



SUCCESS STORY

W-Band Low Noise Amplifiers for Space Applications

The European Space Agency rely on Spectrum Control for high-frequency satellite data comms

With a rich heritage reaching back more than 40 years, Spectrum Control has proven experience in deep space and scientific missions. The demands of operating in space bring many unique challenges and unforgiving reliability requirements. Spectrum Control's extensive design portfolio and advanced manufacturing processes provide customers with reliable systems and components to ensure satellites, payloads and launch vehicles achieve mission success now, and for decades to come

The Spectrum Control difference

Spectrum Control EMEIA, in partnership with the UK Space Agency was able to offer the European Space Agency (ESA) a unique solution utilizing GMIC (Glass Microwave Integrated Circuit) as an enabling technology and formed industrial partnerships to provide MMIC solutions and state-of-the-art test and measurement capability. The solution, which is undergoing development is a W-Band, dual redundant low noise amplifier for space applications, including future highfrequency data comms, with spin out applications in 5G/6G and W-Band radar.

ESA is a prestigious customer and establishes Spectrum Control EMEIA as a credible partner in development of innovative RF solutions for space.



The Spectrum Control W-Band Low Noise Amplifier



Once fully developed, Spectrum Control's W-Band LNA will enable ESA to enlarge the feeder link capacity for future satellite communication systems. Challenges at mmWave frequencies are not only related to the semiconductor technology itself, but also to the integration of the devices, the packaging and parasitic effects.

Our engineers are also creating an integrated redundancy switch solution in order to achieve an acceptable receiver noise figure and facilitate low received Bit Error performance.

Product details

- 83.5 GHz +/- 2.5 GHz
- 45dB Gain
- Noise Figure < 2.5dB
- Small size, low mass

Product Capabilities

- Dual redundant Integrated LNA solution
- WR12 Interface
- High reliability, designed for space applications