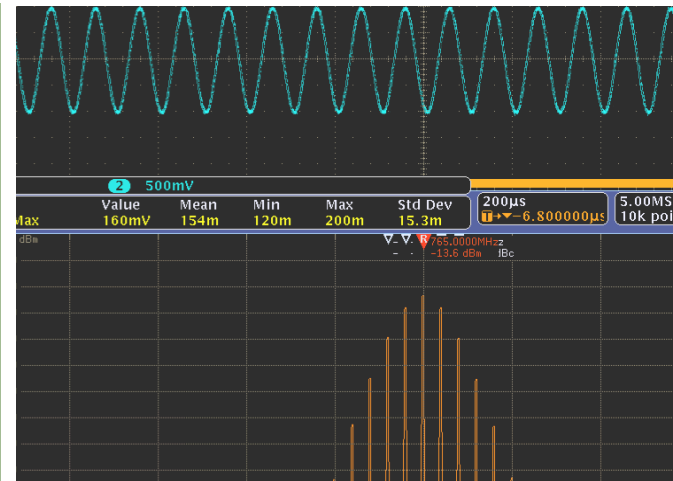
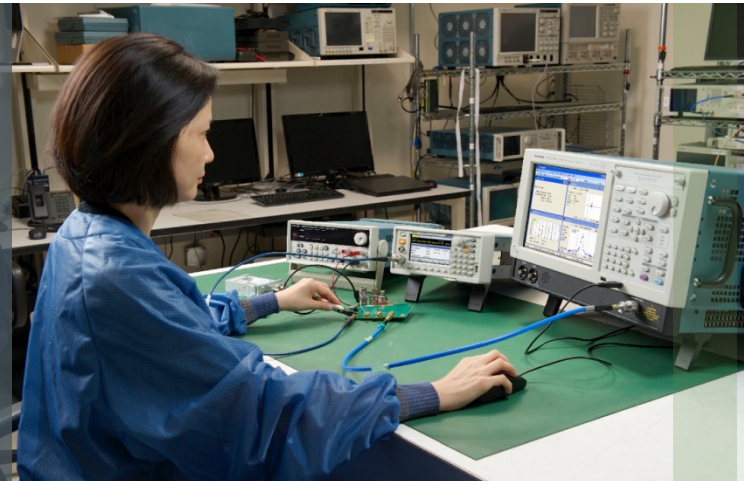


## Product Fact Sheet

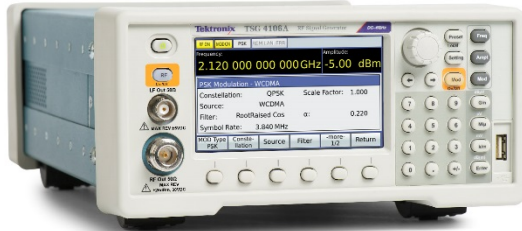
# TSG4100A Series RF Vector Signal Generators

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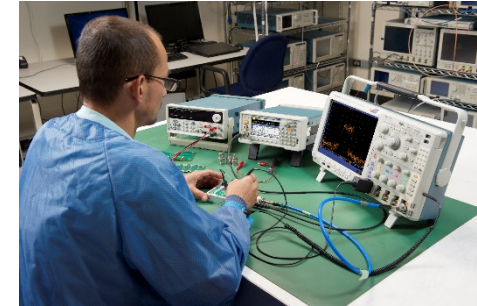


# TSG4100A Series RF Vector Signal Generators

## Mid-range Performance at an Entry-level RF Signal Generator Price



### Ideal Complement to Tektronix MDO3K, MDO4K, and RSA306A



### Key Features/Specifications

### Benefits

Phase Noise -113dBc/Hz (0dBm 1GHz Carrier @ 20KHz offset)	High quality signal generation for most RF measurements
Outstanding amplitude accuracy $\pm 0.4$ dB (TYP), 1GHz CW from +16 to -100dBm	Extremely consistent signal amplitude accuracy and stability for important measurement in a large amplitude range
OCXO time-base	Outstanding aging and stability performance in class ensure stable measurement results
AM, FM, PM, Pulse modulation supported	Provides conventional analog modulation features
ASK/FSK/PSK/QAM/CMP/MSK/VSB vector modulation supported internally	Suitable for most vector modulation applications
Up to 200MHz external I/Q modulation (Max RF modulation bandwidth 400MHz)	Ready to generate super bandwidth IQ modulation signals
6MHz internal RF modulation bandwidth with more than 10ten modulation applications	Easily generate basic vector modulation signals and ten narrow bandwidth communication signals compliant with communication protocols
Soft key option to upgrade TSG4100A to vector/digital modulation capability	Easily upgrade to meet both analog and vector/digital signal generator applications at an extremely low cost, protects CAPEX
TektronixTSG file assistant software	Edit and transfer customized IQ modulation files, filer files, and constellation files to TSG4100A for customized signal generation
USB, RS-232, LAN, and GPIB connectivity	Convenient connectivity for target customers
Half-rack width & 2U high, 5.4 kg	Best-in-class portability

