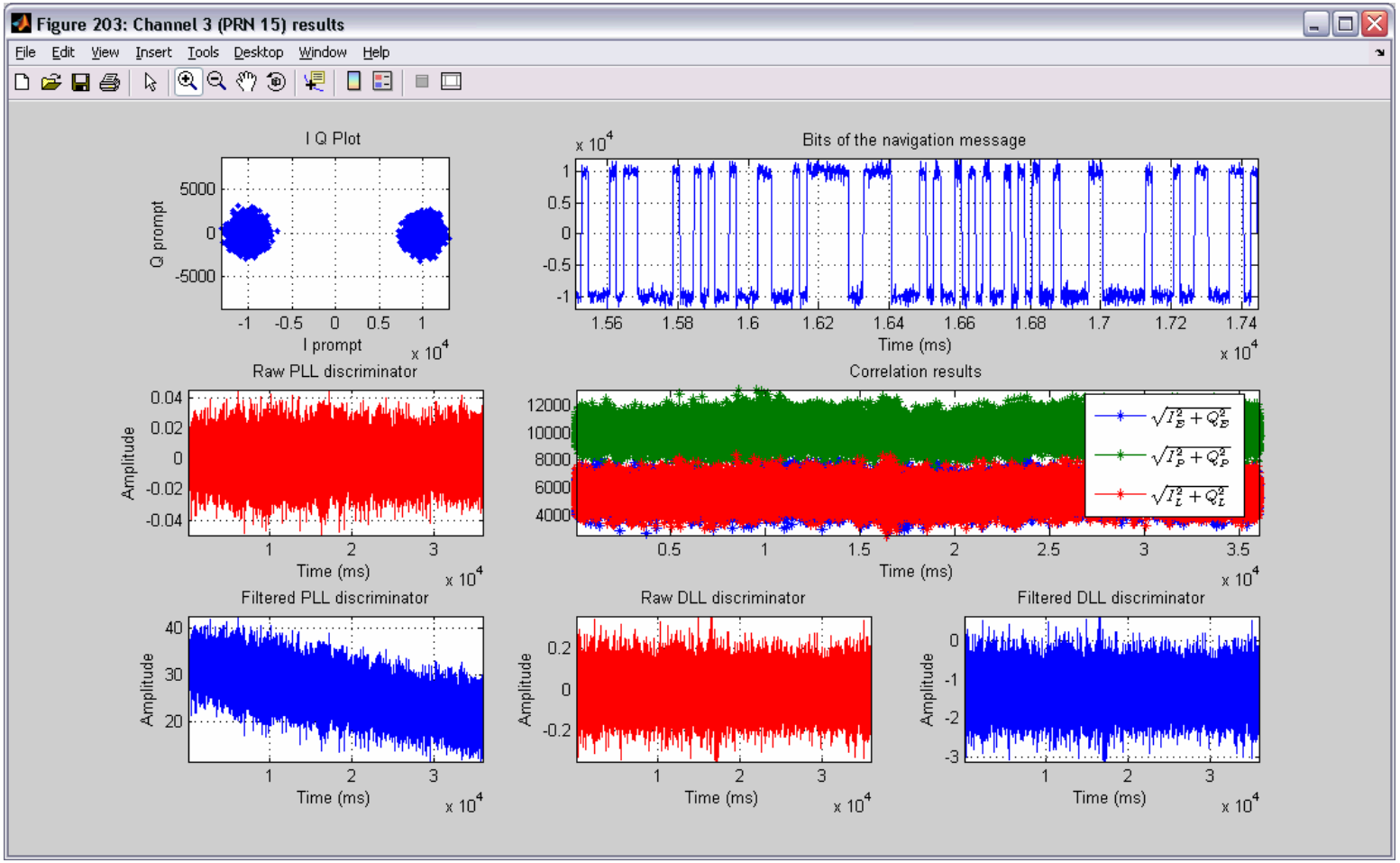
# Receiver Developments at the Danish GPS Center

