

GENERAL DESCRIPTION

The **Fast Tuning Frequency Synthesizer Model 7831A** module is a compact, broadband frequency source, covering the frequency range of 6.0-20.0 GHz. The unit features frequency settling times below 1.0 μ Sec and frequency accuracy better than 1.0 PPM. The compact size enables integration of the module into portable equipment as well as lab equipment.



KEY FEATURES

- Fast Tuning for Frequency Hopping
- Digital Linear Tuning
- Low Spurious
- Low Phase Noise
- Phase Locked Loop for High Stability
- Linear FM Modulation
- Compact Size
- High Resolution Option

APPLICATIONS

- RF sources
- Radar
- Electronic Warfare Simulators
- Communication Systems
- Built in testers
- Test Equipment

GENERAL SPECIFICATIONS

Frequency Range	6 - 20 GHz	
Freq. Accuracy & Stability	± 1 ppm	
Freq. Settling Time		
Freq. Sep 10 KHz	1 μ Sec max.	
Freq. Sep 100 KHz	500 nSec Typ.	
Phase Noise @ 20 GHz ⁽¹⁾	<u>Offset</u>	<u>dBc/Hz</u>
	1 KHz	-87
	10 KHz	-102
	100 KHz	-104
Power Output (Over. Temp. & frequency)	+8 \div +13 dBm	
Output VSWR	2.0:1.0	
Harmonics	< -50 dBc	
Sub Harmonics	< -60 dBc	
Spurious	< -60 dBc	

(1) Can be improved by using external Ref with better phase noise performance

GENERAL SPECIFICATIONS

Frequency Tuning Control	See Application Note
Frequency Modulation	0.1-10 MHz
Frequency Deviation	$\pm 150/250$ MHz (depends on bands, excluding sub-bands limits)
Power Requirements	+15V – 3.0 Amp. - 15V – 0.3 Amp.
Operating Temperature	-20°C - 71°C
Non Operating Temp	-54°C - 125 °C
Humidity	95% No Condensation
Dimensions	152.4 X 152.4 X 45 (mm) (6" X 6" X 1.7")
Weight	1.7 Kg