



WMU6213

802.11abgn/ac 2T2R WIFI & BT Module

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System Information

Wireless: IEEE 802.11 a/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)

LED: WiFi Status

Data Rate

802.11b : 11Mbps

802.11a/g : 54Mbps

802.11n : 300Mbps

802.11ac : 867Mbps

Operating Frequency

IEEE 802.11 b/g/n: 2.412GHz ~ 2.484GHz

IEEE 802.11 a/ac: 5.150GHz ~ 5.850GHz

Interface

Half Holes with USB Protocol (WiFi+BT)

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 5V \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): 27(L) x 20(W) mm

Driver Support

Platform Supported:

Windows 7/8/10 (32bit/64bit)
Linux (kernel 2.6.24~ 4.15)
Android 1.6 ~ 2.3, 4.0 ~ 8.x

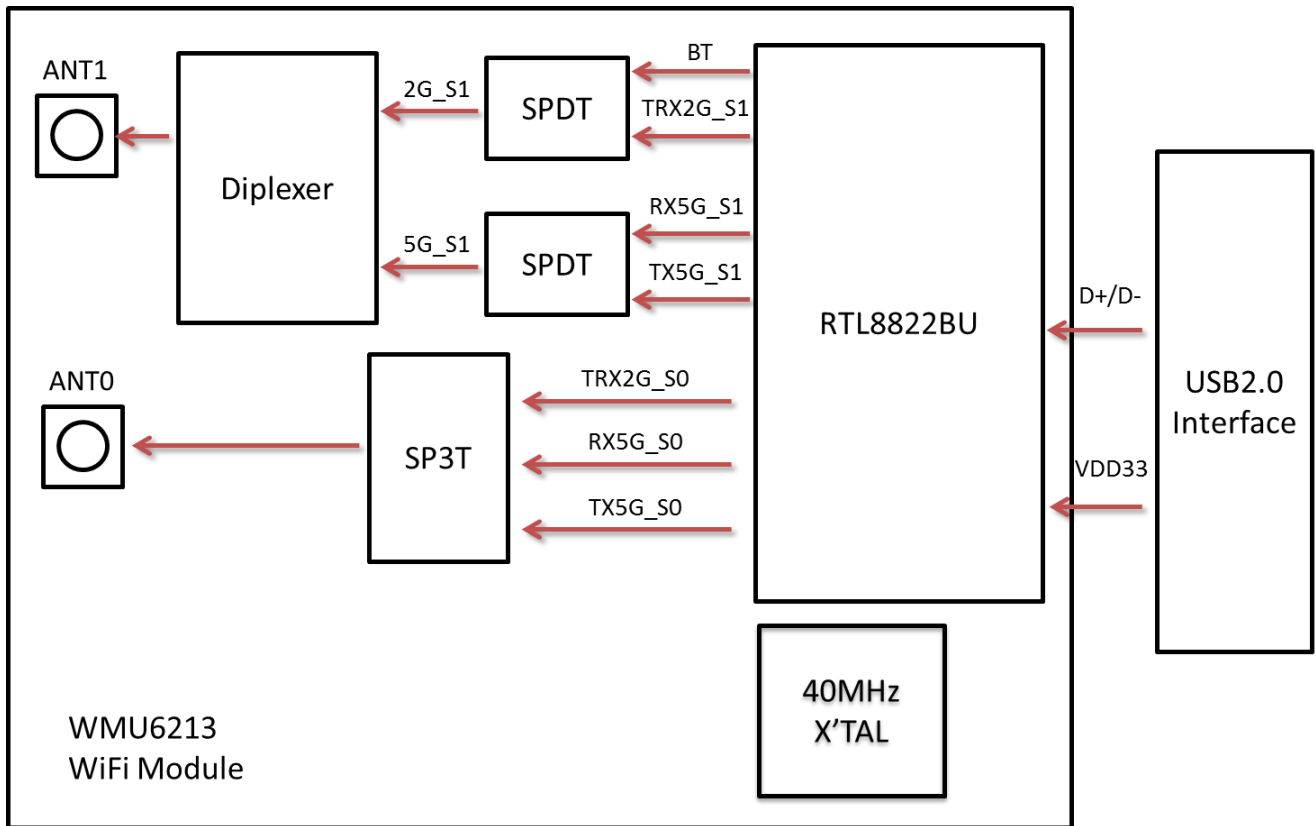
CPU Supported:

