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SN171-ProtoBoard

Prototyping Board

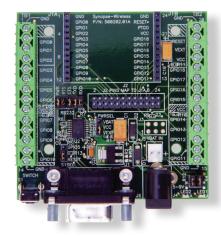


Power Up Your Prototyping

With the SN171 – ProtoBoard™, Synapse makes it even easier to put the SNAP Engine™ to work in your application. Whether you're developing rapid prototypes or building a sophisticated finished assembly, the ProtoBoard provides a solid platform for embedded SNAP® wireless applications.

Our intent with the ProtoBoard is to not get in your way. To that end, the ProtoBoard has jumpers that enable all peripherals to be fully disabled — freeing all pins of the SNAP Engine for complete access by your application. Like all SNAP Nodes, a SNAP Engine on the ProtoBoard may serve as the SNAP Bridge for connection to Portal® or a SNAPconnect.

It is also capable of true low-power operation, achieving sleep states as low as 0.3 μ A.



Product Highlights

- Compatible with all Synapse SNAP Engine modules.
- RS-232 port with full hardware flow control (UART1) fully jumper selectable, can be completely "removed" from system.
- 2 status LEDs, yellow and green — can be disabled by jumper.
- Push-button switch, can be jumpered to Reset, GPIO, or disabled.
- Battery connector or power regulator option.
- Terminal blocks bring out the SNAP Engine pins and Vext (supply power).
- 2x12, 2mm pitch header for ribbon — cable access to all SNAP Engine pins.

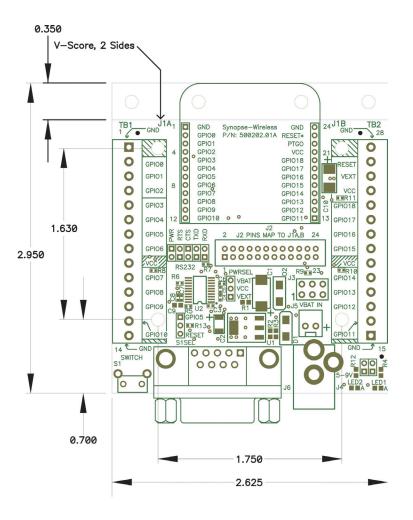
To learn more, visit synapse-wireless.com or call 877-982-7888





Typical Application:

Prototyping a remote GPS module.



Part Selection

Part No. SN171GG-NR

Terminal Blocks (16–26 AWG)

