USER MANUAL

1、Summary

SDWFCU-33HR Smart home WIFI module is a suitable receiving IEEE802.11b/g/n WLAN receiver. Design of SDWFCU-33HR Smart home WIFI module, including RF impedance of antenna, matching, USB port impedance matching, power supply unit. SDWFCU-33HR Smart home WIFI module can be USB2.0 /UART/SPI ,And has the GPIO output used in home appliances - refrigerator - air conditioning - washing machine - LED and so on the Internet of things.

This product is of high reliability, strong universality. In terms of electrical performance, stable and reliable work. (see Figure)

2、Technical indicators

2.1 service restrictions

Atmospheric pressure： 86kPa～106kPa

temperature limit：-5℃～40℃

Relative humidity：≦90% ,

2.2. Electrical characteristics

2.2.1 Transmit power

Frequency in 2412MHz (1CH), 2437 MHz (6CH), 2462 MHz (11CH) for 802.11b, 802.11g& 802.11n HT20 & 2422MHz (3CH), 2437 MHz (6CH), 2452 MHz (9CH) for 802.11n HT40 transmit power value as shown in table 1.**Table 1 The transmit power value** unit：dBm

Protocol	Data rate(Mbps)	transmit power value
802.11b	11	17 ± 2
802.11g	54	14 ± 2
802.11n(HT20)	65(MCS7)	13 ± 2
802.11n(HT40)	135(MCS7)	12 ± 2

2.2.2 EVM

Frequency 2412MHz (1CH), 2437 MHz (6CH), 2462 MHz (11CH) for 802.11b, 802.11g& 802.11n HT20 & 2422MHz (3CH), 2437 MHz (6CH), 2452 MHz (9CH) for 802.11n HT40 EVM values are shown in table 2.

Table 2 EVM value		unit：：dB
Protocol	**Data rate(Mbps)**	**EVM**
802.11b	11	$\leq$-10
802.11g	54	$\leq$ -25
802.11n(HT20)	65(MCS7)	$\leq$ -25
802.11n(HT40)	135(MCS7)	$\leq$ -28

2.2.3 Frequency accuracy

Frequency in 2412MHz (1CH), 2437 MHz (6CH), 2462 MHz (11CH) for 802.11b, 802.11g & 802.11n HT20 &2422MHz (3CH), 2437 MHz (6CH), 2452 MHz (9CH) for 802.11n HT40 frequency accuracy as shown in table 3.

Table 3 Frequency accuracy unit：kHz		
Protocol	**Data rate(Mbps)**	**Frequency accuracy**
802.11b	11	-25$\leq$Frequency accuracy$\leq$25
802.11g	54	-25$\leq$Frequency accuracy$\leq$25
802.11n(HT20)	65(MCS7)	-25$\leq$Frequency accuracy$\leq$25
802.11n(HT40)	135(MCS7)	-25$\leq$Frequency accuracy$\leq$25

2.2.4 Sensitivity

Frequency in 2412MHz (1CH), 2437 MHz (6CH), 2462 MHz (11CH) for 802.11b,802.11g & 802.11n HT20 &2422MHz (3CH), 2437 MHz (6CH), 2452 MHz (9CH) for

802.11n HT40 Sensitivity as shown in table 4.

Table 4Sensitivity unit：dBm

Protocol	Data rate(Mbps)	sensitivity
802.11b	11	≤-77
802.11g	54	≤-66
802.11n(HT20)	65(MCS7)	≤-65
802.11n(HT40)	135(MCS7)	≤-62

2.2.5 Internet experience test

In 802.11b/g/n, the distance of router 10m, separated by a wall, playback buffer fast, smooth.

3、SDWFCU-33HR Pin definition and mechanical dimensions

PIN.	PIN NAME	PIN.	PIN NAME	PIN.	PIN NAME
A1	3.3V	B1	USB_DN	B17	GPIO12
A2	GND_1	B2	USB_DP	B18	GPIO13
A3	CHIP_PWD_L	B3	UART_RXD	B19	IOT_MODE_EN
A4	Watchdog	B4	UART_TXD		
A5	GPIO18	B5	GND_2	C1	VIN
A6	GPIO16	B6	3.3V_2	C2	GND
A7	GPIO17	B7	GPIO0	C3	RXD-5V
A8	GPIO15	B8	GPIO1	C4	TXD-5V
A9	GPIO21	B9	GPIO2		
A10	WAKEUP_N	B10	GPIO3		
A11	I2C_SCK	B11	GPIO4		
A12	I2C_SDA	B12	GPIO5		
		B13	UART_RXD		
		B14	UART_TXD		
		B15	GPIO9		
		B16	GPIO8		
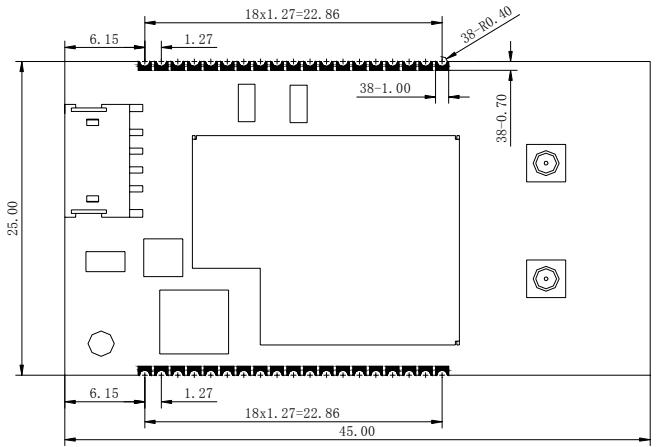
(Viewed for top)
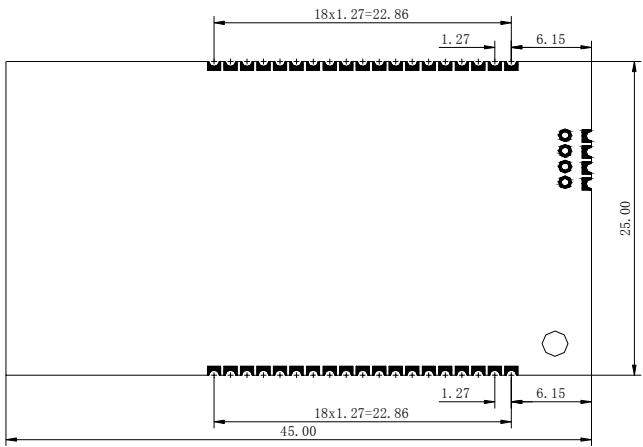
(Viewed for bottom)

NOTE1:General tolerance ±0.15mm
      unless otherwise stated
NOTE2:Unit mm
NOTE3:Drawing not to scale

4、Use and repair

Electronic products this product belongs to high density, high technology, specifically for TV, PC production plant use, do not use due to mechanical impact and external direct action, the appearance by the damage phenomenon. If the product fails, by professional technicians to repair.

5、Special version

SDWFCU-33HR/*** is a SDWFCU-33HR product, suffix' * * * 'is made by use of manufacturers and other information that has no effect on the product itself.

6、OEM Labeling Requirements

NOTICE: The OEM must make sure that labeling requirements are met. This includes
a clearly visible exterior label on the outside of host system, host system must be labeled
with "contains FCC ID: S5FSDWFCU-33HR" .

CE statement

This device complies with relative criteria of CE certification

ETSI EN 300 328, ETSI EN 301 489-1, ETSI EN 301 489-17 & EN 62311

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that May cause undesired operation.

This device complies with part 15C of the FCC Rules.

FCC Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.