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## Herschel /SPIRE

### HS\_FCUI & HS\_DCUI FM packaging, unpacking and handling procedure

**Reference:** SAP-SPIRE-HT-0416-06  
**Issue:** 1.0  
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### Diffusion list

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## 1 Scope of the document

This document defines the procedure for packaging, unpacking and handling the HS DCU FM and the HS FCU FM associated with the PSU EM. Each electronics box has its own container, but it is the same procedure for both.

## 2 Applicable documents

- Herschel/Planck Instrument interface document – Part A SCI-PT-IIDA-04624 Issue 3.0
- Preservation, Storage, Handling and Transportation of ESA Spacecraft Hardware ESA-PSS-01-202
- Procédure de serrage au couple

## 3 General requirements

### 3.1 Environment

PSU EM/FCU FM and DCU FM require a clean environment (class 100 000).

### 3.2 Needed equipment and tools

- 1 container identified HERSCHEL-SPIRE-DCU-FM
- 1 container identified HERSCHEL-SPIRE-FCU-FM
- Ethanol
- Earth conductor bracelets

Equipment for each container :

- 1 dessicator
- 1 humidity detector
- 2 shock detectors (25 g)

## 4 Handling

The DCU or FCU container must be opened in the presence of a quality service representative, responsible in particular for checking compliance with the corresponding procedure.

The equipment must be handled carefully.

The operations involving contact or risks of contacts at the I/O connector level must be performed by operators wearing earthed conductor bracelets.

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## 5 Set-up for packaging and unpacking

### 5.1 Packaging

- Screw the HS\_FCU FM (DCU FM) on the plate associated with the container (6 screw M6x20). Torque : 4 m.N.
- Put a new dessicator bag in the container.
- Put a new humidity indicator (nominal colour : blue)
- Verify the presence of shock detectors outside the container and their states (nominal colour: white). If necessary, replace the shock detectors.
- Put the seals
- Record the operations in the logbook.

### 5.2 Unpacking

Before any entrance in a clean room, the container must be cleaned with ethanol alcohol. The container of HS\_FCU FM (HS\_DCU FM) must be open inside a clean room.

Before opening the container, the following checkings must be done:

- Checking of the external aspect of the container.
- Checking of the sealed integrity.
- Checking the presence of shock detectors and their states (nominal colour: white).

Remove the seals.

Open the HS\_FCU FM (HS\_DCU FM) container.

Control the aspect inside the container.

Unscrew the HS\_FCU FM (HS\_DCU FM) from the plate associated with the container.

Check of the external aspect of HS\_FCU FM (HS\_DCU FM).

Close the container and store it in a clean location.

Record the operations in the logbook.