

# PAX ThorRF High-Power RF

High-Power, Full-Feature RF Test in a Production Environment



Automotive



Mobility



IoT/IoV & Optoelectronics



Computing & Network



Industrial & Medical



Consumer

The adaptable and innovative ThorRF delivers high-power capability on the PAX Test Systems, while allowing full-featured RF testing. ThorRF is an extension to the DragonRF subsystem, enabling users to perform scalar and vector measurements on the same set of DUT connections.

ThorRF delivers exceptional performance in an automatic test system. Testing high-power RF devices often requires bench top or rack mounted equipment, ThorRF makes this achievable in a production environment.

## Productivity

- 24 Ports per box, up to 96 per system:
  - Four standard RF sources
  - Four standard scalar measures
  - One port vector measure
  - Two port vector measure
  - High-power RF source
  - High-power RF measure

## Key Features

- Four high-power RF ports - sourcing up to +46 dBm at 900 MHz
- Independent 2nd and 3rd Harmonic measurements
- Scalar source up to +10 dBm at 10 MHz to 6 GHz
- Eight ports of scalar measure up to +23 dBm
- High-power 16 ports of scalar measure up to +43 dBm
- Four (HPRF) ports of vector measure up to +5 dBm
- Four (TRX) ports of vector measure up to +3 dBm
- Quad-site test capability

- Only integrated ATE solution to offer +46 dBm source and receiver power
- Quad-site testing with no compromises - up to four ThorRF modules in a rack

- 24 Ports per box, up to 96 per system
- Modular design - an existing PAX with DragonRF can easily be upgraded with ThorRF

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### Impressive High Power

- ThorRF offers an impressive +46 dBm (40 watts) source power to the PAX test head. The receiver is capable of measuring signals up to +43 dBm. No other integrated ATE solution offers this range
- As an integrated extension to the DragonRF, ThorRF has the capability to measure low power signals with the DragonRF measure, or up to +43 dBm via the high power ThorRF port

### Full RF Test Capability

- Because ThorRF is a fully integrated extension to the DragonRF, all the capabilities of this market-leading RF solution are available
- Using the various switching paths and connections you can perform one and two-port vector measurements in addition to scalar measurements
- As a result, there is no need to perform multiple test passes on the device using different systems to ensure full coverage
- Standard ports offer full DragonRF source and measure capability

### Production Speed Testing

- ThorRF delivers true multisite testing capability. With up to four ThorRF modules in a rack, ThorRF supports quad-site testing with no compromises

### Easy Upgrade

- Due to the modular design, ThorRF can be quickly introduced into the test floor. Upgrading is a simple and quick process, causing you minimum production interruption
- Once a system has been upgraded, production programs which utilized DragonRF still work exactly the same as before, simplifying production planning and scheduling



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## Specifications

### Number of Ports per Module

- 4 high-power source and measure (HPRF1-4)
- 16 high-power scalar measure (RX1-16)
- 4 standard source, scalar and vector measure (TRX1-4)

### High-Power General Specifications (HPRF)

- Number of ports 4
- Input or Output Impedance Nominal 50 Ohm
- Port-to-Port Isolation > 70 dB

### Standard Port General Specifications (TRX)

- Number of ports 4
- Input or Output Impedance Nominal 50 Ohm
- Port-to-Port Isolation:
  - Fc < 3 GHz > 40 dB
  - 3 GHz < Fc < 6 GHz > 34 dB
  - 6 GHz < Fc < 7.5 GHz > 27 dB
  - 7.5 GHz < Fc < 8 GHz > 25 dB

### High-Power Source Specifications

- 4 independent single sources
- Frequency range 10 MHz - 6 GHz
- Level range up to +10 dBm (10 MHz - 4 GHz)
- Level range up to +5 dBm (4 GHz - 6 GHz)
- Level range +46 dBm at 900 MHz
- 50 Ohm

### Standard Source Specifications

- 4 independent single sources
- Frequency range 10 MHz - 6 GHz
- Level range up to +10 dBm (10 MHz - 4 GHz)
- Level range up to +3 dBm (4 GHz - 6 GHz)
- Level range  $\pm 0.85$  dB

### High-Power Measure Specifications

- Frequency range:
  - Scalar < +23 dBm 10 MHz - 6 GHz
  - High-power incident 900 MHz
  - 2nd Harmonics 1.8 GHz
  - 3rd Harmonics 2.7 GHz
- Max Input Level - Scalar +23 dBm
- Input Impedance 50 Ohm

### Standard Measure Specifications

- Frequency range:
  - Scalar < +23 dBm 10 MHz - 6 GHz
- Max Input Level - Scalar +23 dBm
- Input Impedance 50 Ohm

### High-Power Vector Analyzer Specifications

- One-Port Calibration Short, Open, Load
- Two-Port Calibration
  - Paired with TRX Port Short, Open, Load
- Measurement Type CW
- Measurements S-Parameters (Magnitude & Phase)
- Max Level < +5 dBm

### Standard Vector Analyzer Specifications

- One-Port Calibration Short, Open, Load
- Two-Port Calibration
  - Paired with HPRF Port Short, Open, Load, Through
- Measurement Type CW
- Measurements S-Parameters (Magnitude & Phase)
- Max Level < +4 dBm

### Receiver Port General Specifications

- Number of ports 16
- Input/Output Impedance - Nominal 50 Ohm
- Port Isolation - within the same group
  - Fc < 3 GHz > 40 dB
  - 3 GHz < Fc < 6 GHz > 34 dB
  - 6 GHz < Fc < 7.5 GHz > 27 dB
  - 7.5 GHz < Fc < 8 GHz > 25 dB
- Port Isolation - across different groups
  - Fc < 3 GHz > 80 dB
  - 3 GHz < Fc < 6 GHz > 68 dB
  - 6 GHz < Fc < 7.5 GHz > 54 dB
  - 8 GHz > 50 dB

### Receiver Port Measurement Specifications

- Frequency Range 10 Hz - 6 GHz
- Settling Time - Level + Freq + Path < 1 mS
- Max Level - Scalar < +43 dBm

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

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