



# RFIC 2024

## IEEE Radio Frequency Integrated Circuits Symposium

### Washington, DC, USA

### June 16-18, 2024



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## RFIC 2024 Call for Papers

The **2024 IEEE Radio Frequency Integrated Circuits Symposium (RFIC 2024)** is the premier forum focused exclusively on presenting the latest research results in RF, millimeter-wave, and wireless integrated circuits.

**Continuing in 2024:** RFIC has expanded its focus to include systems, applications, and *interactive demonstrations*, including mobile systems for 5G and beyond, radar, imaging, satellite communications, terahertz, biomedical, and optoelectronic systems.

**Technical Areas:** The symposium solicits papers describing original work in all areas related to RF, mm-Wave, THz, and wireless systems and ICs. Work must be demonstrated through IC hardware results and measurements.

- **Wireless Radios and Systems-on-Chip:** innovative circuit and system-on-chip concepts related to software-defined radio, interference cancellation, full-duplex, cellular/WiFi, GPS, low-power radio circuits for sensors, IoT and biomedical applications, radio architectures suitable for energy harvesting, wake-up receivers, etc.
- **Sub-D band mm-Wave Circuits:** >20GHz <110GHz circuits for wireless communication, including phase shifters, phased arrays, beamformers, MIMO transceivers, and other systems for 5G applications.
- **Radar, Imager, and Sensor:** integrated and vehicular radar, imaging, spectroscopy, MEMs-based sensors and actuators, and sensing circuits at RF through THz frequencies.
- **Transmitters and Power Amplifiers:** for RF through mm-Wave, D-band, and higher frequencies, power amplifiers, drivers, modulators, digital transmitters, advanced TX circuits, linearization, and efficiency enhancement techniques.
- **Front-End Circuits:** LNAs, mixers, VGAs, T/R switches, integrated FEM, amplifiers, filters, and demodulators.
- **Wireline, Optical, Quantum and Mixed-Signal Circuits:** baseband and RF converters (ADC/DAC), sub-sampling/over-sampling circuits, converters for digital beamforming or emerging architectures, power (DC-DC) converters for RF applications, conversion techniques for wireline or optical connectivity (I/O transceivers and CDRs), silicon photonics, quantum computing ICs, hardware security, and AI applied to RF circuits.
- **Oscillators and Frequency Synthesizers:** for RF through mm-Wave frequencies, D-band and higher, VCOs, injection-locking frequency dividers/multipliers, PLLs, DLLs, MDLLs, DDS, LO drivers, and frequency dividers.
- **Device/Packaging/Modeling and Testing Technologies:** RF device technology (both silicon and compound semiconductors), MEMs, integrated passives, photonic, reliability, packaging, modeling and testing, EM modeling/co-simulation, built-in-self-test (BIST), 3D ICs, and novel THz solutions.
- **D-band Circuits:** >110GHz circuits and SOCs for wireless communication, including transceivers, transmitters, and other systems for 6G applications.
- **RFIC System Applications:** system-level innovations in RFICs with application to 5G and beyond, radar, imaging, satellite communications, terahertz, biomedical, and optoelectronic systems. May include interactive demonstration and presentation of complete systems based on new or previously published chips. Additional details can be found on the RFIC website.

**Format and Location:** The 2024 symposium is planned as an in-person conference. Events will be held at the Walter E. Washington Convention Center in Washington, DC. RFIC 2024 starts on Sunday, June 16, 2024, with a large selection of workshops followed by two plenary talks and a reception featuring our top industry and student papers. Monday and Tuesday, June 17-18 will comprise oral presentations, panel sessions and student event.

**Microwave Week 2024:** RFIC 2024 kicks off *Microwave Week*. The week continues with the International Microwave Symposium and then the ARFTG Microwave Measurement Conference. This week is the world's largest and most important gathering of RF and microwave professionals in the field with more than 9000 participants.

**Industry Exhibition:** A three-day Exhibition typically showcases more than 900 Exhibitors who represent the state-of-the-art of the industry covering everything needed for RF and microwave design. More on the format of the 2024 Exhibition is found on both RFIC and IMS websites.

#### Electronic Submission Deadlines

Manuscript in PDF format: **January 9, 2024**

Final Manuscripts for the RFIC Digest: **March 4, 2024**

All submissions must be made at [rfic-ieee.org](http://rfic-ieee.org) in pdf form.



