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Amphenol-Invotec Tamworth
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United Kingdom

Our ref. ESA-TECMSP-LE-006356

Noordwijk, 21/08/2017

VISA: T Chidini (TEC-MS)

Subject: Qualification Status of Invotec Tamworth

Dear Mr Swarbrick,

Invotec submitted a PCB of polyimide sequential rigid-flex technology to ESA for qualification renewal in Apr 2017. This PCB is manufactured with Arlon 85N material. ESTEC reported the evaluation in ESA-TECMSP-LAB-RP-005363. This shows no major nonconformances.

Invotec performed the following delta qualifications which are approved by ESA:

- SDM86T for PCB design in conformance with ECSS-Q-ST-70-12 with reduced track width and spacing;
- SDM87T for asymmetric build-up;
- SDM98T for Ventec polyimide.

Invotec submitted a PCB of polyimide sequential rigid-flex technology to ESA for delta qualification of Ventec material in June 2017. ESTEC reported the acceptable evaluation in ESA-TECMSP-LAB-RP-006538.

An audit has been conducted and reported in ESA-TECMSP-MIN-5224 and the successful closure of associated actions is reported in ESA-TECMSP-MIN-6309. The technology domain of the delta qualifications has been included in the updated PID.

Invotec is considered qualified in accordance with ECSS-Q-ST-70-10C for the manufacture of Printed Circuit Boards as follows:

- Rigid-flex sequential polyimide PCBs in accordance with PID SM19T.iss.03 **until 1 Aug 2019**

Best regards,

Stan Heltzel
Materials & Processes Section

A handwritten signature in blue ink, consisting of a stylized 'S' and 'H'.