

VENUS-H2 REFERENCE PLATFORM - (ACTUAL SIZE)

## APPLICATIONS

- Handheld
- Battery powered
- Personal Radio

## OVERVIEW

The Venus-H2 provides a DAB/FM digital radio solution for personal radio products. The design is optimized to provide a compact device with excellent battery life, an integrated Li-Polymer battery giving approximately 10 hrs continuous DAB+ operation. A standard Micro USB interface supports both battery charging and firmware upgrade operation.

This personal radio platform provides a flexible input key interface with up to 5 hardware keys and supports Dynamic Label Plus (DL Plus), which enables DL messages to be selected and displayed by the user. The software also provides audio equalisation (EQ) functionality, multi-language support and preset stations.

## CUSTOMER DELIVERABLES

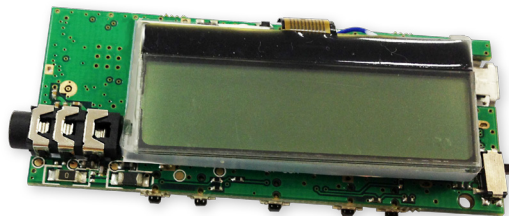
Venus-H2 is provided with a full engineering design pack including detailed specification, schematics, gerbers, 3D CAD design files, bill-of-materials, software, EMC and ESD compliance reports. Support is available to customise the platform for individual requirements.

The platform is production-ready and needs only industrial design tooling to finish off a complete high-quality personal DAB/FM radio.

## PCB ARRANGEMENT

The fully-flexible reference design comprises one 4-layer PCB.

- 4 Layer PCB, 64mm x 27mm

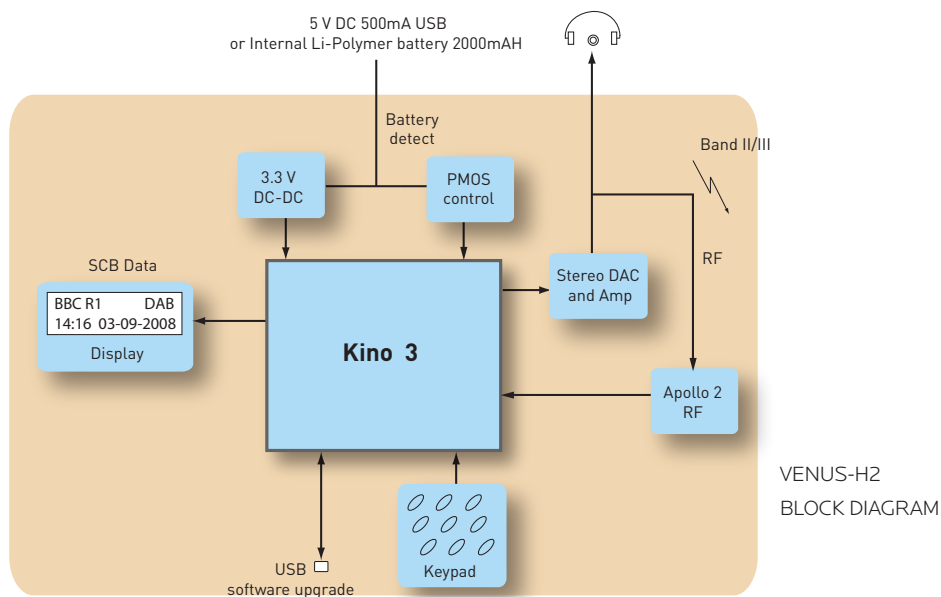


## FEATURES

- DAB Radio - DAB/DAB+.
- FM radio - Reception of audio and RDS data from FM broadcasts.
- Additional functions
  - Dynamic Label Plus (DL Plus) support
  - Software audio equalisation.
  - Customisable number of presets (FM/DAB).
  - Battery level/charging indicator.
- Power supply - 5V 500mA DC input via USB.
- Battery - Internal Li-Polymer battery (providing approximately 10hrs operation). Standard USB 500mA charging .
- Antennas - Receiving antenna is provided by the headphone cable.
- User interface
  - Support for a maximum of 5 keys.
  - Multi-language support.
  - Slide switch ON/OFF
- Display - 128 x 32 dot matrix display giving 2 x 16 character layout. Display backlight control.
- EQ - Built in audio equaliser.
- Audio output - Stereo audio headphone output.
- Connectivity - USB connector (Micro-B) for charging and firmware upgrade
- CE compliance - EMC:
  - EN55013:2001 (emissions)
  - EN55020:2007 (immunity).
  - Safety cert (BS 60950)

# VENUS-H2 FS4255

DAB/DAB+/DMB radio/FM personal digital radio solution with USB charging



## DESCRIPTION

The main components of the Venus-H2 platform are shown in the diagram above. The system consists of an RF front-end, Kino 3 baseband digital radio processor, keypad, display, amplifier control and power supply.

## SOFTWARE

Frontier Silicon has made considerable investment in creating versatile, intuitive and flexible software. Venus-H2 uses DAB 5.x software which is customisable to OEM's individual requirements.

## 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

## STANDARDS AND CERTIFICATION

Venus-H2 has been designed to exceed WorldDMB's Profile 1 specification for basic digital radio throughout Europe and beyond. 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.