Darius Plausinaitis

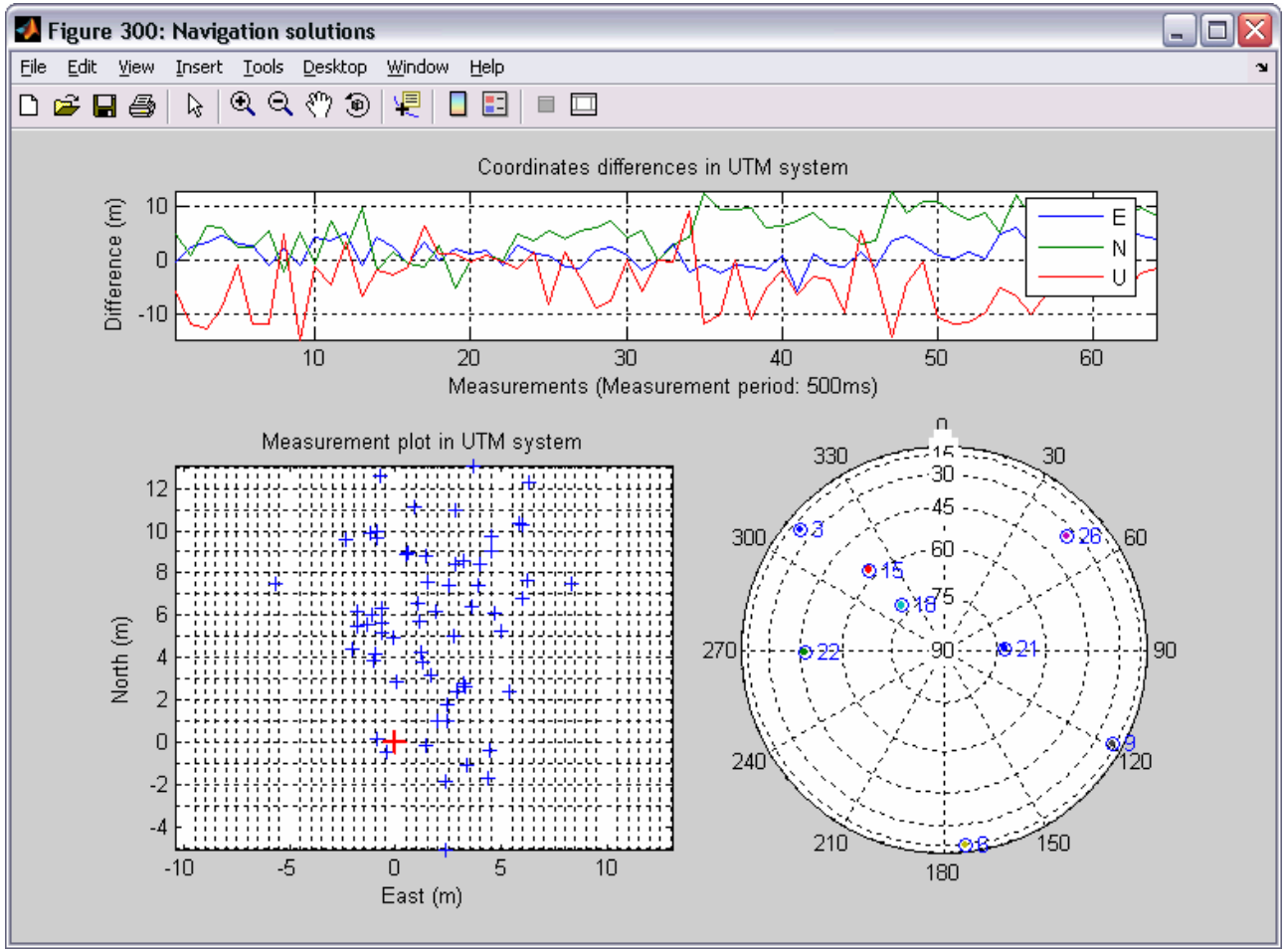
# Main development areas

- Development of a Software Defined Receiver
- EGNOS applications
- Basic GNSS signal simulators
- Multipath mitigation
- Atmospheric research

