

SKW77 High-Power WIFI Router Module Datasheet

Name: +27dBm WIFI Module

Model No.: SKW77

Revision: 1.03

Revision History:

Revision	Description	Approved	Date
1.01	Initial Release	George	20150125
1.02	Update Order Information	George	20150814
1.03	Update Pin Description	George	20160504

General Description

The SKW77 is a highly power wifi module, it compliant to 802.11 b/g/n Wi-Fi Solution for highly performance WLAN requiring up to +27dBm output power. The module requiring a external 3.3V power supply and a external 5.0V power supply .

The module based on the single chip MT7620A which integrates an 802.11n 2x2 MAC/BB/radio. It supports 802.11n operations up to 144 Mbps for 20 MHz and 300 Mbps for 40 MHz channel respectively, and IEEE 802.11b/g data rates.

The module support bridge mode and AP client mode and router mode.

Applications

- Wireless industrial data transmission over a long distance
- Wireless remote video monitoring
- Wireless remote data storage
- Wireless remote data sharing
- Home Gateways
- High power router

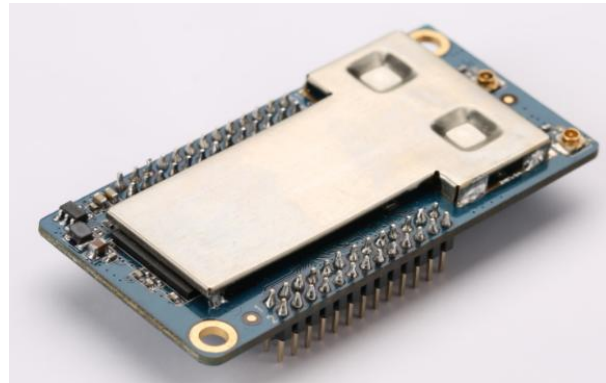


Figure 1: SKW77 Top View

Features

- Transmit power up to +28dBm.
- IEEE 802.11b/g/n 2x2 300Mbps WLANs.
- DDR2 memory up to 512Mb
- Flash memory up to 64Mb
- 2 LAN ports and 1 WAN port
- Support USB 2.0 host device
- Support SD card.
- Support Bridge/AP Client/Router mode
- Security: WEP 64/128, WPA, WPA2, TKIP, AES, WAPI
- RoHS compliance meets environment-friendly requirement.
- 59(L) x 28.9(W) x 9.0(H) mm small dimension

Applications Block Diagram

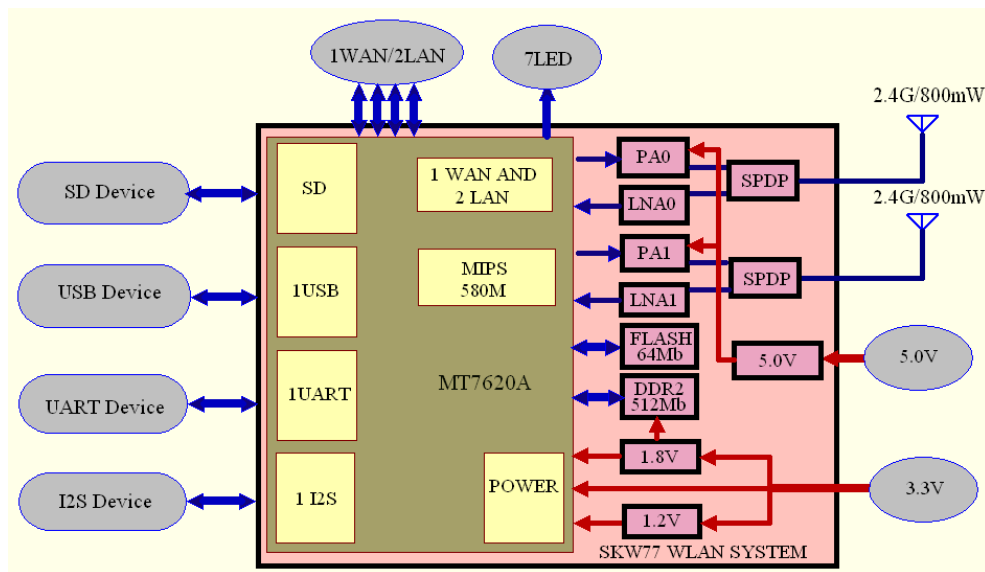


Figure 2: SKW77 Block Diagram

Ordering Information

Module NO.	RF Connector Type	Flash Size
SKW77_E8	IPEX Connector	8M byte
SKW77_E16	IPEX Connector	16M byte

