



Annex 10: Warm Interconnecting Harness and SVM harness Routing

Industry activity on WIH is limited to Routing of WIH on the SVM panels.

All Drawings for WIH & SVM routing and harness fixation interfaces on warm units are attached in this annex.

CAD models (as per IID-A issue 3.3) & drawings are available on instruments ftp server.

[ftp://ftp.hp-instruments.as-b2b.com/industry_to_instruments/Warm Interconnecting Harness/](ftp://ftp.hp-instruments.as-b2b.com/industry_to_instruments/Warm_Interconnecting_Harness/)

Note 1: CAD models have been translated from Catia to STEP & IGSE during the definition phase (ie in line with IID-A 3.3), and made available to instruments for manufacturing file definition. These translations have not been updated with the latest issue of the drawings here. We believe that this update is not necessary for the routing exercise, as the shifts are of a few mm only. However, in case of absolute need, the updated CAD models hare available in Catia format, and can be translated to STEP/IGSE on demand.

Note 2: Some Position of paint free areas on warm units have been updated by Alcatel, and are included in annex 9. These Alcatel drawings of annex 9 take precedence on Nexans Drawings included here. This applies For SPIRE (HSDCU, HSFCU), HIFI FHLCU, and PACS FPBOLC For PACS DECMEC, the paint free area position included in this annex 10 here is the applicable one.

Note 3: The pdf document has been re-generated to force the corrections made by pdf comments to be printed.

- **Herschel:**

- SPIRE

SPIRE WIH Description: HP-NXH-RP-1022_A1 (16/04/04)

- SPIRE WIH Length table
- Drawings
 - HP-NXH-DW-1022_B2 sheets 1 to 5 (21/01/05)
- CAD Models (STEP & IGES formats)
 - WIH routing: "step hrnspire.zip"; "iges hrnspire.zip" (22/12/2003)
 - Cryoharness & SVM harness: "step SPIRE_SVMh+CryoH.zip" (05/03/04)

- PACS

PACS WIH Description: HP-NXH-RP-1021_A1 (16/04/04)

- PACS WIH Length table
- Drawings
 - H-P-4-NXH-DW-0021 B3 sheets 1 to 4 (23/01/06)
- CAD model:
 - WIH routing: "step hrnpacs.zip"; "iges hrnspire.zip" (22/12/2003)
 - Cryoharness & SVM harness: "step PACS_SVMh+CryoH.zip" (05/03/04)

- HIFI

HIFI WIH Description: HP-NXH-RP-1020_A2 (04/05/04) (updated by B. Marchand (09/06/04)

- HIFI WIH Length Table

- Drawings
 - H-P-NXH-DW-1023 B2 sheets 1, 2, 4/4 (21/01/05) Horizontal panel
 - H-P-NXH-DW-1024 B2 sheets 1, 2, 4/4 (21/01/05) Vertical panel
 - H-P-NXH-DW-1050 B2 sheets 1, 2, 3, 4/4 (21/01/05) Lower Closure Assembly
- Brackets drawings for lower platform harness breaks (provided by industry)
 - HP-17-01-01-KT 1 (24/05/04) SVM harness bracket CBH1, CBH2
 - HP-11-01-03-KT 1 (19/05/04) SVM harness bracket DBH1, DBH4
 - HP-01-01-02-KT 1 (19/05/04) SVM harness bracket DBH2, DBH3
- CAD models:
 - "WIH STEP.zip" (11/06/04)
 - "warm units STEP.zip" (09/06/04)
 - "SVM harness STEP.zip" (09/06/04)
 - "Cryoharness in SVM STEP.zip" ((09/06/2004)
- **Planck**
 - HFI
 - HFI WIH Harness Description H-P-4-NXH-RP-0023 A2 (04/05/04) (updated by B. Marchand for harness length (06/09/04)
 - HFI WIH Length Table
 - Drawings
 - Harness Routing drawings (included in above document)
 - hp-nxh-dw-2021_B3 (sheets 1, 2, 4/4) (21/01/05) HFI-DPU panel
 - hp-nxh-dw-2022_B2 (sheets 1, 2, 5/5) (21/01/05) HFI 0.1K Panel & LFI REBA
 - hp-nxh-dw-2023_B2 (sheets 1, 2, 5/5) (21/01/05) HFI 4K Panel
 - hp-nxh-dw-2011_B2 (sheets 1/2) (18/01/05) Shear Panel
 - hp-nxh-dw-2050_B2 (4 sheets) (21/01/05) Lower platform
 - hp-nxh-dw-2060_B1 (sheets 1, 2/6) (21/01/05) upper platform
 - Brackets drawings for lower platform harness breaks (provided by industry)
 - HP-08-02-01-KT 1 (19/05/04) SVM harness bracket DBH3
 - HP-02-01-02-KT 1 (17/05/04) SVM harness bracket DBH2
 - HP-04-01-03-KT 1 (19/05/04) SVM harness bracket DBH1 1-12
 - PAU REU Cable length details (drawings & notes from B.Marchand 17/06/04)
 - PAU-REU harness accommodation & access PLS.A14.H025.A (10/06/04)
 - CAD Models:
 - LIST OF CAD MODELS APPLICABLE TO HFI WIH (See separate sheet from B.Marchand 19/06/04)
- LFI / SCS

LFI WIH Harness Description H-P-4-NXH-RP-0024 A1 (12/12/06) (updated with new LFI WIH routing)

- New LFI WIH Length Table (taking into account displacement of DBH4 bracket)
- SCS WIH Length Table
- Drawings
 - hp-nxh-dw-2024_B2 (6 sheets) (21/01/05) Sorption Cooler
 - PLSA14HS004FA (sheets 1/2) (09/11/06) shear web
 - PLSA14HS004FA (sheets 2/2) (09/11/06) REBA /(DCCU) Panel.
 - PLSA14HS003FA (sheets 1 to 4/4) (27/11/06) Planck LFI Harness modification on sub-platform.
 - SPB-1141-A-0501A_B (sheet 1) (05/02/97) Support de connecteur 2x50 broches (for DBH4)
- CAD Models:
 - LFI CAD models removed as LFI does not use them.
 - LIST OF CAD MODELS APPLICABLE TO SCS WIH (See separate sheet from B.Marchand 20/07/04)

DOCUMENT COMPOSITION

Pages	Annexes	Others
11	X	0



DOCUMENT IDENTIFICATION

Project	: Herschel – Planck
N° Project	: 1680
N° Contract	:
Material	: Herschel-Planck SVM Harness
Doc. Reference	: H-P-4-NXH-RP-0022 A1
Date	: 16-04-04

TITLE

<h1>H-P WU SPIRE Harness</h1>

Written by	Function	Date	Signature
Johan Vervliet	Engineering	16-04-04	
Checked by			
Ken Pletinckx	Project Engineer	26.04.04	
Approved by			
Stéphane Dassy	Project Manager	26.4.4.	

H-P WU SPIRE Harness	Doc Id. : H-P-4-NXH-RP-0022		
	DATE : 16-04-04	Ed / Rev : A1	Page : 2 of 11

DISTRIBUTION LIST

Company	Department	Distr.	Addressee
Nexans Harnesses	Project Management	X	Stéphane Dassy
	Quality		Abdessamad Laalimi
	Production		Denis Cammaert
	Method		Sven Storms
	Logistic		François Didden
	Engineering		Ken Pletinckx
	Sales & Contract		Eric Leurquin
ALENIA SPA	Technical Responsible	X	Bottaro Giovanni
	Programatics Responsible	X	Silvestri Renato
ALCATEL SPACE	Technical Responsible	X	Baptiste Marchand
	Programatics Responsible	X	Gian Maria Canaparo

H-P WU SPIRE Harness	Doc Id. : H-P-4-NXH-RP-0022		
	DATE : 16-04-04	Ed / Rev : A1	Page : 4 of 11

TABLE OF CONTENTS

1	<u>SCOPE</u>	5
2	<u>INTRODUCTION</u>	5
3	<u>APPLICABLE DOCUMENTS</u>	6
3.1	APPLICABLE DOCUMENTS	6
3.2	ALS BASELINE DOCUMENTS	6
3.3	CATIA HARNESS DIRECTORY STATUS : SPIRE	6
4	<u>DOCUMENT ORGANISATION</u>	7
4.1	GENERAL INFORMATION : DRAWINGS	7
4.2	2D DRAWING NUMBERING SYSTEM	7
4.3	2D JIG NUMBERING SYSTEM	8
5	<u>HARNESS FIXING</u>	9
5.1	TIE-BASES	9
5.2	STAND-OFF'S	9
6	<u>2D DRAWING LISTING</u>	10
6.1	SPIRE 2D DRAWING LISTING	10
6.2	SPIRE JIG DRAWING LISTING	10
6.3	SPIRE 2D DRAWINGS	10
7	<u>SPIRE EXTRACTED LENGTHS</u>	11

H-P WU SPIRE Harness	Doc Id. : H-P-4-NXH-RP-0022		
	DATE : 16-04-04	Ed / Rev : A1	Page : 5 of 11

1 Scope

The purpose of this document is to provide a description of the SPIRE WU harness of the Herschel S/C.

2 Introduction

The WU belonging to the SPIRE Experiment (DPU, FCU and DCU) are located on the -Z panel SPIRE. Also the CCU is located on this panel.

The SPIRE Panel harness is configured taking into account the different interconnection requirements of the experiment and harness design responsibility. The harness is split into 3 different main groups:

1. SVM Harness
2. Instrument WU Harness
3. Cryo Harness

The routing accommodation foreseen to have separate routing paths for each of the above harnesses as well as for main and redundant functions.

The instrument WU Harness is defined taking into account the harness data provided by Instruments as well as SVM and CRYO Harness Design in order to verify the relevant accommodation in the SVM configuration.

Additional details/drawings on the harness accommodation are reported in this document.

H-P WU SPIRE Harness	Doc Id. : H-P-4-NXH-RP-0022		
	DATE : 16-04-04	Ed / Rev : A1	Page : 6 of 11

3 Applicable Documents

3.1 Applicable documents

Number	Issue	Title
H-P-1-ASPI-SP-0027	4.2	General Design Interface Requirement Specification
H-P-1-ASPI-SP-0042	4.0	SVM Interface Specification
H-P-RP-AI-0025	1.0	SVM Harness Configuration and Design Description

3.2 ALS Baseline Documents

Number	Issue	Title
H-P-IC-AI-0001	04	Herschel/Planck SVM MICD
H-P-LI-AI-0022	05	List of HP SVM 3D CAD models
SPIRE-RAL-PRJ-000608	01	Herschel Spire Harness Definition
Sap-SPIRE-Cca-0106-03	0.1	DRCU Warm Harness Description

3.3 CATIA Harness Directory Status : SPIRE

ALS Part Nr.	Rev.	Description	Resp.	Date
HP-112301-22-1	A	-Z LATERAL PANEL HRN ELT ASSY (SPIRE)	HRN_	07.11.03
HP-112302-22-1	N/A	-Z LATERAL PANEL HRN MECH ASSY (SPIRE)	HRN_	N/A
HP-392001-22-1	E	-Z LATERAL PANEL HRN ELT ASSY (SPIRE)	HRN_	02.04.04
HP-392002-22-1	N/A	-Z LATERAL PANEL HRN MECH ASSY (SPIRE)	HRN_	N/A

H-P WU SPIRE Harness	Doc Id. : H-P-4-NXH-RP-0022		
	DATE : 16-04-04	Ed / Rev : A1	Page : 7 of 11

4 Document Organisation

4.1 General Information : Drawings

Every Drawing contains all relevant information with reference to the H-P SPIRE Harness derived from the MICD (Mech. Interface Control Doc.) and the and other data provided by instruments, such as :

Power, Signal and Sensitive Routing
 Nominal & Redundant routing
 Mil Bus lay-out
 WIU Harness lay-out
 Mechanical Items lay-out
 Mechanical Items identification

Colour codes used are

Colour	Class	Comment
Colour 30 (Dark Red)	1-/POWER	SVM Primary Power
Colour 04 (Light Blue)	2-/SIGNAL	SVM Signal
Colour 45 (Dark Green)	4-/SENS	SVM Sensitive Harness
Colour 75 (Dark Yellow)	2-/Signal	Mil Bus Harness
Colour 02 (Light Red)	1-/PWR	WIH Secondary Power
Colour 120 (Dark Blue)	2-/Signal	WIH Secondary Signal
Colour 111 (Dark Green)	N/A	Tie-base
Colour 05 (Yellow)	N/A	For Information Only

4.2 2D Drawing Numbering System

Each 2D Drawing is identified by H-P-NXH-DW-XXXX

Part	Field
H-P	Herschel-Planck
NXH	Nexans Harnesses
DW	Drawing
X (first of XXXX)	1 for Herschel 2 for Planck
X (second of XXXX)	0 for General Panel Information 1 for Power (Nom and Red) 2 for Signal (Nom and Red) 4 for Sensitive (Nom/Red/Red2) 9 for MIL BUS (DMS/ACMS-NOM/RED)
XX (last two of XXXX)	00 General Structure XX Panel number in ref. with H-P-LI-AI-0022 iss.5

H-P WU SPIRE Harness	Doc Id. : H-P-4-NXH-RP-0022		
	DATE : 16-04-04	Ed / Rev : A1	Page : 8 of 11

4.3 2D JIG Numbering System

Each 2D JIG Drawing is identified by H-P-NXH-DR-XXXX

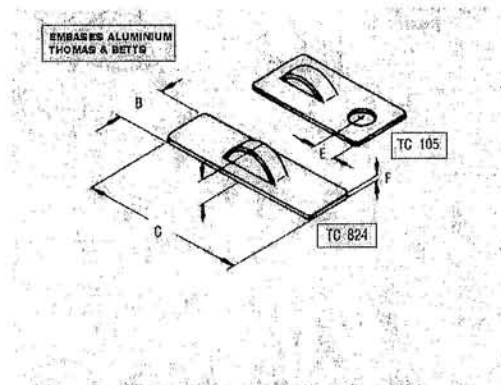
Part	Field
H-P	Herschel-Planck
NXH	Nexans Harnesses
DR	Drawing
X (first of XXXX)	1 for Herschel 2 for Planck
X (second of XXXX)	0 for General Panel Information 1 for Power (Nom and Red) 2 for Signal (Nom and Red) 4 for Sensitive (Nom/Red/Red2) 9 for MIL BUS (DMS/ACMS-NOM/RED)
XX (last two of XXXX)	00 General Structure XX Panel number in ref. with H-P-LI-AI-0022 iss.5

H-P WU SPIRE Harness	Doc Id.: H-P-4-NXH-RP-0022		
	DATE : 16-04-04	Ed / Rev : A1	Page : 9 of 11

5 Harness Fixing

5.1 Tie-bases

The position of the tie-bases has been designed to meet the requirement to fix the harness bundles on the structure every 100mm maximum. Tiebase type used is TC-105 (Thomas & Betts). Tie-wraps sizes used, are function of bundle diameter and in accordance to the applicable process list.



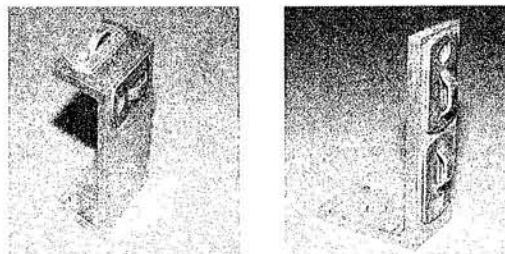
Tie-bases will be glued on the spacecraft structure and will assure harness fixation as well as electrical bonding.

5.2 Stand-off's

To maintain wire-bundles routing and minimize mechanical stress in harness, specific stand-off have been designed, which will be glued on the spacecraft structure.

The stand off designs are well approved at Kayser-Threde and will be modified to the purpose of the SVM Harness. (Pictures below)

Tie-bases will be glued to the stand-off's to allow cable fixation by using fasteners tie-wraps.



We assume 2 types of stand off will be necessary.

H-P WU SPIRE Harness	Doc Id. : H-P-4-NXH-RP-0022		
	DATE : 16-04-04	Ed / Rev : A1	Page : 10 of 11

6 2D Drawing Listing

6.1 SPIRE 2D Drawing Listing

<i>Document Ref.</i>	<i>Document Title</i>	<i>Date</i>	<i>Issue</i>
H-P-NXH-DW-1022	SPIRE Instrument Panel Assy	30-03-04	A1

6.2 SPIRE JIG Drawing Listing

<i>Document Ref.</i>	<i>Document Title</i>	<i>Date</i>	<i>Issue</i>
H-P-NXH-DR-1022	SPIRE Instrument Panel Assy	24-03-04	A1

6.3 SPIRE 2D Drawings

See Annex

H-P WU SPIRE Harness	Doc Id. : H-P-4-NXH-RP-0022		
	DATE : 16-04-04	Ed / Rev : A1	Page : 11 of 11

7 SPIRE Extracted Lengths

Bundle Identification	From Connector			To Connector			Bundle						Sq.(*3)		
	Identification	Con Type	Bck Type	Identification	Con Type	Bck Type	Nom / Red	Category	Diam. (mm)	Bending Radius	Mass BNL (g/m)	Conn.+Bck (g)		L Max (mm)	L (mm)
W1	HSDCU P01	DBMA 25P	557-E-113	HSDPU P07	DBMA 25S	557-102 (*1)	Nominal	2	6	30	34,2		2000	2120	2
W2	HSDCU P02	DBMA 25P	557-E-113	HSDPU P10	DBMA 25S	557-103 (*1)	Redundant	2	6	30	34,2		2000	2093	2
W3	HSFCU P03	DBMA 25P	557-E-113	HSDPU P09	DBMA 25S	557-102 (*1)	Nominal	2	6	30	34,2		2000	817	2
W4	HSFCU P04	DBMA 25P	557-E-113	HSDPU P12	DBMA 25S	557-103 (*1)	Redondant	2	6	30	34,2		2000	806	2
W5	HSFCU P01	DBMA 25P	557-E-113	HSDPU P08	DBMA 25S	557-102 (*1)	Nominal	2	6	30	34,2		2000	1037	2
W6	HSFCU P02	DBMA 25P	557-E-113	HSDPU P11	DBMA 25S	557-103 (*1)	Redundant	2	6	30	34,2		2000	1028	2
W7	HSDCU P03	DBMA 25S	557-102 (*2)	HSFCU P07	DBMA 25P	550-E-039	Nominal	1	8	40	136,29		2000	913	1
W8	HSDCU P04	DBMA 25S	557-102 (*2)	HSFCU P08	DBMA 25P	550-E-039	Redundant	1	8	40	136,29		2000	825	1

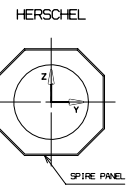
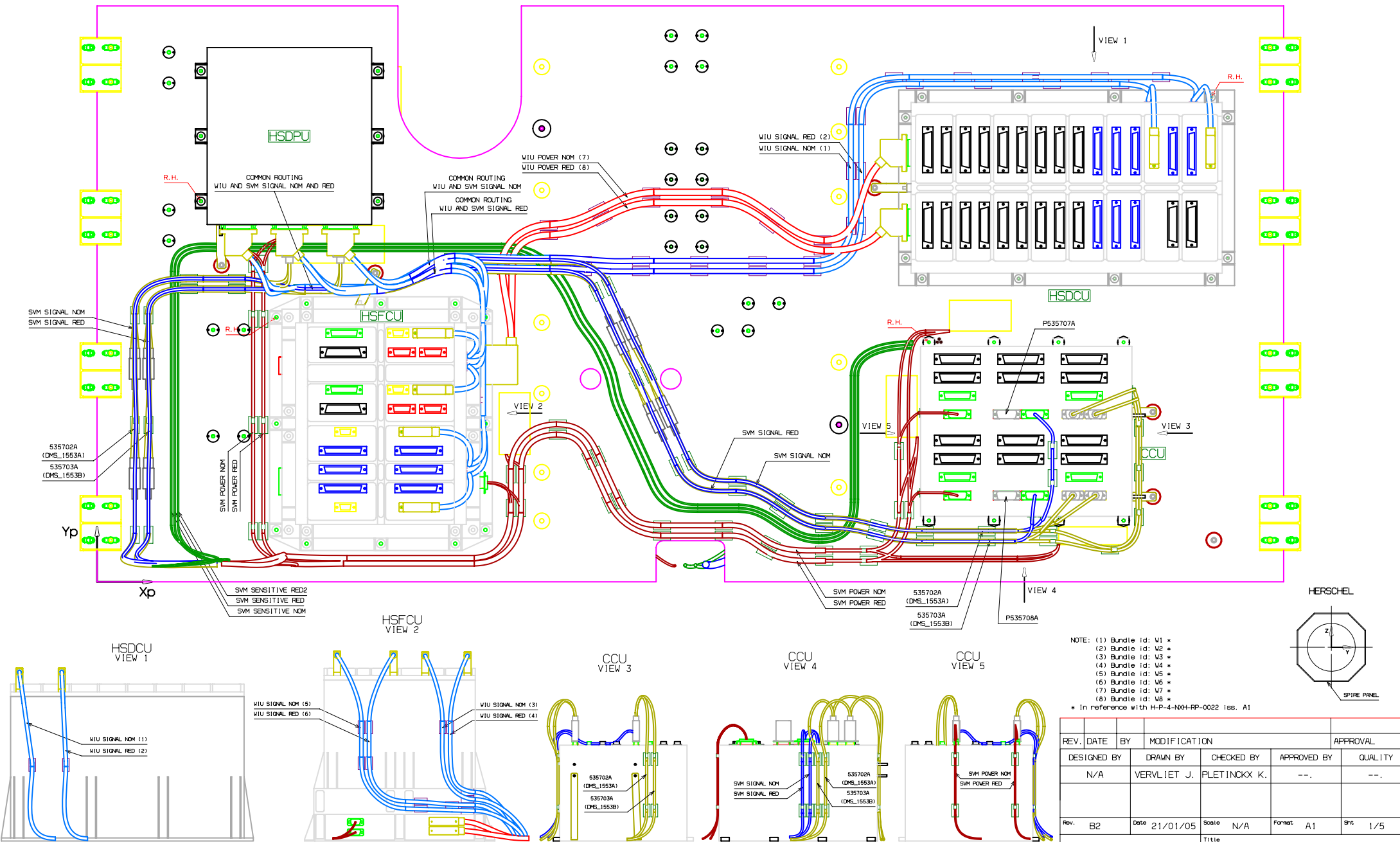
Note : These lengths are CATIA extracted and therefore theoretical values. It is recommended to perform harness production activities on JIG.
Lengths are measured from connector front face to connector front face.

(*1) In CATIA model bck type 557-B-113 is represented which is interchangeable with both bck types 557-102 and 557-103.

(*2) In contradiction with document SPIRE-RAL-PRJ-000608 iss.: 1.0 we have chosen to use 557-102 (*1) (45° entry bck) instead of 557-E-039 (end entry bck) for routing reasons.

(*3) This table indicates the sequence in which the different cables must be integrated.

ORTHOGONAL VIEW FROM INSIDE S/C



NOTE: (1) Bundle id: W1 *
 (2) Bundle id: W2 *
 (3) Bundle id: W3 *
 (4) Bundle id: W4 *
 (5) Bundle id: W5 *
 (6) Bundle id: W6 *
 (7) Bundle id: W7 *
 (8) Bundle id: W8 *
 * In reference with H-P-4-NXH-RP-0022 iss. A1

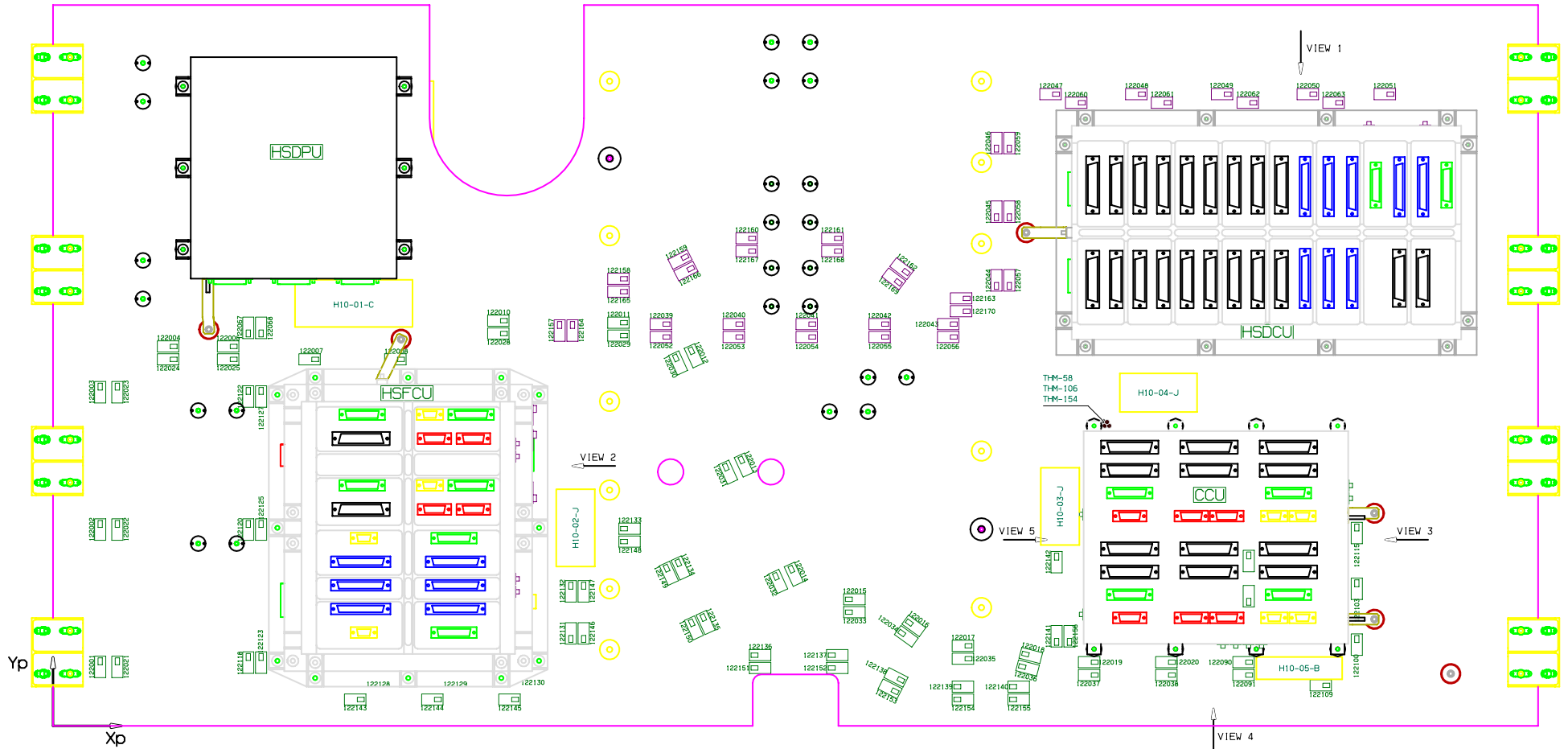
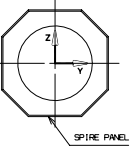
REV.	DATE	BY	MODIFICATION	APPROVAL
DESIGNED BY		DRAWN BY	CHECKED BY	APPROVED BY
N/A		VERVLIET J.	PLETINGCKX K.	---
Rev.	Date	Scale	Format	Shr
B2	21/01/05	N/A	A1	1/5

Nexans
HARNESSES

SVM SPIRE
INSTRUMENT PANEL ASSY

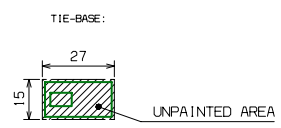
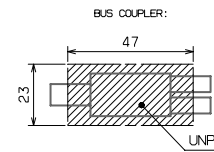
DWG N° HP-NXH-DW-1022

ORTHOGONAL VIEW FROM INSIDE S/C



Yp
Xp

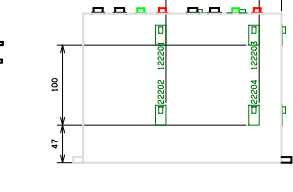
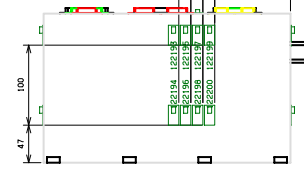
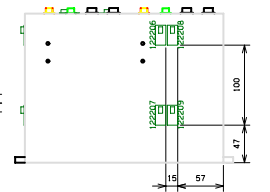
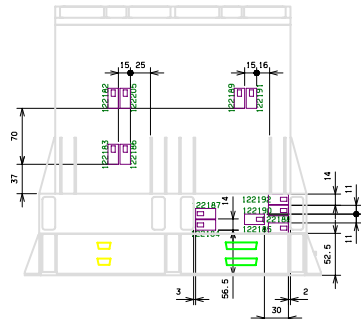
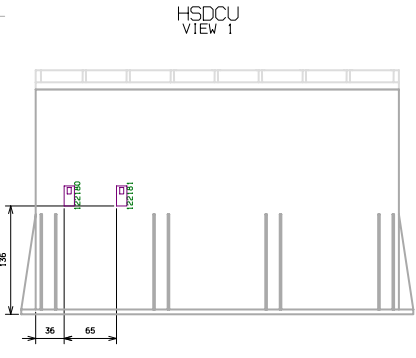
HSFCU
VIEW 2



CCU
VIEW 3

CCU
VIEW 4

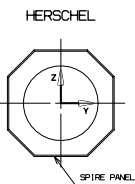
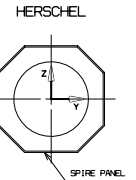
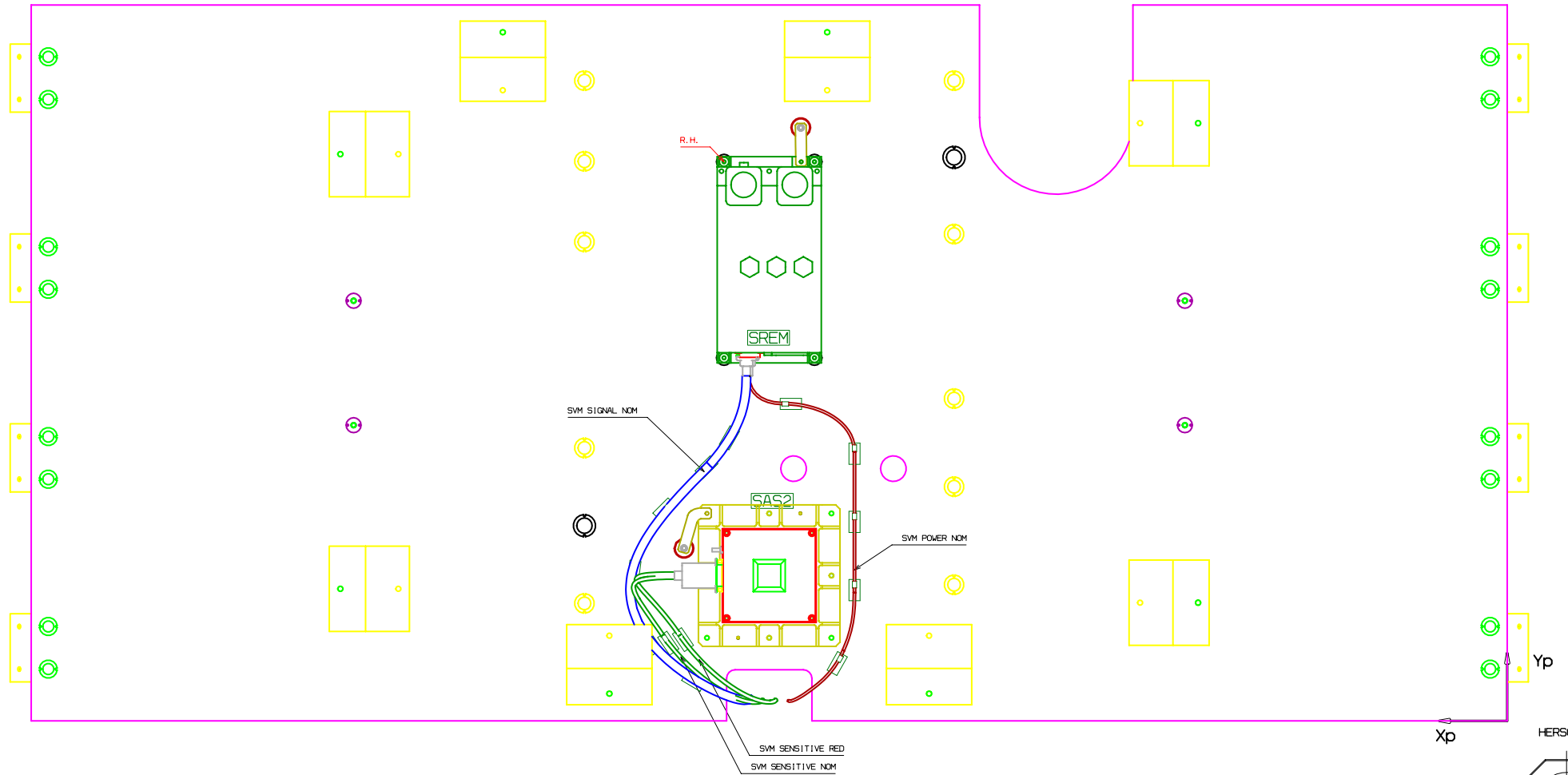
CCU
VIEW 5



Note: - Tie-base used: TC-105

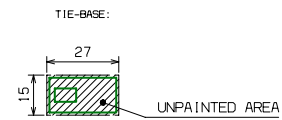
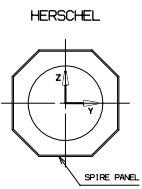
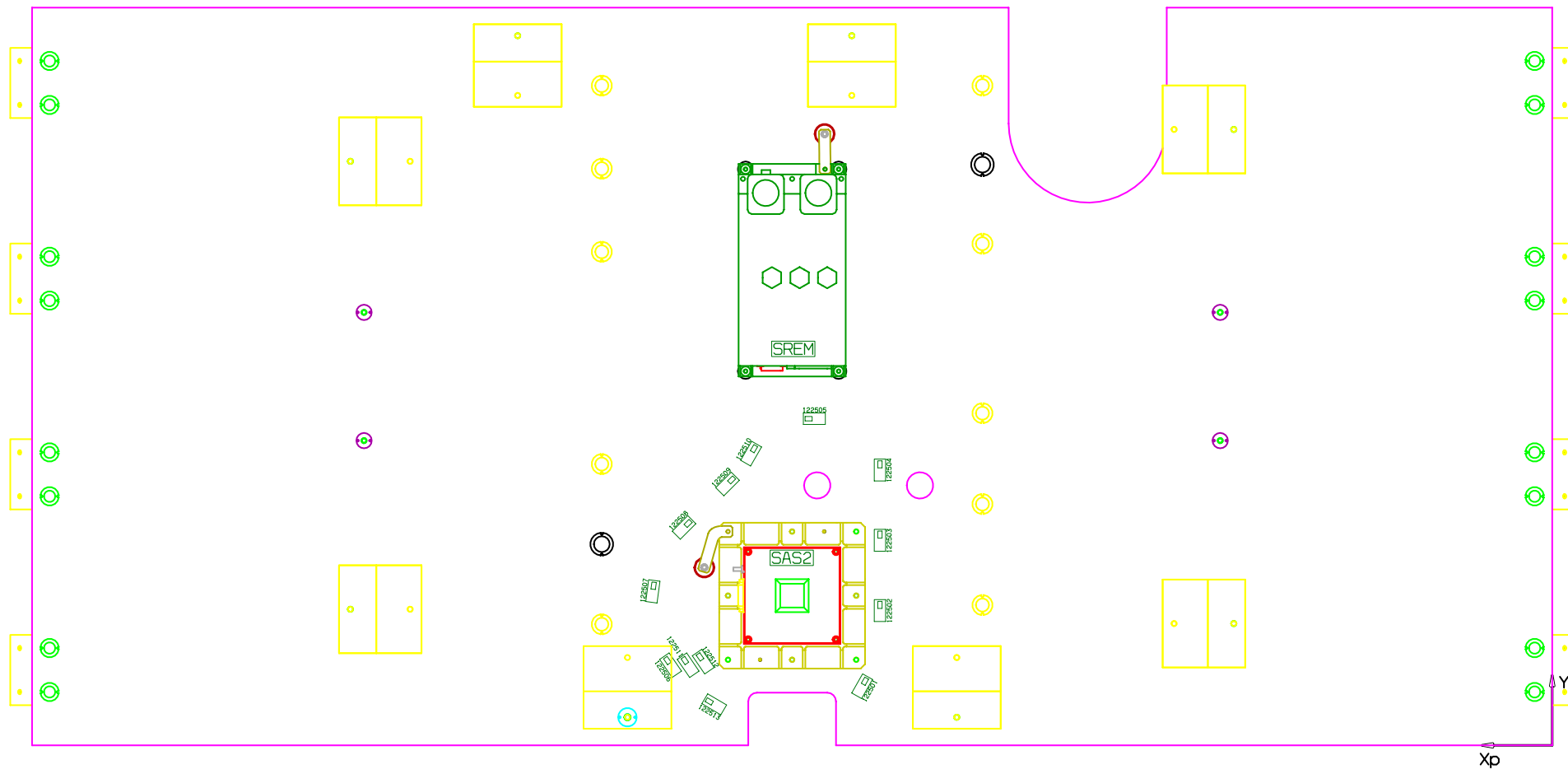
REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIET J.	PLETINCKX K.	---	---	
Rev.	Date	Scale	Format	Sht	
B2	21/01/05	N/A	A1	2/5	
			Title SVM SPIRE INSTRUMENT PANEL ASSY Dwg N° HP-NXH-DW-1022		