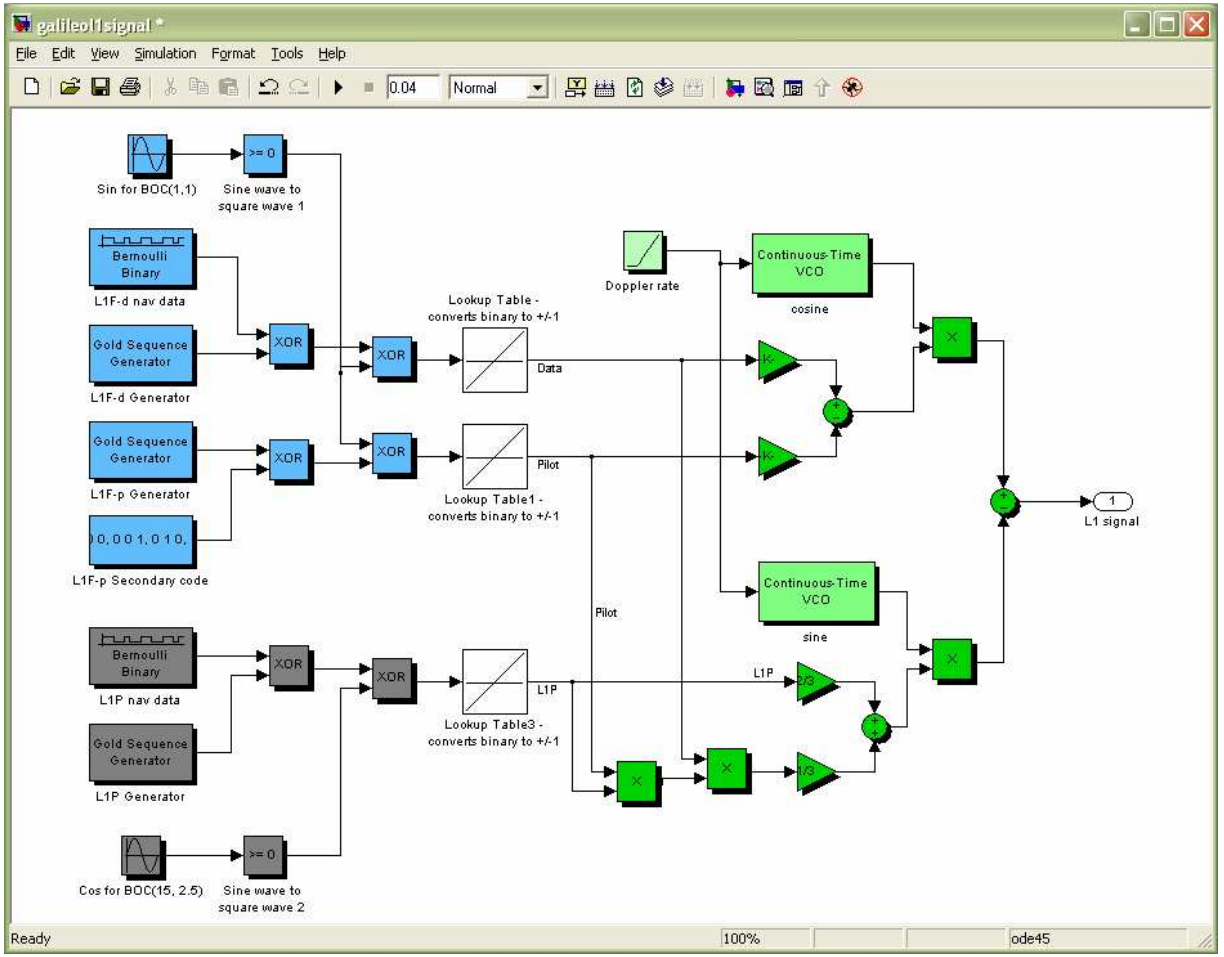
# Software defined receiver



