

# UC-3400A Series

Arm Cortex-A53 quad-core 64-bit computers with wireless expansion capabilities



## Features and Benefits

- Armv8 Cortex-A53 1.4 GHz processor
- Integrated 4G LTE Cat. 4 module with dual SIM and AT&T approval
- Wi-Fi 6 built-in
- 2 auto-sensing 10/100/1000 Mbps Ethernet ports
- CAN ports with 2-kV isolation protection
- Moxa Industrial Linux with 10-year superior long-term support
- CE/FCC/UL certifications
- Class I Division 2 and ATEX Zone 2 certifications
- Compliance with IEC 62443-4-2 Security Level 2 requirements
- -40 to 70°C operating temperature range

## Certifications



## Introduction

Moxa's UC-3400A Series computers can be used as edge gateways in the field for data pre-processing and transmission, as well as for other embedded data-acquisition applications. The series includes a diverse set of models, each supporting different wireless options and protocols. The UC-3400A's advanced heat-dissipation design makes it suitable for use in temperatures ranging from -40 to 70°C. In fact, the Wi-Fi and LTE connections can be used simultaneously in both cold and hot environments, allowing you to maximize data pre-processing and transmission capabilities of your applications in harsh operating environments.

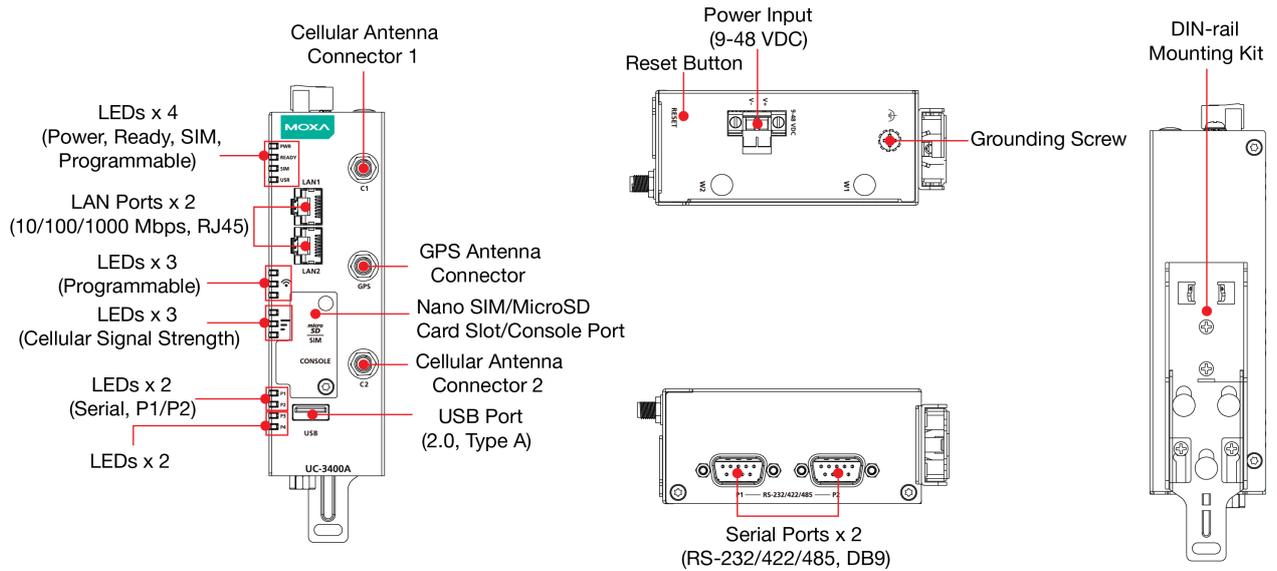
The UC-3400A is more than just a hardware solution. In order to offer a better user experience with a Moxa Arm-based computer, the UC-3400A comes equipped with Moxa Industrial Linux, a high-performance industrial-grade Linux distribution with long-term support that is developed by Moxa.

