

TRANSCOM INSTRUMENTS

Product Brochure

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Micro-Tx Vector Signal Generator Module

Overview



Micro-Tx vector signal generator module is a high performance vector signal generator. It supports arbitrary wave signal, continuous wave signal, common vector signal, simulation and digital modulation, standard wireless vector signal, standard radio signal and customized signal. Micro-Tx 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. Micro-Tx satisfied most of the signal simulation practices and provided user continues customization services.

Key Facts

- Frequency range: 10MHz~6GHz(up to 9GHz supported in the near future)
- Power coverage: -110~+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/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. Provide API for second-time development



Innovative Features & Benefits

Product features

- Built-in automatic gain control
- Communication signal solution

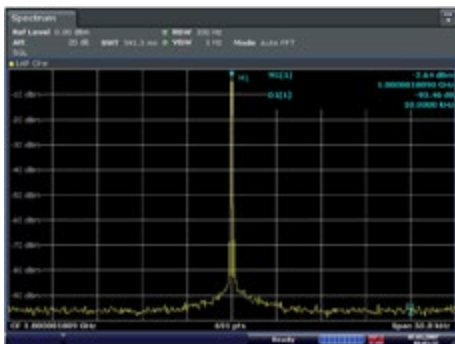
Typical applications

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

Solution Highlights

Product features

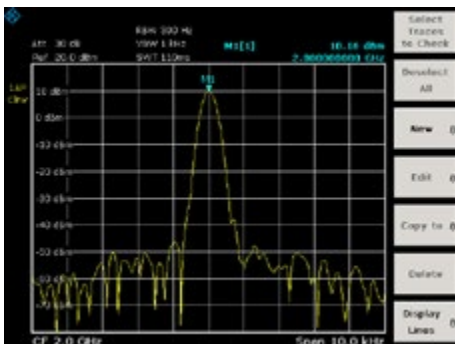
- Built-in high precision reference for ultra high phase noise
- Built-in automatic gain control unit to fulfilled large dynamic range power output
- Support GSM/EDGE/CDMA/TD-SCDMA/WCDMA/CDMA2k/ TD-LTE/FDD-LTE/NB-IoT/LoRa signal generating solution



