SKW71 AP/Repeater/UART WiFi Module Datasheet

Name: 802.11b/g/n AP/Repeater & UART WIFI Module

Model NO.: SKW71

Revision: 003

Revision History:

Revision	Description	Approved	Date
001	Initial Release	George	20130221
002	Update Office Address	George	20130805
003	Add Ordering Information	George	20140215

General Description

The module SKW71 compliant to 802.11 b/g/n Wi-Fi Solution for low power, low-cost, and highly integrated AP and consumer electronic devices, the module requiring only a external 3.3V power supply and connection to antenna.

The module based on the single chip AR9331 which integrates an 802.11n 1x1 MAC/BB/radio with internal PA and LNA It supports 802.11n operations up to 72 Mbps for 20 MHz and 150 Mbps for 40 MHz channel respectively, and IEEE 802.11b/g data rates.

The module support AP mode and client mode and repeater mode and UART wifi.

Figure 1: SKW71 Top View

Applications

- AP WIFI
- UART WIFI
- Repeater WIFI
- IP TV
- IP DVD(Internet VOD Player)
- Set Top Box
- Home Gateways
- Gaming Consoles
- DVR

Features

- Compliant to IEEE 802.11b/g/n 1x1WLANs
- DDR2 memory up to 512Mb
- Flash memory up to 64Mb
- 1LAN ports and 1 WAN port
- High-speed UART
- USB 2.0 host device mode support
- Support AP/Client/Repeater mode
- Support UART to wifi transparent
- Security: WEP 64/128, WPA, WPA2, TKIP, AES, WAPI
- RoHS compliance meets environment-friendly requirement.
- 45(L) x 17.3(W) x 9.0(H) mm small dimension

Applications Block Diagram

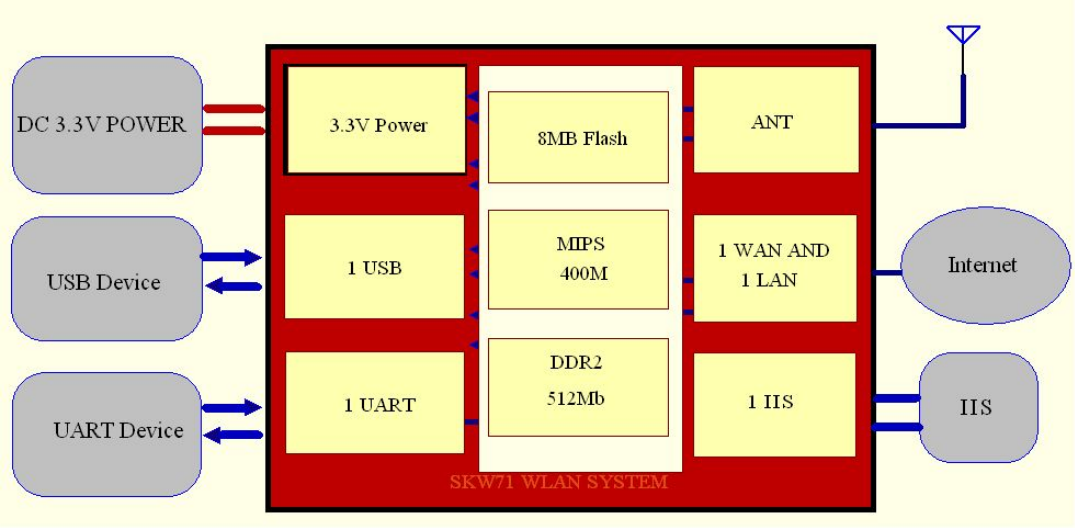

Figure 2: SKW71 Block Diagram

Ordering Information

Module NO.	RF Connector Type	Antenna Option
SKW71_E	IPEX Connector	Ext Antenna
SKW71_P	PCB Antenna	PCB Antenna

Performance Specification

Hardware Features	
Model	SKW71
Antenna Type	IPEX connector or PCB antenna
Chipset solution	AR9331
Voltage	3.3.0V+/-10%
Dimentions(W×D)	45mm*17.3mm
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 : 65Mbps @ HT20 150Mbps @ HT40
Receiver Sensitivity	135M: -65dBm@10% PER(MCS7) 72.2M: -70dBm@10% PER(MCS7) 54M: -75dBm@10% PER 11M: -86dBm@ 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: 12dBm @HT40 MCS7 12dBm@HT20 MCS7 IEEE 802.11g: 14dBm IEEE 802.11b: 17dBm
Work Mode	Ad-Hoc / Infrastructure mode/AP/Repeater/UART

Others

Certification	CE, FCC, RoHS	
Power Consumption@25°C	Status	Average/mA
	Continuous Tx	350
	Power Saving	70
	Note:The maximum current consumption would be impacted by radiation environment and the driver mechanism	
Environment	Operating Temperature: 0℃~80℃ Storage Temperature: -40℃~125℃ Operating Humidity: 10%~90% non-condensing Storage Humidity: 5%~90% non-condensing	

