

2 APPLICABLE/REFERENCE DOCUMENTS

2.1 APPLICABLE DOCUMENTS

These documents contain requirements, specifications and rules imposed on the project in addition to the contents of the present document.

type	Ref.	title	ref	Issue (hyperlink)	Date	Applicability
IID						(H, P, HP)
	AD 1-1	IID-B SPIRE	SCI-PT-IIDB-SPIRE-02124	3.3	21/06/04	H
	AD 1-2	IID-B HIFI	SCI-PT-IIDB-HIFI-02125	3.2	05/03/04	H
	AD 1-3	IID-B PACS	SCI-PT-IIDB-PACS-02126	3.2	02/03/04	H
	AD 1-4	IID-B HFI	SCI-PT-IIDB-HFI-04141	3.2	23/07/04	P
	AD 1-5	IID-B LFI	SCI-PT-IIDB-LFI-04142	3.1	20/07/04	P
	AD 1-6	Sorption Cooler ICD	PL-LFI-PST-ID-002 (Annex to LFI IID-B)	3.1	20/07/04	P
ESA ITT Documents						
	AD2	Product Assurance Requirements for Herschel/Planck Scientific Instruments	SCI-PT-RQ-04410	2.0	01/08/00	HP
	AD3	OIRD - Herschel-Planck Operations Interface Requirements Document -	SCI-PT-RS-07360	2.2	31/09/03	HP
	AD4	(removed: was SIRD's)				
	AD5	Herschel/Planck Packet Structure Interface Control Document - PSICD	SCI-PT-ICD-07527	5.0	30/07/04	HP
Additional requirements						
	AD6-1	Herschel telescope Specification	SCI-PT-RS 04671	6.0	22/10/02	H
	AD6-2	Planck telescope Specification	H-P-3-ASPI-SP-0004	2.0	04/02/03	P
	AD7-1	Alignment Method, Plan, and Results (included in annex 1)	HP-2-ASED-TN-0097	2.0	21/12/04	H
	AD7-2	Planck Alignment Plan (included in annex 3)	H-P-3-ASPI-PL-0078	3.0	09/04/04	P
	AD8	ECSS Software standard Or ESA software engineering standards + Guide to applying the ESA software engineering standards to small software projects	ECSS E 40 B ESA PSS-05-0+Bssc(96)2	draft 2.0 1.0	28/07/00 feb 91 May 96	HP

type	Ref.	title	ref	Issue (hyperlink)	Date	Applicability
	AD9	Naming convention specification	H-P-1-ASPI-SP-0141	2.2	16/12/04	HP
	AD10_1	CSG Safety regulation Vol 1-General Rules.	CSG-RS-10A-CN	5.3	03/06/02	HP
	AD10_2	CSG Safety regulation Vol 2 Part 1 - Specific rules Ground installations	CSG-RS-21A-CN	5.3	02/12/02	HP
	AD10_3	- CSG Safety regulation Vol 2 Part 2 - Specific rules Spacecraft	CSG-RS-22A-CN	5.4	2/12/02	HP
	AD11	SCOS-2000 Import ICD	s2k-mcs-icd-0001-tos-gci	5.1	26/10/01	HP
	AD12	Delivery review procedure for ESA Furnished Item	SCI-PT-284SCI-PT-27760	1.0	04/10/04	HP
	AD13	Herschel Instrument testing on PLM EQM level	HP-2-ASED-PL-0021	3.0	20/07/04	H
	AD14	Herschel Instrument Testing on PLM PFM and Satellite level	HP-2-ASED-PL-0031	2.0	30/09/04	H
	AD15	HFI Testing at CQM & SM Levels	H-P-3-ASP-TN-0675	1.0	09/04/04	P
	AD16	Planck Instrument Testing at PFM S/C Level	H-P-3-ASP-TN-0676	1.0	09/04/04	P

