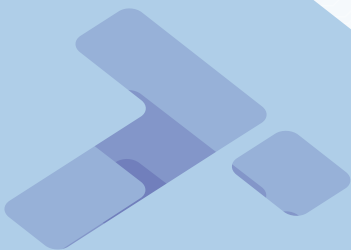




Telink

Telink SoC Product Portfolio



Multi-Protocol IoT SoC

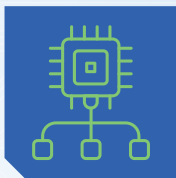


Wireless Audio SoC



2.4GHz Proprietary SoC

Diversified Product Portfolio

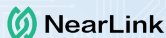


Multi-Protocol IoT SoC

Supports multiple standard protocols with a single SoC



Bluetooth®

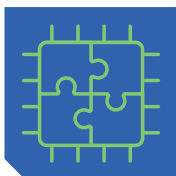


THREAD



Wireless Audio SoC

Support Bluetooth (Classic and LE) as well as proprietary audio technologies

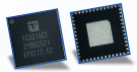


2.4GHz Proprietary SoC

Supports proprietary protocol for cost sensitive or customized applications

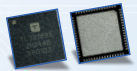


TC321X SoC



Protocol	Bluetooth® Core 5.4 , 2.4GHz Proprietary
Bluetooth® LE PHY	LE 2M
Bluetooth® LE Multiple Connections	Central x 4 , Peripheral x 4
MCU	32bit MCU up to 48MHz
SRAM	64KB
Flash	Up to 1MB
Rich Interface	GPIO(34), SPI(2), I2C(1), I2S(1), UART(3), PWM(6), ADC(16bit), AMIC(1), DMIC(1), SDM(2), IR(1), Key Scan 8*18
Supply Voltage	1.7V~3.6V
Working Current	4.6 mA @ Bluetooth® LE Tx 0dBm 3.3V DCDC mode 4.1 mA @ Bluetooth® LE Rx 3.3V DCDC mode
Sleep Current	0.5 uA
Tx Maximum Power	10 dBm @ Bluetooth® LE mode
Rx Receive Sensitivity	-97 dBm @ Bluetooth® LE 1 Mbps mode -94 dBm @ Bluetooth® LE 2 Mbps mode
Security Mechanism	Secure debug, AES-128

TL321X SoC



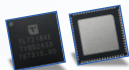
Protocol	Bluetooth® Core 5.4, Mesh Networking, 802.15.4, RF4CE, Thread, Zigbee, Matter, Apple Find My, Apple DockKit, Google Nearby, 2.4GHz Proprietary
Bluetooth® LE PHY	LE 2M, LE Coded
Bluetooth® LE Multiple Connections	Central x 4 , Peripheral x 4
Location Services	RSSI, AoA/AoD
MCU	RISC-V 32-bit, 96MHz
SRAM	128KB
Flash	Up to 2MB
Rich Interface	GPIO(38), I2C(2), I2S(1), UART(3), SPI(3), USB 2.0(1), PWM(6), ADC(12bit), AMIC(1), DMIC(1), SDM(2)
Supply Voltage	1.8V~4.3V, 4.5V~5.5V
Working Current	4.0 mA @ Bluetooth® LE Tx 0dBm 3.4 mA @ Bluetooth® LE Rx
Sleep Current	0.7 uA
Tx Maximum Power	10 dBm @ Bluetooth® LE mode
Rx Receive Sensitivity	-97 dBm @ Bluetooth® LE 1 Mbps -94 dBm @ Bluetooth® LE 2 Mbps -100 dBm @ 802.15.4
Security Mechanism	Root of Trust and Secure Boot, AES-128, ECC, PKE, Hash, SKE, TRNG, Secure OTA

TL322X SoC



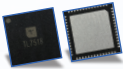
Protocol	Bluetooth® Core 6.0, Channel Sounding, Mesh Networking, Bluetooth® LE, Zigbee, RF4CE, Thread, Matter, 2.4GHz Proprietary
Wireless PHY	2.4GHz 1M, 2M, 4M, 6M; Bluetooth®LE PHY: LE 2M, LE Coded
Bluetooth® LE Multiple Connections	Central x 4 , Peripheral x 4
Location Services	AoA/AoD, Channel Sounding
MCU	Dual Core RISC-V 32-bit, D25F 192MHz, N22 96MHz
SRAM	Up to 384KB
Flash	Up to 2MB
Rich Interface	GPIO(64), SPI(8), I2C(2), UART(5), PWM(24), I3C(2), USB-HS, QDEC(2), CAN-FD(2), LIN(2), AMIC(1), DMIC(2), SAR ADC(2, 12-bit), SD-ADC(16-bit)
Supply Voltage	1.7~ 4.5V, 4.5 ~ 5.5V
Working Current	Rx mode: 3.8 mA with DCDC Tx mode @ 0 dBm: 4.8 mA with DCDC
Sleep Current	0.7 uA
Tx Maximum Power	12 dBm @ Bluetooth® LE mode
Rx Receive Sensitivity	-99 dBm @ Bluetooth® LE 1 Mbps -96 dBm @ Bluetooth® LE 2 Mbps -103 dBm @ 802.15.4
Security Mechanism	Secure Boot/Firmware Enc/PKE/TRNG/SKE/HASH_LP