Module Pinout

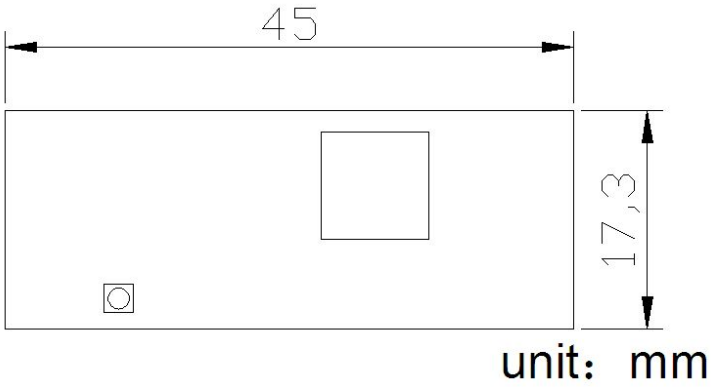

Figure 3: SKW71 Dimensions

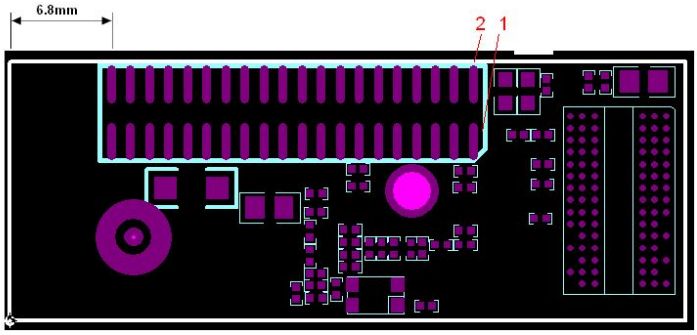

Figure 4: SKW71 Pin Package

Pin Description

1	VDD_3.3V	3.3V input 1000mA, recommended voltage 3.3V,Min2.97V, MAX 3.63V
2	GND	Ground
3	GPIO_23	KEY_INPUT, be free for customer defined.
4	WAN_PORT_RX+	Ethernet port
5	I2S_WS(GPIO_19)	Word select for stereo
6	WAN_PORT_RX-	Ethernet port
7	I2S_MICIN(GPIO_22)	I2S Data input
8	WAN_PORT_TX+	Ethernet port
9	I2S_MCK(GPIO_21)	Master clock
10	WAN_PORT_TX-	Ethernet port
11	I2S_SD(GPIO_20)	Serial data input/output
12	LAN_PORT0_RX+	Ethernet port
13	I2S_CK(GPIO_18)	Stereo clock
14	LAN_PORT0_RX-	Ethernet port

15	USB +	USB signal, carries USB data to and from the USB 2.0 PHY
16	LAN_PORT0_TX+	Ethernet port
17	USB -	USB signal, carries USB data to and from the USB 2.0 PHY
18	LAN_PORT0_TX-	Ethernet port
19	LED7(GPIO_27)	SYSTEM LED
20	GND	Ground
21	LED8(GPIO_26)	JMP_START LED
22	VDD_2.0V OUTPUT	Power supply output for peripheral network transformer
23	RESET_CONFIG	resets the firmware to its default configuration, it has a internal
	(UART_CTS) (GPIO_12)	10k drop down resistance, and trigger while Pulling up
24	VDD_2.0V OUTPUT	Power supply output for peripheral network transformer
25	JUMPSTART	KEY_INPUT to start WPS function, it has a internal 10k drop
	(UART_RTS) (GPIO_11)	down resistance, and trigger while Pulling up
26	GND	Ground
27	GND	Ground
28	SPI_MISO	SPI serial interface
29	VDD_3.3V	3.3V input 1000mA, recommended voltage 3.3V,Min2.97V, MAX 3.63V
30	SPI_CLK	SPI serial interface
31	VDD_3.3V	3.3V input 1000mA, recommended voltage 3.3V, Min2.97V, MAX 3.63V
32	SPI_MOSI	SPI serial interface
33	LED6 (GPIO_17)	WLAN LED
34	LED2 (GPIO_13)	LAN_PORT0_LED
35	LED1 (GPIO_1)	USB LED
36	LED0 (GPIO_0)	Wireless LED
37	UART_RX (SPI_CS1)	Serial data in
38	UART_TX (SPI_CS2)	Serial data out
39	GND	Ground
40	GND	Ground

PCB Footprint and Dimensions

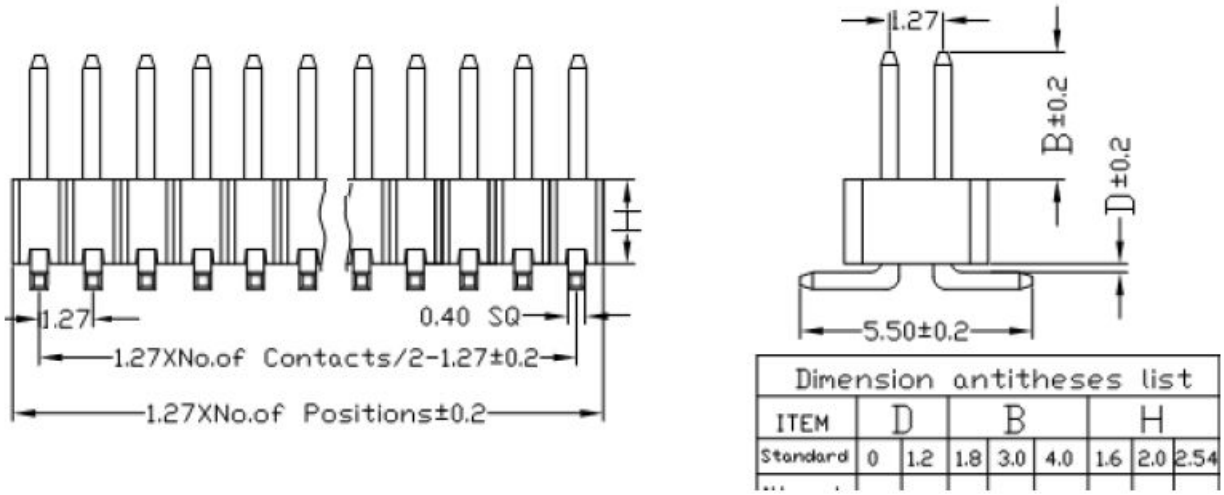

Figure 5: SKW71 Footprint

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