110dBc Phase Noise



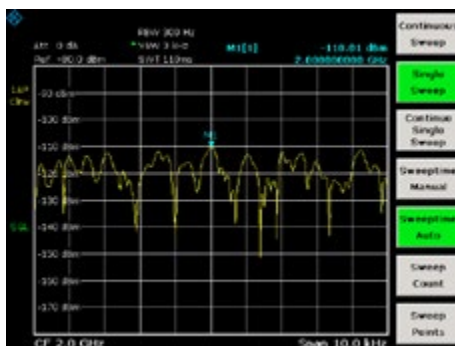
LTE signal



10dBm signal output



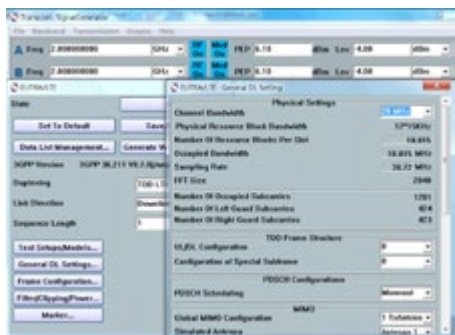
WCDMA signal



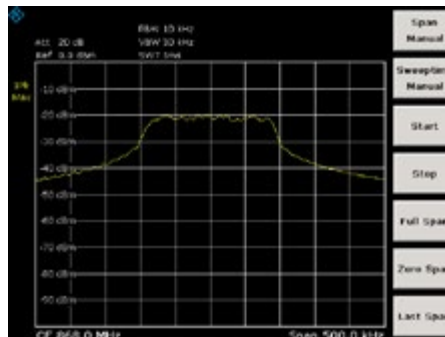
-110dBm Signal output



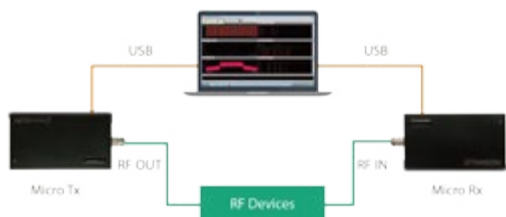
NB-IoT signal output



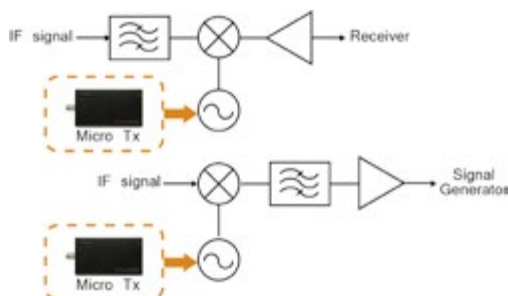
LTE modulation signal output



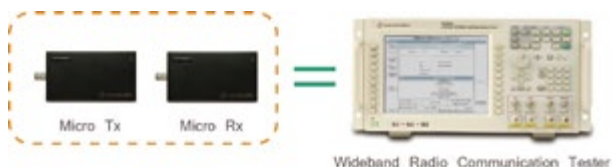
NB-IoT signal



Radio frequency testing



T3610M LO signal substitution



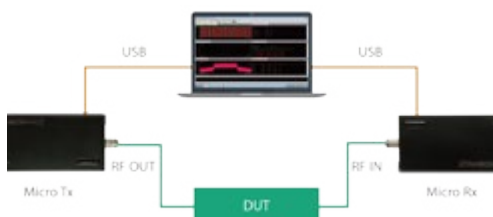
Manufacturing testing



Base station testing



RF microwave device teaching



Communication teaching demonstration

Typical applications

Laboratory radio frequency testing

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

Manufacturing testing

Micro-Tx is able to simulating GSM/EDGE/CDMA/TD-SCDMA/WCDMA/CDMA2k/TD-LTE/FDD-LTE/NB-IoT/LoRa standard base station signals to cooperate with production and calibration of UE/chips.

By combining Micro-Tx signal source module with Micro-Rx vector signal generator module, it provides base station consistency and function testing.

Educational practices

By combining Micro-Tx signal source module with Micro-Rx spectrum analyzer module, it also provides RF microwave device testing demonstration to reduce the complexity of professional teaching.

Micro-Tx 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

Micro-Tx 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, Micro-Tx can be used as large scale 5G antenna testing.



System integration

Control Elements



Specifications

Technical	
Frequency Range	10MHz~6GHz
Frequency Solution	0.1Hz
Frequency-temperature Stability	±1ppm
Initial frequency accuracy	±0.5ppm
Amplitude Range	-110~+10dBm, f < 3.5GHz
Amplitude Solution	0.1dB
Amplitude accuracy	±1.5dB
Harmonic	≤-30dBc
Spurious	≤-55dBc
SSB Phase Noise	≤-105dBc/Hz@10kHz(1GHz)
Modulation bandwidth	20MHz
Modulation Type	Analog, Vector, Pulse
Pulse modulation parameters	pulse width: 100ns~1s, repetition rate: 1Hz~5MHz
Universal digital modulation type	BPSK, QPSK, OQPSK, 8PSK, MSK, FSK, 16QAM, 32QAM, 64QAM
Mobile communication standard	GSM/EDGE/CDMA/TD-SCDMA/WCDMA/CDMA2000k/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 ρ	>0.9999
Others	
Power Supply Voltage	12V DC
Power Supply Current	2A MAX
communication interface	USB type-C
Provide API	Support second-time development
Dimension	190×93×32(mm)

Ordering List

Model	Description
T3610M	Micro-Tx vector signal generator module
Accessories Model	Description
MTX-AS001	power adapter
MTX-AS002	USB cable
Options	
MTX-S001	GSM License
MTX-S002	WCDMA License
MTX-S003	TDD-LTE License
MTX-S004	FDD-LTE License
MTX-S005	NB-IoT License
MTX-S006	LoRa License

Keep innovating for excellence!

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

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Company Profile