BLOCK DOWN CONVERTER

IF Output 200MHz~800MHz
RF Input 19.85GHz~20.20GHz

Summary

RFBDC19G20GA 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.

RFBDC19G20GA Down-converter use two band pass filter inside so that It can give better out band rejection.

General Specification

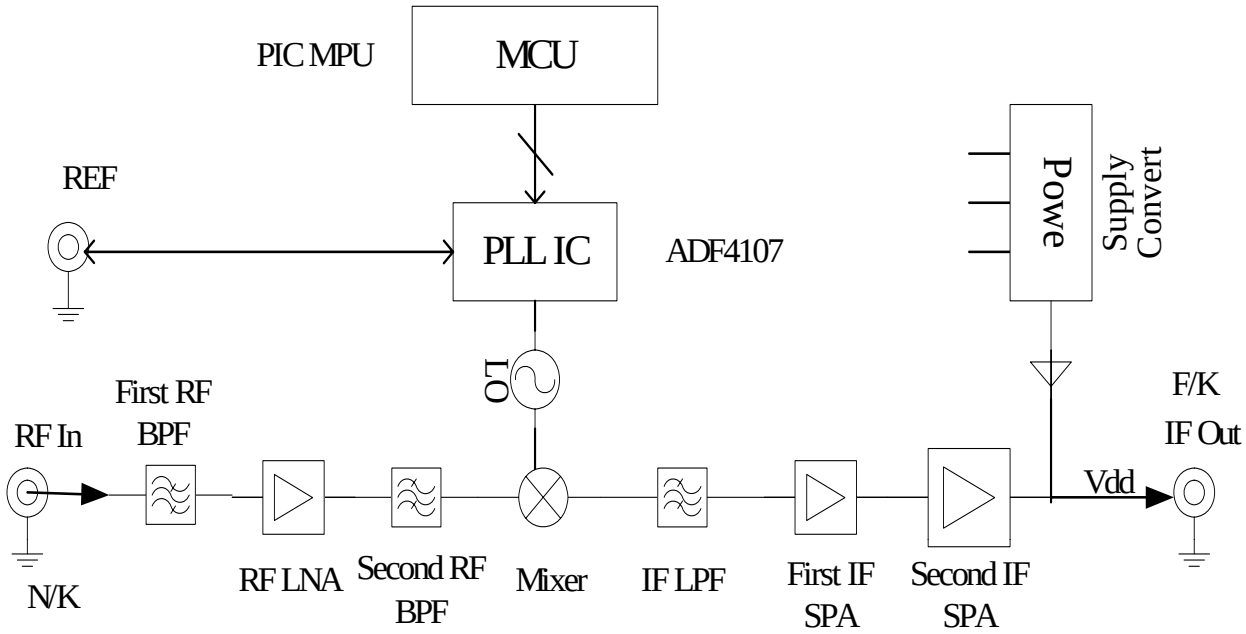
IF Output frequency: 200MHz~800MHz
RF Input frequency: 19.85GHz~20.20GHz
External reference 10MHz interface available.
Frequency stability 2x10E –6 / Hour
Frequency hoping <10mS / 5MHz
High linearity low spurious in / out band
Handle high peak to average ratio signal such as OFDM, QPSK, DSSS signal.
Ideal for point to point radio station.
Small package, high mobility.

Electrical Specifications			
RF input range	19.85GHz-20.20GHz	**IF Output Frequency**	200MHz-800MHz
P1dB	+10dBm	**Stability**	2 X 10 E-6
Conversion Gain:	50dB ± 0.5dB ΔG/ΔT=0.03dB/℃	**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

FREQUENCY BLOCK DOWN CONVERTER 19.85GHz-20.20GHz

19.85GHz-20.20GHz DOWNCONVERTER TESTING TABLE					
Output IF Frequency (GHz)	Input RF Frequency 19.85GHz				
	Output IF Parameter	-20 Deg	+25 Deg	+70 Deg	Supply Current (mA)
19.85	Gain (dB)	51.35	50.54	50.62	160
	NF (dB)		3.32		
	P1dB (dBm)		13.13		
Output IF Frequency (GHz)	Input RF Frequency 20.05GHz				
	Output IF Parameter	-20 Deg	+25 Deg	+70 Deg	Supply Current (mA)
20.05	Gain (dB)	50.25	50.34	50.45	160
	NF (dB)		3.62		
	P1dB (dBm)		13.30		
Output IF Frequency (GHz)	Input RF Frequency 20.20GHz				
	Output IF Parameter	-20 Deg	+25 Deg	+70 Deg	Supply Current (mA)
20.20	Gain (dB)	51.22	50.2	51.24	160
	NF (dB)		3.94		
	P1dB (dBm)		13.4		

BLOCK DIAGRAM



MECHANCIAL DRAWING