2.2 REFERENCE DOCUMENTS

type	Ref.	title	ref	Issue (hyperlink)	Date	Applicability
Requirements / Specifications						
	RD1	General Design & Interface Requirements	H-P-1-ASPI-SP-0027	5.0	07/10/04	HP
	RD2	Environment & Tests Requirements	H-P-1-ASPI-SP-0030	5.0	07/10/04	HP
	RD3	EGSE Interfaces Requirements Specification	H-P-1-ASPI-IS-0121	4.0	08/04/03	HP
	RD4	Safety requirements for subcontractors	H-P-1-ASPI-SP-0029	2.1	26/04/02	HP
	RD5	EMC Specification	H-P-1-ASPI-SP-0037	4.0	19/02/2004	HP
	RD6	System Operations and FDIR Requirements	H-P-1-ASPI-SP-0209	4.4	20/07/04	HP
	RD7	Cleanliness Requirements Specification	H-P-1-ASPI-SP-0035	2.2	26/09/03	HP
	RD8	EGSE General Requirements	H-P-1-ASPI-SP-0045	3.0	10/06/02	HP

type	Ref.	title	ref	Issue (hyperlink)	Date	Applicability
		Specification				
	RD9	Planck Telescope optical & RF system specification	H-P-3-ASPI-SP-0274	2.0	09/04/04	P
	RD10	H-PLM Electrical ICD PFM	HP-2-ASED-IC-0001	4.1	04/05/04	H
	RD10-1	HIFI SIH ICD (was annexed to RD10)	HP-2-ASED-IC-0014	1.1	12/05/04	H
	RD10-2	PACS SIH ICD	HP-2-ASED-IC-0015	2.0	26/11/04	H
	RD10-3	SPIRE SIH ICD (red lined version)	HP-2-ASED-IC-0016	1.rd	10/11/04	H
	RD11	H-PLM Electrical ICD EQM (contains pin allocation for QM cryo-harness)	HP-2-ASED-IC-0012	1.0	04/05/04	H
	RD12	Radiation Requirements	H-P-1-ASPI-SP-0017	1.0	11/06/01	HP
	RD13	Solid Particle Environment for Herschel and Planck	ESA-TOS-EMA/02-027/GD/PLCK	1.0	08/03/02	HP
	RD14	Planck System EICD (contains pin allocation for Planck SVM harness)	H-P-3-ASPI-ID-0259	2.0	17/05/04	P
	RD15	Herschel System EICD (contains pin allocation for Herschel SVM harness)	H-P-2-ASPI-ID-0260	2.0	24/05/04	H
Plans , test specifications						
	RD21-1	Planck Cleanliness control plan	H-P-1-ASPI-PL-0253	3.0	16/07/04	P
	RD21-2	Herschel Contamination Control Plan	HP-2-ASED-PL-0023	2.0	09/07/04	H
	RD22	EMC/ESD control plan	H-P-1-ASPI-PL-0038	3.1	27/05/02	HP
	RD23	HPLM EMC Control & Verification Plan	HP-2-ASED-PL-0013	3.0	05/02/04	HP
	RD24	Herschel System alignment plan	H-P-2-ASPI-PL-0276	3.0	23/07/04	H
	RD25	HP design & development Plan	H-P-1-ASPI-PL-0009	4.1	04/11/04	HP
	RD26-1	Planck FM AIT Plan	H-P-3-ASP-PL-0208	3.0	23/07/04	P
	RD26-2	Planck CQM AIT Plan	H-P-3-ASP-PL-0668	1.1	01/07/04	P
	RD26-3	Planck RFQM AIT Plan	H-P-3-ASP-PL-0669	1.0	09/04/04	P
	RD27	Planck RF Verification Control for Planck Telescope	H-P-3-ASPI-PL-0137	3.0	09/04/04	P
	RD28	Herschel PLM/EQM AIT Plan	HP-2-ASED-PL-0022	2.2	30/08/04	H
	RD29	Herschel AIT Plan - Part 2 EPLM & S/C-PFM Acceptance Phase	HP-2-ASED-PL-0026	2.1	10/09/04	H
	RD30	Satellite AIT Software Management Plan	H-P-1-ASP-PL-0420	2.1	16/01/04	HP

