

Design and development of a highly integrated and radiation-tolerant Software-Defined Radio (SDR) platform for space applications

Tuesday 18 May 2021 10:05 (25 minutes)

This talk is devoted to the design, development and verification of a novel SDR platform for space applications. Due to the required performance, a use of commercial off-the-shelf (COTS) devices is unavoidable. The design presents a new risk assessment approach for the use of COTS components in critical space applications, with a specific focus on radiation effects. Key-technology devices of the SDR have been evaluated for radiation effects and finally a complete system-level verification has been performed at CHARM with its unique mixed-field radiation environment and at KVI under proton irradiation.

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Session Classification: RADSAGA WP3 - Qualification Requirements at System Level