## Applications

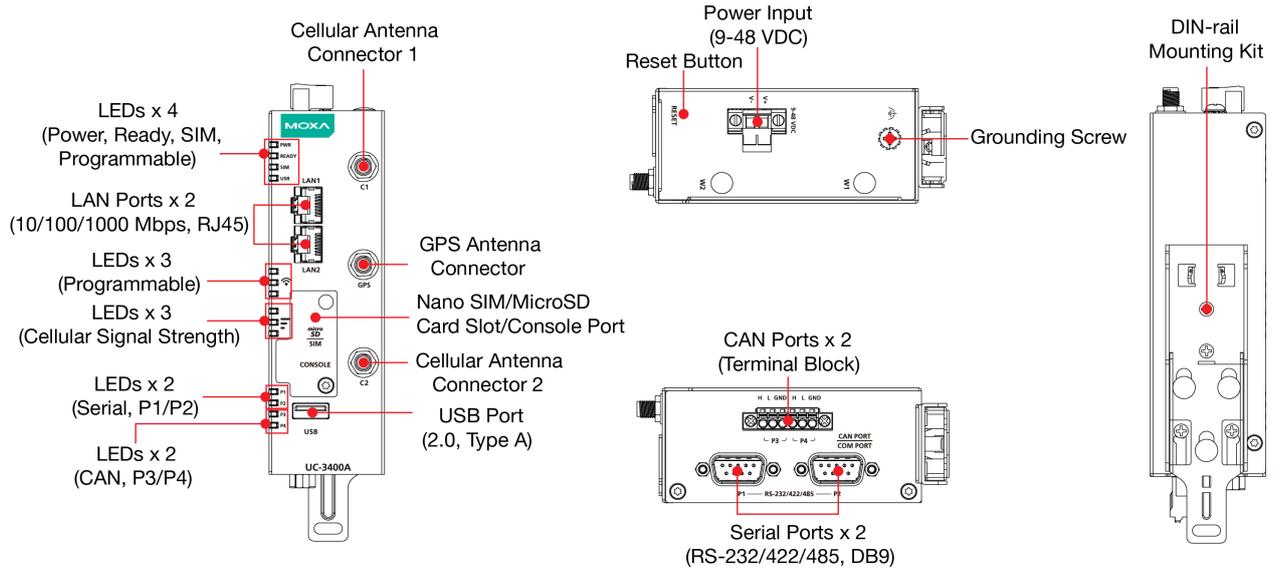
- Remote Terminal Unit (RTU)
- Data acquisition
- M2M communication (smart gateway)
- Digital signage
- Factory automation
- In-vehicle monitor/data logger (transportation)
- Programmable router
- Energy usage optimization
- Predictive maintenance
- Asset management

