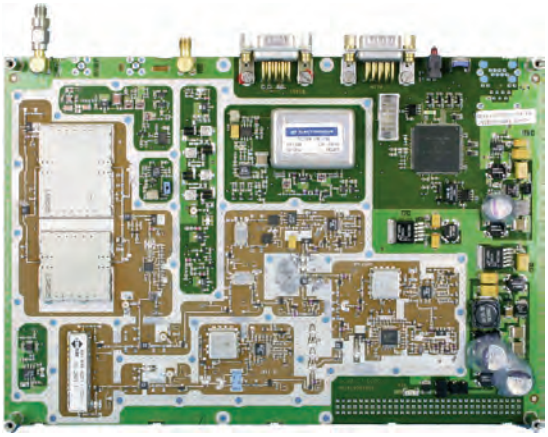
VME-RF- x2IF-y

RF Down-Converter board L/L-Up/UHF/VHF to 140 MHz

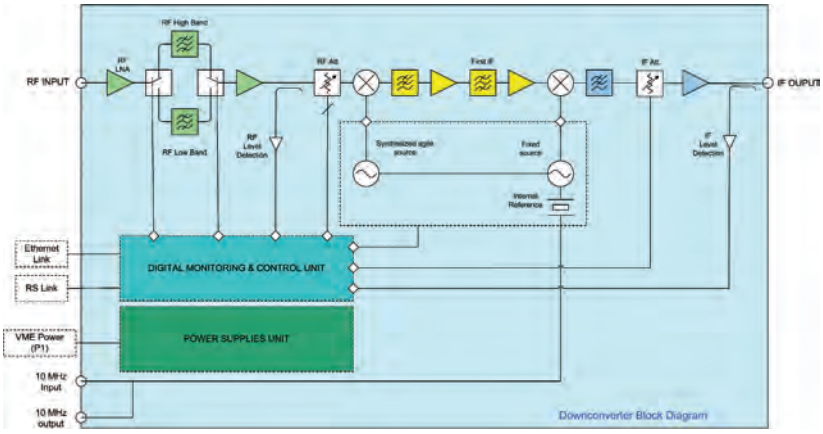
*Consult factory for 70MHz



IN-SNEC®

The complete Down Converter is mounted on a VME board. It consists of RF LNA, filters and attenuator , an up conversion mixer, a cascade low-pass and band-pass image filters, a down conversion mixer, an IF low-pass and variable attenuator, RF/IF power detectors, an agile and a fixed frequency synthesizers, a digital control unit and a power supplies unit.

The dual conversion architecture combined with the on-board RF-band prefiltering enables to idealy manage the frequency plan and results in very low spurious level.



Applications

- Agile transportable stations
- VHF/UHF/L/L-Up bands Down Converters for SDR products

Main Features

- This board down converts either the VHF, UHF, L or L-Up input frequency band in an 140 MHz Intermediate Frequency
- The Intermediate Frequency 0.5 dB bandwidth is ±20 MHz for VHF/UHF Down Converters and ±40 MHz for L/L-Up Down Converters
- Remote management
  - RF/IF level detection
  - RF/IF attenuation value
- The set is ready for use and delivered with the complete suite of C source code drivers

Main Benefits

- Ultra low phase noise
- Ultra low spurious level
- RF/IF power detection
- Adjustable gain
- High dynamic
- No spectrum inversion
- Ultra compact frequency converter

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VME-RF-x2IF-y

Technical specifications

Analog inputs

IF input quantity	1
Input frequency	configurable at factory
VHF	230 - 470 MHz
UHF	470 - 950 MHz
L	950 - 2150 MHz
L-Up	1500 - 2500 MHz
10 MHz	3 dBm ± 3 dB

Frequency conversion

Gain max	≥ 45 dB
Attenuation	
VHF / UHF	0 to 30 dB (0.5 dB step)
L / L-Up	0 to 50 dB (0.5 dB step)
Synthesizer step	100 Hz
Noise figure	< 15 dB
IP3	> 28 dBm
PS1	≥ 15 dBm
Spurious	≤ –60 dBc
Image frequency rejection	≤ –60 dBc

