Contribution ID: **1605** Contribution code: **WEPB023** Type: **Poster Presentation**

Transitional solution of solid-state power amplifier at NSRRC

Wednesday 4 June 2025 16:00 (2 hours)

The Taiwan Photon Source (TPS) of the National Synchrotron Radiation Research Center (NSRRC) in Taiwan has integrated Solid-State Power Amplifiers (SSPAs) into routine operations since 2023, supporting a stored beam current of 500 mA. In response to the phasing out of Ampleon's BLF578 and the growing demand for improved energy efficiency, a new SSPA was developed based on the existing module configuration, utilizing the BLF978P as an interim solution. This approach serves as a bridge while the development of the next-generation SSPA, employing GaN transistors, is still underway. Both SSPA configurations, with and without circulators, were explored during development. This paper presents the performance of the prototypes and the implementation details.

Footnotes

Paper preparation format

LaTeX

Region represented

Asia

Funding Agency

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Session Classification: Wednesday Poster Session

Track Classification: MC7: Accelerator Technology and Sustainability: MC7.T08 RF Power Sources