



Make RF Smarter with Freescale

## RF Power Tool System

RF power application development platform

### Applications

- RF and microwave heating
- Avionics
- Broadcast
- Mobile radio
- Military and defense
- Laser
- Medical
- Plasma generation

### Overview

This fully integrated application development system has all the functions and features needed for RF power amplifier development at a fraction of the cost of a traditional RF bench. The intuitive PC interface and local control simplify setup and provide a great out-of-the-box experience. This system is purpose-built to provide our customers with an economical, fully functional and easy-to-use application development tool for Freescale RF power devices.



## Included in the Box

- Generator instrument—core of system, generator and Freescale microcontroller-based sensor hub
- 5 V, 3 A universal wall adapter power supply with adapters for multiple countries (US, UK, EU, AU)
- SMA coaxial cable—RF cable suitable for frequencies from 1 MHz to 5 GHz
- Two interconnect cables used as four shielded twisted pairs—HDMI style
- USB cable to connect from generator to PC
- Software to use on Windows® PC
- Quick Start Guide
- Users Guide
- Convenient rugged carrying case (optional)

*EVB sold separately*



## Evaluation Boards

- Choose from a variety of compatible evaluation boards from 50 W to 1.25 kW (sold separately)
- Application-specific designs
- Smart PA assembly—sensors provide real-time temperature, DC and RF power feedback to the RF Power tool system for real-time analysis



## Application-Specific Components

Use Freescale's list of recommended components to set up techniques specific to your application:

- High power supply
- Load
- Heat sink
- Connecting cable between PA and load

## Speeds Development Time

- Easy to use for both inexperienced and veteran RF designers
- Quick setup
- Runs from PC or front panel
- Flexible pulse modulation with both internal and external triggers
- Real-time display shows forward power, reflected power, drive power, VSWR, efficiency, temperature, DC power, voltage and current

## Cost Effective

A complete RF test bench at a fraction of the cost:

- RF generator
- 4 wattmeters with directional couplers
- 4 bias supplies
- Voltmeters
- Ammeters
- Thermometers
- RF driver amplifier

## Available Software

- Windows executable GUI
  - Easy customization
  - SCPI-compliant command set available

## General Specifications

### RF Generator

- Frequency: 1 MHz to 2.5 GHz
- Resolution: 1 Hz steps
- Max level: 30 dBm
- Attenuation: 0–31.5 dB
  - Resolution: 0.5 dB
- Pulse modulation
  - Duty cycle: 0.1% to 99.9%
  - Pulse width: 0.5  $\mu$ s–0.5 s
  - Resolution: 0.1  $\mu$ s

### RF Power Measurement

- Forward power
- Reflected power
- Level range: 1 mW–2 kW

### Bias Voltage Supply

- Voltage: 0–5 V
- Resolution: 10 mV
- 4 channels

### DC Measurements

- Voltage: 0–100 V
- Current: 0–50 A

### Compliance

- FCC
- CE

### General Mechanical Characteristics

- H: 102 mm (4 in)
- W: 254 mm (10 in)
- D: 330 mm (13 in)

### Storage Temperature

- –20 °C to 70 °C

### Operational Temperature

- 0 °C to 40 °C

### Front View

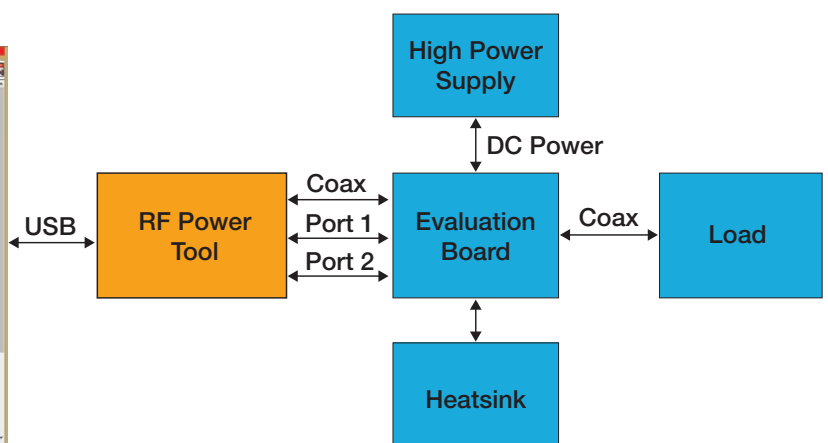
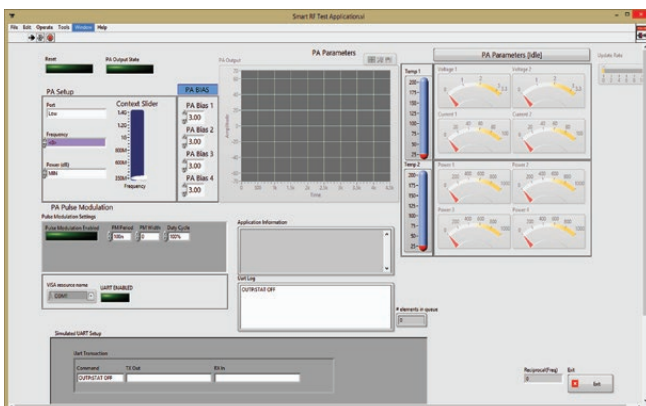


