

WUBQ-159ACN Series

802.11ac/abgn Dual-Band

1T1R USB Module



Wireless USB Module for Embedded Solution

SparkLAN WUBQ-159ACN 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) technology, which runs up to 433Mbps, provides higher throughput performance, reliability and range. The WUBQ-159ACN supports 20/40/80MHz and 256-QAM to maximize bandwidth efficiency.

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

Standards	IEEE 802.11ac/a/b/g/n (1T1R)
Chipset	Qualcomm Atheros QCA9377-7
Data Rate	802.11b: 11Mbps / 802.11a/g: 54Mbps / 802.11n: MCS0~7/ 802.11ac: MCS0~9
Operating Frequency	IEEE 802.11 ac/a/b/g/n ISM Band, 2.412GHz~2.472GHz, 5.180MHz~5.825MHz *Subject to local regulations
Interface	USB
Form Factor	USB 2.0 Type A
Antenna	PCB Printed Ant. or 1xU.FL connector Support WLAN
Modulation	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)
Power Consumption	TX Mode: 1.1W RX Mode: 0.75W
Operating Voltage	DC 5V
Operating Temperature Range	-20°C~70°C
Storage Temperature Range	-30°C~85°C
Humidity (Non-Condensing)	5%~90% (Operating) 5%~95% (Storing)
Dimension (in mm)	40mm x 20.3mm
Weight (g)	≤ 7g
Driver Support	Windows 7/8.1/10, Linux 4.4 (other version by project request)
Security	64/128-bits WEP, WPA, WPA2, 802.1x

