



RF-LAMBDA

The power beyond expectations

RFBDC4G5GA

BLOCK DOWN CONVERTER

IF Output 200MHz~800MHz
RF Input 4.40GHz~5.0GHz



Summary

RFBDC4G5GA 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.

RFBDC4G5GA Down-converter use two band pass filter inside so that It can give better out band rejection.

General Specification

IF Output frequency: 200MHz~800MHz
 RF Input frequency: 4.40GHz~5.00GHz
 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	4.40GHz-5.00GHz	IF Output Frequency	200-800MHz
P1dB	+13dBm	Stability	2×10^{-6}
Conversion Gain:	47dB \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	-16dBm (Max)	DC Voltage:	+11VDC~+15VDC (2W)

Mechanical and Environmental Specifications

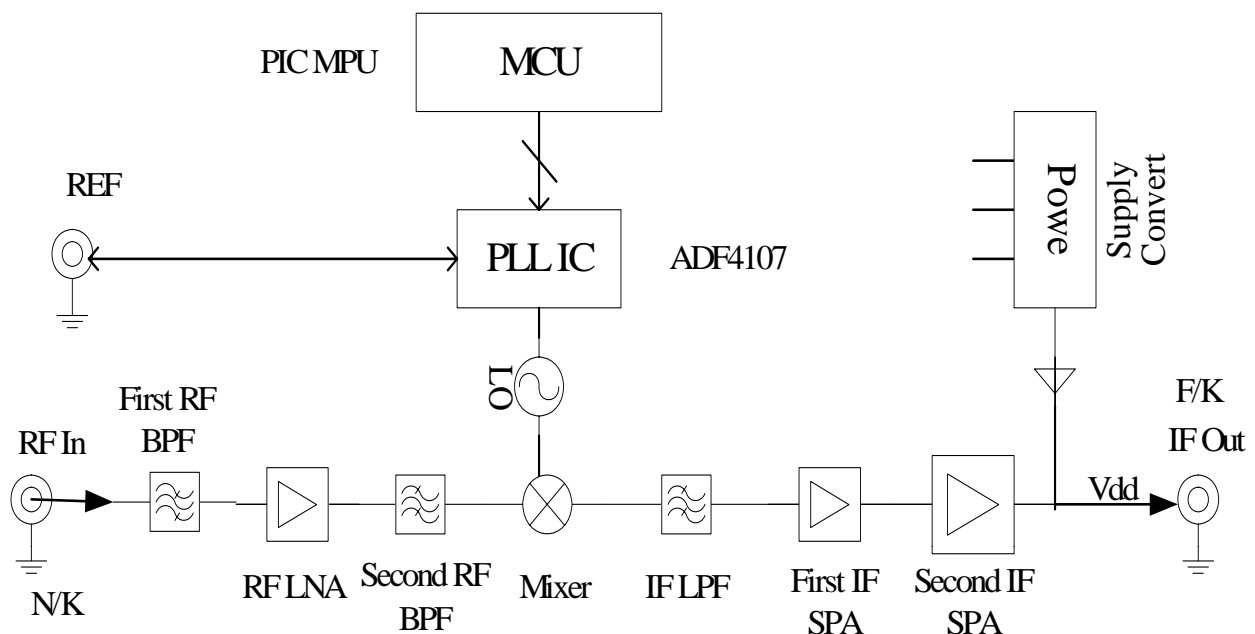
Operation Temperature:	-40°C to 85°C base plate	Mechanical shock	30G, 11mSec half sin wave, 3 axis both directions
Vibration:	14.2g RMS (15-2000Hz) functional	Humidity	95% relative humidity, 65°C 96Hour
	16.2g RMS (15-2000Hz) endurance, 1 hour /axis	MTBF	50000 hour min
Connectors:	RF SMA-F / N-F Removable	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

FREQUENCY BLOCK DOWN CONVERTER 4.40GHz-5.00GHz



4.4-5.0GHz DOWNCONVERTER TESTING TABLE					
Output IF Frequency (MHz)	Input RF Frequency 4.4GHz				Supply Current (mA)
	Output IF Parameter	-20 Deg	+25 Deg	+70 Deg	
200	Gain (dB)	50.1	48.7	47.2	162
	NF (dB)		3.84		
	P1dB (dBm)		13.2		
Output IF Frequency (MHz)	Input RF Frequency 4.7GHz				Supply Current (mA)
	Output IF Parameter	-20 Deg	+25 Deg	+70 Deg	
500	Gain (dB)	52.4	50.1	48.6	162
	NF (dB)		3.9		
	P1dB (dBm)		13.1		
Output IF Frequency (MHz)	Input RF Frequency 5.0GHz				Supply Current (mA)
	Output IF Parameter	-20 Deg	+25 Deg	+70 Deg	
750	Gain (dB)	49.2	48.6	47.1	162
	NF (dB)		3.93		
	P1dB (dBm)		13.1		

BLOCK DIAGRAM



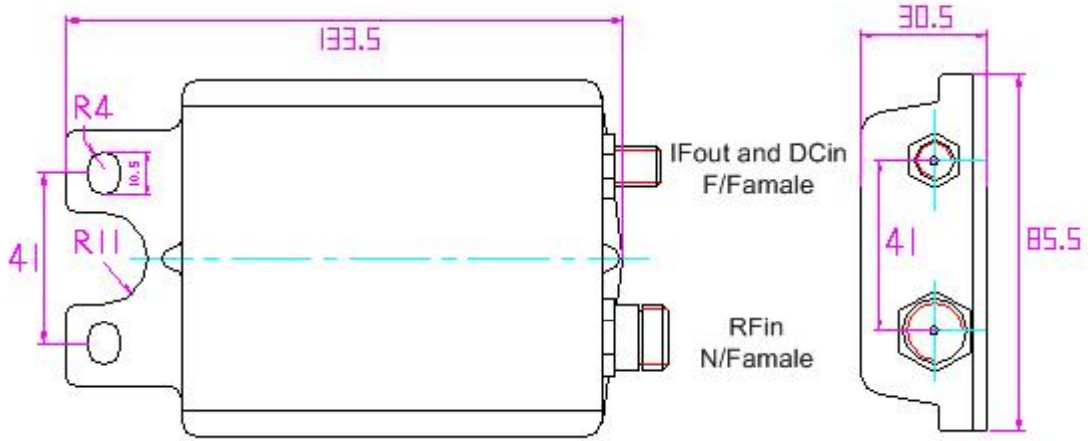


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MECHANICAL DRAWING



FREQUENCY BLOCK DOWN CONVERTER 4.40GHZ-5.00GHZ