

## Product Brief

# 5 to 20 GHz Low Noise Synthesizer **APSYN420**



The APSYN420 is a wideband low phase-noise synthesizer operating up to 20 GHz. The module has a milli-Hz frequency resolution uses a high-stability internal reference. The internal reference can be phase-locked to a programmable external reference. The module has a USB and LAN interface and can be controlled using SCPI 1999 command set. Operated with an external 6V DC supply, it consumes less than 10 watts.

### Key Features

- Low phase noise
- Fast switching
- Wideband DC frequency modulation
- Internal OCXO reference
- Single 6V supply

### Applications

- ATE
- LO for frequency converters
- Telecom / SatCom

## Key Specifications

Parameter	Value	Notes
Frequency range	5 GHz to 20 GHz	
resolution	1 mili-Hz	
Switching speed	< 100 micro-secs	
Sweep	< 1 micro-sec per point	
<b>SSB Phase noise</b>		
at 1 kHz from carrier	-100 dBc/Hz	10 GHz carrier
at 20 kHz from carrier	-110 dBc/Hz	
at 100 kHz from carrier	-112 dBc/Hz	
wideband noise	-155 dBc/Hz	
Power level	10 dBm $\pm$ 2 dB	
Output impedance	50 $\Omega$	
VSWR	< 1.8	
<b>Spectral purity</b>		
output harmonics	< -15 dBc	
non-harmonic spurious	< -70 dBc	
<b>Frequency Modulation</b>		
Modulation rate	DC to 800 kHz	
Maximum deviation	7 % of <i>f</i>	
Distortion	0.1 %	$f_{mod} = 1 \text{ kHz}$ & $f_{dev} = 10 \text{ MHz}$
<b>Internal reference frequency</b>	100 MHz	
Lock to	1 to 250 MHz	Programmable
Output	10 MHz, +3 dBm	
Temperature stability	$\pm$ 100 ppb	0 to 50 °C
DC Power	+ 6V, 2A max	
Control Interface	LAN, USB, SCPI 1999 command set	
Size (incl. connectors)	21 x 10.5 x 6 cm	
Weight	< 1 kgs	