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S2C Link Accessory Kit Datasheet

Part Number: NL-S2CK

NimbeLink Corp

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1. Introduction

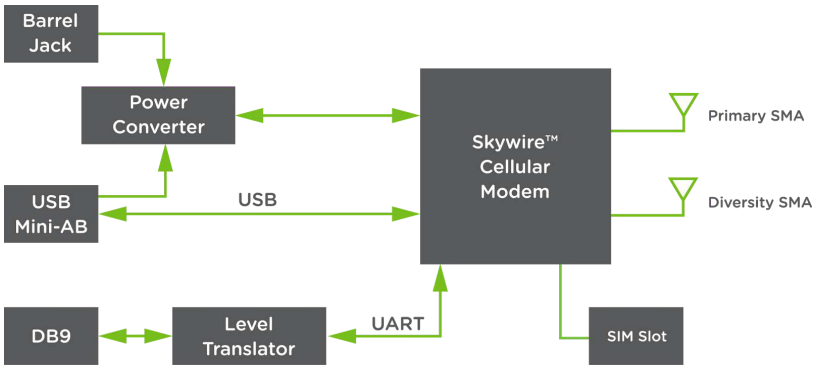
1.1 Overview

NimbeLink's S2C (serial-to-cellular) Link Accessory Kit consists of simple, user assembled device allowing easy access to the serial ports for both the USB and RS232 interfaces on the Skywire™ modem. The Kit is compatible with any of the wide range of cellular technologies and carrier certified modems in the Skywire™ cellular modem family.

The S2C Link Accessory kit is tough, compact, and is able to handle extremes of temperature. The kit offers 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.

2. Technical Specifications

2.1 Block Diagram



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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
DB9 Date Rate		250kbps	RS232 Serial port Baud Rate
USB Data		480 Mbit/s	USB Data 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		115.2K bps		RS232 Serial port Baud Rate

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3. External Interfaces

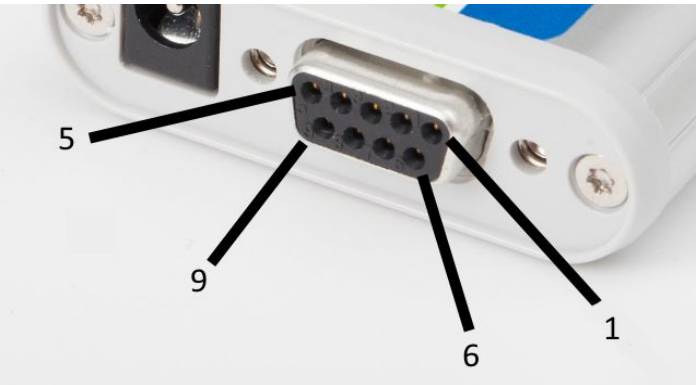
3.1 USB Connector

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



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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

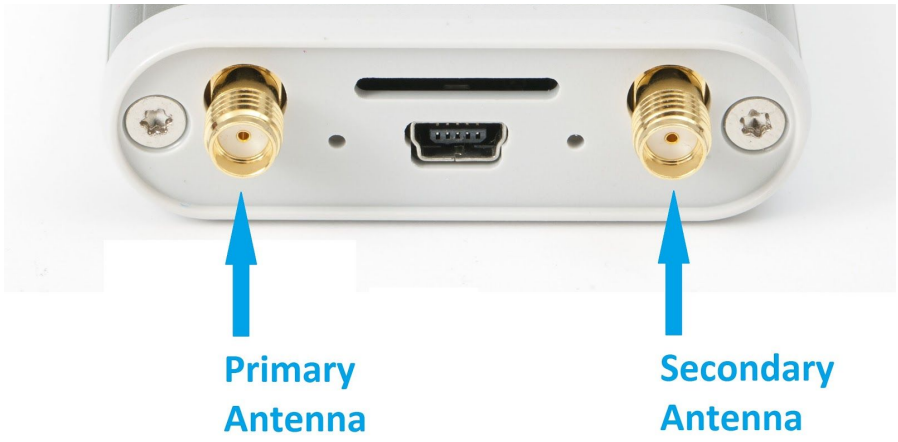
3.4 SIM Socket

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

The SIM card socket is present on all LTE and GSM Skywire™ modems. The SIM card socket is not present on the 2G 1XRTT nor 3G EVDO CDMA Skywire™ 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 when used with a 2G 1xRTT, 2G GSM, 3G HSPA Skywire™.



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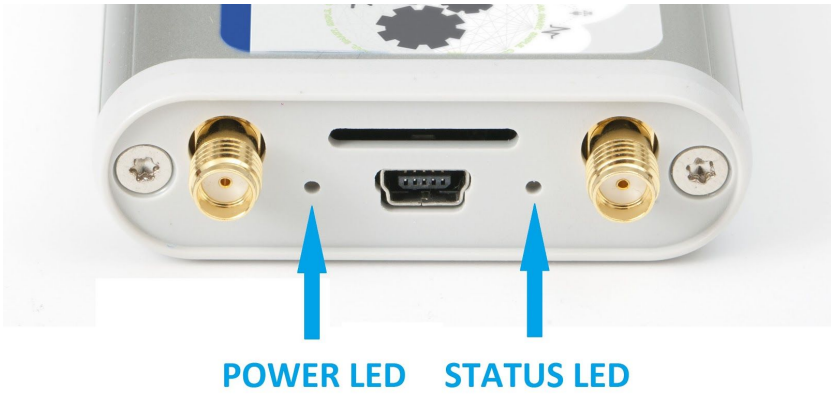
3.6 Indicator LEDs

The S2C Link Accessory Kit has two external LED indicators. The POWER LED, on the left of the enclosure, is illuminated when power is applied to the device. The STATUS LED, on the right side of the enclosure, is a flexible use LED that is often used as a status indicator by the Skywire™ modem to indicate the current operating mode of the Skywire™. It is driven by pin 13 from the Skywire and can also be manually configured by sending AT commands to the modem. Please refer to the user manual and AT command manual for the specific modem being used.



4. Recommended Antennas

The following Antennas are recommended for use with the S2C Link Accessory Kit.

Manufacturer	Part Number	Antenna Type
Taoglas	TG.30.8113	Dipole, Wide Band Cellular Antenna
PowerTech Antennas	MAG-212-12-SMA-M	Omni directional, high gain cellular antenna

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