

Barrot Bluetooth Chip

Picture 图片							
Module Series 芯片型号	BR1001	BR1002	BR8551A01	BR8051A01	BR8651A01	BR8052A01	BR8552A01
Bluetooth Spec 蓝牙版本	Bluetooth 5.0 LE	Bluetooth 5.1 LE	Bluetooth 5.2 Dual Mode	Bluetooth 5.2 Dual Mode	Bluetooth 5.2 Dual Mode	Bluetooth 5.2 Dual Mode	Bluetooth 5.2 Dual Mode
BT Host I/F 蓝牙传输层	UART	UART	UART/USB	UART/USB	UART/USB	UART	UART/USB
Dynamic Freq & Low Power Modes 动态变频和多种低功耗模式	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Qualification 规格	Industry	Industry	Industry	Industry	Industry	Industry	Industry
Transmit power 发射功率	-20 - 2 dBm	-20 - 7 dBm	BR:6dbm EDR 2M:0dbm EDR 3M:0dbm BLE:6dbm	BR:6dbm EDR 2M:0dbm EDR 3M:0dbm BLE:6dbm	BR:6dbm EDR 2M:0dbm EDR 3M:0dbm BLE:0dbm	BR:6dbm EDR 2M:0dbm EDR 3M:0dbm BLE:6dbm	BR:6dbm EDR 2M:0dbm EDR 3M:0dbm BLE:6dbm
RX Sens dBm 灵敏度	-90dBm	-96.5dBm sensitivity@1Mbps -93.5dBm sensitivity@2Mbps -98dBm sensitivity@500Kbps -101.5dBm sensitivity@125Kbps	-94dBm sensitivity@1Mbps BLE -90dBm sensitivity@1Mbps BT -92dBm sensitivity@ EDR 2Mbps -85dBm sensitivity@EDR 3Mbps	-94dBm sensitivity@1Mbps BLE -90dBm sensitivity@1Mbps BT -92dBm sensitivity@ EDR 2Mbps -85dBm sensitivity@ EDR 3Mbps	-89dBm sensitivity@1Mbps BLE -85dBm sensitivity@1Mbps BT -85dBm sensitivity@ EDR 2Mbps -80dBm sensitivity@EDR 3Mbps	-92dBm sensitivity@1Mbps BLE -90dBm sensitivity@1Mbps BT -92dBm sensitivity@ EDR 2Mbps -85dBm sensitivity@EDR 3Mbps	-94dBm sensitivity@1Mbps BLE -92dBm sensitivity@1Mbps BT -92dBm sensitivity@ EDR 2Mbps -85dBm sensitivity@EDR 3Mbps
Bluetooth A2DP stream 蓝牙音乐数据接口	NO	NO	UART/USB	UART/USB	UART/USB	UART	UART/USB
Bluetooth Profile 蓝牙应用	GATT,HOGP/HIDS,CSCP/CSCS, HRP/HRS,RSCP/RSCS etc.	GATT,HOGP/HIDS,CSCP/CSCS, HRP/HRS,RSCP/RSCS etc.	1) BR/EDR: SPP,HFP,HSP,PBAP,FTP,OPP,MAP,A2DP,AVRCP,HID,DUN,PAN,IA2P,ANCS etc. 2) BLE:GATT,HOGP etc	1) BR/EDR: SPP,HFP,HSP,PBAP,FTP,OPP,MAP,A2DP,AVRCP,HID,DUN,PAN,IA2P,ANCS etc. 2) BLE:GATT,HOGP etc	Driver: Windows 7/8/10 1. Chip internal ROM: SPP/GATT 2. HCI mode: BR/EDR: SPP,HFP,HSP,PBAP,FTP,OPP,MAP,A2DP,AVRCP,HID,DUN,PAN,IA2P,ANCS etc. BLE:GATT,HOGP etc.	1) BR/EDR: SPP,PBAP,FTP,OPP,MAP,A2DP,AVRCP,HID,DUN,PAN,IA2P,ANCS etc. 2) BLE:GATT,HOGP etc	1) BR/EDR: SPP,HFP,HSP,PBAP,FTP,OPP,MAP,A2DP,AVRCP,HID,DUN,PAN,IA2P,ANCS etc. 2) BLE:GATT,HOGP etc
Bluetooth Role+A26 蓝牙角色	Master/Slave	Master/Slave	Master/Slave	Master/Slave	Master/Slave	Master/Slave	Master/Slave
MultiConnect 设备多连接	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NoiseReduce/EchoCancel 降噪/消回声	NO	NO	1)Software algorithm(Integrated to the linux/android system) Barrot软件算法集成 2)External Hardware DSP 硬件DSP方式	1)Software algorithm(Integrated to the linux/android system) Barrot软件算法集成 2)External Hardware DSP 硬件DSP方式	1)Software algorithm(Integrated to the linux/android system) Barrot软件算法集成 2)External Hardware DSP 硬件DSP方式	1)Software algorithm(Integrated to the linux/android system) Barrot软件算法集成	1)Software algorithm(Integrated to the linux/android system) Barrot软件算法集成 2)External Hardware DSP 硬件DSP方式
