esa | TECHNOLOGY BROKER

SPACE FOR BUSINESS
BUSINESS FOR SPACE

TECHNOLOGY DESCRIPTION

The GOOSE© receiver development platform is an FPGA-based GNSS mini-lab and a flexible high performance receiver. It is capable of processing new or proprietary signals. It comprises 60 hardware channels in real time and provides an open software interface for customer applications. It grants deep access to hardware interfaces, down to e.g. correlation value levels. Additionally, the intermediate frequency signals can be recorded, processed and replayed with the platform.

INNOVATIVE ASPECTS

GOOSE© is designed as a rapid prototyping solution for the development of state-of-the-art GNSS receivers. The platform offers:

- Anti-spoofing resilience thanks to the implementation of Galileo OSNMA
- Direct acquisition of E5 and L5 including Galileo E5 AltBOC
- A new quad-band frontend integrates the reception of signals on S-band
- Integrated Tensor processor allows machine learning (ML) algorithms to run on the platform
- Digital Replay of IF-signals for easy and real-time repeatable tests
- Deep coupling and vector tracking in real time
- Insertion of Jamming and Spoofing
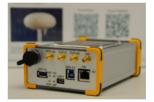- Mitigation of Jamming by Notch-Filter or Pulse-Blanker
- Extendable for meta signals

TECHNOLOGY READINESS (in space application)

TRL 9 (2024)

COUNTRY OF ORIGIN	LATEST UPDATE
Germany	06/2024

TECH CARD

TAGS	#communication	#GNSS	#receiver	#rapid prototyp.	#real time	#open software

APPLICATION AREAS

Aviation	Consumer Products	Data Processing, Software & AI	Electrical & Electronic Engineering	Safety & Security	Space technologies	Transport & Logistics