

QEX (ISSN: 0886-8093) is published bimonthly in January, March, May, July, September, and November by the American Radio Relay League, 225 Main St., Newington, CT 06111-1400. Periodicals postage paid at Hartford, CT and at additional mailing offices.

POSTMASTER: Send address changes to: QEX, 225 Main St., Newington, CT 06111-1400 Issue No. 326

Publisher American Radio Relay League

Kazimierz "Kai" Siwiak, KE4PT

Lori Weinberg, KB1EIB Assistant Editor

Scotty Cowling, WA2DFI Ray Mack, W5IFS Contributing Editors

### **Production Department**

Becky R. Schoenfeld, W1BXY Publications Manager

Michelle Bloom, WB1ENT Production Supervisor

David Pingree, N1NAS Senior Technical Illustrator

Brian Washing Technical Illustrator

### **Advertising Information**

Janet L. Rocco, W1JLR **Business Services** 860-594-0203 - Direct 800-243-7768 - ARRL 860-594-4285 - Fax

## Circulation Department

Cathy Stepina **QEX Circulation** 

## Offices

225 Main St., Newington, CT 06111-1400 USA Telephone: 860-594-0200 Fax: 860-594-0259 (24-hour direct line)

Email: qex@arrl.org

# Subscription rate for 6 print issues:

In the US: \$29

US by First Class Mail: \$40;

International and Canada by Airmail: \$35

ARRL members receive the digital edition of QEX as a member benefit.

In order to ensure prompt delivery, we ask that you periodically check the address information on your mailing label. If you find any inaccuracies, please contact the Circulation Department immediately. Thank you for your assistance.

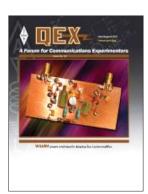


Copyright © 2021 by the American Radio Relay League Inc. For permission to quote or reprint material from QEX or any ARRL publication, send a written request including the issue date (or book title), article title, page numbers, and a description of where and how you intend to use the reprinted material. Send the request to permission@arrl.org

# July/August 2021

### **About the Cover**

Alan Victor, W4AMV, applies and verifies Spice models and FFT techniques to a systematic design flow for Class C RF power amplifiers in the 1-to-10 watt class that are used as bipolar drivers or final amplifiers in a small transmitter. The approach includes finding the required impedance transforming circuits, power gain and efficiency. All of this capability is provided by freely available software and simple tools that are easy to implement and support in a modest lab environment. The outlined approach can also be applied to Class C designs for MOSFETS, IGFETs and larger bipolar devices.



# In This Issue

**Perspectives** Kazimierz "Kai" Siwiak, KE4PT

A Systematic Design Approach to RF Power Amplifiers Alan Victor, W4AMV

Letters

Amateur Portable Radios (Handheld Transceivers): **Exposure Considerations Based on SAR** 

Richard (Ric) A. Tell, K5UJU

**Designing Antenna Systems for Low Common Mode Current in Coaxial Feed Lines** Jacek Pawlowski, SP3L

Announcement and Feedback

Fixture and Method for Measuring Q of Inductors Using a **VNA or Spectrum Analyzer** 

Tony Brock-Fisher, K1KP

**Upcoming Conferences** 

A Simple Way to Tune Out SWR on a Balanced Transmission Line at VHF and UHF

John Stanley, K4ERO

**Telegram Your Commands** Dan Koellen, Al6XG

# **Index of Advertisers**

DX Engineering:	Cover III
Kenwood Communications:	Cover II

SteppIR Communication Systems:Co	ver IV
Tucson Amateur Packet Radio:	36
W5SWI	23