

S2C Link Datasheet

NimbeLink Corp

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1. Introduction

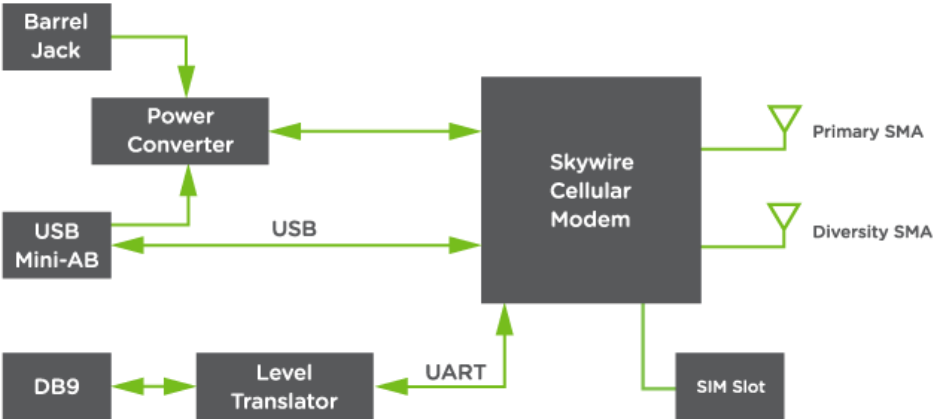
1.1 Overview

The NimbeLink S2C (serial-to-cellular) Link modem family consists of simple, plug-n-play devices featuring serial ports for both USB and RS232 interfaces and versions that can access 2G, 3G, 4G LTE, and LTE CAT1 cellular networks.

The S2C Link modems are tough, compact, and able to handle extremes of temperature. They offer a range of powering and mounting options and draw relatively little power, which suits them for remote applications like kiosks, digital signage, control panels, security panels, and surveillance equipment. Their ruggedness, simplicity, and low cost make them ideal for large volume, low-touch applications, and they can serve as plug-n-play replacements for serial modems like the Sierra Wireless FX Series, GL Series, and the Novatel Wireless / Enfora SA-G, SA-G+.

2. Technical Specifications

2.1 Block Diagram



2.2 Electrical Specifications

2.2.1 Absolute Maximum Ratings

| Parameter | Min | Max | Description |
|-----------------------|--------|---------|---|
| Vin | 4.5V | 32V | Input voltage on barrel jack center pin |
| VBUS | | 5.5V | Input voltage on USB VBUS signal |
| DB9 Inputs | -25V | 25V | RS232 Serial inputs |
| DB9 Outputs | -13.2V | 13.2V | RS232 Serial outputs |
| Date Rate | | 250kbps | RS232 Serial port Baud Rate |
| Operating Temperature | -40C | +85C | Operating Temperature |

2.2.2 Recommended Ratings

| Parameter | Min | Typical | Max | Description |
|-------------|-------|-----------|------|---|
| Vin | 5V | | 30V | Input voltage on barrel jack center pin |
| VBUS | | 5V | | Input voltage on USB VBUS signal |
| DB9 Inputs | 0.8V | | 2.4V | RS232 Serial inputs |
| DB9 Outputs | -5.4V | | 5.4V | RS232 Serial outputs |
| Date Rate | | 115.2Kbps | | RS232 Serial port Baud Rate |

3. External Interfaces

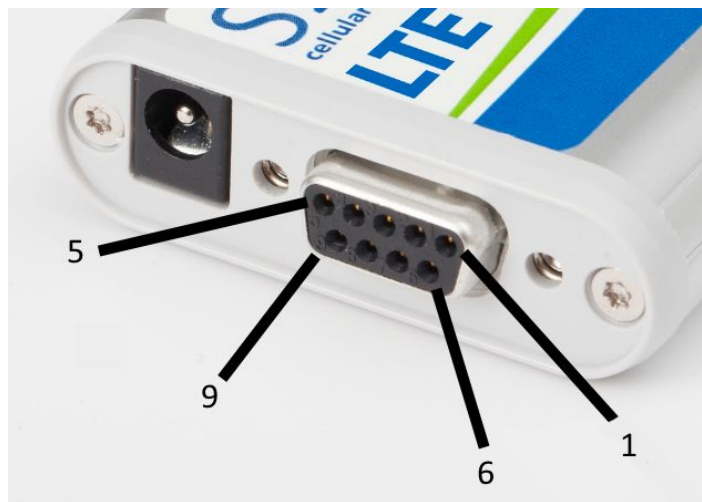
3.1 USB Connector

The USB connector is a USB Mini-AB style.

3.2 RS232 Connector

The RS232 connector is a DB9 female interface.

| Pin Number | Name | Direction | Description |
|------------|------|-----------|---|
| 1 | DCD | Output | Internally tied to V+ through 1K resistor |
| 2 | RXD | Output | Receive |
| 3 | TXD | Input | Transmit |
| 4 | DTR | None | No Internal Connection |
| 5 | GND | Input | Ground |
| 6 | DSR | Output | Internally tied to V+ through 1K resistor |
| 7 | RTS | Input | Ready-To-Send |
| 8 | CTS | Output | Clear-To-Send |
| 9 | RI | Output | Internally tied to V+ through 1K resistor |



3.3 Power Connector

The power connector is a 2.1mm center pin positive barrel jack receptacle.

| Parameter | Description |
|------------------|---------------------------|
| Center Pin | Positive DC voltage input |
| Shell | Ground |
| Inside Diameter | 2.1mm |
| Outside Diameter | 5.5mm |

3.4 SIM Socket

The SIM card socket accepts Micro-SIM size 3FF SIM cards.

The SIM card socket is present on all LTE and GSM modems. The SIM card socket is not present on the 2G 1XRTT nor 3G EVDO CDMA modems.

3.5 RF Connectors

The S2C Link provides a primary and diversity antenna connection points. The connectors are both standard SMA connectors, center pin: female. The primary antenna connection must be used in all implementations. The diversity antenna connection is NOT connected in the 1xRTT product.



4. Recommended Antennas

4.1 Retail Kit

The Retail Kit includes a wide-band, ground plane independent paddle style antenna.

| Manufacturer | Part Number |
|--------------|-------------|
| Taoglas | TG.30.8113 |

4.2 Remote Mount

When the modem is placed inside a metal cabinet or deep inside a building, it is advantageous to use a remote-mount antenna. The modem uses a standard SMA port and can accommodate many aftermarket externally mounted antennas. This is an example of a magnetic mount antenna that will readily connect to the modem.

| Manufacturer | Part Number |
|--------------|------------------|
| CDW | MAG-212-12-SMA-M |