CERES FS4240

Roma module based, Wi-Fi/Bluetooth, synchronised audio platform

CERES PLATFORM

OVERVIEW

Ceres is a cost and performance optimised reference design for multi-room and synchronised wireless speaker applications. The companion iOS and Android app provides a rich user interface for browsing Internet radio stations, premium music services or local music libraries, as well as full control of the multi-room playback environment. Thanks to its Bluetooth receiver, Ceres can also stream audio from any Bluetooth-compatible device, answering every connectivity need in this class of products.

Based on Frontier Silicon's Roma module, the Ceres reference platform supports Wi-Fi and *Bluetooth* streaming audio, enabling a new generation of audio streaming products.

ACOUSTICS

The Ceres platform incorporates high quality acoustic design, powered by Tymphany Peerless drivers, to demonstrate the excellent audio capabilities of the Frontier Silicon architecture.
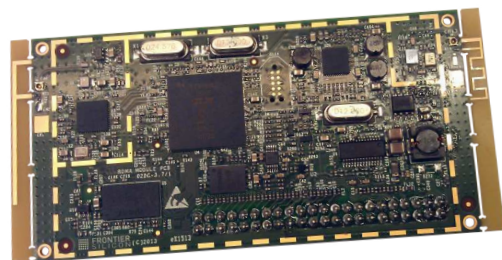
CUSTOMER DELIVERABLES

Ceres is provided with a full engineering design pack including detailed specification, schematics, gerbers, bill-of-materials, software, EMC and ESD compliance reports. Support is available to customise the platform for individual requirements. The platform is production-ready and needs only industrial design tooling to finish off a complete high-quality audio system.

PCB ARRANGEMENT

The fully flexible reference design comprises three main PCBs and the Roma module:

- Audio PCB: low-cost 2-layer board, 117 x 60 mm
- Keyboard PCB: 5 keys, 2-layer board, 117 x 19 mm
- Main PCB: 2-layer board, 117 x 63 mm
- Roma: 108x 51 mm

OPERATING MODES

Bluetooth

- Support for 2.1 +EDR, A2DP and AVRCP *Bluetooth* profiles.
- *Bluetooth* Integrated PIFA antenna (external antenna optional)

Wi-Fi

- 802.11 b/g integrated Wi-Fi
- Wi-Fi integrated PIFA antenna (external antenna optional)
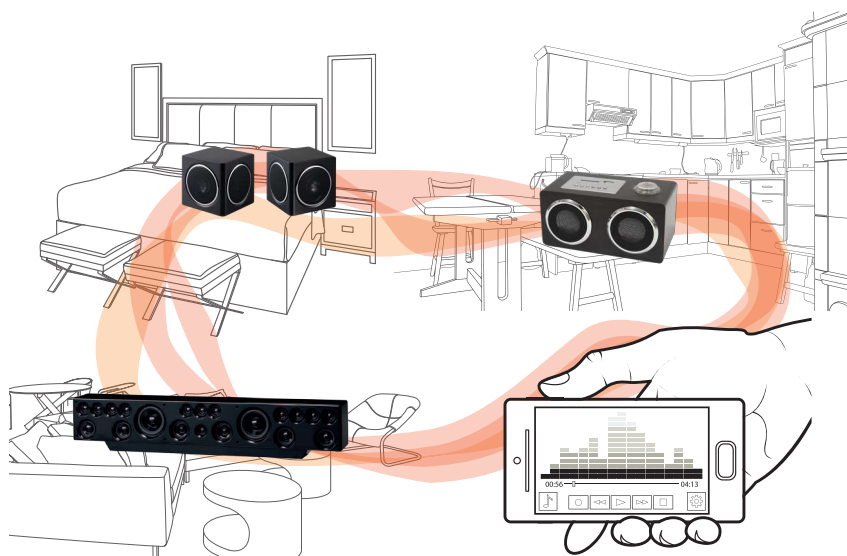
Ethernet (Optional)

- Connection via USB to Ethernet dongle

ROMA MODULE

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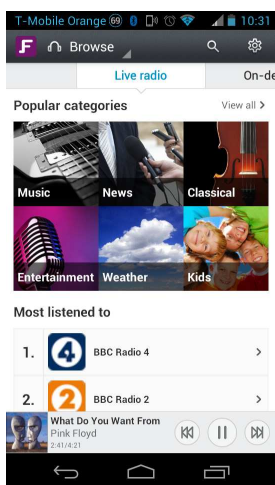
FEATURES

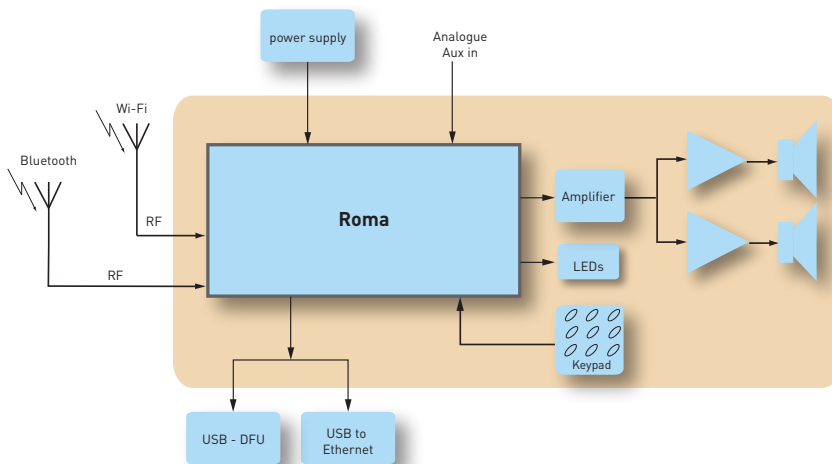|	
Power supply	9 V 1.5A DC from adaptor Current: TBD mA (typ) Optional 1600mAh Li-polymer battery
Antennas	Internal Bluetooth and Wi-Fi antennas
User interface	5 push-button switches
iOS / Android App	iOS / Android App remote control for Bluetooth and Wi-Fi audio streaming
Audio output	2 x 2 W amplifier, digital volume control with mute.
Connectivity	Bluetooth, Wi-Fi, Ethernet and USB 2.0 Full-speed for firmware upgrade
Bluetooth profiles	A2DP and AVRCP

The Ceres platform provides unparalleled audio synchronisation between networked (Wi-Fi and Ethernet) audio devices. Its algorithms achieve industry-leading low latency between any speakers in the network

SOFTWARE AND USER INTERFACE

Frontier Silicon has made considerable investment in creating the most versatile and intuitive connected audio software available. The Ceres software is flexible and customisable to OEMs' individual interface requirements.

CONTROL APP INTERFACE

CERES BLOCK DIAGRAM

STANDARDS AND CERTIFICATION

The Roma module demonstrated in the Ceres platform has been designed to operate seamlessly with the rest of the network audio world. Customers can leverage BT SIG qualifications, FCC modular approvals, FCC test results and ETSI/R&TTE test results to assist suitable end-products based on this platform to obtain certification for industry standards. For more information, contact Frontier Silicon.

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