



WMU6202

802.11ac 2T2R WIFI & BT Module

Technical Specifications

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Operating Frequency

Interface

Modulation

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Certification

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Dimension

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Output Power & Sensitivity

System Information

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

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

Chipset : Realtek RTL8822BU

Antenna : U.FL x2 for 2T2R (2.4GHz & 5GHz dual band antenna)

Data Rate

802.11b : 11Mbps

802.11a/g : 54Mbps

802.11n : 300Mbps

802.11ac : 867Mbps

Operating Frequency

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

IEEE 802.11 an/ac Band, 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%
Storage Humidity (non-condensing): 5% ~ 90%
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

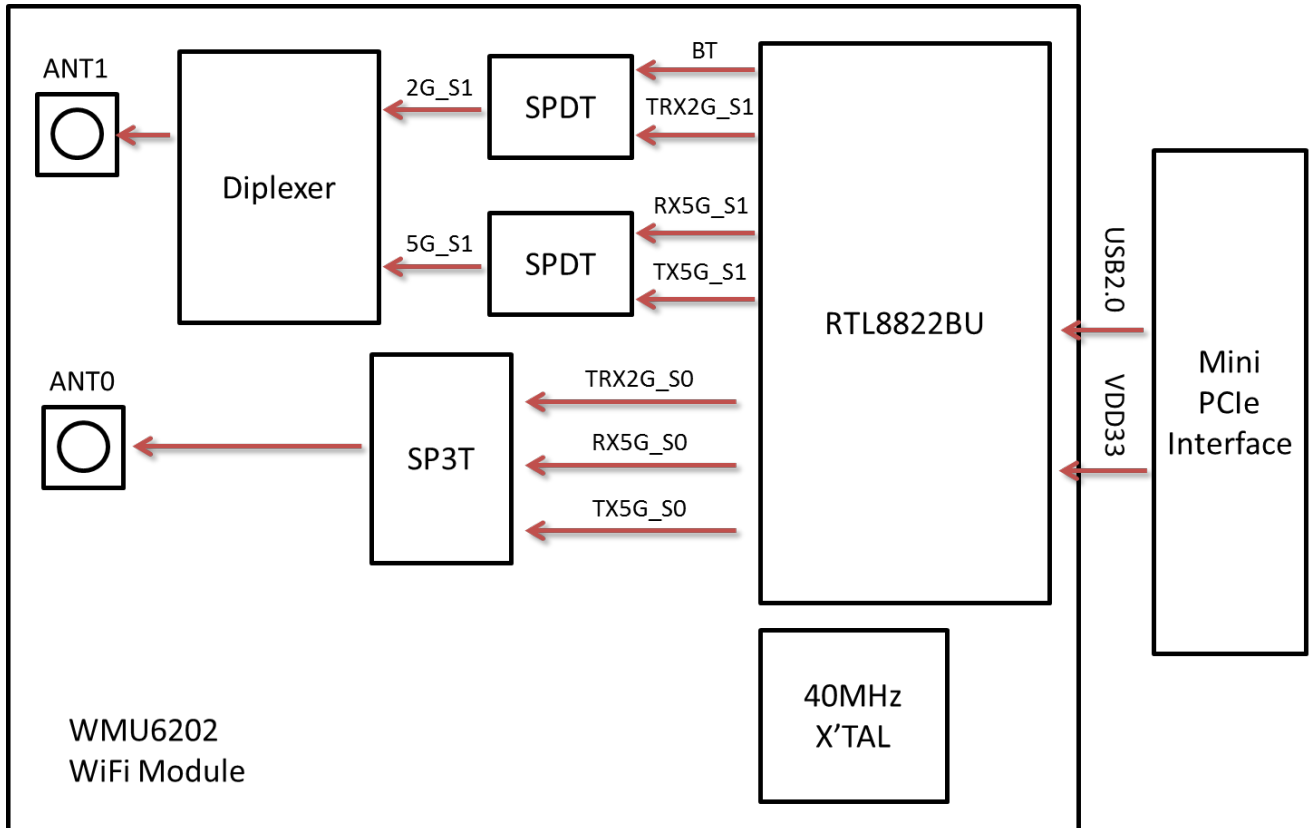
CPU Supported:

