

WUBT-236ACN(BT) Series

802.11ac/a/b/g/n

2T2R Wi-Fi+Bluetooth 4.2

USB Module



Support Multiple Operation Systems (Android/Linux/Windows)

SparkLAN WUBT-236ACN(BT) is a highly integrated single-chip Wireless LAN (WLAN), Bluetooth USB module which supports 2 streams 802.11ac solutions with multi-user MIMO (Multiple-Input, Multiple-Output) wireless LAN (WLAN) and integrated Bluetooth 4.2. It is integrated 2T2R WLAN MAC, baseband, and dual band RF in a single chip USB module. WUBT-236ACN(BT) provides a cost effective solution for M2M (machine to machine) connectivity product/device by one USB port, it can be easily integrated into the most familiar operation system (Android/Linux/Windows).

WUBT-236ACN(BT) 802.11ac/a/b/g/n 2T2R USB WLAN/BT module with various USB input format & internal printing or external RF antenna connector for high performance wireless LAN and Bluetooth device. It is designed to provide completely M2M connection & excellent cost performance with low power consumption and enhance the advantages of robust system & applications.

Embedded Application

Applications include portable handheld devices, thin client computer, medical devices, network security & monitoring, 3D printer, TV, STB, POS, digital signs, gaming machine, robotic machinery, industrial tablets, etc.

Key Feature

- 802.11ac/a/b/g/n Wi-Fi+Bluetooth 4.2
- Support 802.11ac 2x2, compliant with MU-MIMO
Operates in 2.4GHz and 5GHz frequency bands
- Maximum data rates: 54Mbps in 802.11g,
300Mbps in 802.11n, 866.7Mbps in 802.11ac.
- Support Multiple Operation Systems
(Android/Linux/Windows)

Specification

Standards	IEEE 802.11ac/a/b/g/n (2T2R) Bluetooth V4.2, V4.1, V4.0 LE, V3.0+HS, V2.1+EDR
Chipset	Realtek RTL8822BU-CG
Data Rate	802.11b: 11Mbps 802.11a/g: 54Mbps 802.11n: MCS0~7 802.11ac: MCS0~9 Bluetooth: 1Mbps, 2Mbps and up to 3Mbps EDR
Operating Frequency	IEEE 802.11ac/a/b/g/n ISM Band: 2.412GHz~2.484GHz, 5.150GHz~5.850GHz *Subject to local regulations
Interface	WLAN: USB ; Bluetooth: USB
Form Factor	4-Pin Wafer connector/ USB Type A
Antenna	2 x IPEX MHF1 connectors or Printed Ant. (ANT0 for WLAN only, ANT1 for WLAN+BT)
Modulation	Wi-Fi : 802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g: OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11n: OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11a: OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11ac: OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM) Bluetooth: Header: GFSK Payload 2M: $\pi/4$ -DQPSK Payload 3M: 8-DPSK
Power Consumption	TX mode: 450Ma(Max.) RX mode: 250mA(Max.)
Operating Voltage	DC 5V
Operating Temperature Range	-20°C~70°C
Storage Temperature Range	-40°C~80°C
Humidity	5%~95% (Operating)

(Non-Condensing)	5%~90% (Storing)
Dimension L x W x H (in mm)	[M4W]/[P4W]: 44.5mm(±0.3mm) x 20mm(±0.3mm) x 7mm(±0.3mm) [MU]/[PU]: 54.7mm(±0.3mm) x 20mm(±0.3mm) x 4.5mm(±0.3mm)
Weight (g)	[M4W]/[P4W]: 2.8g [MU]/[PU]: 4.6g
Driver Support	Windows 7/8.1/10, Linux, Android
Security	64/128-bits WEP, WPA, WPA2, 802.1x

