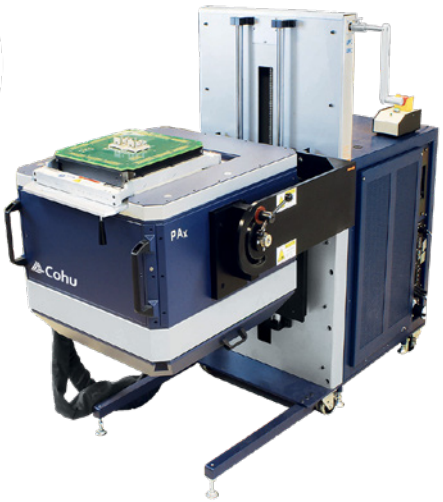
PAx RedDragon RF Subsystem

Test Module for 5G NR FR1/FR2 FEM, mmWave and Wi-Fi 6/6E/7



Productivity

- Modular design - an existing PAx with DragonRF can easily be upgraded with RedDragon
- RedDragon has wider modulation for multi-measurement single capture
- Base configuration offers Quad site testing in parallel
- Mid-band HVM configuration to wide-band full configuration
- Backward compatible to 2G/3G/4G
- Direct cable and calibration to DUT site
- Single SW platform test development and production efficiency
- Seamless On-Site Field Upgradable
- Leverage existing production investment (DIB, calibration kits and docking compatibility)

Key Features

- Increased modulation support for 5G NR FR1 and FR2 FEM sub-8.5 GHz
- Immediate Wi-Fi 6/6E/7 including the 7.125 GHz band
- Building blocks for 5G NR FR2 mmWave 24.25 - 48.5 GHz
- Configurable with up to 32 Universal RF ports
- Up to 8.5 GHz RF modulated source and 8.5 GHz RF measure
- Noise source available on all ports
- RF Harmonic measure capability from 8 to 18 GHz using HMM
- 3 Channel AWG with Envelope Tracking Option


Automotive


Mobility


IoT/IoV & Optoelectronics


Computing & Network


Industrial & Medical


Consumer

- **Only cost optimized ATE solution that covers sub-8.5 GHz with instrument extension to 18 GHz with high power**
- **Best-in-class ATE EVM and modulation bandwidth with faster acquisition times across frequency and ranges**
- **Single platform covering <4G, 5G sub-8.5 GHz, Wi-Fi 6/6E/7 and mmWave**
- **Significant increase in performance and throughput with minimal cost of change**

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Scalable Solution

- Base configuration offers Quad site testing in parallel. Up to Octal site testing in parallel
- Scales up 4 to 8 sites in parallel
- Mid-band HVM configuration (split-mode) to wide-band full configuration
- Backward compatible to 2G/3G/4G

Single shot EVM, ACPR and Gain Test Capture

- Provides up to 2.5 GHz IF bandwidth, enabling whole spectrum capture by receiver to support ever-increasing bandwidth from sub-8 GHz to mmWave
- Combined with leading Signal-to-Noise Ratio performance and optimized algorithm, RedDragon achieves the fastest and most accurate Error Vector Magnitude (EVM) measurement down to -55 dB across frequency and level

Universal RF Ports

- Test head resident port modules provide 16 vector ports operating between 100 MHz and 8.5 GHz
- All ports in 8.5 GHz port modules have up to 2.4 GHz IF bandwidth
- Each vector port can be modulated using PXI based modulation source that provides 3 channels @ 1.28 Gbps by 16 bits
- Each vector port can be demodulated using WDSP capture instrument that provides 4 channels @ 2.5 Gbps by 14 bits

VNA

- Single acquisition high accuracy S-parameter sweeps
- Vector port architecture enables full S-parameter testing using Cohu's Swept S technology enables high-speed VNA like single sweep

IQ Waveform Generation

- SWG: 2 channel 150 MHz bandwidth per channel (250 MHz modulation bandwidth)
- 5G AWG: 3 channel 540 MHz bandwidth per channel (1,080 MHz modulation bandwidth)

Digital Capture

Enhanced data processing and transfer engines improvement with high-speed Digitizer

- WDSP Data Bus Manager - hardware accelerators optimized for real-time signal analysis
- WDSP Sample Tunnel - 8 channel tunnel provides high-speed data transfer directly to threaded DSP engines

Fast Noise Figure Measurement

- Available on all ports, calibrated, provides accurate noise tests

RF Harmonic Measure Module

- HMM 8 to 18 GHz low cost measurement option
- Add on simplifies loadboard configuration by reducing RF switch count and eliminatig the need for external filtering

RF Generators

- The R&S RF/LO 12.75 GHz source is used as the synthesizer which utilizes the latest synthesizer architecture and software, provides fast level and frequency settling time to 0.05 dB less than 1 ms, greatly enhancing the test throughput, and lowering the cost of test

Pre-correlated RF Libraries

- Pre-built PA/FEM RF application libraries drop into existing programs for efficient program development and fastest test times

Seamless On-Site Field Upgradable

- Same Test Head footprint
- Reuse existing application libraries
- Backward compatibility
- Upgrade tester hardware based on device complexity
- Same spares network
- Maintain complete software, DIB, calibration and docking compatibility and leverage existing production investment
- Same Field Application and Service support structure

Specifications subject to change without notice. For detailed performance specifications, please contact Cohu.

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