ORTHOGONAL VIEW FROM OUTSIDE S/C



REV.	DATE	BY	MODIFICATION		APPROVAL
DESIGNED BY	DRAWN BY		CHECKED BY	APPROVED BY	QUALITY
N/A	VERVL IET J.		PLETINCKX K.	---	---
Rev.	B2	Date	21/01/05	Scale	N/A
		Format	A1	Sht	3/5
			Title SVM SPIRE INSTRUMENT PANEL ASSY		
			Dwg N° HP-NXH-DW-1022		

ORTHOGONAL VIEW FROM OUTSIDE S/C

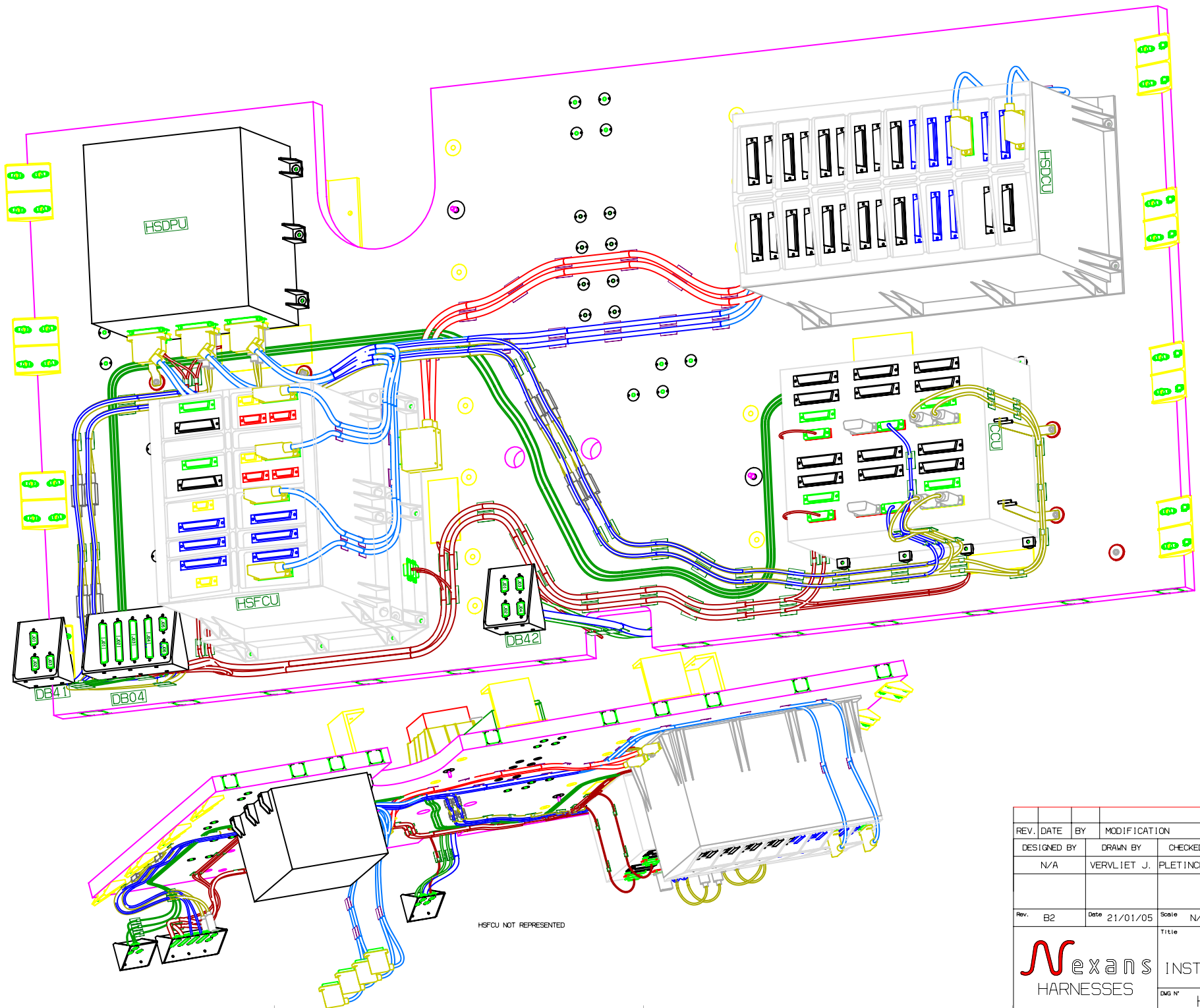


Note: - Tie-base used: TC-105

REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY	DRAWN BY		CHECKED BY	APPROVED BY	QUALITY
N/A	VERVL IET J.		PLETINCKX K.	---	---
Rev.	B2	Date	21/01/05	Scale	N/A
				Format	A1
				Sht	4/5

Nexans
HARNESSES

SVM SPIRE
INSTRUMENT PANEL ASSY
Dwg N° HP-NXH-DW-1022



REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY		DRAWN BY	CHECKED BY	APPROVED BY	QUALITY
N/A		VERVL IET J.	PLETINCKX K.	---	---
Rev.	B2	Date	21/01/05	Scale	N/A
				Format	A1
				Shr	5/5
			Title SVM SPIRE INSTRUMENT PANEL ASSY		
			Dwg No HP-NXH-DW-1022		

DOCUMENT COMPOSITION

Pages	Annexes	Others
11	X	0



DOCUMENT IDENTIFICATION

Project	: Herschel – Planck
N° Project	: 1680
N° Contract	:
Material	: Herschel-Planck SVM Harness
Doc. Reference	: H-P-4-NXH-RP-0021 A1
Date	: 16-04-2004

TITLE

H-P WU PACS Harness

Written by	Function	Date	Signature
Johan Vervliet	Engineering	16-04-04	
Checked by			
Ken Pletinckx	Project Engineer	26.04.04	
Approved by			
Stéphane Dassy	Project Manager	26.04.04	

H-P WU PACS Harness	Doc Id. : H-P-4-NXH-RP-0021		
	DATE : 16-04-04	Ed / Rev : A1	Page : 4 of 11

TABLE OF CONTENTS

1	<u>SCOPE</u>	5
2	<u>INTRODUCTION</u>	5
3	<u>APPLICABLE DOCUMENTS</u>	6
3.1	APPLICABLE DOCUMENTS	6
3.2	ALS BASELINE DOCUMENTS	6
3.3	CATIA HARNESS DIRECTORY STATUS : PACS	6
4	<u>DOCUMENT ORGANISATION</u>	7
4.1	GENERAL INFORMATION : DRAWINGS	7
4.2	2D DRAWING NUMBERING SYSTEM	7
4.3	2D JIG NUMBERING SYSTEM	8
5	<u>HARNESS FIXING</u>	9
5.1	TIE-BASES	9
5.2	STAND-OFF'S	9
6	<u>2D DRAWING LISTING</u>	10
6.1	PACS 2D DRAWING LISTING	10
6.2	PACS JIG DRAWING LISTING	10
6.3	PACS 2D DRAWINGS	10
7	<u>PACS EXTRACTED LENGTHS</u>	11

H-P WU PACS Harness	Doc Id. : H-P-4-NXH-RP-0021		
	DATE : 16-04-04	Ed / Rev : A1	Page : 5 of 11

1 Scope

The purpose of this document is to provide a description of the PACS WU harness of the Herschel S/C.

2 Introduction

The WU belonging to the PACS Experiment (BOLC, DECMEC, DPU and SPU1/2) are located on the +Y-Z Panel PACS of Herschel.

The PACS Panel harness is configured taking into account the different interconnection requirements of the experiment and harness design responsibility. The harness is split into 3 different main groups:

1. SVM Harness
2. Instrument WU Harness
3. Cryo Harness

The routing accommodation foreseen to have separate routing paths for each of the above harnesses as well as for main and redundant functions.

The instrument WU Harness is defined taking into account the harness data provided by Instruments as well as SVM and CRYO Harness Design in order to verify the relevant accommodation in the SVM configuration.

Additional details/drawings on the harness accommodation are reported in this document.

H-P WU PACS Harness	Doc Id. : H-P-4-NXH-RP-0021		
	DATE : 16-04-04	Ed / Rev : A1	Page : 6 of 11

3 Applicable Documents

3.1 Applicable documents

Number	Issue	Title
H-P-1-ASPI-SP-0027	4.2	General Design Interface Requirement Specification
H-P-1-ASPI-SP-0042	4.0	SVM Interface Specification
H-P-RP-AI-0025	1.0	SVM Harness Configuration and Design Description

3.2 ALS Baseline Documents

Number	Issue	Title
H-P-IC-AI-0001	04	Herschel/Planck SVM MICD
H-P-LI-AI-0022	05	List of HP SVM 3D CAD models
SCI-PT-IIDB/PACS-02126	2.1	/
PACS-CL-RS-010	1	Specifications for the Warm Interconnecting Harness (and DEC/MEC Harness)

3.3 CATIA Harness Directory Status : PACS

ALS Part Nr.	Rev.	Description	Resp.	Date
HP-113301-21-1	A	+Y-Z LATERAL PANEL HRN ELT ASSY (PACS)	HRN_	07.11.03
HP-113302-21-1	N/A	+Y-Z LATERAL PANEL HRN MECH ASSY (PACS)	HRN_	N/A
HP-392001-21-1	E	+Y-Z LATERAL PANEL HRN ELT ASSY (PACS)	HRN_	02.04.04
HP-392002-21-1	B	+Y-Z LATERAL PANEL HRN MECH ASSY (PACS)	HRN_	02.04.04

H-P WU PACS Harness	Doc Id. : H-P-4-NXH-RP-0021		
	DATE : 16-04-04	Ed / Rev : A1	Page : 7 of 11

4 Document Organisation

4.1 General Information : Drawings

Every Drawing contains all relevant information with reference to the H-P PACS Harness derived from the MICD (Mech. Interface Control Doc.) and the and other data provided by instruments, such as :

Power, Signal and Sensitive Routing
 Nominal & Redundant routing
 Mil Bus lay-out
 WIU Harness lay-out
 Mechanical Items lay-out
 Mechanical Items identification

Colour codes used are

colour	Class	Comment
Colour 30 (Dark Red)	1-/POWER	SVM Primary Power
Colour 04 (Light Blue)	2-/SIGNAL	SVM Signal
Colour 45 (Dark Green)	4-/SENS	SVM Sensitive Harness
Colour 75 (Dark Yellow)	2-/Signal	Mil Bus Harness
Colour 02 (Light Red)	1-/PWR	WIH Secondary Power
Colour 120 (Dark Blue)	2-/Signal	WIH Secondary Signal
Colour 111 (Dark Green)	N/A	Tie-base
Colour 05 (Yellow)	N/A	For Information Only

4.2 2D Drawing Numbering System

Each 2D Drawing is identified by H-P-NXH-DW-XXXX

Part	Field
H-P	Herschel-Planck
NXH	Nexans Harnesses
DW	Drawing
X (first of XXXX)	1 for Herschel 2 for Planck
X (second of XXXX)	0 for General Panel Information 1 for Power (Nom and Red) 2 for Signal (Nom and Red) 4 for Sensitive (Nom/Red/Red2) 9 for MIL BUS (DMS/ACMS-NOM/RED)
XX (last two of XXXX)	00 General Structure XX Panel number in ref. with H-P-LI-AI-0022 iss.5

H-P WU PACS Harness	Doc Id. : H-P-4-NXH-RP-0021		
	DATE : 16-04-04	Ed / Rev : A1	Page : 8 of 11

4.3 2D JIG Numbering System

Each 2D JIG Drawing is identified by H-P-NXH-DR-XXXX

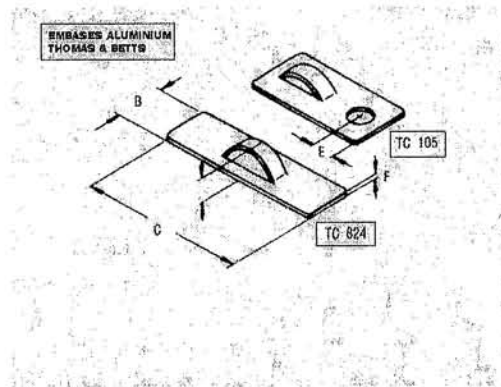
Part	Field
H-P	Herschel-Planck
NXH	Nexans Harnesses
DR	Drawing
X (first of XXXX)	1 for Herschel 2 for Planck
X (second of XXXX)	0 for General Panel Information 1 for Power (Nom and Red) 2 for Signal (Nom and Red) 4 for Sensitive (Nom/Red/Red2) 9 for MIL BUS (DMS/ACMS-NOM/RED)
XX (last two of XXXX)	00 General Structure XX Panel number in ref. with H-P-LI-AI-0022 iss.5

H-P WU PACS Harness	Doc Id.: H-P-4-NXH-RP-0021		
	DATE: 16-04-04	Ed / Rev : A1	Page : 9 of 11

5 Harness Fixing

5.1 Tie-bases

The position of the tie-bases has been designed to meet the requirement to fix the harness bundles on the structure every 100mm maximum. Tiebase type used is TC-105 (Thomas & Betts). Tie-wraps sizes used, are function of bundle diameter and in accordance to the applicable process list.



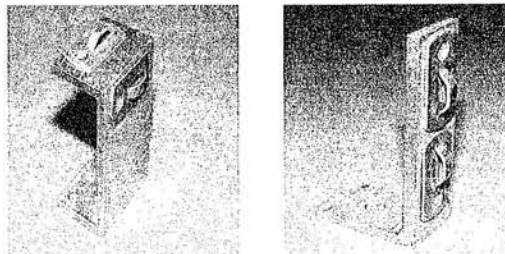
Tie-bases will be glued on the spacecraft structure and will assure harness fixation as well as electrical bonding.

5.2 Stand-off's

To maintain wire-bundles routing and minimize mechanical stress in harness, specific stand-off have been designed, which will be glued on the spacecraft structure.

The stand off designs are well approved at Kayser-Threde and will be modified to the purpose of the SVM Harness. (Pictures below)

Tie-bases will be glued to the stand-off's to allow cable fixation by using fasteners tie-wraps.



We assume 2 types of stand off will be necessary.

H-P WU PACS Harness	Doc Id. : H-P-4-NXH-RP-0021		
	DATE : 16-04-04	Ed / Rev : A1	Page : 10 of 11

6 2D Drawing Listing

6.1 PACS 2D Drawing Listing

<i>Document Ref.</i>	<i>Document Title</i>	<i>Date</i>	<i>Issue</i>
H-P-NXH-DW-1021	PACS Instrument Panel Assy	30-03-04	A1

6.2 PACS JIG Drawing Listing

<i>Document Ref.</i>	<i>Document Title</i>	<i>Date</i>	<i>Issue</i>
H-P-NXH-DR-1021	PACS Instrument Panel Assy	24-03-04	A1

6.3 PACS 2D Drawings

See annex

H-P WU PACS Harness	Doc Id. : H-P-4-NXH-RP-0021		
	DATE : 16-04-04	Ed / Rev : A1	Page : 11 of 11

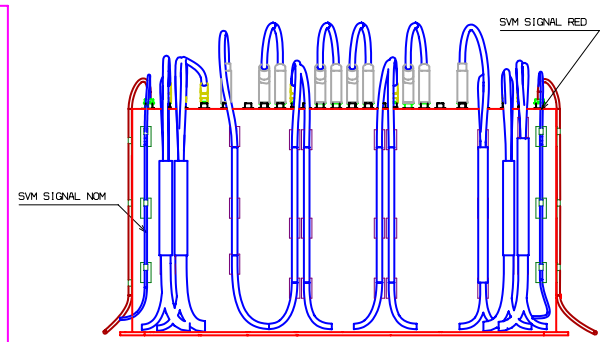
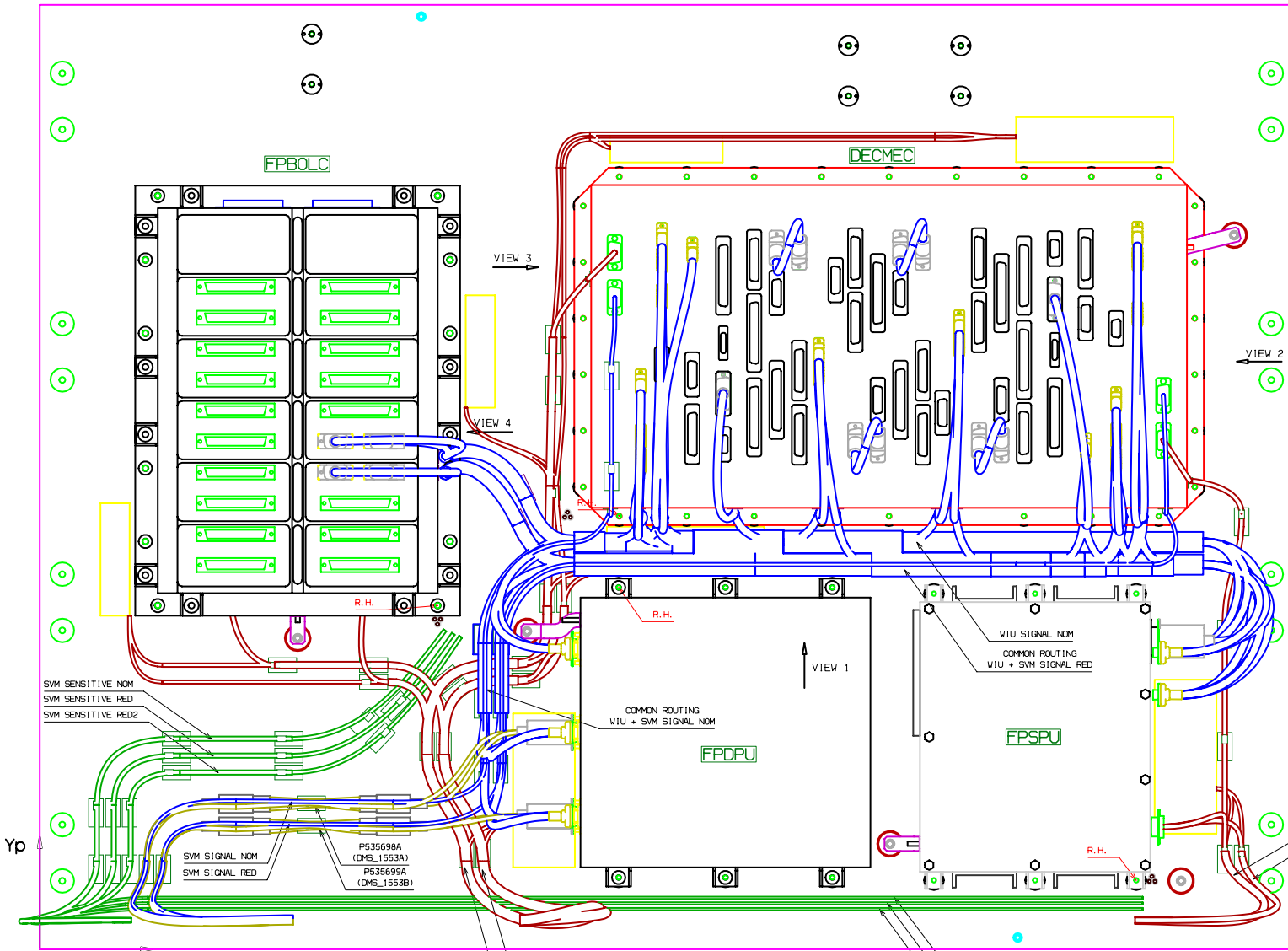
7 PACS Extracted Lengths

Bundle	From Connector			To Connector			Bundle							
	Identification	Con Type	Bck Type	Identification	Con Type	Bck Type	Nom / Red	Category	Diameter	Bending Radius	Mass BNL (g/m)	Conn.+BCK (g)	L Max (mm)	L (mm)
FPD20_01N	FPBLC P23	DEMA 9P	100P925-09-E-05-40-1-C	FPDMC P09	MDM 9P	100P-1851-F-09-A-1-C	Nominal	2					2000	1372
FPD20_01R	FPBLC P24	DEMA 9P	100P925-09-E-05-40-1-C	FPDMC P109	MDM 9P	100P-1851-F-09-A-1-C	Redundant	2					2000	1557
FPD20_02N	FPBLC P21	DEMA 9P	100P925-09-D-02-40-1-C	FPDMC P04	MDM 9P	100P-1851-F-09-C-1-C	Nominal	2	7	45	80		2000	986
FPD20_02R	FPBLC P22	DEMA 9P	100P925-09-D-02-40-1-C	FPDMC P104	MDM 9P	100P-1851-F-09-C-1-C	Redundant	2	7	45	80		2000	1654
FPD20_03N	FPDPU P07	MDM 9P	100P-1851-U-09-A-1-C	FPDMC P01	MDM 9P	100P-1851-F-09-A-1-C	Nominal	2	7	45	80		2000	830
FPD20_03R	FPDPU P08	MDM 9P	100P-1851-U-09-A-1-C	FPDMC P101	MDM 9P	100P-1851-F-09-A-1-C	Redundant	2	7	45	80		2000	1174
FPD20_04N	FPSPU1 P22	MDM 9P	100P-1851-U-09-A-1-C	FPDMC P02	MDM 9P	100P-1851-F-09-A-1-C	Nominal	2	7	45	80		2000	1241
FPD20_04R	FPSPU2 P22	MDM 9P	100P-1851-U-09-A-1-C	FPDMC P102	MDM 9P	100P-1851-F-09-A-1-C	Redundant	2	7	45	80		2000	764
FPD20_05N	FPSPU1 P32	MDM 9P	100P-1851-U-09-A-1-C	FPDMC P05	MDM 9P	100P-1851-F-09-A-1-C	Nominal	2	7	45	80		2000	1137
FPD20_05R	FPSPU2 P32	MDM 9P	100P-1851-U-09-A-1-C	FPDMC P105	MDM 9P	100P-1851-F-09-A-1-C	Redundant	2	7	45	80		2000	902
FPD20_06N	FPSPU1 P21	MDM 9P	100P-1851-U-09-A-1-C	FPDPU P09	MDM 9P	100P-1851-U-09-A-1-C	Nominal	2	7	45	80		2000	1145
FPD20_06R	FPSPU2 P21	MDM 9P	100P-1851-U-09-A-1-C	FPDPU P11	MDM 9P	100P-1851-U-09-A-1-C	Redundant	2	7	45	80		2000	1185
FPD20_07N	FPSPU1 P31	MDM 9P	100P-1851-U-09-A-1-C	FPDPU P10	MDM 9P	100P-1851-U-09-A-1-C	Nominal	2	7	45	80		2000	1213
FPD20_07R	FPSPU2 P31	MDM 9P	100P-1851-U-09-A-1-C	FPDPU P12	MDM 9P	100P-1851-U-09-A-1-C	Redundant	2	7	45	80		2000	1246
FPD20_08N	FPSPU1 P13	DAMA 15S	100P925-15-E-05-40-1-C	FPDMC P10	DAMA 15S	100P925-15-E-05-40-1-C	Nominal	2			80		2000	1140
FPD20_08R	FPSPU2 P13	DAMA 15S	100P925-15-E-05-40-1-C	FPDMC P110	DAMA 15S	100P925-15-E-05-40-1-C	Redundant	2			80		2000	972
C01	FPDMC P03	MDM 9P	100P-1851-F-09-A-1-C	FPDMC P72	MDM 9P	100P-1851-F-09-A-1-C	Nominal	2	7	45	80		800-1000	1361
C02	FPDMC P103	MDM 9P	100P-1851-F-09-A-1-C	FPDMC P73	MDM 9P	100P-1851-F-09-A-1-C	Redundant	2	7	45	80		NA	1211
C03	FPDMC P06	MDM 9P	100P-1851-F-09-A-1-C	FPDMC P172	MDM 9P	100P-1851-F-09-A-1-C	Nominal	2	7	45	80		800-1000	1161
C04	FPDMC P106	MDM 9P	100P-1851-F-09-A-1-C	FPDMC P173	MDM 9P	100P-1851-F-09-A-1-C	Redundant	2	7	45	80		NA	1167
C05	FPDMC P18	MDM 21S	100P-1851-F-21-A-1-C	FPDMC P117	DCMA 37P	100P925-37-E-05-40-1-C	Redundant	2					NA	-
C06	FPDMC P91	DEMA 9P	100P-1851-F-09-A-1-C	FPDMC P93	DEMA 9S	100P-1851-F-09-A-1-C	-	2					150	249
C07	FPDMC P191	DEMA 9P	100P-1851-F-09-A-1-C	FPDMC P193	DEMA 9S	100P-1851-F-09-A-1-C	Redundant	2					150	249
C08	FPDMC P92	DEMA 9P	100P-1851-F-09-A-1-C	FPDMC P94	DEMA 9S	100P-1851-F-09-A-1-C	-	2					150	249
C09	FPDMC P192	DEMA 9P	100P-1851-F-09-A-1-C	FPDMC P194	DEMA 9S	100P-1851-F-09-A-1-C	-	2					150	249

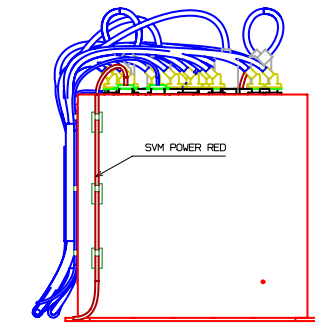
Note : These lengths are CATIA extracted and therefore theoretical values. It is recommended to perform harness production activities on JIG.
 Lengths are measured from connector front face to connector front face.
 The integration sequence for the WIH bundles is free.

ORTHOGONAL VIEW FROM INSIDE S/C

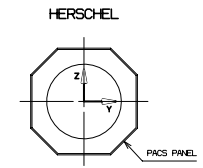
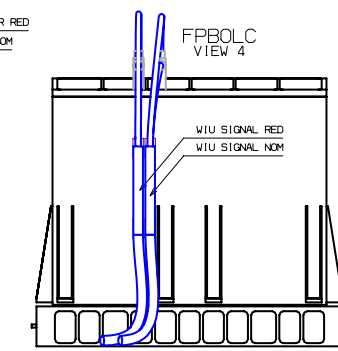
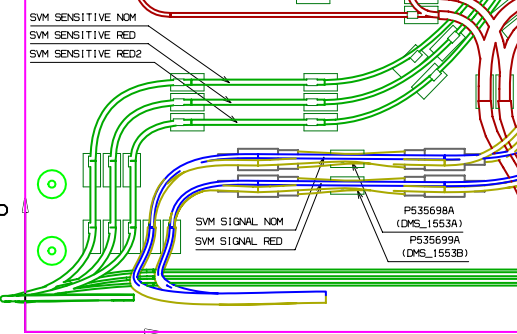
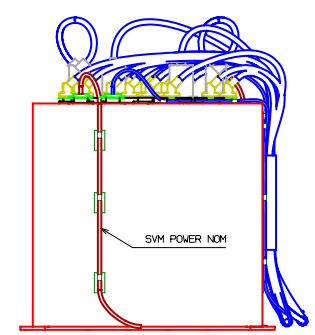
DECMEC
VIEW 1



DECMEC
VIEW 2

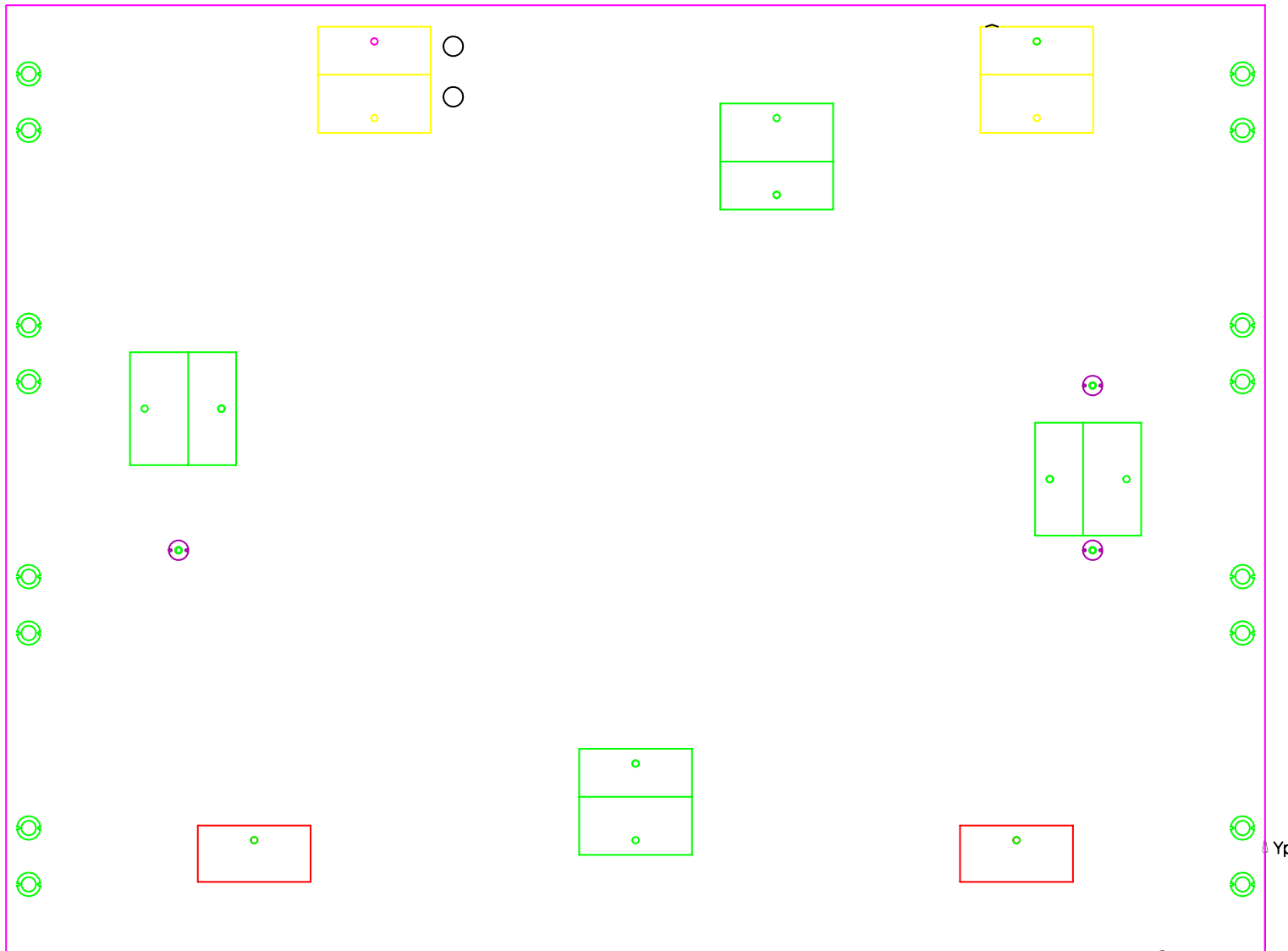


DECMEC
VIEW 3



REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY		DRAWN BY	CHECKED BY	APPROVED BY	QUALITY
N/A		PLETINCKX K.	PLETINCKX K.	---	---
Rev.	B3	Date	23/01/06	Scale	N/A
		Format	A1	Sht	1/4
			Title SVM PACS INSTRUMENT PANEL ASSY		
			Dwg N° HP-NXH-DW-1021		

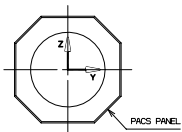
ORTHOGONAL VIEW FROM OUTSIDE S/C




Xp


Yp

HERSCHEL



REV.	DATE	BY	MODIFICATION		APPROVAL
DESIGNED BY	DRAWN BY		CHECKED BY	APPROVED BY	QUALITY
N/A	PLETINCKX K.		PLETINCKX K.	---	---
Rev.	B3	Date	23/01/06	Scale	N/A
		Format	A1	Sht	3/4
 nexans HARNESSSES			Title SVM PACS INSTRUMENT PANEL ASSY Dwg N° HP-NXH-DW-1021		



REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	PLETINCKX K.	PLETINCKX K.	---	---	
Rev.	Date	Scale	Format	Sht	4/4
B3	23/01/06	N/A	A1		
			SVM PACS INSTRUMENT PANEL ASSY <small>DWG N°</small> HP-NXH-DW-1021		

DOCUMENT COMPOSITION

Pages	Annexes	Others
13	10	0




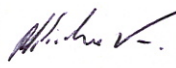
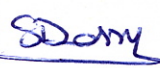
DOCUMENT IDENTIFICATION

Project	: Herschel – Planck		
N° Project	: 1680		
N° Contract	:		
Material	: Herschel-Planck SVM Harness		
Doc. Reference	: H-P-4-NXH-RP-0020	A2	
Date	: 04-05-04		

TITLE

H-P WU HIFI Harness

This document contains updates made by B. Marchand (09/06/04)

Written by	Function	Date	Signature
Johan Vervliet	Engineering	04-05-04	
Checked by			
Ken Pletinckx	Project Engineer	06.05.04	
Approved by			
Stéphane Dassy	Project Manager	06-05-04	

H-P WU HIFI Harness	Doc Id. : H-P-4-NXH-RP-0020		
	DATE : 04-05-04	Ed / Rev : A2	Page : 4 of 13

TABLE OF CONTENTS

1	<u>SCOPE</u>	5
2	<u>INTRODUCTION</u>	5
3	<u>APPLICABLE DOCUMENTS</u>	6
3.1	APPLICABLE DOCUMENTS	6
3.2	ALS BASELINE DOCUMENTS	6
3.3	CATIA HARNESS DIRECTORY STATUS : HIFI	6
4	<u>DOCUMENT ORGANISATION</u>	7
4.1	GENERAL INFORMATION : DRAWINGS	7
4.2	2D DRAWING NUMBERING SYSTEM	7
4.3	2D JIG NUMBERING SYSTEM	8
5	<u>HARNESS FIXING</u>	9
5.1	TIE-BASES	9
5.2	STAND-OFF'S	9
6	<u>2D DRAWING LISTING</u>	10
6.1	HIFI 2D DRAWING LISTING	10
6.2	HIFI JIG DRAWING LISTING	10
6.3	HIFI 2D DRAWINGS	10
7	<u>HIFI EXTRACTED LENGTHS</u>	11

H-P WU HIFI Harness	Doc Id. : H-P-4-NXH-RP-0020		
	DATE : 04-05-04	Ed / Rev : A2	Page : 5 of 13

1 Scope

The purpose of this document is to provide a description of the HIFI WU harness of the Herschel S/C.

2 Introduction

On the HIFI1 panel are located the part of the WU belonging to the HIFI Experiment (LCU, LSU, HRH, WEH, WHO and the 3dB coupler), the other WU are located on the HIFI2 panel (ICU,HRV,FCU,WEV,WOV and the 3dB coupler).

The HIFI Panels harness is configured taking into account the different interconnection requirements of the experiment and harness design responsibility. The harness is split into 3 different main groups:

1. SVM Harness
2. Instrument WU Harness
3. Cryo Harness

The instrument WU Harness is defined taking into account the harness data provided by Instruments as well as SVM and CRYO Harness Design in order to verify the relevant accommodation in the SVM configuration.

Due to the interconnections between the WU located on the two panels, 6 dedicated connector brackets (DBH-, CBH-) are foreseen to route the harnesses.

- DBH1 on Lower Platform to distribute Power and Signal Harnesses
- DBH2 on Lower Platform to distribute Flex Coax Links
- DBH3 on Lower Platform to distribute Flex Coax Links
- DBH4 on Lower Platform to distribute Power and Signal Harnesses
- CBH1 on Panel to distribute Semirigid Coax Links
- CBH2 on Panel to distribute Semirigid Coax Links

Additional details/drawings on the harness accommodation are reported in this document.

