

PN9100B ultra low jitter Clock Synthesizer

2 MHz to 18 GHz

Preliminary Datasheet

NOISE XT

The PN9100B is an affordable 18 GHz synthesizer that exhibits outstanding phase noise and jitter performance in a small package that fits inside the DCNTS or an extension chassis if two are required.

With -175 dBc/Hz phase noise floor at 10 MHz, the PN9100B is the lowest phase noise compact clock synthesizer of the industry that can help you challenge tomorrow's requirements for high speed, high bandwidth Software Defined Radio applications (SDR) and low phase noise PLL and DDS synthesis.

Its high power output is ideal to drive mixers' LO inputs or high-speed digital clocks. Its very low jitter profile makes ADC and DAC testing more accurate. This source is often cleaner than a crystal oscillator and can offer a high SNR, up to 135 dB.

Internal control helps you seamlessly integrate this tool in your test DCNTS. Two PN9100B can be controlled completely independently and do not have to share any common reference frequencies.

With its internal ultra low phase noise OCVCXO allows the synthesizers to reach their best specification and if this is not enough, the external 10 MHz reference input will extend its long term frequency stability (Allan variance) to the one of atomic clocks.

Specifications below describe the RF inputs and Outputs of the synthesizer.

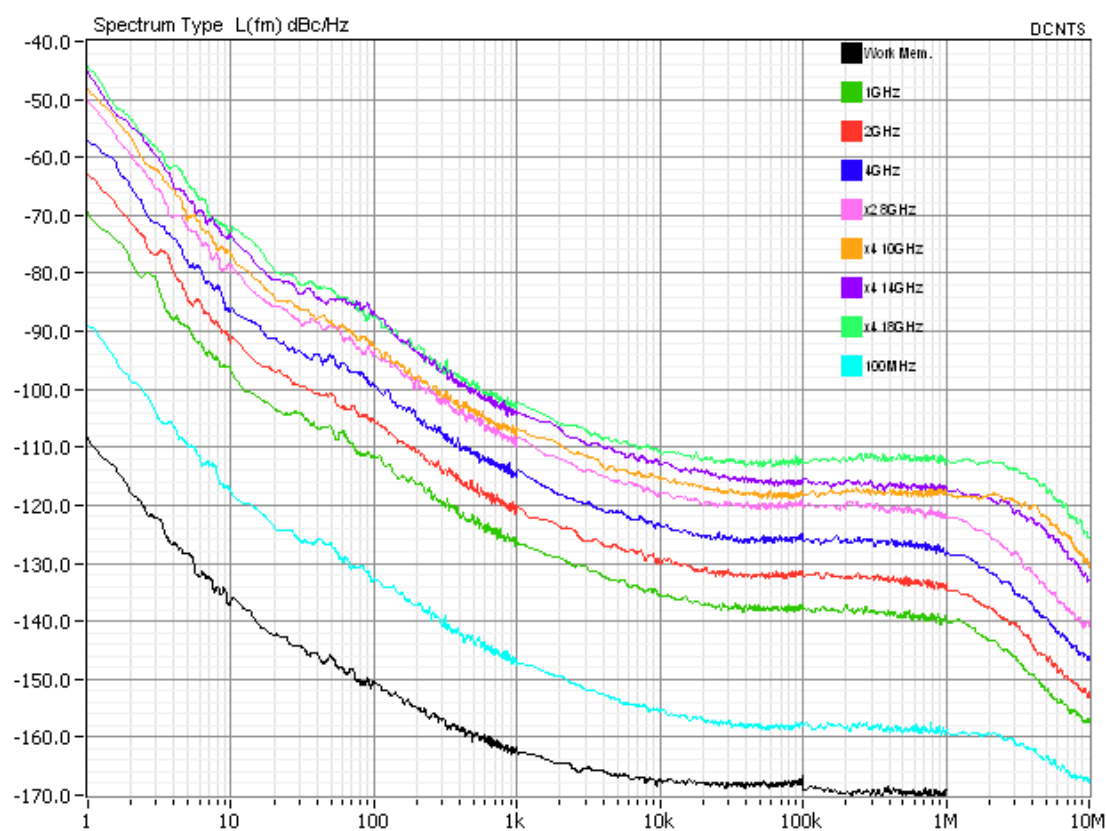
RF Output Specifications

Description	Specification
Output Frequency	2 MHz to 18 GHz
Frequency Resolution	<1 Hz
Output Level	+12 dBm +/- 3dB
Non-Harmonic spurious	-60 dBc above 1 kHz offset (-76dBc typ)
Modulation	DC coupled FM (EFC with 0.25 ppm/V, 60 Hz BW max)
Output connector	SMA female, 50 Ohms

Phase Noise performance

dBc/Hz vs offset (Hz)	1	10	100	1k	10k	100k	1M	Floor
10 MHz	-109	-137	-151	-163	-168	-172	-175	<-175
100 MHz	-89	-118	-132	-148	-156	-158	-160	<-169
1 GHz	-69	-98	-112	-127	-136	-138	-140	<-162
2 GHz	-63	-92	-106	-127	-130	-132	-134	<-160
4 GHz	-57	-87	-100	-115	-124	-126	-128	<-150
8 GHz	-50	-80	-95	-110	-118	-120	-122	<-145
10 GHz	-48	-78	-93	-108	-116	-118	-118	<-140
14 GHz	-46	-74	-88	-104	-113	-117	-118	<-140
18 GHz	-44	-73	-88	-103	-111	-112	-112	<-135

please add +5dB for guaranteed performance



Typical Phase Noise plots at various frequencies.

PN9100B

2 MHz to 18 GHz max PN9100B synthesizer

Noise eXtended Technologies
An ISO 9001 : 2008 certified company

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