OUTPUT POWER & SENSITIVITY
802.11b

Data Rate	Tx \pm 2dBm	Rx Sensitivity
11Mbps	15dBm	\leq -80dBm

802.11g

Data Rate	Tx \pm 2dBm	Rx Sensitivity
54Mbps	14dBm	\leq -70dBm

802.11n / 2.4GHz

	Data Rate	Tx \pm 2dBm(1TX)	Tx +/- 2dB (2TX)	Rx Sensitivity
HT20	MCS7	13dBm	16dBm	\leq -61dBm
HT40	MCS7	13dBm	16dBm	\leq -61dBm

802.11a

Data Rate	Tx \pm 2dBm	Rx Sensitivity
54Mbps	13dBm	\leq -70dBm

802.11n / 5GHz

	Data Rate	Tx \pm 2dBm(1TX)	Tx +/- 2dB (2TX)	Rx Sensitivity
HT20	MCS7	12dBm	15dBm	\leq -60dBm
HT40	MCS7	12dBm	15dBm	\leq -60dBm

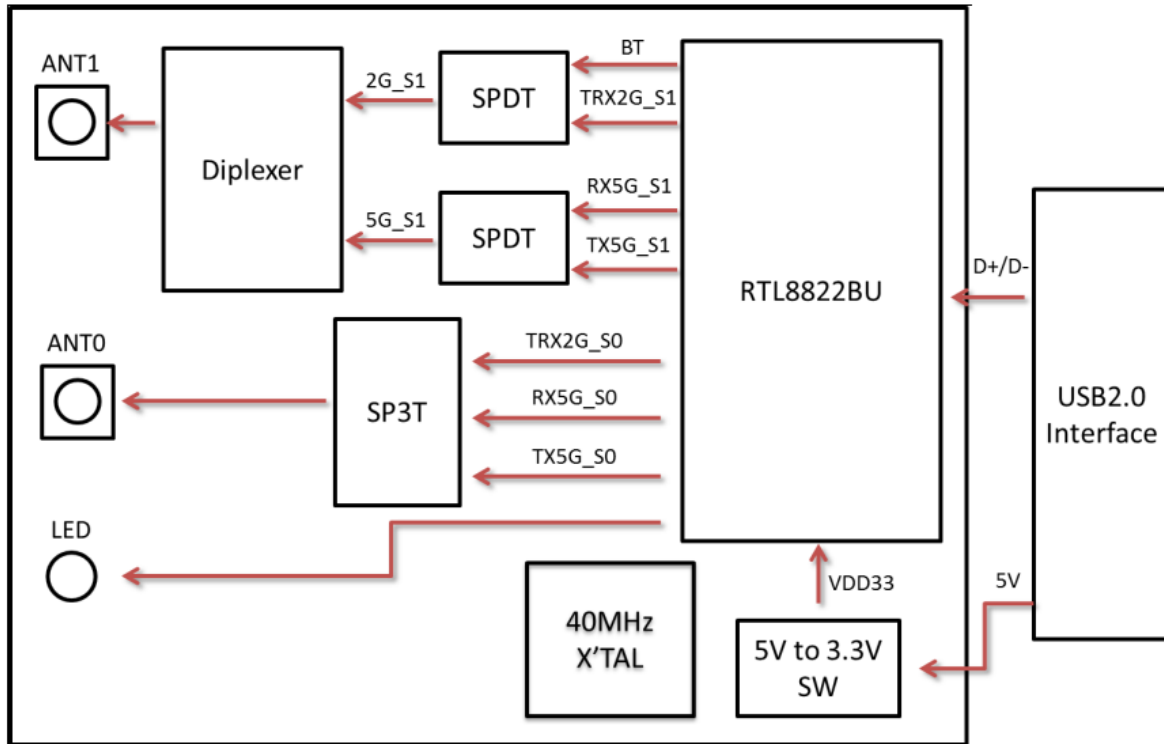
802.11ac

	Data Rate	Tx \pm 2dBm(1TX)	Tx +/- 2dB (2TX)	Rx Sensitivity
VHT80	MCS9	9dBm	12dBm	\leq -51dBm

