



TU Delft – Workshop GNSS

28 June 2019

A leading developer of high-end GNSS receivers

- A Team of 100 GNSS and navigation-experts
- 19 years of uninterrupted innovation in GNSS

Founded in 2000

- Spun off from IMEC
- Major contributor to the Galileo program

Owns the complete product development cycle

- From A to Z in-house
- Researched, designed and made in Europe

Global presence

- Customers all over the world
- Across all industries and applications



Automation



Marine



Offshore
Operations



Port Operation



Construction



Mining



Logistics



Rail



Autonomous



Precision
Agriculture



Automation

Survey and Mapping



Survey & GIS



Mapping



UAV

Scientific/Reference



Timing



Scientific



Reference
Network Station



AsteRx-U

- ❖ Rugged construction
- ❖ Heading capable
- ❖ Robust for MC and Marine applications





Altus NR3

- ❖ Lightweight & Portable
- ❖ Suitable as base station e.g. Real time RTK UAV's
- ❖ Extensive web-interface, runs on any device



PolaRx5/5e

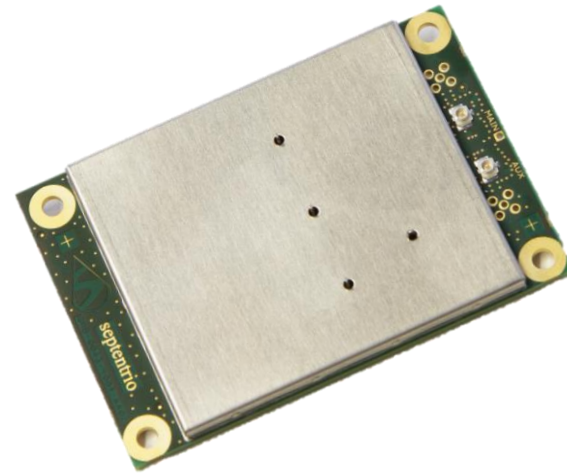
- ❖ Tracks **all visible** GNSS signals
- ❖ **NTRIP** client, server and caster
- ❖ Provides **unaltered** data



OEM

AsteRx-m2/m2a

- Light and compact
- Low-power
- Seamless UAS integration



AsteRx4

- Full featured and future proof
- Scalable and flexible
- Dual antenna



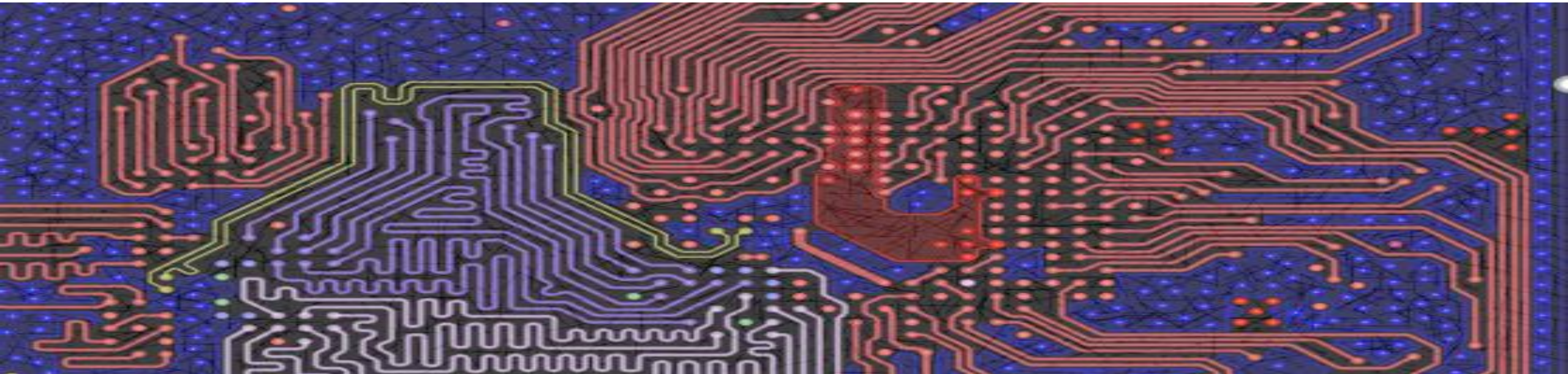
Mosaic: High performance GNSS receiver in a module

