

Preliminary Product Information: Rev 1B, Issue Mar 2011, Revised May 2013

Reconfigurable four-segment digital filter EDF80 provides for excellent selectivity and ability to change performance characteristics through software.

KEY FEATURES

- Digital processing based filtering
- Fully reconfigurable through software
- Up to four non-contiguous spectrum bands
- Up to two hardware channels
- Each band is as wide as 35MHz
- Three IF frequency ranges on order:
0-80MHz, 80-160MHz and 160-240MHz
- Compact design for easy installation
- Extended range of supply voltages:
+9V up to +24V (from +5V available on order)
- Status indicating LEDs
- Simple control: USB, SPI
- Different configurations on-Board

APPLICATION AREAS

- IF chains
- Receivers
- Cable networks
- Laboratories

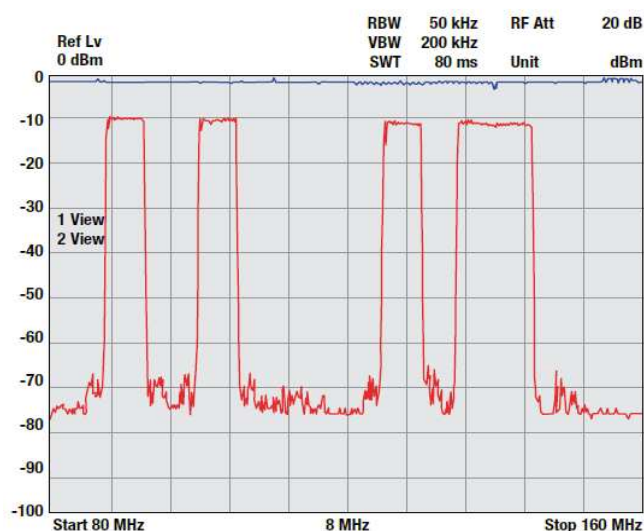


Figure 1: EDF80 transfer function example.

PRODUCT DESCRIPTION

The EDF80 kit represents Rantelon's high-performance digital solutions, including the 220MSPS 14-bit ADC, 800MSPS 16-bit interpolating DAC, low jitter clock generator and distribution circuit. Integrated into EDF80 supervising microcontroller module and CPLD provide for reliable work in real conditions.

The performance of systems based on analog filtering devices typically requires a combination of fine-tuning and unique manufacturing process to achieve the required performance. The operating characteristics of digital filtering devices are easily programmable. The possibility to set the parameters of digital filter EDF80 through a software makes every filter performance completely predictable and repeatable. Programming of the EDF80 digital filters typically takes only one small part of the time normally required to fine-tuning the performance of comparable analog filters.

Four-segment filter can be reconfigured in custom desired way:

- adjustable bandwidth and center frequency of each band
- adjustable number of bands
- adjustable gain of each band

The EDF80 is equipped with new switching power supply module allowing extended range of input voltages: +9V up to +24V. Additional LEDs indicate proper power supply and different activities of digital nodes.

TECHNICAL SPECIFICATIONS

Parameter	Specification
Frequency range <i>one of three on order</i>	0-80MHz 80-160MHz 160-240MHz
Number of hardware channels	1 up to 2
Number of independent band-segments in each hardware channel	1 up to 4
Band-segment center frequencies	Adjustable through software
Band-segment bandwidth <i>Reconfigurable through software</i>	Defined by software 3kHz-35MHz
Band-segment gain	-30dB up to 0dB (<i>step 1dB</i>)
Absolute delay <i>Depends on filter bandwidth</i>	2us up to 20us
Insertion loss	10dB
Attenuator adjust range	30dB (<i>step 1dB</i>)
Return loss	10dB
Image rejection ratio	10dBc
Input signal maximum level	+0dBm (<i>other numbers on order</i>)
Input noise floor	-70dBm (<i>other numbers on order</i>)
Supply voltage	DC: +9...+24V (<i>from +5V on order</i>)
Current consumption	1.7A@9V, 0.65A@24V
RF connector	SMA-Female (<i>other types on order</i>)
Pure dimensions	120 x 200 x 40mm

Rantelon reserves the right to change the specification without any notice.