: MIL3 Standard UC-2200A (CTO): Order MIL3 Secure or MIL4 Secure	Models with MIL4 Secure	mPCIe slot x 1, European region LTE Cat. 4 module preinstalled	-40 to 70°C
UC-2222A-T-AP	Armv8 Cortex-A53, dual core, 1 GHz	Default: MIL3 Standard UC-2200A (CTO): Order MIL3 Secure or MIL4 Secure	Models with MIL4 Secure	mPCIe slot x 1, APAC region LTE Cat. 4 module preinstalled	-40 to 70°C
UC-2222A-T-US	Armv8 Cortex-A53, dual core, 1 GHz	Default: MIL3 Standard UC-2200A (CTO): Order MIL3 Secure or MIL4 Secure	Models with MIL4 Secure	mPCIe slot x 1, U.S. region LTE Cat. 4 module preinstalled	-40 to 70°C

Accessories (sold separately)

Power Adapters

PWR-12150-USJP-SA-T	Locking barrel plug, 12 VDC 1.5 A, 100 to 240 VAC, US/JP plug, -40 to 75°C operating temperature
PWR-12150-CN-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, CN plug, -40 to 75°C operating temperature
PWR-12150-AU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, AU plug, -40 to 75°C operating temperature
PWR-12150-EU-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, EU plug, -40 to 75°C operating temperature
PWR-12150-UK-SA-T	Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, UK plug, -40 to 75°C operating temperature

Cables

CBL-F9DPF1x4-BK-100	Console cable with 4-pin connector, 1 m
CBL-PJTB-10	Non-locking barrel plug to bare-wire cable

Wireless Packages

WP-MOD-W-SparkLAN-Wi-Fi 5	Wireless package for MIL3 supported UC computers with Wi-Fi 5 mPCIe card, 2 antenna cables, 2 thermal pads, 1 heatsink, 2 M2 x 3 mm screws (attach Wi-Fi bracket to PCB), 3 M3 x 6 mm screws (attach heatsink to PCB)
---------------------------	---

Antennas

ANT-WDB-ARM-0202	2 dBi at 2.4 GHz or 2 dBi at 5 GHz, RP-SMA (male), dual-band, omnidirectional antenna
ANT-LTE-ASM-05 BK	704-960/1710-2620 MHz, LTE stick antenna, 5 dBi
ANT-LTEUS-ASM-01	GSM/GPRS/EDGE/UMTS/HSPA/LTE, 1 dBi, omnidirectional rubber-duck antenna
ANT-LTE-OSM-06-3m BK MIMO	Multiband antenna with screw-fastened mounting option for 700-2700/2400-2500/5150-5850 MHz frequencies
ANT-5G-OSM-04	4 dBi LTE/5G NR dipole antenna with SMA (male) connector
ANT-GPS-CSM-04-3m BK	20 dBi at 1575 to 1605 MHz, SMA (male), right-hand circular polarization (RHCP), active GPS antenna, 3-meter cable

Wireless Antenna Cables

A-CRF-SMIF-100	Wireless antenna cable package with 2 100-cm cables (SMA connectors)
----------------	--

Wall-Mounting Kits

WK-33-01	Wall-mounting kit with 2 plates (98.6 x 33.8 x 5 mm), 4 TMS M3 4-mm screws
----------	--

© Moxa Inc. All rights reserved. Updated Aug 20, 2026.

This document and any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of Moxa Inc. Product specifications subject to change without notice. Visit our website for the most up-to-date product information.