# Appearance

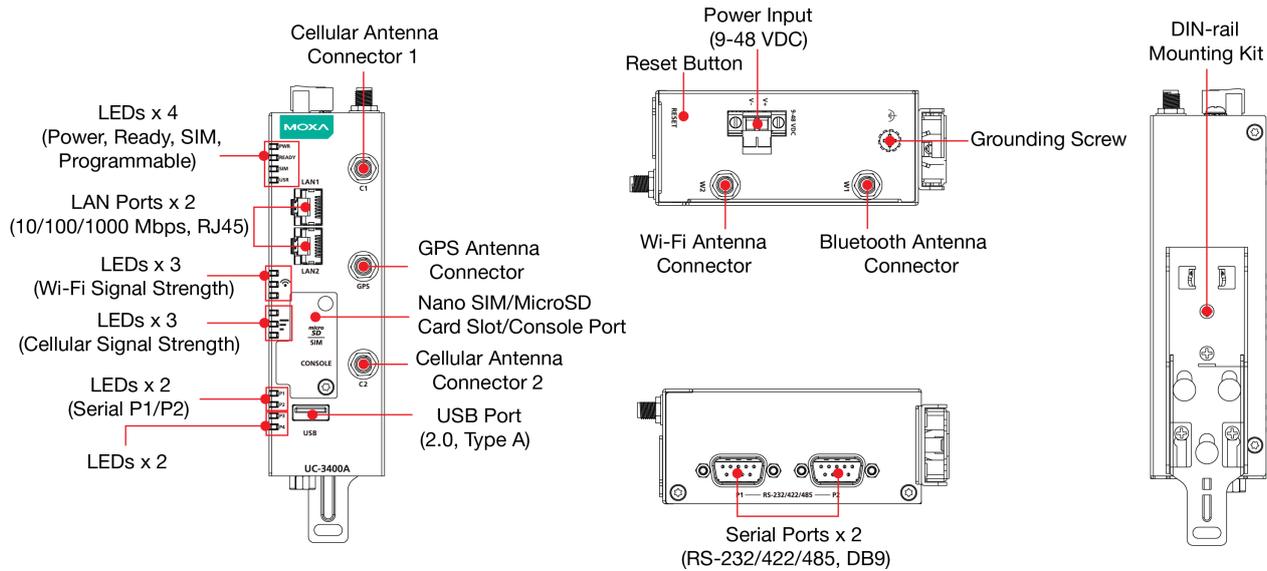
## UC-3420A-T-LTE



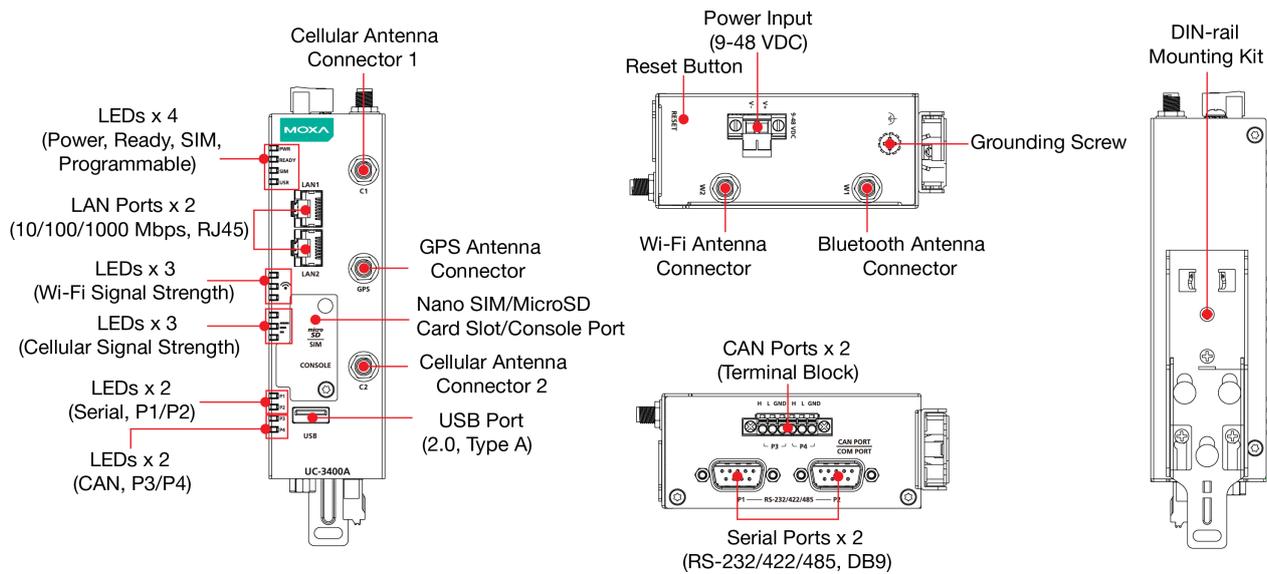
## UC-3424A-T-LTE



## UC-3430A-T-LTE-WiFi



## UC-3434A-T-LTE-WiFi



## Specifications

### Computer

CPU	Arm Cortex-A53 quad-core 1.4 GHz
DRAM	4 GB DDR4
Supported OS	Moxa Industrial Linux 3 (Debian 11, kernel 5.10), 2031 EOL See <a href="http://www.moxa.com/MIL">www.moxa.com/MIL</a>
Storage Pre-installed	16 GB eMMC
Expansion Slots	microSD socket x 1

