

5.1.6 THALES ALIENA SPACE, FRANCE

The Process Capability Approval (PCA) of the Hybrid Line of Thales Alenia Space (TAS), Toulouse, France has been certified by ESA in accordance with the requirements of ESCC Basic specification No. [2566000](#).

The associated PID includes TAS' manufacturing, assembly and test operations which have been approved for the supply of Hermetic Hybrid products for use in ESA space systems as a Category1, Option 2 Manufacturer, in accordance with ECSS-Q-ST-60-05C Rev.1

5.1.6.1 Contact Information

Address	ESCC Chief Inspector
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5.1.6.2 Process Capability Approval

Certificate No.	Certified since:	Type Designation
332A	May 2015	High Frequency Hybrid Line

5.1.6.3 Capability Abstract

The Process Capability Approval (PCA) of the Hybrid Line of Thales Alenia Space (Toulouse) has been renewed in accordance with ESCC Basic Specification n° 2566000 requirements. The associated Process Identification Document (PID) is Ref. 39.731.284/924, Issue 09/-.

This PCA covers the TAS-Toulouse activities on manufacturing, tuning, testing, inspection and Quality Assurance of High-Frequency Hermetic Hybrid technologies, used for high power and low power modules of TAS space equipment and sub-systems.

According to the PID, the hermetic modules are manufactured by encapsulation, of several types of active and passive components, inside customized hermetic package :

- ✓MMICs,
- ✓ASICs and digital/analog ICs
- ✓Bare transistors,
- ✓Diodes,
- ✓Capacitors,
- ✓Resistors,
- ✓Inductors and transformers,
- ✓Thermistors.
- ✓Thin-Film and Thick-Film circuits

Wires and ribbons are used for interconnection between the dies, and between dies and substrates or package.

Hermetic cavities are generated with lid sealing under inert gas atmosphere.

Depending of the application, the hermetic package is metal-based or HTCC-based, with glass or ceramic for DC or RF feedthroughs.

Then, modules are screened, according to the PID and to the generic procurement specification ECSS-Q-ST-60-05C Rev. 1.

The repair provision conditions (element replacement, re-bonding, delidding ...), as well as the criteria for lot rejection are also given in the PID, in accordance with ECSS-Q-ST-60-05C Rev. 1.