Phase noise @ frequency offset from carrier, typical

–75 dBc/Hz	@ 100 Hz
–85 dBc/Hz	@ 1 kHz
–85 dBc/Hz	@ 10 kHz
–95 dBc/Hz	@ 100 kHz
–110 dBc/Hz	@ 1 MHz
–120 dBc/Hz	@ 10 MHz

Internal reference	50 MHz - (2 ppm) (lockable on the external 10 MHz)

Analog outputs

External reference level	3 dBm ±3 dB	
IF	140 MHz *for 70 MHz consult factory*	
IF bandwidth		
VHF / UHF	@ 0.5dB	± 20 MHz
L / L-Up	@ 0.5dB	± 40 MHz

Interfaces

VME connector	P1
RF	SMA female
IF	SMA female
10 MHz input	SMA female
10 MHz output	SMA female
Ethernet	RJ45, 10 baseT

MODEL TABLE

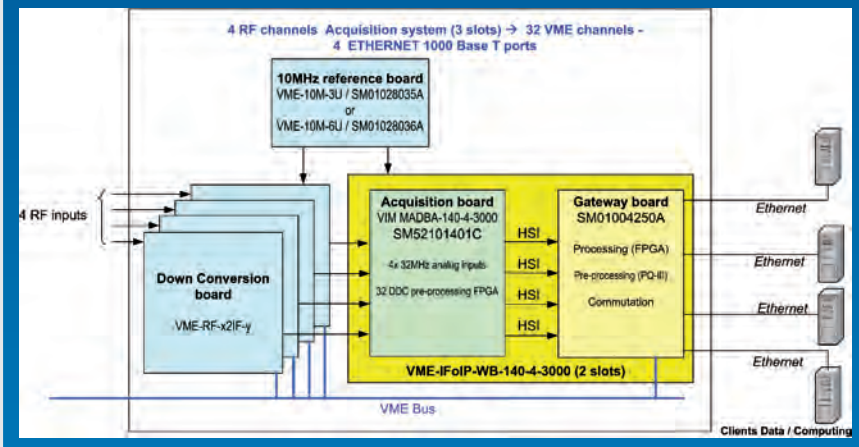
IN-SNEC® VME-RF-x2IF-y*

*x = L for L-band / LU for L-Up band / U for UHF band / V for VHF band

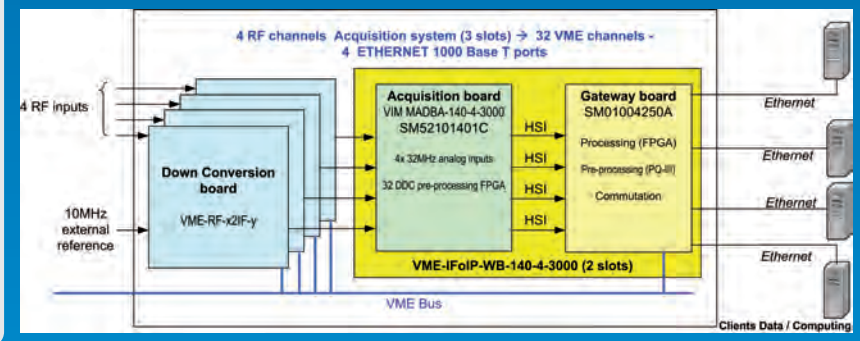
*y = 140 MHz / *consult factory for 70 MHz*

VME-RF-L2IF-140	**SM01022485A**
VME-RF-LU2IF-140	**SM01021473A**
VME-RF-U2IF-140	**SM01009785A**
VME-RF-V2IF-140	**SM01009787A**

Wide band acquisition example with 10 MHz internal Reference



Wide band acquisition example with 10 MHz external Reference



Mechanical characteristics

Dimensions VME	91.7x63x7.4" (233x160x19 mm) (1 slot VME double Europe, 1 slot)	
Power consumption	20 W	
Voltage supply	5 & 12 VDC	
Temperature	operating	0 to +50°C
	storage	–30 to +80°C
Relative humidity	storage	0 to +90°%

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