Marvell Avastar 88W8777 SoC

Low Cost 11n 1x1 + BT 4.0 + FM Combo WLAN/Bluetooth/FM Solution

AVASTAR®
wireless

OVERVIEW

The Marvell® Avastar® 88W8777 is a multi-function Wireless Connectivity System-on-Chip (SoC) which supports WLAN, Bluetooth, and FM. The Marvell Avastar 88W8777 supports IEEE 802.11b/g/n with single-band 2.4 GHz WLAN operation. It incorporates the Bluetooth 4.0 standard and provides Bluetooth Smart Ready operation for both classic Bluetooth and Bluetooth Low Energy features and profiles. The FM Receive is also included as a standard feature.

The Marvell Avastar 88W8777 SoC is a single-chip WLAN/Bluetooth/FM solution that provides both simultaneous and independent operation of the following:

• IEEE 802.11n/g/b WLAN payload data rates with integrated power amplifier and radio switch
• Bluetooth 4.0 with Bluetooth Smart Ready (Bluetooth Low Energy)
• FM receive (digital decoder FM radio with RDS/RBDS)

The WLAN and Bluetooth radios can share a single antenna for the lowest cost implementation, or the two radios can operate on separate antennas for maximum performance and throughput.

For security, the 802.11i security standard is supported through several protocols. And for video, voice, and multimedia applications, 802.11e Quality of Service (QoS) is supported.

Generic host interfaces supported include a SDIO 2.0, high-speed UART, and PCM interface. The standard configuration utilizes a shared SDIO for connecting WLAN, Bluetooth, and FM to the host processor. As an option, the Bluetooth can also be connected via UART to the host processor. The FM radio can also be configured to utilize Inter-IC Sound (I2S) / analog stereo audio interfaces, or the FM can also share the host interface with Bluetooth.
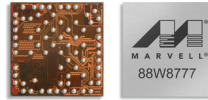
The Marvell Avastar 88W8777 is available in a CSP package.

FEATURES AND BENEFITS

SPECIAL FEATURES	BENEFITS
• Simultaneous WLAN, Bluetooth Smart Ready, and FM receive operation	• Satisfies Multiple Use cases for maintaining connectivity over WLAN and utilizing BT for connecting to smart peripherals
• Transmit Beamforming support	• Improves rate over range when connected to MIMO APs
• Coexistence for on-chip radios	• High throughput during simultaneous WLAN and BT operation
• Low power dissipation	• Maximizes battery life
• Digital audio interfaces (shared I2S/PCM interface)	• Robust audio interfaces to support multiple host configurations
• Power management with either internal or external sleep clock	• BOM cost savings with internal sleep clock, and lowest sleep current using external sleep clock
• Sleep and standby modes for low power operation	• Lowest power operation
• Fully compatible with Marvell Power Management ICs	• Eliminates the need for external LDOs or DC-DC supplies
• One-Time Programmable (OTP) memory to eliminate need for external EEPROM	• Lower BOM cost

APPLICATIONS

• WLAN/Bluetooth/FM Rx-enabled smartphones and tablets

• Wireless-enabled consumer devices such a Digital Still Cameras, Digital Video Recorders and Printers

• Wireless home audio and video entertainment systems including DTV, setup-boxes, media servers and gaming platforms

Marvell Avastar 88W8777 SoC (not actual size)

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