

Duration: 08:30 – 17:50

Room: N113

WM-03

Recent Advances in RF/microwave Filters for Space Application

Organisers:

Santiago Sobrino Arias¹, Petronilo Martín-Iglesias²

¹Thales Alenia Space Spain, ²ESTEC (European Space Agency)

Abstract

Filters and multiplexers are key building blocks in science, navigation, and earth observation and telecommunication applications. However, it is in the telecommunication systems where filter specifications are specially demanding due to accommodation issues, power handling, RF performance and cost among others. In the last years, telecommunication system requirements have evolved very fast due to the increase in traffic demand.

Congestion in lower (and traditional) frequency bands have forced the operators to move to high frequencies (Ka-, Q-, V) and they are already thinking about higher frequencies such as W-band.

However, the satellite resources (power, space) are limited and a good management of all of them will help the satellite operators to cover the traffic demand when and where is needed. This is forcing the satellite manufacturers to move to flexible architectures (active antennas, beam hopping, digital processors, etc.).

This new ecosystem where shorter lead times, lowers cost, additional flexibility, new payload architectures among others, are forcing the filter manufacturers to be highly innovative. Additionally, new market opportunities also comes with new players.

This workshop aims to present the state-of-the-art for microwave filter design and manufacturing, but also aims to create an adequate forum for the discussion regarding the current market situation and perspective.

Programme

Current and Future Requirements for RF/Microwave Filters

Petronilo Martín-Iglesias¹

¹ESTEC (European Space Agency)

Substrate Integrated Coaxial Filters for Satellite Telecommunication Systems

Stefano Sirci¹

¹iTeam (Universitat Politècnica de València)

Compact 3D Filters for Satellite Applications

Luca Pelliccia¹

¹RF uTECH

Ultra High Power Filter for Space Application

Antonio Panariello¹

¹Honeywell

New Class of IMUX Filters from C to Ka-band

Rubén Gómez Chacón¹

¹Thales Alenia Space Spain

Advanced Design Techniques for Waveguide Filters for Satellite Applications

Fernando Teberio¹

¹Microwave Components Group (MCG) – Public University of Navarre (UPNA)

High Power Filters and Multiplexers for PIM Set-ups

Pablo Soto¹, Marco Guglielmi¹

¹iTeam (Technical Univ. Valencia)

Latest Filter Developments at TRYO Aerospace

Rafael Garcia¹

¹TRYO Aerospace