

PROJECT

E2S2A2

Embedded electronically steerable satcom airborne antenna

Funding: European (Horizon 2020)

Duration: Jul 2016 - May 2021

Status: Complete

Total project cost: €1,749,625

EU contribution: €1,223,162



Call for proposal: H2020-CS2-CFP02-2015-01

[CORDIS RCN : 206579](#)

Objectives:

E2S2A2 includes the design, prototyping, manufacturing and testing "on ground" and "in-flight" of an airborne antenna highly integrated into the wing – fuselage airframe fairing. Allowing high data rate in-flight connectivity (IFC) for different purposes. The connectivity will be through satellite communication operating at the Ka frequency band. The antenna is electronically steered utilizing Phased Array technology. This allows the high integration into the airframe structure, concretely the wing-to-fuselage fairing (WFF) panels of the FTB2 prototype aircraft (A/C). The panels will be replaced by new composite structures with embedded antenna elements. The antenna builds on concepts and prototypes developed by Gilat and its Bulgarian subsidiary Raysat and will benefit from the vast experience in SATCOM technology and airborne applications. The antenna consists of innovative Monolithic Microwave Integrated Circuit (MMIC) resulting from RTD partially funded by national RTD programs.

Methodology:

The activities and 50 months' work plan are in accordance with the work plan of the Regional Aircraft FTB2 demonstrator. Close synchronization, coordination and cooperation with the Leader is vital. The work is divided into 6 technological WPs starting with the Definition of Structure and System Conceptual Design (WP1). WP2,3 include the activities from design to qualification of the Embedded Steering Antenna Aperture and KRFU unit (WP2) and the Ka Data Network Unit (WP3). The SATCOM MODEM selection and modifications will be carried through WP4. The SATCOM Ka band Antenna System Integration Activities at Laboratory level included in WP5. Integration into the A/C and ground and in-flight testing in WP6. WP0 is project management including close synchronization with the Leader and reporting and interfacing with the EC. Dissemination and Exploitation activities in WP7. The project will allow high data rate IFC minimizing effects on the A/C aerodynamic, performance and fuel consumption."

Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Gilat Satellite Networks Ltd

Address:

YEGIA KAPAYIM STREET 21
PETACH TIKVA 49130
Israel

EU Contribution: €545,405

Partner Organisations:

Raysat Bulgaria Ltd

Address:

MOGILITA 2A
1700 SOFIA
Bulgaria

EU Contribution: €419,387

Fbm Composite Materials Ltd

Address:

10 ASHLAGAN ST
KIRYAT GAT 8202197
Israel

EU Contribution: €258,370

Technologies:

Information systems
In-flight connectivity

Development phase: Demonstration/prototyping/Pilot Production

STRIA Roadmaps: Vehicle design and manufacturing

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Other specified

Geo-spatial type: Other