type	Ref.	title	ref	Issue (hyperlink)	Date	Applicability
	RD31	Planck Cryogenic Test Operation Plan (CQM)	H-P-3-ASP-PL-0502	2.1	23/07/04	P
	RD32	Planck Assembly Sequence	H-P-3-ASP-TN-0521	3.0	23/07/04	P
	RD33	TN Planck Cryogenic & Thermal Test Program	H-P-3-ASPI-TN-0185	4.0	16/07/04	P
	RD34	Planck CQM Cryogenic & Thermal Test Specification	H-P-3-ASP-TS-0645	2.0	15/12/04	P
	RD35	Planck CQM Acoustic Test Specification	H-P-3-ASP-TS-0728	3.0	04/10/04	P
	RD35-1	Planck CQM Acoustic Test report	(TBW)		(end Jan 05)	P
	RD36	Planck CQM EMC test requirement specification	H-P-3-ASP-TS-0650	1.0	02/07/04	P
	RD37	Herschel EMC Test Plan	HP-2-ASED-PL-0037	1.0	16/02/04	H
Design descriptions / reports / drawings						
	RD41	System Design Report (CDR)	H-P-1-ASP-RP-0666	1.0	21/07/04	HP
	RD42	Herschel grounding diagram	H-P-2-ASPI-TN-0199	2.0	18/06/04	H
	RD43	Herschel PLM Grounding Scheme	HP-2-ASED-DW-0001	1.0	22/04/02	H
	RD44	Planck grounding diagram	H-P-3-ASPI-TN-0200	2.0	18/06/04	P
	RD45	H/P frequency plan	H-P-1-ASPI-PL-0201	2.0	09/07/04	HP
	RD46	SVM Design Report	H-P-RP-AI-0005	3.0	23/07/04	HP
	RD47	PPLM Design Report	H-P-3-ASPI-RP-0313	2.0	09/04/04	P
	RD48	H-EPLM Design Description	HP-2-ASED-RP-0003	3.0	30/04/04	H
	RD49	Herschel EQM Design Description	HP-2-ASED-RP-0028	2.0	29/04/04	H
	RD50	Cleanliness Team Report	H-P-1-ASPI-RP-0314	1.1	08/11/02	HP
	RD51	Herschel Cryo-harness description	H-P-2-ASED-TN-0103	1.0	19/04/04	H
	RD52	Herschel PFM Cryo Harness Branch Characteristics (partly included in annex 8)	HP-2-ASED-TN-0085	2.0	06/02/04	H
Operations						
	RD61	Operation Concept	H-P-1-ASPI-TD-0263	1.0	15/06/02	HP
Analyses & technical notes						
	RD71	CDR System Thermal analysis report	H-P-1-ASP-RP-0692	1.0	15/07/04	HP
	RD72	Herschel/Planck EMC analyses	H-P-1-ASPI-AN-0202	2.0	2/07/04	HP

