DWAM83 Digital Wireless Audio Transceiver Module

Industry's First Tri-Band (2.4, 5.2 and 5.8 GHz), Multi-Purpose, Small Form Factor Module

Summary
The DWAM83 digital wireless audio module is based on Microchip’s DARR83 baseband processor chip and enables a simple, yet flexible, product design-in. The DWAM83 is the industry’s first device to support multiple RF bands and frequencies within each RF band (2.4, 5.2 and 5.8 GHz), making it well-suited to effectively manage common interference sources such as Wi-Fi®, Bluetooth® and microwave ovens. The module also integrates dual PCB antennas supporting Tx and Rx diversity. The integrated PCB antennas achieve indoor ranges of up to 60m, avoid the use of undesirable “stick-up” antennas and allow for significantly lower eBOM costs.

The DWAM83 enables access to powerful features such as an integrated MCU, digital audio interfaces, automatic Sample Rate Converter and industry-leading wireless audio technology. Additionally, the DWAM83 enables designers/OEM’s to participate in Microchip’s KleerNet™ technology open connectivity ecosystem.

Target Applications
- Fully wireless 5.1 and 7.1 home cinema applications
- Wireless rear and standalone speakers
- Wireless soundbars and sub-woofers
- MP3/PMP wireless docking stations
- Gaming and VOIP headsets
- Wireless headphones and microphones
- Blu-Ray™/DVD/home AV systems
- Digital televisions and set-top boxes

Highlights
- Utilizes the DARR83 highly-integrated baseband processor
- Supports uncompressed, fully-bidirectional, HD audio and four stereo audio channels
- Transceiver module supporting multi-RF band and multiple input interfaces in a small footprint package
- Automatic Tx and Rx antenna diversity minimizes fading and multi-path effects
- Reduces power consumption by entering a power-down mode when no link is established
- Automatic RF output power control minimizes the RF footprint
- KleerNet technology compatibility allows for simple connection to other open and standard system configurations
- Pre-qualified for compliance with ETSI and FCC regulations
- 26-pin FFC interface connector
- 3.3V power supply and −10 to 60°C temperature range

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<tr>
<th>Features</th>
<th>Benefits</th>
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<tr>
<td>Wi-Fi® co-location and co-existence</td>
<td>Minimizes the impact of Wi-Fi on audio and data throughput</td>
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<td>Point to multi-point audio</td>
<td>Allows multiple receivers to listen to same audio stream</td>
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<td>Module integrates dual PCB antennas</td>
<td>BOM cost savings</td>
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<td>Fully wireless 5.1 and 7.1 audio applications</td>
<td>Allows the user to place speakers anywhere while enjoying clear, interference-free, DVD quality audio</td>
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<td>Uncompressed bit-true audio transmissions</td>
<td>Zero impact on quality under normal wireless conditions</td>
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<td>Low latency audio transfer; default at &lt; 20 ms</td>
<td>Complies with Dolby® certification requirements</td>
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<td>Pre-certified module comes with pre-defined, easily customizable software</td>
<td>Enables faster development cycle and time-to-market</td>
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What is KleerNet?

- Open ecosystem and interoperability with multiple consumer electronics brands
- High-quality, wireless audio streaming from content-rich sources such as PC, TV and mobile platforms
- Higher quality audio streaming compared to Bluetooth or Wi-Fi
- Robust link and automatic network configuration for ease of use

### DWAM83 Block Diagram

![Block Diagram Image]

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