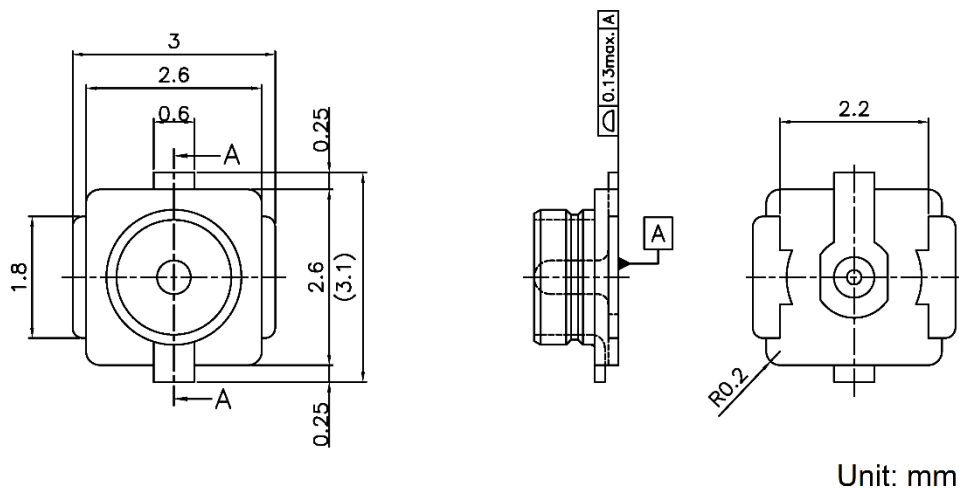
Bluetooth

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

Block Diagram

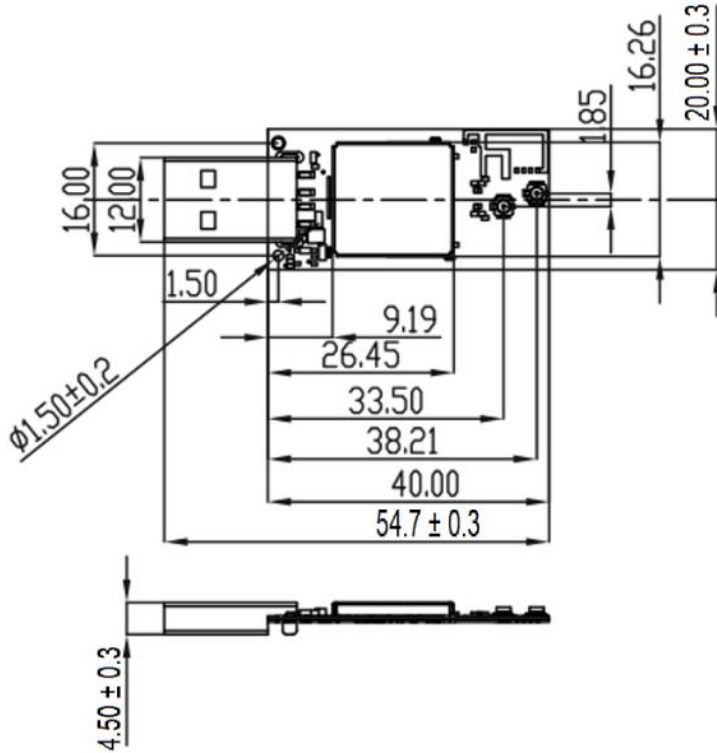


MHF1 connector spec.