H-P WU HIFI Harness	Doc Id. : H-P-4-NXH-RP-0020		
	DATE : 04-05-04	Ed / Rev : A2	Page : 6 of 13

3 Applicable Documents

3.1 Applicable documents

Number	Issue	Title
H-P-1-ASPI-SP-0027	4.2	General Design Interface Requirement Specification
H-P-1-ASPI-SP-0042	4.0	SVM Interface Specification
H-P-RP-AI-0025	1.0	SVM Harness Configuration and Design Description

3.2 ALS Baseline Documents

Number	Issue	Title
H-P-IC-AI-0001	04	Herschel/Planck SVM MICD
H-P-LI-AI-0022	05	List of HP SVM 3D CAD models
SCI-PT-IIDB/HIFI-02125	02	/
H-P-ASP-CR-0420	NA	Impact resulting from HIFI Change Request : HP-HIFI-CR-0076 v2
HP-HIFI-CR-0095 v1		Warm harness documentation up-date

3.3 CATIA Harness Directory Status : HIFI

ALS Part Nr.	Rev.	Description	Resp.	Date
HP-111301-24-1	C	-Y LATERAL PANEL HRN ELT ASSY (HIFI#1)	HRN_	03.05.04
HP-111302-24-1	B	-Y LATERAL PANEL HRN MECH ASSY (HIFI#1)	HRN_	02.04.04
HP-392001-24-1	E	-Y LATERAL PANEL HRN ELT ASSY (HIFI#1)	HRN_	03.05.04
HP-392001-24-1	N/A	-Y LATERAL PANEL HRN MECH ASSY (HIFI#1)	HRN_	N/A
HP-111301-23-1	C	-Y-Z LATERAL PANEL HRN ELT ASSY (HIFI#2)	HRN_	03.05.04
HP-111302-23-1	B	-Y-Z LATERAL PANEL HRN MECH ASSY (HIFI#2)	HRN_	02.04.04
HP-392001-23-1	E	-Y-Z LATERAL PANEL HRN ELT ASSY (HIFI#2)	HRN_	03.05.04
HP-392002-23-1	A	-Y-Z LATERAL PANEL HRN MECH ASSY (HIFI#2)	HRN_	07.11.03
HP-111301-50-1	B	LOWER CLOSURE PANEL HRN ELT ASSY	HRN_	02.04.04
HP-111302-50-1	B	LOWER CLOSURE PANEL HRN MECH ASSY	HRN_	02.04.04
HP-392001-50-1	D	LOWER CLOSURE PANEL HRN ELT ASSY	HRN_	03.05.04
HP-392002-50-1	D	LOWER CLOSURE PANEL HRN MECH ASSY	HRN_	02.04.04

H-P WU HIFI Harness	Doc Id. : H-P-4-NXH-RP-0020		
	DATE : 04-05-04	Ed / Rev : A2	Page : 7 of 13

4 Document Organisation

4.1 General Information : Drawings

Every Drawing contains all relevant information with reference to the H-P HIFI Harness derived from the MICD (Mech. Interface Control Doc.) and the other data provided by instruments, such as :

Power, Signal and Sensitive Routing
 Nominal & Redundant routing
 Mil Bus lay-out
 WIU Harness lay-out
 Mechanical Items lay-out
 Mechanical Items identification

Colour codes used are

colour	Class	Comment
Colour 30 (Dark Red)	1-/POWER	SVM Primary Power
Colour 04 (Light Blue)	2-/SIGNAL	SVM Signal
Colour 45 (Dark Green)	4-/SENS	SVM Sensitive Harness
Colour 75 (Dark Yellow)	2-/Signal	Mil Bus Harness
Colour 02 (Light Red)	1-/PWR	WIH Secondary Power
Colour 120 (Dark Blue)	2-/Signal	WIH Secondary Signal
Colour 105 (Marine blue)	3-/ANL	WIH Analogue
Colour 11 (Dark Grey)	4-/DIG	WIH Rigid Coax
Colour 75 (Dark Yellow)	4-/DIG	WIH Flex Coax
Colour 111 (Dark Green)	N/A	Tie-base
Colour 05 (Yellow)	N/A	For Information Only

4.2 2D Drawing Numbering System

Each 2D Drawing is identified by H-P-NXH-DW-XXXX

Part	Field
H-P	Herschel-Planck
NXH	Nexans Harnesses
DW	Drawing
X (first of XXXX)	1 for Herschel 2 for Planck
X (second of XXXX)	0 for General Panel Information 1 for Power (Nom and Red) 2 for Signal (Nom and Red) 4 for Sensitive (Nom/Red/Red2) 9 for MIL BUS (DMS/ACMS-NOM/RED)
XX (last two of XXXX)	00 General Structure XX Panel number in ref. with H-P-LI-AI-0022 iss.5

H-P WU HIFI Harness	Doc Id. : H-P-4-NXH-RP-0020		
	DATE : 04-05-04	Ed / Rev : A2	Page : 8 of 13

4.3 2D JIG Numbering System

Each 2D JIG Drawing is identified by H-P-NXH-DR-XXXX

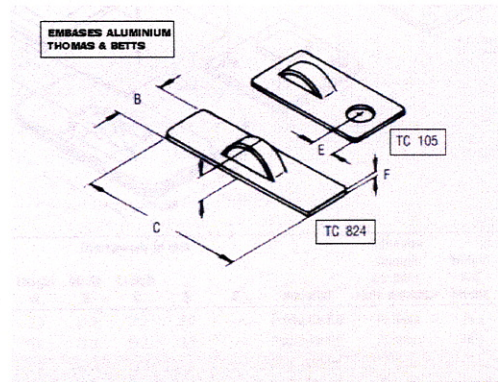
Part	Field
H-P	Herschel-Planck
NXH	Nexans Harnesses
DR	Drawing
X (first of XXXX)	1 for Herschel 2 for Planck
X (second of XXXX)	0 for General Panel Information 1 for Power (Nom and Red) 2 for Signal (Nom and Red) 4 for Sensitive (Nom/Red/Red2) 9 for MIL BUS (DMS/ACMS-NOM/RED)
XX (last two of XXXX)	00 General Structure XX Panel number in ref. with H-P-LI-AI-0022 iss.5

H-P WU HIFI Harness	Doc Id. : H-P-4-NXH-RP-0020		
	DATE : 04-05-04	Ed / Rev : A2	Page : 9 of 13

5 Harness Fixing

5.1 Tie-bases

The position of the tie-bases has been designed to meet the requirement to fix the harness bundles on the structure every 100mm maximum. Tiebase type used is TC-105 (Thomas & Betts). Tie-wraps sizes used, are function of bundle diameter and in accordance to the applicable process list.



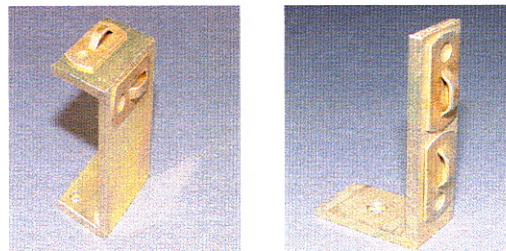
Tie-bases will be glued on the spacecraft structure and will assure harness fixation as well as electrical bonding.

5.2 Stand-off's

To maintain wire-bundles routing and minimize mechanical stress in harness, specific stand-off have been designed, which will be glued on the spacecraft structure.

The stand off designs are well approved at Kayser-Threde and will be modified to the purpose of the SVM Harness. (Pictures below)

Tie-bases will be glued to the stand-off's to allow cable fixation by using fasteners tie-wraps.



We assume 2 types of stand off will be necessary.

H-P WU HIFI Harness	Doc Id. : H-P-4-NXH-RP-0020		
	DATE : 04-05-04	Ed / Rev : A2	Page : 10 of 13

6 2D Drawing Listing

6.1 HIFI 2D Drawing Listing

<i>Document Ref.</i>	<i>Document Title</i>	<i>Date</i>	<i>Issue</i>
H-P-NXH-DW-1023	HIFI#2 Instrument Panel Assy	03-05-04	A2
H-P-NXH-DW-1024	HIFI#1 Instrument Panel Assy	03-05-04	A2
H-P-NXH-DW-1050	Lower Closure Assy	03-05-04	A2

6.2 HIFI JIG Drawing Listing

<i>Document Ref.</i>	<i>Document Title</i>	<i>Date</i>	<i>Issue</i>
H-P-NXH-DR-1023	HIFI#2 Instrument Panel Assy	03-05-04	A2
H-P-NXH-DR-1024	HIFI#1 Instrument Panel Assy	03-05-04	A2
H-P-NXH-DR-1050	Lower Closure Assy	03-05-04	A2

6.3 HIFI 2D Drawings

See Annex

H-P WU HIFI Harness	Doc Id. :		
	DATE : 04-05-04	Ed / Rev : A2	Page : 11 of 13

7 HIFI Extracted Lengths
+ modification from B. Marchand

Bundle Id.	From Connector			To Connector			Bundle						Sq.**		
	Identification	Con Type	Bck Type	Identification	Con Type	Bck Type	N / R	Cat.	Diameter	Bending Radius	Mass (g/m)	Conn. (g)		L Max (mm)	L (mm)
PWR-1	FHICU P07	DBMA 25P	550E039	FHFCU P01	DCMA 37S	550T039	Nom	1	9	84	175	120	-	864	3
PWR-1	FHFCU P01	DCMA 37S	550T039	DBH1 P01*	DEMA 9P	TBD	Nom	1	4	70	50	30	-	1462	3
PWR-2a	DBH1 J01*	DEMA 9S	TBD	DBH4 J01*	DEMA 9P	TBD	Nom	1	9	84	175	120	-	1230	3
PWR-2b	DBH4 P01*	DEMA 9S	TBD	FHIFH P05	DEMA 9P	550T039	Nom	1	4	70	50	30	-	758	3
PWR-3	FHICU P08	DBMA 25P	550E039	FHFCU P03	DCMA 37S	550T039	Red	1	9	84	175	120	-	912	3
PWR-3	FHFCU P03	DCMA 37S	550T039	FHIFV P05	DEMA 9P	550T039	Red	1	9	84	175	120	-	439	3
PWR-4	FHLCU P04	DBMA 25P	550T039	FHLSU P01	DBMA 25S	550T039	Nom	1	9	70	100	120	-	1706	3
PWR-5	FHLCU P24	DBMA 25P	550T039	FHLSU P04	DBMA 25S	550T039	Red	1	9	70	100	120	-	856	3

Bundle Id.	From Connector			To Connector			Bundle						Sq.**		
	Identification	Con Type	Bck Type	Identification	Con Type	Bck Type	N / R	Cat.	Diameter	Bending Radius	Mass (g/m)	Conn. (g)		L Max (mm)	L (mm)
DIG-1	FHICU P09	DAMA 15P	550T039	FHFCU P02	DAMA 15S	550T039	Nom	2	4	70	40	91	-	1232	2
DIG-2	FHICU P10	DAMA 15P	550T039	FHFCU P04	DAMA 15S	550T039	Red	2	4	70	40	91	-	1323	2
DIG-3a	FHICU P11	DAMA 15P	550T039	DBH1 P06*	DAMA 15S	TBD	Nom	2	4	70	40	91	-	655	2
DIG-3b	DBH1 J06*	DAMA 15P	TBD	DBH4 J06*	DAMA 15S	TBD	Nom	2	4	70	40	91	-	1195	2
DIG-3c	DBH4 P06*	DAMA 15P	TBD	FHLCU P02	DAMA 15S	550T039	Nom	2	4	70	40	91	-	1203	2
DIG-4a	FHICU P12	DAMA 15P	550T039	DBH1 P07*	DAMA 15S	TBD	Red	2	4	70	40	91	-	710	2
DIG-4b	DBH1 J07*	DAMA 15P	TBD	DBH4 J07*	DAMA 15S	TBD	Red	2	4	70	40	91	-	1233	2
DIG-4c	DBH4 P07*	DAMA 15P	TBD	FHLCU P22	DAMA 15S	550T039	Red	2	4	70	40	91	-	1172	2
DIG-5a	FHICU P15	DBMA 25S	550T039	DBH1 P04*	DBMA 25P	TBD	Nom	2	6	70	56	120	-	720	2
DIG-5b	DBH1 J04*	DBMA 25S	TBD	DBH4 J04*	DBMA 25P	TBD	Nom	2	6	70	56	120	-	1131	2
DIG-5c	DBH4 P04*	DBMA 25S	TBD	FHWEH P01	DBMA 25P	550E039	Nom	2	6	70	56	120	-	1344	2
DIG-6a	FHICU P16	DBMA 25S	550T039	DBH1 P05*	DBMA 25P	TBD	Red	2	6	70	56	120	-	770	2
DIG-6b	DBH1 J05*	DBMA 25S	TBD	DBH2 J05*	DBMA 25P	TBD	Red	2	6	70	56	120	-	1166	2
DIG-6c	DBH2 P05*	DBMA 25S	TBD	FHWEH P02	DBMA 25P	550E039	Red	2	6	70	56	120	-	1374	2
DIG-7	FHICU P17	DBMA 25S	550T039	FHWEV P01	DBMA 25P	550E039	Nom	2	6	70	56	120	-	672	2
DIG-8	FHICU P18	DBMA 25S	550T039	FHWEV P02	DBMA 25P	550E039	Red	2	6	70	56	120	-	730	2
DIG-9a	FHICU P19	DBMA 25S	550T039	DBH1 P02*	DBMA 25P	TBD	Nom	2	6	70	56	120	-	695	2
DIG-9b	DBH1 J02*	DBMA 25S	TBD	DBH4 J02*	DBMA 25P	TBD	Nom	2	6	70	56	120	-	1165	2
DIG-9c	DBH4 P02*	DBMA 25S	TBD	FHHRH P02	DBMA 25P	550T039	Nom	2	6	70	56	120	-	1722	2
DIG-10a	FHICU P20	DBMA 25S	550T039	DBH1 P03*	DBMA 25P	TBD	Red	2	6	70	56	120	-	746	2
DIG-10b	DBH1 J03*	DBMA 25S	TBD	DBH4 J03*	DBMA 25P	TBD	Red	2	6	70	56	120	-	1199	2
DIG-10c	DBH4 P03*	DBMA 25S	TBD	FHHRH P03	DBMA 25P	550T039	Red	2	6	70	56	120	-	1825	2
DIG-11	FHICU P13	DBMA 25S	550T039	FHHRV P02	DBMA 25P	550T039	Nom	2	6	70	56	120	-	1020	2
DIG-12	FHICU P14	DBMA 25S	550T039	FHHRV P03	DBMA 25P	550T039	Red	2	6	70	56	120	-	1169	2
DIG-13	FHLCU P05	DAMA 26P	550T039	FHLSU P02	DAMA 26S	550T039	Nom	2	7	70	88	90	-	1412	2
DIG-14	FHLCU P25	DAMA 26P	550T039	FHLSU P05	DAMA 26S	550T039	Red	2	7	70	88	90	-	857	2

H-P WU HIFI Harness	Doc Id. :		
	DATE : 04-05-04	Ed / Rev : A2	Page : 12 of 13

+ modification from B. Marchand

Bundle Id.	From Connector			To Connector			Bundle								Sq.**
	Identification	Con Type	Bck Type	Identification	Con Type	Bck Type	N / R	Cat.	Diameter	Bending Radius	Mass (g/m)	Conn. (g)	L Max (mm)	L (mm)	
ANL-1	FHLCU P06	DEMA 15P	550T039	FHLSU P03	DEMA 15S	550T039	Nom	3	4.5	70	44	67	-	1188	4
ANL-2	FHLCU P26	DEMA 15P	550T039	FHLSU P06	DEMA 15S	550T039	Red	3	4.5	70	44	67	-	685	4
ANL-3	FHWEH P04	21WA4P	SPECIAL	FHWOH P06	21WA4S	SPECIAL	-	3	15	40	180	95	-	368	2
ANL-4	FHWEH P05	17W5P	SPECIAL	FHWOH P05	17W5S	SPECIAL	-	3	12	70	135	95	-	434	2
ANL-5	FHWEV P04	21WA4P	SPECIAL	FHWOH P06	21WA4S	SPECIAL	-	3	15	40	180	95	-	596	2
ANL-6	FHWEV P05	17W5P	SPECIAL	FHWOV P05	17W5S	SPECIAL	-	3	12	70	135	95	-	501	2
RF-1	FHIFH P03	SMA M 3401 001 02	-	FHHRH P05	SMA M 3402 001 02	-	-	4	3,6	13	52	4,8	-	1370	1
RF-2	FHIFV P03	SMA M 3401 001 02	-	FHHRV P05	SMA M 3402 001 02	-	-	4	3,6	13	52	4,8	-	620	1
RF-3	FHIFH P04	SMA M 3401 001 02	-	FHWEH P10	SMA M 3402 001 02	-	-	4	3,6	13	52	4,8	-	1875	1
RF-4	FHIFV P04	SMA M 3401 001 02	-	FHWEV P10	SMA M 3402 001 02	-	-	4	3,6	13	52	4,8	-	611	1
RF-5	FHLSU P07	SMA M 3402 001 06	-	FHHRH P20	SMA M 3402 001 06	-	-	4	2,05	40	9,5	9,8	-	983	5
RF-6a	FHLSU P08	SMA M 3402 001 06	-	DBH3 P01*	SMA M 3402 001 06	-	-	4	2,05	40	9,5	9,8	-	1413	5
RF-6b	DBH3 J01*	SMA M 3402 001 06	-	DBH2 J01*	SMA M 3402 001 06	-	-	4	2,05	40	9,5	9,8	-	235	5
RF-6c	DBH2 P01*	SMA M 3402 001 06	-	FHHRV P20	SMA M 3402 001 06	-	-	4	2,05	40	9,5	9,8	-	794	5
RF-7	FHLSU P09	SMA M 3402 001 06	-	FHWEH P11	SMA M 3402 001 06	-	-	4	2,05	40	9,5	9,8	-	980	5
RF-8a	FHLSU P10	SMA M 3402 001 06	-	DBH3 P02*	SMA M 3402 001 06	-	-	4	2,05	40	9,5	9,8	-	1498	5
RF-8b	DBH3 J02*	SMA M 3402 001 06	-	DBH2 J02*	SMA M 3402 001 06	-	-	4	2,05	40	9,5	9,8	-	216	5
RF-8c	DBH2 P02*	SMA M 3402 001 06	-	FHWEV P11	SMA M 3402 001 06	-	-	4	2,05	40	9,5	9,8	-	1253	5
RF-9a	FHHRH P04	SMA M 3402 001 03B	-	CBH2 J01*	SMA M 3402 001 03B	-	-	4	6,3	38	158	16,4	-	1720	1
RF-9b	CBH2 P01*	SMA M 3402 001 03B	-	CBH1 P01*	SMA M 3402 001 03B	-	-	4	6,3	38	158	16,4	-	258	1
RF-9c	CBH1 J01*	SMA M 3402 001 03B	-	FHHRV P06	SMA M 3402 001 03B	-	-	4	6,3	38	158	16,4	-	981	1
RF-10a	FHHRV P04	SMA M 3402 001 03B	-	CBH1 J02*	SMA M 3402 001 03B	-	-	4	6,3	38	158	16,4	-	931	1
RF-10b	CBH1 P02*	SMA M 3402 001 03B	-	CBH2 P02*	SMA M 3402 001 03B	-	-	4	6,3	38	158	16,4	-	264	1
RF-10c	CBH2 J02*	SMA M 3402 001 03B	-	FHHRH P06	SMA M 3402 001 03B	-	-	4	6,3	38	158	16,4	-	1753	1
RF-11	FHWEH P06	SMA M 3401 001 02	-	FHWOH P01	SMA M 3402 001 02	-	-	4	3,6	13	52	4,8	-	604	1
RF-12	FHWEH P07	SMA M 3401 001 02	-	FHWOH P02	SMA M 3402 001 02	-	-	4	3,6	13	52	4,8	-	574	1
RF-13	FHWEH P08	SMA M 3401 001 02	-	FHWOH P03	SMA M 3402 001 02	-	-	4	3,6	13	52	4,8	-	504	1
RF-14	FHWEH P09	SMA M 3401 001 02	-	FHWOH P04	SMA M 3402 001 02	-	-	4	3,6	13	52	4,8	-	484	1
RF-15	FHWEV P06	SMA M 3401 001 02	-	FHWOV P01	SMA M 3402 001 02	-	-	4	3,6	13	52	4,8	-	325	1
RF-16	FHWEV P07	SMA M 3401 001 02	-	FHWOV P02	SMA M 3402 001 02	-	-	4	3,6	13	52	4,8	-	348	1
RF-17	FHWEV P08	SMA M 3401 001 02	-	FHWOV P03	SMA M 3402 001 02	-	-	4	3,6	13	52	4,8	-	434	1
RF-18	FHWEV P09	SMA M 3401 001 02	-	FHWOV P04	SMA M 3402 001 02	-	-	4	3,6	13	52	4,8	-	469	1

Note : These lengths are CATIA extracted and therefore theoretical values. It is recommended to perform harness production activities on JIG.

Lengths are measured from connector front face to connector front face.

* See table below for link between NXH and Alenia connector id.

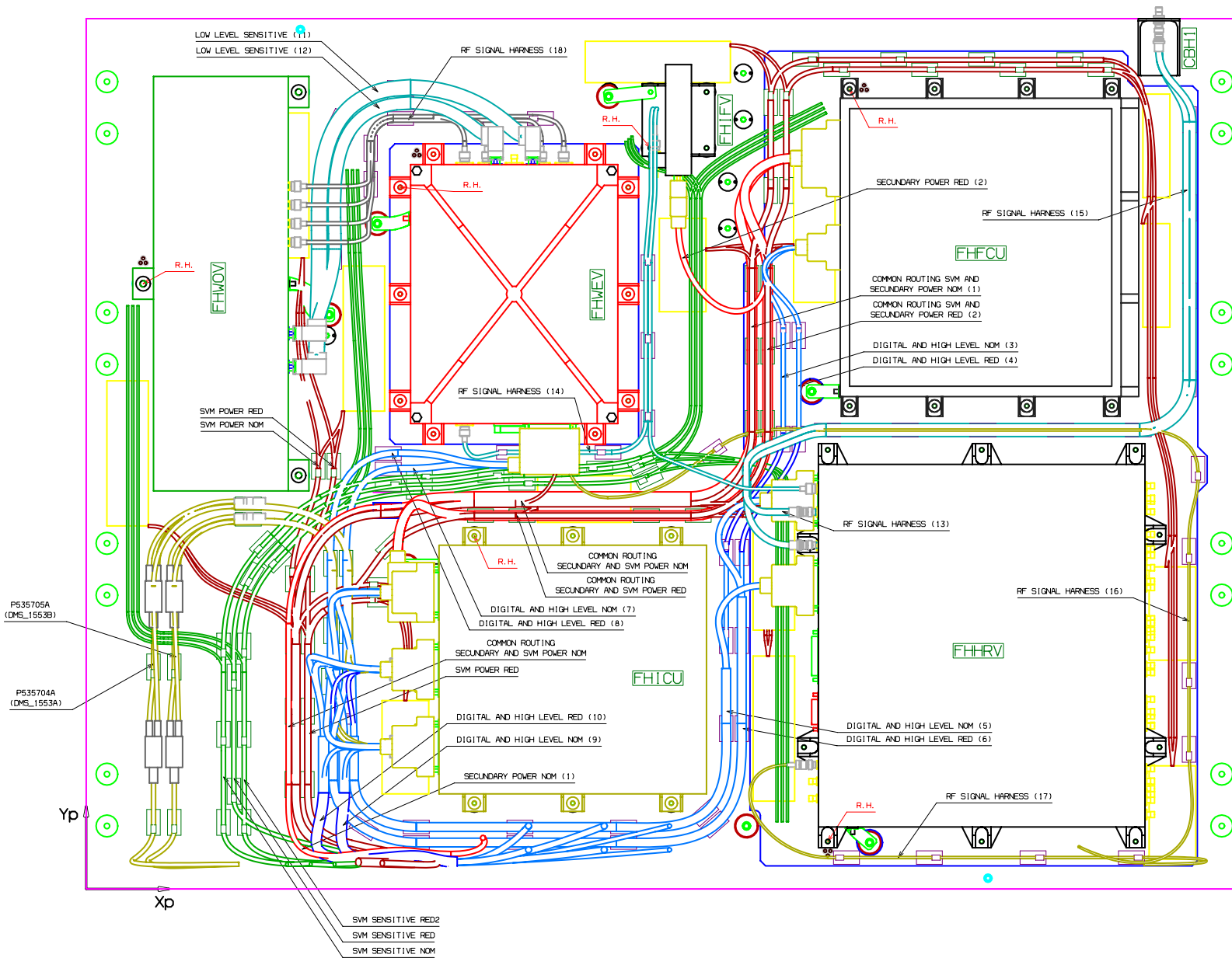
** This table indicates the sequence in which the different cables must be integrated.

H-P WU HIFI Harness	Doc Id. :		
	DATE : 04-05-04	Ed / Rev : A2	Page : 13 of 13

Link between connector id. NXH and Alenia

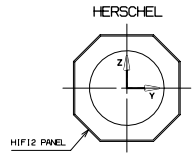
Connector Id.												
DBH1		DBH2		DBH3		DBH4		CBH1		CBH2		
NXH	Alenia	NXH	Alenia	NXH	Alenia	NXH	Alenia	NXH	Alenia	NXH	Alenia	
Connector id.	DBH1 J/P01	DBH1 J/P07	DBH2 P01	DBH2 P02	DBH3 P01	DBH3 P02	DBH4 J/P01	DBH4 J/P07	CBH1 P01	CBH1 P12	CBH2 P01	CBH2 P12
	DBH1 J/P02	DBH1 J/P02	DBH2 J01	DBH2 P12	DBH3 J01	DBH3 P12	DBH4 J/P02	DBH4 J/P02	CBH1 J01	CBH1 P02	CBH2 J01	CBH2 P02
	DBH1 J/P03	DBH1 J/P01	DBH2 P02	DBH2 P01	DBH3 P02	DBH3 P01	DBH4 J/P03	DBH4 J/P01	CBH1 P02	CBH1 P11	CBH1 P02	CBH2 P11
	DBH1 J/P04	DBH1 J/P04	DBH2 J02	DBH2 P11	DBH3 J02	DBH3 P11	DBH4 J/P04	DBH4 J/P04	CBH1 J02	CBH1 P01	CBH2 J02	CBH2 P01
	DBH1 J/P05	DBH1 J/P03					DBH4 J/P05	DBH4 J/P03				
	DBH1 J/P06	DBH1 J/P06					DBH4 J/P06	DBH4 J/P06				
	DBH1 J/P07	DBH1 J/P05					DBH4 J/P07	DBH4 J/P05				

ORTHOGONAL VIEW FROM INSIDE S/C

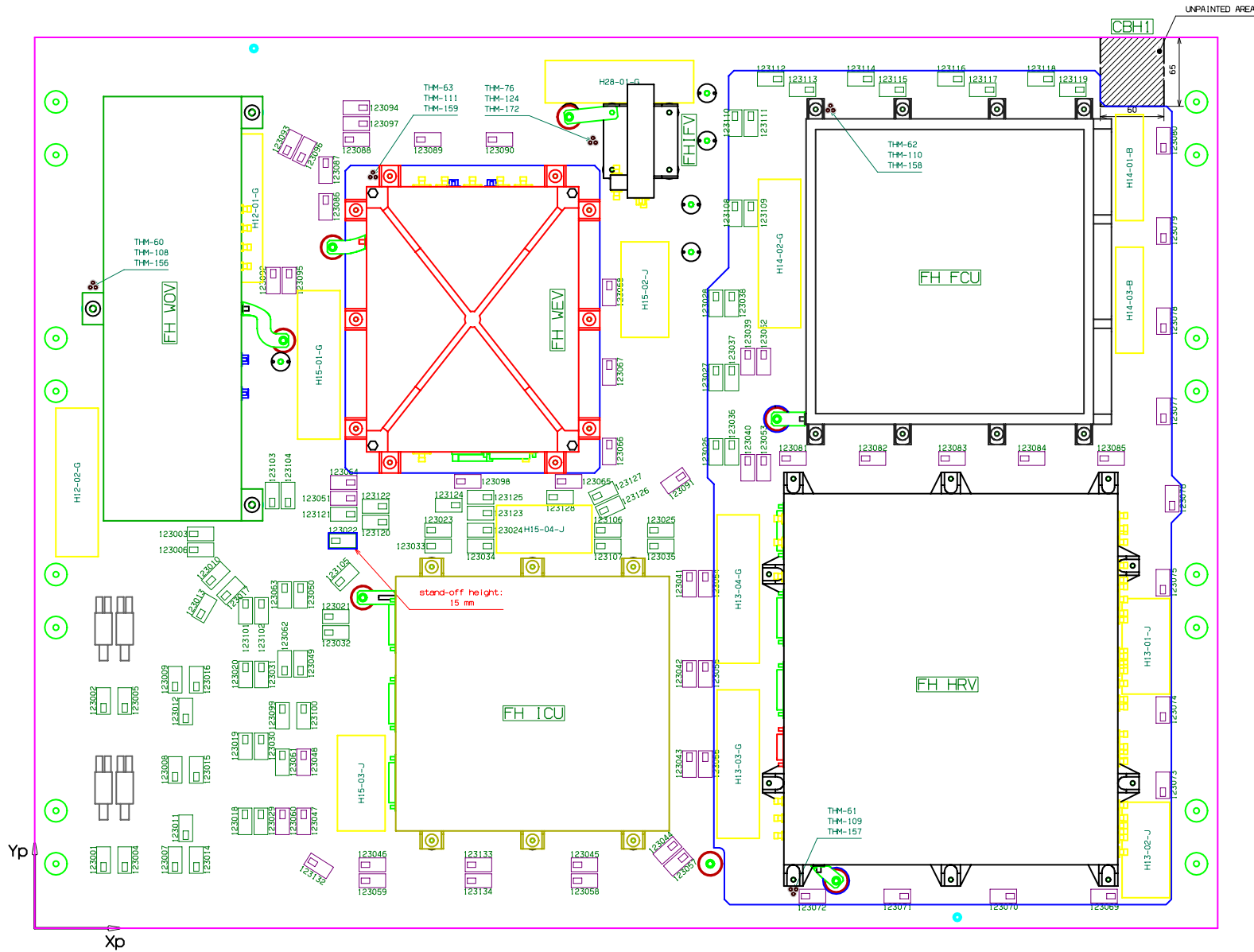


- NOTE: (1) Bundl Id.: PWR-1 *
 (2) Bundl Id.: PWR-3 *
 (3) Bundl Id.: DIG-1 *
 (4) Bundl Id.: DIG-2 *
 (5) Bundl Id.: DIG-1/DIG-11 *
 (6) Bundl Id.: DIG-2/DIG-12 *
 (7) Bundl Id.: DIG-7 *
 (8) Bundl Id.: DIG-8 *
 (9) Bundl Id.: DIG-3a/DIG-5a/DIG-9a *
 (10) Bundl Id.: DIG-4a/DIG-6a/DIG-10a *
 (11) Bundl Id.: ANL-5 *
 (12) Bundl Id.: ANL-6 *
 (13) Bundl Id.: RF-2 *
 (14) Bundl Id.: RF-4 *
 (15) Bundl Id.: RF-9c/RF-10c *
 (16) Bundl Id.: RF-8c *
 (17) Bundl Id.: RF-6c *
 (18) Bundl Id.: RF-15/RF-16/RF-17/RF-18 *
 * In reference with H-P-4-NXH-PR-0020 Iss. A2

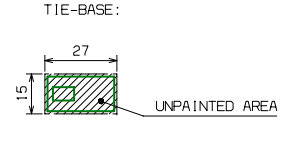
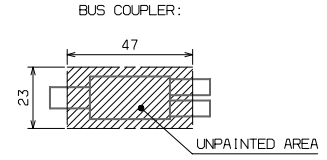
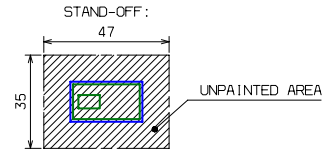
REV.	DATE	BY	MODIFICATION	APPROVAL
DESIGNED BY		DRAWN BY	CHECKED BY	APPROVED BY
N/A		VERVLIET J.	PLETINCKX K.	---
Rev.	B2	Date	21/01/05	Scale
			N/A	Format
			A1	Sheet
			1/4	
		Title SVM HIF12 INSTRUMENT PANEL ASSY		
		Dwg No HP-NXH-DW-1023		



ORTHOGONAL VIEW FROM INSIDE S/C

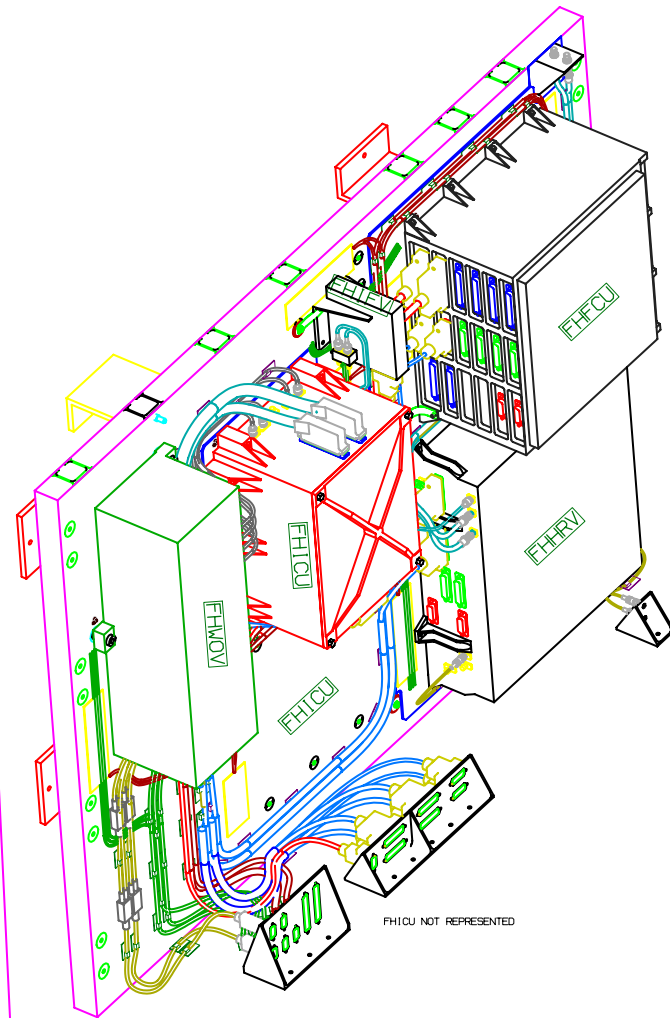
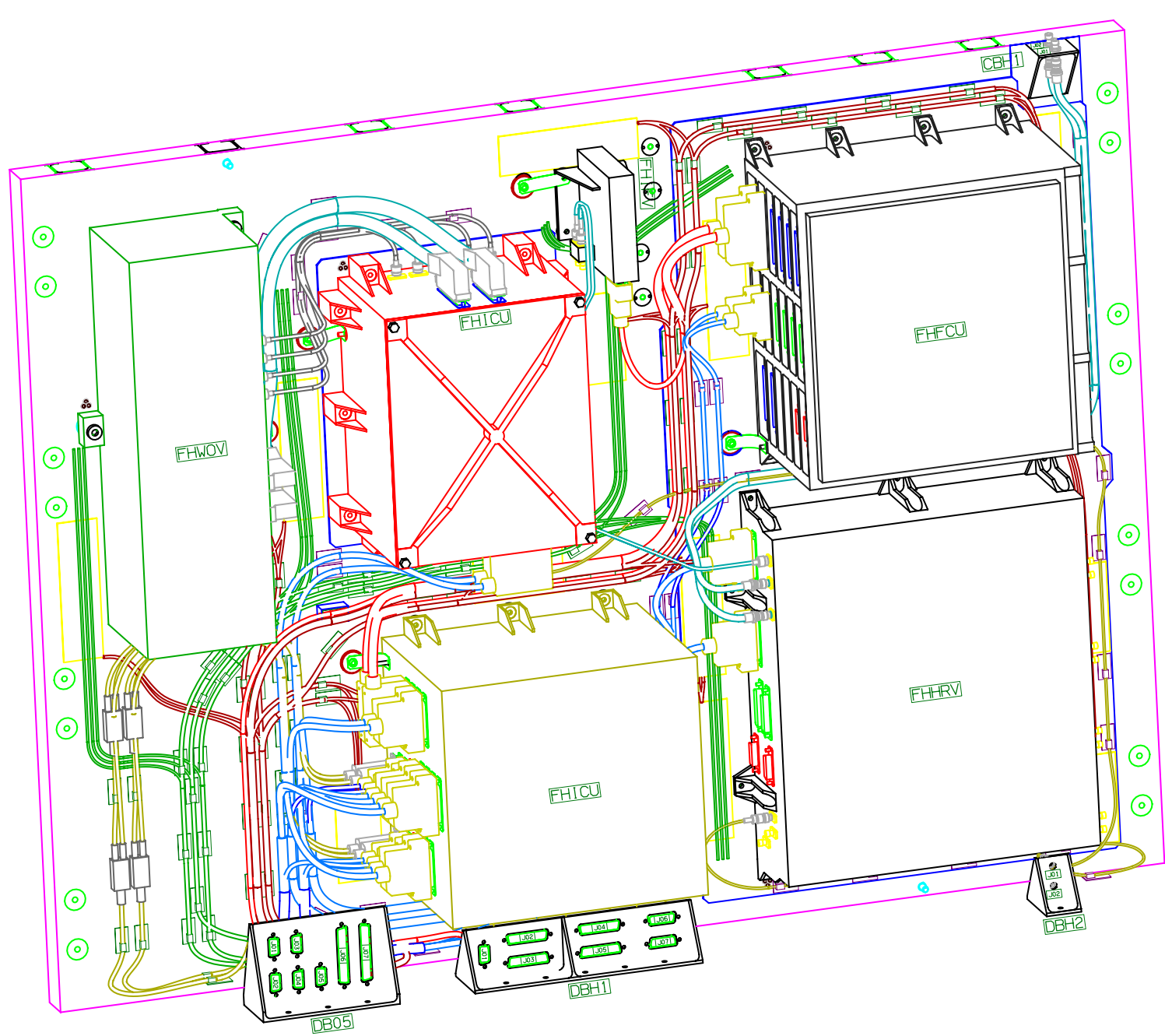



Note: - Tie-base used : TC-105
 - Stand-off used : - Stand-off-HP-01-XX-XX-KT (height upto 20mm)
 - Stand-off-HP-02-XX-XX-KT (height from 25mm)
 - NXH Bracket used: H-P-4-KTH-L1-390000-012



