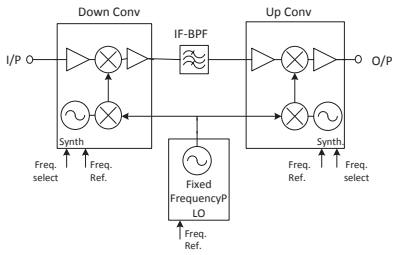


Activity Title:	<i>Converters and Local Oscillators for Flexible Payloads</i>		
Contract type	ARTES 5.1	Budget (k€)	2 MEuro
Company (-ies) (including country)	RUAG Space AB, Sweden Norspace, Norway		
Team (name of the participants in the project)	Project Manager: Håkan Janson, RUAG Systems Engineer: Hans Björzell, RUAG Project Manager LO Part: Grunde Joheim, Kongsberg Norspace Systems Engineer LO Part: Ben Jarle Imenes, Kongsberg Norspace		
(*) Speaker (s)	Hans Björzell, Ben Jarle Imenes	Email	hans.bjorsell@ruag.com; ben.jarle.imenes@norspace.no
Short Speaker Information (experience and involvement in this project – maximum 60 words)	<p>Hans Björzell has more than 30 years of experience in design and analysis of microwave electronics for space applications. He has worked as systems engineer in this project, responsible for system analyses and equipment specifications.</p> <p>Ben Jarle Imenes has 20 years of experience in design and analysis of RF electronics for space applications. He has worked as system and design engineer in this project, responsible for the LO generation.</p>		
Summary of the activity (maximum 400 words and 2 pictures)	<p>The objective of the project has been to design, manufacture and test an engineering model of a new generation of telecommunication frequency converter and associated LO generator intended for flexible payload operation on-board future telecommunication satellites.</p> <p>This project is based on a new innovative converter architecture, for which a patent has been applied for. The concept allows for fully flexible payload architectures with flexible frequency settings.</p> <p>RUAG Space’ primary objective in this study is to show ‘proof-of-concept’ for the novel converter architecture proposed herein. The detailed design has been carried out for design elements relevant in order to understand the performance and limitations to this concept. The implementation is limited to the realization of one EM hardware demonstrator.</p> <p>A critical part of the development, was the design and development of the flexible frequency LO generation modules. This low phase noise and spurious free design was developed by Kongsberg Norspace.</p> <p>RUAG Space’ ambition is that the proposed system shall be an attractive low-cost alternative, providing sufficient flexibility to the operators, without changing too much of the existing architecture of bent pipe payloads.</p> <div style="text-align: center;">  </div>		

(*) The speaker needs to do the registration through this website