







HERSCHEL/SPIRE

DRCU
Declared Mechanical Parts List (DMPL)

Reference: SAp-SPIRE-ILM-0382-06
Issue: 1.0
Date: 10/05/06

	Function	Name	Date	Visa
Prepared by	Mechanical Quality Engineer	I. LE MER	31/07/06	
Verified by	Mechanical architect	T. TOURRETTE	31/07/06	
Verified by	Manufacturing Responsible of electronic board	C. CLOUE		
Approved by	PA Manager	J. FONTIGNIE	01/08/06	
Authorized by	Project Manager	J-L. AUGUERES	01/08/06	

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Document Status and Change Record

Date	Issue	Affected pages
10/05/06	1.0	All



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List of acronyms

AD/RD	Applicable / Reference Document
ADP	Acceptance Data Package
BOLC	Bolometer & Cooler Control Unit
CDR	Critical Design Review
CEA	Commissariat à l'Energie Atomique
DCU	Detector Control Unit
DML	Declared Material List
DMPL	Declared Mechanical Part List
DPL	Declared Processes List
DRCU	Detector Readout and Control Unit
EIDP	End Item Data Package
FCU	FPU Control Unit
FIRST	Far InfraRed and Sub millimeter Telescope
FM	Flight Model
FMECA	Failures Modes Effects & Criticality Analysis
FPU	Focal Plane Unit
FS	Flight Spare
GSE	Ground Support Equipment
HIFI	Heterodyne Instrument for FIrst
ICD	Interface Control Document
LAM	Laboratoire d'Astrophysique de Marseille
MAIV	Manufacturing, Assembly, Integration & Verification
MCU	Mechanisms Control Unit
MGSE	Mechanical Ground Support Equipment
N/A	Not Applicable
PA/QA	Product/Quality Assurance
PACS	Photoconductor Array Camera & Spectrometer
PCB	Printed Circuit Board
PDR	Preliminary Design Review
PhFPU	Photometer Focal Plane Unit
PSU	Power Supply Unit
QM	Qualification Model
RFA	Request For Approval
RT	Room Temperature
S/C	SpaceCraft
SAp	Service d'Astrophysique
SCU	Subsystems Control Unit
SPIRE	Spectral & Photometric Imaging Receiver
TBC	To Be Confirmed
TBD	To Be Defined


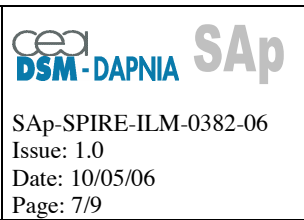
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 The logo for SPIRE, with the word "SPIRE" in large, bold, orange letters with a yellow-to-orange gradient. To the left of the word "SPIRE" is a vertical stack of blue squares, each containing a white letter, spelling out "RESEARCH" from top to bottom.	<p>DRCU Declared Mechanical Parts List (DMPL)</p>	 The logo for DSM-DAPNIA SAp, featuring a stylized blue and grey icon of a gear or atom to the left of the text "DSM-DAPNIA" in blue and "SAp" in grey. Below this, the document details are listed: SAp-SPIRE-ILM-0382-06 Issue: 1.0 Date: 10/05/06 Page: 6/9
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1 Purpose

This document lists all the mechanical parts to be used in the SPIRE DRCU FM models.

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2 Documentation

2.1 Applicable documents

	<i>Title</i>	<i>Reference</i>	<i>Iss</i>	<i>Rev</i>	<i>Date</i>
AD01	PA Requirements for FIRST Scientific Instruments	PT-RQ-04410	2	0	01/08/00
AD02	Standard Product Assurance Plan	SAP-GERES-FLo-436-00	1	0	07/11/00

2.2 Reference documents

	<i>Title</i>	<i>Reference</i>	<i>Iss</i>	<i>Rev</i>	<i>Date</i>
RD01	Data for Selection of Space Materials	ECSS-Q-70-71A			27/02/04
RD02	Materials, Mechanical Parts & Processes	ECSS-Q-70B			14/12/04
RD03	The technical reporting and approval procedure for materials and processes	PSS-01-700	2	2	
RD04	Materials selection for controlling stress-corrosion cracking	ECSS-Q-70-36-A			
RD05	CNES Guide for science projects				
RD06	DRCU DML	SAP-SPIRE-NC-0060-02	3	0	10/05/06
RD07	DRCU DPL	SAP-SPIRE-NC-0061-02	3	0	10/05/06

3 Declared Mechanical Parts List

The DRCU Declared Material List, completed as indicated in doc. ref. [RD02] & [RD03], is presented here below. Similar materials are grouped together, according to the following group definition. If a particular item does not apply, N/A (Not Applicable) is written.

	<i>Group Type</i>	<i>Used</i>	<i>Item Id.</i>
51	Spacing parts (washers, spacers...)	N/A	
52	Connecting parts (bolt, nuts, rivets, inserts, clip)	N/A	
53	Bearing parts (ball-bearings, needle bearings...)	N/A	
54	Separating parts (pyrotechnics, springs, cutters...)	N/A	
55	Control parts (gears...)	N/A	
56	Fluid handling parts (diffusers...)	N/A	
57	Heating parts	N/A	
58	Measuring instruments (gauges, thermocouples...)	N/A	
59	Optical passive equipment	N/A	
60	Magnetic parts	N/A	
61	Other parts	✓	Card-loks

DRCU
Declared Mechanical parts List (DMPL)

Group 61 – Other parts											
1	2	3	4	5	6	7		8	9	10	
Item #	Commercial Id.	Type of part	Procurement Information	functions	Use & Location	Environment Code		Critically and hazards	9.1	9.2	
61-1	Card-loks	The Calmarks clamp are made of - wedges - bodies - shaft Materials: Aluminum Alloys 6061 T6 Finish: chemical film per MIL-C-5541,Cl.3	1- Calmarks / BCF MKM 2- Manufacturing Reference V260-4.80ET2K	1- Support and thermal 2-	These clamps are mounted on the rack of electronic card. They ensure the mechanical support, the thermalization, and the electrical contact of the cards into the electronic box.	R	A T	N	Justification for Approval	Prime Approval	ESA Approval
						I	V 3/4		Usual parts for support electronic card in space application. Their application has been qualified through the qualification .		