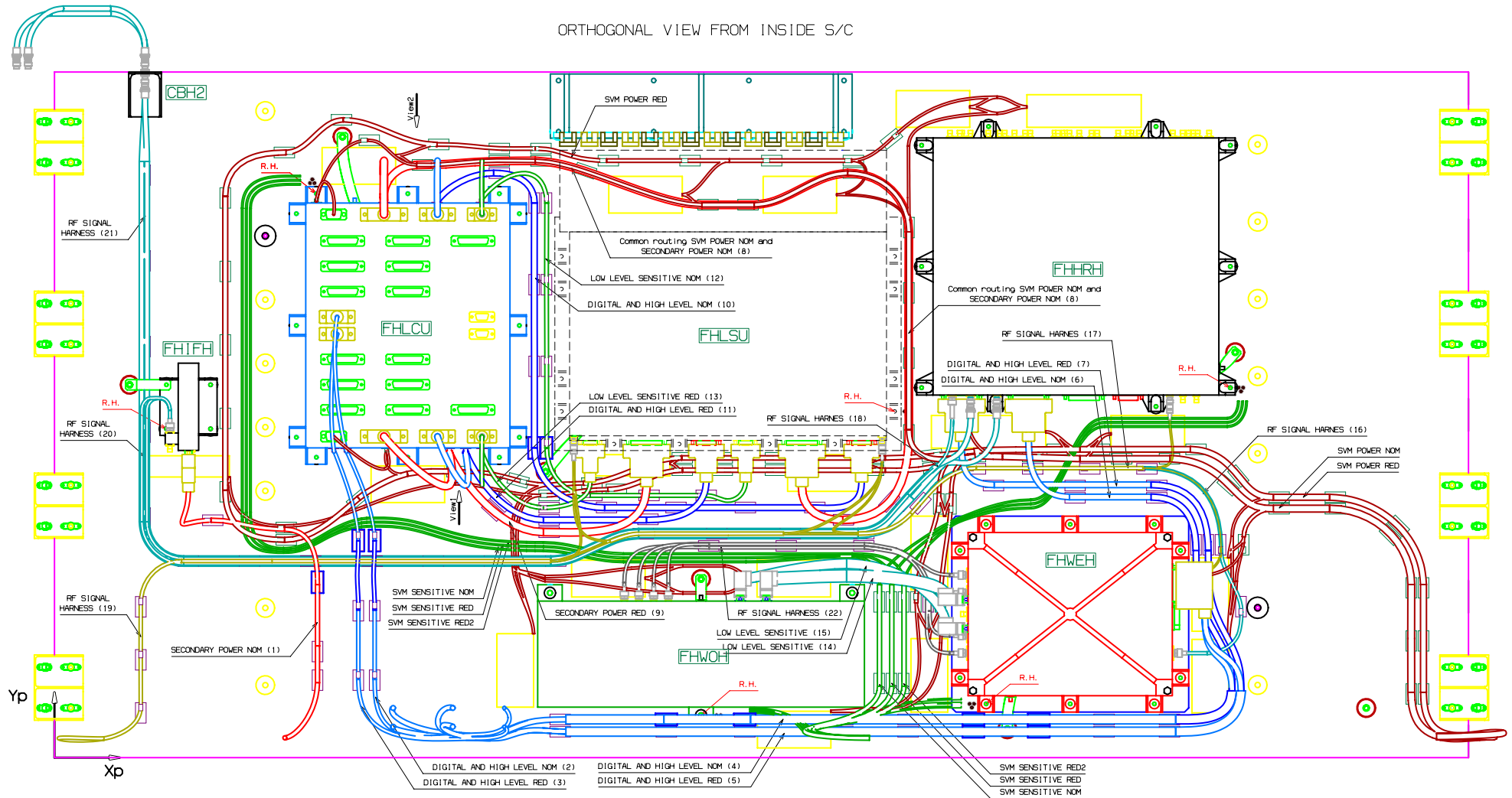
REV.	DATE	BY	MODIFICATION	APPROVAL
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY
N/A	VERVL IET J.	PLETINCKX K.	---	---
Rev.	Date	Scale	Format	Shit
B2	21/01/05	N/A	A1	2/4
Title				
SVM HIF12 INSTRUMENT PANEL ASSY				
Dwg N°				
HP-NXH-DW-1023				



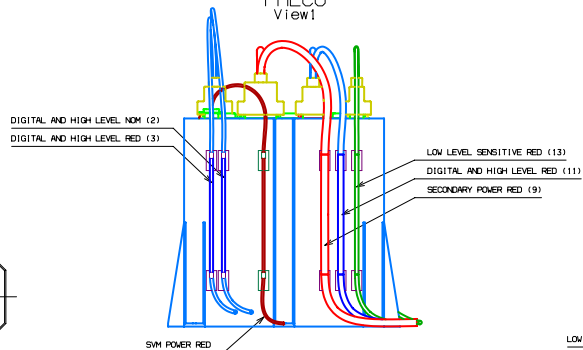


REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIET J.	PLETINCKX K.	---	---	
Rev.	Date	Scale	Format	Sht	
B2	21/01/05	N/A	A1	4/4	
			Title SVM HIF12 INSTRUMENT PANEL ASSY Dwg No HP-NXH-DW-1023		

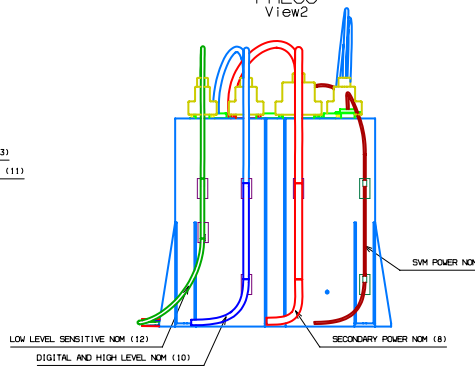
ORTHOGONAL VIEW FROM INSIDE S/C



FHLCU View1

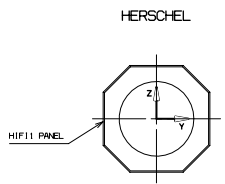


FHLCU View2

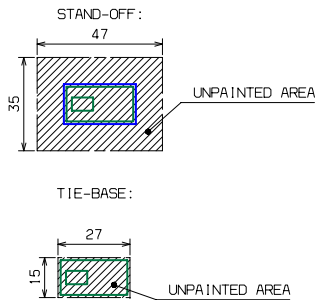
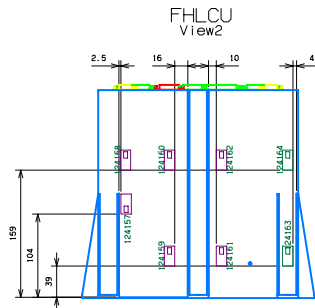
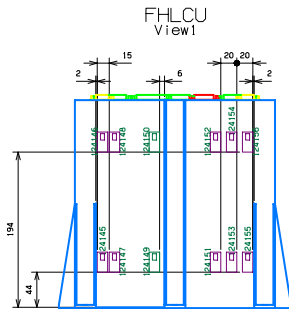
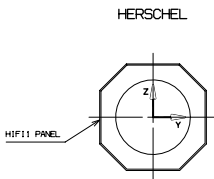
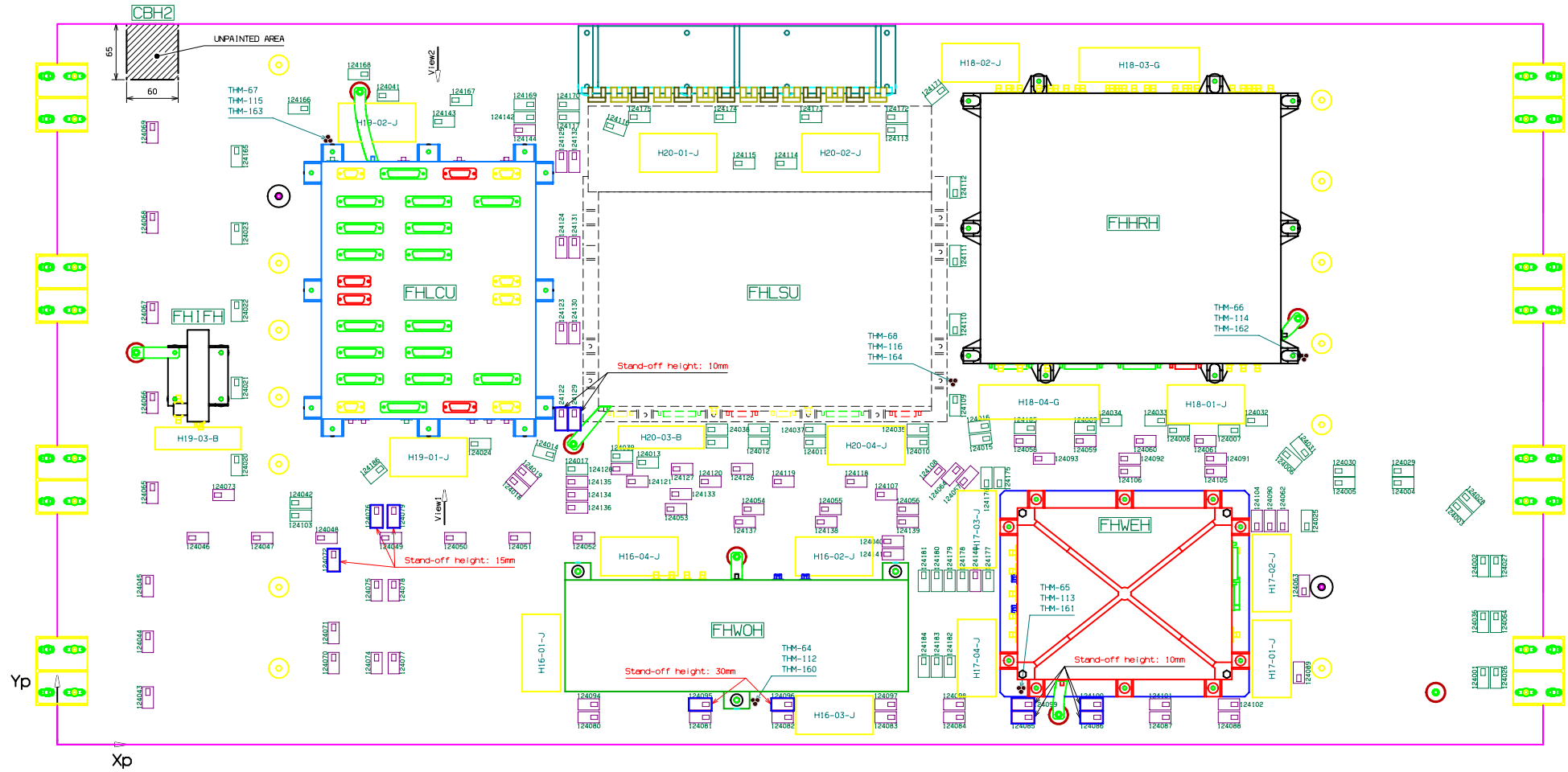


- NOTE: (1) Bundle id.: PWR-2b *
 (2) Bundle id.: DIG-3c *
 (3) Bundle id.: DIG-4c *
 (4) Bundle id.: DIG-5c/DIG-9c *
 (5) Bundle id.: DIG-6c/DIG-10c *
 (6) Bundle id.: DIG-9c *
 (7) Bundle id.: DIG-10c *
 (8) Bundle id.: PWR-4 *
 (9) Bundle id.: PWR-5 *
 (10) Bundle id.: DIG-13 *
 (11) Bundle id.: DIG-14 *
 (12) Bundle id.: ANL-1 *
 (13) Bundle id.: ANL-2 *
 (14) Bundle id.: ANL-3 *
 (15) Bundle id.: ANL-4 *
 (16) Bundle id.: RF-3/RF-7 *
 (17) Bundle id.: RF-3/RF-5/RF-7 *
 (18) Bundle id.: RF-1/RF-9a/RF-10c *
 (19) Bundle id.: RF-6a/RF-8a *
 (20) Bundle id.: RF-1/RF-3/RF-9a/RF-10c *
 (21) Bundle id.: RF-9a/RF-10c *
 (22) Bundle id.: RF-11/RF-12/RF-13/RF-14 *
 * In reference with H-P-4-NXH-RP-0020 iss. A2

REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY		DRAWN BY	CHECKED BY	APPROVED BY	QUALITY
N/A		VERVLIET J.	PLETINCKX K.	---	---
Rev.	B2	Date	21/01/05	Scale	N/A
		Format	A1	Sht	1/4
Title			SVM HIF11 INSTRUMENT PANEL ASSY		
Dwg N°			HP-NXH-DW-1024		



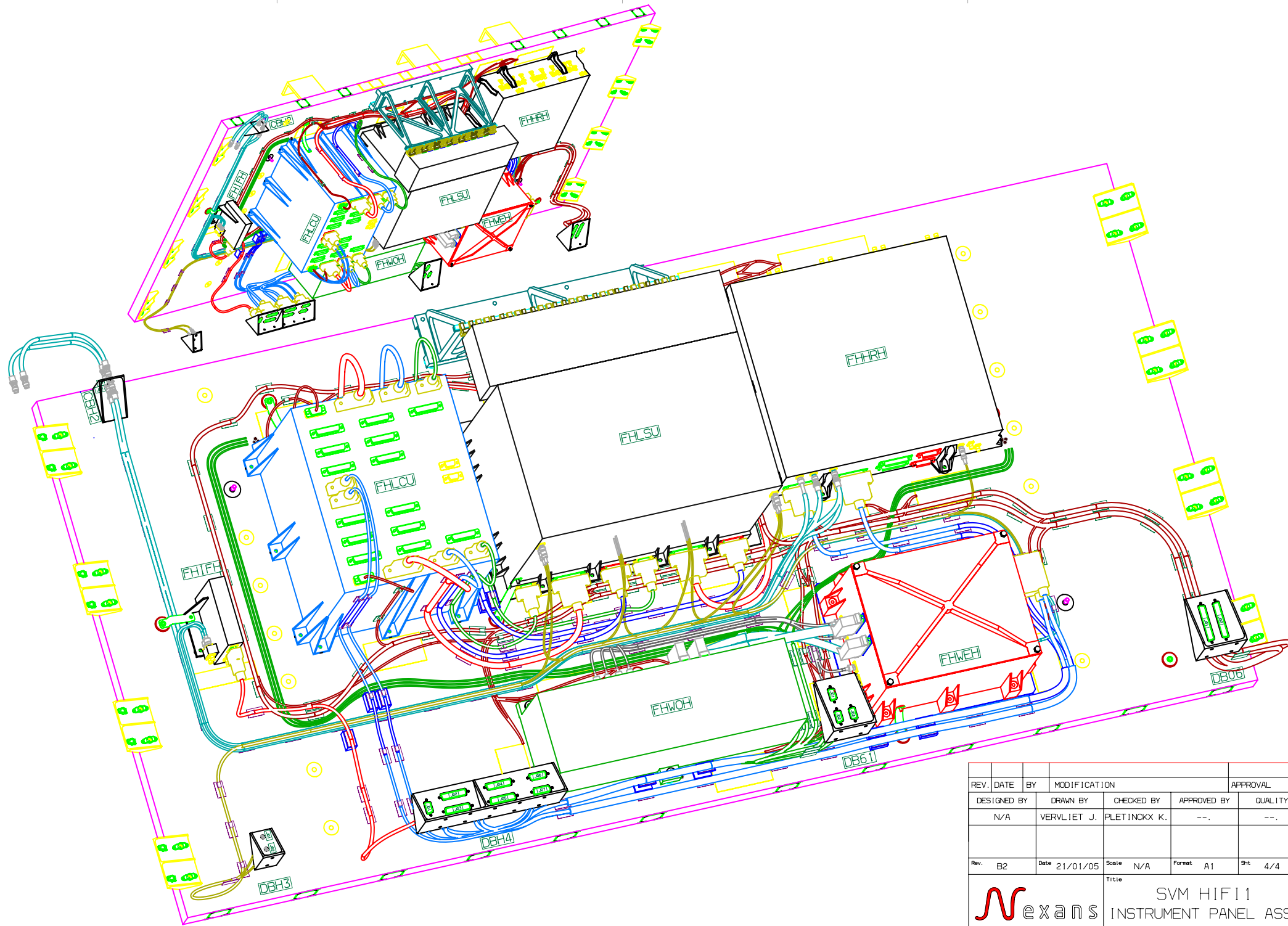
ORTHOGONAL VIEW FROM INSIDE S/C




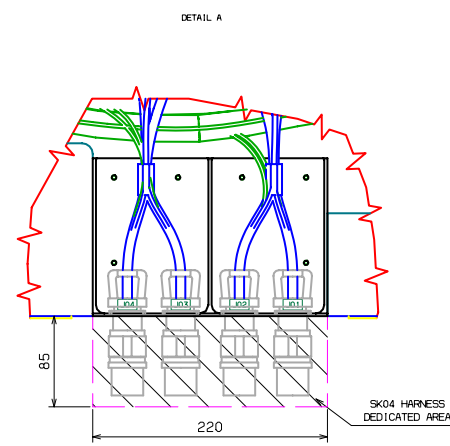
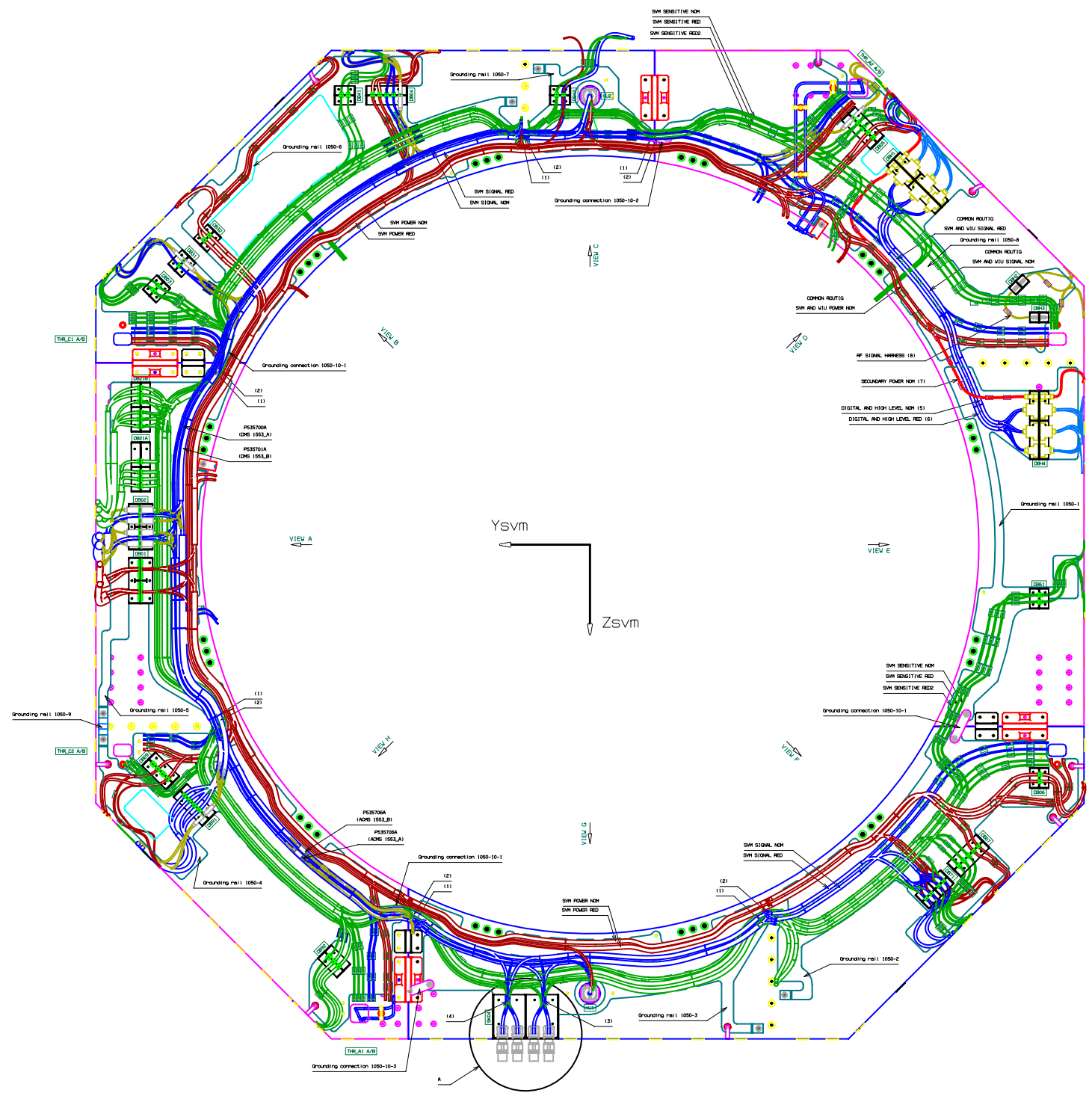
- Note: - Tie-base used : TC-105
 - Stand-off used : - Stand-off-HP-01-XX-XX-KT (height upto 20mm)
 - Stand-off-HP-02-XX-XX-KT (height from 25mm)
 - NXH Bracket used: H-P-4-KTH-L1-390000-012

REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY		DRAWN BY	CHECKED BY	APPROVED BY	QUALITY
N/A		VERVLIET J.	PLETINCKX K.	---	---
Rev.	B2	Date	21/01/05	Scale	N/A
		Format	A1	Sht	2/4
Title				SVM HIF11 INSTRUMENT PANEL ASSY	
Dwg No				HP-NXH-DW-1024	



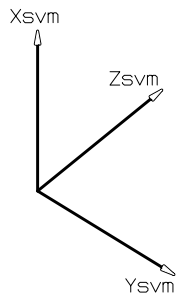
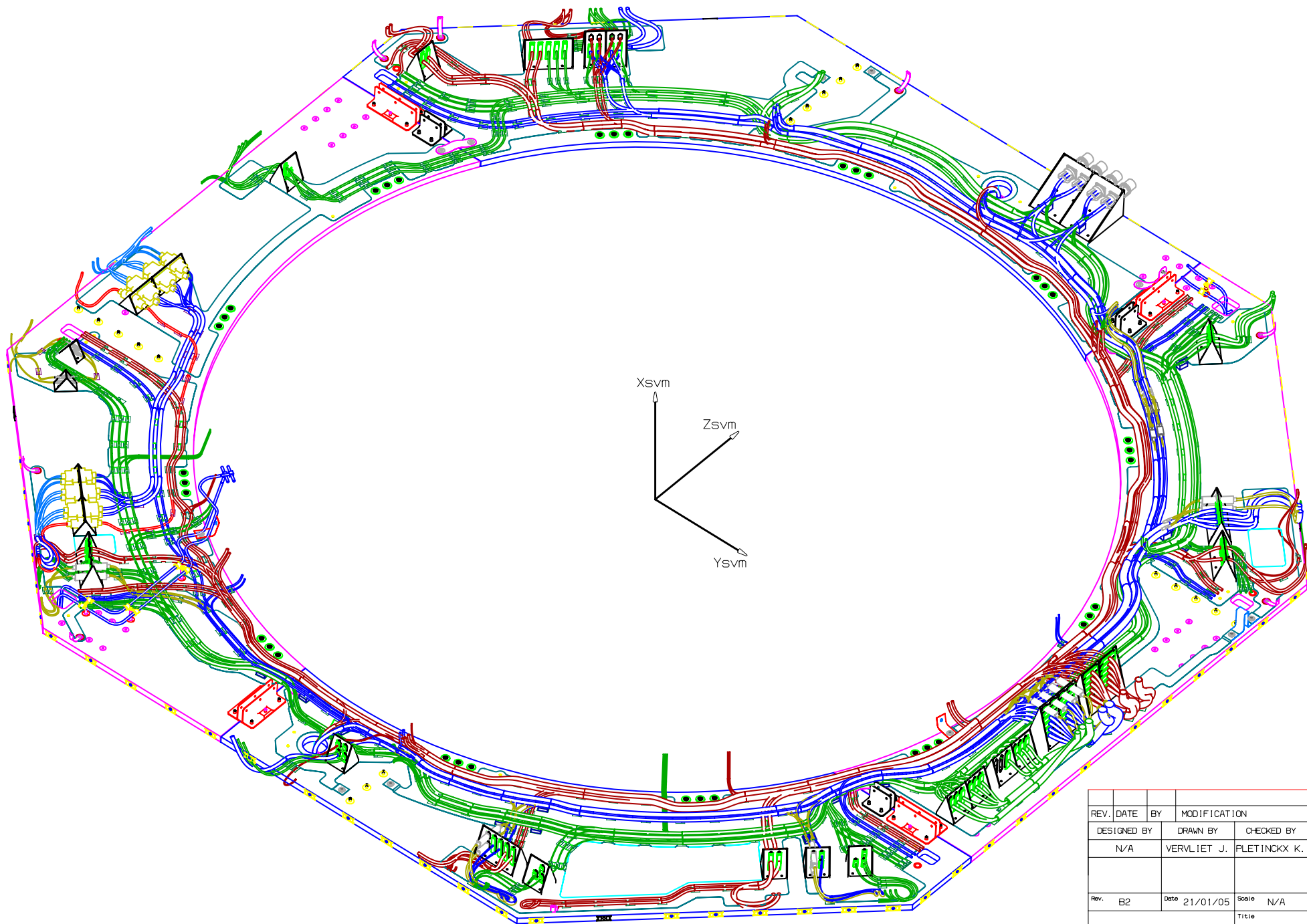



REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIET J.	PLETINCKX K.	---	---	
Rev.	Date	Scale	Format	Sht	
B2	21/01/05	N/A	A1	4/4	
			SVM HIF11 INSTRUMENT PANEL ASSY Dwg No HP-NXH-DW-1024		



NOTE: (1) Common routing SVM Signal Non and Sensitive Non.
 (2) Common routing SVM Signal RED, Sensitive Red and Sensitive Red2
 (3) Common routing SVM Signal Non and Red, Sensitive Non
 (4) Common routing SVM Signal Non and Red, Sensitive Red
 (5) Bundle id.: DIG-3b/DIG-5b/DIG-9b *
 (6) Bundle id.: DIG-4b/DIG-6b/DIG-10b *
 (7) Bundle id.: PAR-2a *
 (8) Bundle id.: RF-6a/RF-8a *
 * In reference with H-P-4-NXH-RP-0020 iss. A2

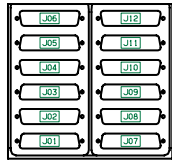
REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY		DRAWN BY	CHECKED BY	APPROVED BY	QUALITY
N/A		VERVL IET J.	PLETINCKX K.	---	---
Rev.	B2	Date	21/01/05	Scale	N/A
		Format	A1	Sht	1/4
			Title SVM LOWER FLOOR INSTRUMENT PANEL ASSY		
			Dwg N° HP-NXH-DW-1050		



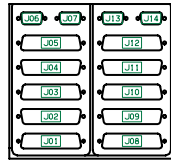
REV.	DATE	BY	MODIFICATION		APPROVAL
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIET J.	PLETINCKX K.	---	---	
Rev.	Date	Scale	Format	Sheet	
B2	21/01/05	N/A	A1	4/4	
		Title SVM LOWER FLOOR INSTRUMENT PANEL ASSY			
		Dwg N° HP-NXH-DW-1050			

VIEW A

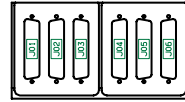
DB01



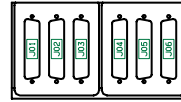
DB02



DB21A

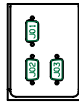


DB21B

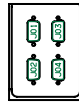


VIEW B

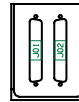
DB03



DB31

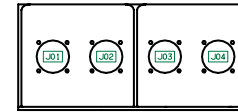


DB32



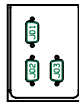
VIEW G

SK04

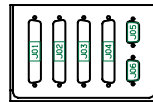


VIEW C

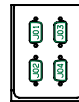
DB41



DB04

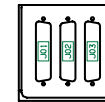


DB42

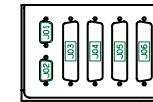


VIEW H

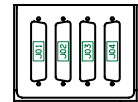
DB92



DB91

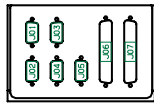


DB09



VIEW D

DB05



DBH1



DBH2

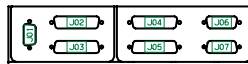


VIEW E

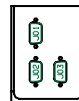
DBH3



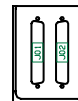
DBH4



DB61

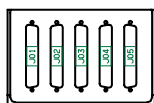


DB06

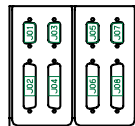


VIEW F

DB07



DB71



Note: - NXH Bracket used: H-P-4-KTH-LI-390000-012

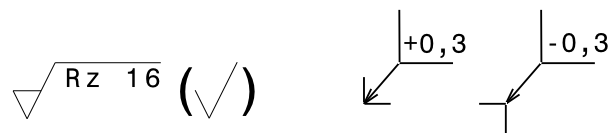
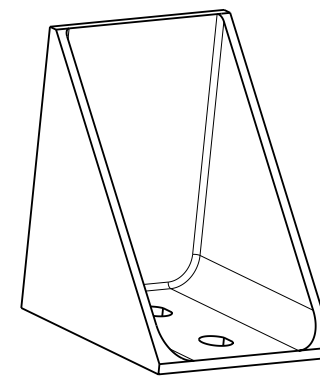
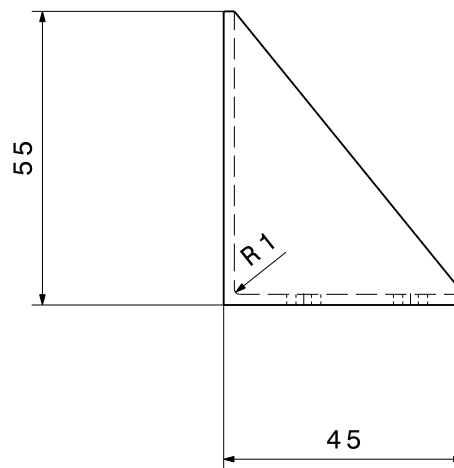
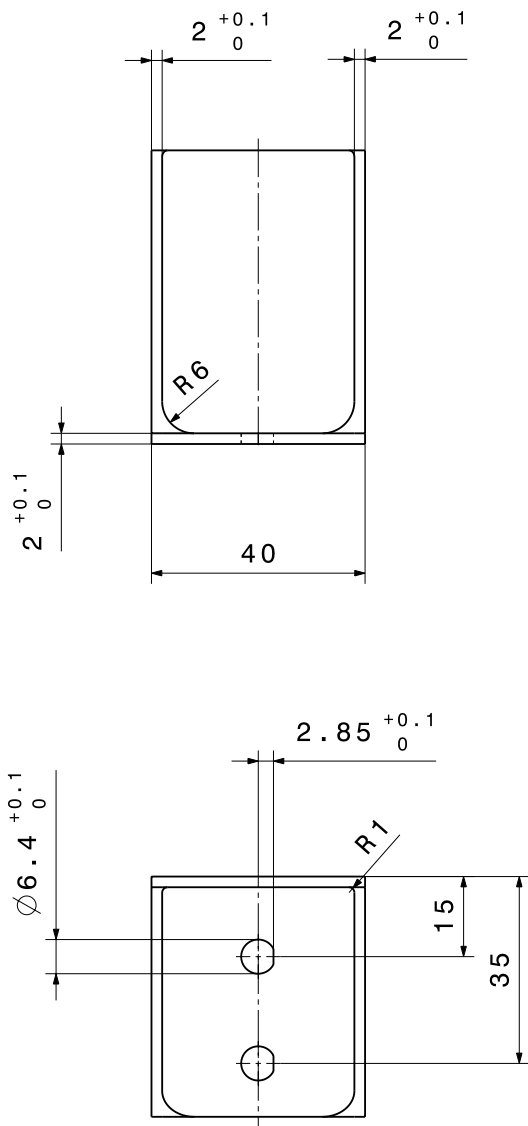
REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY	DRAWN BY		CHECKED BY	APPROVED BY	QUALITY
N/A	VERVLIET J.		PLETINCKX K.	---	---
Rev.	B2	Date	21/01/05	Scale	N/A
		Format	A1	Sheet	3/4

Nexans
HARNESSES

LOWER FLOOR
INSTRUMENT PANEL ASSY
DWG N° HP-NXH-DW-1050

The copying, distributio and utilization of this document as well as the communication of its contents to others without expressed authorisation is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration.

Approved	Struct/Therm	Proj/Syst	PA	Config
Data				
Name				



liquid penetrant inspection according to ASTM E1417-95a

Surface	Scale	General tolerances	Mass	DIN	CAD Drawing
-	-	DIN ISO 2768-fK	35 g	A3	No manual Changes
LN9368-4301.3	1 : 1	Material			
-	-	3.4364 T7351			
Prepared	Date	Name	SVM Harness		
Checked	24.05.04	Re/SA	-		
File	Bracket HP-17-01-01-KT.CATPart Bracket HP-17-01-01-KT.CATDrawing		Bracket		
1		First Issue	24.05.04	Re/SA	Sheet
Issue	Change(DCN/ECP)	Date	Name		1
				HP-17-01-01-KT	
				of 1	

DOCUMENT COMPOSITION

Pages	Annexes	Others
15	22	0






DOCUMENT IDENTIFICATION

Project	: Herschel – Planck		
N° Project	: 1680		
N° Contract	:		
Material	: Herschel-Planck SVM Harness		
Doc. Reference	: H-P-4-NXH-RP-0023	A2	
Date	: 04-05-04		

TITLE

H-P WU HFI Harness

This document contains updates made by B. Marchand (06/09/2004)

Written by	Function	Date	Signature
Johan Vervliet	Engineering	04-05-04	
Checked by			
Ken Pletinckx	Project Engineer	06.05.04	
Approved by			
Stéphane Dassy	Project Manager	06-05-04	

H-P WU HFI Harness	Doc Id. : H-P-4-NXH-RP-0023		
	DATE : 04-05-04	Ed / Rev : A2	Page : 4 of 15

TABLE OF CONTENTS

1	<u>SCOPE</u>	5
2	<u>INTRODUCTION</u>	5
3	<u>APPLICABLE DOCUMENTS</u>	6
3.1	APPLICABLE DOCUMENTS	6
3.2	ALS BASELINE DOCUMENTS	6
3.3	CATIA HARNESS DIRECTORY STATUS : HFI	6
4	<u>DOCUMENT ORGANISATION</u>	8
4.1	GENERAL INFORMATION : DRAWINGS	8
4.2	2D DRAWING NUMBERING SYSTEM	8
4.3	2D JIG NUMBERING SYSTEM	9
5	<u>HARNESS FIXING</u>	10
5.1	TIE-BASES	10
5.2	STAND-OFF'S	10
6	<u>2D DRAWING LISTING</u>	11
6.1	HFI 2D DRAWING LISTING	11
6.2	HFI JIG DRAWING LISTING	11
6.3	HFI 2D DRAWINGS	11
7	<u>HFI EXTRACTED LENGTHS</u>	12
7.1	HFI DPU INTERCONNECTION WITH OTHER HFI WU	12
7.2	HFI DPU INTERCONNECTION	13
7.3	HFI 4K WU	13
7.4	HFI 0.1K WU-CRYO	14
7.5	HFI REU-PAU	14

H-P WU HFI Harness	Doc Id. : H-P-4-NXH-RP-0023		
	DATE : 04-05-04	Ed / Rev : A2	Page : 5 of 15

1 Scope

The purpose of this document is to provide a description of the HFI WU harness of the Herschel and Planck S/C.

2 Introduction

The WU belonging to the HFI Experiment are located on the HFI +Z panel (DPU1 and DPU2). Other WU belonging to the HFI Experiment are located on the +Y+Z Panel HFI 0.1K (DCE) ,+Y Panel HFI 4K (REU) and Pay-load sub-platform (PAU).

The HFI harness is configured taking into account the different interconnection requirements of the experiment and harness design responsibility. The harness is split into 2 different main groups:

1. SVM Harness
2. Instrument WU Harness

The routing accommodation foreseen to have separate routing paths for each of the above harnesses as well as for main and redundant functions.

Due to the interconnections between the WU located on the two panels, 6 dedicated connector brackets (DBH-, CBH-) are foreseen to route the harnesses.

- DBH11 on Lower Platform to distribute Power and Signal Harnesses
- DBH12 on Lower Platform to distribute Power and Signal Harnesses
- DBH2 on Lower Platform to distribute Signal Harnesses to DCE (0.1K)
- DBH3 on Lower Platform to distribute Power and Signal Harnesses to REU and 4KCDE (4K)

The instrument WU Harness is defined taking into account the harness data provided by Instruments as well as SVM Harness Design in order to verify the relevant accommodation in the SVM configuration.

Additional details/drawings on the harness accommodation are reported in this document.

