

## WUBQ-159ACN(BT)

802.11ac/abgn Dual-Band

1T1R USB Module



### Wireless USB Module for Embedded Solution

SparkLAN WUBQ-159ACN(BT) is an 802.11ac/abgn 2.4GHz+5GHz USB module based on Qualcomm QCA9377-7 chipset. It supports 1T1R with RX diversity (Support Wi-Fi/BT co-existence) technology, which runs up to 433Mbps and 1~3Mbps EDR for BT, provides higher throughput performance, reliability and range. The WUBQ-159ACN(BT) supports 20/40/80MHz and 256-QAM to maximize bandwidth efficiency.

Adopting the latest 802.11ac solution, WUBQ-159ACN(BT) is ideal for high throughput networking and multimedia applications that requires better Wi-Fi performance. WUBQ-159ACN(BT) is a single-die wireless local area network (WLAN) and Bluetooth combination solution to support 1x1 802.11ac/abgn WLAN standards and Bluetooth 4.1+HS, designed to deliver superior integration of WLAN/Bluetooth and low-energy technology.

#### Embedded Application :

Applications include medical devices, security systems, 3D printer, video streaming, PoS, digital signs, gaming machine, Medical equipment, industrial tablet PC's, handheld devices, thin client devices, and many more.

#### Key Feature :

- Qualcomm Atheros QCA9377-7
- Antenna: PCB Printed Ant. or 1xU.FL connector, 1T1R
- Data Rates: allows link speeds up to 433Mbps
- Support Win7/8.1/10

**Specification :**

<b>Standards:</b>	IEEE 802.11ac/a/b/g/n (1T1R), Bluetooth V4.1,V4.0 LE, V3.0+HS, V2.1+EDR
<b>Chipset:</b>	Qualcomm Atheros QCA9377-7
<b>Data Rate:</b>	802.11b: 11Mbps / 802.11a/g: 54Mbps / 802.11n: MCS0~7/ 802.11ac: MCS0~9 Bluetooth: 1Mbps, 2Mbps and up to 3Mbps EDR
<b>Operating Frequency:</b>	IEEE 802.11 ac/a/b/g/n ISM Band, 2.412GHz~2.472GHz, 5.180MHz~5.825MHz *Subject to local regulations
<b>Interface:</b>	USB
<b>Form Factor:</b>	USB 2.0 Type A or 7 Pin connector
<b>Antenna:</b>	PCB Printed Ant. or 1xU.FL connector Support WLAN/BT co-existence
<b>Modulation:</b>	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11a/g: OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11n: OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11ac: OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)
<b>Power Consumption</b>	TX: TBD / RX: TBD
<b>Operating Voltage:</b>	DC 5V
<b>Operating Temperature Range:</b>	-20°C~70°C
<b>Storage Temperature Range:</b>	-30°C~85°C
<b>Humidity</b> <b>(Non-Condensing)</b>	5%~90% (Operating) 5%~95% (Storing)
<b>Dimension (in mm):</b>	40mm x 20.3mm
<b>Weight (g):</b>	TBD
<b>Driver Support:</b>	Windows 7/8.1/10
<b>Security</b>	64/128-bits WEP, WPA, WPA2, 802.1x

### OUTPUT POWER & SENSITIVITY

#### 802.11b

Data Rate	Tx $\pm$ 2dBm	Rx Sensitivity
11Mbps	19dBm	$\leq$ -76dBm

#### 802.11g

Data Rate	Tx $\pm$ 2dBm	Rx Sensitivity
54Mbps	16dBm	$\leq$ -74dBm

#### 802.11n / 2.4GHz

	Data Rate	Tx $\pm$ 2dBm	Rx Sensitivity
HT20	MCS7	16dBm	$\leq$ -70dBm
HT40	MCS7	16dBm	$\leq$ -68dBm