### Back View

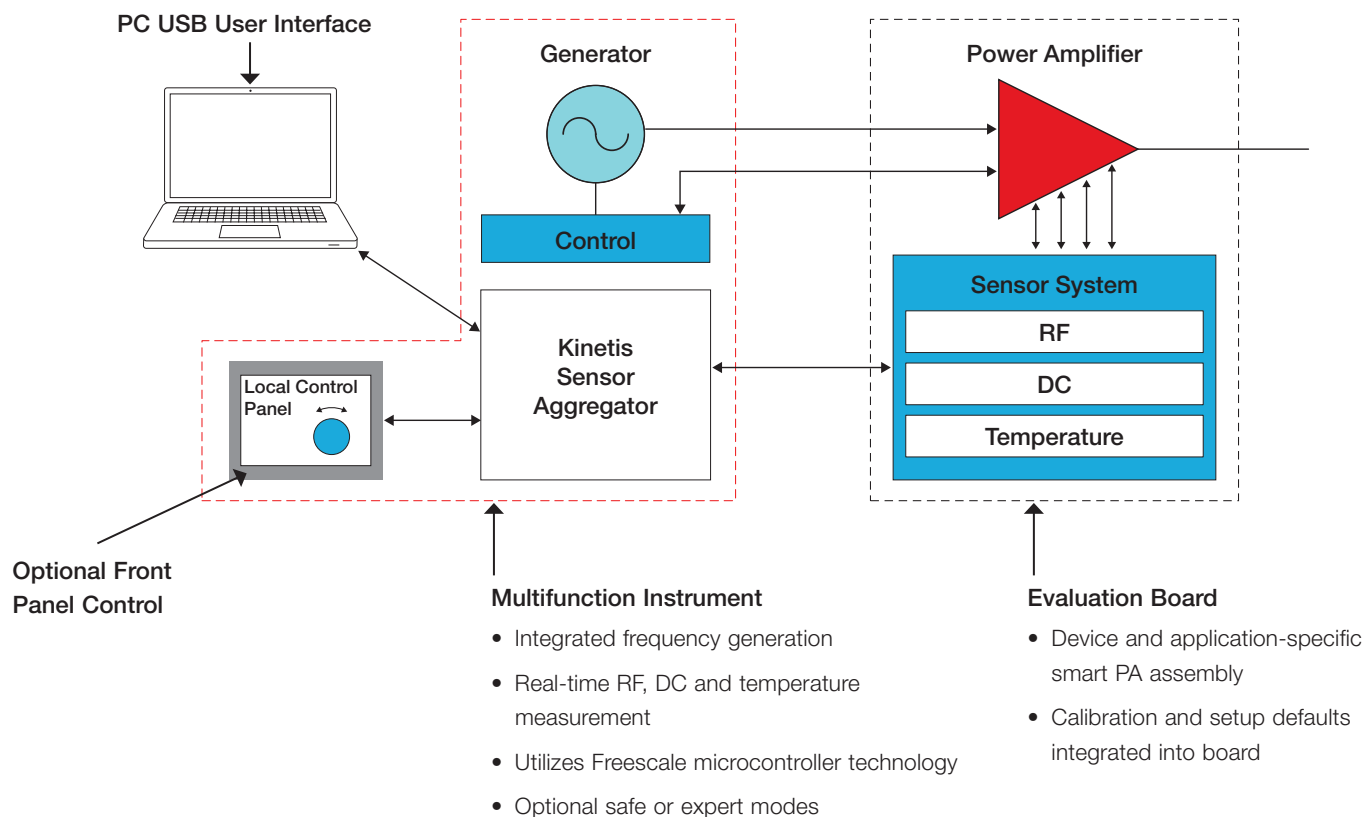


## RF Power Tool Typical System Setup

### PC User Interface



## Functional Blocks



## Why choose Freescale?

- More than 50 years of delivering RF power devices
- Best-in-class RF performance
- Industry-leading package designs
- Consistent and repeatable RF performance
- Consistent high quality
- High-volume manufacturing capability
- Assured long-term supply
- Comprehensive global in-region support to help you with your design

For more information, visit [freescale.com/RFpowertool](http://freescale.com/RFpowertool)

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