Specification

Hardware Features	
Model	SKW77
Antenna Type	IPEX connector
Chipset solution	MT7620A
Voltage	3.0-3.6V for VDD_3.3V, 4.5-5.5V for VDD_5.0V
Dimensions(LxW)	59mm*28.9mm
Wireless Features	
Wireless Standards	IEEE 802.11n, IEEE 802.11g, IEEE 802.11b
Frequency Range	2.400GHz---2.4835GHz

Data Rates	IEEE 802.11 b Standard Mode: 1,2,5.5,11Mbps		
	IEEE 802.11g Standard Mode: 6,9,12,18,24,36,48,54Mbps		
	IEEE 802.11n : 130Mbps @ HT20		
	300Mbps @ HT40		
Receiver Sensitivity	HT40 MCS7 : -67dBm@10% PER(MCS7)		
	HT20 MCS7 : -73dBm@10% PER(MCS7)		
	54M: -76dBm@10% PER		
	11M: -91dBm@ 8% PER		
Modulation Technique	802.11 Legacy b/g		
	DSSS (DBPSK, DQPSK, CCK)		
	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)		
Wireless Security	WPA/WPA2, WEP, TKIP, and AES		
Transmit Power	IEEE 802.11n: 25dBm @HT40 MCS7		
	25dBm@HT20 MCS7		
	IEEE 802.11g: 27dBm		
	IEEE 802.11b: 28dBm		
Work Mode	Router/AP/Repeater		
Others			
Certification	CE, FCC, RoHS		
Power Consumption@25 °C	Status	Average/mA	MAX/mA
	Continuous Tx @VDD_5.0	1300@+27dBm	1600
	Continuous Tx @VDD_3.3V	270@+28dBm	300
	Note: 1) 5.0 V power supply is recommended to use 2A DC-DC regulator; 3.3 V power supply is recommended to use 500mA DC-DC regulator. 2) The maximum current consumption would be impacted by radiation environment and the driver mechanism		
Environment	Operating Temperature: -20°C~70°C		
	Storage Temperature: -40°C~125°C		
	Operating Humidity: 10%~90% non-condensing		
	Storage Humidity: 5%~90% non-condensing		

