VENUS 2I-BT FS4053-B

Platform for low-cost Bluetooth™, DAB/DAB+/DMB-R/ FM and iPod dock

RADIOVIS GRAPHICS AND FULL REMOTE CONTROL VIA THE FRONTIER CONTROL APP

VENUS 2I-BT CONNECTED VIA BLUETOOTH TO SMART DEVICES

WIRED IPOD/IPHONE DOCK CONNECTION

APPLICATIONS

- **Bluetooth Smart Device wireless dock**
- **iPhone/iPod wired dock**

OVERVIEW

Venus 2i-BT is a WorldDMB Profile 1 evaluation design for price sensitive, entry level radio applications (DAB/DAB+/DMB-Radio and FM-RDS) with *Bluetooth* connectivity. Based on the Verona module running DAB 5.0 embedded software, Venus 2i-BT provides a flexible architecture, enabling OEMs to use the design as a starting point to speed development of custom products.

Venus 2i-BT provides a simple route to enable OEMs to produce smart device docking systems offering DAB radio, FM radio, *Bluetooth* connectivity and wired docking. Together with the Frontier Control App, the Venus 2i-BT platform provides an advanced, flexible and integrated audio system offering the ability to display programme-relevant text and full colour images.

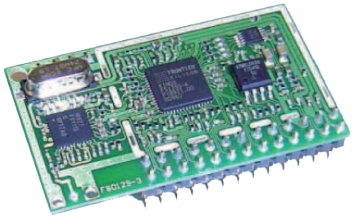
Customer deliverables

Venus 2i-BT is provided with an engineering design pack including specifications, schematics, gerbers, bill-of-materials and software. The *Bluetooth* module of your choice can be incorporated into the platform. Support is available to customise the platform for individual requirements.

PCB ARRANGEMENT

The fully-flexible evaluation design comprises Verona and *Bluetooth* modules with three main PCBs and one connector PCB.

- Verona module, 48 x 28 mm
- Bluetooth module, 30 x 48 mm
- Mainboard PCB: power and audio, 135 x 103 mm
- Keyboard and LCD PCB with 13 keys, 1 rotary encoder and display daughterboard, 120 x 50 mm
- Connector PCB, 38 x 96 mm
- iPod dock connector PCB, 41 x 66 mm



VERONA MODULE

FEATURES

- *Bluetooth* smart device wireless docking connection
- Switch between multiple paired devices
- iPod/iPhone wired docking connection
- Authentication coprocessor for Made for iPhone applications
- Smart device app remote control of radio, playback and audio streaming
- RadioVIS graphic display on connected smart device
- DAB/DAB+/DMB-Radio
- WorldDMB Profile 1 compliant
- FM with RDS
- Clock (with auto update)
- Multiple alarms with snooze / sleep
- Customisable number of presets
- Headphones output
- Stereo audio output
  - 2 x 2 W amplifier (into 4 Ω)
  - Digital volume control with optional mute function
  - Audio EQ preset and user-defined
- 2-line 16-character matrix display, optional icons and 7-segment clock digits
- Display backlight control
- Infrared port
- Power supply
  - AC/DC adaptor jack; DC 9 V
- Customisable user interface keypad with 14 tact switches
- USB socket for firmware upgrades
- CE compliant

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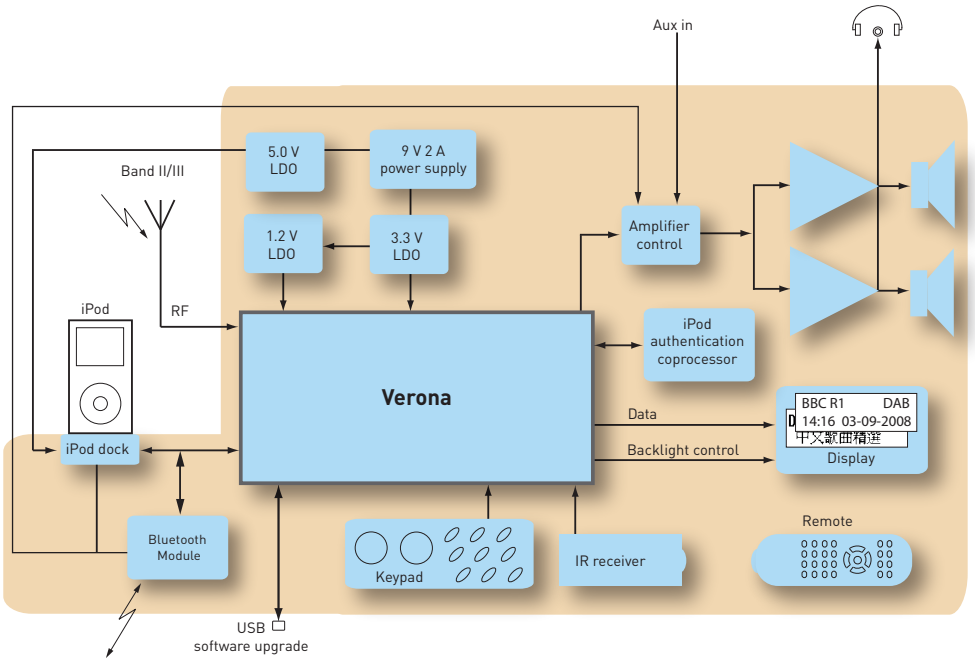

VENUS 2I BLOCK DIAGRAM

DESCRIPTION

The main components of the Venus 2i-BT platform are shown in the diagram above. These are the RF front-end, Verona module, customer selected *Bluetooth* module, keypad, display, amplifier control and power supply.

SOFTWARE AND USER INTERFACE

Frontier Silicon has made considerable investment in creating the most versatile, intuitive and flexible software available. Venus 2i-BT uses DAB 5.0 software which is customisable to OEMs' individual requirements. Venus 2i-BT supports a standard 2-line 16-character dot matrix display with optional icons and 7-segment time digits. It also enables use of connected smart device screens to provide a full colour interface with RadioVIS graphics via the Frontier Control App.

SPECIFICATION

DAB/DAB+/DMB-Radio	Sensitivity	-97 dBm (typical)
	Tuning range	174 - 240 MHz
FM	Sensitivity (@40 dB SNR)	-106 dBm (typical)
	Tuning range	87.5 to 108 MHz
THD	Mono	< 2%
Channel separation (FM)		> 35 dB
Audio power output (RMS)		2 x 2 W

STANDARDS AND CERTIFICATION

Verona and Venus 2i-BT have been designed to exceed WorldDMB's Profile 1 specification for basic digital radio throughout Europe and beyond, and also operate seamlessly with the rest of the digital audio world. As well as working with the standards shown, suitable end-products based on this platform should be able to obtain certification for various other industry standards; for more information, contact Frontier Silicon.