H-P WU HFI Harness	Doc Id. : H-P-4-NXH-RP-0023		
	DATE : 04-05-04	Ed / Rev : A2	Page : 6 of 15

3 Applicable Documents

3.1 Applicable documents

Number	Issue	Title
H-P-1-ASPI-SP-0027	4.0	General Design Interface Requirement Specification
H-P-1-ASPI-SP-0042	4.0	SVM Interface Specification
H-P-RP-AI-0025	1.0	SVM Harness Configuration and Design Description

3.2 ALS Baseline Documents

Number	Issue	Title
H-P-IC-AI-0001	04	Herschel/Planck SVM MICD
H-P-LI-AI-0022	05	List of HP SVM 3D CAD models
IF-PHCBA282-200049-CESR	01.00	HFI Pre Amplifier Unit ICD
IC-PHDC-000009-SEA	02.A	Planck HFI 4KCDE ICD
ICD-PLANCK4K-AST-012	02	Planck HFI 4K Cooler Compressor ICD
IF-PHCBC282-200050-CESR	01.01	HFI Readout Electronics Unit ICD
	01.01	ME ICD
TD-PHEB241-100068-ISN	00.02	Planck Dilution Cooler Electronics Unit Design Description

3.3 CATIA Harness Directory Status : HFI

ALS Part Nr.	Rev.	Description	Resp.	Date
HP-212001-19-2	B	CENTRE CONE HRN ELT ASSY		02.04.04
HP-212002-19-2	A	CENTRE CONE HRN MECH ASSY		02.04.04
HP-212001-21-2	C	+Z LATERAL PANEL HRN ELT ASSY (HFI)		05.05.04
HP-212002-21-2	N/A	+Z LATERAL PANEL HRN MECH ASSY (HFI)		N/A
HP-392001-21-2	E	+Z LATERAL PANEL HRN ELT ASSY (HFI)		05.05.04
HP-392002-21-2	A	+Z LATERAL PANEL HRN MECH ASSY (HFI)		02.04.04
HP-212001-22-2	C	+Y+Z LATERAL PANEL HRN ELT ASSY (0.1K)		05.05.04
HP-212002-22-2	N/A	+Y+Z LATERAL PANEL HRN ELT ASSY (0.1K)		N/A
HP-392001-22-2	E	+Y+Z LATERAL PANEL HRN ELT ASSY (0.1K)		05.05.04
HP-392002-22-2	N/A	+Y+Z LATERAL PANEL HRN ELT ASSY (0.1K)		N/A
HP-212001-23-2	C	+Y LATERAL PANEL HRN ELT ASSY (4K)		05.05.04
HP-212002-23-2	B	+Y LATERAL PANEL HRN MECH ASSY (4K)		20.02.04
HP-392001-23-2	E	+Y LATERAL PANEL HRN ELT ASSY (4K)		05.05.04
HP-392002-23-2	N/A	+Y LATERAL PANEL HRN MECH ASSY (4K)		N/A
HP-212001-50-2	B	LOWER CLOSURE PANEL HRN ELT ASSY		02.04.04
HP-212002-50-2	B	LOWER CLOSURE PANEL HRN MECH ASSY		02.04.04
HP-392001-50-2	C	LOWER CLOSURE PANEL HRN ELT ASSY		02.04.04
HP-392002-50-2	D	LOWER CLOSURE PANEL HRN MECH ASSY		02.04.04

H-P WU HFI Harness	Doc Id. : H-P-4-NXH-RP-0023		
	DATE : 04-05-04	Ed / Rev : A2	Page : 7 of 15

ALS Part Nr.	Rev.	Description	Resp.	Date
HP-212001-60-2	A	PAYLOAD SUB-PLATFORM HRN ELT ASSY		02.04.04
HP-212002-60-2	N/A	PAYLOAD SUB-PLATFORM HRN MECH ASSY		N/A
HP-392001-60-2	N/A	PAYLOAD SUB-PLATFORM HRN ELT ASSY		N/A
HP-392002-60-2	A	PAYLOAD SUB-PLATFORM HRN MECH ASSY		02.04.04

H-P WU HFI Harness	Doc Id. : H-P-4-NXH-RP-0023		
	DATE : 04-05-04	Ed / Rev : A2	Page : 8 of 15

4 Document Organisation

4.1 General Information : Drawings

Every Drawing contains all relevant information with reference to the H-P HFI Harness derived from the MICD (Mech. Interface Control Doc.) and the other data provided by instruments, such as :

Power, Signal and Sensitive Routing
 Nominal & Redundant routing
 Mil Bus lay-out
 WIU Harness lay-out
 Mechanical Items lay-out
 Mechanical Items identification

Colour codes used are

colour	Class	Comment
Colour 30 (Dark Red)	1-/POWER	SVM Primary Power
Colour 04 (Light Blue)	2-/SIGNAL	SVM Signal
Colour 45 (Dark Green)	4-/SENS	SVM Sensitive Harness
Colour 75 (Dark Yellow)	2-/Signal	Mil Bus Harness
Colour 02 (Light Red)	1-/PWR	Secondary Power
Colour 120 (Dark Blue)	2-/Signal	Secondary Signal
Colour 111 (Dark Green)	N/A	Tie-base
Colour 05 (Yellow)	N/A	For Information Only

4.2 2D Drawing Numbering System

Each 2D Drawing is identified by H-P-NXH-DW-XXXX

Part	Field
H-P	Herschel-Planck
NXH	Nexans Harnesses
DW	Drawing
X (first of XXXX)	1 for Herschel 2 for Planck
X (second of XXXX)	0 for General Panel Information 1 for Power (Nom and Red) 2 for Signal (Nom and Red) 4 for Sensitive (Nom/Red/Red2) 9 for MIL BUS (DMS/ACMS-NOM/RED)
XX (last two of XXXX)	00 General Structure XX Panel number in ref. with H-P-LI-AI-0022 iss.5

H-P WU HFI Harness	Doc Id. : H-P-4-NXH-RP-0023		
	DATE : 04-05-04	Ed / Rev : A2	Page : 9 of 15

4.3 2D JIG Numbering System

Each 2D JIG Drawing is identified by H-P-NXH-DR-XXXX

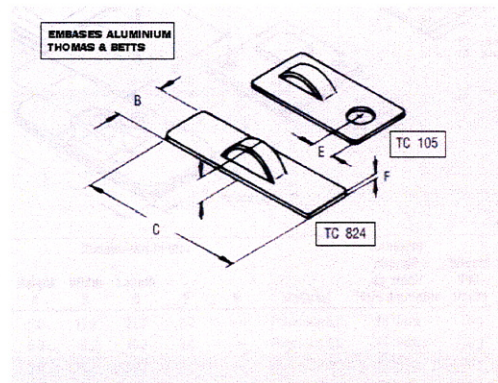
Part	Field
H-P	Herschel-Planck
NXH	Nexans Harnesses
DR	Drawing
X (first of XXXX)	1 for Herschel 2 for Planck
X (second of XXXX)	0 for General Panel Information 1 for Power (Nom and Red) 2 for Signal (Nom and Red) 4 for Sensitive (Nom/Red/Red2) 9 for MIL BUS (DMS/ACMS-NOM/RED)
XX (last two of XXXX)	00 General Structure XX Panel number in ref. with H-P-LI-AI-0022 iss.5

H-P WU HFI Harness	Doc Id. : H-P-4-NXH-RP-0023		
	DATE : 04-05-04	Ed / Rev : A2	Page : 10 of 15

5 Harness Fixing

5.1 Tie-bases

The position of the tie-bases has been designed to meet the requirement to fix the harness bundles on the structure every 100mm maximum. Tiebase type used is TC-105 (Thomas & Betts). Tie-wraps sizes used, are function of bundle diameter and in accordance to the applicable process list.



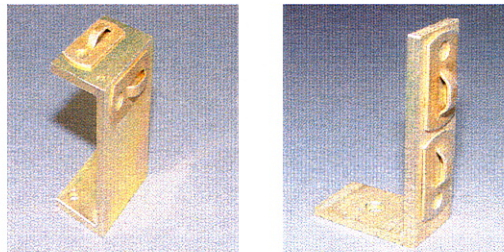
Tie-bases will be glued on the spacecraft structure and will assure harness fixation as well as electrical bonding.

5.2 Stand-off's

To maintain wire-bundles routing and minimize mechanical stress in harness, specific stand-off have been designed, which will be glued on the spacecraft structure.

The stand off designs are well approved at Kayser-Threde and will be modified to the purpose of the SVM Harness. (Pictures below)

Tie-bases will be glued to the stand-off's to allow cable fixation by using fasteners tie-wraps.



We assume 2 types of stand off will be necessary.

H-P WU HFI Harness	Doc Id. : H-P-4-NXH-RP-0023		
	DATE : 04-05-04	Ed / Rev : A2	Page : 11 of 15

6 2D Drawing Listing

6.1 HFI 2D Drawing Listing

<i>Document Ref.</i>	<i>Document Title</i>	<i>Date</i>	<i>Issue</i>
H-P-NXH-DW-2021	HFI Instrument Panel Assy	27-05-04	B0
H-P-NXH-DW-2022	0.1K Instrument Panel Assy	27-05-04	B0
H-P-NXH-DW-2023	4K Instrument Panel Assy	27-05-04	B0
H-P-NXH-DW-2050	Lower Floor Instrument Panel Assy	27-05-04	B0
H-P-NXH-DW-2060	Sub Platform Instrument Panel Assy		

6.2 HFI JIG Drawing Listing

<i>Document Ref.</i>	<i>Document Title</i>	<i>Date</i>	<i>Issue</i>
H-P-NXH-DR-2021	HFI Instrument Panel Assy	05-05-04	A2
H-P-NXH-DR-2022	0.1K Instrument Panel Assy	05-05-04	A2
H-P-NXH-DR-2023	4K Instrument Panel Assy	05-05-04	A2
H-P-NXH-DR-2050	Lower Floor Instrument Panel Assy	05-05-04	A2
H-P-NXH-DR-2060	Sub Platform Instrument Panel Assy	04-03-04	A0

6.3 HFI 2D Drawings

See Annex

7 HFI Extracted Lengths

7.1 HFI DPU Interconnection with other HFI WU

Bundle Identification	From Connector			To Connector			Bundle								Via	Sq.**	
	Identification	Con Type	Bck Type	Identification	Con Type	Bck Type	N / R	Cat.	Diam. (mm)	Bending Radius	Mass BNL (g/m)	Conn.+Bck (g)	L Max (mm)	L (mm)			
PHBBA-N	DPU P06N	DBMA25P	DB8949105	REU 12 P07	MDM25P	-	Nom	2	9	40	78.56				Bracket		
	DPU P06N	DBMA25P	DB8949105	DBH11 P02	DBMA25S	DB8949001								1661	1		
	DBH11 J02	DBMA25P	DB8949001	DBH03 J03	DBMA25S	DB8949001								2070	1		
	DBH03 P03	DBMA25P	DB8949001	REU 12 P06	MDM25P	-								1570	1		
PHBBA-R	DPU P06R	DBMA25P	DB8949106	REU 13 P07	MDM25P	-	RED	2	9	40	78.56				Bracket		
	DPU P06R	DBMA25P	DB8949106	DBH12 P02	DBMA25S	DB8949001								1075	1		
	DBH12 J02	DBMA25P	DB8949001	DBH03 J05	DBMA25S	DB8949001								2087	1		
	DBH03 P05	DBMA25P	DB8949001	REU 13 P06	MDM25P	-								1130	1		
PHBBB-N	DPU P111	DBMA25P	DB8949105	REU BELTS P01 0-5	MDM09P	-	NOM	1	10	40	93.6			-	Bracket		
	DPU P111	DBMA25P	DB8949105	DBH11 P01	DBMA25S	DB8949001								1625	2		
	DBH11 J01	DBMA25P	DB8949001	DBH03 J01	DBMA25S	DB8949001								2061	2		
	DBH03 P01	DBMA25P	DB8949001	REU BELTS P01 0	MDM09P	-								1488	2		
	DBH03 P01	DBMA25P	DB8949001	REU BELTS P01 1	MDM09P	-								1464	2		
	DBH03 P01	DBMA25P	DB8949001	REU BELTS P01 2	MDM09P	-								1434	2		
	DBH03 P01	DBMA25P	DB8949001	REU BELTS P01 3	MDM09P	-								1398	2		
	DBH03 P01	DBMA25P	DB8949001	REU BELTS P01 4	MDM09P	-								1361	2		
	DBH03 P01	DBMA25P	DB8949001	REU BELTS P01 5	MDM09P	-								1333	2		
	DBH03 P01	DBMA25P	DB8949001	REU BELTS P01 6-11	MDM09P	-	RED	1	10	40	93.6			-	Bracket		
PHBBB-R	DPU P112	DBMA25P	DB8949105	DBH12 P01	DBMA25S	DB8949001								1179	2		
	DBH12 J01	DBMA25P	DB8949001	DBH03 J02	DBMA25S	DB8949001								2126	2		
	DBH03 P02	DBMA25P	DB8949001	REU BELTS P01 6	MDM09P	-								1309	2		
	DBH03 P02	DBMA25P	DB8949001	REU BELTS P01 7	MDM09P	-								1282	2		
	DBH03 P02	DBMA25P	DB8949001	REU BELTS P01 8	MDM09P	-								1254	2		
	DBH03 P02	DBMA25P	DB8949001	REU BELTS P01 9	MDM09P	-								1214	2		
	DBH03 P02	DBMA25P	DB8949001	REU BELTS P01 10	MDM09P	-								1180	2		
	DBH03 P02	DBMA25P	DB8949001	REU BELTS P01 11	MDM09P	-								1149	2		
	PHBBC-N	DPU P08N	DBMA25P	DB8949106	DCE P02	DBMA25S	DB8949001	NOM	2	8	40	64.04				Bracket	
		DPU P08N	DBMA25P	DB8949106	DBH11 P03	DBMA25S	DB8949001								2252	1	
DBH11 J03		DBMA25P	DB8949001	DBH02 J01	DBMA25S	DB8949001								912	1		
DBH02P01		DBMA25P	DB8949001	DCE P02	DBMA25S	DB8949001								338	1		
PHBBC-R	DPU P08R	DBMA25P	DB8949106	DCE P03	DBMA25S	DB8949001	RED	2	8	40	64.04				Bracket		
	DPU P08R	DBMA25P	DB8949106	DBH12 P03	DBMA25S	DB8949001								1761	1		
	DBH12 J03	DBMA25P	DB8949001	DBH02 J02	DBMA25S	DB8949001								959	1		
	DBH2P02	DBMA25P	DB8949001	DCE P03	DBMA25S	DB8949001								360	1		
PHBBE-N	DPU P07N	DBMA25P	DB8949106	4K CDE P2A	DBMA25S	DB8949001		2	8	40	73.72				Bracket		
	DPU P07N	DBMA25P	DB8949106	DBH11 P04	DBMA25S	DB8949001								2037	1		
	DBH11 J04	DBMA25P	DB8949001	DBH03 J04	DBMA25S	DB8949001								2064	1		
	DBH03 P04	DBMA25P	DB8949001	4KCDE P2A	DBMA25S	DB8949001								867	1		

H-P WU HFI Harness	Doc Id. : H-P-4-NXH-RP-0023		
	DATE : 04-05-04	Ed / Rev : A2	Page : 13 of 15

Bundle Identification	From Connector			T o Connector			Bundle						Via	Sq.**			
	Identification	Con Type	Bck Type	Identification	Con Type	Bck Type	N / R	Cat.	Diam. (mm)	Bending Radius	Mass BNL (g/m)	Conn.+Bck (g)			L Max (mm)	L (mm)	
PHBBE-R	DPU P07R	DBMA25P	DB8949106	4KCDE P2B	DBMA25S	DB8949001		2	8	40	73.72					Bracket	
	DPU P07R	DBMA25P	DB8949106	DBH12 P04	DBMA25S	DB8949001								1525			1
	DBH12 J04	DBMA25P	DB8949001	DBH03 J06	DBMA25S	DB8949001								2067			1
	DBH03 P06	DBMA25P	DB8949001	4K CDE P2B	DBMA25S	DB8949001								1010			1

Note : These lengths are CATIA extracted and therefore theoretical values. It is recommended to perform harness production activities on JIG.
Lengths are measured from connector front face to connector front face.

The last column (**) indicates the sequence in which the different cables must be integrated.
SVM harness is placed before WIU HFI harness.

7.2 HFI DPU Interconnection

Bundle Identification	From Connector			T o Connector			Bundle						Via	Sq.**		
	Identification	Con Type	Bck Type	Identification	Con Type	Bck Type	Nom / Red	Category	Diameter	Bending Radius	Mass / Meter	Mass Connector			Length Max	Length (m)
# 1	DPU P03N	DAMA15S	DA8949106	DPU P04N	DAMA15P	DA8949106	Nominal	1	10	20	76.4	83.68	-	203	-	-
# 2	DPU P09N	DBMA25P	DB8949106	DPU P10N	DBMA25S	DB8949106	Nominal	1	10	20	76.4	83.68	-	203	-	-
PHBBG 1	DPU P131	DBMA25P	DB8949105	DPU P132	DBMA25P	DB8949105	-	2	10	40	93.08	93.08		1100		1
PHBBG 2	DPU P121	DBMA25P	DB8949105	DPU P122	DBMA25P	DB8949105	-	2	10	40	93.08	93.08		882		1
# 3	DPU P03R	DAMA15S	DB8949106	DPU P04R	DAMA15P	DB8949106	Redundant	1	10	20	104	117	-	203	-	-
# 4	DPU P09R	DBMA25P	DB8949106	DPU P10R	DBMA25S	DB8949106	Redundant	1	10	20	104	117	-	203	-	-

Note : These lengths are CATIA extracted and therefore theoretical values. It is recommended to perform harness production activities on JIG.
Lengths are measured from connector front face to connector front face.

The last column (**) indicates the sequence in which the different cables must be integrated.
SVM harness is placed before WIU HFI harness.

7.3 HFI 4K WU

Bundle Identification	From Connector			T o Connector			Bundle						Via	Sq.**		
	Identification	Con Type	Bck Type	Identification	Con Type	Bck Type	N / R	Category	Diam. (mm)	Bending Radius	Mass BNL (g/m)	Conn.+Bck (g)			L Max (mm)	L (mm)
PHDE	4KCAU size E	size E (9P)	100P1574-09-1-C	WU-CRYO Bracket	Size E (9P)	-			6	20	60			2944		2
PHDFA-A	4KCDE P4A	DEMA09P	100P1574-09-1-C	4KCCU C122	DEMA09	100P1574-09-1-C		2 (PPO)	5	20	70			365		2
PHDFA-B	4KCDE P4B	DEMA09P	100P1574-09-1-C	4KCCU C123	DEMA09	100P1574-09-1-C		2 (PPO)	5	20	70			368		2
PHDFB	4KCDE P5	SCBM5W5P85000G	100P1574-25-1-C	4KCCU C124X	340200801B301	-		2 (FORCE)	5	20	100			410		2
PHDFC-A	4KCDE P3A	DEMA09P	100P1574-09-1-C	4KCCU C120	DEMA09	100P1574-09-1-C		1 (POW)	6	24	80			277		1
PHDFC-B	4KCDE P3B	DEMA09P	100P1574-09-1-C	4KCCU C121	DEMA09	100P1574-09-1-C		1 (POW)	6	24	80			309		1
PHDFD	4KCDE P6	DCMA37P	100P1574-37-1-C	4KCAU size C	DCMA62S	100P1574-37-1-C		2 (TEMP)	14	56	360			721		2
PHDFE	4KCDE P9	DAMA15P	100P1574-15-1-C	4KCCU P137	DEMA09S	100P1574-09-1-C		2 (ANC.)	6	24	90			380		2
PHDK	4KCDE P7	DCMA37P	N/A	CBH4K J02	DCMA37X	N/A		2						1318		3

H-P WU HFI Harness	Doc Id. : H-P-4-NXH-RP-0023		
	DATE : 04-05-04	Ed / Rev : A2	Page : 14 of 15

Bundle	From Connector			T o Connector			Bundle								Via	Sq.**
Identification	Identification	Con Type	Bck Type	Identification	Con Type	Bck Type	N / R	Category	Diam. (mm)	Bending Radius	Mass BNL (g/m)	Conn.+ Bck (g)	L Max (mm)	L (mm)		
PHDK	4KCDE P8	DAMA15P	N/A	CBH4K J01	DAMA15X	N/A		2						1278		3

Note : These lengths are CATIA extracted and therefore theoretical values. It is recommended to perform harness production activities on JIG.
Lengths are measured from connector front face to connector front face.

The last column (**) indicates the sequence in which the different cables must be integrated.
SVM harness is placed before WIU HFI harness.

7.4 HFI 0.1K WU-CRYO

Bundle	From Connector			T o Connector			Bundle								Via	Sq.**
Identification	Identification	Con Type	Bck Type	Identification	Con Type	Bck Type	Nom / Red	Category	Diameter	Bending Radius	Mass (m)	Conn.+ Bck (g)	L Max (mm)	L (mm)		
PHEBG	DCE P08	MDM 25	-	WU-CRYO Bracket	-	-			8	32	110,4			5125		2
PHEBG	DCE P09	MDM 37	-	WU-CRYO Bracket	-	-			8	32	110,4			4881		2
# 1	DCE P07	MDM 25	-	He-Tank X	N/A	N/A			2,8	15	9,2			2997*		1
# 1	DCE P07	MDM 25	-	He-Tank X	N/A	N/A			2,8	15	9,2			5002*		1
# 1	DCE P07	MDM 25	-	He-Tank X	N/A	N/A			2,8	15	9,2			2725*		1
# 1	DCE P07	MDM 25	-	He-Tank X	N/A	N/A			2,8	15	9,2			4598*		1

* Flying leads, no overlength added

Note : These lengths are CATIA extracted and therefore theoretical values. It is recommended to perform harness production activities on JIG.
Lengths are measured from connector front face to connector front face.

The last column (**) indicates the sequence in which the different cables must be integrated.

7.5 HFI REU-PAU

Bundle	From Connector			T o Connector			Bundle								Via	Sq.**
Identification	Identification	Con Type	Bck Type	Identification	Con Type	Bck Type	Nom / Red	Category	Diameter	Bending Radius	Mass / m	Conn.+ Bck (g)	L Max (mm)	L (mm)		
PHCBD	REU P05 PHCBCXX	MDM 25S	-	PAU P12/P13 PHCBAXX	DCMA37S	(DC8949405)		2	15	75	350		5000	-		1
PHCBD	REU P06 PHCBCXX	MDM 09S	-	PAU P12/P13 PHCBAXX	DCMA37S	(DC8949405)										
PHCBD	REU P07 PHCBCXX	MDM 09S	-	PAU P12/P13 PHCBAXX	DCMA37S	(DC8949405)										
PHCBD	REU P08 PHCBCXX	MDM 09S	-	PAU P12/P13 PHCBAXX	DCMA37S	(DC8949405)										
PHCBD	REU P09 PHCBCXX	MDM 09S	-	PAU P12/P13 PHCBAXX	DCMA37S	(DC8949405)										
PHCBD	REU P10 PHCBCXX	MDM 09S	-	PAU P12/P13 PHCBAXX	DCMA37S	(DC8949405)										
PHCBD	REU P11 PHCBCXX	MDM 09S	-	PAU P12/P13 PHCBAXX	DCMA37S	(DC8949405)										

H-P WU HFI Harness	Doc Id. : H-P-4-NXH-RP-0023		
	DATE : 04-05-04	Ed / Rev : A2	Page : 15 of 15

Bck type between brackets are uptill now unknown by Nexans. However Nexans has worked with the most logic bck type to be used.

Sequence with other harnesses on sub-platform:

- SVM harness is placed before both WIU HFI and WIU LFI harnesses are placed.
- HFI WIU harness is placed before WIU LFI harness.

There is no interference between the REU-PAU WIU HFI harness and other harnesses on the 4K-panel. REU-PAU WIU HFI harness will be placed after SVM and other WIU HFI harnesses. The last column (**) indicates the sequence in which the different cables must be integrated.

Three different sets of cables between the REU and the PAU boxes are requested.

Lenghts between the corresponding connectors in each set must be the same while the lenghts between the sets may be different.

The individual cable lenghts are given in the following table.

	PAU 00 P13	PAU 01 P13	PAU 02 P13	PAU 03 P13	PAU 04 P13	PAU 05 P13	PAU 06 P13	PAU 07 P13	PAU 08 P13	PAU 09 P13	PAU 10 P13	PAU 11 P13
REU P05	3712	3709	3756	3766	3798	3754	3771	3781	3830	3873	3894	3915
REU P06	3655	3652	3700	3709	3744	3701	3718	3727	3774	3816	3837	3858
REU P07	3592	3589	3637	3646	3679	3635	3652	3662	3711	3754	3775	3796
REU P08	3557	3560	3602	3611	3646	3603	3620	3629	3676	3719	3740	3761
REU P09	3695	3692	3741	3748	3633	3590	3607	3617	3536	3579	3599	3620
REU P10	3730	3727	3775	3785	3668	3625	3642	3652	3571	3613	3634	3655
REU P11	3793	3790	3838	3847	3731	3688	3705	3715	3634	3677	3698	3719

Bundle 1
Bundle 2
Bundle 3

Note: - The lenghts between REU and the PAU xxP12 connectors are 50mm shorter than those indicated in the table above.
 - Lenghts are measured from connector front face to connector front face.

We can derive three main sets with approximately the same lengths from this table:

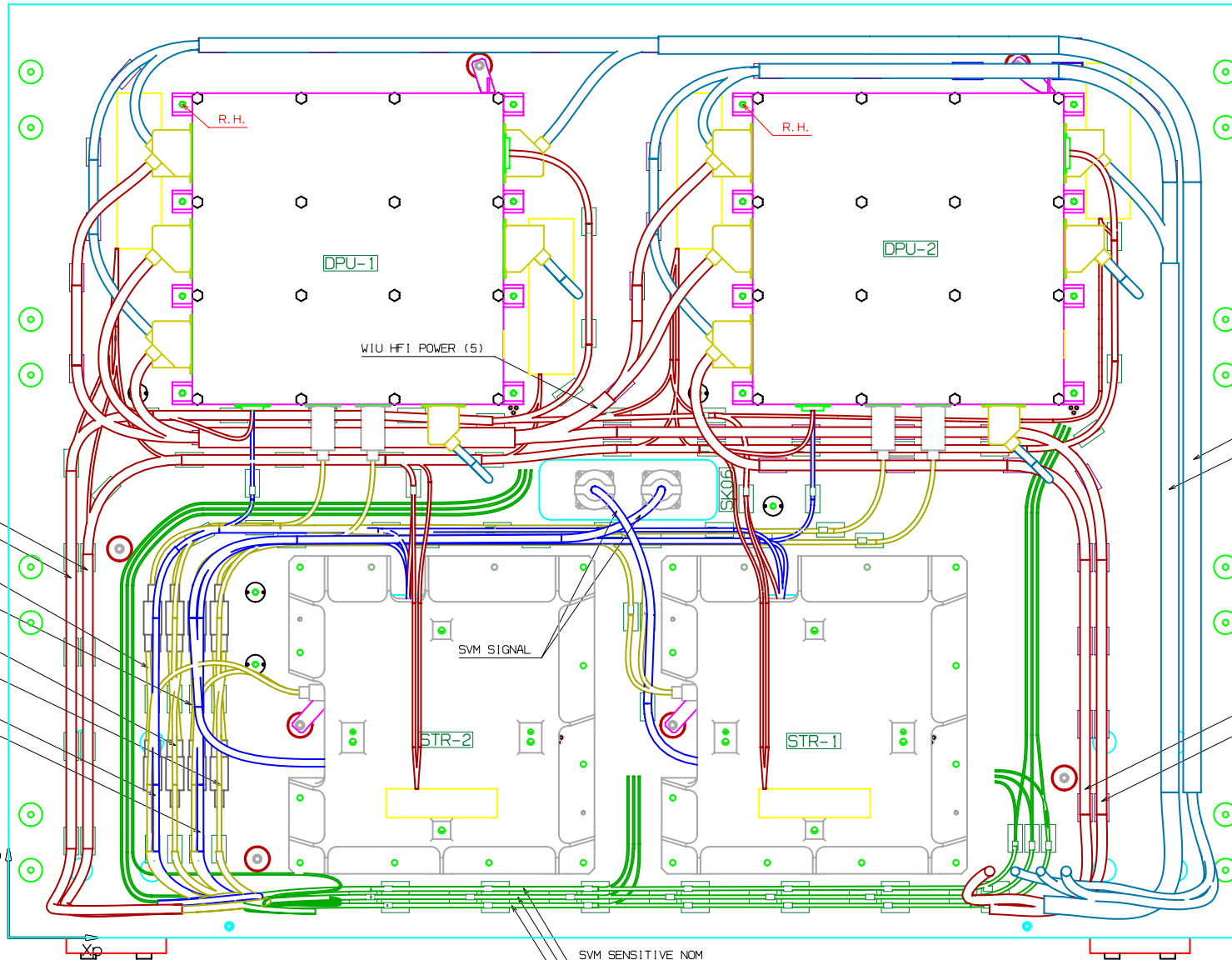
- Bundle 1 : Link between PAU 00 P12/P13 upto PAU 03 P12/P13 and the corresponding REU connectors.
- Bundle 2 : Link between PAU 04 P12/P13 upto PAU 07 P12/P13 and the corresponding REU connectors.
- Bundle 3 : Link between PAU 07 P12/P13 upto PAU 11 P12/P13 and the corresponding REU connectors.

Standardisation off the lenghts within each set gives us the following table:

	PAU 00 P13	PAU 01 P13	PAU 02 P13	PAU 03 P13	PAU 04 P13	PAU 05 P13	PAU 06 P13	PAU 07 P13	PAU 08 P13	PAU 09 P13	PAU 10 P13	PAU 11 P13
REU P05	3770	3770	3770	3770	3800	3800	3800	3800	3915	3915	3915	3915
REU P06	3710	3710	3710	3710	3745	3745	3745	3745	3860	3860	3860	3860
REU P07	3650	3650	3650	3650	3680	3680	3680	3680	3800	3800	3800	3800
REU P08	3615	3615	3615	3615	3650	3650	3650	3650	3765	3765	3765	3765
REU P09	3750	3750	3750	3750	3635	3635	3635	3635	3620	3620	3620	3620
REU P10	3785	3785	3785	3785	3670	3670	3670	3670	3655	3655	3655	3655
REU P11	3850	3850	3850	3850	3735	3735	3735	3735	3720	3720	3720	3720

Bundle 1
Bundle 2
Bundle 3

Note: - The lenghts between REU and the PAU xxP12 connectors are 50mm shorter than those indicated in the table above.
 - All the lenghts are below the maximum lenght of 5m.

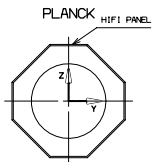


SVM POWER RED
SVM POWER NOM
P353696A
(ACMS_1553A)
P353696A
(ACMS_1553B)
P535686A
(DMS_1553A)
P535687A
(DMS_1553B)
SVM SIGNAL NOM
SVM SIGNAL RED

WIU SIGNAL NOM (1)
WIU SIGNAL RED (2)

WIU HF1 POWER RED (4)
WIU HF1 POWER NOM (3)

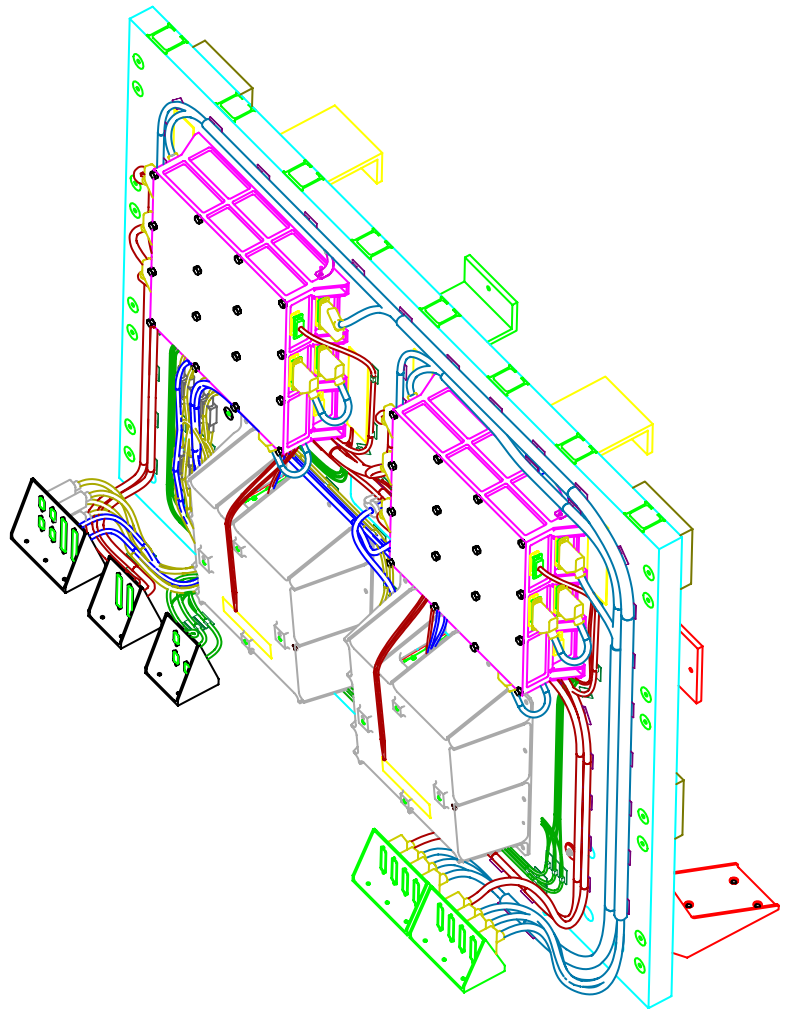
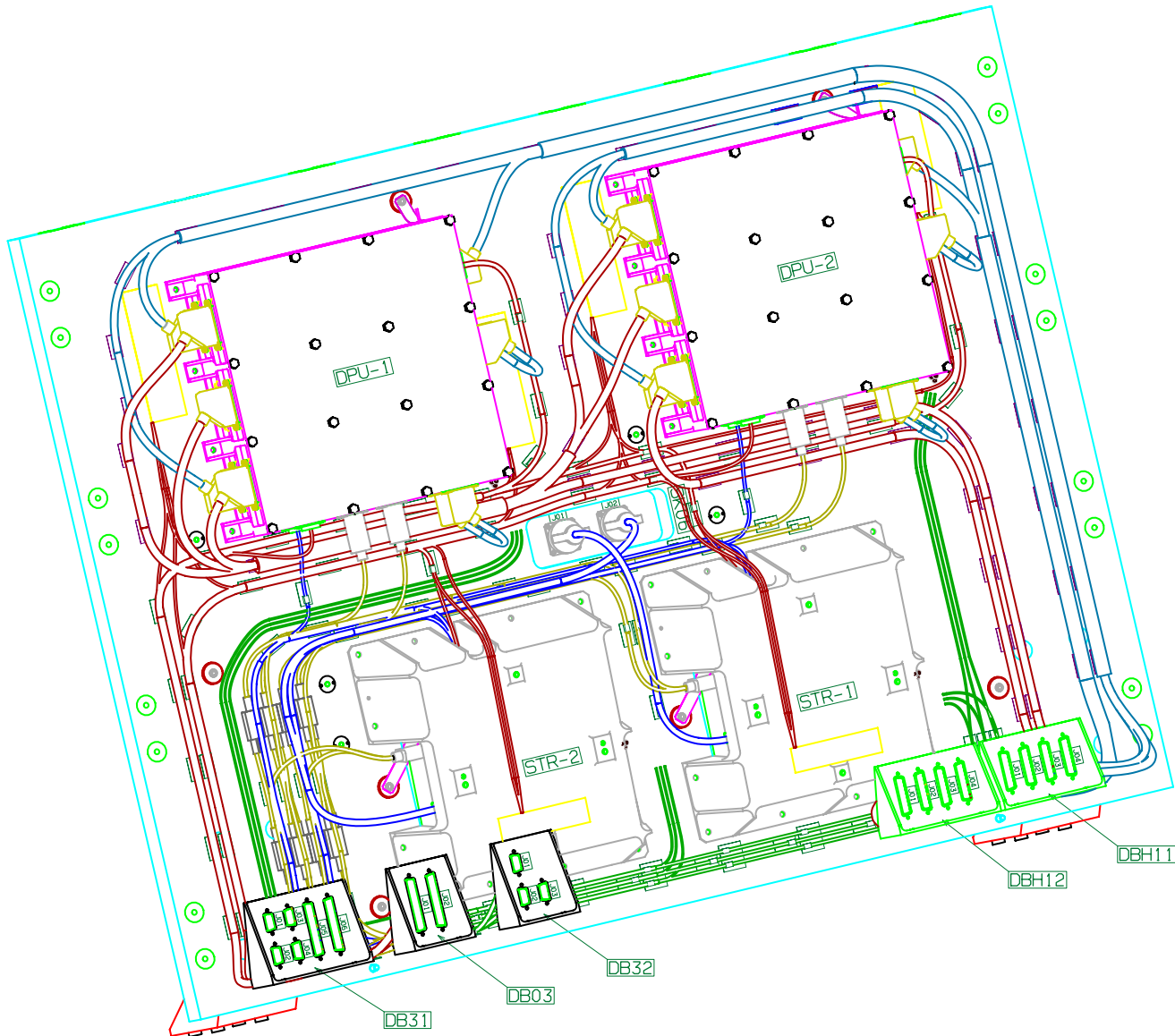
SVM SENSITIVE NOM
SVM SENSITIVE RED
SVM SENSITIVE RED2



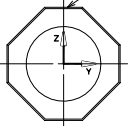
NOTE: (1) Bundle id.: PHBBA-N/PHBBC-N/PHBBE-N *
(2) Bundle id.: PHBBA-R/PHBBC-R/PHBBE-R *
(3) Bundle id.: PHBBB-N *
(4) Bundle id.: PHBBB-R *
(5) Bundle id.: PHBBG1/PHBBG2 *
* In reference with H-P-4-NXH-RP-0023 iss. A2


