



SMART RF Deck

FEATURES

- Tuning range 0.5 to 18 GHz
- 1GHz IF with 500 MHz BW and 160 MHz or 140 MHz IF with 100 MHz BW
- > 65 SFDR
- Modular Brick Housing
- Tuning Speed: < 50 usec Optional DDS based Synthesizer
- Supports independent and phase coherent operation
- 15 Watts Total Power

DESCRIPTION

The SMART RF Deck is the heart of iRF's Scalable, Modular, Architecture for Receive/ Transmit applications. The SMART RF Deck takes advantage of recent advances in microelectronics technology which enables superior SWAP reductions and overall RF performance. The SMART concept enables cross platform portability including WideRail, VME/VPX and non-standard form factors. The brick is also available as a standalone product. Coupled with our state of the art SMART iDSP Processor iRF now offers an RF to 10 GigE Software Defined Radio. The benefits of SMART to our customers include ease of reconfiguration for platform migration, reduced design cycle time and lower cost/ price.

The SMART RF Deck offers superior performance when compared to our competition at a fraction of the size, weight, power and cost.

SMART RF Deck

SPECIFICATIONS AT 25° C

Frequency Range

0.5 to 18 GHz

Max signal amplitude

+20 dBm without damage

Noise Figure

15 dB, max. 12 dB Typ.

Input IP3

≥ +5 dBm

Second order input intercept point

≥+50 dBm

IF Outputs

160 MHz ,140 MHz optional

1 GHz

IF Bandwidths

500 MHz @ 1 GHz

100 MHz @ 160 MHz or 140 MHz

Image and IF Rejection

≥70dB

Frequency stability

≤ ±1 ppm

Tuning Speed

≤ 50 usec

Integrated Phase Noise

≤ 0.5° rms (100 Hz to 10 MHz)

Single Tone Spurious Free Dynamic Range

≥ 60 dB, 65 dB typ.

RF to IF Gain

+15 dB

RF Attenuation

0 to 20 dB

IF attenuation

0 to 30 dB

LO leakage

< -90 dBm

Internally generated spurious

<-90 dBm

Phase Coherent

Through use of daisy chained LOs

Linear Dynamic Range

> 90 dB in a 1MHz bandwidth

Passband Flatness

± 1dB typ. over 100 MHz BW

± 1.5dB typ. over 500 MHz BW

Power

15 Watts nominal

Weight

0.65 Lbs.

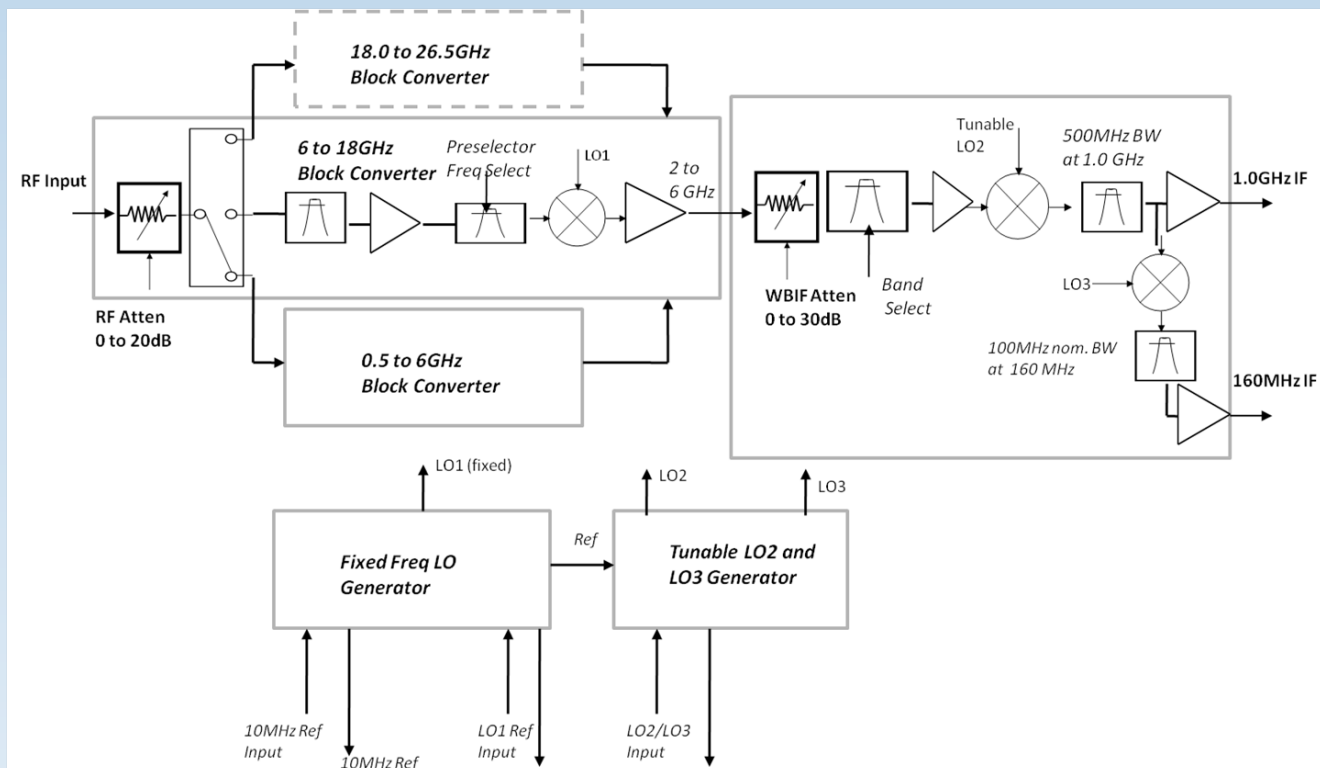
Dimensions

0.6" x 4" x 6"



SMART RF Deck

BLOCK DIAGRAM



OUTLINE