type	Ref.	title	ref	Issue (hyperlink)	Date	Applicability
	RD73	ESD analyses for Herschel and Planck Satellites	H-P-1-ASPI-AN-0268	2.0	5/07/04	HP
	RD74	Time adjustment	H-P-1-ASPI-TN-0153	1.0	28/11/01	HP
	RD75	Instruments Data Rates Allocation (out of date)	H-P-1-ASPI-TN-0204	2.0	25/06/02	HP
	RD76	Herschel-SVM - Fine (thermal) Control law analysis	H-P-TN-AI-0060	2.0	31/3/04	H
	RD77	SVM TCS Thermal analysis report	H-P-RP-AI-0040	3.0	14/07/04	HP
	RD78	PPLM Thermal analyses	H-P-3-ASPI-AN-0330	2.0	09/04/04	P
	RD79	Planck RFDM modelling & analyses	H-P-3-ASPI-AN-0324	1.0	19/06/02	P
	RD80	EMC Analysis (HPLM Internal RS test option)	HP-2-ASED-AN-0001	1.0	22/04/02	H
	RD81	H-PLM Thermal model & Analysis PFM	HP-2-ASED-RP-0011	4.0	15/04/04	H
	RD82	H-PLM Thermal model & Analysis EQM	HP-2-ASED-TN-0041	2.0	10/06/02	H
	RD83	HPLM Straylight Calculation Results	HP-2-ASED-TN-0023	4.0	27/09/04	H
	RD84	PPLM RF Analysis	H-P-3-ASPI-AN-0323	2.0	09/04/04	P
	RD85	PPLM Optical Analysis	H-P-3-ASPI-AN-0331	2.0	09/04/04	P
	RD86	CAD Data Exchange rules	H-P-1-ASPI-TN-0211	1.0	30/01/02	HP
	RD87	Mechanical Mathematical Model Specification	H-P-1-ASPI-SP-0014	1.0	07/06/01	HP
	RD88	Reduced Thermal Models requirements for Coupled Load Analysis	H-P-1-ASP-SP-0515	1.0	30/04/03	HP
	RD89	End of Life Cleanliness Analysis	H-P-1-ASPI-AN-0269	4.0	01/07/04	HP
	RD90	PPLM Mechanical & Thermo-Elastic analyses	H-P-3-ASPI-AN-0329	2.0	09/04/04	P
	RD91	Herschel FPU's Local vibro-acoustic analysis	H-P-ASP-TN-5021	1.0	08/06/04	H
	RD92	CDR Herschel micro-vibration analysis report	H-P-2-ASP-AN-0773	1.0	25/06/04	H
	RD93	CDR Planck micro-vibration analysis report	H-P-3-ASP-AN-0774	1.0	25/06/04	P
	RD94	Herschel Cryostat Shielding Efficiency Assessment Consolidation	H-P-2-ASPI-TN-0177	2.0	28/05/04	H
	RD95	Herschel Optical Performances - Transmission Budgets	H-P-2-ASPI-TN-0344	3.0	23/07/04	H
	RD96	Herschel CRYO-Harness Inputs to	HP-2-ASED-TN-0010	3.2	03/12/04	H

type	Ref.	title	ref	Issue (hyperlink)	Date	Applicability
		Thermal Analysis (partly included in annex 8)				
	RD97	Generic Data Collection	H-P-1-ASP-TN-0543	1.2	30/11/04	HP

Management						
	RD100	Organisation of the Herschel-Planck Instrument interface management	H-P-1-ASPI-RP-0122	1.4	30/11/03	HP

Note 1: These documents will be updated. Instruments will be informed of the updates as they become available.

Note:2: Most of the industry reference documents are available on the instrument ftp site (column "issue" contains hyperlinks to documents)

[ftp://ftp.hp-instruments.as-b2b.com/industry_to_instruments/IID's/IID-A/Applicable and Reference documents/](ftp://ftp.hp-instruments.as-b2b.com/industry_to_instruments/IID's/IID-A/Applicable_and_Reference_documents/)

colour code for highlighting:

Blue: New document available (hyperlink)

green: New document but not yet available:

Yellow: Document to be updated,

2.3 LIST OF ACRONYMS

ABCL	As-Built Configuration List
ACC	Attitude Control Computer
ACMS	Attitude Control and Measurement Subsystem
AD	Applicable Document
ADS	Amplitude Spectral Density
AIV	Assembly, Integration and Verification
ALS	ALenia Spazio
AME	Attitude Measurement Error
APE	Absolute Pointing Error
ARE	Absolute Rate Error
ASED	Astrium Space Earth Division
ASP	Alcatel SPace
ASPI	Alcatel SPace Industries (out of date)
AVM	Avionics Verification Model
AXT	AuXiliary Tank (Herschel CQM)
BEM	Back End Modules (LFI)
BEU	Back End Unit (LFI)
BOL	Beginning Of Life
BOLA	BOLometer buffer Amplifier (PACS, unit removed)
BOLC	BOLometer Control (PACS Photometer)
CAU	Cooler Ancillary Unit (HFI 4K PHDB)
CCB	Configuration Control Board
CCE	Central Check-out Equipment
CCE	Cooler Cold End (HFI 4K PHDD)
CCH	Cryostat Cryo-Harness (Herschel)
CCR	Cooler Current Regulator (HFI 4K PHDJ)
CCS	Central Check-out System
CCU	Cryostat Control Unit (Herschel PLM control electronics)
CCU	Cooler Compressor Unit (HFI 4K PHDA)
CDMS	Command and Data Management Subsystem
CDMU	Central Data Management Unit
CDE	Cooler Drive Electronics (HFI, 4K, = PHDC)
CDR	Critical Design Review
CE	Conducted Emission
CIDL	Configuration Item Data List
CNES	Centre National d'Etudes Spatiales (F)
CoG	Centre of Gravity
Co-I	Co-Investigator
CQM	Cryogenic Qualification Model
CR	Change Request
CR	Clean Room
CS	Conducted Susceptibility
CTE	Coefficient of Thermal Expansion
CTR	Central Time Reference
CVV	Cryostat Vacuum Vessel
D3T	Dilution Cooler 3He Tank (=HFI, 0.1K, PHEAAA)
D4T	Dilution Cooler 4He Tank (=HFI, 0.1K, PHEAAB, C, D)