## 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, DB9 male connector)
CAN Ports	UC-3424A-T-LTE, UC-3434A-T-LTE-WiFi: CAN 2.0 A/B x 2 (DB9 male)
USB 2.0	USB 2.0 hosts x 1, type-A connectors
Cellular Antenna Connector	SMA x 2
SIM Format	Nano
Number of SIMs	2
GPS Antenna Connector	SMA x 1
Wi-Fi Antenna Connector	RP-SMA x 2
Console Port	RS-232 (TxD, RxD, GND), 3-pin header output (115200, n, 8, 1)
Bluetooth	UC-3430A-T-LTE-WiFi, UC-3434A-T-LTE-WiFi: v5.3
TPM	TPM v2.0

## Ethernet Interface

No. of Ports	2
Magnetic Isolation Protection	1.5 kV (built-in)

## Serial Interface

No. of Ports	2
Baudrate	50 bps to 921.60 kbps
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS, XON/XOFF ADDC (automatic data direction control) for RS-485

## Serial Signals

RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND

## CAN Interface

No. of Ports	UC-3424A-T-LTE, UC-3434A-T-LTE-WiFi: 2
Baudrate	10 to 1000 kbps
Industrial Protocols	CAN 2.0A CAN 2.0B
Connector	6-pin terminal block

Isolation	2 kV (built-in)
Signals	CAN_H, CAN_L, CAN_GND, CAN_SHLD, CAN_V+, GND
<b>Cellular Interface</b>	
Band Options	<p>LTE bands: Band 1 (2100 MHz) / Band 2 (1900 MHz) / Band 3 (1800 MHz) / Band 4 (1700 MHz) / Band 5 (850 MHz) / Band 7 (2600 MHz) / Band 8 (700 MHz) / Band 9 (1800 MHz) / Band 12 (700 MHz) / Band 13 (700 MHz) / Band 14 (700 MHz) / Band 18 (850 MHz) / Band 19 (850 MHz) / Band 20 (800 MHz) / Band 25 (1900 MHz) / Band 26 (850 MHz) / Band 28 (700 MHz)</p> <p>3G bands: Band 1 (2100 MHz) / Band 2 (1900 MHz) / Band 4 (1700 MHz) / Band 5 (850 MHz) / Band 6 (800 MHz) / Band 8 (700 MHz) / Band 19 (850 MHz)</p> <p>2G bands: Band 2 (1900 MHz) / Band 3 (1800 MHz) / Band 5 (850 MHz) / Band 8 (700 MHz)</p>
<b>GPS Interface</b>	
Receiver Types	GPS/GLONASS/BeiDou/Galileo/QZSS
Accuracy	Position: < 2.0 m @CEP50
Time to First Fix (TTFF)	<p>Hot start: 1.1 s</p> <p>Warm start: 22.1 s</p> <p>Cold start: 29.9 s</p>
Sensitivity	<p>Tracking: -160 dBm</p> <p>Acquisition: -147 dBm</p> <p>Cold starts: -145 dBm</p>
Update Rate	Minimum 1 Hz
<b>WLAN Interface</b>	
WLAN Standards	802.11a/b/g/n/ac/ax
Frequency Band	2.4 GHz / 5 GHz
<b>Security Functions</b>	
Hardware-based Security	<p>TPM 2.0</p> <p>Hardware Root of Trust Secure Boot</p>
Intrusion Detection	Host-based Intrusion Detection
Security Tools	<p>Security Diagnostic Tool</p> <p>Security Event Auditing</p> <p>Secure Update</p>
Disk Protection	LUKS Disk Encryption
Recovery	<p>One-step recovery to the last known secure state</p> <p>Dual-system design with automatic fallback</p>
Reliability	<p>Network Keep Alive</p> <p>Network Failover and Failback</p>
<b>LED Indicators</b>	
System	<p>Power x 1</p> <p>READY (device bootup) x 1</p> <p>SIM card indicator x 1</p>
User Programmable	1
LAN	P1, P2: TX, RX per port (10/100/1000 Mbps)

