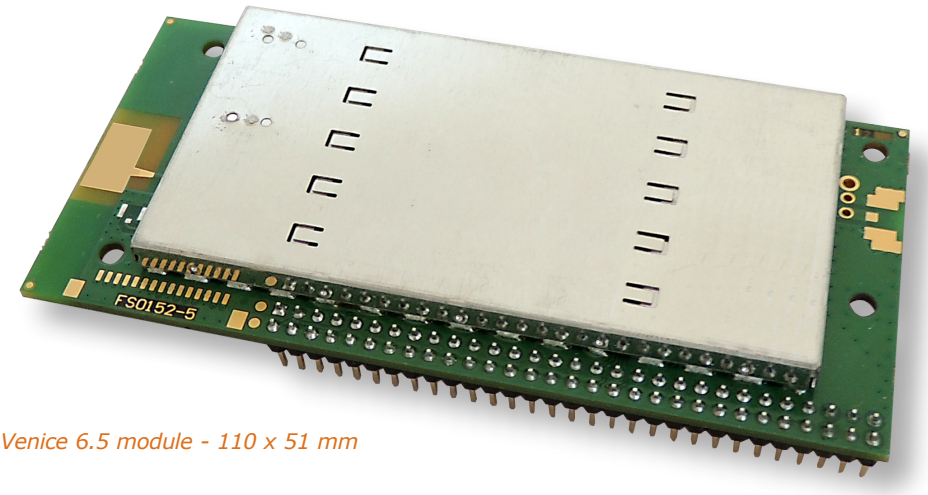
Venice 6.5 FS2026-5

Internet radio/Network streaming/DAB/FM/iPhone audio module



Venice 6.5 module - 110 x 51 mm

Applications

- Internet Radios
- AV receivers
- Wireless speakers
- Speaker docks
- Hybrid DAB/DAB+/FM Radios

Overview

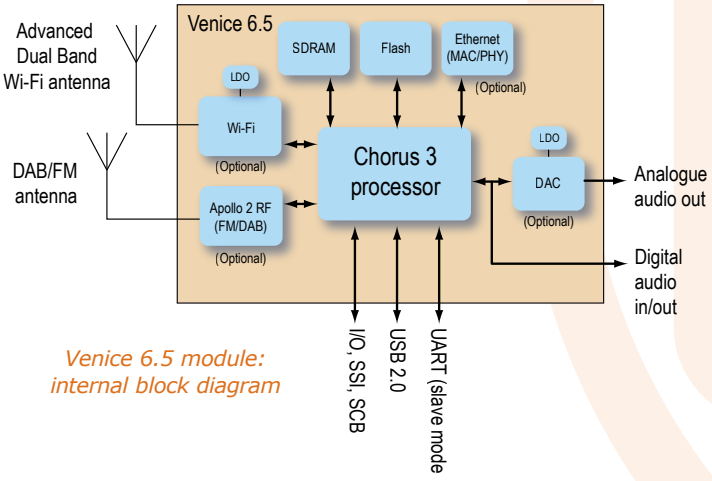
The Venice 6.5 FS2026-5 module is a complete hardware and software solution for Internet radio, DLNA, network streaming, UPnP, DAB/DAB+ and FM-RDS products. It provides the simplest and lowest-cost solution for high-quality audio streaming from live Internet radio stations or network-based music collections.

Venice 6.5 has been designed as part of a complete system including IR 2.5 software and the Jupiter 6.5 reference platform. The Venice 6.5 module can also operate in slave mode allowing full control to an external processor over Frontier's FSAPI communications interface.

Based around Frontier Silicon's powerful Chorus 3 processor, Venice 6.5 streams radio and music files in a variety of formats including AAC, AAC+, MP3, WAV, WMA and FLAC, enabling stand-alone network-based audio products.

Frontier Silicon provides modules pre-installed with software which can be configured to customer requirements.

Frontier Silicon provides the Jupiter 6.5 evaluation and reference platform, which can be used to enable rapid development of Venice 6.5-based systems.