DC	D irect C urrent
DAE	D ata A cquisition E lectronics (LFI)
DCE	D ilution C ooler E lectronics (HFI)
DCPU	D ilution C ooler P neumatic U nit (HFI)
DCCU	D ilution C ooler C ontrol U nit (HFI = PHEB)
DCU	D etector C ontrol U nit (SPIRE)
DDVP	D esign, D evelopment and V erification P lan
DECMEC	D Etector C ontrol / M Echanisms C ontrol (PACS Photometer)
DPC	D ata P rocessing C entre
DPOP	D aily P rime O perational P eriod
DPU	D ata (or D igital) P rocessing U nit (SPIRE, PACS, HFI)
DRCU	D etector R eadout & C ontrol U nit (SPIRE = DCU + FCU)
DTCP	D aily T ele- C ommunication P eriod
DSPG	D istributed S ingle P oint G rounding
ECR	E ngineering C hange R equest
ECSS	E uropean C o-operation for S pace S tandardization
EGSE	E lectrical G round S upport E quipment
EM	E ngineering M odel
EMC	E lectro- M agnetic C ompatibility
EMI	E lectro- M agnetic I nterference
EOL	E nd O f L ife
EQM	E ngineering- Q ualification M odel
ESA	E uropean S pace A gency
ESD	E lectro S tatic D ischarge
ESOC	E uropean S pace O perations C entre
ESTEC	E uropean S pace R esearch and T echnology C entre
EVTR	E n V ironment & T ests R equirements (RD2)
FAR	F light A cceptance R eview
FCS	F light C ontrol S ystem
FCU	F ocal P lane C ontrol U nit (SPIRE, HIFI)
FDIR	F ailure D etection I solation & R ecovery (see RD6)
FEM	F ront E nd M odules (LFI)
FEM	F inite E lement M odel
FEU	F ront E nd U nit (LFI)
FHFCU	H erschel H IFI F ocal P lane C ontrol U nit
FHFPU	H erschel H IFI F ocal P lane U nit
FHIFH	H erschel H IFI I F up-converter H orizontal
FHIFV	H erschel H IFI I F up-converter V ertical
FHHRH	H erschel H IFI H RS ACS H orizontal polarisation
FHHRV	H erschel H IFI H RS ACS V ertical polarisation
FHICU	H erschel H IFI I nstrument C ontrol U nit
FHLCU	H erschel H IFI L ocal O scillator C ontrol U nit
FHLOR	H erschel H IFI L ocal O scillator R adiator
FHLOU	H erschel H IFI L ocal O scillator U nit
FHLSU	H erschel H IFI L ocal O scillator S ource U nit
FHWEH	H erschel H IFI W BS E lectronics for H orizontal P olarisation
FHWEV	H erschel H IFI W BS E lectronics for V ertical P olarisation
FHWOH	H erschel H IFI W BS O ptic for H orizontal P olarisation
FHWOV	H erschel H IFI W BS O ptic for V ertical P olarisation
FM	F light M odel
FMECA	F ailure- M odes, E ffects and C riticality A nalysis
FOV	F ield O f V iew
FPBOLA	H erschel P ACS B OLometer B uffer A mplifier (unit removed)

