

# TRANSCOM INSTRUMENTS

## Product Brochure



TRANSCOM  
INSTRUMENTS

# G6 Vector Signal Generator

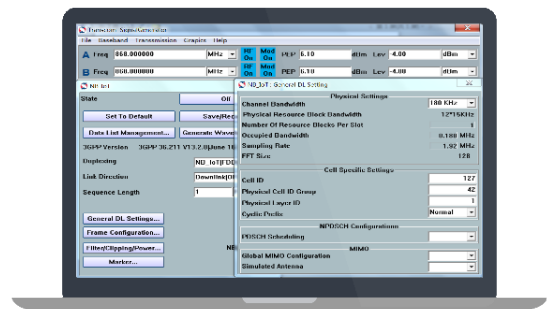
## Overview



G6 Vector Signal Generator is a high performance vector signal generator. It can generate arbitrary wave signal, continuous wave signal, common vector signal, and digital signal, standard wireless vector signal, standard radio signal and customized signal. G6 is applicable for educational practices, wireless monitoring, mobile communication, aerospace and national defense industry in terms of research, manufacturing, testing and measurement, and electronic countermeasure. G6 can satisfy most of the signal simulation practices and provide user continues customization services.

## Key Facts

- Frequency range: 10MHz to 6GHz (up to 9GHz supported in the near future)
- Power coverage: -110 to +10dBm
- Full range of common digital modulation: BPSK, QPSK, OQPSK, 8PSK, 16QAM, 32QAM, 64QAM, MSK, FSK, output linearity, log scan and multiple modulation mode
- Variety of common signal generating including GSM, EDGE, CDMA, TD-SCDMA, WCDMA, CDMA2000, TD-LTE, FDD-LTE, NB-IoT, and LoRa. Users can modify channels under different configuration
- Pulse modulation function
- Fixable integration interface, customized data can be input into module to generate customized signal
- Simple control via USB port. API is provided for secondary development



## Innovative Features & Benefits

### Product features

- Built-in automatic gain control
- Communication signal solution

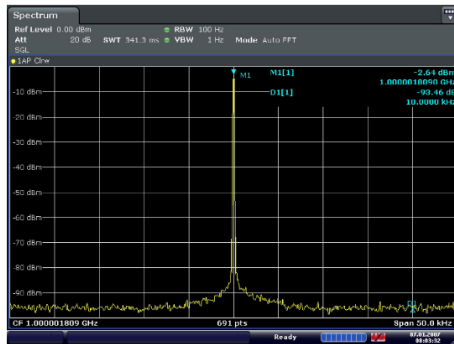
### Typical applications

- Laboratory radio frequency testing
- Manufacturing testing
- Educational practice
- System integration

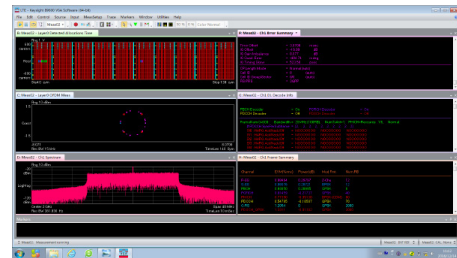
# Solution Highlights

## Product features

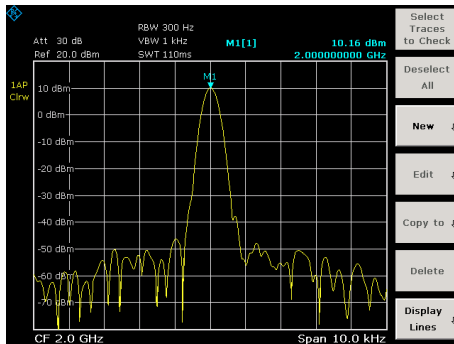
- Built-in high precision reference for ultra-high phase noise
- Built-in automatic gain control unit to fulfilled large dynamic range power output
- Support GSM, EDGE, CDMA, TD-SCDMA, WCDMA, CDMA2k, TD-LTE, FDD-LTE, NB-IoT, and LoRa signal generating solution