Module Pinout

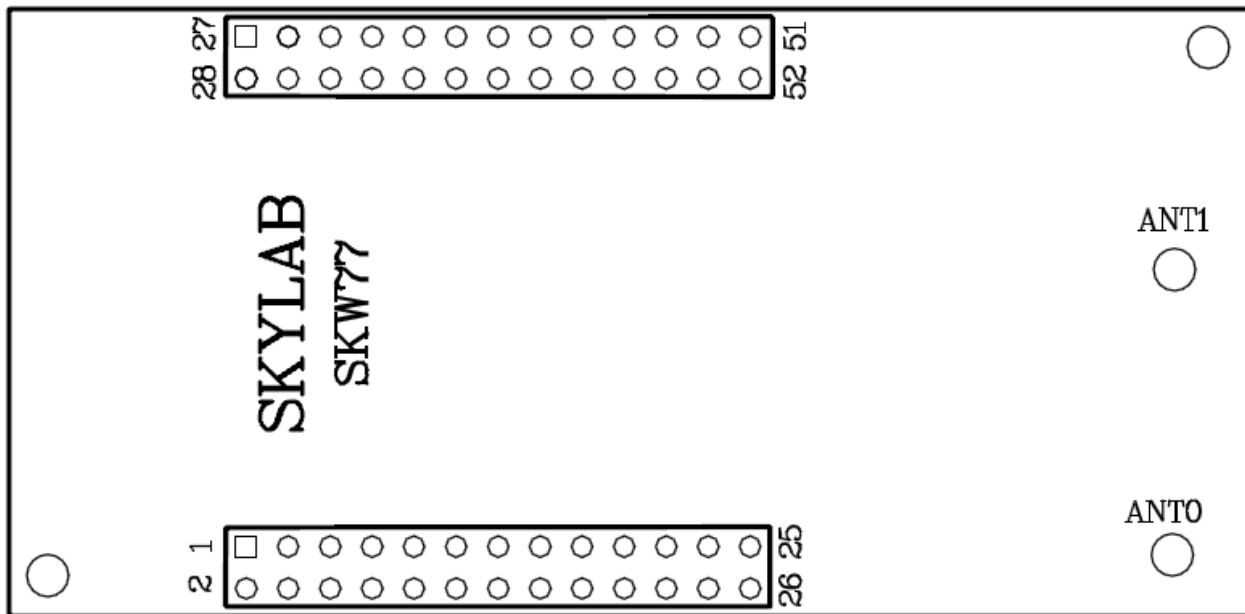


Figure 3: SKW77 Pin Package

Pin Description

1	SD_CLK	SD clock.
2	SD_CD	SD card detection.
3	SD_D3	SD data line3.
4	SD_CMD	SD Command line.
5	SD_D2	SD data line2.
6	SD_WP	SD write protect.
7	SD_D1	SD data line1.
8	SD_D0	SD data line0.
9	GND	GROUND
10	GND	GROUND
11	WAN_PORT0_RX+	10/100 PHY WAN port #0 RXP
12	WAN_PORT0_RX-	10/100 PHY WAN port #0 RXN
13	WAN_PORT0_TX+	10/100 PHY WAN port #0 TXP
14	WAN_PORT0_TX-	10/100 PHY WAN port #0 TXN
15	LAN_PORT1_TX+	10/100 PHY port #1 TXP
16	LAN_PORT1_TX-	10/100 PHY port #1 TXN
17	LAN_PORT1_RX+	10/100 PHY port #1 RXP
18	LAN_PORT1_RX-	10/100 PHY port #1 RXN

19	LAN_PORT2_RX+	10/100 PHY port #2 RXP
20	LAN_PORT2_RX-	10/100 PHY port #2 RXN
21	LAN_PORT2_TX+	10/100 PHY port #2 TXP
22	LAN_PORT2_TX-	10/100 PHY port #2 TXN
23	GND	GROUND
24	GND	GROUND
25	USB -	USB signal, carries USB data to and from the USB 2.0 PHY
26	USB +	USB signal, carries USB data to and from the USB 2.0 PHY
27	VDD_3.3V	3.3V input, recommended voltage 3.3V,Min3.0V, MAX 3.6V
28	VDD_3.3V	3.3V input, recommended voltage 3.3V,Min3.0V, MAX 3.6V
29	GND	GROUND
30	GND	GROUND
31	UART_TX	UART Serial Data Output, GPIO#15
32	UART_RX	UART Serial Data Input, GPIO#16
33	GND	GROUND
34	GND	GROUND
35	I2S_SDO	IIS Data Output, GPIO#9.
36	I2S_SCLK	IIS clock. In master mode the pin data direction is set output, in slave mode it is set to input, GPIO#7
37	I2S_WS/TXD	IIS Channel Selection. In master mode the pin data direction is set output, in slave mode it is set to input/ UART Serial Data Output, GPIO#8.
38	I2S_SDI/RXD	IIS Data Input/UART Serial Data Input, GPIO#10.
39	WPS_CONFIG	Module WPS Input(Active Low Status), GPIO#12.
40	RESET_CONFIG	Module Reset Input(Active Low Status), GPIO#13.
41	WP_LED	WPS LED, GPIO#39
42	GND	GROUND
43	LINK4_LED	WAN LED, GPIO#40
44	LINK3_LED	LAN_PORT4_LED, GPIO#44
45	LINK2_LED	LAN_PORT3_LED, GPIO#43
46	LINK1_LED	LAN_PORT2_LED, GPIO#42
47	LINK0_LED	LAN_PORT1_LED, GPIO#41
48	WL_AN_LED	WLAN LED, GPIO#72
49	GND	GROUND
50	GND	GROUND
51	VDD_5.0V	5.0V input, recommended voltage 5.0V,Min4.5V, MAX 5.5V
52	VDD_5.0V	5.0V input, recommended voltage 5.0V,Min4.5V, MAX 5.5V