FPBOLC	Herschel PACS BOLometer & Cooler Control unit
FPDECMEC	Herschel PACS DEtectors Control & MEchanisms Control (DEC/MEC)
FPDPU	Herschel PACS Data Processing Unit
FPFPU	Herschel PACS Focal Plane Unit
FPSPU1	Herschel PACS Signal Processing Unit Nominal
FPSPU2	Herschel PACS Signal Processing Unit Redundant (stacked with Nominal)
FPU	Focal Plane Unit (All instruments)
FPS	Focal Plane Structure (HFI)
FS	Flight Spare
GDIR	General Design & Interface Requirements (RD1)
GSE	Ground Support Equipment
GSU	Gas Supply Unit (HFI He tanks & pipes)
HACS	Herschel Alignment Camera System (LOU alignment cameras=HPLM OGSE)
He I	Helium (Normal Fluid)
He II	Helium II (Superfluid Helium)
He3	Helium 3 (rare He Isotope 3 used in HFI dilution cooler)
He4	Helium 4 (natural isotope 4 of Helium)
HCM	Angular Momentum Correction Mode (ACSM mode)
HDR	Hardware Design Review
HFI	High Frequency Instrument (Planck)
HIFI	Heterodyne Instrument for the Far Infrared
HK	House Keeping
HOB	Herschel Optical Bench
HOT	Helium One Tank (Herschel cryostat STM/FM auxiliary tank)
HPLM	Herschel Payload Module
HPSDB	Herschel Planck System Data Base
HRH, (V)	High Resolution spectrometer Horizontal (Vertical) polarisation
HRS	High Resolution Spectrometer (Herschel HIFI)
HSC	Herschel Science Centre
HSDCU	Herschel SPIRE Detector Control Unit
HSDPU	Herschel SPIRE Digital Processing Unit
HSEC	Herschel Science Evaluation Committee
HSFCU	Herschel SPIRE Focal Plane Control Unit
HSFPU	Herschel SPIRE Focal Plane Unit
HSJFP	Herschel SPIRE JFET Photometer
HSJFS	Herschel SPIRE JFET Spectrometer
HSVM	Herschel Service Module
HTT	Helium Two Tank (Herschel cryostat main He tank)
IAR	Instrument Acceptance Review
IAS	Institut d'Astrophysique Spatiale (Orsay, HFI)
IASF	Istituto di Astrofisica Spaziale e Fisica Cosmica (Bologna, I, LFI)
IBDR	Instrument Baseline Design Review
IHDR	Instrument Hardware Design Review
ICC	Instrument Control Centre
ICD	Interface Control Document (or Drawing)
ICU	Instrument Control Unit (HIFI DPU) (same as FHICU)
ICDR	Instrument Critical Design Review
IF	Intermediate Frequency (HIFI)
IFAR	Instrument Flight Acceptance Review
IFH, (V)	IF up-converter Horizontal (Vertical) polarisation (HIFI)
IID	Instrument Interface Document
IIDR	Instrument Intermediate Design Review
ILT	Instrument Level Test