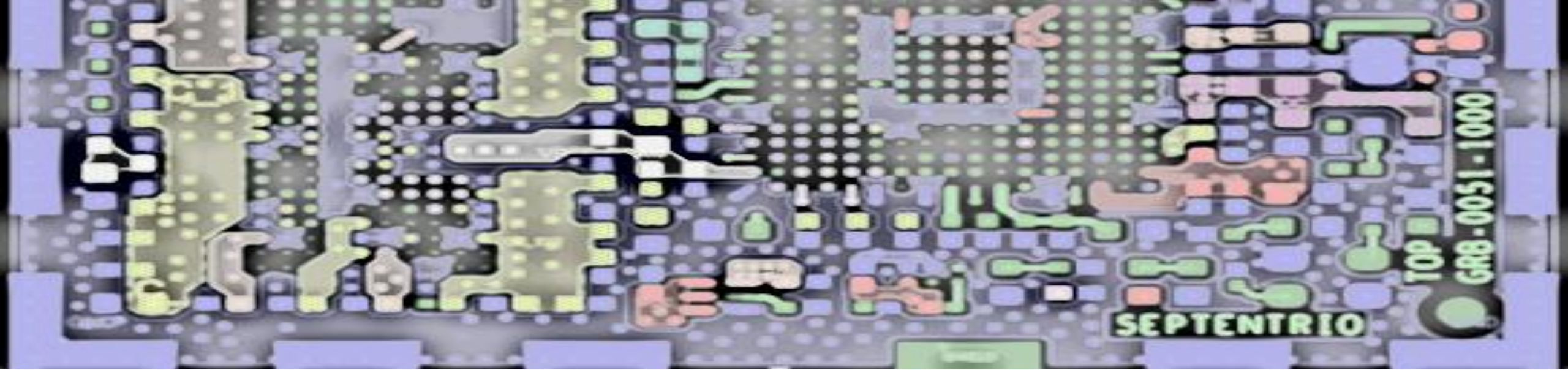
- 4 chips**
- S-QB5 Asic
 - S-GR4 Asic
 - CPU
 - Memory



SMT (surface mount) solderable
LGA (Land Grid Array)
FR4 PCB technology

Compact form factor
31x31mm – 7g





GNSS

GPS/GAL/GLO/BDS/QZSS/Navic

L1,L1C,L2C,L2P,L5/E1,E5a,E5b,AltBoc,E6/L1,L2,L3/B1i,
B1C,B2a,B2i,B3/L1,L1C,L2C,L5,L6/L5*

On module L- band

Septentrio interference mitigation

Tools (Rx tools, Geotags, ppsdk...)

*Configuration dependent

Specs may change without notice

Interfaces

4 LVTTTL COM ports

USB

Ethernet

4-bit SDIO for SD Card logging

3 Events

1 xPPS

...



Easy Integration

Basic application: no external components needed, no antenna circuitry needed, common terminals on outer rows for economic pcb routing

Advanced application:

