2.4/5GHz WiFi + Bluetooth SDIO Module
Designed for WLAN/BT and Low-Energy Communications

Model: WSD377

KEY FEATURES

- Qualcomm Atheros QCA9377
- Single-die wireless local area network (WLAN) and Bluetooth (BT) combination solution
- Supports 1x1 IEEE 802.11b/g/n at 2.4GHz
- Supports 1x1 IEEE 802.11a/n/ac at 5GHz
- Provides a highly integrated WLAN system-on-chip (SoC) for 5 GHz 802.11ac, or 2.4 GHz/5 GHz 802.11n WLAN applications
- Supports Bluetooth 5.0 + HS, BLE, and ANT+ with backward compatibility for BT 1.x, BT 2.x, BT4.2 + Enhanced Data Rate
- Supports 20/40MHz at 2.4GHz and supports 20/40/80MHz at 5GHz
- Supports multiuser MIMO
- Supports BT-WLAN coexistence and ISM-LTE coexistence
- Supports IEEE 802.11d, e, h, i, k, r, v, and w
- Supports Dynamic Frequency Selection (DFS)
- Low-power SDIO 3.0 interface

Specifications

Chipset	Qualcomm Atheros QCA9377-3
Reference Design	Qualcom Atheros WB396
WLAN Host Interface	Low-power SDIO 3.0
Bluetooth Host Interface	UART/PCM
Operating Voltage	3.3V DC power supply and I/O supply of 1.8V or 3.3V
Power Consumption	3.83W (Max)
WLAN Frequency Range	2.412~2.472, 5.150~5.825GHz
Bluetooth Frequency Range	2.402~2.480GHz
Modulation Techniques	CCK, OFDM: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
Environmental Temperature	Operating: -20°C to 70°C, Storage: -40°C to 90°C
Environmental Humidity, Non-Condensing	Operating: 5% to 95%, Storage: Max. 90%
Certification	CE RED, REACH and RoHS Compliance
Dimensions (W x H x D) in mm	12 x 12 x 2.5

Configurations are subject to change without notifications.

RF Performance Table for 2.4GHz

	Data Rate	TX Power	Tolerance
2.4GHz 802.11b	1Mbps	16dBm	±2dB
	11Mbps	16dBm	±2dB
2.4GHz 802.11g	6Mbps	15dBm	±2dB
	54Mbps	13dBm	±2dB
2.4GHz 802.11n HT20	MCS 0	14dBm	±2dB
	MCS 7	13dBm	±2dB
	MCS 8	13dBm	±2dB
2.4GHz 802.11n HT40	MCS 0	14dBm	±2dB
	MCS 9	13dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
2.4GHz 802.11b	1Mbps	-97dBm	±2dB
	11Mbps	-90dBm	±2dB
2.4GHz 802.11g	6Mbps	-92dBm	±2dB
	54Mbps	-76dBm	±2dB
2.4GHz 802.11n HT20	MCS 0	-92dBm	±2dB
	MCS 7	-75dBm	±2dB
	MCS 8	-71dBm	±2dB
2.4GHz 802.11n HT40	MCS 0	-89dBm	±2dB
	MCS 9	-67dBm	±2dB

RF Performance Table for 5GHz

	Data Rate	TX Power	Tolerance
5GHz 802.11a	6Mbps	11dBm	±2dB
	54Mbps	10dBm	±2dB
5GHz 802.11n/ac VHT20	MCS 0	11dBm	±2dB
	MCS 7	7dBm	±2dB
5GHz 802.11n/ac VHT40	MCS 0	10dBm	±2dB
	MCS 7	6dBm	±2dB
	MCS 8	6dBm	±2dB
5GHz 802.11n/ac VHT80	MCS 0	9dBm	±2dB
	MCS 9	6dBm	±2dB

	Data Rate	RX Specifications Sensitivity	Tolerance
5GHz 802.11a	6Mbps	-92dBm	±2dB
	54Mbps	-75dBm	±2dB
5GHz 802.11n/ac VHT20	MCS 0	-92dBm	±2dB
	MCS 7	-74dBm	±2dB
5GHz 802.11n/ac VHT40	MCS 0	-89dBm	±2dB
	MCS 7	-72dBm	±2dB
	MCS 8	-70dBm	±2dB
5GHz 802.11n/ac VHT80	MCS 0	-86dBm	±2dB
	MCS 9	-62dBm	±2dB

