



WMU6202

11ac 2T2R WIFI & BT Module

Technical Specifications

Standards

Data Rate

Operating Frequency

Interface

Modulation

Recommended Operating Conditions

Output Power & Sensitivity

STANDARDS

Wireless: IEEE 802.11a/b/g/n/ac (2T2R)

Bluetooth: v2.1/v3.0/v4.1/v4.2

Chipset: Realtek RTL8822BU

DATA RATE

802.11b: 11Mbps / 802.11a/g: 54Mbps / 802.11n: 300Mbps / 802.11ac:867Mbps

OPERATING FREQUENCY

IEEE 802.11 a/b/g/n Band, 2.412GHz ~ 2.484GHz, 5.150GHz ~ 5.850GHz

INTERFACE

Mini PCIe for USB2.0 (WiFi+BT)

Antenna Ports : U.FL x 2 for 2T2R

MODULATION

802.11a: BPSK, QPSK, 16-QAM, 64-QAM

802.11b: DBPSK, DQPSK, CCK

802.11g: BPSK, QPSK, 16-QAM, 64-QAM

802.11n: BPSK, QPSK, 16-QAM, 64-QAM

802.11ac BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM

RECOMMENDED OPERATING CONDITIONS

Operating Voltage: DC 3.3V $\pm$ 10%

Operating Temperature Range: -20°C ~ 70°C

Storage Temperature Range: -40°~ 85°C

Operating Humidity (non-condensing): 5% ~ 95, non-conensing

Storage Humidity (non-condensing): 5% ~ 90%, non-conensing

Power consumption: 2W (MAX)

Dimension (in mm): 30 x 26.8 mm

Driver Support

Platform Supported:

Windows 7/8/10 (32bit/64bin)

Linux (kernel 2.6.24~ 4.15)

Android 1.6 ~ 2.3, 4.0 ~ 8.x

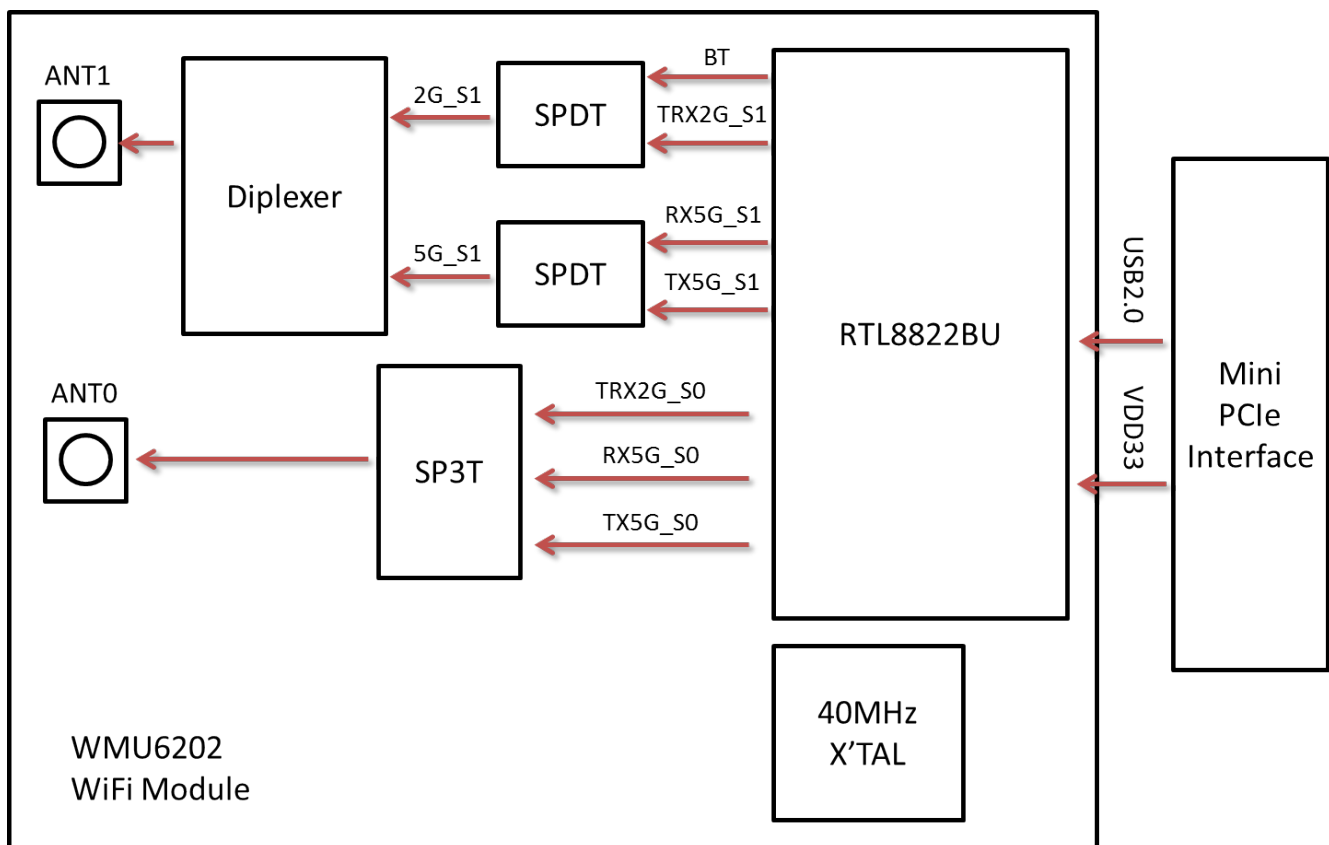
CPU Supported:

