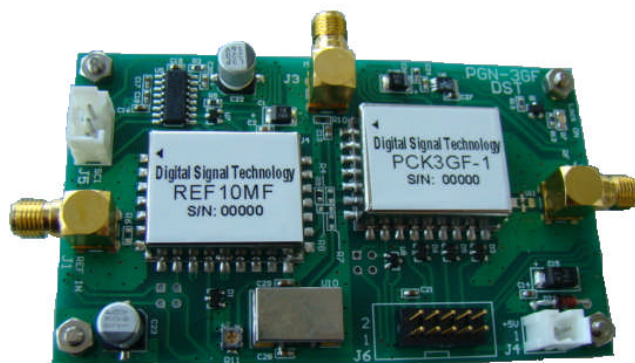


# Programmable Frequency Synthesizer

## PGN3GF-1



### Features

- Low phase noise
- 1KHz step
- Wide band 50MHz~3000MHz
- +5V single power supply



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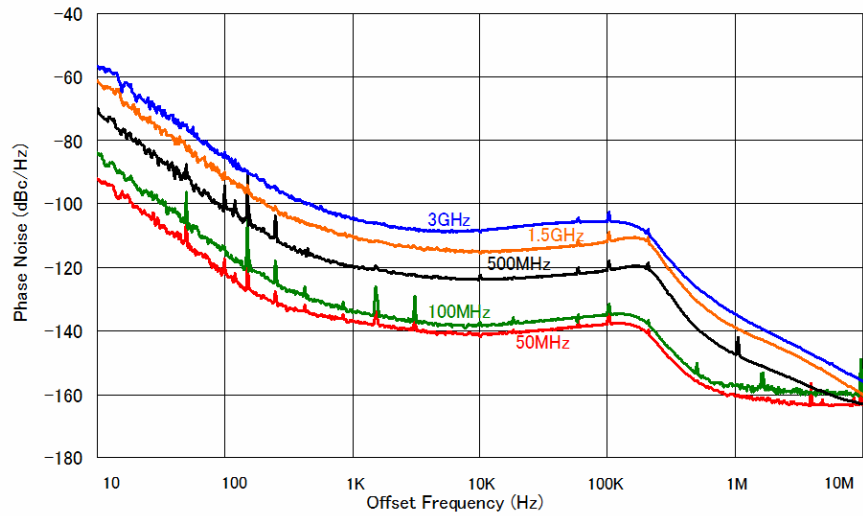
## ● General Description

PGN3GF-1 is an open framed, non-enclosed signal generator board, equipped PCK-3GF-1 and PLL reference clock. REF 10MF, PGN3GF-1 can generate any desired clock signals with 1 KHz resolution in an extremely wide band of 50MHz to 3000MHz.

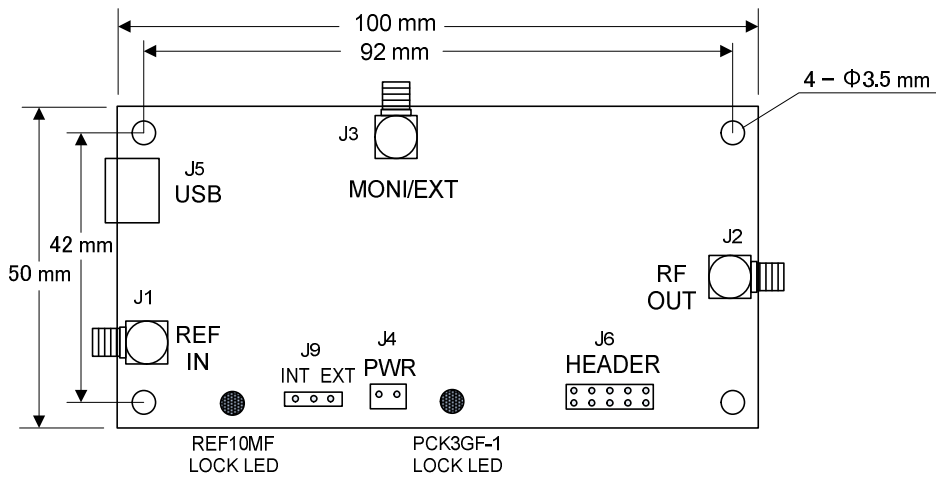
## ● Specification

Output frequency range	50~3000MHz	
Frequency resolution	1KHz	
Phase Noise 3GHz (typical)	-55 dBc/Hz	@ 10 Hz
	-85 dBc/Hz	@ 100 Hz
	-104 dBc/Hz	@ 1 KHz
	-105 dBc/Hz	@ 10 KHz
	-105 dBc/Hz	@ 100 KHz
	-132 dBc/Hz	@ 1 MHz
	-155 dBc/Hz	@ 10 MHz
Remarks: The above phase noise is measured with REF10FM reference clock oscillator.		
Spurious	max -65dBc (except harmonics)	
Output harmonic level	max -8dBc	
Output level	>+10dBm	
External reference clock and level	10MHz: +6dBm - +10dBm sine wave or square wave TTL/CMOS level input possible	
External reference clock input impedance	1K $\Omega$	
Lock range on external clock mode	10MHz+/-25ppm and more	
Frequency accuracy on internal clock mode	+/-15ppm and less 0 - +60 degree C	
Unlock output	Lock: High level    Unlock: Low level 3.3V CMOS level	
Lock time	Max 40m sec	
Operating temperature range	0 - +60 degree C	
Storage temperature range	-30 - +70 degree C	
Dimensions	100 x 50 (mm)	
Power supply	+5V+/-5%    max 550mA	
Interface	(1) USB2.0	
	(2) SPI serial communication	3.3V CMOS level 3 byte data (24 bit)

● Phase Noise



● Outer dimension



● Connector Name and description

Number	Name	Description
J1	REF IN	10MHz reference, Output impedance: 1K ohm Connector: SMA-J
J2	REF OUT	Output pin Connector: SMA-J Output impedance: 50Ω
J3	MONI/EXT	Monitor Output for 100MHz reference clock Level: more than 0dBm (50Ω terminated) Connector: SMA-J
J4	PWR	Power input +5V Connector part number: DF1BZ-2P-2.54DSA (Hirose)
J5	USB	USB interface terminal USB part number: USB-Mini-B

J6	HEADER interface	SPI control, Unlock signal, Power supply pin Connector: 2.54mm pitch, 5x2 pin header Connector part number: PS-10PE-D4T1-PN1 (JAE)
J9	EXT/INT	Internal and external switching jumper pin for REF10MF

**J6 Connector pin assignment**

Number	Name	Description
1	GND	Power Supply/signal GND
2	GND	Power Supply/signal GND
3	+5V	Power input +5V Not using PWR connector, the power can be supplied from here
4	+5V	The same as above
5	LOCK	PLL lock status output 3.3V CMOS
6	/CS	Chip select under SPI mode Input low active 3.3V CMOS internally pulled up
7	LOCK	PLL lock status output of REF 10MF 3.3V CMOS
8	SDI	Serial clock input under SPI mode 3.3V CMOS
9	NC	Not used
10	CLK	Serial clock input under SPI mode 3.3V CMOS