CAN	UC-3424A-T-LTE/UC-3434A-T-LTE-WiFi: P3, P4: 1 per port for 2 CAN ports
Wireless Signal Strength	UC-3420A-T-LTE, UC-3424A-T-LTE: Cellular x 3 UC-3430A-T-LTE-WiFi, UC-3434-T-LTE-WiFi: Cellular x 3, Wi-Fi x 3
<b>Power Parameters</b>	
Input Current	1.09 A @ 9 VDC, 0.21 A @ 48 VDC
Input Voltage	9 to 48 VDC
Power Consumption	10.8 W (max.)
<b>Reliability</b>	
Automatic Reboot Trigger	External RTC (real-time clock)
Alert Tools	External WDT (watchdog timer)
<b>Physical Characteristics</b>	
Housing	Metal
IP Rating	IP30
Dimensions	130 x 92 x 41 mm (5.12 x 3.62 x 1.61 in)
Weight	Product only: 550 g (1.22 lb)
Installation	DIN-rail mounting Wall mounting (with optional kit)
<b>Environmental Limits</b>	
Operating Temperature	-40 to 70°C (-40 to 158°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
<b>Standards and Certifications</b>	
EMC	EN 55032/35 EN 61000-6-2/-6-4 UKCA RCM
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 61000-4-4 EFT: Power: 1 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 1 kV, Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF: 30 A/m
Radio Frequency	All models: CE (RED) FCC ISED UKCA RCM NCC UC-342x models: TELEC

Safety	EN 62368-1 UL 62368-1
Vibration	IEC 60068-2-64 2 grms @ 5 to 500 Hz, random wave, 1 hr per axis (without USB devices attached)
Shock	IEC 60068-2-27
Carrier Approvals	AT&T Verizon PTCRB
International Approval	CE (RED) FCC ISED UKCA RCM NCC UC-342x models: TELECOM
Hazardous Locations	Class I Division 2 ATEX
Green Product	RoHS, CRoHS, WEEE

