



MelodyWing™ SP Wireless Audio

Dual-Band Radio Module SST18SC03

18 Series

Product Brief

April 2008

Product Description

MelodyWing SP is an advanced wireless audio solution offering uncompressed, wire-equivalent sound quality. Using this module, high-fidelity audio can be wirelessly streamed from one transmitter to two full-range speakers and a subwoofer. MelodyWing SP Smart Channel automatically selects the least congested license-free bands to avoid interference with other wireless equipment. For this radio module, these license-free bands are frequencies between 2.4 to 2.48 GHz and 4.9 to 5.9 GHz. Two standard digital audio interfaces, S/PDIF and I²S, offer flexibility by supporting existing and future consumer electronic audio/video products. The end result is unprecedented wireless audio performance for home theater and multi-room applications.



Key Features

- Supports two standard digital audio interfaces, S/PDIF and I²S, for system design flexibility
- One transmitter simultaneously streams high-quality digital audio to two full-range speakers and a subwoofer
- Factory-programmable world-wide license-free bands allow one product design to meet the requirements of multiple markets (see table below)
- Smart Channel selection automatically avoids interference with other wireless equipment in the home
- User-friendly solution requires no firmware drivers or setup

World-Wide License-Free Bands

| Region | Band 1 (MHz) | Band 2 (MHz) |
|-------------------------|---------------|---------------|
| MPHPT (Japan) | 2400-2483 MHz | 4900-5000 MHz |
| | 5030-5091 MHz | 5150-5250 MHz |
| FCC (N. America) | 2400-2483 MHz | 5150-5250 MHz |
| | 5725-5850 MHz | |
| CEPT (Europe) | 2400-2483 MHz | 5150-5250 MHz |
| | 5725-5875 MHz | |
| CRSA (China) | 2400-2483 MHz | 5725-5850 MHz |

Specifications

Features

RF Performance

| | |
|--------------------------|--------------------------------|
| Frequency of Operation | License-free bands (see table) |
| Channel Spacing | 20 MHz |
| Transmitter Output Power | 15 dBm, typical |
| Distance | 50m for one-room applications |

Audio Interface

| | |
|------------------|--|
| S/PDIF | 1 port, compliant to AC-3, DTS, MP3, AAC |
| I ² S | 2 ports - stereo and Low Frequency Enhancement (LFE) |

Audio Quality

| | |
|----------------------------------|--|
| Pulse-code Modulation (PCM) bits | Up to 24-bits per channel for stereo, compatible with 16-bits stereo |
| Sampling rates (kHz) | Accepts 32, 44.1, 48, 88.2, 96, and 192 kHz sampling rates |
| THD+N/SNR @S/PDIF I/O | Input signal: 48 KHz, 24 bits, 997 Hz 0 dB sine wave SNR = 138dB (w/o A-weighting), THD+N = -137 dB (w/o A-weighting) |
| THD+N/SNR @ Analog I/O | Input signal: 2Vrms 997 Hz sine wave, Cirrus Logic CS5361 ADC and CS4398 DAC SNR = 99 dB (w A-weighting), THD+N = -97 dB (w A-weighting) |
| Frequency offset between links | Less than one audio sample, or 22 μs, delay between independent left and right receivers |
| Latency | Programmable, 1 ms up to 80 ms |

User Interface

| | |
|-----------------------|--|
| User Interface | 3 ports GPIO, 1 UART |
| Security | 6 Bytes (48 bits) of IEEE 802.3-like MAC address |
| Supply Voltage | 5V |
| DC Power | <50 mA standby |
| Operating Temperature | -10 to +85° C |
| Line of Sight | 100m |

Wireless simplifies life: MelodyWing SP solves the problem of wiring speakers in modern digital home theaters.



Applications

- Digital Televisions, HDTVs
- Home Theater Systems
- Projectors
- Headsets
- Cable/Satellite Set-top Boxes
- Home Gateways
- Multimedia PCs
- Game Consoles
- Sound Bar
- DVD Players
- Music Streaming

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Wireless 5.1 Home Theater (3T/6R)



Triple-Link Wireless 2.1 Audio (1T/3R)

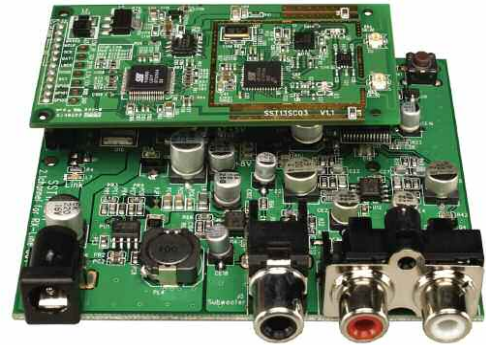


Single-Link Wireless 2.1 Audio (1T/1R)



Exemplary Board Level Products for Complete Wireless Audio Applications

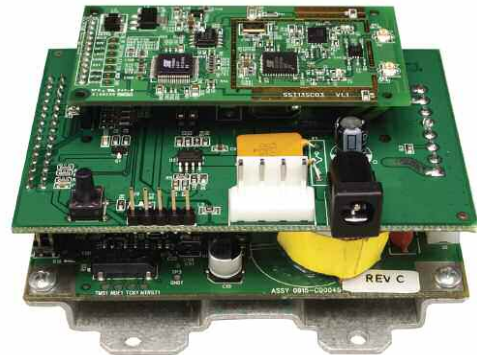
Radio and Line-in Audio Modules (Transmitter with Line-in)



Radio and Line-out Audio Modules (Receiver with Line-out)



Radio and Digital Amplifier Audio Modules (Receiver with Digital Amplifier)



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For more information please contact your local SST Sales Representative. See the "Sales" page of www.sst.com for complete listings.

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