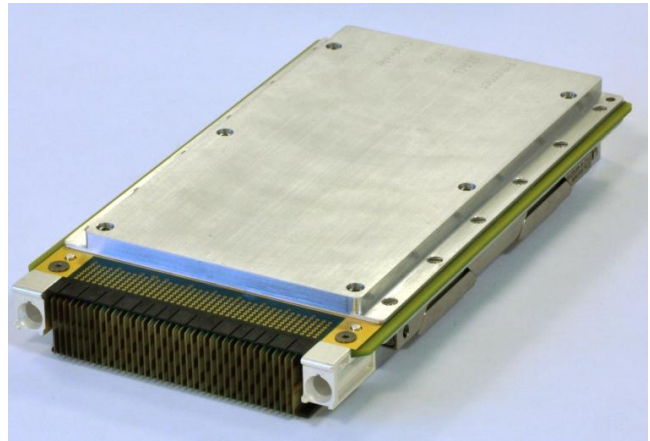
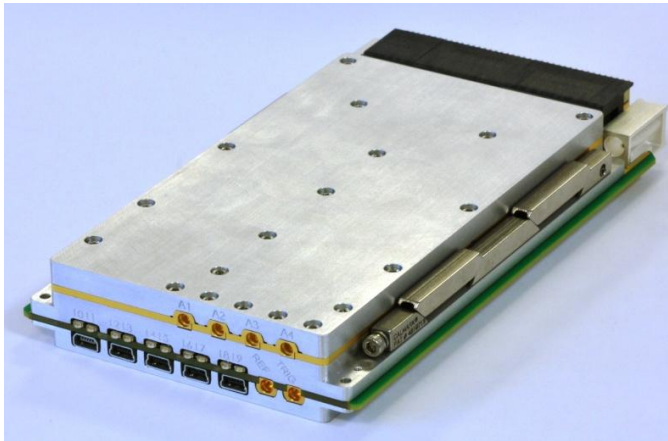




# VPX (VITA 46) Spectrum/Signal Analyser Module



## Powerful, Cost Effective Solution for Spectrum and Signal Monitoring for High Performance Applications

- **3U VPX (VITA 46) Module**
- **Development SDK for system integration and user software customisation**
- **10 MHz to 6 GHz**
- **Fast FFT real-time spectrum analyser: 20 MHz instantaneous bandwidth**
- **Multiple RF ports for multi-antenna operation**
- **Support for AOA and TDOA direction finding**
- **Flexible remote interfacing via high-bandwidth backplane connectivity**
- **Optional built-in Linux PC for local programmability and signal processing with C and Python scripting**

Capable of sweeping from 10 MHz to 6 GHz in less than 100 ms, the RFeye module is designed for easy integration with other VPX / VITA 46 system elements but can also be configured as a stand-alone, intelligent spectrum/signal acquisition system. Multiple RF inputs support direction finding (DF) using AOA (angle of arrival) techniques or allow comparison of signals from different antennas in SIGINT applications. The optional built-in Linux PC permits fully programmable autonomous operation, and timing and synchronisation features allows correlation of data between multiple RFeye modules when required, for instance when TDOA (Time Difference of Arrival) is being used to identify signal location. A flexible backplane interface allows the module to be configured to support multiple data transfer protocols, including emulation of legacy equipment where necessary.