#### MTBF

Time	1,461,405 hrs
Standards	Telcordia (Bellcore) Standard TR/SR

#### Warranty

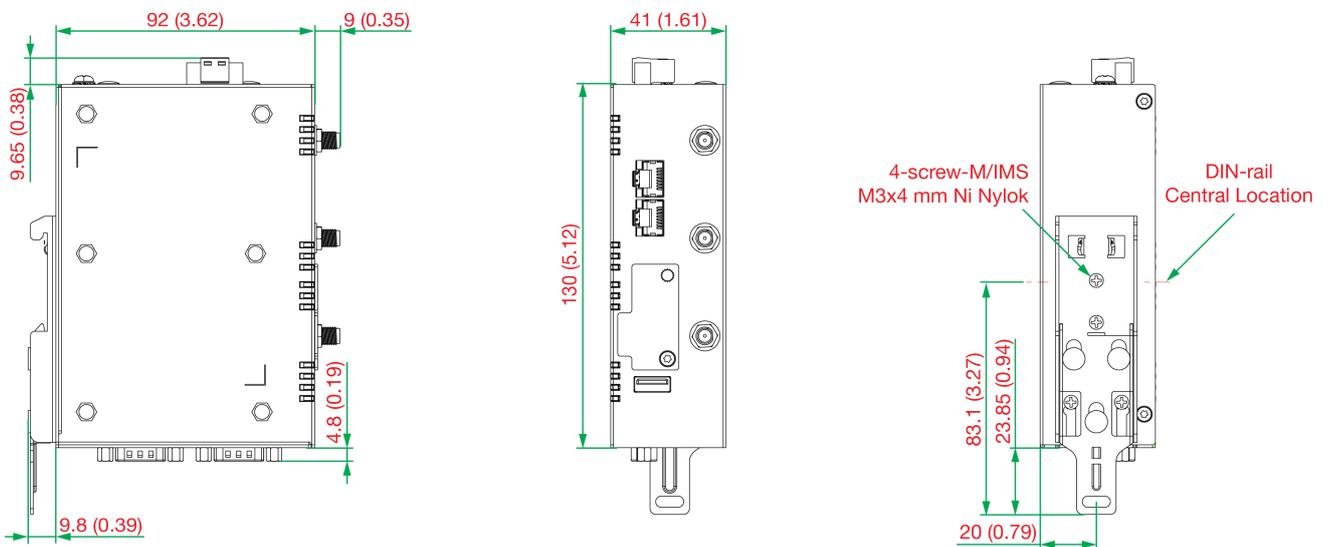
Warranty Period	5 years
Details	See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>

#### Package Contents

Device	1 x UC-3400A Series computer
Documentation	1 x quick installation guide 1 x warranty card

## Dimensions

Unit: mm (inch)



## Ordering Information

Model Name	OS	CPU	CAN	LTE	Wi-Fi
UC-3420A-T-LTE	Default: MIL3 Standard Order MIL3 Secure through UC-3400A (CTO)	Arm Cortex-A53 quad-core 1.4 GHz	-	Cat. 4	-
UC-3424A-T-LTE	Default: MIL3 Standard Order MIL3 Secure through UC-3400A (CTO)	Arm Cortex-A53 quad-core 1.4 GHz	2	Cat. 4	-
UC-3430A-T-LTE-WiFi	Default: MIL3 Standard Order MIL3 Secure through UC-3400A (CTO)	Arm Cortex-A53 quad-core 1.4 GHz	-	Cat. 4	✓
UC-3434A-T-LTE-WiFi	Default: MIL3 Standard Order MIL3 Secure through UC-3400A (CTO)	Arm Cortex-A53 quad-core 1.4 GHz	2	Cat. 4	✓

## Accessories (sold separately)

### Power Adapters

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

### Cables

CBL-F9DPF1x4-BK-100	Console cable with 4-pin connector, 1 m
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### DIN-Rail Mounting Kits

DK-107-01	DIN-rail mounting kit with 1 plate (107 x 29 mm) and 5 M3 x 4 mm screws
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### Wall-Mounting Kits

WK-71-01	Wall-mounting kit with 2 plates (each 71 x 44.8 x 5.7 mm) and 5 M3 x 5 mm screws
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### Antennas

ANT-5G-OSM-04	4 dBi LTE/5G NR dipole antenna with SMA (male) connector
ANT-LTEUS-ASM-01	GSM/GPRS/EDGE/UMTS/HSPA/LTE, 1 dBi, omnidirectional rubber-duck antenna
ANT-LTEUS-OSM-02	698 to 960/1710 to 2700 MHz, 1/4 λ omnidirectional 1.5 dBi antenna with SMA (male) connector
ANT-WDB6-ARM-05	2 dBi at 2.4 GHz or 2 dBi at 5 GHz or 3 dBi at 6 GHz, tri-band dipole antenna with RP-SMA (female) connector
ANT-WDB-ARM-02	2 dBi at 2.4 GHz or 2 dBi at 5 GHz, RP-SMA (male) omnidirectional rubber-duck antenna
ANT-WDB-ASM-03 BK	2 dBi at 2.4 GHz or 2 dBi at 5 GHz, RP-SMA (male) omnidirectional rubber-duck antenna
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

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