

TRANSCOM INSTRUMENTS

Product Brochure

Transcom Instruments
Product Brochure



TRANSCOM
INSTRUMENTS

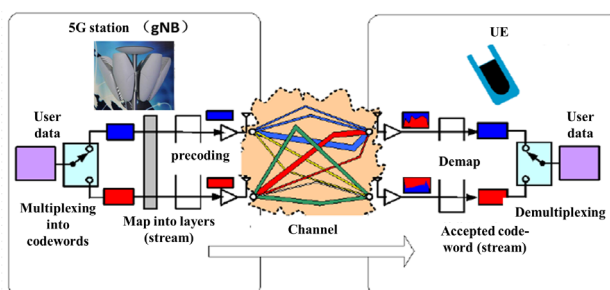


Pathrrot X8 Channel Emulator

Mobile communication and channel

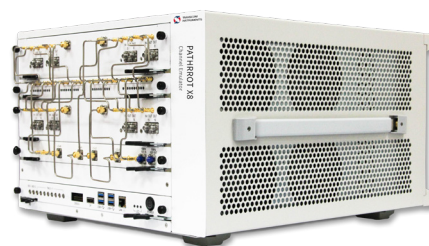
The wireless channel is the path of electromagnetic wave propagation carrying information, and it is an important part of the mobile communication system. Also, it is the premise of the planning of the mobile communication system. Channels often change the physical characteristics of the signal (time, frequency, space) and have a large impact on communication performance. If this change in physical properties can be characterized in mathematical form, it means that a channel model can be established. Once the model is available, the link can be simulated by software to verify the performance of the algorithm. However, software emulation is difficult to simulate the real-world working scene.

The field test can verify the performance of the equipment in the real-world environment, but the field environment is limited by the actual conditions, it is difficult to accurately control, accurately reproduce, and verify certain extreme conditions. The wireless channel emulator can accurately simulate complex and diverse wireless environments in the laboratory, which is closer to reality than pure software emulation, and more controllable and cost-effective than field test.



Overview

The Pathrrot X8 channel Emulator is a high-performance communication instrument developed by Transcom Instruments for 5G, IoT and Wi-Fi testing. It supports a wide range of MIMO channel models, with excellent RF performance, rich channel models, and good user experience. The channel emulator can replace the traditional field test method, and use the real-time emulation capability of the instrument to easily perform the emulation of the wireless environment in the laboratory, providing a very effective tool for the development of mobile communication systems, base stations, terminals and chips, and also for users. Technology and product development provide a convenient test environment.

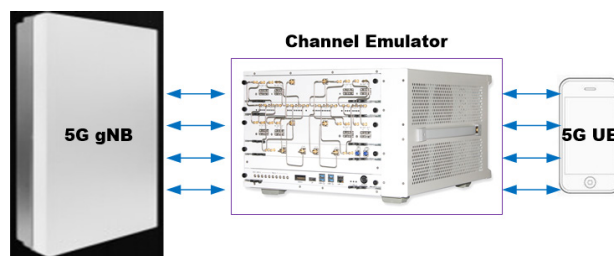


Key Facts

- Single unit can support 4×4 bidirectional or 8×8 unidirectional MIMO channel emulation
- Single carrier signal bandwidth up to 200MHz, upgradeable to 400MHz
- Provide rich 5G channel models
- Excellent RF performance, wide and continuously covered frequency range, large dynamic input and output power range
- Open interface, support for custom channel models, and custom development services
- Support multiple cascading for larger scale expansion

Typical Application

- End-to-end performance testing of wireless devices and network infrastructure. There is no need to go to the field for real-world road test, build a test environment indoors, and simulate the characteristics of the external field channel.
- Performance testing of wireless devices and network infrastructure. Emulate the characteristics of the actual wireless channel conditions in the laboratory environment, fully embody the impact of the channel on the transceiver performance of the terminal or base station equipment, and increase the reference indicators for equipment improvement.
- Verification for wireless channel model algorithms. Enhance the user experience of using the RF fading simulator in the most realistic propagation environment, and provide a good system software and hardware platform for the verification of the model algorithm.
- Wireless channel characteristics simulation. Important features of MIMO mobile communication systems including path loss, multipath fading, delay spread, Doppler spread, polarization, and correlation and spatial parameters
- Interference scene emulation. Provides AWGN and monophonic interference signals, emulating realistic interference with fading



Specification

RF ports in single unit	8
MIMO configuration	2×2、 4×4
MIMO fading channels in single unit	16
Fading paths per fading channel	Up to 24
Bandwidth	100MHz、 200MHz、 400MHz (Option)
Minimum delay	10us
Maximum delay	30ms
Maximum delay spread	30us
Delay resolution	<4ns
Doppler emulation	1.5MHz
Interference source	CW、 AWGN
Test environment	Support OTA
Frequency range	400MHz ~ 6GHz
Input power measurement	Support
User definable input / output ports	Support
Fast fading profiles	Constant、 Rayleigh、 Rice、 lognormal、 Suzuki、 Pure Doppler、 Jakes
Standard channel model	GSM、 3GPP standard、 3GPP extended、 3GPP LTE MIMO、 LTE-Hi、 WiMAX MIMO、 MIMO Kronecker、 SCM/SCME、 IMT-A、 EPA、 EVA、 3GPP TR 38.901
Input power range	-60dBm ~ 20dBm
Output power range	-90dBm ~ 0dBm
Input / Output power resolution	0.1 dB
Output power accuracy	±1 dB

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 futher 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,Building29,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