

ROMA MODULE (SHOWN WITHOUT SCREENING CAN)
 108 MM X 51 MM X 11.1 MM

APPLICATIONS

- *Connected Wireless Speakers*
- *Connected Multi-room system*
- *Connected Soundbars*

OVERVIEW

The Roma FS2240 module is Frontier Silicon's latest connected audio solution for multi-room and synchronised wireless speaker applications. The state-of-the-art algorithms built into the system enable audio synchronisation with industry-beating low latency, or delay, across multiple devices. Combining Wi-Fi and Bluetooth in a single module, Roma enables faster time to market for multi-room devices in a variety of form factors. 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, Roma can also stream audio from any Bluetooth-compatible device, answering every connectivity need in this class of product.

Both the embedded software and the companion app can be configured to customer requirements.

BENEFITS

- Wi-Fi and *Bluetooth* (A2DP) streaming
- On-board *Bluetooth* and Wi-Fi antennas
- No external microcontroller required

BASEBAND PROCESSOR

Roma uses Frontier Silicon's Xenif processor featuring a powerful dual thread Meta processor capable of running Linux on one thread while simultaneously performing audio DSP on the other.

BUILD OPTION

PRODUCT CODE	DESCRIPTION
FS2240-A	<i>Bluetooth</i> , Wi-Fi connectivity and PIFA antennas
FS2240-B	<i>Bluetooth</i> , Wi-Fi connectivity, PIFA antennas, and DAC
FS2240-C	<i>5V input</i> , <i>Bluetooth</i> , Wi-Fi connectivity, PIFA antennas, and DAC

Further options are described in the Roma datasheet.

KEY FEATURES

- 802.11 b/g integrated Wi-Fi
- *Bluetooth* 2.1 +EDR, A2DP and AVRCP profiles.
- Wi-Fi integrated PIFA antenna (external antenna optional)
- *Bluetooth* Integrated PIFA antenna (external antenna optional)
- Full digital audio input and output (I²S)
- Analogue audio input and output
- On-board stereo DAC
- Memory:
 - Integrated RAM
 - Built-in Flash - size dependent on application
- RoHS compliant
- Temperature range:
 - operation: 0 to +50°C
 - storage: -40 to +85°C

ROMA FS2240

Wi-Fi/Bluetooth advanced synchronised audio solution

DESCRIPTION

Roma provides a complete flexible, low-power wireless speaker system, in a compact module, incorporating Wi-Fi and Bluetooth connectivity.

The main components of the Roma module are shown in the diagram below. These are Frontier Silicon's Xenif baseband processor, Wi-Fi transceiver, Bluetooth IC, flash and audio DAC.

SOFTWARE

Software is configured to customer requirements and pre-installed in the module's flash memory.

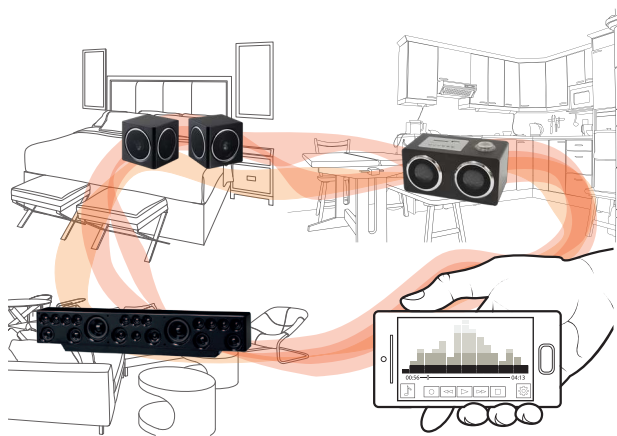
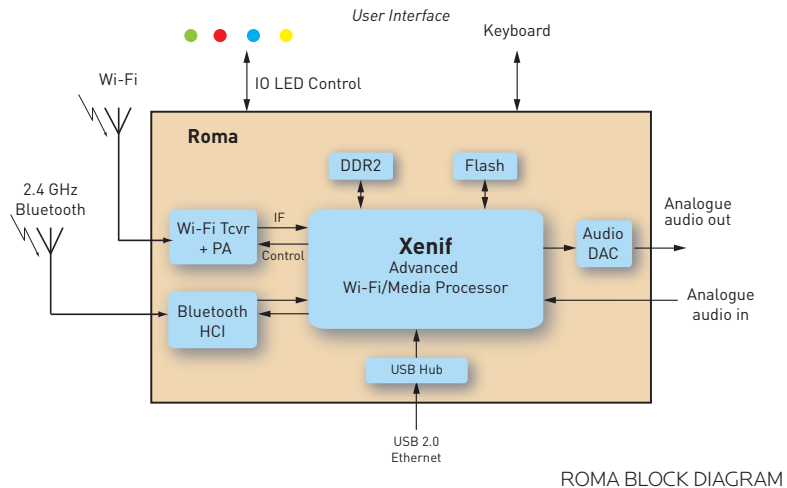
STANDARDS AND CERTIFICATION

Roma is designed to be interoperable in all key markets throughout the world. As well as working with the standards below, suitable end-products based on this platform should be able to obtain certification for various other industry standards. For more information, contact Frontier Silicon.

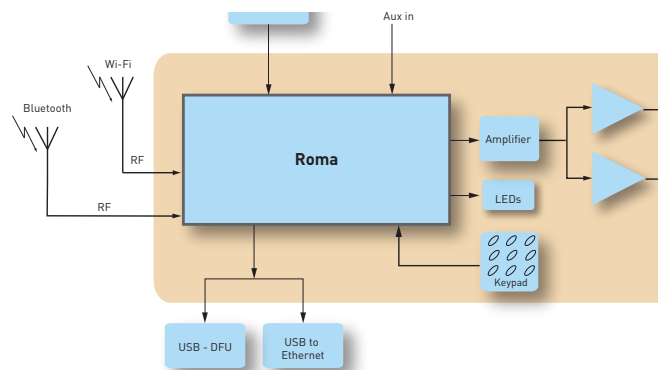


SPECIFICATION

Supply voltages		Fixed 5V or wide input 8.5V-23V option
Power consumption		TBD mW (Standby) TBD mW (Wi-Fi) TBD mW (WiFi Streaming) TBD mW (Bluetooth paired) TBD mW (Bluetooth streaming)
Bluetooth	Sensitivity Rx	-90 dBm (typ)
	Tx power	+2 dBm (typ)
Wi-Fi	Tx power	+16.5 dBm (typ) @1-11Mbps +14 dBm (typ) @6-36Mbps +12 dBm (typ) @48-54Mbps
	Rx sensitivity	-90 dBm (typ) @1Mbps -86 dBm (typ) @11Mbps -86 dBm (typ) @6Mbps -72 dBm (typ) @54Mbps



MULTIROOM SYSTEM WITH SYNCHRONISED AUDIO



ROMA IN A TYPICAL EXAMPLE APPLICATION

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