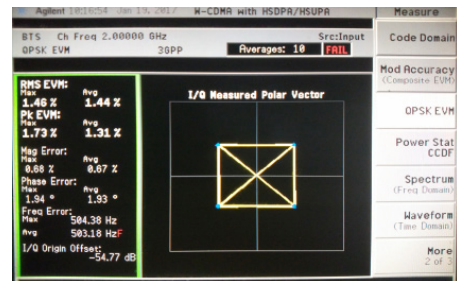
110dBc Phase Noise



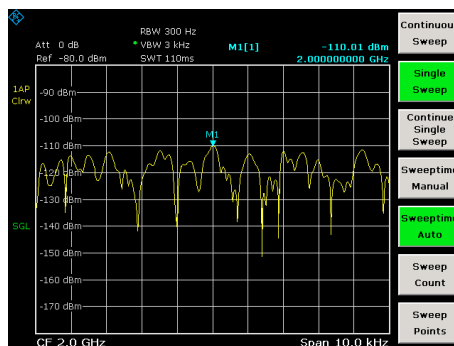
LTE signal



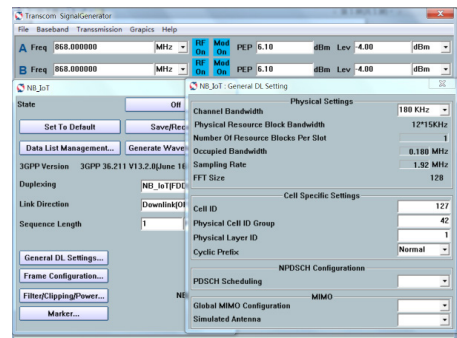
10dBm signal output



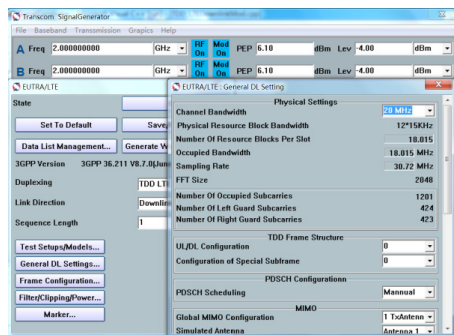
WCDMA signal



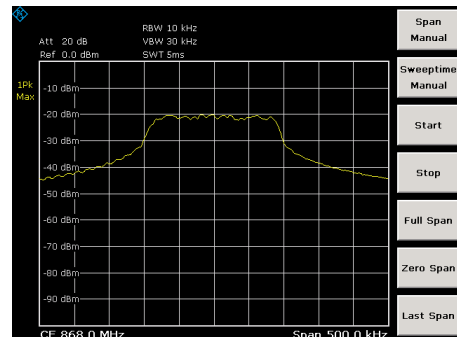
-110dBm signal output



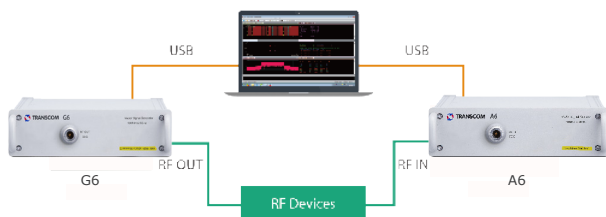
NB-IoT signal output



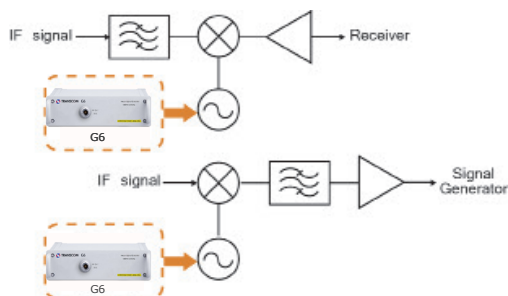
LTE modulation signal output



NB-IoT signal



Radio frequency testing



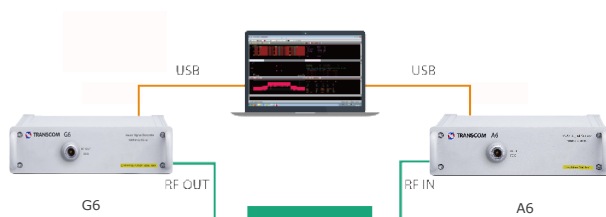
T3610M LO signal substitution



Base station testing



RF microwave device teaching



Communication teaching demonstration

## Typical applications

### Laboratory radio frequency testing

G6 covers 10MHz to 6GHz wireless radio frequency communication range with full range 10KHz phase noise better than -110dBc/Hz (typical value) which allow G6 replace LO. G6 also supports testing of intermodulation distortion on amplifier, mixer and receiver. By using with spectrum analyzer, G6 is able to complete broadband and frequency response performance testing for antenna, amplifier, attenuator etc.

### Manufacturing testing

G6 is able to simulating GSM, EDGE, CDMA, TD-SCDMA, WCDMA, CDMA2000, TD-LTE, FDD-LTE, NB-IoT, and LoRa standard base station signals to cooperate with production and calibration of UE, chips.