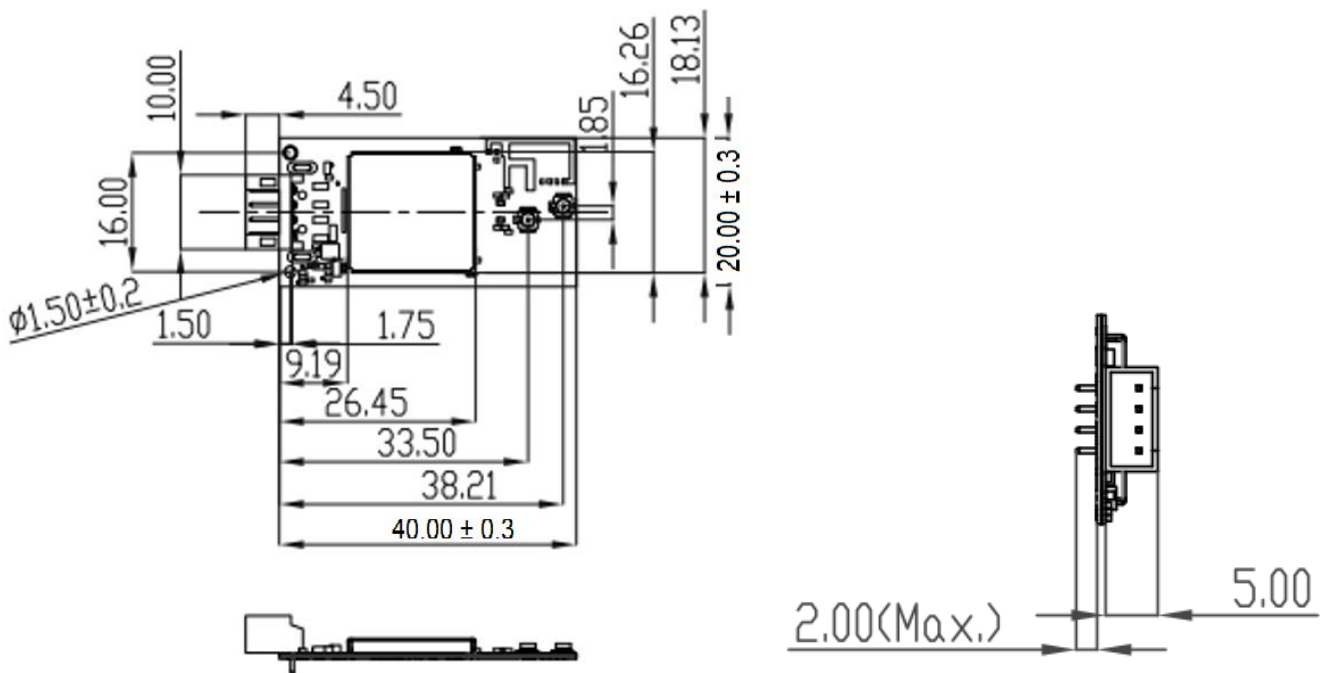


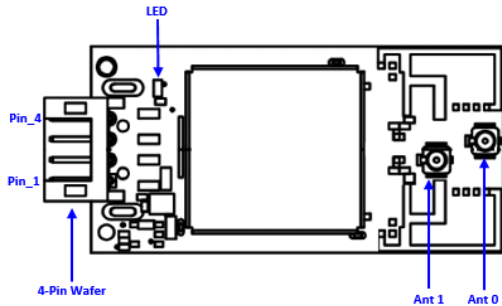
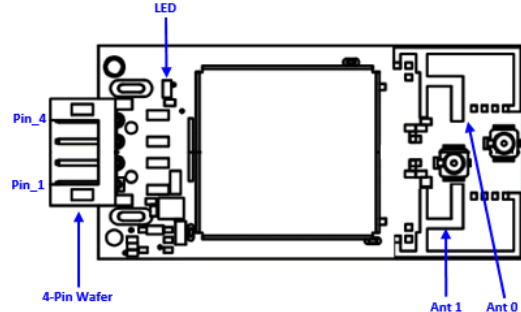
Mechanical Dimension (mm)

USB Type A: WUBT-236ACN(BT) [PU] / WUBT-236ACN(BT) [MU]