Ethernet phy, mass storage card can be added directly

*Configuration dependent
Specs may change without notice

SWAP

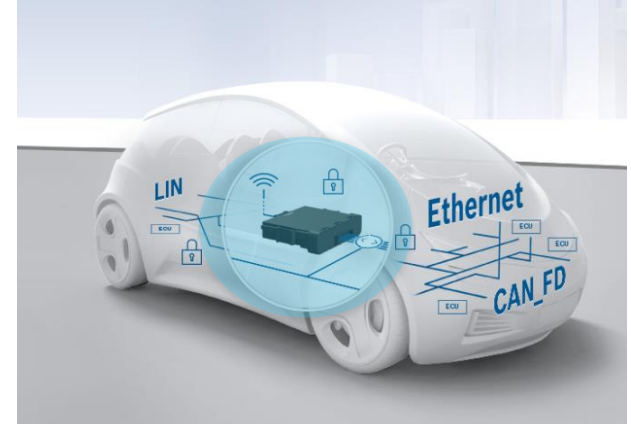
3,3V +/- 5%
700mW typical*
31x31X4mm
7g

Dev kit

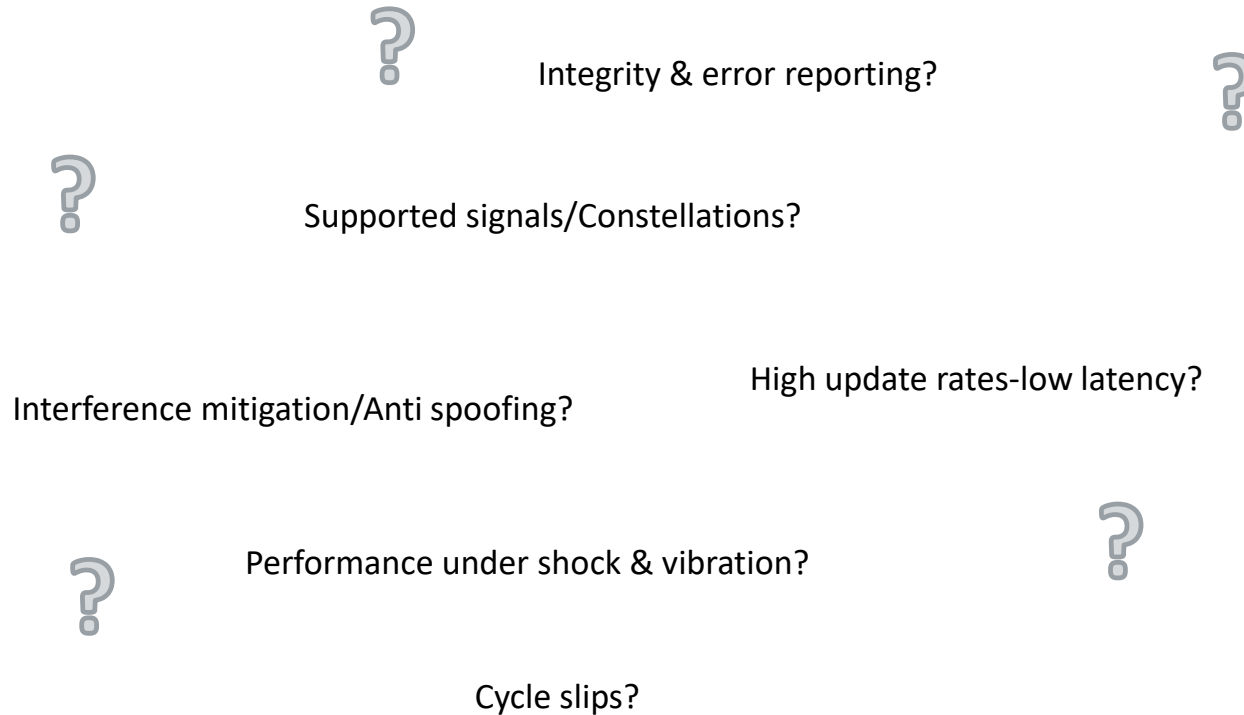
Easy plug & play to evaluate



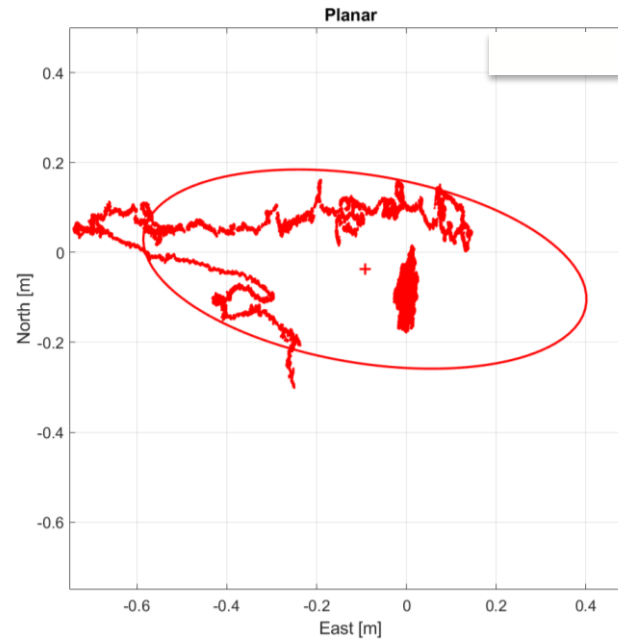
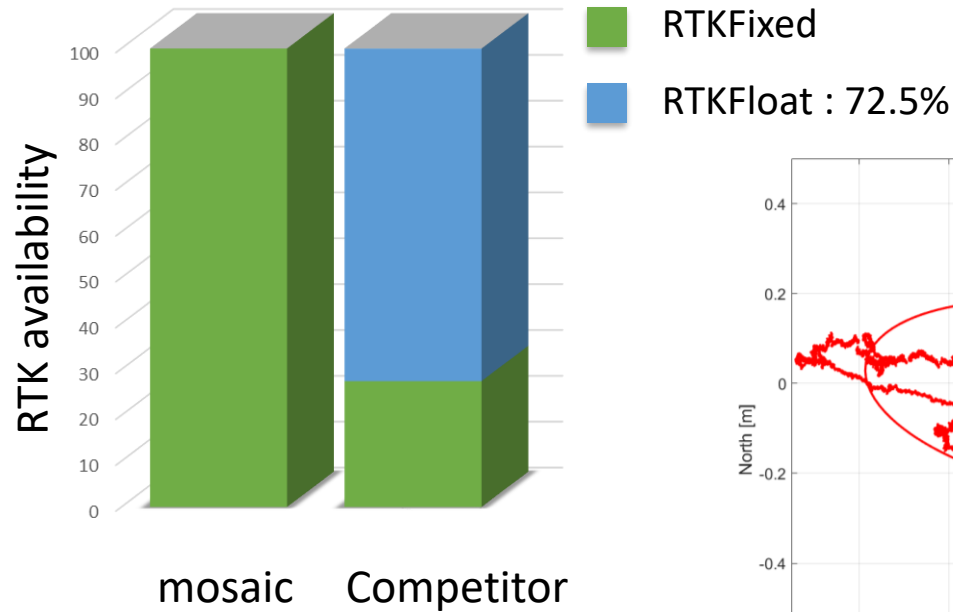
Applications



