



BLOCK DOWN CONVERTER

IF Output 25MHz~200MHz
RF Input 2.30GHz~2.50GHz



Summary

RFBDC2G3GA down-converter unit uses the phase lock technology, and it uses the crystal oscillator with temperature compensating function as the referenced signal of PLL, what's more, it uses the low phase noise Analog Device ADF4107BRS as the frequency synthesizer chip of PLL. So the frequency of its inner part LO has a good stability in a wider temperature range.

RFBDC2G3GA Down-converter use two band pass filter inside so that It can give better out band rejection.

General Specification

IF Output frequency: 25MHz~200MHz
 RF Input frequency: 2.30GHz~2.50GHz
 External reference 10MHz interface available.
 Frequency stability 2×10^{-6} / Hour
 Frequency hopping < 10ms / 5MHz
 High linearity low spurious in / out band
 Handle high peak to average ratio signal such as OFDM, QPSK, DSSS signal.
 Ideal for point to point radio station.
 Small package, high mobility.

Electrical Specifications

RF input range	2.30GHz-2.50GHz	IF Output Frequency	25-200MHz
P1dB	+13dBm	Stability	2×10^{-6}
Conversion Gain:	60dB \pm 0.5dB $\Delta G/\Delta T=0.03\text{dB}/^\circ\text{C}$	In/ Out VSWR:	1.5 : 1
Flatness:	+/-2.0dB max.	Frequency step	0.5MHz
In-Band spurious	65dBc min. (-10dBm output)	Out-Band Spurious	50dBc min (-10dBm output)
LO Phase Noise	-110dBc/Hz (100KHz offset)	Reference	10MHz external reference (GPS)
Input Power	-20dBm (Max)	DC Voltage:	+11VDC~+15VDC (2W)

Mechanical and Environmental Specifications

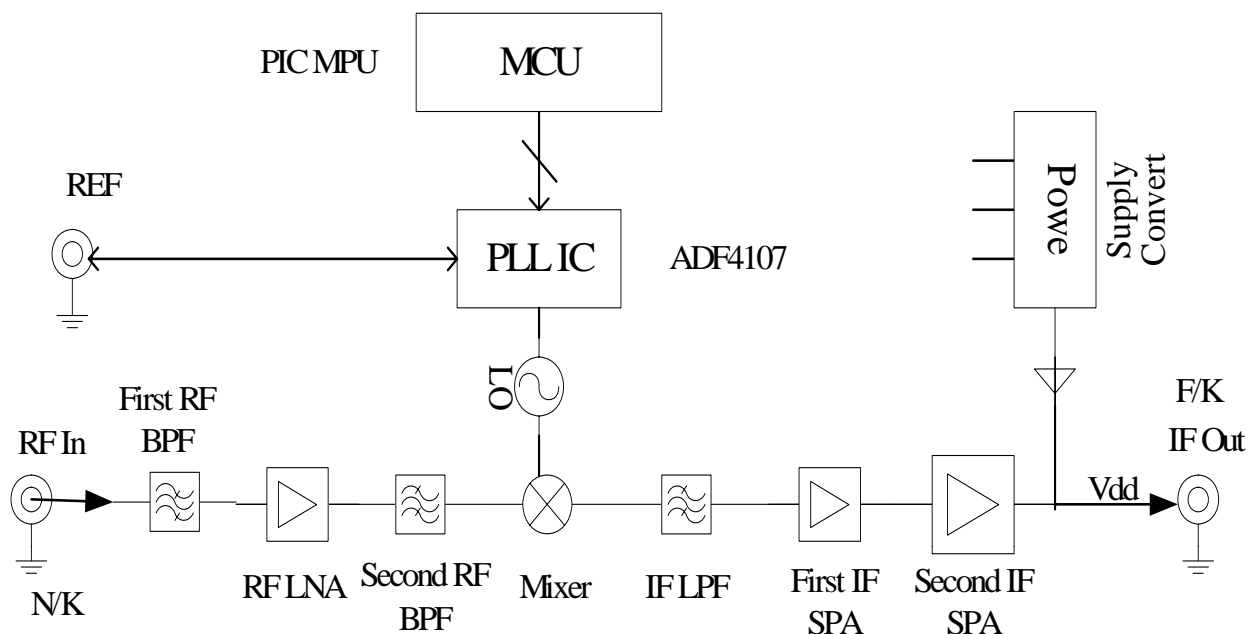
Operation Temperature:	-40°C to 85°C base plate	Mechanical shock	30G, 11mSec half sin wave, 3 axis both directions
Vibration:	14.2g RMS (15-2000Hz) functional	Humidity	95% relative humidity, 65°C 96Hour
	16.2g RMS (15-2000Hz) endurance, 1 hour /axis	MTBF	50000 hour min
Connectors:	RF SMA-F / N-F Removable	Case:	Sea Gray Paint
	Power Supply feed in through IF port.	Dimension Size (L x W x H):	133.5mm x 85.5mm x 30.5mm