Venice 6.5 module: internal block diagram

Modes

- Home network music streaming
- iPod/iPhone/iPad control including audio playback via dock connector or USB
- DAB/DAB+/DMB-R Digital Audio Broadcast radio
- FM radio reception with RDS
- Auxiliary input
- Audio playback from USB memory stick
- Live internet radio broadcasts
- DMR (Digital Media Renderer)

Connectivity

- 802.11a/b/g/n – WEP, WPA, WPA2 security
- USB 2.0 High Speed device/host
- iPod/iPhone dock via USB
- 10/100 Mbit/s Ethernet
- On-module audio DAC
- Digital audio output - I2S or S/PDIF
- SPI LCD interface
- Infrared remote control
- Keyboard presets, rotary encoder

Features

- Onboard dual band Wi-Fi antenna supporting 2.4 GHz and 5 GHz bands
- DAB (MPEG1) and DAB+ (AAC) decoding
- Wi-Fi Protected Setup (WPS2) for easy pairing with a home router
- Automatically software upgradable in the field through Internet or USB
- Audio post-processor on-module EQ
- FCC and ETSI Wi-Fi compliant - on-board PIFA antenna variant with FCC ID will be available.
- RoHS compliant
- Temperature range: operation 0 to +70°C; storage -40 to +85°C

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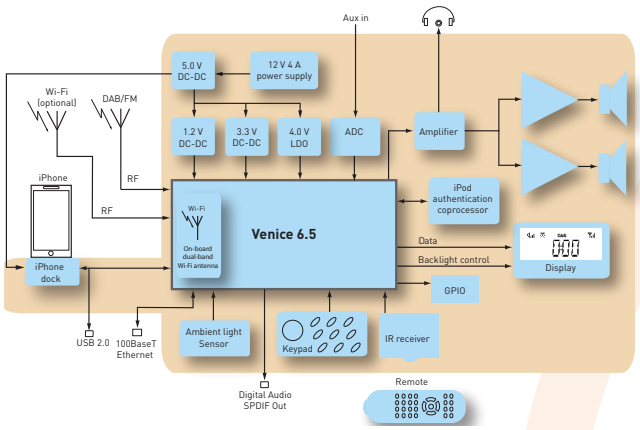
Description

The main components of the Venice 6.5 module are shown in the diagram opposite. These are the Chorus 3 baseband processor, SDRAM, Flash, Wi-Fi, Ethernet MAC/PHY and DAB/FM RF front-end (Apollo 2). Hardware interfaces include serial ports (SSI (SPI compatible), SCB (I²C compatible)). Analogue (line-level) and digital (S/PDIF and I²S compatible) outputs are available.

Build options

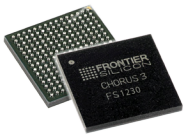
Product code		Wi-Fi	DAB	FM	Ethernet
FS2026-5	W	•			
	E				•
	WB	•	•	•	
	WF	•		•	
	WE	•			•
	WEB	•	•	•	•
	WEF	•		•	•



Typical Venice 6.5 application

Chorus 3 baseband processor

The Chorus 3 FS1230 baseband processor is the latest generation of integrated system-on-chip, providing an optimised solution for Internet radio, WorldDMB Profile 1, DAB, DAB+, DMB-Radio and FM-RDS broadcast receiver products. It incorporates a number of mixed-signal system components as well as an applications processor and advanced peripherals, providing significant space, cost and power savings.



Chorus 3 advanced baseband chip

Standards and certification

Venice 6.5, Jupiter 6.5 and IR 2.5 have been designed to operate seamlessly with the rest of the network audio world. The Jupiter 6.5 platform is tested to comply with EN55020, EN55013, CE (ETSI) and FCC (part-15) to assist suitable end-products based on this platform to obtain certification for industry standards; such as CE approval, iPod and iPhone certification, FCC, Wi-Fi Alliance and DLNA certification. For more information, contact Frontier Silicon.

See also:

Jupiter 6.5 Product Brief	FSM0010-7983
IR 2.5 Product Brief	FSM0010-8145

FCC statement

The Venice 6.5 module is conformant with FCC standards under "modular approval" only. This is intended to provide customers a convenient way to achieve conformity with FCC. The FCC ID for the Venice 6.5 module is YYX-HA-FS2026-F5.

DECLARATION OF CONFORMITY WITH FCC RULES FOR ELECTROMAGNETIC COMPATIBILITY

Frontier Silicon Limited declares under its sole responsibility that the product FCC-ID: YYX-HA-FS2026-F5, to which this declaration relates, complies with Part 15 of the FCC Rules in WiFi operating mode only.

It is the responsibility of the final product manufacturer to achieve conformance with Part 15 of the FCC rules for all other operating modes, in the final application.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

The manufacturer of the final product containing the Venice 6.5 module must ensure that the product includes an exterior label with the following wording: "Contains FCC ID: YYX-HA-FS2026-F5".

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