REV.	DATE	BY	MODIFICATION		APPROVAL
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIET J.	PLETINCKX K.	---	---	
Rev.	Date	Scale	Format	Sheet	
B3	20/01/05	N/A	A1	1/4	
Title			HF1 (DPU) INSTRUMENT PANEL ASSY		
Dwg No			HP-NXH-DW-2021		

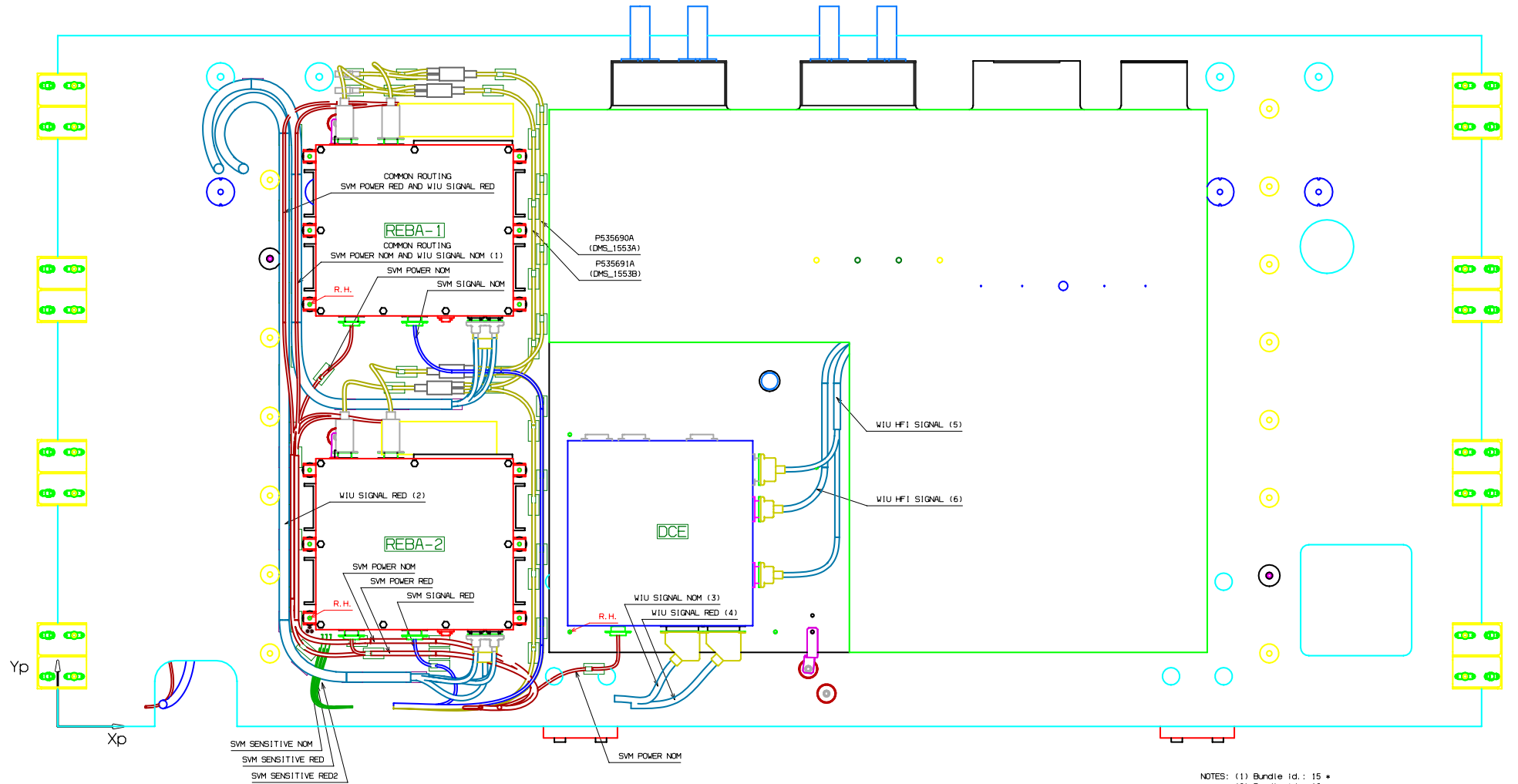
Nexans
HARNESSES



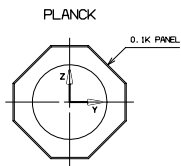
PLANCK HF1 PANEL



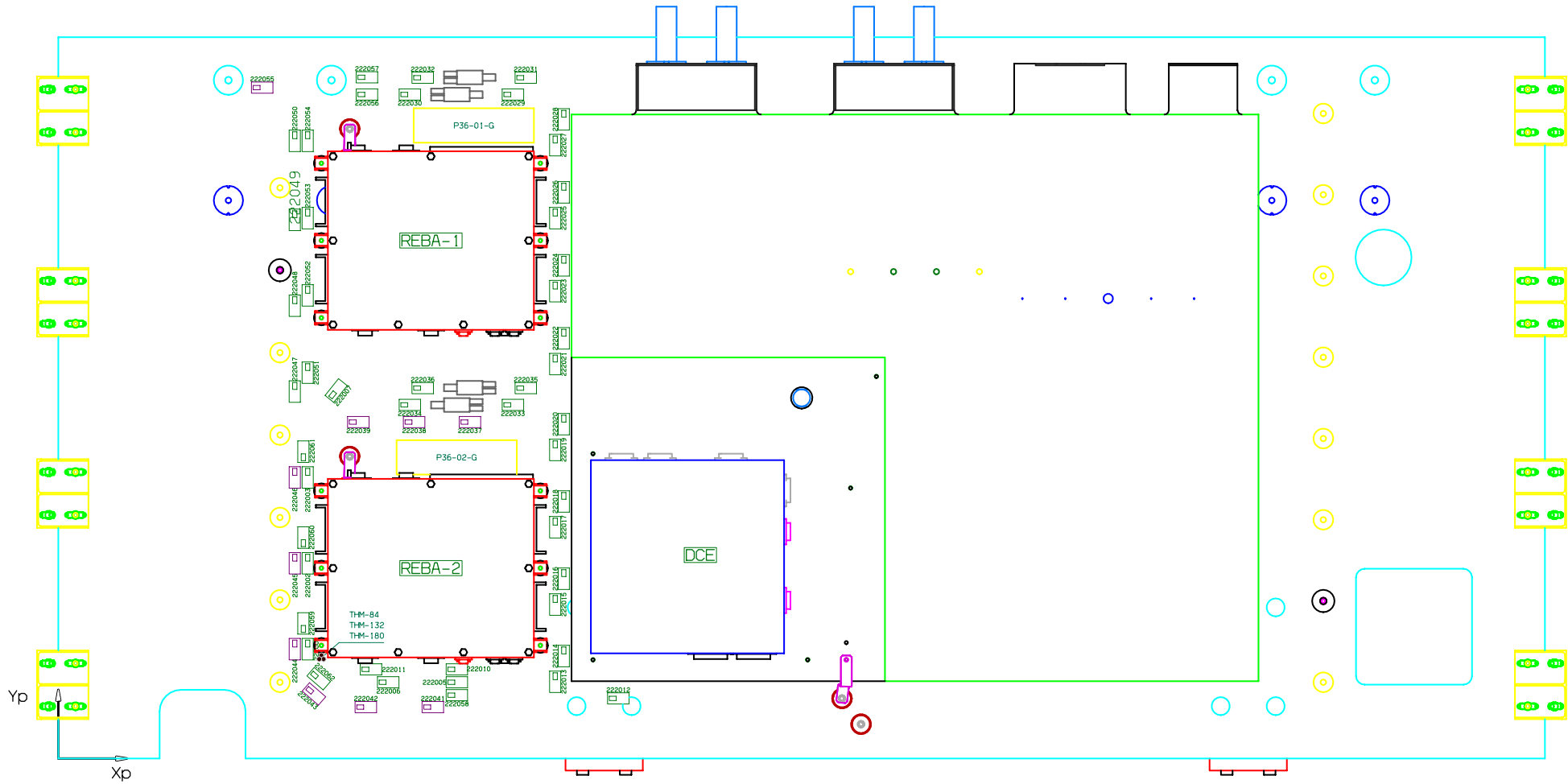
REV.	DATE	BY	MODIFICATION		APPROVAL
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIET J.	PLETINCKX K.	---	---	
Rev.	Date	Scale	Format	Sht	
B3	20/01/05	N/A	A1	4/4	
			Title HF1 (DPU) INSTRUMENT PANEL ASSY		
			Dwg N° HP-NXH-DW-2021		



NOTES: (1) Bundle Id.: 15 *
 (2) Bundle Id.: 16 *
 (3) Bundle Id.: PHEBC-N **
 (4) Bundle Id.: PHEBC-R **
 (5) Bundle Id.: PHEBG ***
 (6) Bundle Id.: H1 **
 * In reference with H-P-4-NXH-RP-0024 Iss. A0
 ** In reference with H-P-4-NXH-RP-0023 Iss. A2

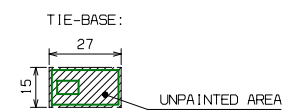
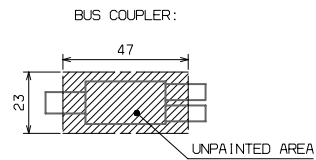
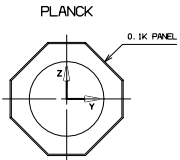


REV.	DATE	BY	MODIFICATION		APPROVAL
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIET J.	PLETINCKX K.	---	---	
Rev.	Date	Scale	Format	Sht	
B2	20/01/05	N/A	A1	1/5	
		Title 0.1K INSTRUMENT PANEL ASSY Dwg N° HP-NXH-DW-2022			

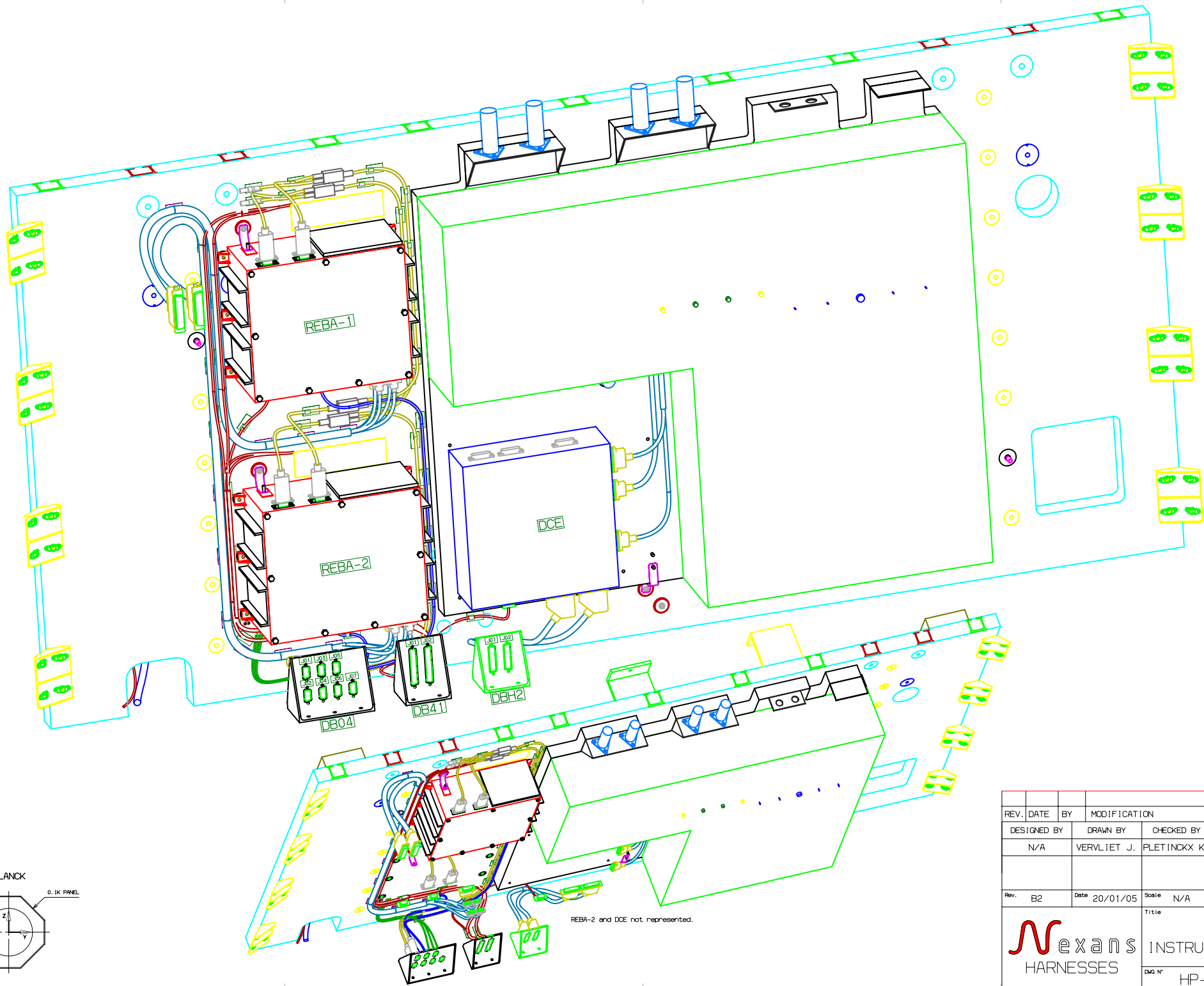


Yp
Xp

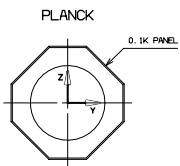
Note: - Tie-base used: TC-105



REV.	DATE	BY	MODIFICATION		APPROVAL
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIET J.	PLETINCKX K.	---	---	
Rev.	B2	Date	20/01/05	Scale	N/A
		Format	A1	Sht	2/5
			Title 0.1K INSTRUMENT PANEL ASSY Dwg N° HP-NXH-DW-2022		

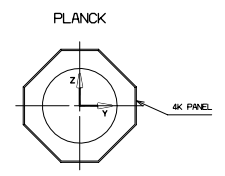
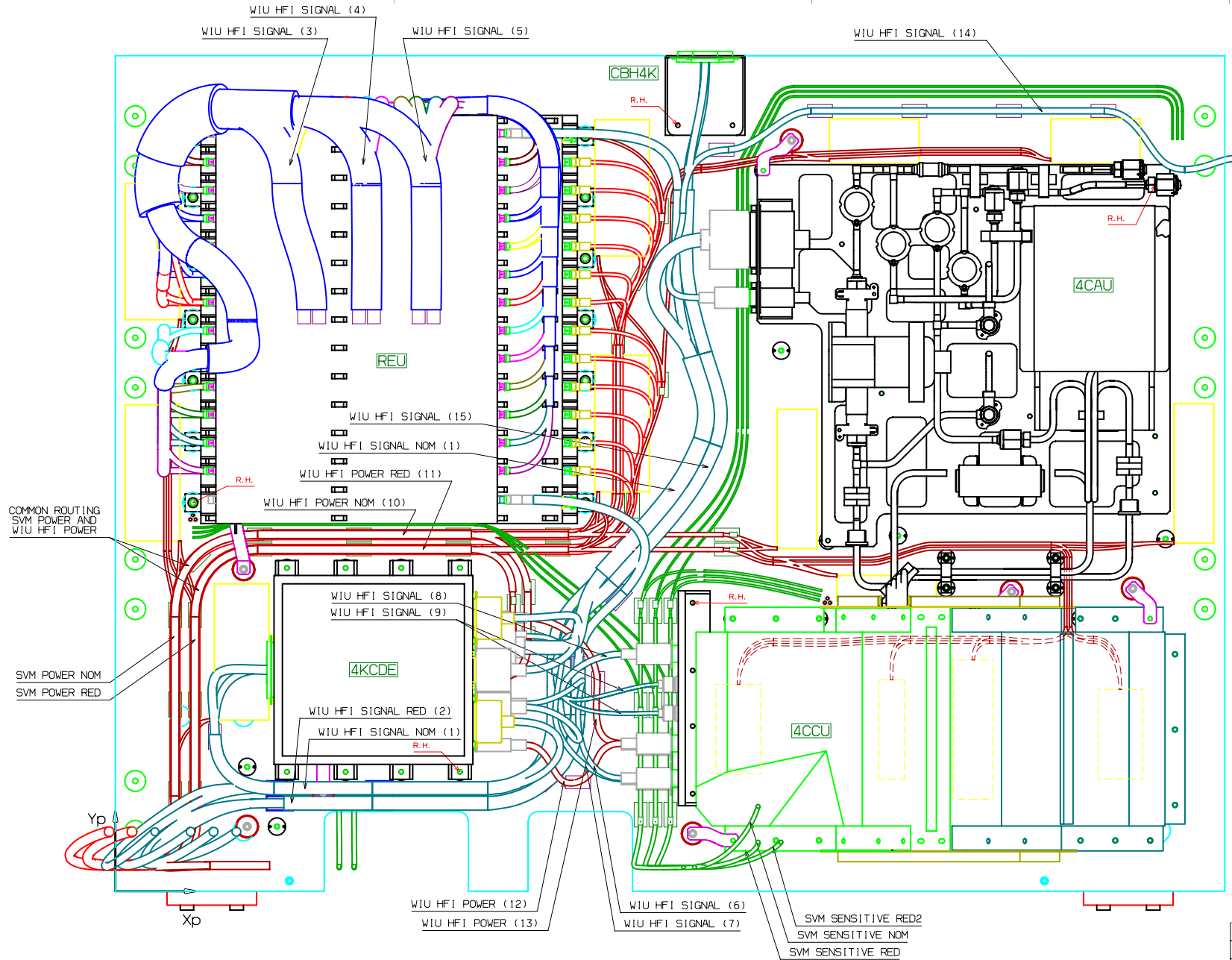


REBA-2 and DCE not represented.



REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIET J.	PLETINCKX K.	---	---	
Rev.	Date	Scale	Format	Sht	
B2	20/01/05	N/A	A1	5/5	
Title			0.1K INSTRUMENT PANEL ASSY		
Dwg N°			HP-NXH-DW-2022		

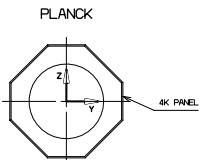
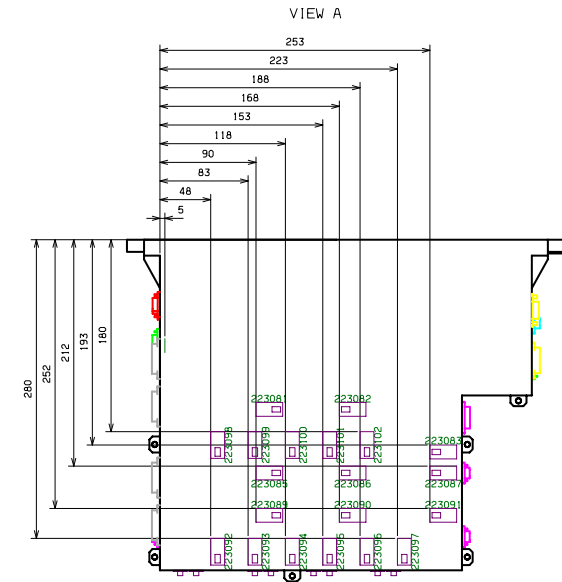
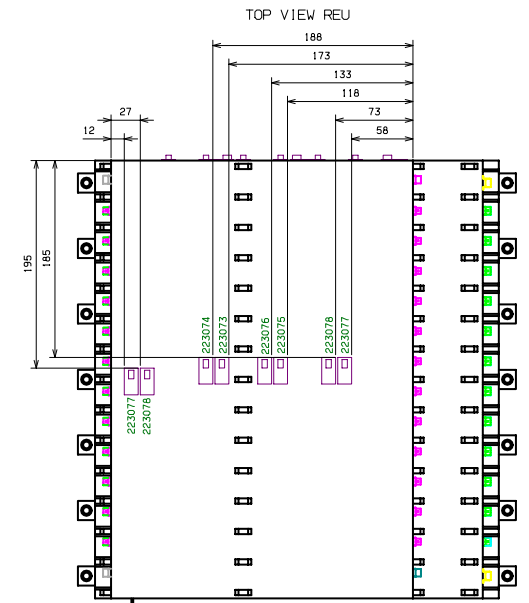
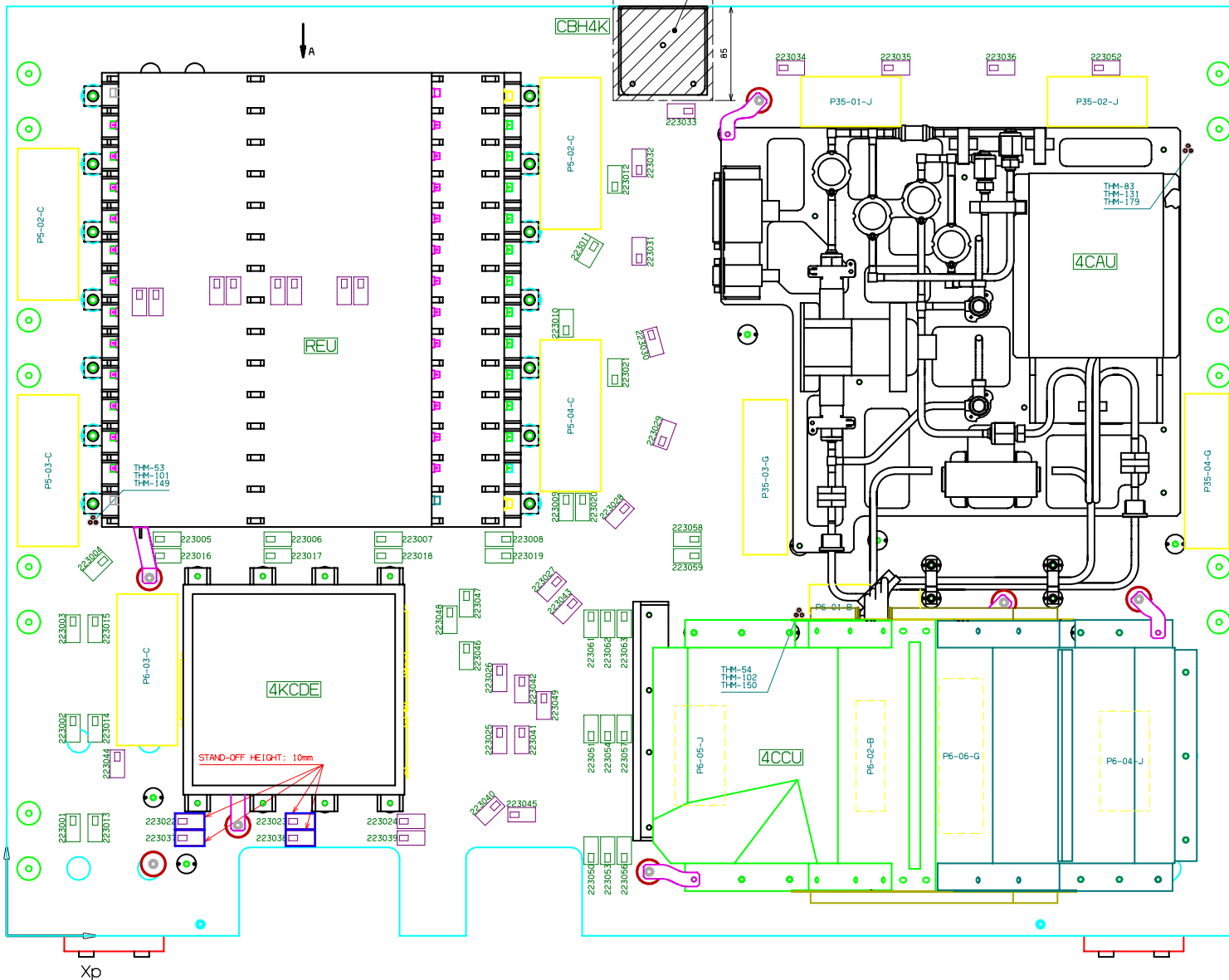
Nexans
HARNESSES



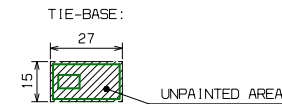
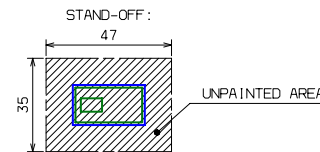
NOTE: (1) Bundle id.: PHBBA-N/PHBBE-N/PHDFD *
 (2) Bundle id.: PHBBA-R/PHBBE-R *
 (3) Bundle id.: PHCBD (Bundle 1) *
 (4) Bundle id.: PHCBD (Bundle 2) *
 (5) Bundle id.: PHCBD (Bundle 3) *
 (6) Bundle id.: PHDFA-A *
 (7) Bundle id.: PHDFA-B *
 (8) Bundle id.: PHDFE *
 (9) Bundle id.: PHDFB *
 (10) Bundle id.: PHBBB-N *
 (11) Bundle id.: PHBBB-R *
 (12) Bundle id.: PHDFC-A *
 (13) Bundle id.: PHDFC-B *
 (14) Bundle id.: PHDE *
 (15) Bundle id.: PHDKN&R *

* In reference with H-P-4-NXH-RP-0023 iss. A2

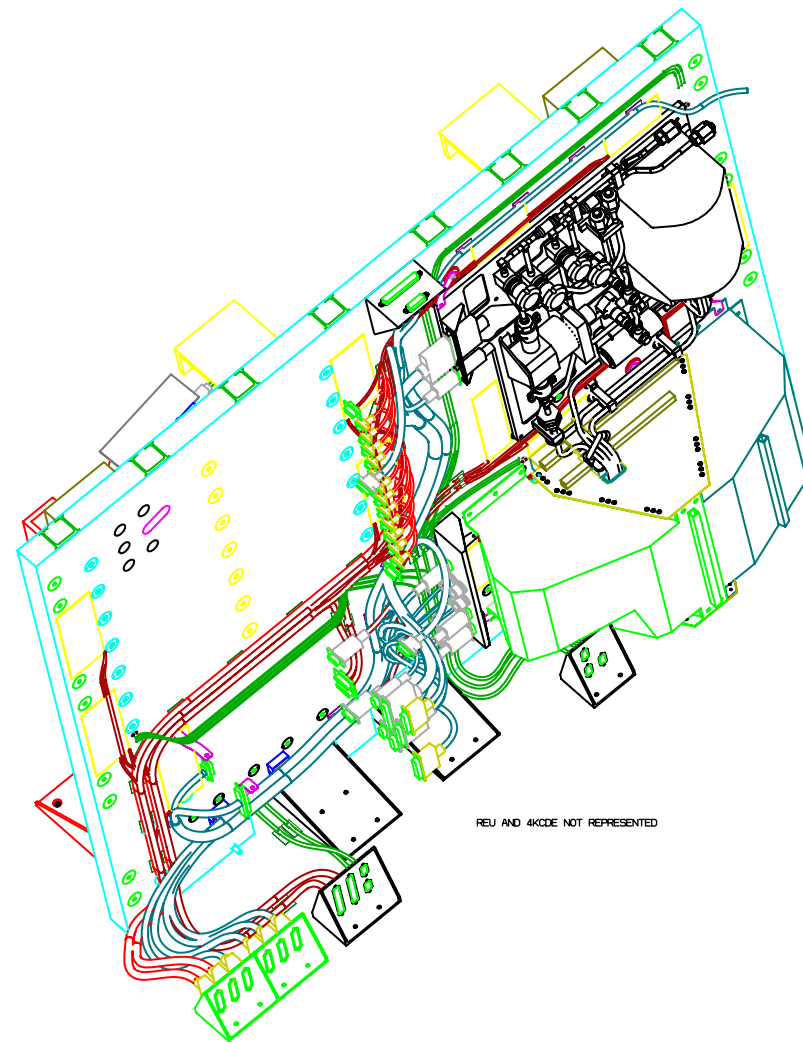
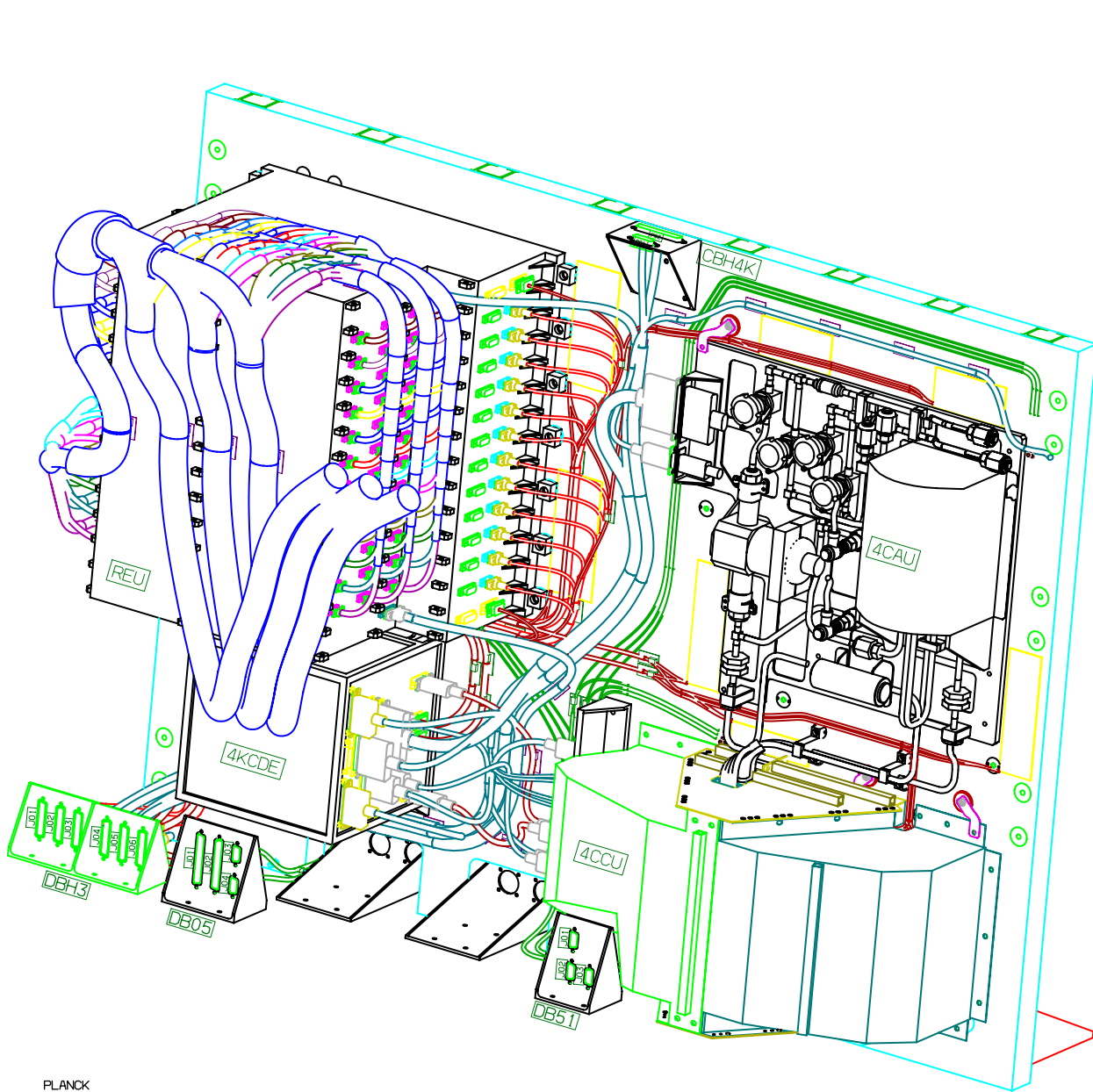
REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIET J.	PLETINCKX K.	---	---	
Rev.	B2	Date	20/01/05	Scale	N/A
		Format	A1	Sht	1/5
			Title 4K INSTRUMENT PANEL ASSY		
			Dwg N° HP-NXH-DW-2023		



Note: - Tie-base used : TC-105
 - Stand-off used : - Stand-off-HP-01-XX-XX-KT (height upto 20mm)
 - Stand-off-HP-02-XX-XX-KT (height from 25mm)
 - NXH Bracket used: H-P-4-KTH-L1-390000-012

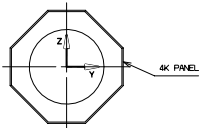


REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY		DRAWN BY	CHECKED BY	APPROVED BY	QUALITY
N/A		VERVL IET J.	PLETINCKX K.	---	---
Rev.	B2	Date	20/01/05	Scale	N/A
				Format	A1
				Sht	2/5
Title				4K	
HARNESSES				INSTRUMENT PANEL ASSY	
Dwg No				HP-NXH-DW-2023	

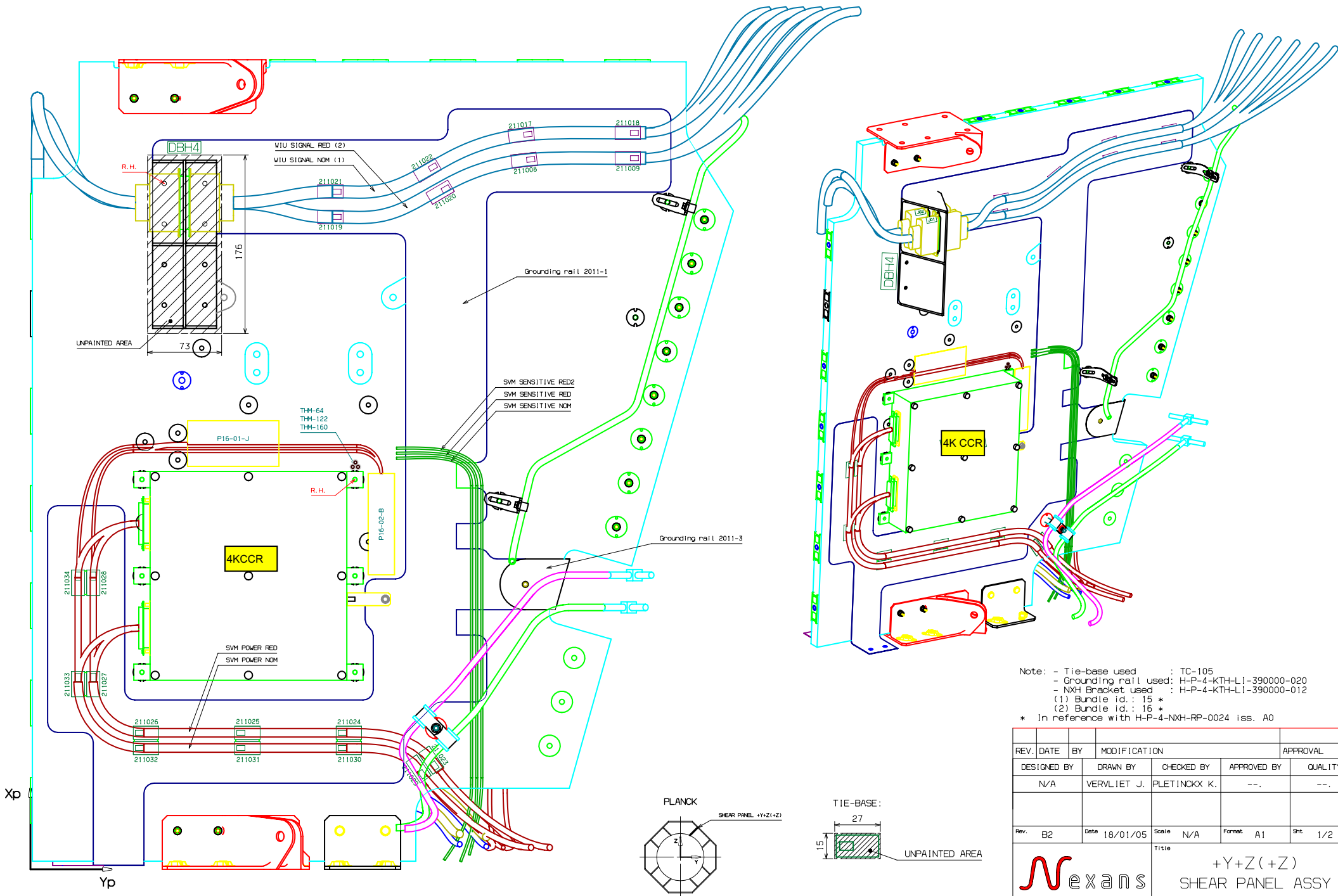


REU AND 4KCDE NOT REPRESENTED

PLANCK



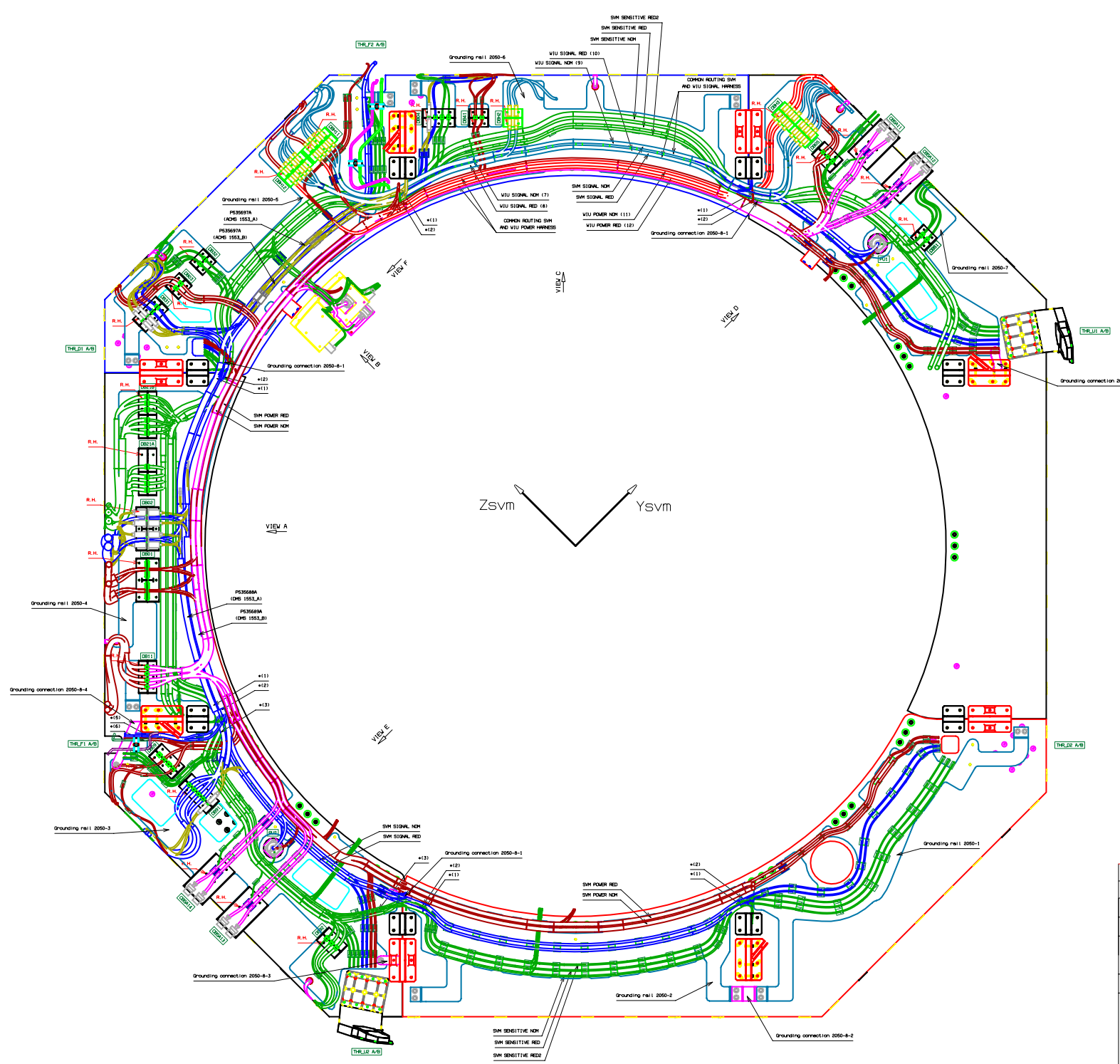
REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY		DRAWN BY	CHECKED BY	APPROVED BY	QUALITY
N/A		VERVL IET J.	PLETINCKX K.	---	---
Rev.	B2	Date	20/01/05	Scale	N/A
				Format	A1
				Sht	5/5
				Title	
				4K INSTRUMENT PANEL ASSY	
				Dwg N° HP-NXH-DW-2023	



