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ACB
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Vosmeer 3
9200 Dendermonde
Belgium

Our ref. ESA-TECMSP-LE-2023-002190

Noordwijk, 19/09/2023

VISA: T Rohr

Subject: ACB delta qualification for rigid polyimide PID extension

Dear Mr Van de Slyeke,

ACB submitted to ESA sequential rigid polyimide PCBs for delta qualification of the following subjects:

- Increased PCB thickness of 3.2mm
- Mixed surface finish with fused Sn/Pb and electrolytic Ni/Au
- Via fill plugging paste

ACB qualification results are reported in “PCB qualification on board W1000533336-Q01-01 / GATE 35N” and “PCB qualification on board W1000533336-Q01-01 / GATE 35N+PLUG”.

The ESA evaluation results are reported in ESA-TECMSP-TR-025324 rev. 1 for VT-901 and ESA-TECMSP-TR-2023-001345 for Arlon 35N. The first report showed compliance to ECSS-Q-ST-70-60, but the latter report showed pad lift cracks after group 6. In addition, several project qualifications based on group 6 showed barrel crack initiations and dielectric cracks.

As a result of the observed nonconformances, samples were retested using group 4 and full compliance was concluded. This is attributed to the smaller thermal cycling range of group 4 (compensated by a higher number of cycles, as per ECSS) compared to group 6. ACB provided a summary of testing in “Overview of Gr6-Gr4 tests for ACB PID extension” dated 19 Sept 2023.

The qualification results have been reviewed and accepted by ESA as well as ACB’s main customers. The amended qualified domain is specified in the PID_SeqRigid_v221216 ed1.

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

- Rigid sequential polyimide PCBs as per PID_SeqRigid_v221216 ed1 until 1 Oct 2024

Best regards,

Jussi Hokka
Materials & Processes Section