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**TESAT Spacecom**

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Germany**

Our ref.                    **ESA-TECMSP-LE-2022-002608**

Noordwijk, 02/11/2022

VISA: T Rohr (TEC-MSP)

**Subject: Qualification renewal TESAT rigid epoxy HTg PCBs**

Dear Ms Leucht,

TESAT submitted a sequential rigid HTg epoxy PCB with CIC core and ENIPIG finish for qualification renewal to ESA in December 2020. A sequential rigid HTg epoxy PCB with molybdenum core and SnPb finish was submitted for qualification renewal to ESA in April 2021.

The PCBs showed presence of laminate cracks at the Invar layers, as well as interconnect defect (ICD) in microvias, as reported in the test reports ESA-TECMSP-RP-022309 and ESA-TECMSP-RP-023928. ESA requested corrective actions in letters ESA-TECMSP-LE-022763 and ESA-TECMSP-LE-024058. TESAT has performed root cause analysis, completed the corrective actions and had a third-party evaluation performed with acceptable outcome, as reported in the MoM 63.1500.571.22NOT\_MoMs\_ESA\_2022-09-14-TD01794151\_e.

The two PID documents for rigid HTg epoxy PCBs with CIC core and ENIPIG finish (63.1500.570.41PID) and rigid HTg epoxy PCBs with molybdenum core and SnPb finish (63.1500.570.21PID) have been updated and merged. The new PID document (63.1500.571.03PID issue B) for the rigid HTg epoxy PCBs has been issued by TESAT. In the PID, design restrictions for PCBs with CIC core are defined related to the observed laminate cracks.

TESAT is considered qualified in accordance with ECSS-Q-ST-70-60C for the manufacture of Printed Circuit Boards as follows:

- Rigid sequential HTg epoxy PCBs as per PID 63.1500.571.03PID issue B, until 1 Nov 2023. This includes CIC and molybdenum core, SnPb and ENIPIG surface finish and laser drilled blind vias, among others.

Best regards,

Jussi Hokka  
Materials & Processes Section