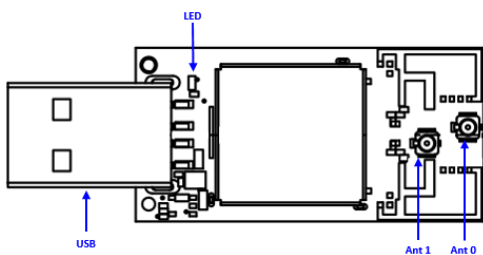
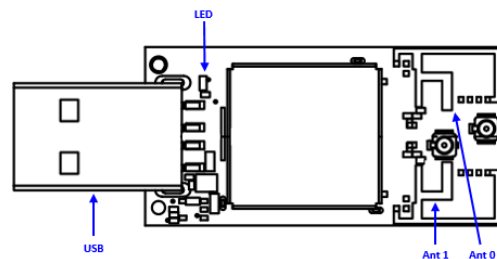


Wafer Type: WUBT-236ACN(BT) [M4W] / WUBT-236ACN(BT) [P4W]



Pin Define
WUBT-236ACN(BT) [M4W]

WUBT-236ACN(BT) [P4W]


Pin	Description
Wafer Pin_1	USB 5V
Wafer Pin_2	USB D-
Wafer Pin_3	USB D+
Wafer Pin_4	USB GND
LED	WiFi LED
Ant_0	RF Antenna for WiFi 2.4GHz/5GHz
Ant_1	RF Antenna for WiFi 2.4GHz/5GHz & Bluetooth

WUBT-236ACN(BT) [MU]

WUBT-236ACN(BT) [PU]


Pin	Description
USB	USB Type-A connector for USB2.0
LED	WiFi LED
Ant_0	RF Antenna for WiFi 2.4GHz/5GHz
Ant_1	RF Antenna for WiFi 2.4GHz/5GHz & Bluetooth

Certification

Dipole Ant.

 FCC

 IC

 NCC

 CE (RED EN 300 328 V2.2.2 / EN 301 893 V2.1.1)

 MIC

 ASNZS

Ordering Information

Product Name	Part Number	Description
WUBT-236ACN(BT) [M4W]	R9701830009	802.11ac/a/b/g/n 2T2R Wi-Fi + BT USB Module (4-Pin Wafer + IPEX)
WUBT-236ACN(BT) [P4W]	R9701830007	802.11ac/a/b/g/n 2T2R Wi-Fi + BT USB Module (4-Pin Wafer + Printed Ant)
WUBT-236ACN(BT) [MU]	R9701830008	802.11ac/a/b/g/n 2T2R Wi-Fi + BT USB Module (USB Type A + IPEX)
WUBT-236ACN(BT) [PU]	R9701830006	802.11ac/a/b/g/n 2T2R Wi-Fi + BT USB Module (USB Type A + Printed Ant)

Optional Accessory

Product Name	Part Number	Description
AD-103AG	R3410110203	Dipole Antenna, 2dBi 2.4GHz/5GHz, RP-SMA(M) connector
AD-302N	R3410110221	Dipole Antenna, 3dBi/2dBi 2.4G/5GHz, RP-SMA(M) connector
AD-303N	R3410110222	Dipole Antenna, 3dBi/3dBi 2.4G/5GHz, RP-SMA(M) connector
AD-305N	R3410110223	Dipole Antenna, 5dBi/5dBi 2.4G/5GHz, RP-SMA(M) connector
CBIRF-ME150	R3470300023	I-PEX/MHF1 to RP-SMA Female; L:150mm; Coaxial 1.37 Black
CBIRF-ME250	R3470300024	I-PEX/MHF1 to RP-SMA Female; L:250mm; Coaxial 1.37 Black
CBPP-C200	R3200700010	4-pin WTB to 4 pin WTB_L200mm
CBPW-C200	R3200700011	4-pin WTB to flying leads