Application market 应用市场	Pass-through Software reengineering Meter/selfie/stabilizer Medical and health equipment, Charging pile, BMS, Instrumentation	Pass-through Software reengineering Meter/selfie/stabilizer Medical and health equipment, Charging pile, BMS, Instrumentation	Printer Bluetooth HID Smart home TV remote Intelligent toy Mesh network Data communication application	Printer Bluetooth HID Smart home TV remote Intelligent toy Mesh network Data communication application	Dongle	Bluetooth HID Smart home TV remote Intelligent toy Data communication application	Printer Bluetooth HID Smart home TV remote Intelligent toy Mesh network Data communication application
Package 封装	QFN48 6*6	QFN32 4*4	QFN48 6*6	QFN32 5*5	QFN32 5*5	QFN32 5*5	QFN56 7*7
Main Frequency CPU/主频	32-bit/48M 仅使用MCU功能, 可以使用内部24MHz RC振荡器	32-bit/64M 仅使用MCU功能, 可以使用内部32MHz RC振荡器	32-bit/96M 无内部高频RC振荡器, 需外置晶振	32-bit/96M	32-bit/24M	32-bit/24M	32-bit/96M 无内部高频RC振荡器, 需外置晶振
Operation Voltage Range 工作电压范围	2.0V~3.6V	1.8V~3.6V	1.9V~3.6V	1.9V~3.6V	1.9V~3.6V	1.9V~3.6V	1.9V~3.6V
Flash	512KB	512KB	512KB/Support XIP & CACHE	512KB/Support XIP & CACHE	512KB	--	512KB/Support XIP & CACHE
RAM	128KB(程序加载到RAM中运行, 所以程序和数据总共128KB)	64KB	96KB	96KB	96KB	48KB	96KB
ADC	8 * 12bit	6 * 12bit	4 * 11bit	4 * 11bit	4 * 11bit	4 * 11bit	9 * 11bit
I2C	1	3	1	1	--	--	1
PWM	3 * 4 channel	3 * 4 channel	4	4	--	--	4
TIMER	3 * 32bit	3 * 32bit	8 * 32bit	8 * 32bit	--	--	8 * 32bit
SPI	2, MAX 24MHz	2, MAX 24MHz	1, MAX 12MHz	1, MAX 12MHz	--	1	1, MAX 12MHz
UART	2, MAX 1Mbps	2, MAX 1Mbps	2, MAX 4Mbps	2, MAX 4Mbps	--	2	2, MAX 4Mbps
DMA	4 channels	8 channels	8 channels	8 channels	--	--	8 channels
Watch Dog	1	1	1	1	--	1	1
Real Time Clock	1	1	1	1	--	1	1
GPIO	31	17	29	16	16	20	42
USB	--	--	USB full speed	USB full speed	USB full speed	--	USB full speed
I2S Audio interface	1	1	1, MAX 12MHz	1, MAX 12MHz	--	--	0
Firmware upgrade	UART/Bluetooth OTA	UART/Bluetooth OTA	UART/Bluetooth OTA	UART/Bluetooth OTA	UART/USB	UART/Bluetooth OTA	UART/Bluetooth OTA
Operating Range 工作温度	-40°C to +85°C	-40°C to +85°C	-40°C to +125°C	-40°C to +125°C	-20°C to +85°C	-40°C to +85°C	-40°C to +125°C

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Module Series 芯片型号	BR1601A02	BR1601B02	BR8051A02	BR8654A02	BR8051A12	BR8652A12
Bluetooth Spec 蓝牙版本	Bluetooth 5.4 LE	Bluetooth 5.4 LE	Bluetooth 5.4 Dual Mode	Bluetooth 5.4 Dual Mode	Bluetooth 5.0 Dual Mode	Bluetooth 5.0 Dual Mode
BT Host I/F 蓝牙传输层	UART	UART	UART/USB	UART/USB	UART/USB	UART/USB
Dynamic Freq & Low Power Modes 动态变频和多种低功耗模式	Yes	Yes	Yes	Yes	Yes	Yes
Qualification 规格	Industry	Industry	Industry	Industry	Industry	Industry
Transmit power 发射功率	-20 - 4 dBm	-20 - 8 dBm	BR:8dbm(6) EDR 2M:6dbm EDR 3M:6dbm BLE:6dbm	BR:8dbm(6) EDR 2M:6dbm EDR 3M:6dbm BLE:6dbm	BR:8dbm(6) EDR 2M:6dbm EDR 3M:6dbm BLE:6dbm	BR:4dbm(6) EDR 2M:3dbm(6) EDR 3M:3dbm(6) BLE:4dbm(6)
