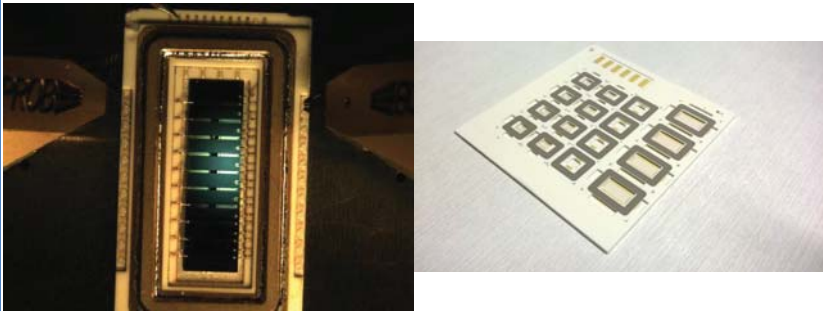


Activity Title:	<i>Micro and Millimetre Wave RF MEMS LTCC Modules (MEMSMOD)</i>		
Contract type	GSTP	Budget (k€)	889 k€ (ESA 50%)
Company (-ies) (including country)	Millimetre Wave Laboratory of Finland - MilliLab (Espoo, FI) Airbus Defence and Space (Ottobrunn, DE) Selmic (Oulu, FI)		
Team (name of the participants in the project)	Millimetre Wave Laboratory of Finland - MilliLab (prime): Jussi Varis (project manager), Markku Lahti, Pekka Rantakari and Tauno Vähä-Heikkilä Airbus (sub-contractor): Bernhard Schönlinner (sub-contract project manager) Selmic (sub-contractor): Jaska Paaso (sub-contract project manager)		
(*) Speaker (s)	Jussi Varis	Email	jussi.varis@vtt.fi
Short Speaker Information (experience and involvement in this project – maximum 60 words)	Dr. J. Varis works as senior project manager and senior scientist in VTT Technical Research Centre of Finland mostly in projects granted to MilliLab. In the recent years, Dr. Varis has been the project manager of MMIC and RF MEMS related projects.		
Summary of the activity (maximum 400 words and 2 pictures)	<p>The main objectives of the MEMSMOD project was to produce hermetically packaged RF MEMS switches using LTCC technology and subject the switches to environmental stress testing. In the activity, RF MEMS switches were produced in two processing rounds for both 35 and 77 GHz centre frequencies using the RF MEMS processes of Airbus (35 GHz) and MilliLab-VTT (77 GHz). The 35 GHz LTCC modules were fabricated by Selmic, and the 77 GHz ones by MilliLab-VTT. The RF MEMS switches were subjected to mechanical cycling and elevated temperature tests at on-wafer level. The LTCC packaged switches were subjected to leakage tests and mechanical vibration and shock tests. S-parameter tests were used as an operational check after each stress test as a comparison to baseline RF performance. The packaged switches survived the stress tests without any significant deterioration of RF performance.</p>		
			

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