TL721X SoC



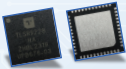
Protocol	Bluetooth® Core 6.0, Channel Sounding, Mesh Networking, 802.15.4, Matter, Thread, Zigbee, Apple HomeKit, Apple Find My, 2.4GHz Proprietary
Bluetooth® LE PHY	LE 2M, LE Coded
Bluetooth® LE Multiple Connections	Central x 4 , Peripheral x 4
Location Services	Channel Sounding
MCU	RISC-V 32-bit, 240MHz, DSP Extension, FPU
SRAM	Up to 512KB
Flash	Up to 2MB
Rich Interface	GPIO(48), SPI(4), USB 2.0(1), I2C(2), UART(3), I2S(3), PWM(7), AMIC(1), DMIC(2),SDM(2), IR(1)
Supply Voltage	1.8V~4.3V, 4.5V~5.5V
Working Current	1.6 mA @ Bluetooth® LE Rx 4.2 V DCDC mode 2.4 mA @ Bluetooth® LE Tx 4.2 V DCDC mode
Sleep Current	1.0 uA
Tx Maximum Power	10 dBm @ GFSK modulation
Rx Receive Sensitivity	-96 dBm @ Bluetooth® LE 1 Mbps -103 dBm @ 802.15.4 250 kbps
Security Mechanism	Root of Trust and Secure Boot, AES-128/AES-256, ECC, TRNG, Hash, PKE, SKE

TL751X SoC



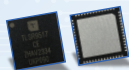
Protocol	Bluetooth® Classic, Bluetooth® Core 5.4, Mesh Networking, Zigbee 3.1, Thread, Matter, Apple HomeKit, 2.4GHz Proprietary
Bluetooth® LE PHY	LE 2M, LE Coded
MCU	Dual Core RISC-V 32-bit, HiFi DSP, Up to 300MHz
SRAM	Up to 1.75MB
Flash	Up to 8MB
Rich Interface	GPIO(38), SPI(4), SDIO2.0, EMMC5.1, QDEC,USB 2.0, I2C(2), UART(4), I2S(3), PWM(6), ADC(12bit)
Supply Voltage	1.9 ~ 4.3V, 4.5 ~ 5.5V
Working Current	4.5 mA @ Bluetooth® LE Tx 0dBm 3.5 mA @ Bluetooth® LE Rx
Sleep Current	4.5 uA
Tx Maximum Power	13 dBm (GFSK), 10 dBm @ EDR mode
Rx Receive Sensitivity	-98 dBm @ Bluetooth® LE 1 Mbps -102 dBm @ 802.15.4
Security Mechanism	AES-128, ECC, TRNG

TLSR922X SoC



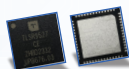
Protocol	Bluetooth® LE, Bluetooth® Core 6.0, Channel Sounding, Mesh Networking, Zigbee Pro 2023, Thread 1.3, Matter 1.3, Apple HomeKit (Bluetooth® LE & Thread), 2.4GHz Proprietary
Bluetooth® LE PHY	LE 2M, LE Coded
Bluetooth® LE Multiple Connections	Central x 4 , Peripheral x 4
Location Services	RSSI, AoA/AoD, Channel Sounding
MCU	RISC-V 32-bit, 96MHz, DSP Extension, FPU
SRAM	512KB (96 KB retention)
Flash	Up to 2MB
Rich Interface	GPIO(30), I2C(2), UART(2), SPI(4), USB(FSx1), PWM(6), ADC(14 bit), AMIC(1), DMIC(2), PTA(Y)
Supply Voltage	1.9V~4.3V, 4.5V~5.5V
Working Current	Bluetooth® LE RX mode: 5.5 mA @ 3.3 V DCDC Bluetooth® LE TX mode: 6.4 mA @ 0 dBm, 3.3 V DCDC
Sleep Current	3 uA
Tx Maximum Power	10 dBm @ Bluetooth® LE mode
Rx Receive Sensitivity	-96 dBm @ Bluetooth® LE 1 Mbps
Security Mechanism	Root of Trust, Secure Boot, Secure OTA, Firmware Encryption, Secure Debug Port Control, Signature & Verification based on RSA1024, AES-128, ECC, TRNG