OUTPUT POWER & SENSITIVITY
802.11b

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

802.11g

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

802.11n / 2.4GHz

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

802.11a

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

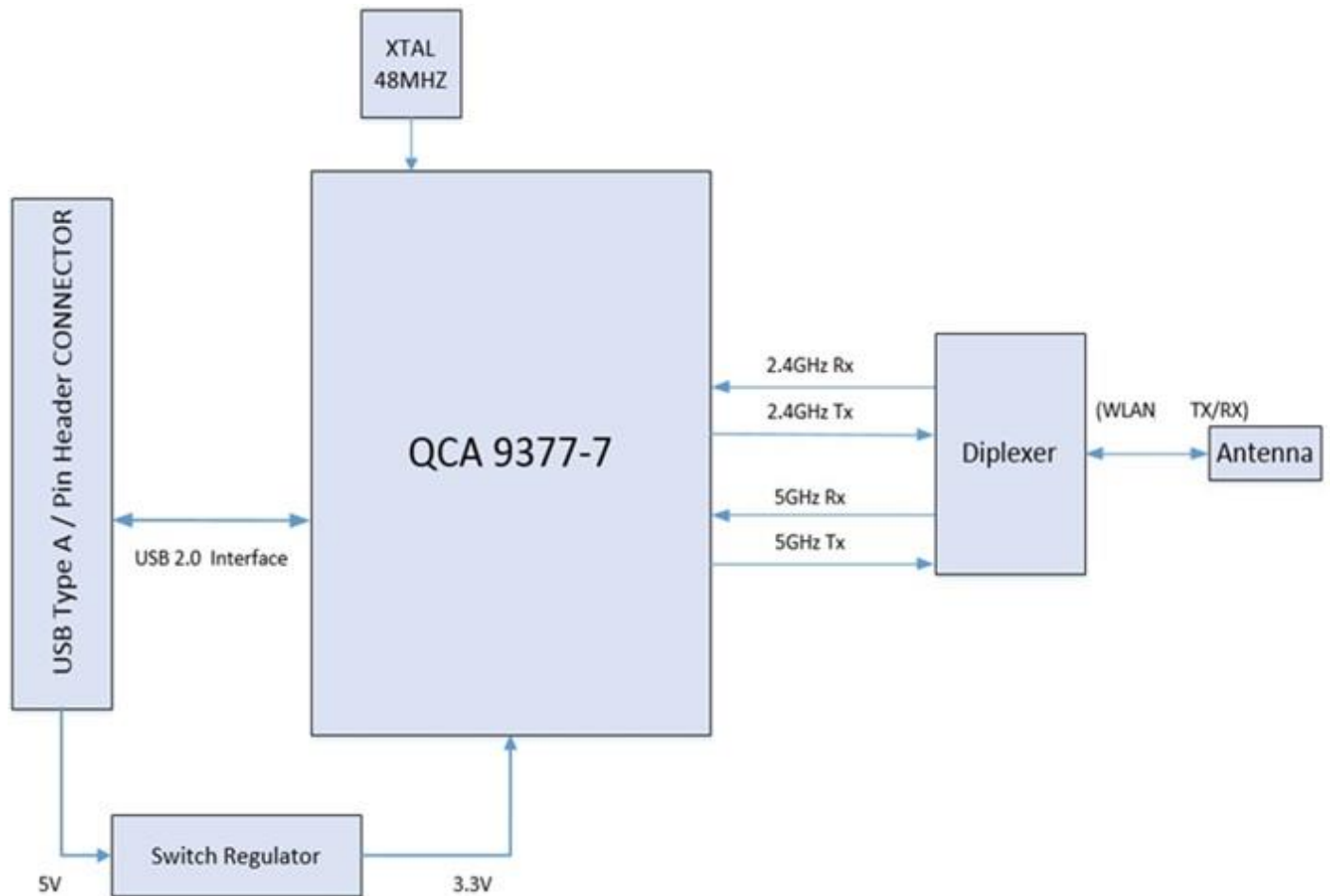
802.11n / 5GHz

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

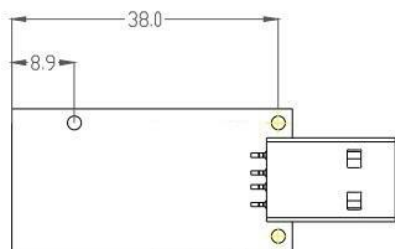
802.11ac

VHT80	Data Rate	Tx $\pm$ 2dBm	Rx Sensitivity
	MCS9	10dBm	≤ -55 dBm

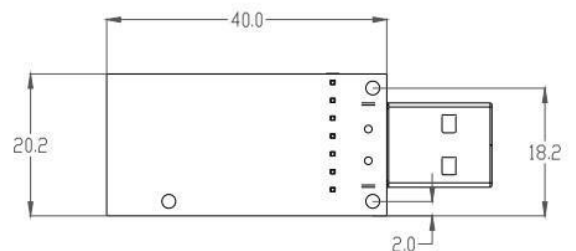
Block Diagram



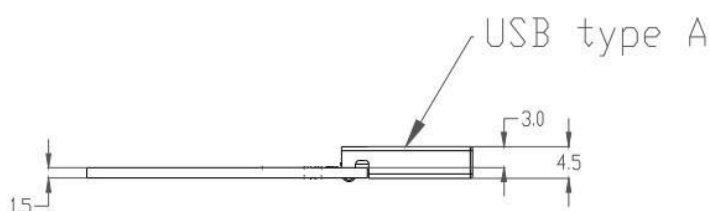
Mechanical Dimension (mm)



TOP VIEW



BOTTOM VIEW



Certification

Dipole Ant.

☒ FCC☐ IC☐ SRRC☒ CE (RED EN 300 328 V2.1.1 / EN 301 893 V2.1.1)☒ TELEC

Ordering Information

Product Name	Part Number	Description
WUBQ-159ACN(MU)	R9701830002	802.11ac/abgn Dual-Band 1T1R USB Module USB Type A & U.FL Connector
WUBQ-159ACN(PU)	R9701830003	802.11ac/abgn Dual-Band 1T1R USB Module USB Type A & Printed Antenna

Optional Accessory

Product Name	Part Number	Description
Ant. AD-103AG	R3410110203	2dBi Dipole RP-SMA 5G/2.4GHz
Ant. AD-301N	R3410110220	4.4dBi/5dBi 2.4G/5GHz Dipole RP-SMA
CBIRF-M150	R3470300004	I-PEX/MHF1 to RP-SMA Female; L:150mm; Coaxial 1.37 Black