

DragonRF



The Next Generation RF Test Solution for 4G and Beyond

Features:

- Configurable with 16 or 32 Universal RF ports per module with an optional port to pin expander doubling the number of RF ports to 64 pins
- Two DragonRF instruments can be configured taking the maximum available RF pins up to 128 RF pins
- 6 GHz RF modulated source and 8 GHz RF measure
- <1 ms RF settling time on level and frequency change
- Quad site and octal site RF source with single and dual synthesizer respectively
- Up to 8 receiver paths each with an analog bandwidth exceeding 200 MHz for octal site parallel RF measurements
- Real time Dynamic Range Enhancer (DRE) per RF measure path
- Compact footprint RF generators
- Industry-leading source mixing flexibility
- Latest RF Synthesizer technology
- Cross- platform test system software: Unison
- Available across a range of Cohu test platforms thus ensuring the most cost effective test capability no matter the end application

DragonRF is designed to deliver high performance RF test capability for the complete spectrum of connectivity and mobility standards while offering new levels of manufacturing test efficiencies.

Highlights:

- Extensive suite of new capabilities designed to provide the lowest cost of test without any compromise in RF test performance
- Innovative flexible architecture enables lower priced configurations without trade off in test coverage or test time

DragonRF

Devices and Applications

DragonRF is designed to support the latest wireless communication standards and future requirements whether it's an RF Power Amplifier or a RF ASSP application. Leveraging the extensive Cohu wireless modulation and demodulation library, supporting the complete set of tools to test cellular GSM, Edge, GPRS, HSDPA, HSUPA, CDMA, LTE and connectivity devices including BT, BT EDR, BT4.0, GPS, 802.11a/b/g/n/ac/p and other emerging standards.

DragonRF provides up to 200 MHz IF bandwidth enabling whole spectrum capture by receiver to support ever increasing bandwidth in the newer wireless communication standards. Combining with leading SNR performance and optimized algorithm, DragonRF achieves the fastest and accurate EVM measurements to test the comprehensive performance of the most complicated devices with lowest test time.

Universal Port with Configuration Flexibility

DragonRF is designed with universal vector port architecture that delivers the required level of performance with flexible configuration to match the customers' device testing needs. Each DragonRF can be configured with 16, or 32 universal vector ports and up to 2 DragonRF are available on some configurations. DragonRF can also be configured with 1, 2, 3, or 4 RF synthesizers to provide octal site modulated RF stimulus to the devices, and with 2, 4, or 8 RF measure paths for true parallel octal site RF measurements.

DragonRF Configuration Flexibility			
RF Pins	32	64	128
RF Ports	16	32	64
IF Paths	2 4	2 4 8	4 8 16
RF Sources	1 2	2 3 4	4 5 6 8

Industry-leading Settling Times

DragonRF uses the latest technology in RF synthesizer and RF control circuitry in its design. The R&S SGS100 RF source is used as the synthesizer in DragonRF, which utilizes the latest synthesizer architecture and software.

Combined with all CMOS RF paths in the new DragonRF module, DragonRF provides fast level and frequency settling time to 0.05 dB less than 1ms, greatly enhancing the test throughput, and lowering the cost of test.

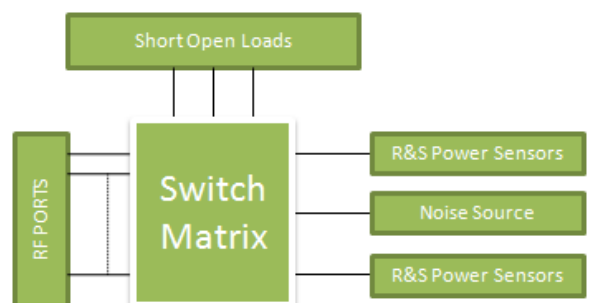


RF Auto Calibration

DragonRF fully automated calibration process allow greater tester up-time and reduces operator induced error and variations. The DragonRF Auto Calibration kit offers a single self-contained calibration unit that provides:

- Calibration of RF source, scalar measure, noise, and S-parameter measure
- Internal R&S power sensors
- NIST traceable integrated RF power meter and noise source
- Factory calibrated RF Autocal fixture