X86

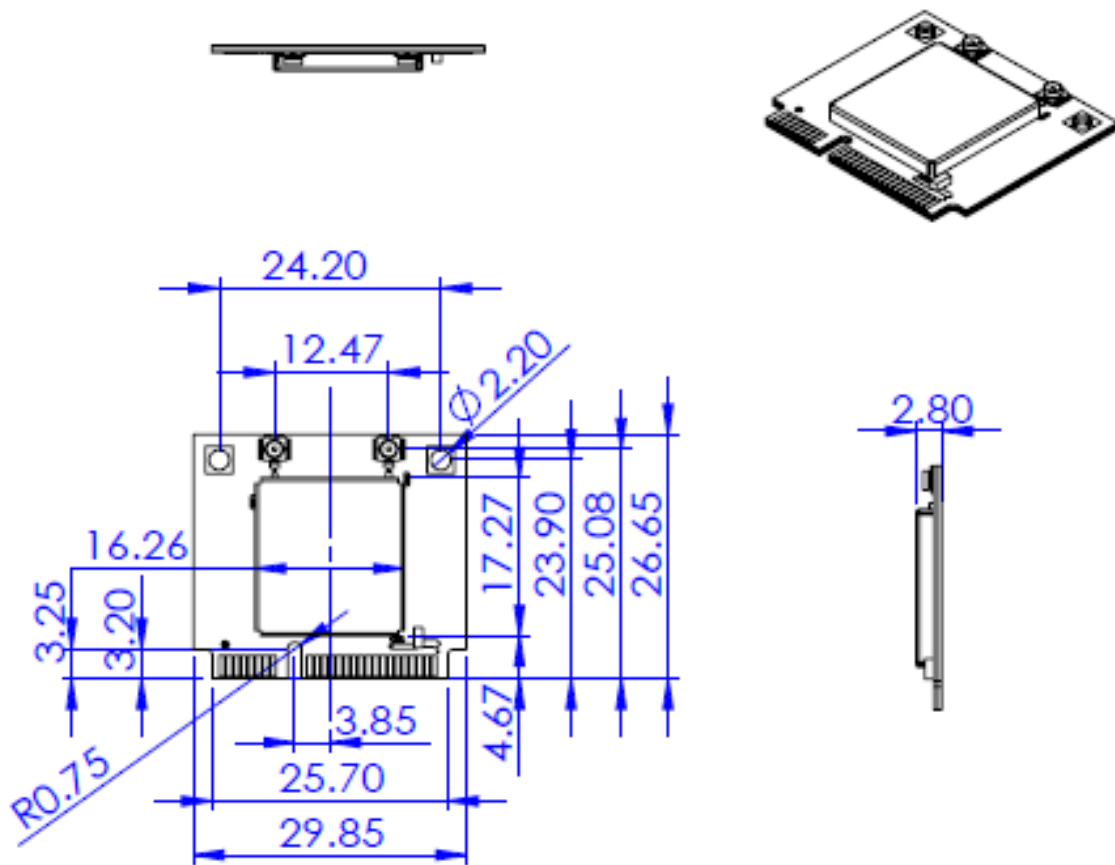
ARM

MIPS

Block Diagram



Dimension



Pin Assignment

PIN#	Pin Name	Design Status	PIN#	Pin Name	Design Status
1	WAKE_L	NC	2	+3.3Vaux	VDD33
3	Reserved	NC	4	GND	GND
5	Reserved	NC	6	+1.5V	NC
7	CLKREQ_L	NC	8	UIM_PWR	NC
9	GND	GND	10	UIM_DATA	NC
11	REFCLK-	NC	12	UIM_CLK	NC
13	REFCLK+	NC	14	UIM_RESET	NC
15	GND	GND	16	UIM_VPP	NC
17	Reserved	NC	18	GND	GND
19	Reserved	NC	20	W_DISABLE_L	NC
21	GND	GND	22	PERST_L	NC
23	PERn0	NC	24	+3.3V	NC
25	PERp0	NC	26	GND	GND
27	GND	GND	28	+1.5V	NC
29	GND	GND	30	SMB_CLK	NC
31	PETn0	NC	32	SMB_DATA	NC
33	PETp0	NC	34	GND	GND
35	GND	GND	36	USB_D-	HSDM_
37	GND	GND	38	USB_D+	HSDP_
39	RESERVED	NC	40	GND	NC
41	RESERVED	NC	42	LED_WWAN_L	NC
43	GND	GND	44	LED_WLAN_L	WiFi LED
45	RESERVED	NC	46	LED_WPAN_L	NC
47	RESERVED	NC	48	+1.5V	NC
49	RESERVED	NC	50	GND	GND
51	RESERVED	NC	52	+3.3V	VDD33

Output Power & Sensitivity

Bluetooth

Data Rate	Tx +/- 2dB (Class 2 device)	Rx Sensitivity
3Mbps	$0 \leq \text{Output Power} \leq +4\text{dBm}$	< 0.1% BER at -70 dBm

802.11b g

