Synapse® SM800

802.11 b/g/n Wi-Fi Module

Embedded Wi-Fi with the Power of SNAP®

Leverage Your Existing Wi-Fi Infrastructure

Synapse SM800 modules connect to 802.11 b/g/n Wi-Fi access points allowing your products to tap into existing Wi-Fi networks.

Leverage the Power of Python

SM800 nodes run SNAPpy, which optimizes Python for small embedded systems and extends it with event-driven programming and Remote Procedure Call (RPC) paradigms.

Leverage the Power of the SNAP Platform

The SM800 gives you access to the entire SNAP Platform toolset:

- **Portal IDE** for writing and deploying SNAPpy scripts interactively
- **SNAPconnect** (Python library) to add Gateways and Desktop PCs into your SNAP Network
- **SNAPtoolbelt** for command line automation
- **SNAPsniffer** to monitor wireless traffic
- **SNAPcontrol** to manage your SNAP network from the web

Easily configured via serial or Wi-Fi connection

Configure SM800 modules from Portal, SNAPconnect, or SNAPtoolbelt via a serial connection, or connected Wi-Fi network.

Simple Wi-Fi Commissioning

SM800s can also be placed into an “Access Point Mode” to create a temporary Wi-Fi network that you can browse to from your Wi-Fi-enabled laptop or smartphone for web-based commissioning. Once configured, the SM800 to Infrastructure mode and connects to your Wi-Fi access points.

Features

- **Supports 802.11 b/g/n**
  Connects to common Wi-Fi networks (2.4 GHz)
- **12 ADC and 30 DIO**
  Connects to standard sensors and actuators
- **2 Serial Ports**
  Connects to Portal or SNAPconnect, as well as peripherals like GPS
- **I²C and SPI interfaces**
  Interface with FLASH, accelerometers, etc.
- **Access Point mode**
  Configurable from a Wi-Fi-equipped laptop or smartphone (Web UI)
- **Infrastructure Mode**
  Connect to existing Wi-Fi access points
- **SNAPpy Scriptable**
  Local Intelligence with event-driven programming and remote procedure calls

6723 Odyssey Drive // Huntsville, AL 35806
(877) 982-7888 // Synapse-Wireless.com

116-061613-026-A000

Module Pad	Pad Name	Functionality	SNAPpy IO
P1	GND	GND	
P2		Reserved	
P3		Reserved	
P4		Reserved	
P5		Reserved	
P6		Reserved	
P7	VBAT	VBAT	
P8	PA16	IRQ, PWM, SPI_MISO	12
P9	PA17	IRQ, PWM, SPI_CS1	13
P10	GND	GND	
P11	PA18	IRQ, PWM, SPI_MOSI	14
P12	PA19	IRQ, PWM, SPI_SCLK	15
P13	PA20	IRQ, PWM, CTS1	16
P14	PA21	IRQ, PWM, RTS1	17
P15	PA22	IO	18
P16	PA23	IO	19
P17	GND	GND	
P18	PA24	IO	20
P19	PA25	IO	21
P20	GND	GND	
P21	VCC	VCC	
P22	PB22	IO	40
P23	PB23	IO	41
P24	RESET_N	RESET_N	
P25	PA30	SWCLK	22
P26	PA31	SWDIO	23

Module Pad	Pad Name	Functionality	SNAPpy IO
P27	PB02	IRQ, PWM, ADC10, TX0	26
P28	PB03	IRQ, PWM, ADC11, RX0	27
P29	PA00	GPIO_XIN32	0
P30	PA01	GPIO_XOUT32	1
P31	PA02	IRQ, ADC0	2
P32	GND	GND	
P33	PA03	IRQ, ADC1	3
P34	PA04	IRQ, PWM, ADC4	4
P35	PA05	IRQ, PWM, ADC5, CTS0	5
P36	PA06	IRQ, PWM, ADC6, RTS0	6
P37	PA07	IRQ, PWM, ADC7	7
P38	PA08	PWM, ADC16, I^2C_SDA	8
P39	PA09	IRQ, PWM, ADC17, I^2C_SCL	9
P40	PA10	IRQ, PWM, ADC18	10
P41	PA11	IRQ, PWM, ADC19	11
P42	GND	GND	
P43	PB10	IRQ, PWM, TX1	32
P44	PB11	IRQ, PWM, RX1	33
P45		Reserved	
P46		Reserved	
P47		Reserved	
P48		Reserved	
P49		Reserved	
P50		Reserved	
P51	GND	GND	

More technical details are in SM800 Datasheet available from www.synapse-wireless.com