

**ACB  
att M Van de Slyeke  
Vosmeer 3  
9200 Dendermonde  
Belgium**

Our ref. ESA-TECMSP-LE-018533

Noordwijk, 24/04/2020

VISA: T Rohr (TEC-MSP)

**Subject: Delta qualification of ACB for Ventec polyimide PCBs**

Dear Mr Van de Slyeke,

ACB submitted a delta qualification for rigid and rigid-flex polyimide PCBs using Ventec VT-901:

- Qualification report for Material Qualification Polyimide Ventec VT-901 d.d. 21-03-2019
- Amendment of chapter 4.3.3. IST results d.d. 09-01-2020
- Appendices A-F d.d. 21-03-2019
- Group 5 test results d.d. 30-09-2019

This has been reviewed during the audit as minuted in ESA-TECMSP-MIN-014736, as well as during progress meetings on 10 Dec 2019 and 6 Mar 2020. IST results of blind vias on one design (of two) showed that the resistance criterion of 5% is marginally exceeded, which is nonconform to 9.5.5.4.2.f of ECSS-Q-ST-70-60. Comparing to IST results of the same design manufactured with Arlon 35N, leads to the conclusion that the non-conformance is caused by design complexity, not by material performance. Therefore, it does not prevent the acceptance of the qualification. The details of this are reported in the above mentioned amendment.

ESA evaluated a sample and the acceptable outcome is reported in ESA-TECMSP-RP-014438. In addition, ACB is undertaking qualification of HDI PCBs under GSTP contract using Ventec polyimide, with acceptable outcome. ACB has updated its PIDs to edition 4. The PIDs and the qualification dossier has been approved by ESA and ACB's main customers.

The previous qualification of polyimide PCBs manufactured with Arlon is valid until 1 Oct 2021 as specified in ESA-TECMSP-LE-015963. The current delta qualification for Ventec provides a validity until the same date.

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\_v180618 ed4 until 1 Oct 2021**

**Rigid-flex sequential polyimide PCBs as per PID\_FR\_v190531 ed4 until 1 Oct 2021**

Best regards,

Stan Heltzel  
Materials & Processes Section