IMT	I ntegrated M odule T est
IOCR	I n O rbital C ommissioning R eview
IQR	I nstrument Q ualification R eview
IST	I ntegrated S atellite (or S ystem) T est
ISVR	I nstrument S cience V erification R eview
ITT	I nvitation T o T ender
JFET	J unction F ield E ffect T ransistor, Pre-ampli (SPIRE, HFI)
JFP	J Fet amplifier P hotometer (SPIRE, HSJFP)
JFS	J Fet amplifier S pectrometer (SPIRE, HSJPS)
JPL	J et P ropulsion L aboratory (Pasadena, USA, Sorption cooler)
L0	L evel 0 . Herschel FPU's Thermal interface (on He Tank 1.8K)
L1	L evel 1 . Herschel FPU Thermal interfaces on vent line, 4K
L2	L evel 2 . Herschel FPU Thermal interfaces on vent line, 15K
L2	L agrangian point number 2 (for Herschel & Planck Lissajou Orbits)
L3	L evel 3 . Herschel FPU Thermal interface for SPIRE JFET
LCL	L atch C urrent L imiter
LCU	L ocal oscillator C ontrol U nit (HIFI) (same as FHLCU)
LEOP	L aunch and E arly O rbital P hase
LGA	L ow G ain A ntenna
LISN	L ine I mpedance S tabilisation N etwork
LNA	L ow N oise A mplifier
LO	L ocal O scillator (HIFI)
LOU	L ocal O scillator U nit (HIFI FHLOU)
LOR	L ocal O scillator R adiator (HIFI FHLOR)
LoS	L ine O f S ight
LSU	L ocal oscillator S ource U nit (HIFI FHLSU)
LVDE	L ow V ibration D rive E lectronics
ME	M ain E lectronics (=HFI DPU)
MGA	M edium G ain A ntenna
MGSE	M echanical G round S upport E quipment
MIB	M ission B ase
MLI	M ulti- L ayer I nsulation
MOC	M ission O perations C entre
MoI	M oment of I nertia
MOIS	M ission O peration I nformation S ystem
MOS	M argin O f S afety
MPE	M ax P lanck I nstitute für E xtraterrestrische P hysik (Garching, PACS)
MPS	M ission P lanning S ubsystem
MTL	M ission T ime- L ine
NCR	N on C onformance R eport
NOM	N ominal M ode (ACSM mode)
OBA	O ptical B ench A ssembly(Herschel)
OCM	O rbital C ontrol M ode (ACSM mode)
OIRD	O perations I nterface R equirements D ocument
OP	O bservation P eriod
PACE	P ipes A ssembly & C old E nd (Sorption Cooler)
PACS	P hoto-detector A rray C amera and S pectrometer
PAU	P re- A mplifier U nit (HFI PHCBA)
PCS	P ower C ontrol S ubsystem
PCDU	P ower C ontrol & D istribution U nit
PDE	P ointing D rift E rror
PDR	P reliminary D esign R eview
PFM	P roto F light M odel

PGSE	P neumatic G round S upport Equipment (Planck coolers gas supplies)
PHA	Planck HFI Focal Plane Unit (FPU)
PHBA-N	Planck HFI Data Processing Unit (DPU) Nominal
PHBA-N	Planck HFI Data Processing Unit (DPU) Redundant
PHCA	Planck HFI JFET Box
PHCBA	Planck HFI Pre-Amplifier Unit (PAU)
PHCBC	Planck HFI Readout Electronics Unit (REU)
PHDA	Planck HFI 4K Cooler Compressor Unit (CCU)
PHDB	Planck HFI 4K Cooler Ancillary Unit (CAU)
PHDC	Planck HFI 4K Cooler Electronics Unit (4K-CDE)
PHDD	Planck HFI 4K Cooler Cold End (CCE)
PHDJ	Planck HFI 4K Cooler Current Regulator (CCR)
PHEAAA	Planck HFI 0.1K Dilution Cooler 3He Tank (D3T)
PHEAAB	Planck HFI 0.1K Dilution Cooler 4He Tank (D4T) #1
PHEAAC	Planck HFI 0.1K Dilution Cooler 4He Tank (D4T) #2
PHEAAD	Planck HFI 0.1K Dilution Cooler 4He Tank (D4T) #3
PHEB	Planck HFI 0.1K Dilution Cooler Control Unit (0.1K-DCCU)
PI	P rincipal I nvigator
PL4K	Planck LFI 4K Reference load (Mounted on HFI FPU)
PLA10	Planck LFI Heat switch (unit removed)
PLBEU	Planck LFI DAE B ack E nd U nit (BEU)
PLCB	Planck LFI DAE Power Box
PLFEU	Planck LFI F ront E nd U nit (FEU)
PLM	P ay L oad M odule
PLREN	Planck LFI REBA N ominal (=LFI DPU-N)
PLRER	Planck LFI REBA R edundant (=LFI DPU-R)
PLWG	Planck LFI W ave G uides (WG)
PM	P roject M anager
PPLM	Planck P ay L oad M odule
Ppm	p artie p er m illion (=1/10 ⁶)
PR	P rimary R eflector (Planck)
PRE	P ointing R eproducibility E rror
PSEC	P lanck S cience E valuation C ommittee
PSF	P oint S pread F unction
PSVM	Planck S er V ice M odule
PSS	P rocedures, S tandards and S pecifications (ESA, replaced by ECSS)
PT	P roduct T ree
PTC	P acket T ransfer C onfirmation
PTD	P acket T ransfer D escription
PTR	P acket T ransfer R equest
QLA	Q uick L ook A nalysis (software)
QM	Q ualification M odel
QR	Q ualification R eview
RAA	R adiometer A rray A ssembly (LFI=FPU + WG + BEU)
RAL	R utherford A ppleton L aboratory (UK, SPIRE)
RAM	R andom A ccess M emory
RCS	R eaction C ontrol S ubsystem
RD	R eference D ocument
Rdp	R eference frame for Planck FPU
RE	R adiated E mission
REBA	R adiometer E lectric B ox A ssembly (=LFI DPU)
REU	R Ead-out E lectronics (=HFI PHCBC)
RF	R adio F requency