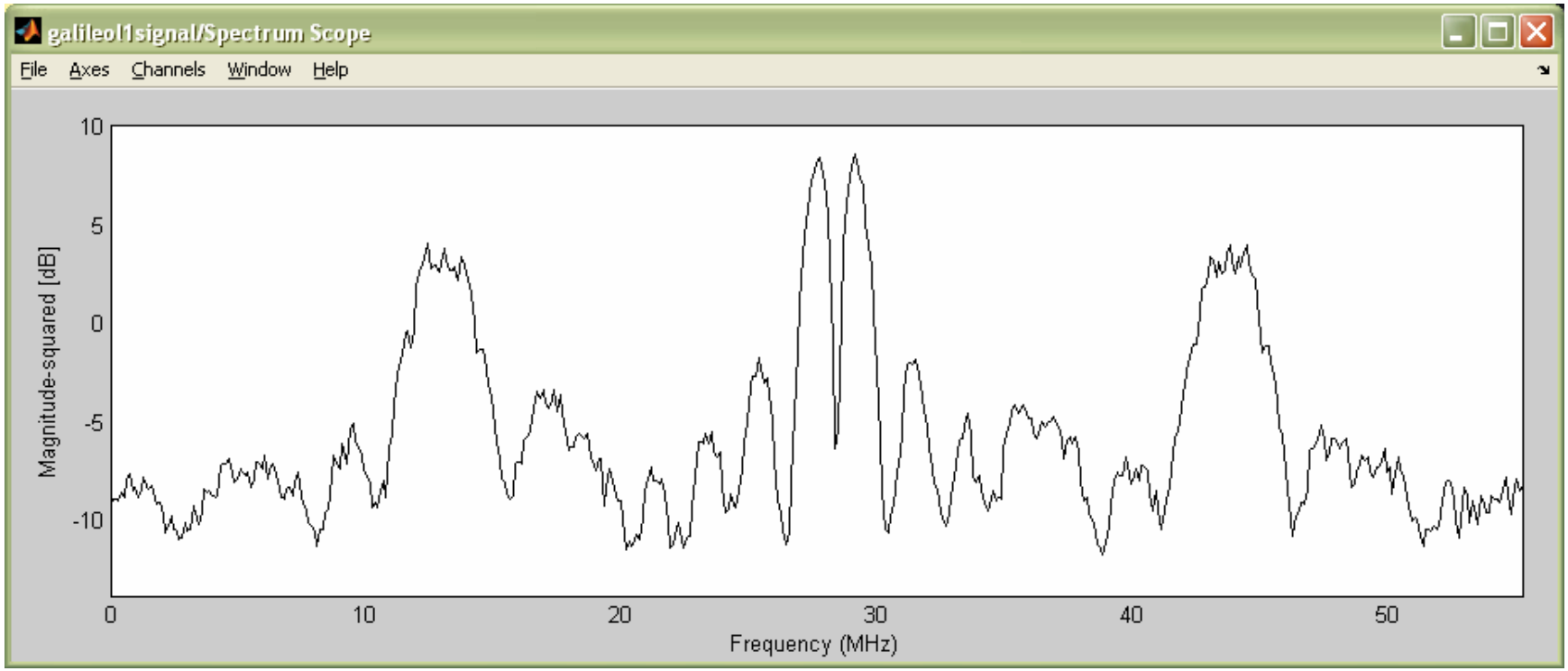
# Software defined receiver