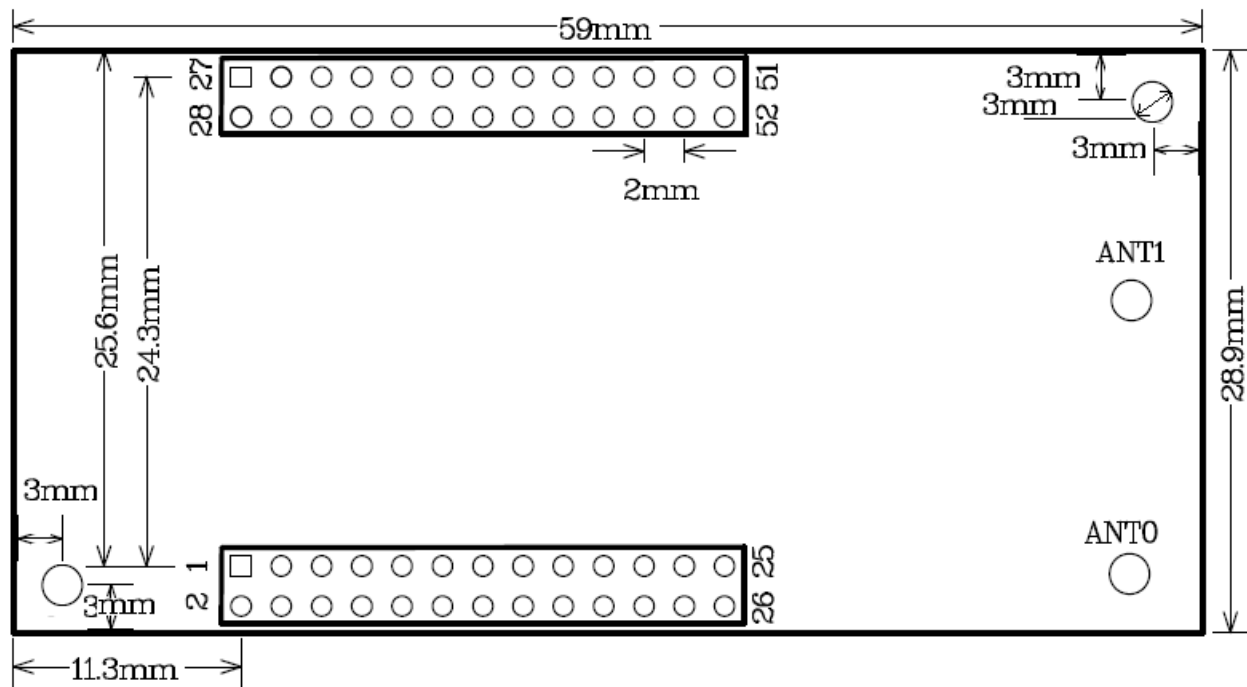
PCB Footprint and Dimensions

Figure 4: SKW77 Footprint

Skylab M&C Technology Co., Ltd.

深圳市天工测控技术有限公司

Address: 6 Floor, No.9 Building, Lijincheng Scientific&Technical park, Gongye East Road, Longhua District, Shenzhen, Guangdong, China

Phone: **86-755 8340 8210** (Sales Support)

Phone: **86-755 8340 8510** (Technical Support)

Fax: **86-755-8340 8560**

E-Mail: sales1@skylab.com.cn

Website: www.skylab.com.cn