RF Autocal Loadboard block diagram



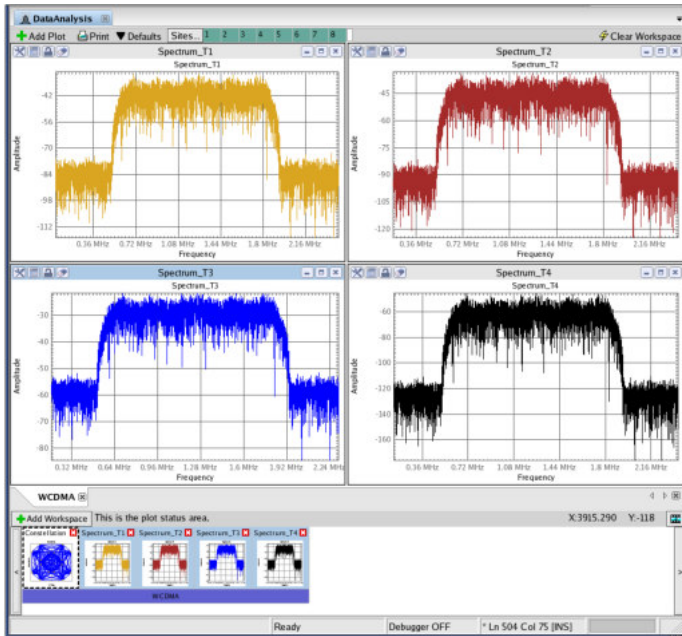
The RF Autocal switch matrix allows every port to be fully calibrated for all source and measurement types



DragonRF

Multi-site Software

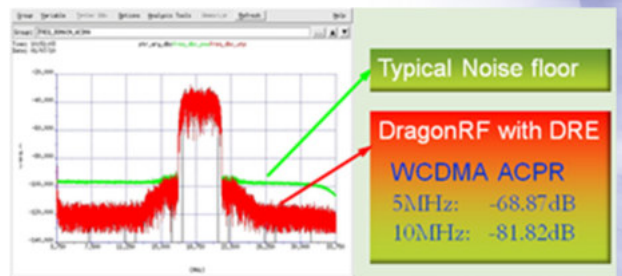
The Unison software environment provides users with fast single site development, instantaneous multi-site testing and test IP that can be used from device to device. Unison features cutting edge productivity tools that accelerate customers' time-to-market for their next generation products.



Multi-site WCDMA measurement (sites 1..4 shown)

Better Yield with Dynamic Range Enhancer

Every RF receiver is equipped with real time Dynamic Range Enhancer (DRE) with embedded DSP capability. With DRE enabled, DragonRF provides more than 90 dB dynamic range, which is critical for RF parameters, especially ACPR measurement. This enables faster test time, faster correlation between ATE and bench-top instrument, and improved yield with extra margins above the noise floor.



DragonRF

Description	Condition	Specification
Number of Vector Ports		32 Ports per DragonRF Module
Source		
Level Range	@ 3 GHz	-130 dBm - +16 dBm
Accuracy	@ 3 GHz	+/-0.5 dB
Resolution		0.1 dB
Settling Time	Frequency and Level	<1 ms
Modulation Bandwidth		>200 MHz
Source Port Isolation	@ 3 GHz	>100 dB
Measure		
Frequency Range		10 MHz to 8 GHz
Level Range	@ 3 GHz	-130 dBm - +23 dBm
Accuracy	@ 3 GHz	+/-0.5 dB
Receiver IF Bandwidth		200 MHz
Numerical Precision	Max ADC sample rate with digital filtering + DRE	27 Bits
Measurement Type	Single Conversion Heterodyne with Real-time DSP	
Real-Time DSP Features	Digital Down Conversion, time domain averaging, decimation	
Modulation & Demodulation		
	Pre-correlated Library supplied by Cohu including: GSM, Edge, GPRS, HSDPA, HSUPA, CDMA, LTE, BT, BTEDR, BT4.0, GPS, 802.11a/b/g/n/ac/p	
Software		
Environment	Unison	
Operating System	High-speed PC-based controller using a Linux operating system	