*The TSG4100A offers best-in-class mid-range RF signal generation for both analog and vector modulation applications at a very low price point*

#### Specifications and Features:

- 2GHz, 4GHz, 6GHz models
- -110dBm - +16dBm output amplitude
- $\pm 0.3$  dB (TYP) amplitude accuracy ( $> -30$ dBm, up to 6GHz)
- $< -68$ dBc non-harmonics spurs
- SSB Phase Noise
  - 110dBc/Hz (0dBm 1GHz Carrier @ 10KHz)
  - 113dBc/Hz (0dBm 1GHz Carrier @ 20KHz)
- AM/FM/PM/Pulse modulation
- Internal modulation source
- Dual baseband generators, 14 bits and 125 MS/sec
- Max 6M/400M internal/external modulation bandwidth
- Build-in ASK/FSK/PSK/QAM/CMP/MSK/VSB modulation
- Nine communication protocol applications (P25/GSM/TETRA, etc.)
- External analog & vector modulation inputs
- Soft key to upgrade TSG4100A to vector/digital modulation capability
- Customized modulation signal generation
- PC software for customized IQ modulation signal edition
- Built-in multi filters for vector/digital modulation
- USB/LAN/RS232/GPIB
- Portability
- Three-year warranty



# TSG4100A Series RF Signal Generator Fact Sheet

## Key specifications and ordering information

Models	Freq (GHz)	Freq Accuracy (1GHz)	Phase Noise (0 dBm, 1 GHz Carrier @ 20KHz offset)	Amplitude Range	Modulation
TSG4102A	0 to 2	±52Hz	-113dBc/Hz	-110 - +16dBm	AM/FM/PM Mod Pulse Mod
TSG4104A	0 to 4				Vector/Digital Mod
TSG4106A	0 to 6			Customized IQ Mod	

### Amplitude Accuracy (TYP)

Freq / Ampt (dBm)	+16~+10	+10 ~-30	-30 ~ -60	-60 ~ -100	-100~-110
10M ~ 100MHz	±0.2dB	±0.25dB	±0.35dB	±0.45dB	±0.60dB
100M~2GHz	±0.15dB	±0.15dB	±0.25dB	±0.35dB	±0.60dB
2G~4GHz	±0.3dB	±0.20dB	±0.35dB	±0.60dB	±0.80dB
4G~6GHz	N/A	±0.30dB	±0.40dB	±0.75dB	±1.25dB

### Mandatory & Exclusive options to basic models

- Option M00, TSG410xA w/ OCXO time base, not available in North America region
- Option M01, TSG410xA w/ VCXO time base, not available in North America region
- Option E1, TSG410xA with OCXO time base and GPIB, North America region only

### Standard Accessories

- Power cord
- CD ROM with manuals and drivers
- RF cable, 1 meter N-type to N-type
- Statement of calibration
- Three-year warranty

### Software Application Options

Option VM00	Basic vector modulation package with internal 6MHz modulation bandwidth
Option VM01	GSM modulation,
Option VM02	GSM EDGE modulation
Option VM03	W-CDMA modulation
Option VM04	APCO-25 modulation
Option VM05	DECT modulation
Option VM06	NADC modulation
Option VM07	PDC modulation
Option VM08	TETRA modulation
Option VM10	Audio Clip (analog AM and FM)
Option EIQ	External I/Q modulation bandwidth

### Hardware Options

- Option TSG4100A-ATT** – 30dB, 5W RF attenuator to 6GHz
- Option TSG4100A-RM1**– Single rack mount kit. Can be ordered separately.
- Option TSG4100A-RM2**– Dual Rack mount kit. Can be ordered separately.
- Option GPIB**– GPIB interface , not available in USA and Canada
- Option L0** – Printed English manual
- Option D1**– A list of performance verification test results



### Key Applications

- RF Teaching Labs**
  - Analog circuit design
  - RF/microwave theory
  - Telecommunication theory
  - Graduate programs

### Benefits

- Meet teachers' budget without compromising features/applications
- Versatility: Analog + software key for vector/digital modulations options
- Tektronix total solution: TSG4100A + MDO/RSA306 + Signal Vu
- Tektronix quality and three-year warranty

### Low-cost R&D

- LO replacement
- IF/RF channel performance
- Two-tune \ PIM
- Power amplifier
- Filters
- Receiver sensitivity

- The best price/performance RF signal generator, mid-range performance at entry-level signal generator price
- Versatile features for multi modulations
- CAPEX protection: Software key for adding vector/digital modulation options
- Tektronix total solution: TSG4100A + MDO/RSA306 + Signal Vu

### Consumer Electronics Manufacturing

- Very competitive price, low CAPEX in life cycle
- Enough performance and most popular vector modulation options
- Fast speed and high stability for 24x7 use
- Easy to learn and easy to use
- Tektronix quality and three-year warranty



**TSG4100A Series RF Signal Generator – Product Fact Sheet**