### Features

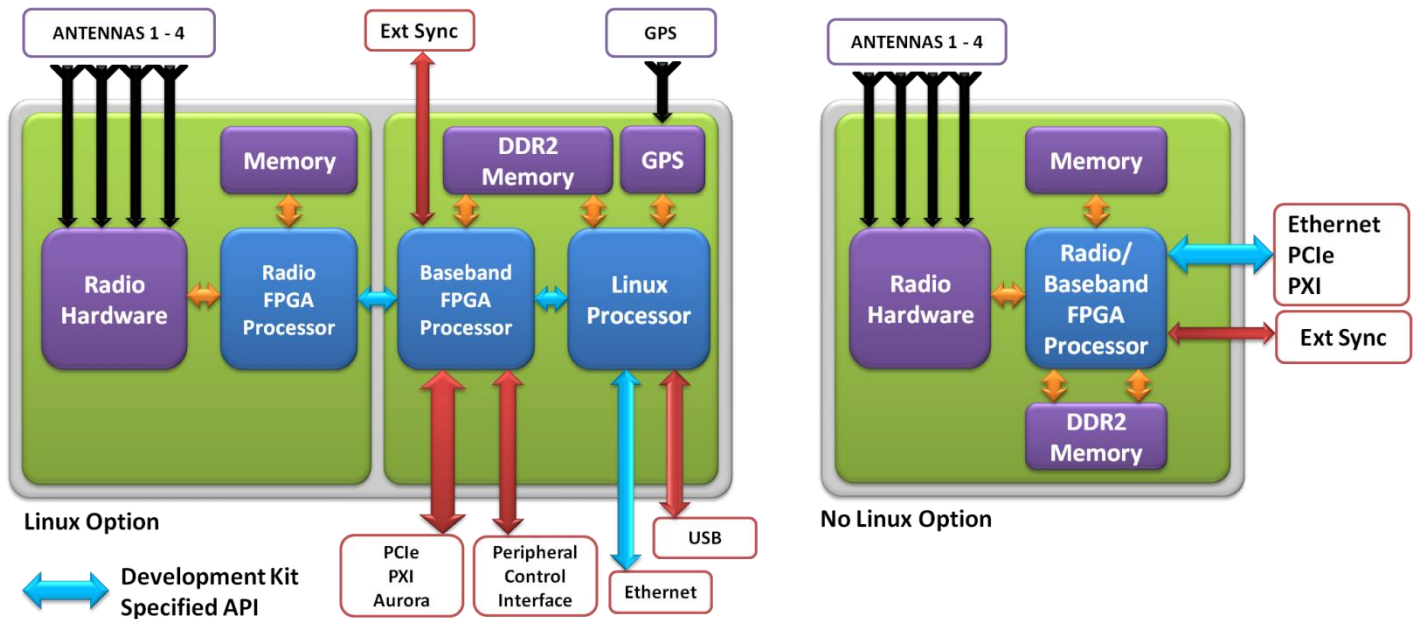
- Rugged, lightweight, compact, low power
- Wide frequency range: 10 MHz to 6 GHz
- Multiple RF ports to support multi-antenna operation
- Fast digital sweep captures transient signals more effectively than swept analysers or scanning receivers
- System architecture optimised for flexible real-time signal acquisition and data processing
- Optional built-in Linux PC supports user-programmable scan sequences and selective, intelligent (/adaptive) data acquisition



Innovative, integrated real-time  
Spectrum monitoring and management systems

# VPX (VITA 46) Spectrum/Signal Analyser Module

## Architecture



## Technical Specification

### Frequency

Range	10 MHz to 6 GHz
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### Internal Frequency Reference

Initial accuracy	better than $\pm 2$ ppm at 20°C
Stability	better than $\pm 1$ ppm (10°C to 30°C)
Ageing	better than $\pm 2$ ppm per year

### Sweep and Triggering

Sweep time	10 MHz - 6 GHz: less than 100ms*
Sweep mode	Fully programmable: Free run continuous, single, timed
Trigger on event	Fully programmable: user-definable masks, user-definable action when mask exceeded

### Signal Analysis

Real-time analysis bandwidth	20 MHz maximum
Equivalent resolution bandwidth	20 kHz min. (max. analysis b/w)
	2 kHz min. (reduced analysis b/w)

### Software Development Options

Linux OS version (with Opt 01)	2.6
Development environments	Full SDK C and Python development environment available

\*: Fast sweep mode

### Sensitivity (equivalent noise figures at maximum sensitivity)

10 MHz - 4 GHz	8 dB typical
4 GHz - 6 GHz	11 dB typical

### Signal Input

Input connector	Four switchable signal inputs
Maximum input level	+15 dBm; 15 VDC

### Interfaces

RF input	4 switchable inputs
DC power	10 - 24 VDC
Power consumption	12 - 18 W, radio operational 6 W typical, radio idle
Trigger input	1 pps
Reference clock input	10 MHz, 0.5 V rms
Ethernet (with Opt 01)	100 Base T
USB (with Opt 01)	1

### Mechanical

Dimensions (w h d)	170 mm x 100 mm x 24.5 mm (6.7 in x 3.9 in x 0.96 in)
Weight	600 g (1.3 lb)

### Environmental

Operating temperature	-30 to +55°C (-22 to 131 °F)
Storage temperature	-40 to +70°C (-40 to 158 °F)

## For more information