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Dimensional Drawing

12.1±0.1
10.88±0.1
12.1±0.1
10.88±0.1
0.5±0.1
2.5±0.15
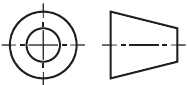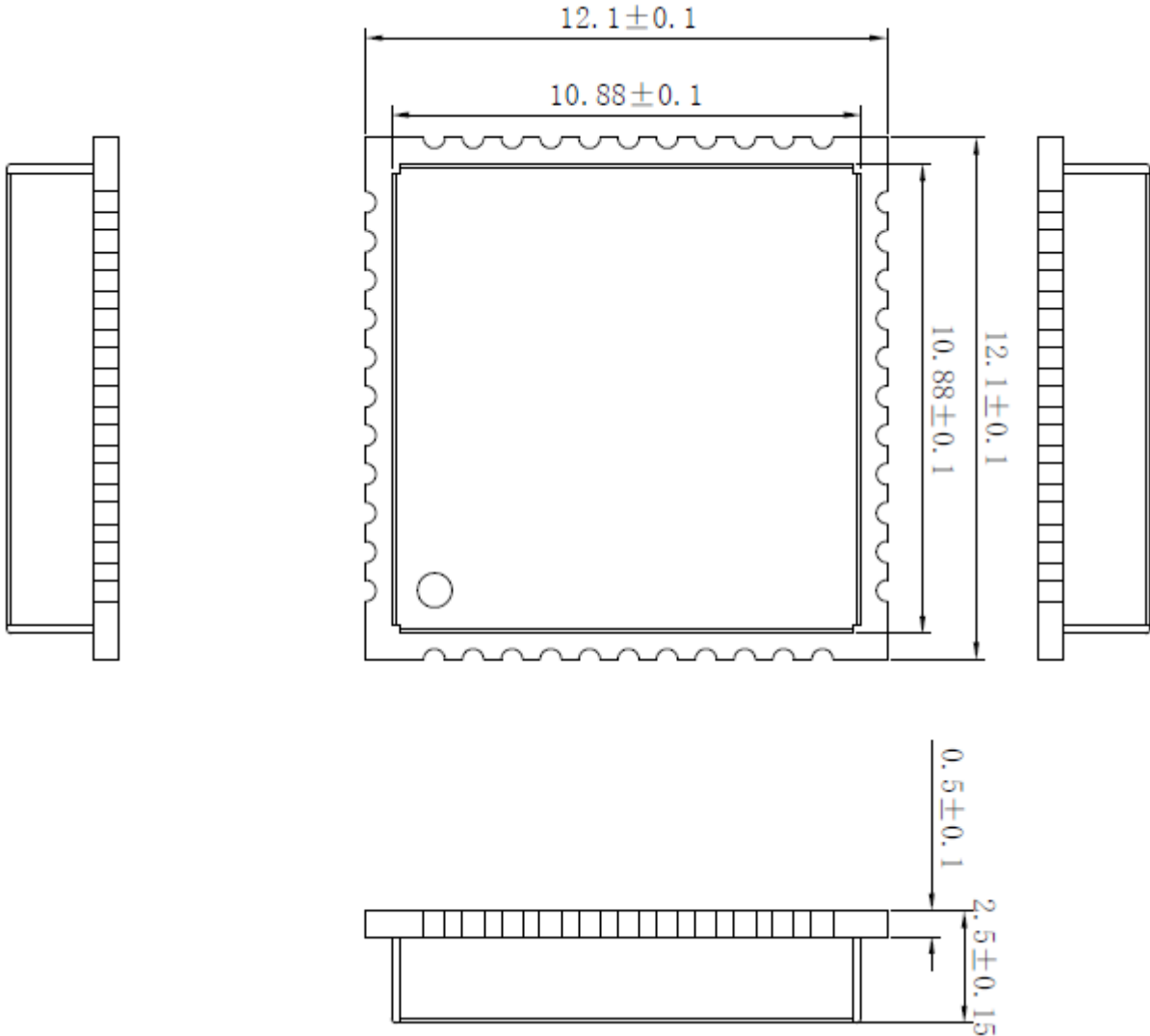
All dimensions are in mm.

Ordering Configuration

Item Code	Model	Description
WSD377 7A0000-R1.02	WSD377	802.11a/b/g/n/ac 1x1 WiFi+BT, SDIO+UART

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