X86
ARM
MIPS

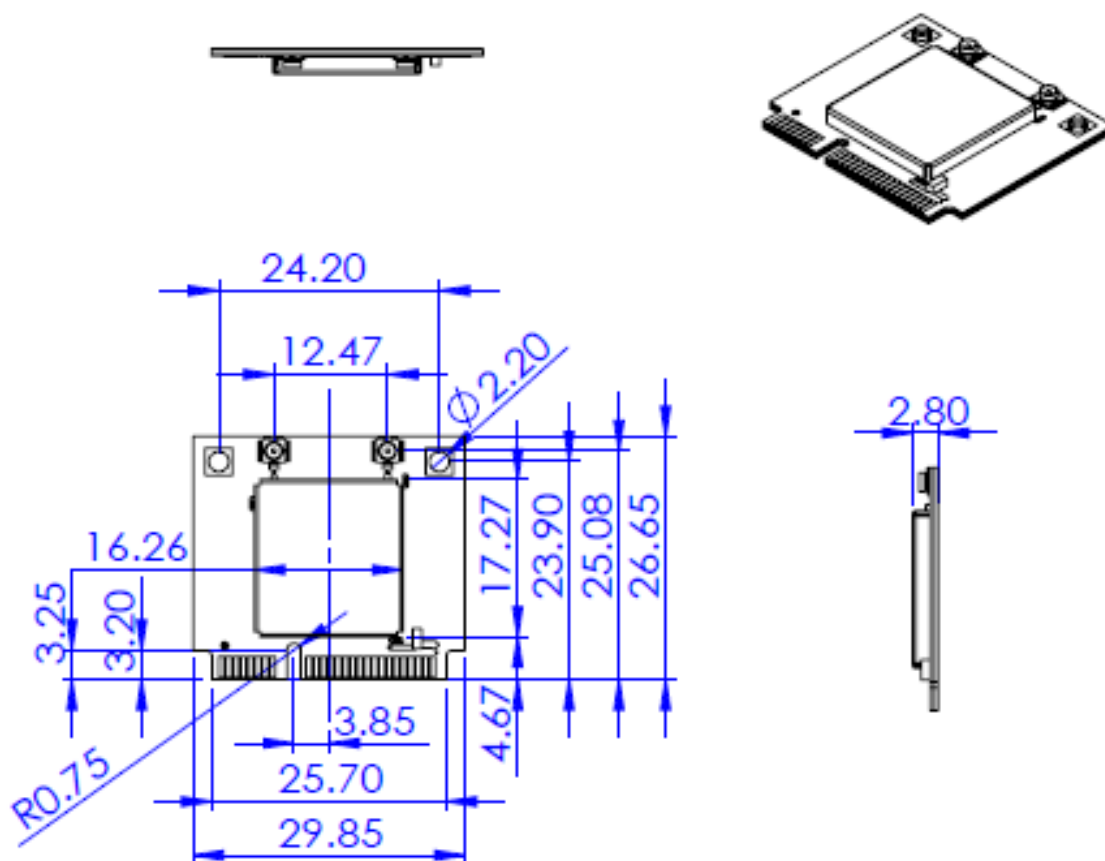
Certification

FCC / CE / IC

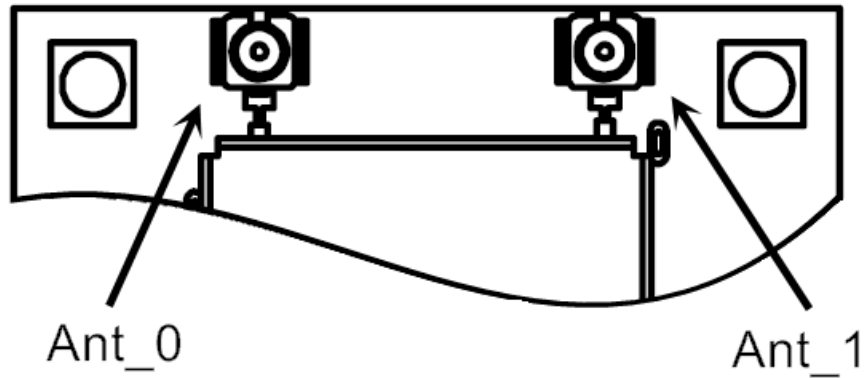
Block Diagram



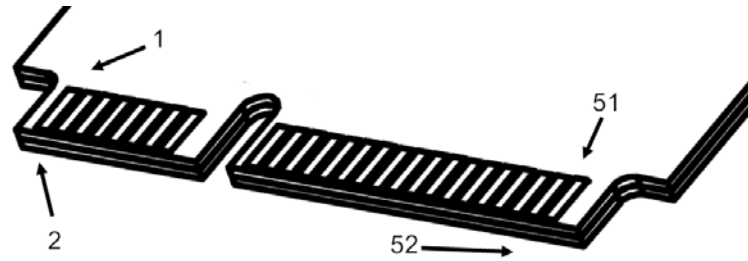
Dimension



Pin Assignment



Pin Name	Description
Ant_0	RF Antenna for Wifi 2.4GHz/5GHz
Ant_1	RF Antenna for Wifi 2.4GHz/5GHz & Bluetooth



PIN#	Pin Name	Design Status	PIN#	Pin Name	Design Status
1	WAKE#	NC	2	+3.3Vaux	VDD33
3	COEX1	NC	4	GND	GND
5	COEX2	NC	6	+1.5V	NC
7	CLKREQ#	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#	NC
21	GND	GND	22	PERST#	NC
23	PERn0	NC	24	+3.3Vaux	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	+3.3Vaux	NC	40	GND	NC
41	+3.3Vaux	NC	42	LED_WWAN	NC
43	GND	GND	44	LED_WLAN	WLAN_LED
45	RESERVED	NC	46	LED_WPAN	NC
47	RESERVED	NC	48	+1.5V	NC
49	RESERVED	NC	50	GND	GND
51	RESERVED	NC	52	+3.3Vaux	VDD33

Output Power & Sensitivity

Bluetooth

Data Rate	Tx +/- 2dB	Rx Sensitivity +/- 2dB