Data Rate	Tx +/- 2dB	Rx Sensitivity +/- 2dB
1~11Mbps	15dBm	-80dBm
24Mbps	15dBm	-70dBm
54Mbps	14dBm	-70dBm

802.11n / 2.4 GHz

	Data Rate	Tx +/- 2dB (1TX)	Tx +/- 2dB (2TX)	Rx Sensitivity +/- 2dB
HT20	MCS 0	15dBm	18dBm	-70dBm
	MCS 4	14dBm	17dBm	-61dBm
	MCS 7	13dBm	16dBm	-61dBm
HT40	MCS 0	15dBm	18dBm	-70dBm
	MCS 4	14dBm	17dBm	-61dBm
	MCS 7	13dBm	16dBm	-61dBm

802.11a

Data Rate	Tx +/- 2dB	Rx Sensitivity +/- 2dB
6Mbps	15dBm	-70dBm
24Mbps	15dBm	-70dBm
54Mbps	13dBm	-70dBm

802.11n / 5 GHz

	Data Rate	Tx +/- 2dB (1TX)	Tx +/- 2dB (2TX)	Rx Sensitivity +/- 2dB
HT20	MCS 0	14dBm	17dBm	-70dBm
	MCS 4	13dBm	16dBm	-60dBm
	MCS 7	12dBm	15dBm	-60dBm
HT40	MCS 0	14dBm	17dBm	-70dBm
	MCS 4	13dBm	16dBm	-60dBm
	MCS 7	12dBm	15dBm	-60dBm

802.11ac				
VHT20	Data Rate	Tx +/- 2dB (1TX)	Tx +/- 2dB (2TX)	Rx Sensitivity +/- 2dB
	MCS 0	14dBm	17dBm	-70dBm
	MCS 4	13dBm	16dBm	-60dBm
	MCS 8	12dBm	15dBm	-60dBm
VHT40	MCS 0	12dBm	15dBm	-60dBm
	MCS 4	10dBm	13dBm	-60dBm
	MCS 9	9dBm	12dBm	-50dBm
VHT80	MCS 0	12dBm	15dBm	-60dBm
	MCS 4	10dBm	13dBm	-60dBm
	MCS 9	9dBm	12dBm	-51dBm