2 TB1-2 GPIO-0 3 TB1-3 GPIO-1 4 TB1-4 GPIO-2 5 TB1-5 GPIO-3 6 TB1-6 GPIO-4 7 TB1-7 GPIO-5 8 TB1-8 GPIO-6 9 TB1-9 Vcc 10 TB1-10 GPIO-7 11 TB1-11 GPIO-8 12 TB1-12 GPIO-9 13 TB1-13 GPIO-9 13 TB1-14 GND 14 TB1-14 GND 15 TB2-1 GND 16 TB2-2 GPIO-10 17 TB2-3 GPIO-11 17 TB2-3 GPIO-12 18 TB2-4 GPIO-13 19 TB2-5 GPIO-14 20 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-	1	TB1-1	GND
4 TB1-4 GPIO-2 5 TB1-5 GPIO-3 6 TB1-6 GPIO-4 7 TB1-7 GPIO-5 8 TB1-8 GPIO-6 9 TB1-8 GPIO-6 9 TB1-9 Vcc 10 TB1-10 GPIO-7 11 TB1-11 GPIO-8 12 TB1-12 GPIO-9 13 TB1-13 GPIO-9 13 TB1-14 GND 14 TB1-14 GND 15 TB2-1 GND 16 TB2-2 GPIO-10 11 TB2-3 GPIO-11 17 TB2-3 GPIO-12 18 TB2-4 GPIO-13 19 TB2-5 GPIO-14 20 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-1	2	TB1-2	GPIO-0
5 TB1-5 GPIO-3 6 TB1-6 GPIO-4 7 TB1-7 GPIO-5 8 TB1-8 GPIO-6 9 TB1-9 Vcc 10 TB1-10 GPIO-7 11 TB1-11 GPIO-8 12 TB1-12 GPIO-9 13 TB1-13 GPIO-10 14 TB1-14 GND 15 TB2-1 GND 16 TB2-2 GPIO-11 17 TB2-3 GPIO-12 18 TB2-3 GPIO-12 18 TB2-4 GPIO-13 19 TB2-5 GPIO-14 20 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	3	TB1-3	GPIO-1
6 TB1-6 GPIO-4 7 TB1-7 GPIO-5 8 TB1-8 GPIO-6 9 TB1-9 Vcc 10 TB1-10 GPIO-7 11 TB1-11 GPIO-8 12 TB1-12 GPIO-9 13 TB1-13 GPIO-10 14 TB1-14 GND 15 TB2-1 GND 16 TB2-2 GPIO-11 17 TB2-3 GPIO-12 18 TB2-4 GPIO-13 19 TB2-5 GPIO-14 20 TB2-6 Vcc 21 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	4	TB1-4	GPIO-2
7 TB1-7 GPIO-5 8 TB1-8 GPIO-6 9 TB1-9 Vcc 10 TB1-10 GPIO-7 11 TB1-11 GPIO-8 12 TB1-12 GPIO-9 13 TB1-13 GPIO-10 14 TB1-14 GND 15 TB2-1 GND 16 TB2-2 GPIO-11 17 TB2-3 GPIO-12 18 TB2-4 GPIO-13 19 TB2-5 GPIO-14 20 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	5	TB1-5	GPIO-3
8 TB1-8 GPIO-6 9 TB1-9 Vcc 10 TB1-10 GPIO-7 11 TB1-11 GPIO-8 12 TB1-12 GPIO-9 13 TB1-13 GPIO-10 14 TB1-14 GND 15 TB2-1 GND 16 TB2-2 GPIO-11 17 TB2-3 GPIO-12 18 TB2-4 GPIO-13 19 TB2-5 GPIO-14 20 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	6	TB1-6	GPIO-4
9 TB1-9 Vcc 10 TB1-10 GPIO-7 11 TB1-11 GPIO-8 12 TB1-12 GPIO-9 13 TB1-13 GPIO-10 14 TB1-14 GND 15 TB2-1 GND 16 TB2-2 GPIO-11 17 TB2-3 GPIO-12 18 TB2-4 GPIO-13 19 TB2-5 GPIO-14 20 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	7	TB1-7	GPIO-5
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11 TB1-11 GPIO-8 12 TB1-12 GPIO-9 13 TB1-13 GPIO-10 14 TB1-14 GND 15 TB2-1 GND 16 TB2-2 GPIO-11 17 TB2-3 GPIO-12 18 TB2-4 GPIO-13 19 TB2-5 GPIO-13 19 TB2-6 Vcc 21 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	9	TB1-9	Vcc
12 TB1-12 GPIO-9 13 TB1-13 GPIO-10 14 TB1-14 GND 15 TB2-1 GND 16 TB2-2 GPIO-11 17 TB2-3 GPIO-12 18 TB2-4 GPIO-13 19 TB2-5 GPIO-14 20 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	10	TB1-10	GPIO-7
13 TB1-13 GPIO-10 14 TB1-14 GND 15 TB2-1 GND 16 TB2-2 GPIO-11 17 TB2-3 GPIO-12 18 TB2-4 GPIO-13 19 TB2-5 GPIO-14 20 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	11	TB1-11	GPIO-8
14 TB1-14 GND 15 TB2-1 GND 16 TB2-2 GPIO-11 17 TB2-3 GPIO-12 18 TB2-4 GPIO-13 19 TB2-5 GPIO-14 20 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	12	TB1-12	GPIO-9
15 TB2-1 GND 16 TB2-2 GPIO-11 17 TB2-3 GPIO-12 18 TB2-4 GPIO-13 19 TB2-5 GPIO-14 20 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	13	TB1-13	GPIO-10
16 TB2-2 GPIO-11 17 TB2-3 GPIO-12 18 TB2-4 GPIO-13 19 TB2-5 GPIO-14 20 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	14	TB1-14	GND
17 TB2-3 GPIO-12 18 TB2-4 GPIO-13 19 TB2-5 GPIO-14 20 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	15	TB2-1	GND
18 TB2-4 GPIO-13 19 TB2-5 GPIO-14 20 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	16	TB2-2	GPIO-11
19 TB2-5 GPIO-14 20 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	17	TB2-3	GPIO-12
20 TB2-6 Vcc 21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	18	TB2-4	GPIO-13
21 TB2-7 GPIO-15 22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	19	TB2-5	GPIO-14
22 TB2-8 GPIO-16 23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	20	TB2-6	Vcc
23 TB2-9 GPIO-17 24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	21	TB2-7	GPIO-15
24 TB2-10 GPIO-18 25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	22	TB2-8	GPIO-16
25 TB2-11 Vcc 26 TB2-12 Vext 27 TB2-13 Reset	23	TB2-9	GPIO-17
26 TB 2-12 Vext 27 TB 2-13 Reset	24	TB2-10	GPIO-18
27 TB2-13 Reset	25	TB2-11	Vcc
	26	TB2-12	Vext
28 TB2-14 GND	27	TB2-13	Reset
	28	TB2-14	GND

ProtoBoard Jumpers

RS-232

PWR Power to the RS232 Line Driver (UART 1)

CTS Flow control output (GPIO 9)
RTS Flow control input (GPIO 10)
TXD Transmit output (GPIO 8)
RXD Receive input (GPIO 7)

Power Supply

VBAT Powered using battery pack (2.0 - 3.4V)VEXT Powered using external supply (5 - 9V) **Switch**

GPIO5 Pushbutton connected to GPIO5
RESET Pushbutton connected to RFE reset

LEDs

LED1 Enable green LED (GPIO 1) LED2 Enable yellow LED (GPIO 2)

External 5v - 9v DC power jack (2.1 mm)

