

# A Custom Multi-Channel RF Distribution Module for FLASH2020+ RF Reference Generation System

*Wednesday, October 25, 2023 5:45 PM (5 minutes)*

The new RF phase reference generation system was designed and installed to ensure proper and reliable operation of the linac upgraded in the FLASH2020+ program. It synthesizes ultra-stable and ultra-low phase noise RF signals at 9, 108, 1300, and 1517 MHz frequencies. These signals are then routed via coaxial cables to all the system endpoints along the linac. This task required the development of a custom high-power, multi-channel RF distribution module. The contribution presents the designed distribution box that delivers RF reference signals in over 40 channels and provides constant monitoring and diagnostics of the signals, module status, and connected RF loads status. The presented devices have been installed for over a year in the FLASH facility and proved the reliable work and outstanding parameters.

## Keyword

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**Session Classification:** Posters

**Track Classification:** Measurement and control