#### 802.11a

Data Rate	Tx $\pm$ 2dBm	Rx Sensitivity
54Mbps	13dBm	$\leq$ -73dBm

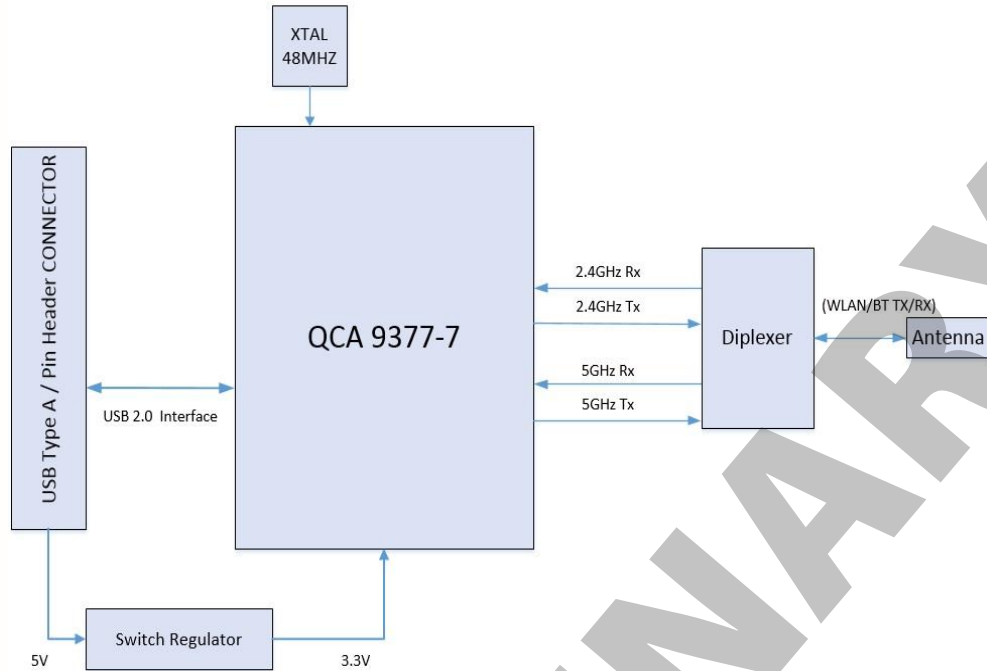
#### 802.11n / 5GHz

	Data Rate	Tx $\pm$ 2dBm	Rx Sensitivity
HT20	MCS7	13dBm	$\leq$ -67dBm
HT40	MCS7	13dBm	$\leq$ -63dBm

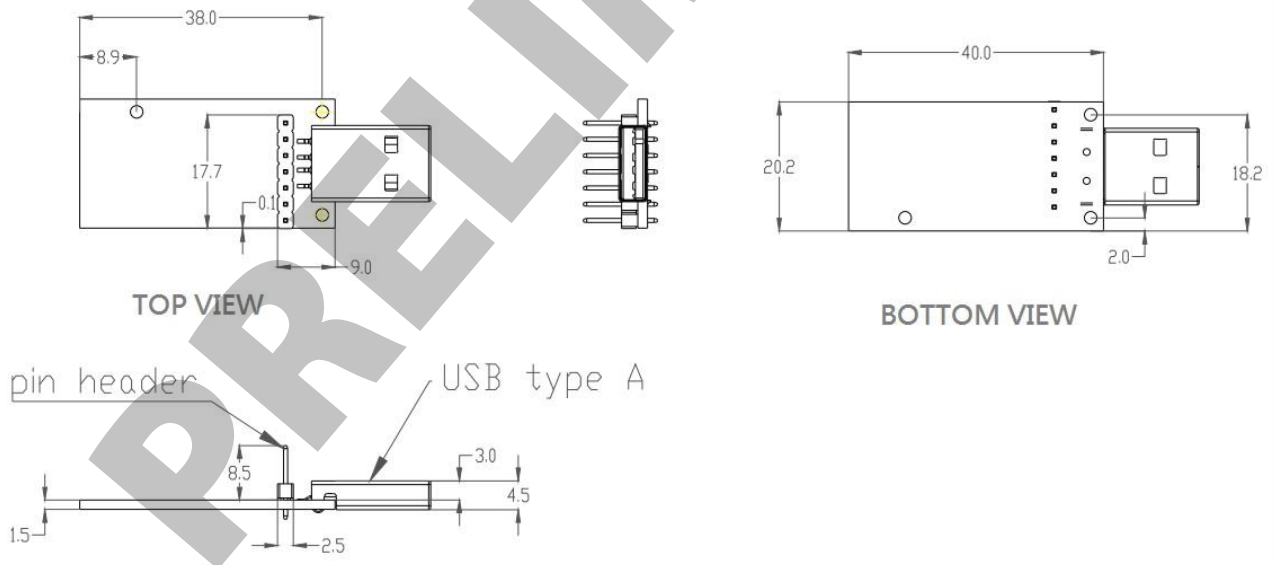
#### 802.11ac

	Data Rate	Tx $\pm$ 2dBm (1TX)	Rx Sensitivity
VHT80	MCS9	10dBm	$\leq$ -55dBm

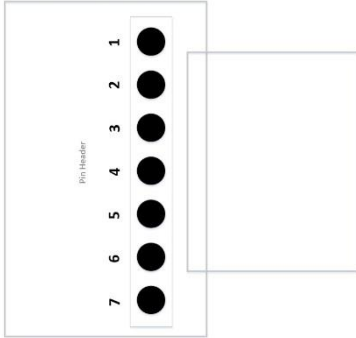
Block Diagram



Mechanical Dimension (mm)



### Pin connector Define



Pin#	Pin Name	Description
1	TBD	TBD
2	V+	Voltage input, 5V
3	D-	WLAN Data input(-)
4	D+	WLAN Data input(+)
5	GND	Voltage input, GND
6	D-	BT Data input(-)
7	D+	BT Data input(+)