Note: - Tie-base used : TC-105
 - Grounding rail used: H-P-4-KTH-L1-390000-020
 - NXH Bracket used : H-P-4-KTH-L1-390000-012
 (1) Bundle id.: 15 *
 (2) Bundle id.: 16 *
 * In reference with H-P-4-NXH-RP-0024 iss. A0

REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIET J.	PLETINCKX K.	---	---	
Rev.	Date	Scale	N/A	Format	A1
B2	18/01/05	1/2			
Title			+Y+Z(+Z) SHEAR PANEL ASSY		
Dwg No			HP-NXH-DW-2011		



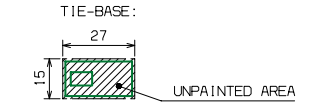
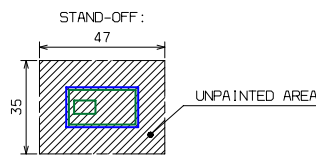
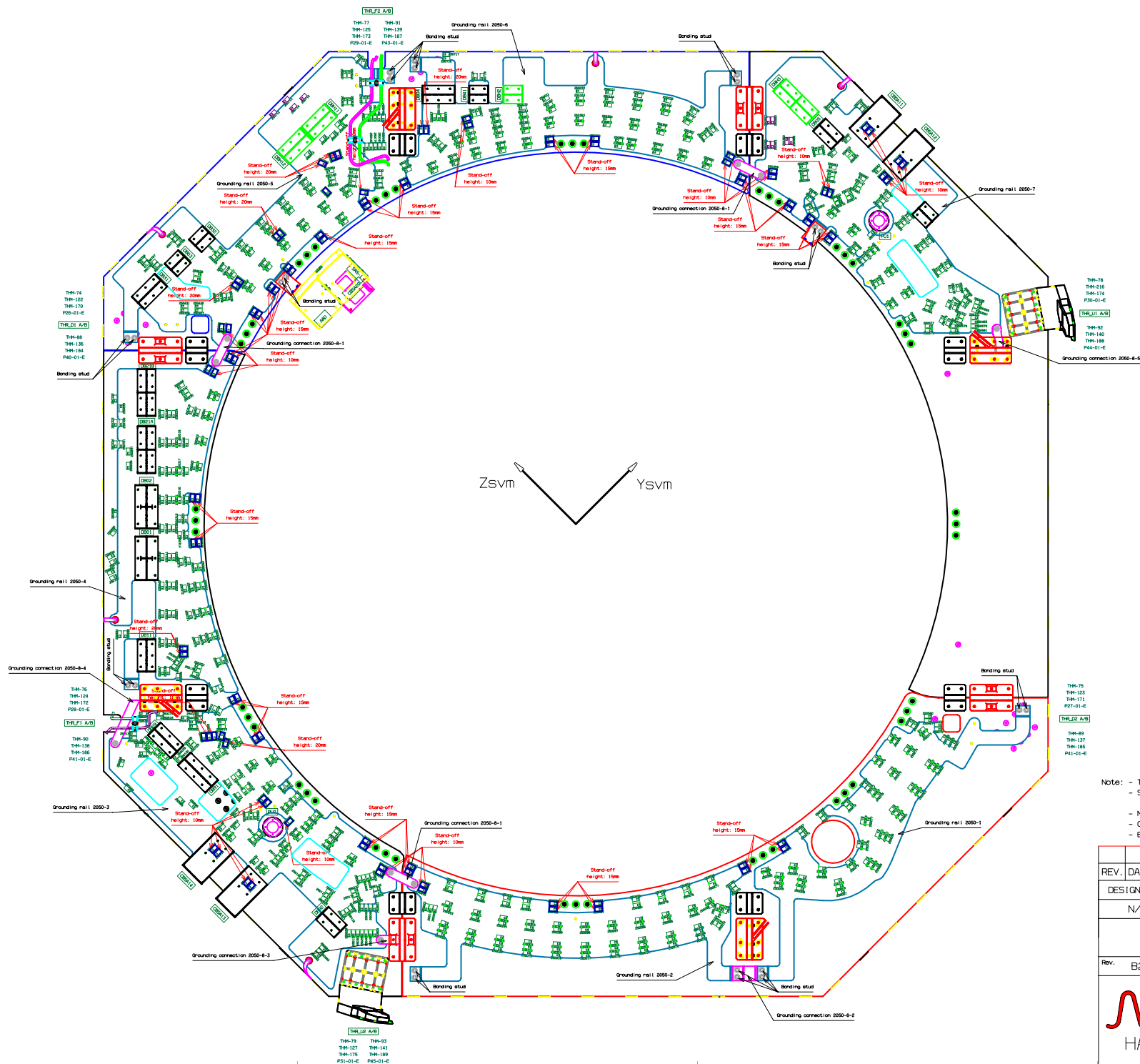


NOTE: PU1/PU2: see ASP drawing F0278C PL5A1AH5001S A

- * (1): Common tie-base SVM Signal and Sensitive Nom.
- * (2): Common tie-base SVM Signal and Sensitive Red and Sensitive Red2
- * (3): Common tie-base SVM Sensitive Red and Sensitive Red2
- * (4): Common tie-base SVM Signal and Sensitive Red
- * (5): Common tie-base SVM Signal Nom and Red
- * (6): Common tie-base SVM Power Nom and Red
- (7) Bundle Id.: PHEBA-N/PHEBC-N/PHEBE-N *
- (8) Bundle Id.: PHEBA-R/PHEBC-R/PHEBE-R *
- (9) Bundle Id.: PHEBA-N/PHEBE-N *
- (10) Bundle Id.: PHEBA-R/PHEBE-R *
- (11) Bundle Id.: PHEBB-N *
- (12) Bundle Id.: PHEBB-R *

* In reference with H-P-4-NXH-PP-0023 iss. A2

REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY		DRAWN BY	CHECKED BY	APPROVED BY	QUALITY
N/A		VERVL IET J.	PLETINCKX K.	---	---
Rev.	B2	Date	20/01/05	Scale	N/A
		Format	A1	Sht	1/4
		Title LOWER FLOOR INSTRUMENT PANEL ASSY			
		Dwg N° HP-NXH-DW-2050			



- Note:
- Tie-base used : TC-105
 - Stand-off used : - Stand-off-HP-01-XX-XX-KT (height upto 20mm)
 - Stand-off-HP-02-XX-XX-KT (height from 25mm)
 - NXH Bracket used : H-P-4-KTH-LI-390000-012
 - Grounding rail used : H-P-4-KTH-LI-390000-020
 - Bonding stud used : Grounding-Rail-HP-00-01-XX-KT

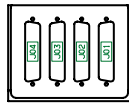
REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY		DRAWN BY	CHECKED BY	APPROVED BY	QUALITY
N/A		VERVL IET J.	PLET INCKX K.	---	---
Rev.	B2	Date	20/01/05	Scale	N/A
		Format	A1	Sht	2/4

LOWER FLOOR
INSTRUMENT PANEL ASSY

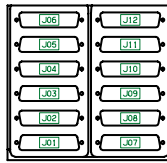
DWG N° HP-NXH-DW-2050

VIEW A

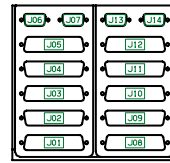
DB11



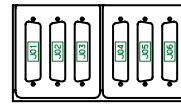
DB01



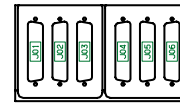
DB02



DB21A

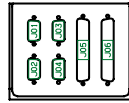


DB21B

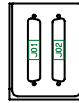


VIEW B

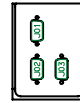
DB31



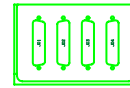
DB03



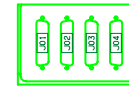
DB32



DBH12

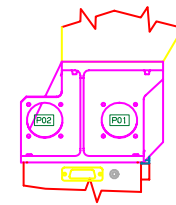


DBH11



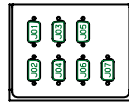
VIEW F

CBSA20

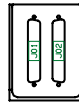


VIEW C

DB04



DB41

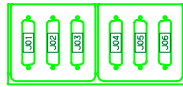


DBH2

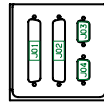


VIEW D

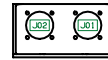
DBH3



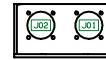
DB05



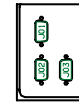
CBSA11



CBSA12

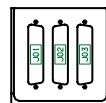


DB51

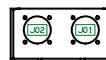


VIEW E

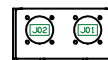
DB92



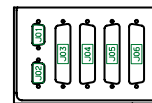
CBSA13



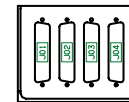
CBSA14



DB91

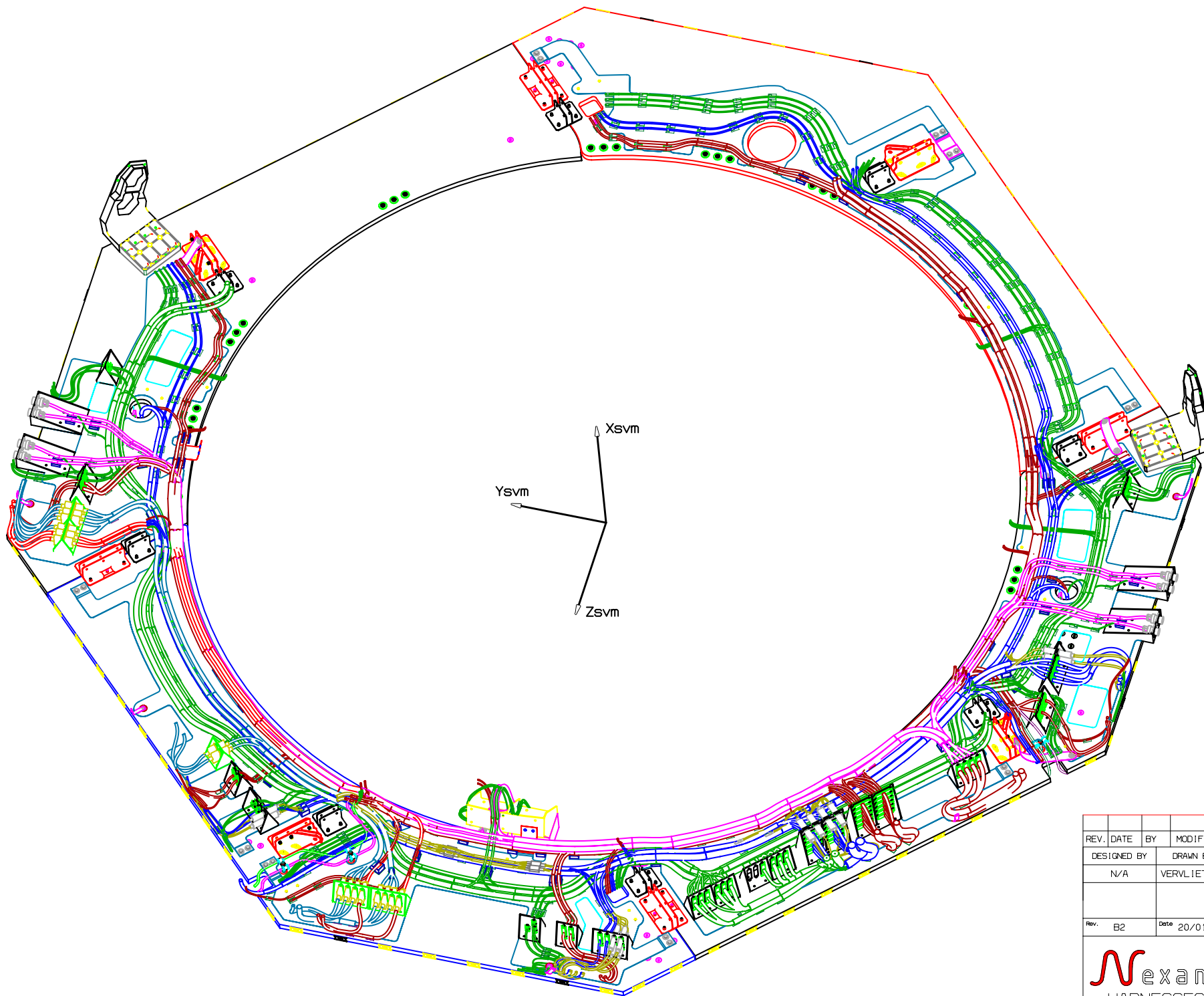



DB09



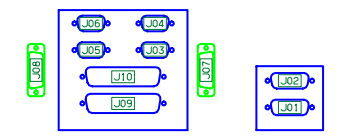
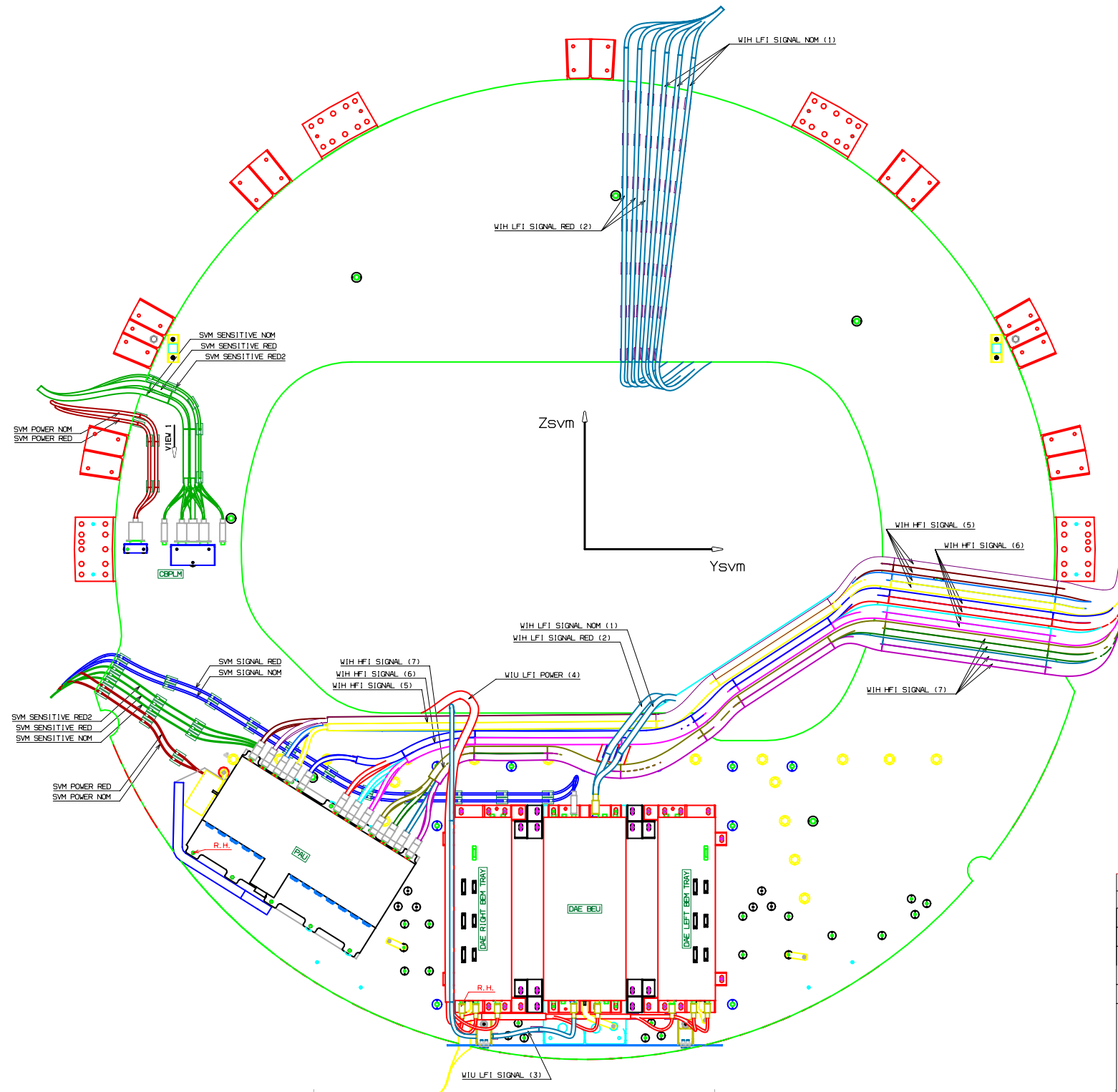
Note: - NXH Bracket used : H-P-4-KTH-LI-390000-012

REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY	DRAWN BY		CHECKED BY	APPROVED BY	QUALITY
N/A	VERVL IET J.		PLETINCKX K.	--.	--.
Rev.	B2	Date	20/01/05	Scale	N/A
		Format	A1	Sht	3/4
			Title LOWER FLOOR INSTRUMENT PANEL ASSY DWG N° HP-NXH-DW-2050		



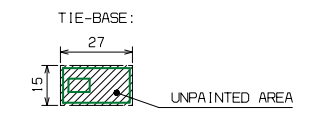
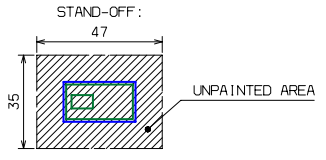
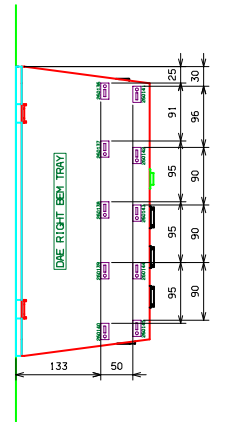
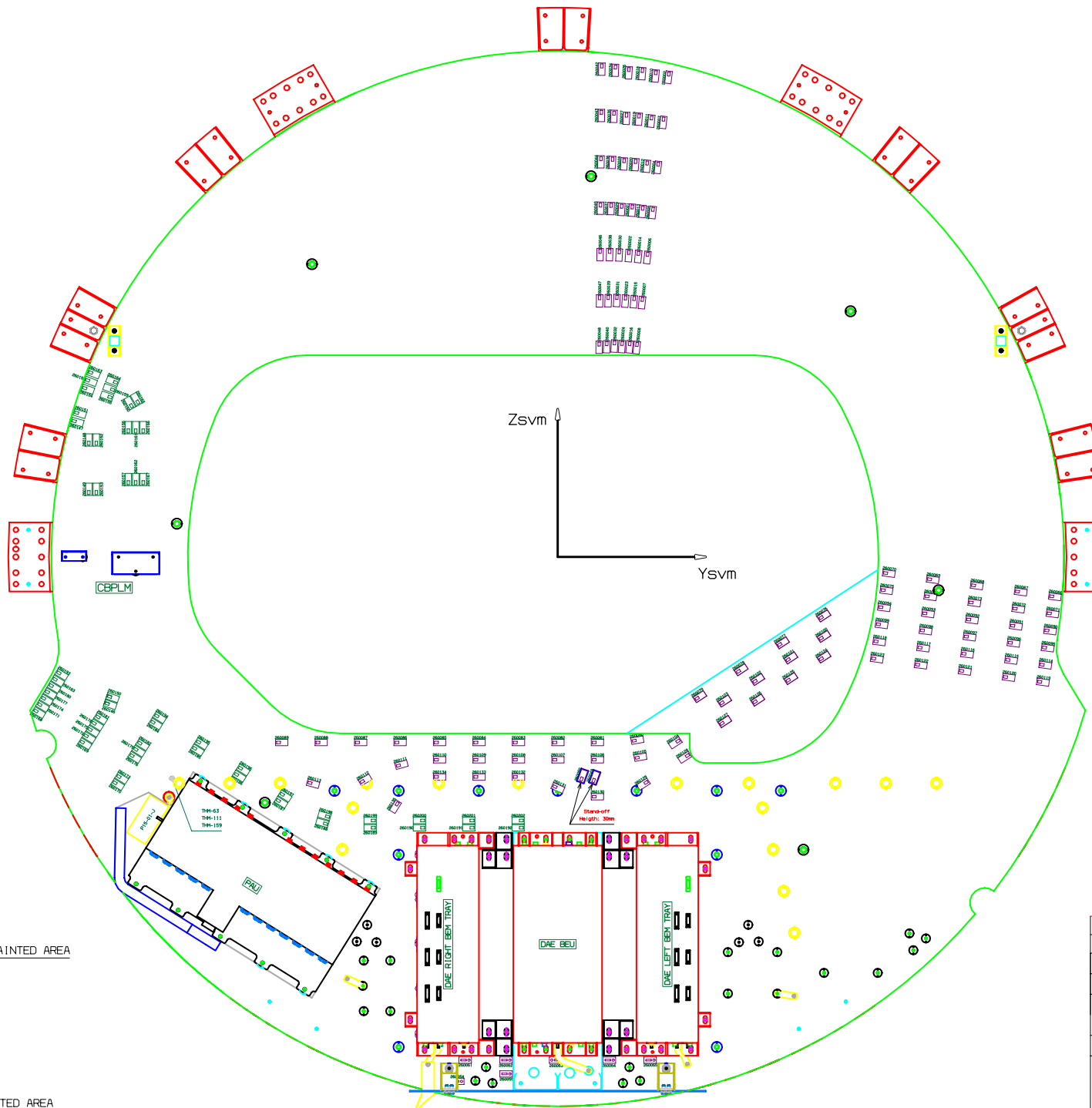
REV.	DATE	BY	MODIFICATION		APPROVAL
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIET J.	PLETINCKX K.	---	---	
Rev.	Date	Scale	Format	Sheet	
B2	20/01/05	N/A	A1	4/4	
		Title LOWER FLOOR INSTRUMENT PANEL ASSY			
		Dwg No HP-NXH-DW-2050			

VIEW 1
CBPLM



NOTES: (1) Bundle id.: 15 *
 (2) Bundle id.: 16 *
 (3) Bundle id.: 3 *
 (4) Bundle id.: 1A/1B/4/6A/6B **
 (5) Bundle id.: PHCBD (Bundle1) **
 (6) Bundle id.: PHCBD (Bundle2) **
 (7) Bundle id.: PHCBD (Bundle3) **
 * In reference with H-P-4-NXH-RP-0024 iss. A0
 ** In reference with H-P-4-NXH-RP-0023 iss. A2

REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIET J.	PLETINCKX K.	---	---	
Rev.	Date	Scale	Format	Sht	
B1	20/01/05	N/A	A1	1/6	
			SUB-PLATFORM INSTRUMENT PANEL ASSY Dwg N° HP-NXH-DW-2060		

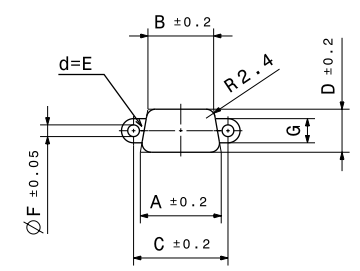
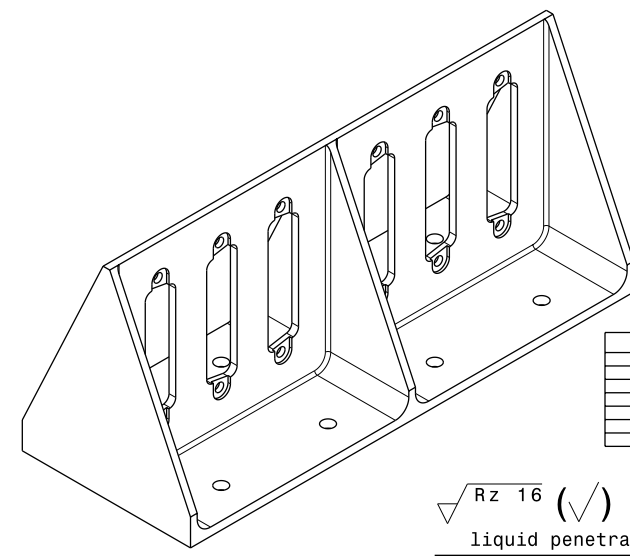
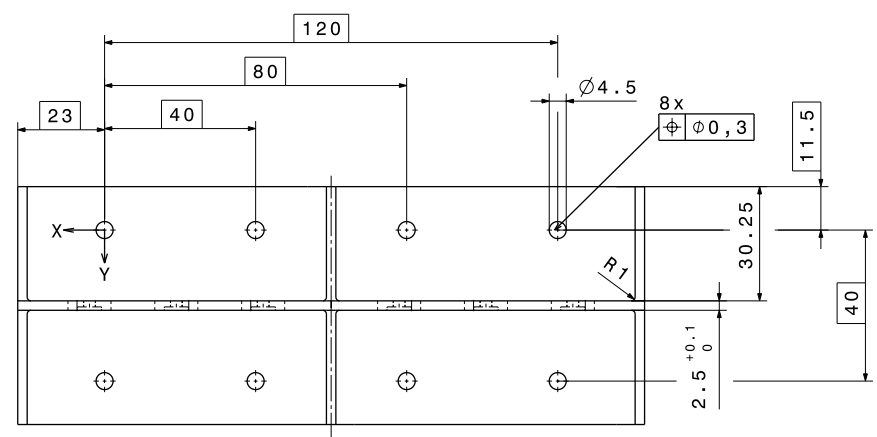
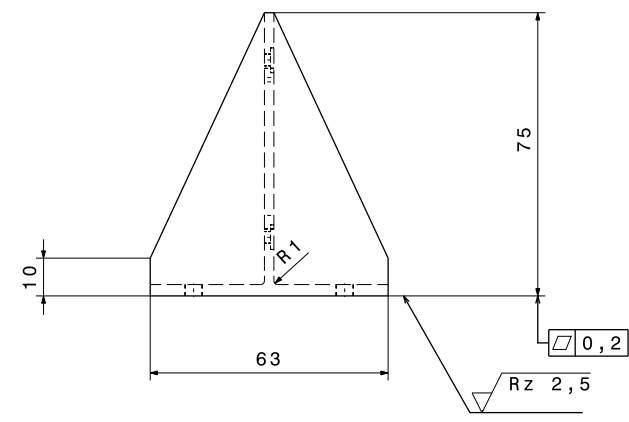
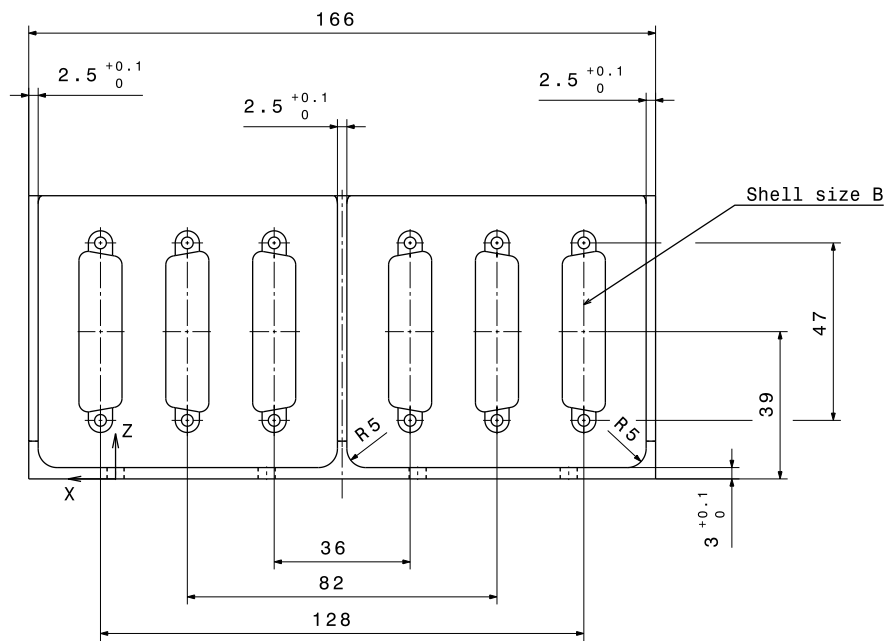


Note: - Tie-base used : TC-105
 - Stand-off used : - Stand-off-HP-01-XX-XX-KT (height upto 20mm)
 - Stand-off-HP-02-XX-XX-KT (height from 25mm)

REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIET J.	PLETINCKX K.	---	---	
Rev.	Date	Scale	Format	Sht	
B1	20/01/05	N/A	A1	2/6	
			Title SUB-PLATFORM INSTRUMENT PANEL ASSY Dwg No HP-NXH-DW-2060		

The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorisation is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration.

Approved/ Suo/Them/ Proj/Syst/ PA
 Data Name

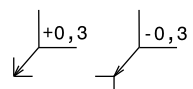


	Shell size E	Shell size A	Shell size B	Shell size C	Shell size D
A	21,42	29,72	43,42	60,02	57,22
B	17,4	25,7	39,4	56	52,25
C	25	33,3	47	63,5	61,1
D	11,4	11,4	11,4	11,4	11,1
E	0,65	0,65	0,9	0,9	0,9
F	3,1	3,1	3,1	3,1	3,1
G	6,4	6,4	6,4	6,4	6,4

Rz 16 (✓)

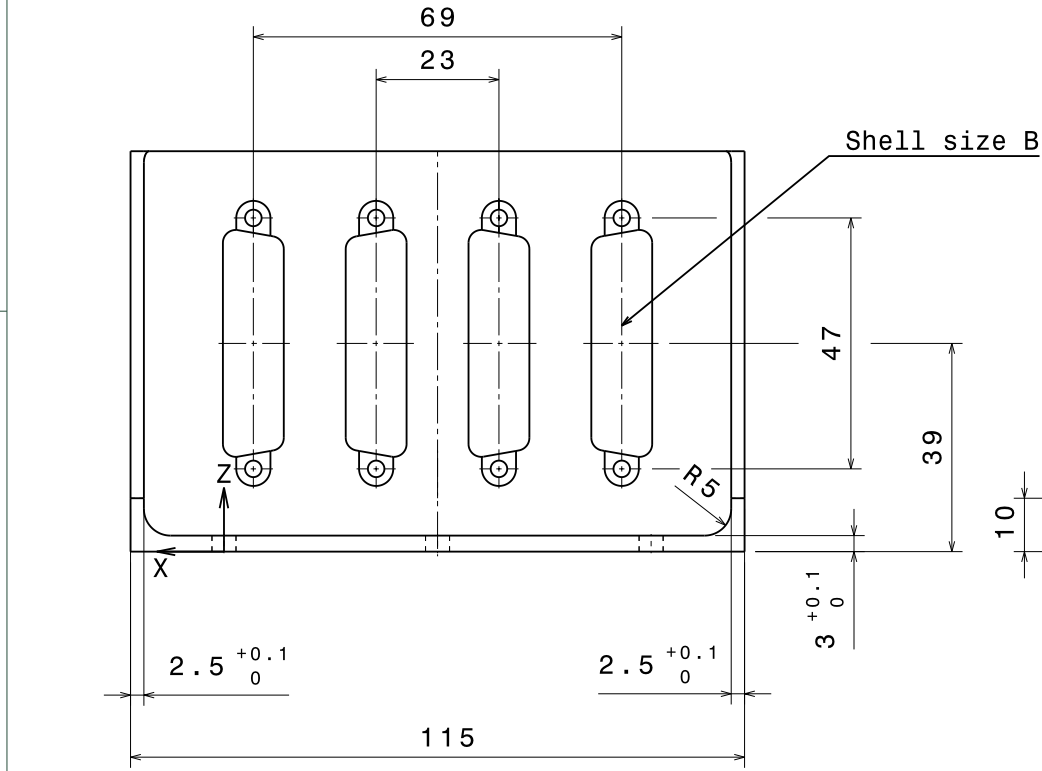
liquid penetrant inspection according to ASTM E1417-95a

Surface	Scale	General tolerances	Mass	DIN	CAD Drawing
LN9368-4301.3	1 : 1	DIN ISO 2768-ik	197 g	A2	No manual Changes
Material	Date	Name	SVM Harness		
3.4364 T7351	19.05.04	Re/SA	-		
Prepared	Checked	Bracket			
File Bracket HP-08-02-03-KT.CATPart Bracket HP-08-02-01-KT.CATDrawing					
HP-08-02-01-KT					Sheet 1 of 1

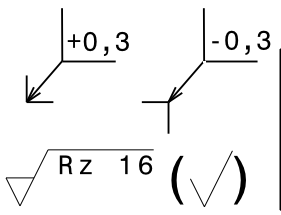
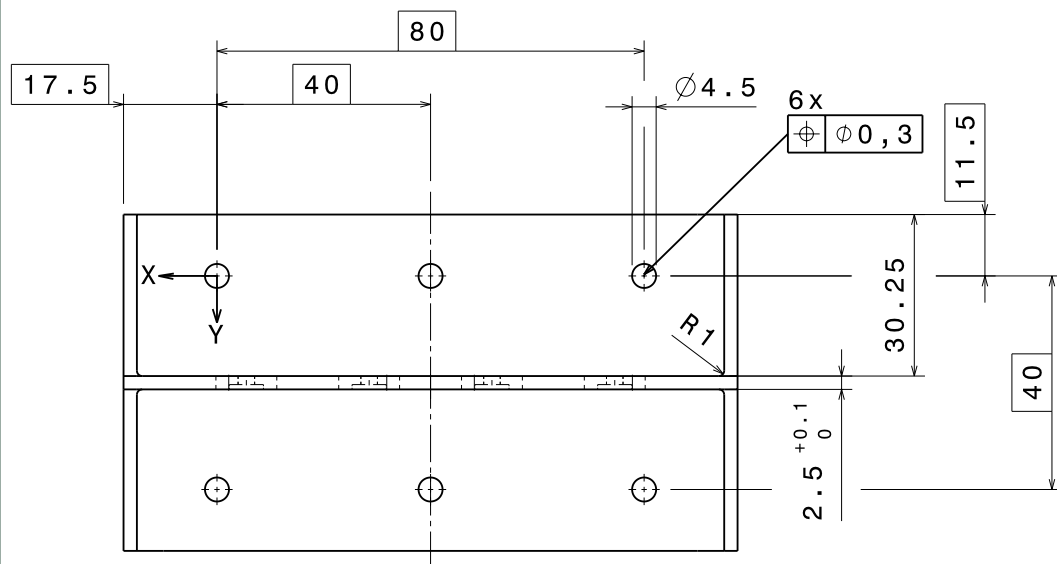
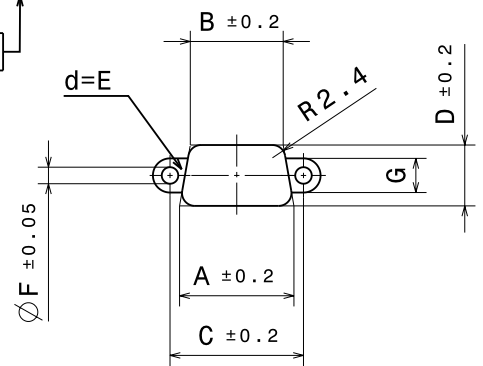
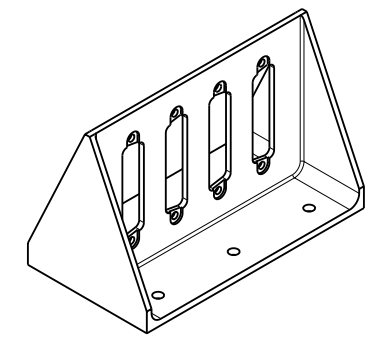
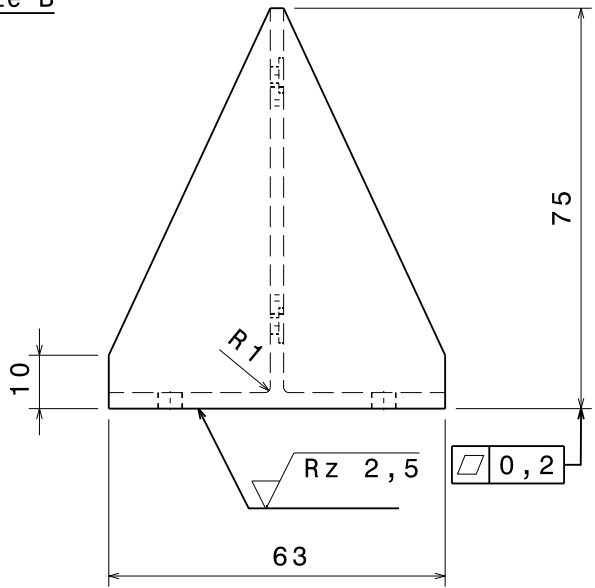


The copying, distributio and utilization of this document as well as the communication of its contents to others without expressed authorisation is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration.