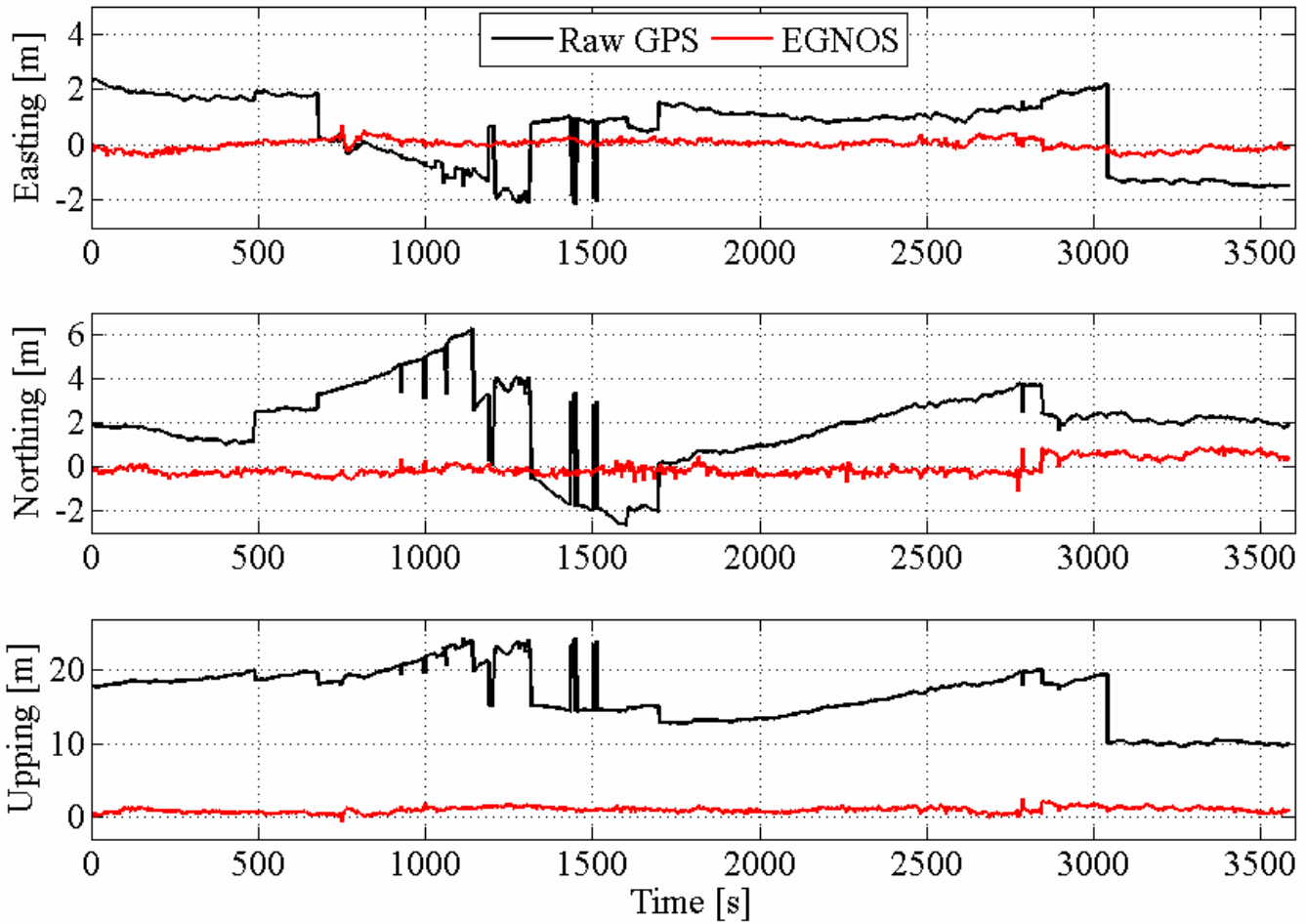
# Galileo Signal generator



# Galileo Signal generator



