



FIRST/Planck Project Telefax

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Page : 1 of 2

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Cc : F. Vandenbussche, M. Anderegg, A. Heske, P. Estaria, G. Pilbratt

Subject : **FIRST/Planck - SPIRE AVM Definition**

Dear Ken,

From the comments to the IID-A and as part of the update of this document it became obvious that the detailed definition of the AVM units is not fully clear, respectively there are different views on what is needed for this unit.

As the AVM is a deliverable I compiled this fax in order to start the discussion and to achieve a clear definition of the composition of the AVM.

In the IID-A the AVM is defined as follows (chapter 9.2.2.1)

“The instrument AVM units therefore have to have the following built standard:

- electronics flight standard except for parts. Commercial parts have to be of same technology, same supplier as FM parts
- mechanisms flight representative for electrical actuators
- **software flight standard.**
- **form, fit and function of the flight model**
- **software of flight quality must be able to be run.**

In order to save cost the AVM hardware contents may be reduced by reducing redundancy:

- cold redundant units or channels may be deleted if no automatic switch-over function is involved
- multiple redundancy of hot redundant units or modules may be reduced by electrical dummies (to e.g. dual redundancy) if compatible with the AVM test objectives
- simulators may be supplied of units not directly interfacing with spacecraft subsystems. The level of these simulators, to be agreed with ESA, will allow verification of the correct execution of the flight procedures.”

Following this definition, I defined below a possible AVM definition for SPIRE, taking **all** units as given in the IID-B.

Project code	Instrument unit	
FSFPU	Cold Focal Plane Unit (FPU)	Simulator
FSFTB	Focal plane JFET and/or RF filter box (FTB)	Simulator
FSBAU	Buffer Amplifier Unit (BAU)	Simulator
FSDRC	Detector Read-out and Control Unit (DRCU)	AVM
FSDPU	Digital Processing Unit (DPU)	AVM
FSWIH	Warm interconnect harnesses (HARNESS)	AVM

Please review the above list and confirm/comment/update its contents.

Best regards

T. Passvogel