

<b>Title:</b>	<b>“Compact High Power Ku-Band Output Multiplexers“</b>		
<b>Contract type</b>	<i>ARTES 5.2</i>	<b>Budget (K€)</b>	<b>1000K€+65K€ (CCN)</b>
<b>Company (-ies) (including country)</b>	COM DEV International (Canada)		
<b>Team (name of the participant in the project)</b>	Antonio Panariello Mihai Vladimirescu Van Dokas William Fitzpatrick		
<b>(*) Speaker (s)</b>	William Fitzpatrick	<b>Email</b>	Bill.fitzpatrick@comdev.ca
<b>Short Speaker Information (experience and involvement in this project)</b>	William has been in the space business for 25 years and has been a part of COMDEV research and development for over 20 years. During this time he has been active in numerous technical roles and is currently a project manager. Involvement in the subject activity has been in that capacity.		
<b>Summary of the activity (maximum 400 words)</b>	<p>The ‘Compact High Power Ku-Band Output Multiplexer’ project was a natural extension of a previous successful development of a new family of dielectrically loaded output filters at Ku-Band (ESA contract 19923/06/NL/GLC). The scope of this activity focused on leveraging the strengths of the novel dielectric filter design into a comprehensive multiplexer package. Tasks included power handling to 150W/Channel, demonstration of filter orders of 4, 5 and 6 poles, and finally presenting a wide band multiplexer showcasing the mux bandwidth capabilities and filter performance. Performance objectives focused on mass and size optimization of the filters (and correspondingly multiplexer), while improving the in-band RF performance and overall multiplexer performance and packaging.</p> <p>The project has been successful in meeting the performance objectives. Along the way much was learned regarding the mechanical and high power design of dielectrically loaded output filters.</p> <p>Key performance achievements include :</p> <ul style="list-style-type: none"> <li>• Filter mass 140g (4 Pole)</li> <li>• Filter Q 16,000</li> <li>• Multiplexer Bandwidth 1.8GHz</li> <li>• Temperature compensated performance &lt;1ppm/°C</li> <li>• Multiplexer footprint 40% smaller than comparable TE114</li> </ul>		



(\*) The speaker needs to do the registration through the [website](#)