# EGNOS software



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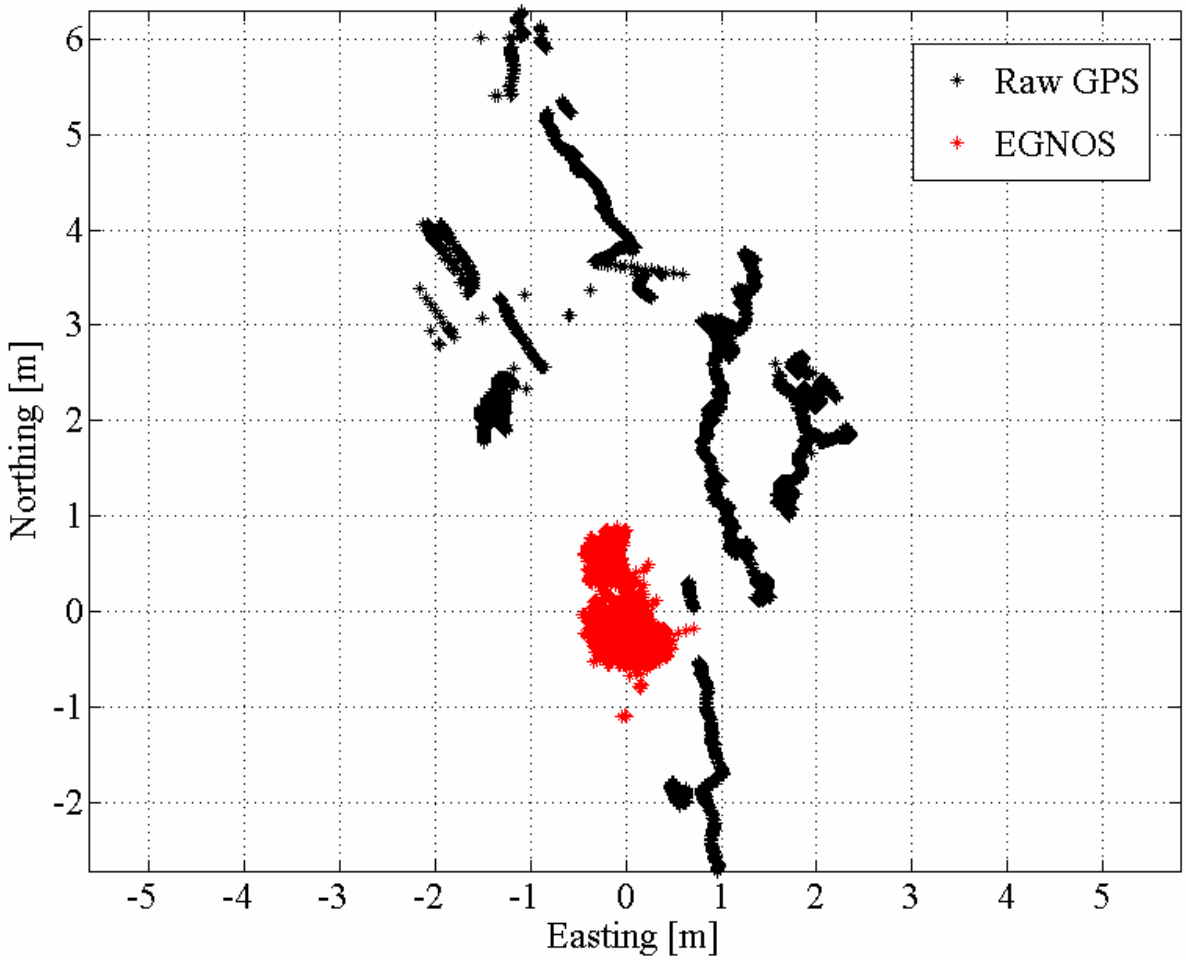
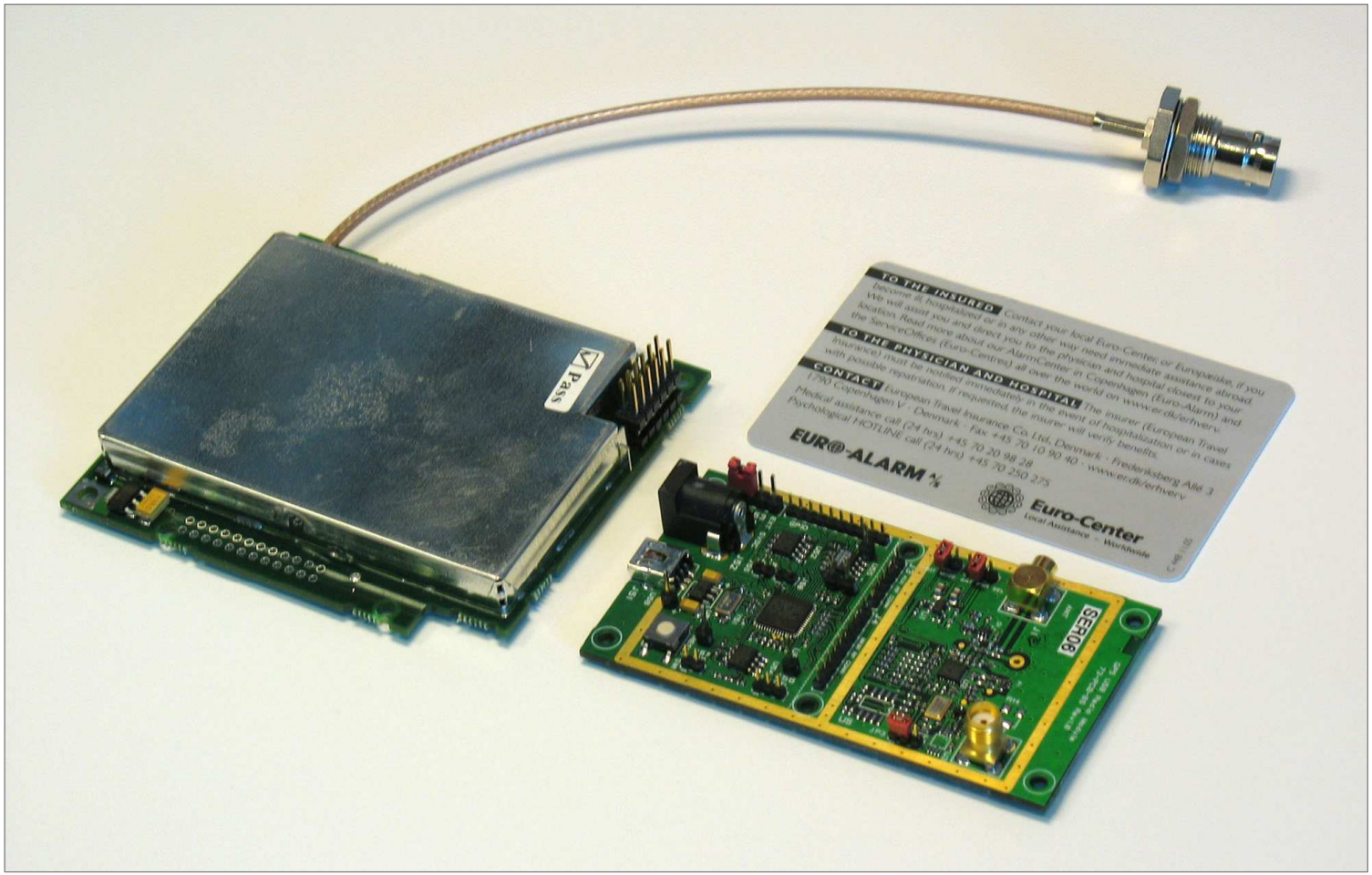


