



## TFN TG20A Microwave Signal Generator (9kHz–21GHz)

A High-Performance, Compact Test Tool



### Product Overview

The TFN TG20A is a high-performance, compact microwave signal generator covering frequencies from 9kHz to 21GHz . It features high dynamic output power (-120dBm to +17dBm) , excellent signal purity , and superior frequency stability . It is ideal for high-frequency, demanding test scenarios such as radar, electronic countermeasures (ESA), quantum communications, 5G/6G, and satellite communications , making it an ideal choice for component, module, and system-level testing.

### Core Feature Highlights :

- Ultra-wideband, high-frequency coverage  
Frequency range : 9kHz ~ 21GHz, supporting a variety of high-frequency applications.  
Ultra-high frequency resolution : 0.001Hz, meeting the needs of extremely fine frequency setting.
- Large power dynamic range, strong output  
Output power range : -120dBm ~ +17dBm, suitable for small signal reception and high power stimulus testing.  
Power resolution : 0.1dB, precise control of output level.
- Clean signal and low phase noise  
Phase noise : -112dBc/Hz@10kHz (10GHz), ensuring high-frequency test accuracy.  
Spurious suppression :  $\leq -80$ dBc, harmonic suppression  $\leq -50$ dBc, the signal is clean and free of interference.
- Fast switching and scanning to improve efficiency  
Frequency switching speed : fastest 300 $\mu$ s (internal source), supporting high-speed testing.  
Sweep mode : step sweep, dwell time 10ms ~ 10s, flexible and adjustable.
- Strong pulse modulation capability  
Minimum pulse width : 100ns, on-off ratio  $\geq 65$ dB, suitable for radar pulse simulation.  
Internal and external pulse source : supports external input and internal generation, and the trigger delay is adjustable.
- Miniaturized design, easy integration



Compact size : 360mm × 360mm × 89mm, saving working space.

Standard communication and control : Supports SCPI commands and can be easily embedded into automated test systems.

#### Technical Parameters Summary :

category	parameter
Frequency range	9kHz ~ 21GHz
Frequency resolution	0.001Hz
Output power range	-120dBm ~ +17dBm
Phase noise	-112dBc/Hz@10kHz (10GHz)
Harmonic suppression	≤ -50dBc (10GHz)
Spurious suppression	≤ -80dBc (10GHz)
Minimum pulse width	100ns
size	360mm × 360mm × 89mm
weight	10kg

#### Why choose TFN TG20A?

- Solve customer pain points:
  1. High frequency + high power : 21GHz frequency and +17dBm output meet the high-frequency and high-power testing requirements of radar, satellite, etc.
  2. High signal purity: low phase noise and high spurious suppression ensure that the test data is true and reliable.
  3. Compact size: Compared with traditional signal sources, it saves a lot of cabinet or desktop space.
  4. Fast response: High-speed frequency switching and pulse modulation improve test throughput.
- Typical application scenarios:
  1. Radar system development and receiver testing
  2. Quantum communication system signal simulation
  3. 5G/millimeter wave communication module verification
  4. Aerospace avionics equipment debugging
  5. High-frequency experiments in universities and research institutes