X86
ARM
MIPS

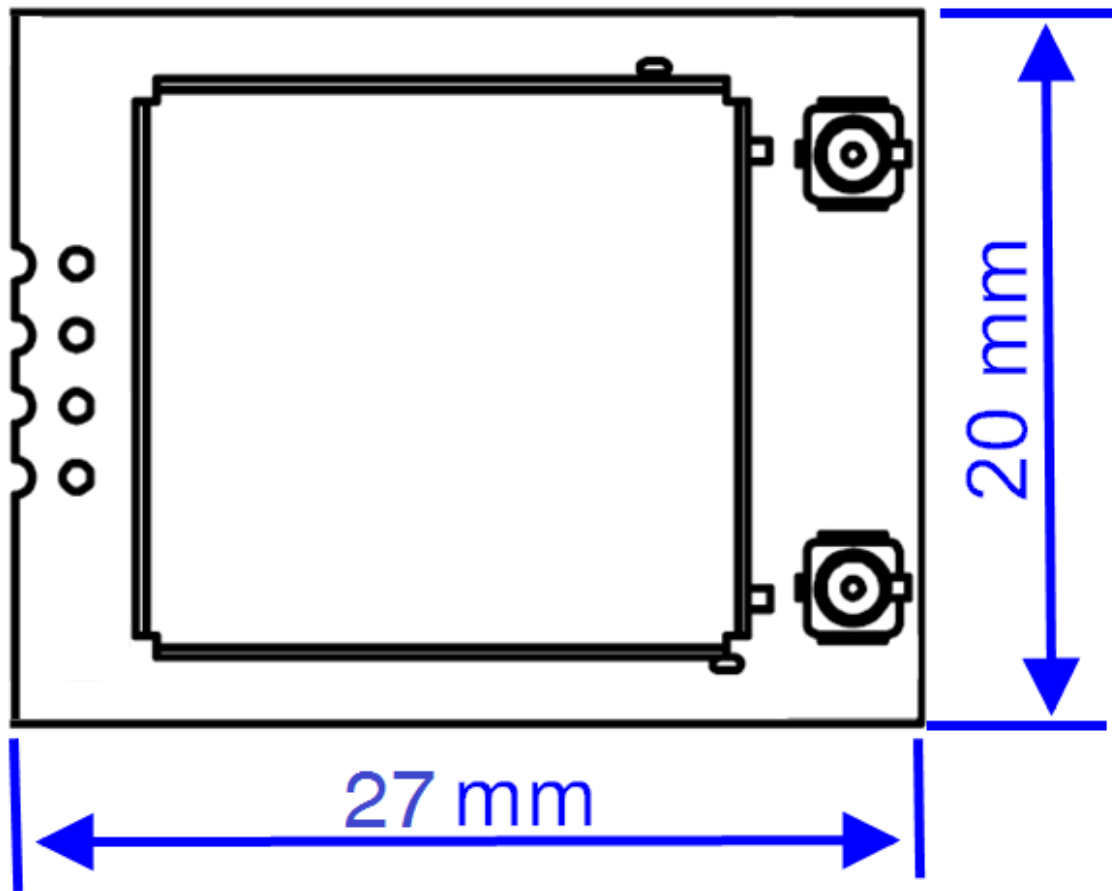
Certification

FCC / CE / IC

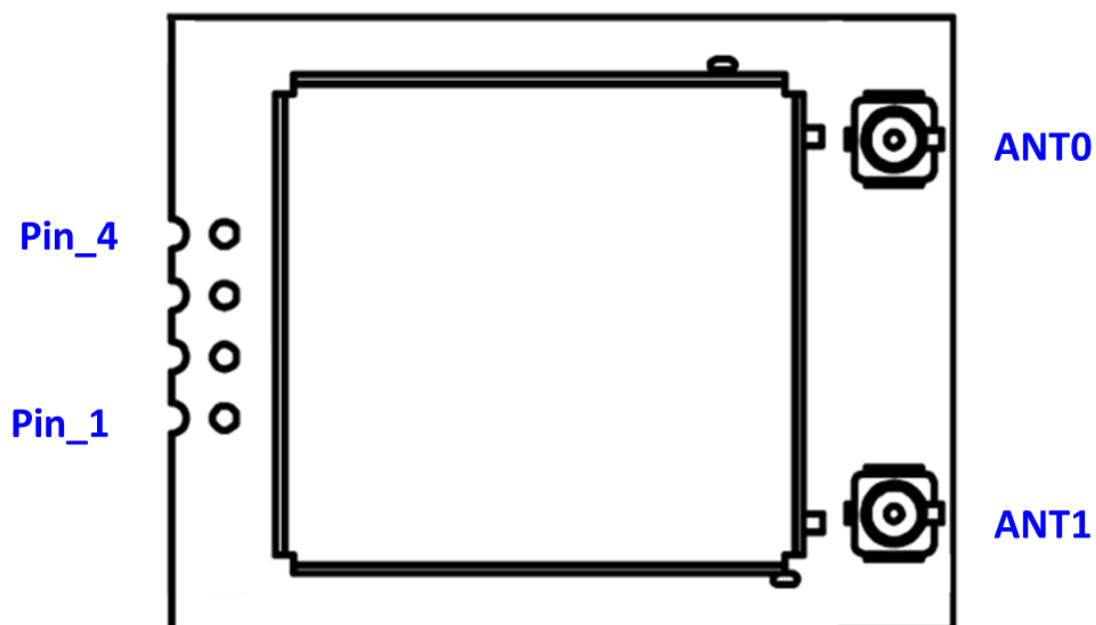
Block Diagram



Dimension



Pin Assignment



Pin Name	Description
Pin_1	VCC 3.3
Pin_2	USB D-
Pin_3	USB D+
Pin_4	GND
Ant_0	RF Antenna for WiFi 2.4GHz/5GHz
Ant_1	RF Antenna for WiFi 2.4GHz/5GHz & Bluetooth

Output Power & Sensitivity

Bluetooth

Data Rate	Tx +/- 2dB	Rx Sensitivity +/- 2dB
3Mbps	$0 \leq \text{Output Power} \leq +4\text{dBm}$	<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