



## NimbeLink Nano 4G LTE-M

Airgain, a global leader in embedded cellular modem technology and asset tracking solutions, has introduced the NimbeLink Nano NL-SWN-LTE-NRF9160 modem. This new modem offers LTE-M (CAT M1) connectivity for global applications. The modem also includes an integrated GPS/GNSS receiver.

The NL-SWN-LTE-NRF9160-C is optimized for Verizon. Contact Airgain for versions of the NL-SWN-LTE-NRF9160 that support other global networks.

NimbeLink cellular modems are designed to make cellular integration fast and easy. Exceptionally small, lowest power, and end-device certified, NimbeLink modems enable developers to quickly and reliably connect IoT products to cellular networks around the world. NimbeLink modems are backed by industry leading documentation and expert-level product support.

### FEATURES

- No carrier certification required
- Smallest embedded modem form factor
- User accessible applications processor
- Flexible antenna options
- UART, SPI, I2C serial interfaces
- Verizon soldered down SIM
- Support for external SIM sockets
- Supports Power Save Mode and eDRX
- RoHS compliant

### ADVANTAGES

- Global LTE coverage LTE-M (CAT M1)
- Simple Firmware over-the-air update system
- Easy GSMA back-off solution
- AT command interface for UDP and TCP/IP socket dials
- GNSS support

### PART NUMBER

	DESCRIPTION
NL-SWN-LTE-NRF9160	NimbeLink Nano, LTE-M with GNSS

## TECHNICAL SPECIFICATIONS

### TARGET REGION

Global

Compatible Carriers      Verizon Only

### CELLULAR TECHNOLOGY

LTE Category              LTE-M, (CAT M1)

LTE Frequency Bands      LTE-FDD: B1[2100], B2[1900] B3[1800], B4[1700], B5[850], B8[900], B12[700], B13[700], B14[700], B17[700], B18[850], B19[850], B20[800], B25[1900], B26[850], B28[700], B66[1700]

3G Technology Supported      N/A

3G Frequency Band              N/A

2G Technology Supported      N/A

2G Frequency Band              N/A

### DATA SPEEDS

Download Rate and Upload Rate      Download Max: LTE-M: 375 Kbps  
Upload Max: LTE-M: 300 Kbps

### HARDWARE

Form Factor                      NimbeLink Nano Interface

Dimensions                      23mm x 16.5mm x 4mm

Weight                              4 grams

### INTERNET PROTOCOLS

Network Stack Support      Airgain provided AT command parser supporting: TCP/IP, UDP/IP, IPv4/IPv6, PING, Roadmap for TLS 1.2 and MQTT

SMS                                  SMS supported

### LOCATION

GNSS                                GPS

### POWER SUPPLY

Supply Voltage                  3.3V to 5.5V (3.8V nominal)

I/O Voltage                        1.7V - 3.6V

Current Consumption	VCC = 5V: Average 20.1 mA   Peak 68.3 mA   Idle 533 uA   Sleep 2.4 uA   PSM 5uA   eDRX 19uA VCC = 3.8V: Average 23.9 mA   Peak 95.1 mA   Idle 611 uA   Sleep 2.883 uA
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#### INTERFACES

Type	Multiple UART, SPI, I2C, GPIO
USB Driver Support	N/A
RF	Primary, SISO DL (U.FL)

#### SIM

Type	Integrated Verizon SIM, support for external SIM sockets
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#### APPROVALS

Regulatory Certifications	PTCRB, FCC, IC
Carrier	Verizon
Compliance	RoHS compliant

#### TEMPERATURE RANGE

Industrial Grade	-40°C to +85°C
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#### SUPPORT AND WARRANTY

1 Year standard warranty
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#### PATENTS

US 9,838,066
US 9,497,570
US D731,491