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[rfic-ieee.org](http://rfic-ieee.org)



## Author Registration and Paper Submission Steps:

1. All papers must be submitted via the website: [rfic-ieee.org](http://rfic-ieee.org).
2. Author registration form: title, author(s) and affiliation(s), and statement of exclusivity. This form also includes an abstract of 30-50 words (description of the subject, its importance, and how the work contributes to the field). This information is required and must be submitted via the website: [rfic-ieee.org](http://rfic-ieee.org).
3. Authors must use the template provided on the [website](http://rfic-ieee.org) to format their manuscript. **The manuscript may not exceed 4 pages total and the file size must be less than 2 MB. For PDF files, use Distiller and select "embed all fonts". Please note that we do not accept "\*.doc" or "\*.docx" files.**
4. Authors must adhere to specific guidelines to ensure that the submission complies with our **DOUBLE-BLIND REVIEW PROCESS**. Details are provided on [rfic-ieee.org](http://rfic-ieee.org). Pay close attention to how authors should cite their previous work.
5. Submission deadline: **9 January 2024**

*Submissions will be acknowledged instantly.* Late submissions will not be considered.

Authors of accepted papers will be required to submit a final manuscript for publication, including a **clear die photo** of the work described in the manuscript.

**Paper Selection Criteria:** All submissions must be in **English**. Papers will be selected based on the following factors:

- **Originality:** The paper must be unique, significant, and state-of-the-art. Are references to existing literature included?
- **Quantitative content:** The papers should give an explicit description of the work with supporting data.
- **Quality:** Clarity of the writing and figures. What is the context of the contribution to previous work?
- **Interest to attendees:** Why should this work be reported at the RFIC Symposium?

**Clearances:** Authors must obtain all required company and government clearances prior to submitting a paper. A statement of clearance, signed by the submitting author, must accompany the final manuscript for the paper to be considered for publication.

**Double Submission:** Authors who do not properly cite their previous work, including concurrent IMS or other conference submissions, or who submit an RFIC manuscript to two or more publications without informing the editor/TPC chair that the paper is concurrently under review by another publication will be reported to IEEE and may be banned from future publications.

**Notification:** Authors will be notified of decisions on 22 February 2024. Authors of accepted papers will receive copyright release forms and instructions for publication and presentation. Final manuscripts for publication must be received by **4 March 2024**.

## Presentation Format:

- **Oral Presentation Papers:** Authors will be given 20 minutes to describe novel circuit and system techniques, measurement results, and potential impact to the RFIC community.
- **Interactive Demonstration Papers:** Select papers from the RFIC System Applications area will be presented in poster format along with functional hardware demonstration.

**All Authors must provide a PDF version of the presentation material for registered attendees to download during and after the symposium.**

**Visa Requirements:** *Due to the short timeframe between paper acceptance and RFIC, contact authors should provide their name as it shows on their passport and correct mailing address.*

**Student SUPERPASS:** RFIC enthusiastically invites participation from students at all levels to attend Microwave Week. All students will be offered the opportunity to purchase a SUPERPASS allowing access to RFIC, IMS, ARFTG, all workshops, technical lectures, panels, and more. SUPERPASS prices are significantly discounted to encourage participation.

**Best Student Paper Award:** A student paper award contest will be held as part of RFIC. Student papers will be reviewed in the same manner as all other papers. To be considered, the author must have been a full-time student (9 hours/term graduate, 12 hours/term undergraduate) during the time the work was performed **and** be the lead author and presenter of the paper. *The email address of the student's advisor must be supplied during submission time and will be used to verify student eligibility.* Complimentary registration will be given to the student finalists. *Finalists will present a poster or a demo at the Sunday's Symposium Showcase.*

**Industry Best Paper Award:** An industry paper award contest will be held as part of RFIC. Industry papers will be reviewed in the same manner as all other conference papers. Only papers with an industrial first author **and** presenter will be qualified for the Industry Best Paper Award. *Selected finalists will also present a poster or a demo at the Sunday's Symposium Showcase.*

**Invited Journal Articles:** Select authors will be invited to submit an expanded manuscript to the RFIC special issue in *IEEE Journal of Solid-State Circuits*. In addition, all authors are invited to submit an expanded version of their papers to a special issue of *IEEE Transactions of Microwave Theory & Techniques*.



Photos Courtesy of the Walter E. Washington Convention Center.