

# RF TESTING & FUNCTIONAL VERIFICATION



PRODUCTION-INTEGRATED RF VERIFICATION FOR HIGH-RELIABILITY ELECTRONICS

Automated. Traceable. Customer-Spec Executable. Production-Integrated.

For programs requiring functional RF verification at scale, Libra integrates RF testing directly into the production line with automated serialization controls, secure output trace logging, and a framework built to execute customer-supplied test specifications. A dedicated RF lab equipped to 26.5 GHz supports parametric verification for increasingly complex high-frequency assemblies.

## PRODUCTION RF VERIFICATION

### Line Integration

Functional RF validation staged directly within the production line

### Test Framework

Designed to execute customer-supplied test specifications without ground-up development

### Automated Platform Control

Software-governed instrumentation controls standardize verification loops and reduce manual adjustment risk

### Serialization Interlocks

Automated ID rules ensure assemblies are verified before high-frequency waveform analysis proceeds

### Secure Data Logging

Digital capture of RF output traces creates a traceable testing ledger for full device lifecycle documentation

## RF LAB CAPABILITIES

### Frequency Range

DC to 26.5 GHz — covers 900 MHz harmonics through 7th order; supports Ka-band and 5G program lifecycles

### Vector Network Analyzer (VNA)

S-parameter measurement, impedance matching networks, high-frequency path loss characterization

### Signal / Spectrum Analyzer

Signal profile analysis, peak power, high-order harmonic distortion with integrated frequency counter

### Microwave Signal Generator

Clean high-frequency CW and modulated signal injection for circuit-under-test stimulation

### Infrastructure Advantage

Existing cabling, calibration units, and attenuation networks fully utilized — CapEx 100% directed to core instruments

## PARAMETRIC VERIFICATION COVERAGE

### Signal Integrity

Path loss evaluation across board topologies to minimize signal degradation in mission-critical assemblies

### Amplifier Alignment

Programmatic monitoring for peak transmission gain linearity across operating conditions

### Clock Validation

TCXO frequency stability monitoring over dynamic thermal envelopes and environmental stress

### Waveform Analysis

High-frequency output trace capture with secure digital ledger for full lifecycle traceability

## TARGET MARKETS & COMPLIANCE

**Defense & Aerospace** Mission-critical assembly functional verification for Tier-1 primes and government programs

**Satellite Communications** Stringent high-frequency tracking margin verification for space-grade electronic assemblies

**Future Verticals** 5G infrastructure (mmWave/MIMO), automotive radar (ADAS), IoT/Wi-Fi 6E, and industrial edge computing nodes

**Certifications** AS9100:2016 | ISO 9001:2015 | ISO 13485:2015 | ITAR Registered

**RF verification requirements on an upcoming program?**

Contact Libra Industries: [www.libraindustried.com](http://www.libraindustried.com) | [Sales@libraind.com](mailto:Sales@libraind.com)

**BUILT TO DELIVER**