TLSR951X SoC



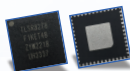
Protocol	Bluetooth® Classic, Bluetooth® Core 5.4, Mesh Networking, 6LoWPAN/Thread, 802.15.4, Zigbee, Apple HomeKit, 2.4GHz Proprietary
Bluetooth® LE PHY	LE 2M, LE Coded
Location Services	RSSI, AoA/AoD
MCU	RISC-V 32-bit, 96MHz, DSP Extension, FPU
SRAM	256KB (64KB retention)
Flash	1~4MB
Rich Interface	GPIO(40), I2C(1), UART(2), SPI(4), USB(FS x1), PWM(6), ADC(14bit), AMIC(2), DMIC(2), PTA(Y)
Supply Voltage	1.8V~4.3V, 4.5V~5.5V
Working Current	Bluetooth® EDR RX mode: 5 mA @ 4.2 V DCDC Bluetooth® EDR TX mode: 12.5 mA @ 0 dBm, 4.2 V DCDC Bluetooth® LE RX mode: 5 mA @ 4.2 V DCDC Bluetooth® LE TX mode: 5.5 mA @ 0 dBm, 4.2V DCDC
Sleep Current	0.7 uA
Tx Maximum Power	10 dBm @ BR / Bluetooth® LE mode
Rx Receive Sensitivity	-92 dBm @ BR mode -95.5dBm @ Bluetooth® LE 1 Mbps
Security Mechanism	AES-128, ECC, TRNG

TLSR952X SoC



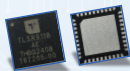
Protocol	Bluetooth® Classic, Bluetooth® Core 6.0, Channel Sounding, Mesh Networking, 6LoWPAN/Thread, 802.15.4, Zigbee, Apple HomeKit, 2.4GHz Proprietary
Bluetooth® LE PHY	LE 2M, LE Coded
Location Services	RSSI, AoA/AoD, Channel Sounding
MCU	RISC-V 32-bit, 96MHz, D25F RISC-V with DSP/FPU
SRAM	512KB (96KB retention)
Flash	1~4MB
Rich Interface	GPIO(48), I2C(2), UART(2), SPI(4), USB(FS x1), PWM(6), ADC(14bit), AMIC(2), DMIC(4), PTA(Y)
Supply Voltage	1.9V~4.3V, 4.5V~5.5V
Working Current	Bluetooth® LE RX mode: 4.9 mA @ 4.2 V DCDC Bluetooth® LE TX mode: 5.8 mA @ 0 dBm, 4.2V DCDC
Sleep Current	3 uA
Tx Maximum Power	10 dBm @ BR/Bluetooth® LE mode
Rx Receive Sensitivity	-92 dBm @ Bluetooth® BR -93 dBm @ EDR 2 Mbps -96 dBm @ Bluetooth® LE 1 Mbps -99.5 dBm @ 802.15.4
Security Mechanism	AES-128, ECC, TRNG, Secure Boot, Secure Debug, Firmware Encryption

TLSR827X SoC



Protocol	Bluetooth® LE, Mesh Networking, Zigbee, RF4CE, HomeKit, 2.4GHz Proprietary
Bluetooth® LE PHY	LE 2M, LE Coded
Bluetooth® LE Multiple Connections	Central x 4 , Peripheral x 4
Location Services	RSSI, AoA/AoD
MCU	Telink 32-bit, 48MHz
SRAM	64KB
Flash	1MB
Rich Interface	GPIO(32), I2C(1), UART(1), SPI(1), USB(1), PWM(6), ADC(14bit), AMIC(1), DMIC(2), PTA(Y), IR Learning(Y)
Supply Voltage	1.8V~3.6V, 4.5V~5.5V
Working Current	Bluetooth® LE RX mode: 4.6mA with DCDC, 9.1mA with LDO Bluetooth® LE TX mode @ 0 dBm: 4.9 mA with DCDC, 9.5 mA with LDO
Sleep Current	0.4 uA
Tx Maximum Power	10 dBm @ Bluetooth® LE mode
Rx Receive Sensitivity	-96 dBm @ 1 Mbps, -93 dBm @ 2 Mbps -99.5 dBm @ 802.15.4
Security Mechanism	AES-128, ECC, TRNG

TLSR9118 SoC



Protocol	Wi-Fi 6, Bluetooth® Core 5.4, Matter 1.3, Zigbee
Bluetooth® LE PHY	LE 2M, LE Coded
Bluetooth® LE Multiple Connections	Central x 4 , Peripheral x 4
Location Services	RSSI
MCU	Dual Core RISC-V 32-bit, 160MHz
SRAM	576KB
Flash	4MB
Rich Interface	GPIO(18), SDIO 2.0(1), UART(3), JTAG(1), SPI M/S(2), I2C(2), I2S(1), QSPI(1), 16bit PWM(6), ADC(12bit), RTC(1), 1x temperature sensor
Supply Voltage	3.0V~3.6V
Working Current	TX: 142~198mA, RX: 38~58mA
Sleep Current	Hibernation: 64uA, Deep Sleep: 90uA
Tx Maximum Power	15 dBm @ Bluetooth® LE mode
Rx Receive Sensitivity	-88dBm @ 11B CCK 11Mbps, -76dBm @ 11G 54Mbps, -72dBm @ 11n HT20 MCS7, -65dBm @ 11n HT40 MCS7, -72dBm @ 11ax MCS7, -95dBm @ LE 1 Mbps, -91dBm @ LE 2 Mbps, -98dBm @ Zigbee
Security Mechanism	AES-128/256, ECB/CBC/OFB/CFB/CTR/GCM/CCM, ECC256, RSA2048, SHA1/SHA224/256/384/512



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