RFD	R equest F or D eviation (affects 1 model)
RFW	R equest F or W aiver(affects all models)
RH	R eference H ole
RMS	R oot M ean S quare
ROD	R eview O f D esign
RPE	R elative P ointing E rror
RTA	R eal T ime A ssessment (software)
RS	R adiated S usceptibility
RU	R eadout U nit (=HFI REU+PAU+cable)
SAM	S un A cquisition M ode (ACSM mode)
SBM	S tand- B y M ode (ACSM mode)
S/C	S pace C raft
SCC	S orption C ooler C ompressor
SCCE	S orption C ooler C old E nd
SCE	S orption C ooler E lectronics
SCS	S orption C ooler S ubsystem
SCOS	S pacecraft C ontrol and O perations S ystem
SCP	S orption C ooler P ipes
SF	S afety F actor
SFT	S hort F unctional T est
SIH	S cientific I nstruments (cryo) H arness (Herschel)
SIN	S traylight I nduced N oise
SIRD	S cience I mplementation R equirements D ocument
SIST	S hort I ntegrated S atellite T est
SLE	S tandard L aboratory E quipment
SM	S urvival M ode (ACSM mode)
SOFDIR	S ystem O perations & FDIR (RD6)
SPIRE	S pectral and P hotometric I maging R eceiver
SPU	S ignal P rocessing U nit (PACS)
SR	S econdary R eflector (Planck)
SRON	S pace R esearch O rganisation of the N etherlands (HIFI)
SRPE	S patial R elative P ointing E rror
SSR	S olid S tate R ecorder
SST	S tainless S Teel
STM	S tructural/ T hermal M odel
STMM	S implified T hermal M athematical M odel
SVM	S er V ice M odule
SVMD	S VM D ummy (for planck QM tests)
TBC	T o B e C onfirmed
TBD	T o B e D efined (or D etermined)
TCS	T hermal C ontrol S ubsystem
TM	T ele M etry
TMM	T hermal M athematical M odel
TMU	T hermo M echanical U nit (Sorption cooler compressor + PACE)
TT&C	T elemetry, T racking & C ommand
TTC	T elemetry, T racking and C ommand
VSWR	V oltage S tanding W ave R atio
VG	V - G roove (Planck thermal shields between SVM & payload)
VG1	V - G roove 1 (Planck Warmest V-groove shield, near SVM)
VG2	V - G roove 2 (Planck intermediate V-groove shield)
VG3	V - G roove 3 (Planck coldest V-groove shield, near payload)
WBS	W ork B reakdown S tructure
WBS	W ide B and S pectrometer (Herschel HIFI WEH, WEV, WOH, WOV)

WEH, (V)**WFE****WOH, (V)****WG****WIH****WU****Wide B**and spectrometer **E**lectronic unit **H**orizontal, (**V**ertical), (HIFI)**Wave F**ront **E**rror**Wide band spectrometer O**ptical unit **H**orizontal, (**V**ertical) (HIFI)**Wave-G**uides (Planck LFI or Herschel LOU)**Warm I**nterconnecting **H**arness (Instruments)**Warm U**nits