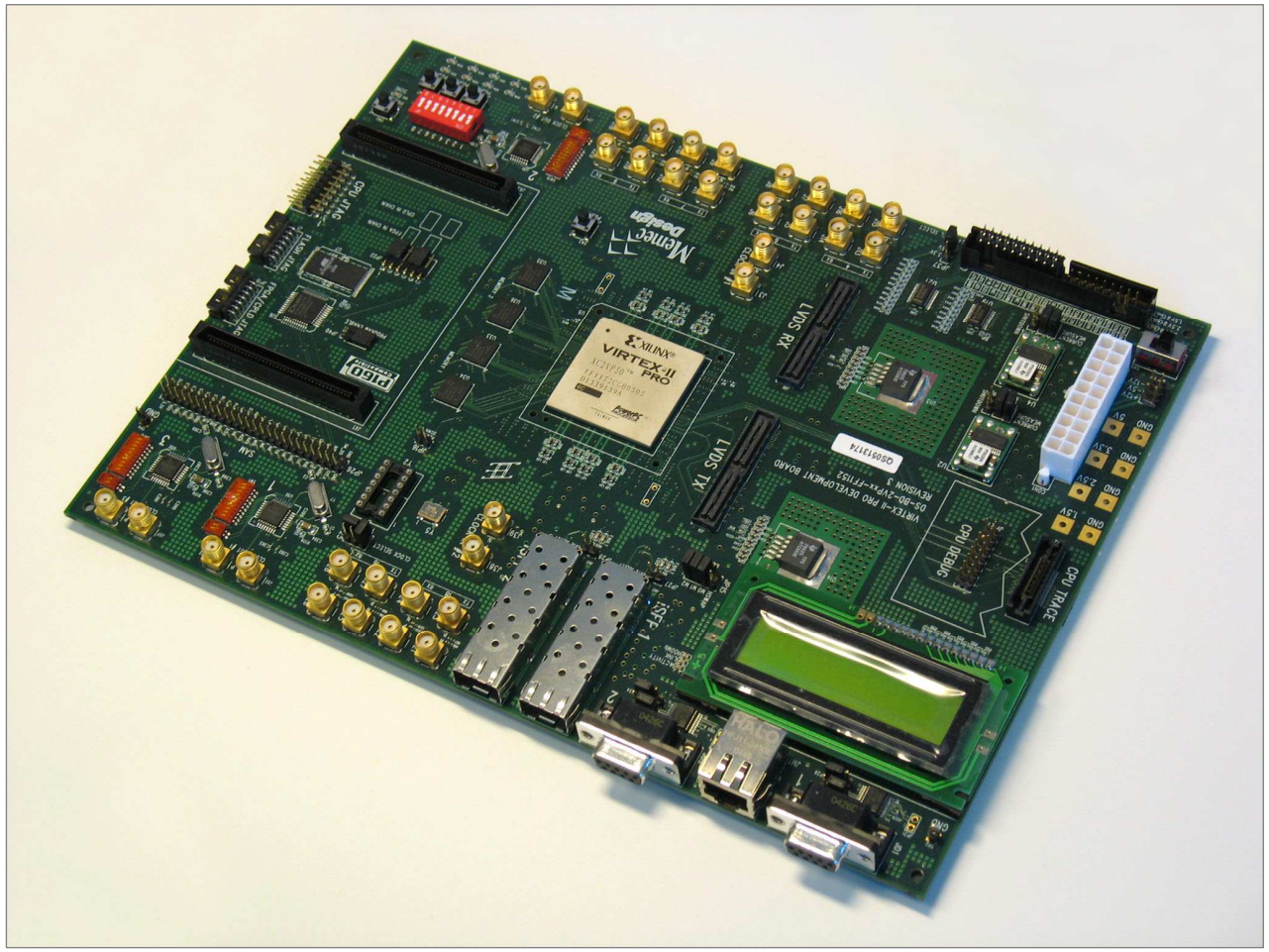
# Software defined receiver

- **Software defined radio in Matlab**
  - **GPS L1 implementation ready**
- **Future**
  - **Galileo SDR coming**
  - **Simulink SDR implementation**
  - **Real time SDR (maybe in Matlab)**
  - **Multipath mitigation techniques**
  - **EGNOS integration**

# GNSS front-ends



# FPGA development



# Schedule

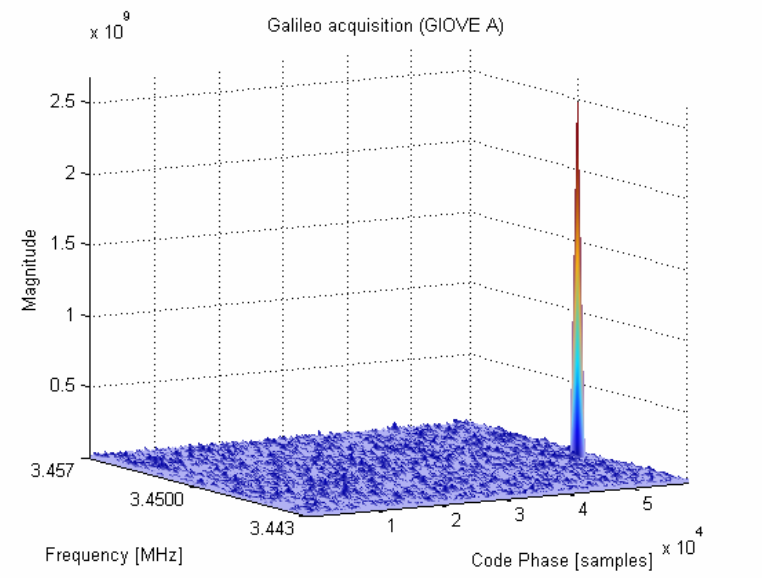
- **Software defined radio**
  - The book should be published summer 2006
- **EGNOS software**
  - Available now (for land positioning, server based)
- **FPGA based design**
  - In 1-1.5 year

# Specs

- **Software defined radio**
  - **GPS and Galileo on L1**
  - **USB 2 (High speed) front-end for L1**
    - **IF – 4.092 MHz**
    - **Sampling frequency – 16 MHz**
    - **Bandwidth – 6 MHz**
- **Commercial implementation**
  - **GPS on L1 (first version)**
  - **EGNOS**

# Needs

- Galileo ICD
- Galileo test signal for academia?



# Thank you for your attention