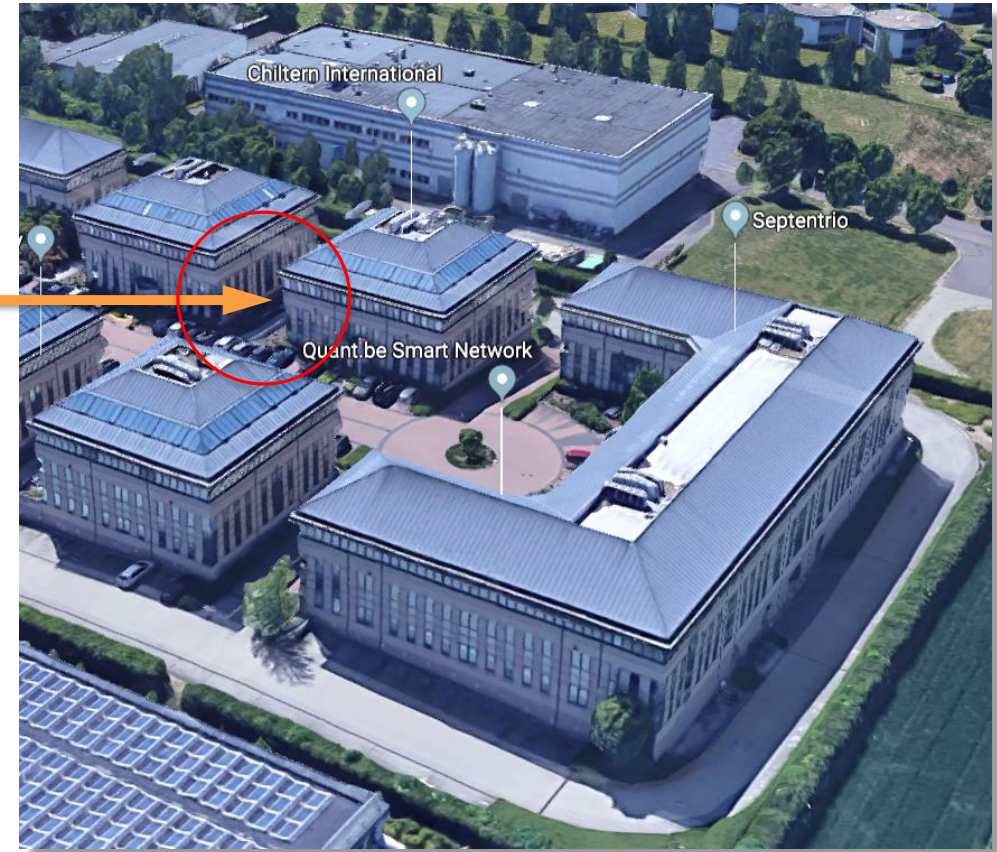
Dependable industrial solution in difficult environments?



Static Positioning

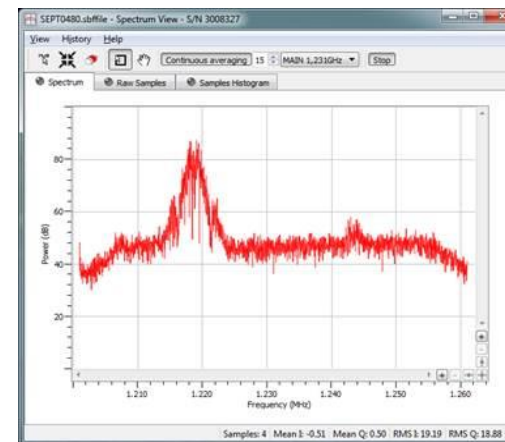


in between buildings

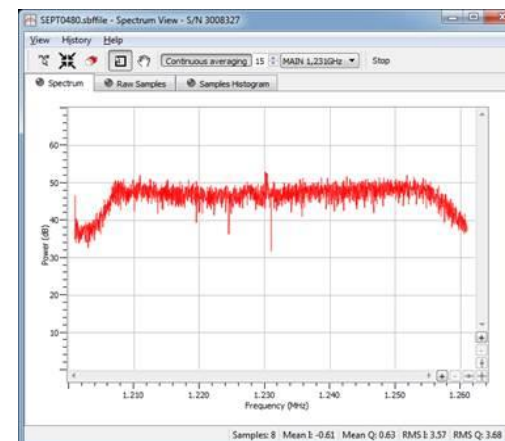


- Competitor startup in difficult conditions results in > 1hour time to RTK Fix
- Competitor error in RTKFloat severely underestimated

AIM+ Advanced Interference Mitigation



Without AIM+



Active AIM+

Dependable industrial solution!

- Supported signals/Constellations
- Integrity & error reporting
- Cycle slips
- Interference mitigation/Anti spoofing
- High update rates – low latency
- Performance under shock & vibration



Thank you



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