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LPT6510 Test Results up to TRL6

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The LPT6510 is a compact integral pulse-tube cryocooler for 50-120K applications, with a design derived from the Thales Cryogenics MPTC compressor developed under ESA TRP and the Absolut System SSC80 pulse-tube. In this presentation, the results of the test campaign on a flight-representative Engineering Model will be presented, demonstrating Technology Readiness Level 6 for the product. Detailed cryogenic performance results will be shown over the entire operational envelope, the environmental test campaign will be highlighted, and specific aspects such as off-state parasitic losses and induced vibrations will be discussed. The planned life time test campaign will be presented, as well as the parallel space cooler drive electronics developed in partnership with STEEL Electronique.