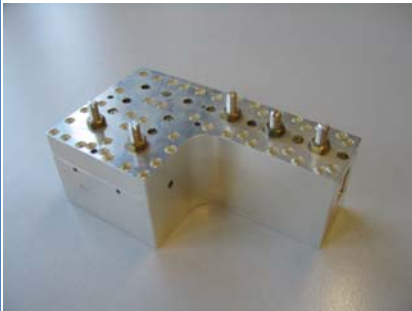


Activity Title:	"Compact Ku-Band OMUX with a high number of channels"		
Contract type	Artes 5.1	Budget (k€)	509.260
Company (-ies) <i>(including country)</i>	Prime-Contractor: Tesat-Spacecom GmbH (Germany), Sub-Contractor: Karlsruher Institut für Technologie (KIT) (Germany)		
Team <i>(name of the participants in the project)</i>	Dennis Epple (Tesat) Jean Parlebas (Tesat) Michael Franz (Tesat) Meinrad Abele (Tesat) Christoph Heine (KIT) Thomas Zwick (KIT)		
(*) Speaker (s)	Jean Parlebas	Email	Jean.Parlebas@tesat.de
Short Speaker Information <i>(experience and involvement in this project – maximum 60 words)</i>	Jean Parlebas is head of Passive Products Development Department at Tesat Spacecom. His focus areas are developing of new passive products for input and output section. Furthermore he is his responsible for the technical commercial proposals.		
Summary of the activity <i>(maximum 400 words and 2 pictures)</i>	<p>As the telecom satellites become larger and larger the number of channels to be accommodated is increasing steadily. This results in output multiplexers (OMUX) with a higher number of channels and a larger footprint often together with operating power levels which are still increasing. Therefore the scope of the activity was to design a compact Ku-Band OMUX with a high number of channels.</p> <p>Two main concepts were considered in parallel in this activity:</p> <p>The first concept was based on a single mode TE_{01δ} cavity loaded with dielectric with permittivity of 10 and without any self compensation property. BB filters for 4-2-0 at 12.75GHz and for 5-2-0 at 10.7GHz were built up for design verification. Furthermore first steps were done for mechanical temperature compensation. Unloaded Q of 30000 is possible.</p> <p>The second solution was based in a dual mode HE₁₁ cavity loaded with dielectric with permittivity of 24 and property of self compensation. Unloaded Q of 9000 is possible.</p> <p>First concept has large dimensions and a not completely spurious mode free range in Ku-Band but a very good Q value. Second concept is very small but has the disadvantage of the low Q and high operating material temperatures.</p> <p>By combining the advantages of both concepts an innovative solution was found which will be followed up in a different program. Therefore the actual program has been stopped at this point.</p>		
			<p>Click here to add a picture</p>

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