



RF Payloads and Technology - Final Presentation Days 2020

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## **Development of a highly integrated low cost X-band SSPA**

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SSPAs in X-Band are typically used for downlink transmitters in earth observation missions. This work shows development of a highly integrated SSPA based on GaN HPA for new space market up to TRL 5. The device is included in a small, light-weight chassis and allows to achieve 20 Watt output in the frequency range of 8.025 GHz - 8.4 GHz at a high PAE. The amplifier is able to achieve the nominal output power in the desired frequency range with input signal power range of -20 dBm to 0 dBm. Included are also ALC for thermal and power stabilization based on a custom bias ASIC and voltage regulators. The SSPA will be further developed up to an EQM in a follow up ESA activity with Tesat Spacecom as partners.

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