3Mbps	0 ≤ 0	<0.1% BER at -70dBm

802.11bg

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

802.11n / 2.4GHz

Data Rate		Tx +/- 2dB (1TX)	Rx Sensitivity +/- 2dB
VHT 20	MCS 0	15dBm	-70dBm
	MCS 4	14dBm	-60dBm
	MCS 7	13dBm	-60dBm
VHT 40	MCS 0	15dBm	-70dBm
	MCS 4	14dBm	-60dBm
	MCS 7	13dBm	-60dBm

802.11a		
Data Rate	Tx +/- 2dB	Rx Sensitivity +/- 2dB
6Mbps	18dBm	-90dBm
24Mbps	18dBm	-80dBm
54Mbps	16dBm	-70dBm

802.11n / 5GHz			
Data Rate		Tx +/- 2dB (1TX)	Rx Sensitivity +/- 2dB
VHT 20	MCS 0	14dBm	-70dBm
	MCS 4	13dBm	-60dBm
	MCS 7	12dBm	-60dBm
VHT 40	MCS 0	14dBm	-70dBm
	MCS 4	13dBm	-60dBm
	MCS 7	12dBm	-60dBm

802.11ac			
Data Rate		Tx +/- 2dB (1TX)	Rx Sensitivity +/- 2dB
VHT 20	MCS 0	14dBm	-70dBm
	MCS 4	13dBm	-60dBm
	MCS 8	12dBm	-60dBm
VHT 40	MCS 0	12dBm	-60dBm
	MCS 4	10dBm	-50dBm
	MCS 9	9dBm	-50dBm
VHT 80	MCS 0	12dBm	-60dBm
	MCS 4	10dBm	-60dBm
	MCS 9	9dBm	-50dBm