ASSISTED GALILEO/GPS/EGNOS MASS MARKET RECEIVER

As the majority of Galileo users will be Galileo Open Service users, utilising mass market type of receiver, a specific emphasis is brought to the development of the specific technologies for the mass market receiver and its specific constraints. Combining the positioning services with other services (such as communication, map visualisation, guidance or others) and physically integrating the user receiver into an user terminal, the final user will have the user terminal in hand that delivers a full set of services. The receiver to be developed within this project should combine Galileo L1 signals with GPS C/A-code and EGNOS signals. The signal acquisition should be supported by a mobile communication link to speed up the acquisition and to find weak satellite signals in indoor environments or urban canyons. Additionally, a Galileo/GPS/EGNOS signal generator is under development within the GAMMA project. In a first stage, the signal generator shall be used to test the receiver developed within GAMMA.

BACKGROUND

OBJECTIVES

Focusing on mobile terminals and automotive applications the Consortium will develop an L1-Band GALILEO/GPS/EGNOS mass market receiver. The receiver should be assisted by a mobile communication link to speed up the acquisition and to find weak satellite signals in indoor environments or urban canyons. Special emphasis will be laid on low cost, low power, processing of weak signals for indoor navigation, pilot tone tracking and assisted acquisition. Additionally, a Galileo/GPS/EGNOS signal generator is under development within the GAMMA project. In a first stage, the signal generator shall be used to test the receiver developed within GAMMA. The following tasks will be carried out within this project phase:

- Study of the implementation and architecture of Assisted-GNSS solution within the Galileo receiver

- Elaboration of algorithms that use at best the assistance data to improve the Time to First Fix and the sensitivity in the scope of the Galileo Assisted-Galileo signal processing
• Study of implementing an indoor GNSS solution within the Galileo receiver. Trading off algorithms and selecting the one(s) which promise to provide best results

• Definition of system performance for a SDR based multi standard GNSS receiver

• System definition and partitioning of RF and baseband IC architectures.

**DESCRIPTION**

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**RESULTS**

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**PROJECT DETAILS**

Acronym: GAMMA

Name of Proposal: Assisted Galileo/GS/EGNOS Mass Market Receiver

Contract Number: GJU/05/2413/CTR/GAMMA

Classification: USER SEGMENT TECHNOLOGICAL DEVELOPMENT

Total Cost: -

EU Contribution: -

Project Call: FP6 2nd Call

Start Date: -

End Date: -

Duration: -

Project Type: USER TECHNOLOGY

Project Links : [Website](#)

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