

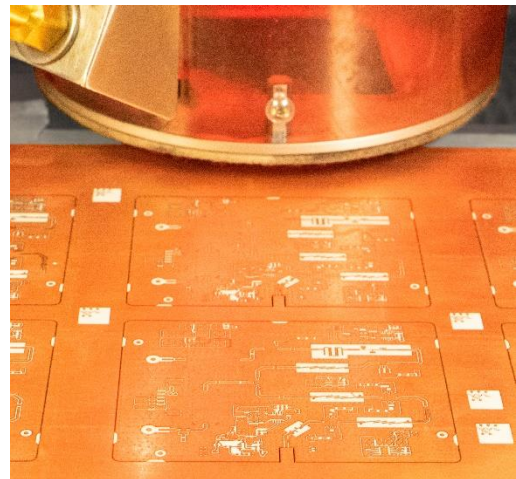
15 December 2021, Hautcharage (Luxembourg)

**EmTroniX keeps developing its Radio Frequency (RF) department  
to meet the New Space industry requirements.**

EmTroniX has extended its RF capabilities. In a year, the team has moved from dealing with Ku-band to having the competences and the equipment in-house to design and produce a Ka-band Low-Noise Block (LNB) downconverter.

A LNB is a key element in satellite communications. It allows the reception of signals coming from ground stations, terminals and also from other satellites. This type of product has two main functions: the first one is to amplify the received signal, which is usually very low, with a noise figure which has to be as low as possible. On the other hand, it takes the received signal, which is usually at a higher frequency, and converts it to a lower one.

Dealing with higher frequencies leads to several challenges. For EmTroniX, even if the company had to adapt its equipment, the main ones were concerning the filters and the assembly process. Indeed, filters are playing an important role in maintaining the performance regarding the dispersion between the different assembled boards, and thus decreasing the frequency shift due to manufacturing tolerances. Furthermore, in Ka-band, assembly is a key step to obtain satisfactory and reproducible performance. To ensure a high-quality level, the production team uses a special stencil to deposit the solder paste in the right quantity and a Pick & Place machine to accurately place each component. For the last phase of the manufacturing process, EmTroniX is equipped with a vapor phase reflow oven to obtain a perfect and uniform reflow of the board.



*LNB integrating filter prototypes  
done by the LPKF laser machine*

With this experience, EmTroniX has acquired the knowledge to, quickly and at a lower cost, design and produce LNB prototypes and Flight Models. This can be adapted to lots of sectors but thanks to this design, the Low-Noise Block can fit in a CubeSat, meaning it is perfectly adaptable to the New Space industry. Furthermore, it can be directly equipped with connectors (SMPM and/or SMP) which can be placed somewhere inside or/and at the edge of the board in order to meet the customer needs.

This development is in line with the company's strategic goal to develop generic products for the New Space industry.

**About EmTroniX**

*EmTroniX is a Luxembourgish SME, founded in 2001 and specialized in embedded software and advanced electronics. It provides services, products and projects based on its expertise in seven sectors: FPGA, Software engineering, Digital Signal Processing, Hardware engineering, RF design, Mechanical design and Assembly & Production.*

*For more information, please visit our website: [www.emtronix.lu](http://www.emtronix.lu)*

Press contact:

Laura TOURNACHE  
Communications officer  
[laura.tournache@emtronix.lu](mailto:laura.tournache@emtronix.lu)  
+352 26 58 17 50