Development system for solid-state RF energy

RFEL24-500 NXP RF Energy Lab Box

The RFEL24-500 RF energy lab box is a 2 x 250 W, fully integrated RF development system. It is a powerful tool for exploring the benefits of solid-state RF energy. Designed for both RF and non-RF engineers to test and prototype innovative solutions, the RF energy lab box eliminates the need to invest in an extensive RF test bench.

OVERVIEW

The RF energy lab box uses the capabilities of two RFEM24-250 modules for signal generation with frequency, power and phase control and for monitoring output power, reflected power, current and temperature. The RFEL24-500 with the PC-based GUI has extended features that, among others, enable phase and frequency optimization.

FEATURES

‣ RF signal generator

‣ Two 2.45 GHz, 50 ohm, 250 W modules

‣ Power, frequency and phase control

‣ Operated by PC-based graphical user interface

‣ Warnings and error thresholds for safe operation

‣ Data logging

‣ Thermostatically controlled fans

‣ Frequency and phase sweep capabilities for best match optimization

‣ High accuracy RF power measurement

‣ Continuous monitoring of forward and reflected RF power, current and temperature
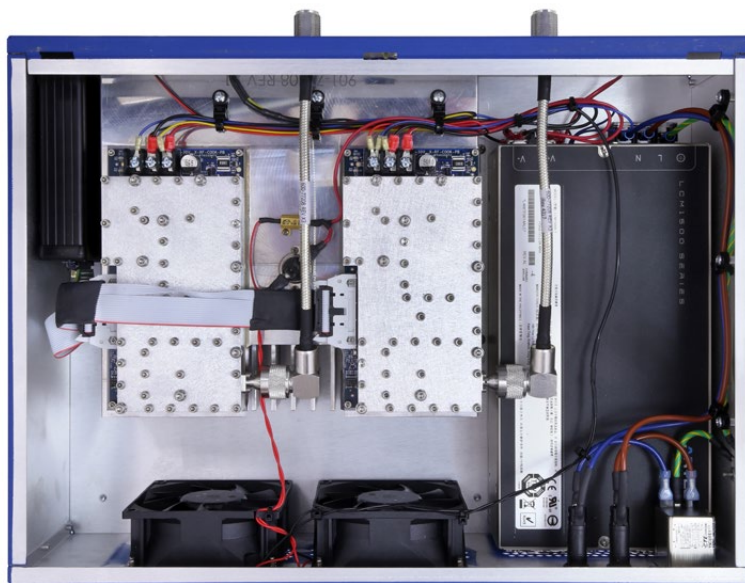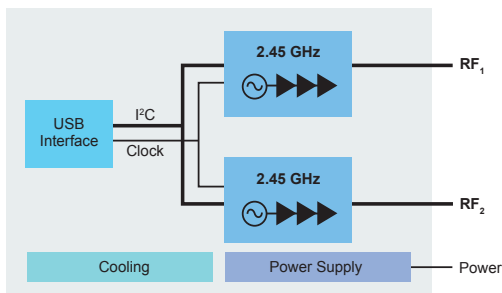
TYPICAL PERFORMANCE

Frequency	2400-2500 MHz
RF power output	250 W / Channel
Efficiency	> 50% (full power)
Operating voltage	100-265 VAC, 1 kW Max
VSWR	Unlimited
RF power measurement	± 5%

HARDWARE OVERVIEW
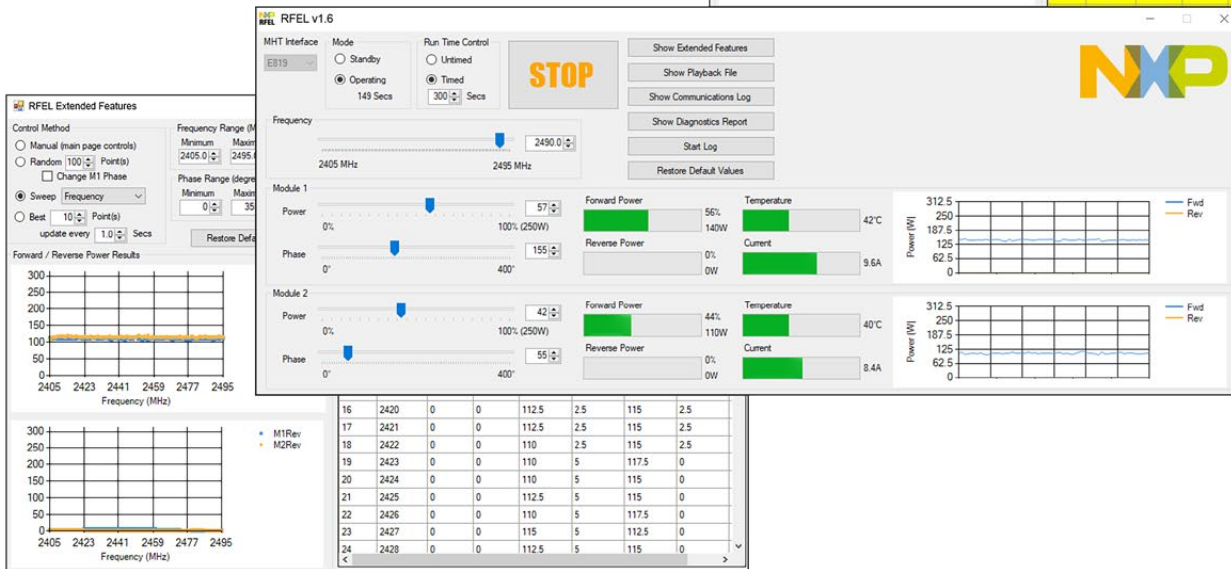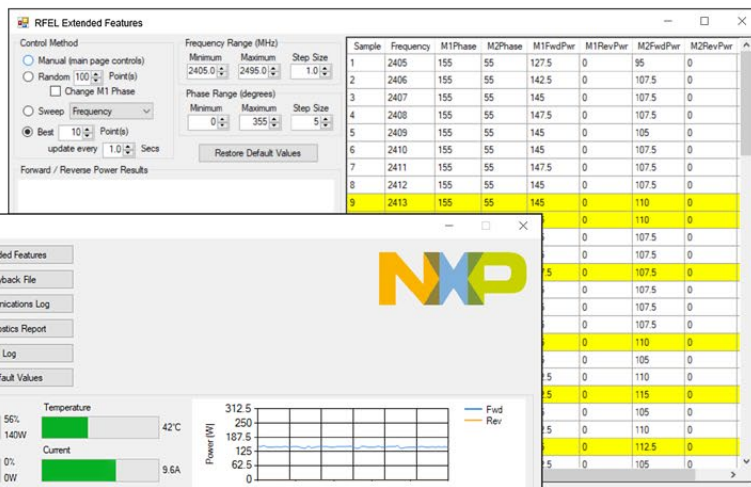
RF energy lab box includes:

▸ Two 2400-2500 MHz, 250 W modules

▸ USB to I²C interface

▸ Power supply unit

▸ Heatsink and fans

Size: 13" x 17" x 5"
(33 cm x 43 cm x 13 cm)

GRAPHICAL USER INTERFACE

The intuitive PC GUI (graphical user interface) includes an extended features menu that supports frequency and phase sweeps. It automatically finds the best spots that maximize the energy transfer, making access to solid-state RF design easy.

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