

WiFi Module

MWF-5201

Specifications

Version: 1.0

No.	Version	Description	Date	Writer
1	1.0	Initial	2014-06-05	IVONA

1. Features

- Compliant with IEEE802.11b/g/n 、IEEE802.3 、IEEE802.3u
- Support CSMA/CA 、CSMA/CD 、TCP/IP 、PPPoE 、DHCP 、ICMP 、NAT protocol
- Embedded PA/LNA
- 150Mbps PHY data rate
- 20Mhz/40Mhz channel width

Standard	IEEE 802.11 b/g/n 、IEEE802.3 、IEEE802.3u 、CSMA/CA 、CSMA/CD 、TCP/IP 、PPPoE 、DHCP 、ICMP 、NAT 、PPPoE
WAN	One 10/100M port
LAN	One 10/100M port
Frequency	2.4 ~ 2.4835GHz
Data Rate	11n : 135 / 121.5 / 108 / 81 / 54 / 40.5 / 27 / 13.5 Mbps 65 / 58.5 / 52 / 39 / 26 / 19.5 / 13 / 6.5 Mbps 11g : 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6 Mbps 11b : 11 / 5.5 / 2 / 1 Mbps
Channel	14
Spread spectrum	DSSS
Modulation type	DBPSK 、DQPSK 、CCK and OFDM (BPSK/QPSK/16-QAM/64-QAM)
Sensitivity	-64 dBm @135Mbps / 10% PER -70 dBm @54Mbps / 10% PER -85 dBm @11Mbps / 8% PER
Transmit Power (Average)	11n : 23 dBm 11g : 23 dBm 11b : 20 dBm
Power Dissipation	3.3V, 340mA (Typ.) / 430mA (Max.)

2. Interface Definition

A. J1 Pin Definition

Description	Pin	Specification	Notes
	1	3.3V	3.3V DC input pin
	2	CPURST_N	CPU reset
GPIO / I2C	3	GPIO2_/I2C_SCLK	I2C Clock
	4	GPIO1_/I2C_SD	I2C Data
	5	GND	Ground
	6	GND	Ground

B. J2 Pin Definition

Description	Pin	Specification	Notes
USB	1	UPHY0_PADP	USB Data+
	2	UPHY0_PADM	USB Data-
	3	USB_GND	Ground
EPHY4 (Default WAN Port)	4	TXOM4	PHY4 TX-
	5	TXOP4	PHY4 TX+
	6	RXIM4	PHY4 RX-
	7	RXIP4	PHY4 RX+
EPHY3 (Default LAN Port)	8	RXIM3	PHY3 RX-
	9	RXIP3	PHY3 RX+
	10	TXOM3	PHY3 TX-
	11	TXOP3	PHY3 TX+
GPIO / UART	12	GPIO11/RTSN	See Table 1
	13	GPIO12/TXD	See Table 1
	14	GPIO13/CTSN	See Table 1
	15	GPIO14/RXD	See Table 1
GPIO / I2S	16	GPIO10/I2SSD	See Table 2: I2SSD
	17	GPIO8/I2SWS	See Table 2: I2SWS
	18	GPIO9/I2SSDO	See Table 2: I2S output
	19	GPIO7/I2SCLK	See Table 2: I2S clock
	20	MCS1_N	Clock output
UART2 (CONSOL)	21	RXD2	UART2 RXD
	22	TXD2	UART2 TXD
LED	23	W_LED	WLAN Activity LED
SPI	24	SPI_MISO	SPI master in salve out

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	25	SPI_CS0	SPI chip select0
	26	SPI_CLK	SPI clock
	27	SPI_MOSI	SPI master out slave in
	28	3.3V	3.3V DC input pin
LDO	29	SOD_1.8V	Power supply to 10/100 transformer
	30	GND	Ground

C. J3 Pin Definition

Description	Pin	Specification	Notes
Antenna Port	1	GND	Ground
	2	ANT1	WiFi Antenna connector
	3	GND	Ground

3. I/O Design Definition

Table 1: GPIO share scheme:

UART	RXD2	GPIO#16
	TXD2	GPIO#15
UARTF	RIN	GPIO#14
	DSR_N	GPIO#13
	DCD_N	GPIO#12
	DTR_N	GPIO#11
	RXD	GPIO#10
	CTS_N	GPIO#9
	TXD	GPIO#8
SPI	RTS_N	GPIO#7
	SPI_MISO	GPIO#6
	SPI_MOSI	GPIO#5
	SPI_CLK	GPIO#4
I2C	SPI_CS0	GPIO#3
	I2C_SCLK	GPIO#2
GPIO	I2C_SD	GPIO#1
	GPIO0	GPIO#0

Table 2: UART pin share scheme

Pin Name	3'b000 UARTF	3'b001 PCM, UARTF	3'b010 PCM, I2S	3'b011 I2S UARTF	3'b100 PCM, GPIO	3'b101 GPIO UARTF	3'b110 GPIO I2S	3'b111 GPIO
RIN	RIN	PCMDTX	PCMDTX	RXD	PCMDTX	GPIO#14	GPIO#14	GPIO#14
DSR_N	DSR_N	PCMDRX	PCMDRX	CTS_N	PCMDRX	GPIO#13	GPIO#13	GPIO#13
DCD_N	DCD_N	PCMCLK	PCMCLK	TXD	PCMCLK	GPIO#12	GPIO#12	GPIO#12
DTR_N	DTR_N	PCMFS	PCMFS	RTS_N	PCMFS	GPIO#11	GPIO#11	GPIO#11
RXD	RXD	RXD	I2SSDI	I2SSDI	GPIO#10	RXD	I2SSDI	GPIO#10
CTS_N	CTS_N	CTS_N	I2SSDO	I2SSDO	GPIO#9	CTS_N	I2SSDO	GPIO#9
TXD	TXD	TXD	I2SWS	I2SWS	GPIO#8	TXD	I2SWS	GPIO#8
RTS_N	RTS_N	RTS_N	I2SCLK	I2SCLK	GPIO#7	RTS_N	I2SCLK	GPIO#7

Federal Communication Commission Interference Statement

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 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 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.

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.

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.

This device is intended only for OEM integrators under the following conditions:

- 1) The antenna must be installed such that 20 cm is maintained between the antenna and users, and
- 2) The transmitter module may not be co-located with any other transmitter or antenna.

As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module

installed

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling

This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains FCC ID: O6LMWF-5201". The grantee's FCC ID can be used only when all FCC compliance requirements are met.

Manual Information To the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.