2.30GHz-2.50GHz DOWNCONVERTER TESTING TABLE

Output IF Frequency (MHz)	Input RF Frequency 2.30GHz				Supply Current (mA)
	Output IF Parameter	-20 Deg	+25 Deg	+70 Deg	
2300	Gain (dB)	51.2	60.5	50.8	160
	NF (dB)		3.54		
	P1dB (dBm)		13.1		
Output IF Frequency (MHz)	Input RF Frequency 2.4GHz				Supply Current (mA)
	Output IF Parameter	-20 Deg	+25 Deg	+70 Deg	
2400	Gain (dB)	51.2	50.1	50.5	160
	NF (dB)		3.92		
	P1dB (dBm)		13.3		
Output IF Frequency (MHz)	Input RF Frequency 2.50GHz				Supply Current (mA)
	Output IF Parameter	-20 Deg	+25 Deg	+70 Deg	
2500	Gain (dB)	51.5	50.5	51.5	160
	NF (dB)		3.90		
	P1dB (dBm)		13.4		

BLOCK DIAGRAM



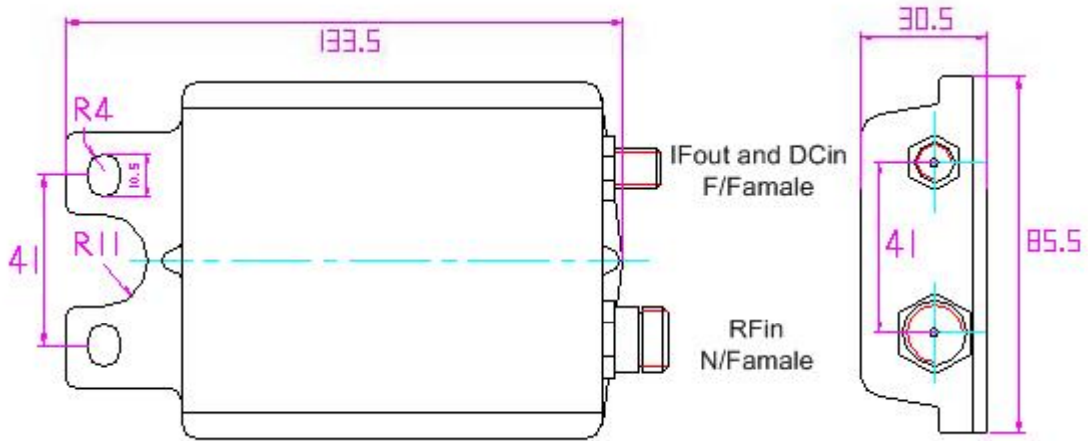


RF-LAMBDA

The power beyond expectations

RFBDC2G3GA

MECHANICAL DRAWING



FREQUENCY BLOCK DOWN CONVERTER 2.30GHZ-2.50GHZ