RX Sens dBm 灵敏度	-96dBm sensitivity@1Mbps -93dBm sensitivity@2Mbps	-97dBm sensitivity@1Mbps -95dBm sensitivity@2Mbps	-94dBm sensitivity@1Mbps BLE -90dBm sensitivity@1Mbps BT -92dBm sensitivity@ EDR 2Mbps -85dBm sensitivity@EDR 3Mbps	-94dBm sensitivity@1Mbps BLE -90dBm sensitivity@1Mbps BT -92dBm sensitivity@ EDR 2Mbps -85dBm sensitivity@EDR 3Mbps	-94dBm sensitivity@1Mbps BLE -90dBm sensitivity@1Mbps BT -92dBm sensitivity@ EDR 2Mbps -85dBm sensitivity@EDR 3Mbps	-94dBm sensitivity@1Mbps BLE -90dBm sensitivity@1Mbps BT -92dBm sensitivity@ EDR 2Mbps -85dBm sensitivity@EDR 3Mbps
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Bluetooth Profile 蓝牙应用	GATT,HOGP/HIDS,CSCP/CSCS, HRP/HRS,RSCP/RSCS etc.	GATT,HOGP/HIDS,CSCP/CSCS, HRP/HRS,RSCP/RSCS etc.	1) BR/EDR: SPP,HFP,HSP,PBAP,FTP,OPP,MAP,A2DP,AVRCP,HI D,DUN,PAN,IA2,ANC5 etc. 2) BLE:GATT,HOGP etc	Driver: Windows 7/8/10/11 1. Chip internal ROM: SPP/GATT 2. HCI mode: BR/EDR: SPP,HFP,HSP,PBAP,FTP,OPP,MAP,A2DP,AVRCP,HI D,DUN,PAN,IA2,ANC5 etc. BLE:GATT,HOGP etc	1) BR/EDR: SPP,HFP,HSP,PBAP,FTP,OPP,MAP,A2DP,AVRCP,HI D,DUN,PAN,IA2,ANC5 etc. 2) BLE:GATT,HOGP etc	Driver: Windows 7/8/10/11 1. Chip internal ROM: SPP/GATT 2. HCI mode: BR/EDR: SPP,HFP,HSP,PBAP,FTP,OPP,MAP,A2DP,AVRCP,HI D,DUN,PAN,IA2,ANC5 etc. BLE:GATT,HOGP etc
Bluetooth Role+A2E 蓝牙角色	Master/Slave	Master/Slave	Master/Slave	Master/Slave	Master/Slave	Master/Slave
MultiConnect 设备多连接	Yes	Yes	Yes	Yes	Yes	Yes
NoiseReducte/EchoCancel 降噪/消回声	NO	NO	1)Software algorithm(Integrated to the linux/android system) Barrot软件算法集成 2)External Hardware DSP 硬件DSP方式	1)Software algorithm(Integrated to the linux/android system) Barrot软件算法集成 2)External Hardware DSP 硬件DSP方式	1)Software algorithm(Integrated to the linux/android system) Barrot软件算法集成 2)External Hardware DSP 硬件DSP方式	1)Software algorithm(Integrated to the linux/android system) Barrot软件算法集成 2)External Hardware DSP 硬件DSP方式
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Package 封装	QFN32 4*4	QFN32 4*4	QFN32 5*5	QFN32 5*5	QFN32 5*5	QFN32 5*5
Main Frequency CPU/主频	32-bit/64M 仅使用MCU功能, 可以使用内部64MHz RC振荡器	32-bit/64M 仅使用MCU功能, 可以使用内部64MHz RC振荡器	32-bit/96M	32-bit/96M	32-bit/96M	32-bit/96M
Operation Voltage Range 工作电压范围	1.8V~3.6V	1.8V~3.6V	1.8V~3.3V	1.8V~3.3V	1.8V~3.3V	1.8V~3.3V
Flash	512KB	512KB	512KB/Support XIP & CACHE	512KB/Support XIP & CACHE	No	No
RAM	48KB	48KB	96KB	96KB	96KB	96KB
ADC	8 * 10bit	8 * 10bit , 16bit Audio ADC	4 * 11bit	--	--	--
I2C	1	1	1	--	--	--
PWM	2 * 4 channel	2 * 4 channel	4	--	--	--
TIMER	3 * 16bit + 1 * 24bit	3 * 16bit + 1 * 24bit	8 * 32bit	--	--	--
SPI	2, MAX 8MHz	2, MAX 16MHz	1, MAX 12MHz	--	--	--
UART	2, MAX 4Mbps	3,MAX 8Mbps	2, MAX 4Mbps	--	2, MAX 4Mbps	--
DMA	5 channels	5 channels	8 channels	--	8 channels	--
Watch Dog	2	2	1	1	1	1
Real Time Clock	1	1	1	1	1	1
GPIO	21	21	16	16	16	16
USB	--	--	USB full speed	USB full speed	USB full speed	USB full speed
I2S Audio interface	2	2	1, MAX 12MHz	--	--	--
Firmware upgrade	UART/Bluetooth OTA	UART/Bluetooth OTA	UART/Bluetooth OTA	UART/USB	UART/USB	UART/USB
Operating Range 工作温度	-40°C to +85°C	-40°C to +85°C	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C