



802.11 RFIC Tester

The Practical Solution



Practical is:

- **Thoughtfully Engineered** to move through Design and scale easily to a **high speed** Production system to maximize system **utilization**
- **Super Fast Uptime** – put a new product on line in 30 days, add a completely new test in hours, change test procedures in seconds!
- **Affordable** – less than half the price of competitive solutions!
- **Industry Standard Software** - easy to use and maintain or add custom components at any time
- **World-wide Support** – Hardware and software support no matter where in the world your products are being built

Overview

Larson Automation's 802-11a/b/g RFIC tester now provides a practical solution to testing RFICs in-house. With the advent of PXI based RF instrumentation, you can now purchase a complete test station for less than the cost of renting time on one of the 'larger' test systems. Since the system is in-house, you can perform custom testing for different customers. Screen your parts for higher performing specifications to create higher margin 'premium' grade parts.

Add an economic handler and you can test small production runs while you work all the kinks out of your design. With Larson Automation's flexible software environment, you can shift from production mode testing to 'group B' testing, or any number of user defined profiles by selecting from a drop-down menu.

High Speed Test Suite Example (30 Second Test)

Receiver tests

- Gain at center frequency
 - Max gain (min AGC)
 - Min Gain (max AGC)
 - Gain slope over AGC range
 - Gain range vs. AGC
- Gain at Low and High Frequency
 - Gain flatness over RF band
- Gain at IF Frequency range
 - IF band flatness
 - IF filter roll-off
- Input P-1 dB gain compression
- I&Q DC offset
- IIP3*
- I&Q phase and amplitude imbalance
 - Differential delay slope
 - Static phase skew
- Noise figure

General tests

- Operational currents:
 - Sleep mode
 - Transmit Mode
 - Receive Mode
 - Standby mode
 - Idle mode
- SPI Interface
 - Read / write registers
 - External bit control
 - Status bit operational

Transmitter tests

- Gain at center frequency
 - Gain at each gain control bit
 - Gain Step size limits
- Gain at Low and High frequency
 - Gain flatness over RF band
- I&Q Gain imbalance
- Single Side Band rejection
- Carrier leakage
- Output P-1 dB gain compression
- Output IP3

Synthesizer and LO tests

- IF tuning voltage vs. frequency
- LO frequency error
- LO phase noise
- Transmitter noise power
- Reference Oscillator accuracy
 - Standard – divide by two

** May require additional equipment*

Additional tests can be included *(may require different equipment selection or wiring)*

- Receiver spurious Signals
- Receiver adjacent channel interference
- Receiver Image rejection
- Receiver switching time
- Receiver saturation recovery

- Internal / external clock operation
- Transmitter mask verification

- Transmitter noise figure
- Transmitter spurious Signals
- Transmitter switching time
- Transmitter I/Q phase imbalance
- Transmitter power detector verification

- LO power
- SPI voltage range verification
- DUT power supply operation