By combining G6 Vector Signal Generator Module with A6 Vector Signal Analyzer module, it provides base station consistency and function testing.

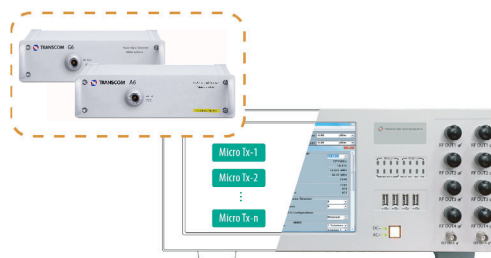
### Educational practices

By combining G6 signal generator with A6 vector signal analyzer, it also provides RF micro-wave device testing demonstration to reduce the complexity of professional teaching.

G6 has the ability to produce all standard uplink and downlink signals and digital modulation signals in any chip rate to satisfy professional education practices.

### System integration

G6 has small size, high technical specification, comprehensive communication, standard modulation format and independent API. It fulfilled various integration needs with excellent performance. With further system integration, G6 can be used for large scale 5G antenna testing.



System integration

# Control Elements



# Specifications

Technical	
Frequency Range	10MHz to 6GHz
Frequency Solution	1Hz
Frequency-temperature Stability	±1ppm
Initial frequency accuracy	±0.5ppm
Amplitude Range	-110 to +10dBm
Amplitude Solution	0.1dB
Amplitude accuracy	±1.5dB
Harmonic	≤-30dBc
Spurious	≤-55dBc
SSB Phase Noise	≤-105dBc/Hz@10kHz(1GHz)
Modulation bandwidth	20MHz (can scale to 40MHz)
Modulation Type	I/Q, Pulse
Pulse modulation parameters	pulse width: 100ns to 1s, repetition rate: 1Hz to 5MHz
Universal digital modulation type	BPSK, QPSK, OQPSK, 8PSK, MSK, FSK, 16QAM, 32QAM, 64QAM
Mobile communication standard	GSM, EDGE, CDMA, TD-SCDMA, WCDMA, CDMA2k, TD-LTE, FDD-LTE, NB-IoT, LoRa
Supported Channel(LTE)	PSS, SSS, CSRS, PBCH, PCFICH, PHICH, PDCCH, PDSCH, PUSCH, PUCCH, PRACH and SRS
EVM	≤2%rms
Frequency Error	Better than ±10Hz
Phase Error	Better than ±3°
Waveform Quality p	>0.9999
Others	
Power Supply	12V DC
Power Supply Current	2A MAX
communication interface	USB type-C
Provide API	Support second-time development
Dimension	180×50×290(mm)

# Ordering List

Model	Description
G6	G6 Vector Signal Generator
Accessories	Description
G6A-AS001	power adapter
G6A-AS002	USB cable
Options	Description
G6A-S001	GSM License
G6A-S002	WCDMA License
G6A-S003	TDD-LTE License
G6A-S004	FDD-LTE License
G6A-S005	NB-IoT License
G6A-S006	LoRa License
G6A-S007	TD-SCDMA License
G6A-S008	Custom Modulation License
G6A-S009	Sweep Mode License

## About us

Transcom Instrument Co., Ltd. founded in 2005 and headquartered in Shanghai, is a leading manufacturer and provider of RF and wireless communication testing instruments and overall solutions in China. Based on its independent brands and a wide range of core patented technologies, Transcom became national high-tech enterprise with independent intelligent property rights and has been listed into Shanghai Enterprise Recognition Award for High Growth SMEs in Technology.

Transcom is backed by a experienced and dedicated research team in mobile communication, radio frequency and microwave, and network optimization testing instrument. Through "Industry-University-Research" cooperation with universities, Transcom founded Southeast University-Transcom Electronic Measurement Technology Center at Southeast University to further ensure technology and talent reserve, and secure future visionary and sustainable technology development.

Transcom's product portfolios focus 4 areas: cellular network critical communication planning/maintenance/optimization, Manufacturing testing solution, educational instrument/equipment, spectrum monitoring sensor for system integration.



ISO14001



ISO9001

## Headquarter

Add: 6F, Buliding 29, No. 69 Guiqing Road, Xuhui District, SHANGHAI, PRC. 200233  
 Tel: +86 21 6432 6888  
 Fax: +86 21 6432 6777  
 Mail: sales@transcomwireless.com  
 Web: www.transcomwireless.com



Company Profile