



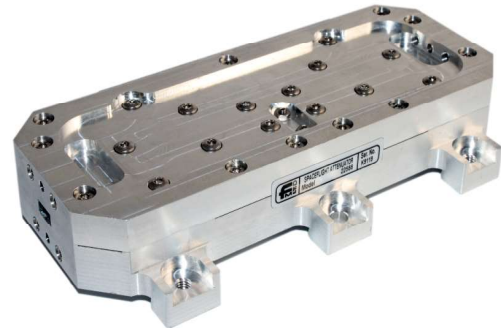
### Spaceflight Waveguide Switch

- Offers step change in use of emerging super-high capacity satellite communications links
- Increases data capacity capability from space
- Integration with other components such as diplexers, multiplexers, combiners, couplers and multiple units to make a complete light weight switching network for flight at high G launch profiles
- Increasing communication frequency to 100 GHz+
- Robust, lightweight and compact construction
- Stable performance at temperature extremes
- Very low insertion loss
- Bi-stable latching and non-contacting detent
- Position tell back with non-contacting sensor
- Superior peakpower and multi-paction immunity
- Low PIM
- Approximately 10mm x 10mm x 20mm



### Spaceflight Attenuator

- Ready for installation into a waveguide channel Ka-band radar instrument, deployed on Surface Water and Ocean Topography (SWOT)
- Ability to retain calibration in extreme Space environment
- Attenuator enables consistent, high accuracy measurements of Earth's surface water
- Bespoke design and manufacture by Flann in response to a Spaceflight hardware request from NASA JPL
- Low outgassing
- Designed for high G launch profiles



### Thin Walled Spaceflight Waveguide Assembly

- Thin Walled MM-Wave custom waveguide assemblies for the Met-Op meteorological satellite programme, suitable for use up to 112 GHz
- Waveguide sections will provide high RF performance over the environmental extremes of Space while providing a low mass, compact solution
- Designed for high G launch profile

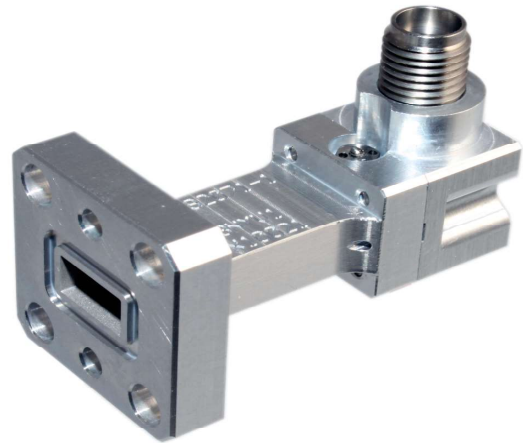


Under a programme of and funded by the European Space Agency.  
The view expressed herein can in no way be taken to reflect the official opinion of the European Space Agency.



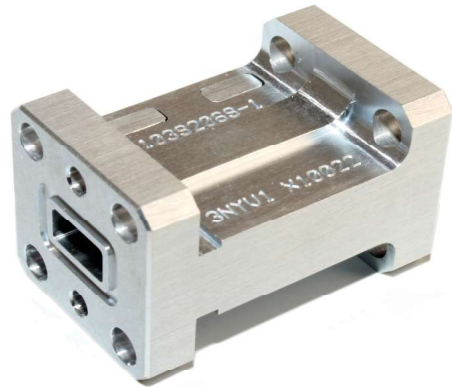
### Spaceflight Adaptor

- Rugged all metal construction with air-line coax for extreme environments
- High power
- Low number of component parts, giving high reliability
- Compact and low weight using mini flanges
- End launch adaptor alternative available
- Centre conductor in contact with internal ridge for improved thermal dissipation
- Good Return Loss - typically >25dB
- Very low Insertion Loss - WR28 [26-40 GHz] 0.15dB
- Any material or finish - standard is Aluminium
- Low PIM option
- Multi-paction analysis option



### Spaceflight Termination

- Rugged, compact and light weight construction encapsulating ceramic element
- Unique construction giving minimal size and allowing side wall inspection of element
- Good Return Loss over full waveguide band
- Stable and very wide temperature range
- High power capability
- Designed with stress equalisation
- Non shedding using NASA approved material
- Miniature flange options
- Higher power options - WR28 [26-40 GHz] 50W



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