Approved	Struct/Therm	Proj/Syst	PA	Config
Data				
Name				



Shell size B



	Shell size E	Shell size A	Shell size B	Shell size C	Shell size D
A	21,42	29,72	43,42	60,02	57,22
B	17,4	25,7	39,4	56	52,25
C	25	33,3	47	63,5	61,1
D	11,4	11,4	11,4	11,4	14,1
E	0,65	0,65	0,9	0,9	0,9
F	3,1	3,1	3,1	3,1	3,1
G	6,4	6,4	6,4	6,4	6,4

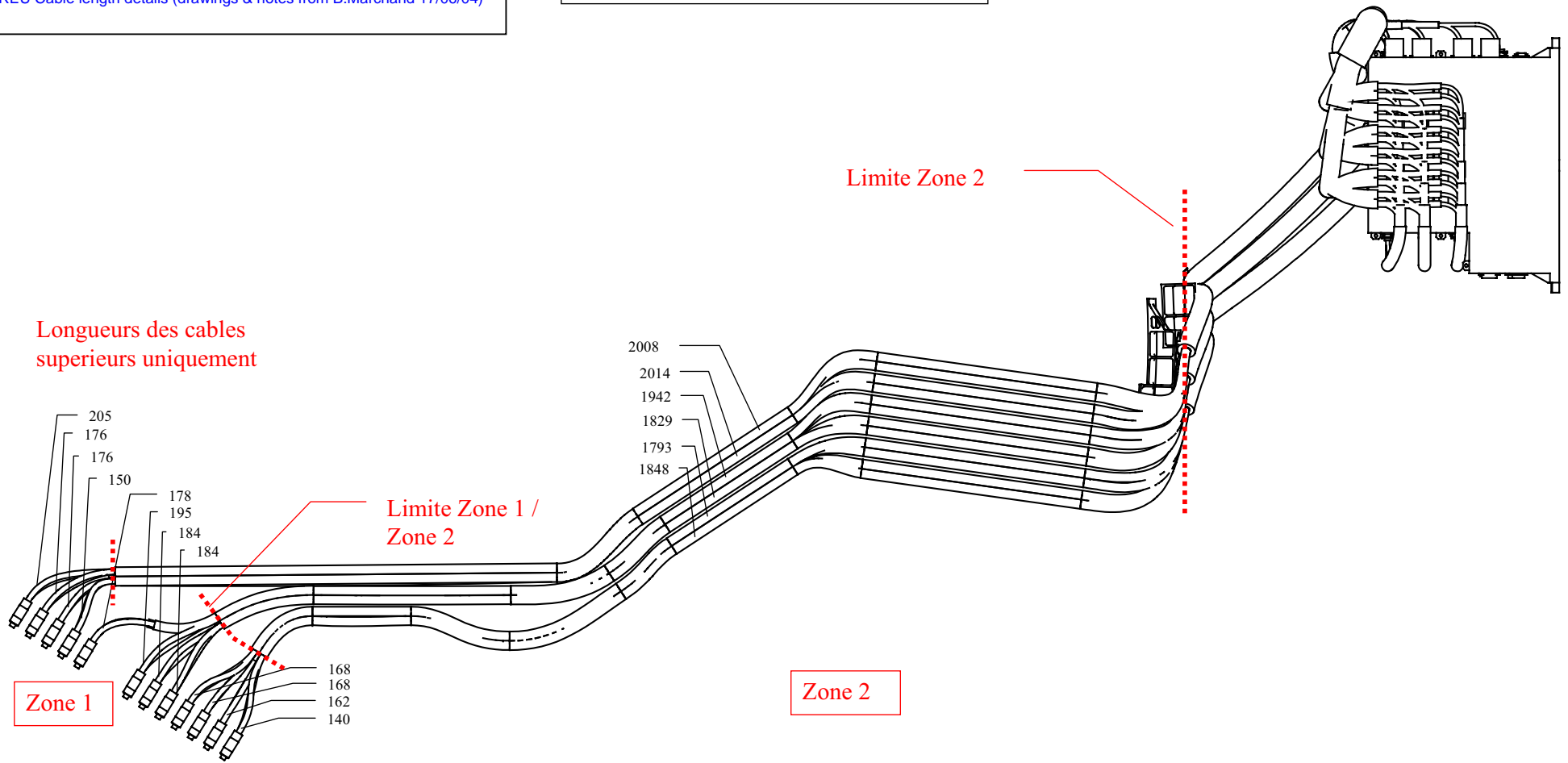
liquid penetrant inspection according to ASTM E1417-95a

Surface	Scale	General tolerances	Mass	DIN	CAD Drawing
LN9368-4301.3	1 : 1	DIN ISO 2768-fK	135 g	A3	No manual Changes
Date	Name	Material	SVM Harness		
12.01.04	Re/SA	3.4364 T7351			
Prepared	Checked	File	Bracket		
12.01.04		Bracket HP-04-01-03-KT.CATPart Bracket HP-04-01-03-KT.CATDrawing			
1	First Issue	19.05.04	HP-04-01-03-KT		
0	DRAFT	12.01.04			
Issue	Change(DCN/ECP)	Date	Sheet 1 of 1		



PAU REU Cable length details (drawings & notes from B.Marchand 17/06/04)

VUE DE DESSUS



Longueurs des cables superieurs uniquement

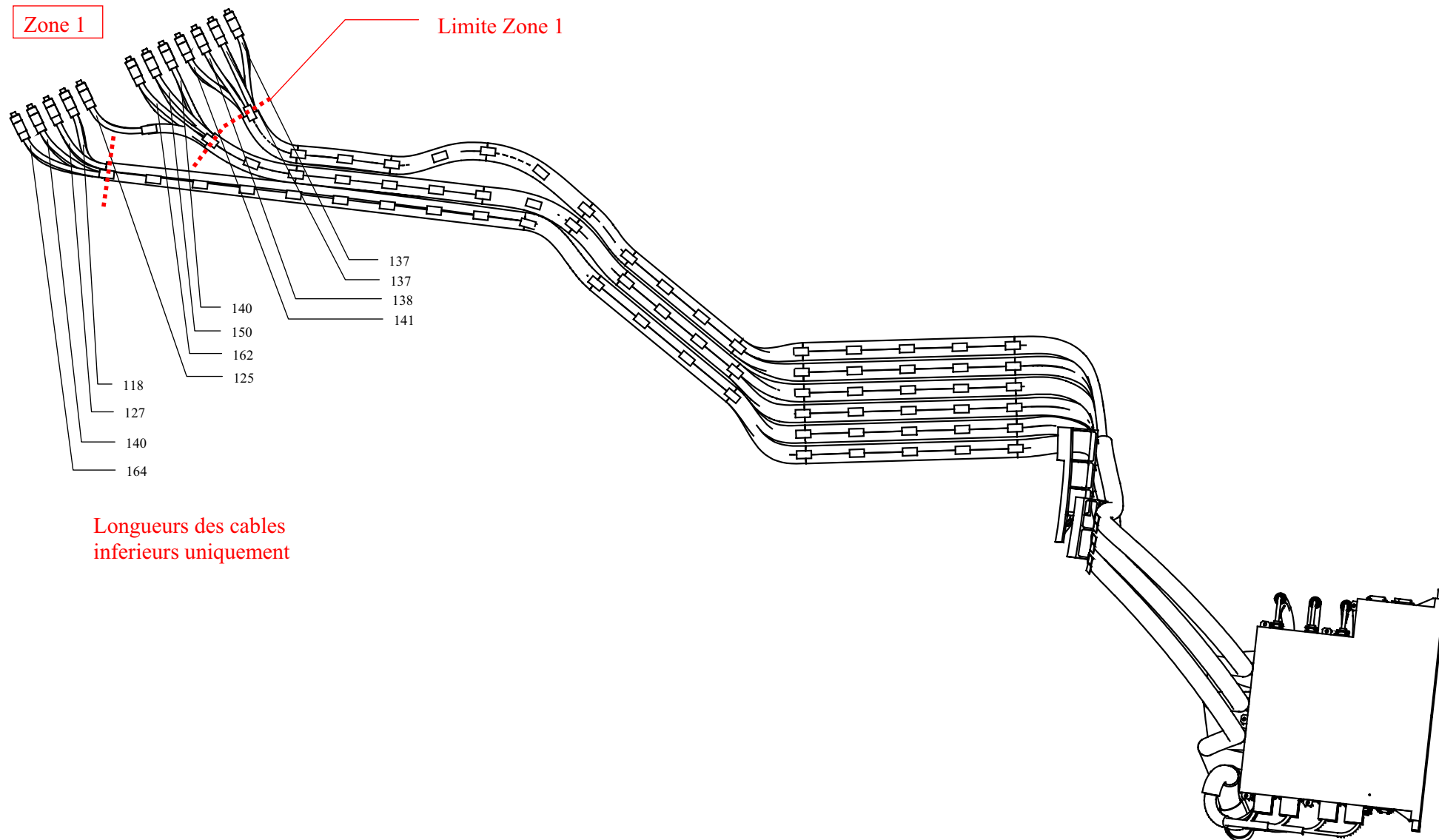
Zone 1

Zone 2

Les connecteurs modelises ne sont pas forcément representatifs des vrais connecteurs (surtout REU qui sont specifiques)

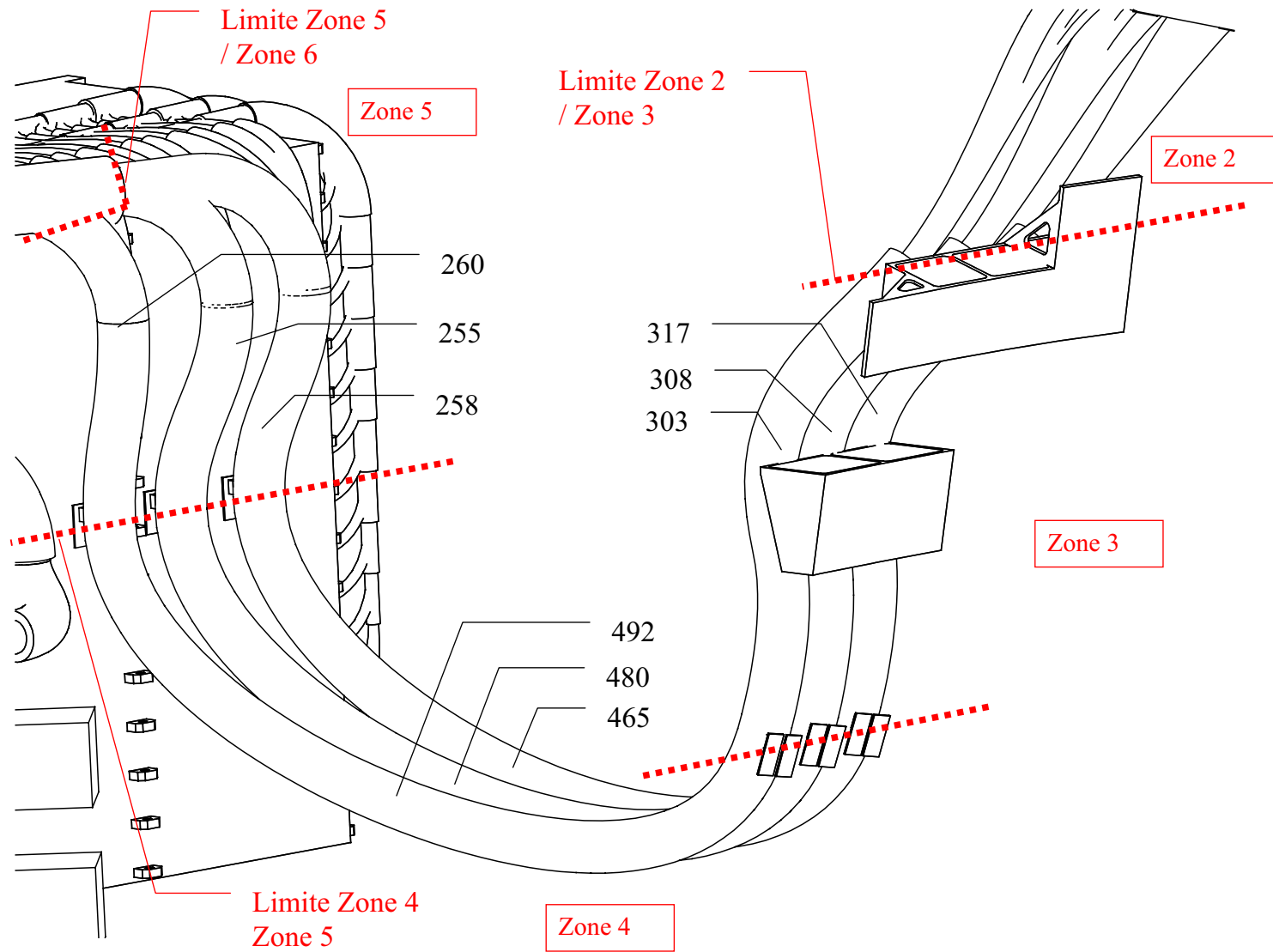
Toutes les longueurs donnees sont en millimetres

VUE DE DESSOUS

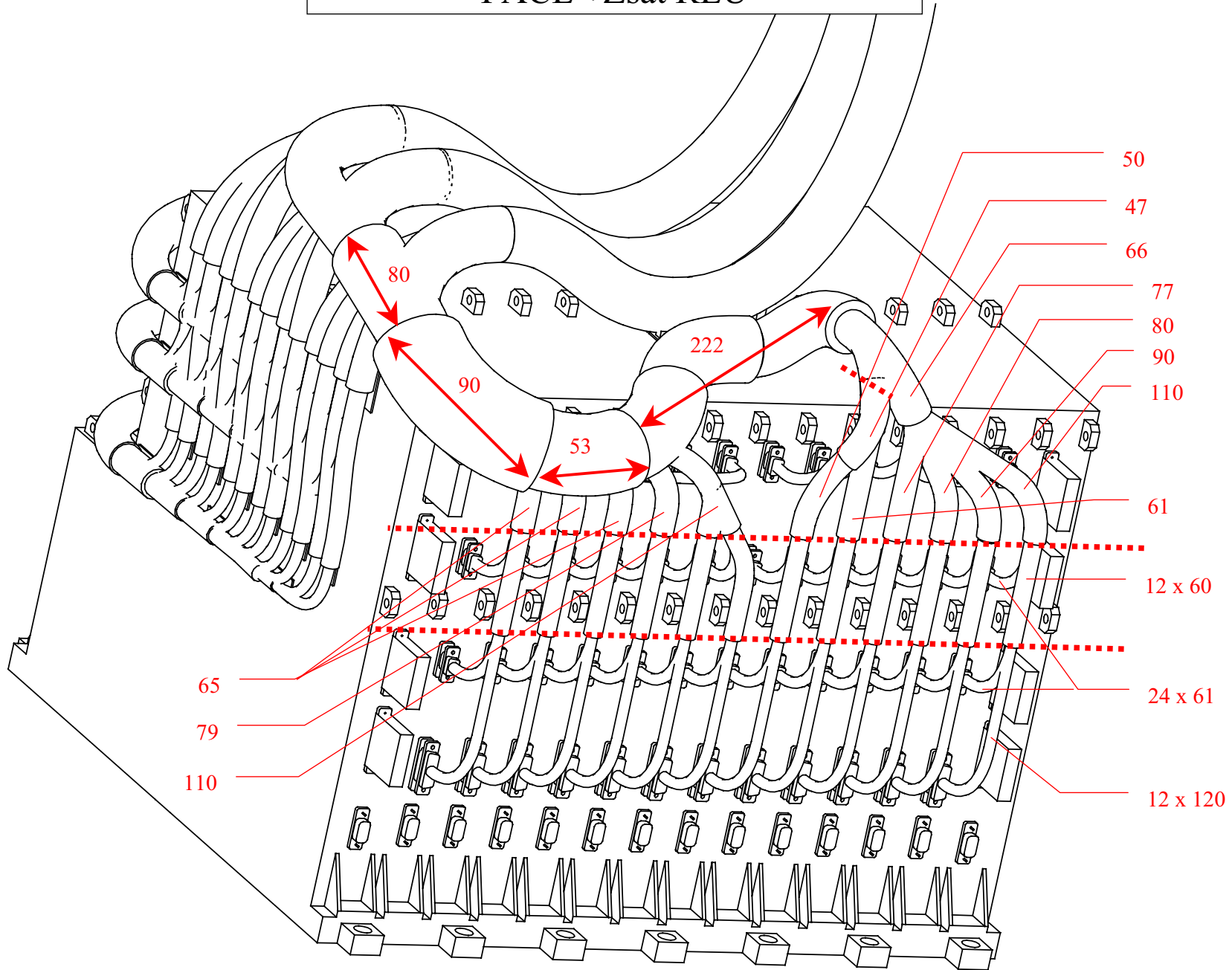


Longueurs des cables
inferieurs uniquement

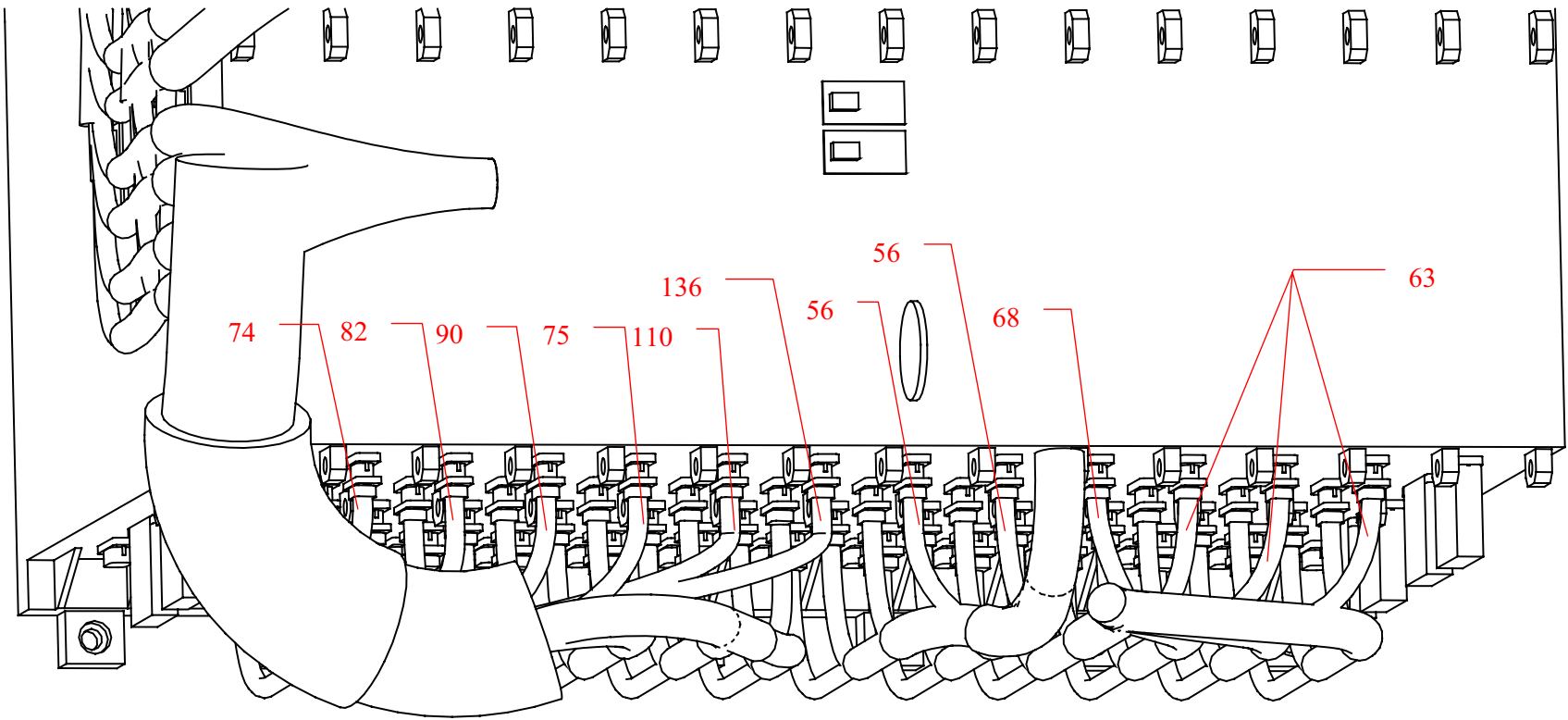
VUE ENTRE LE CONE ET LE REU



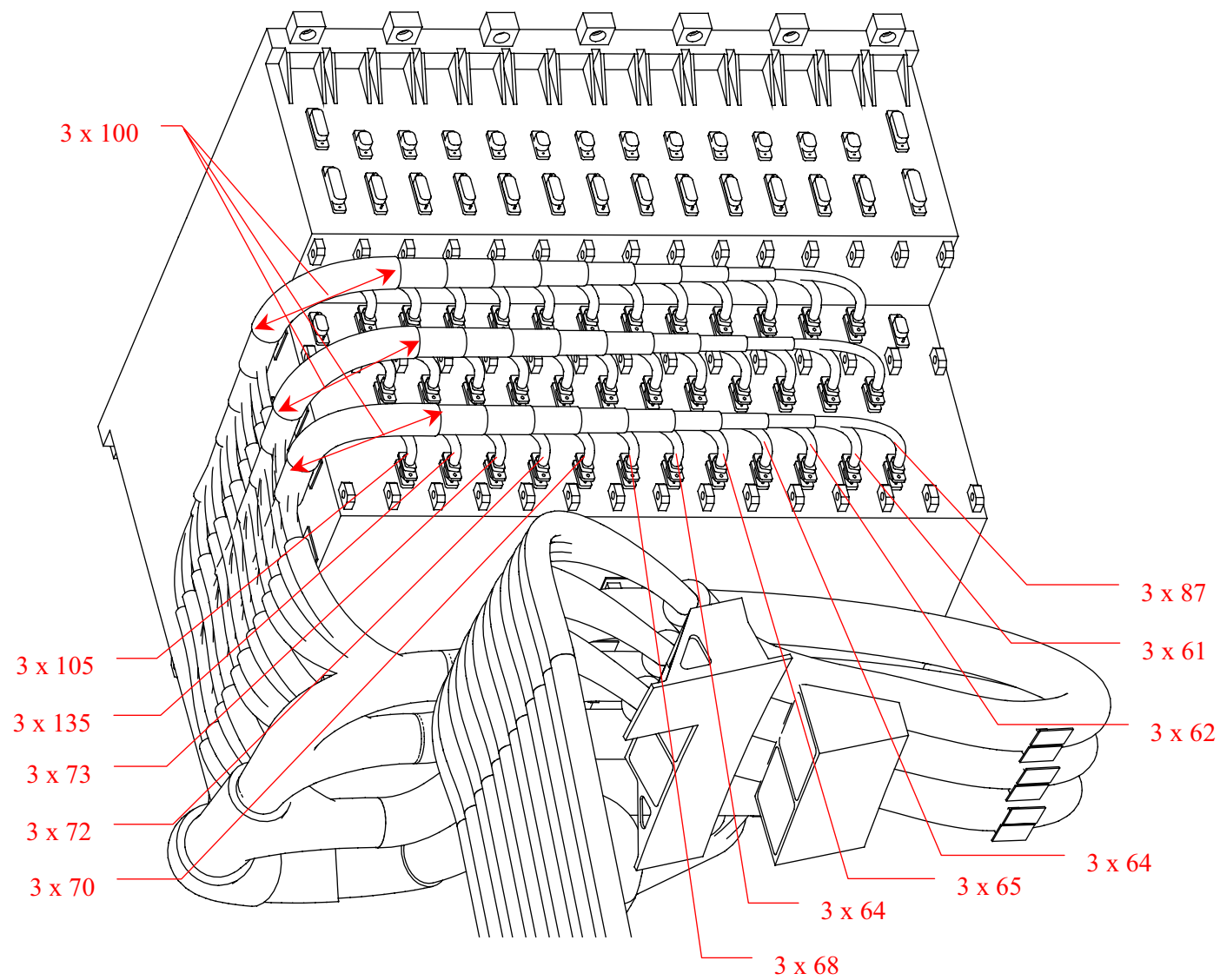
FACE + Zsat REU



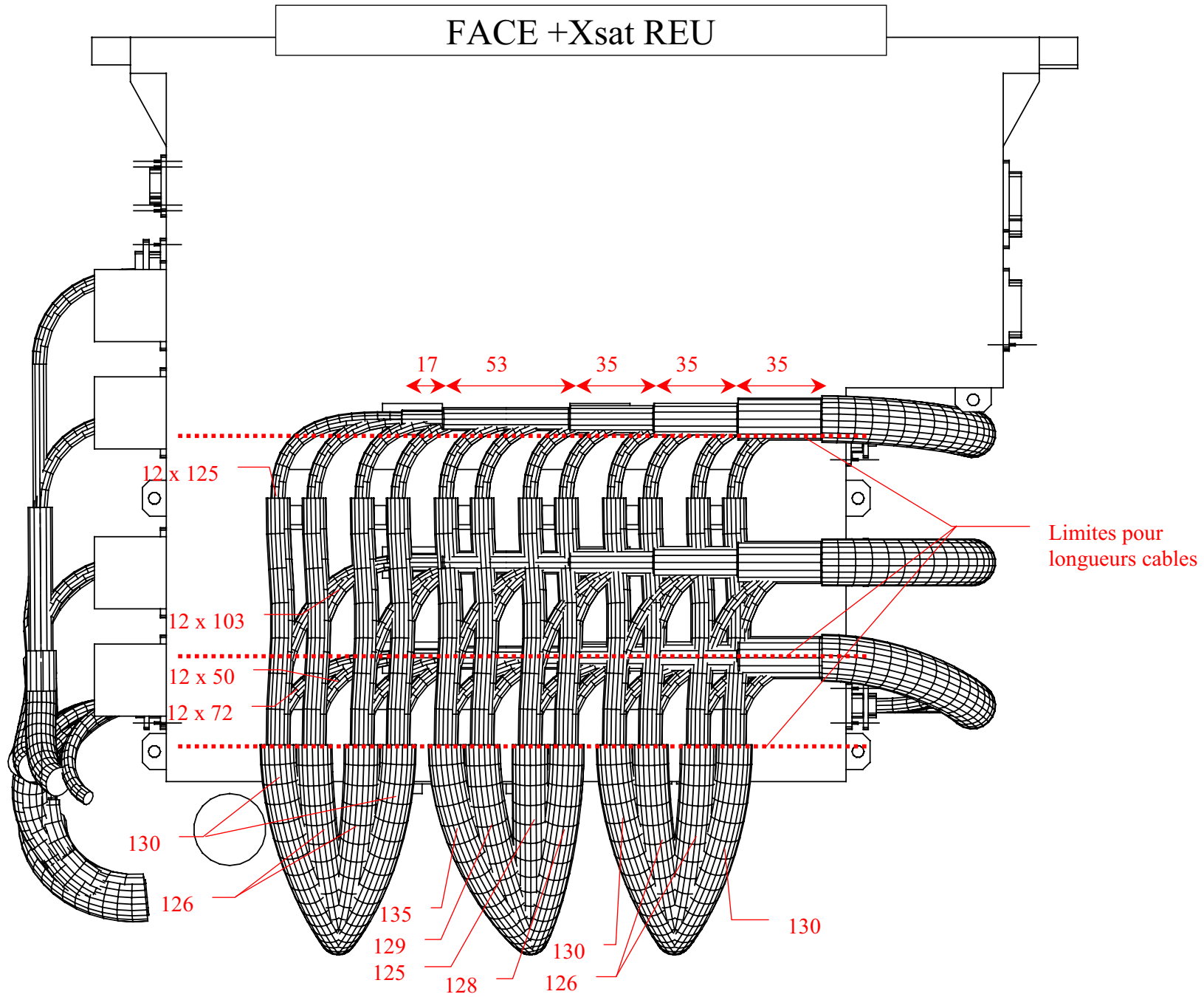
FACE +Zsat REU



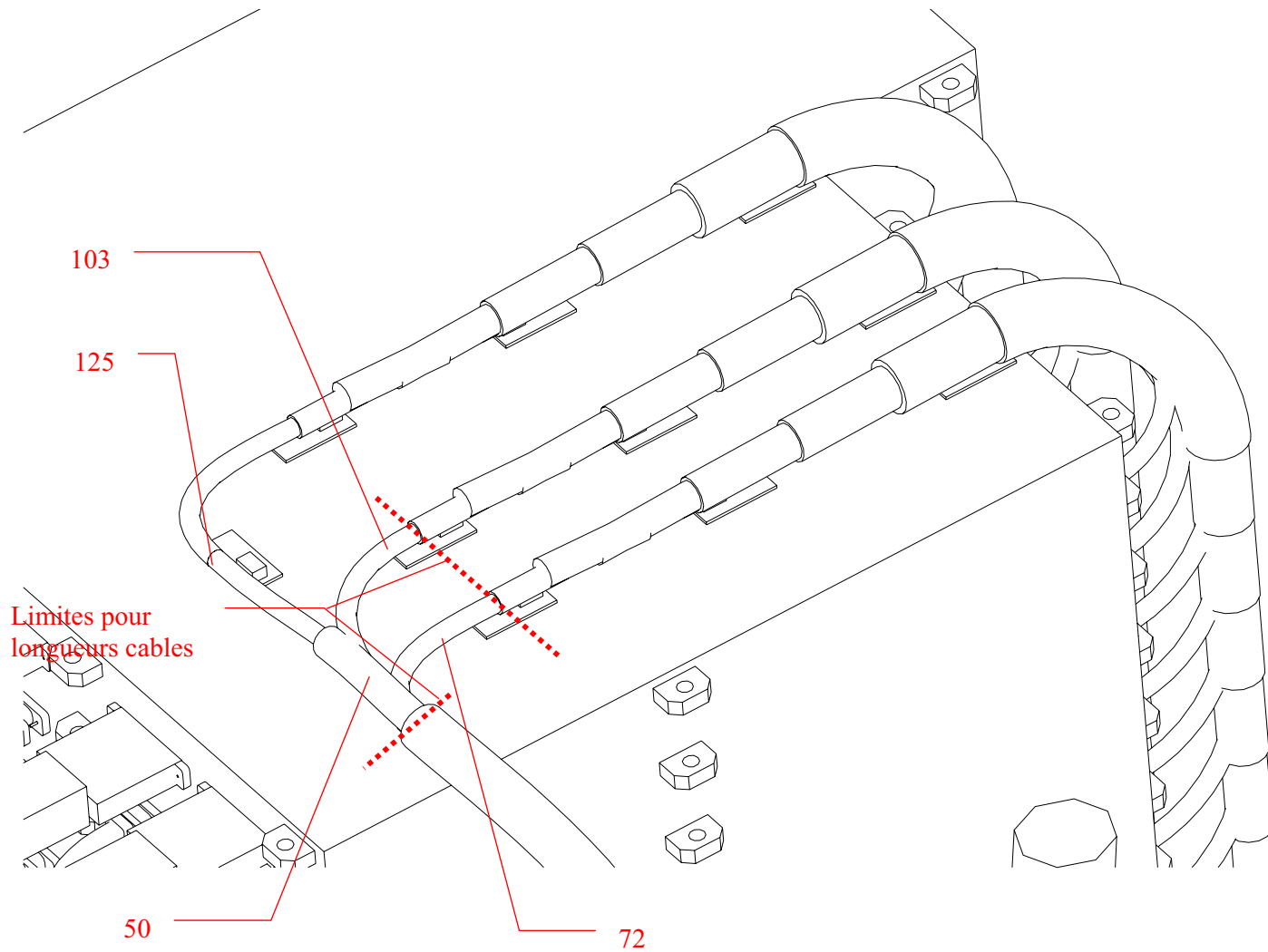
FACE -Zsat REU



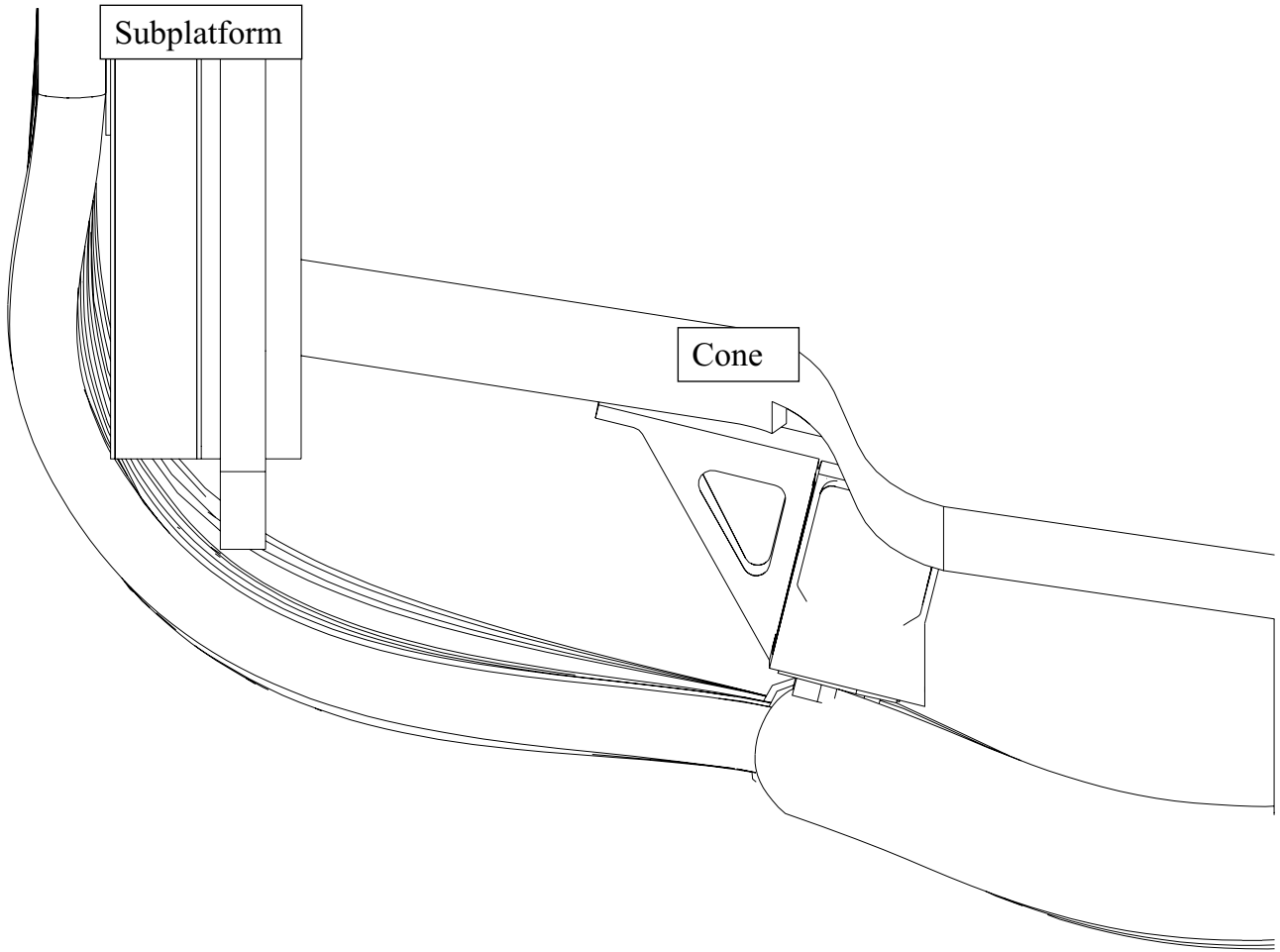
FACE +Xsat REU



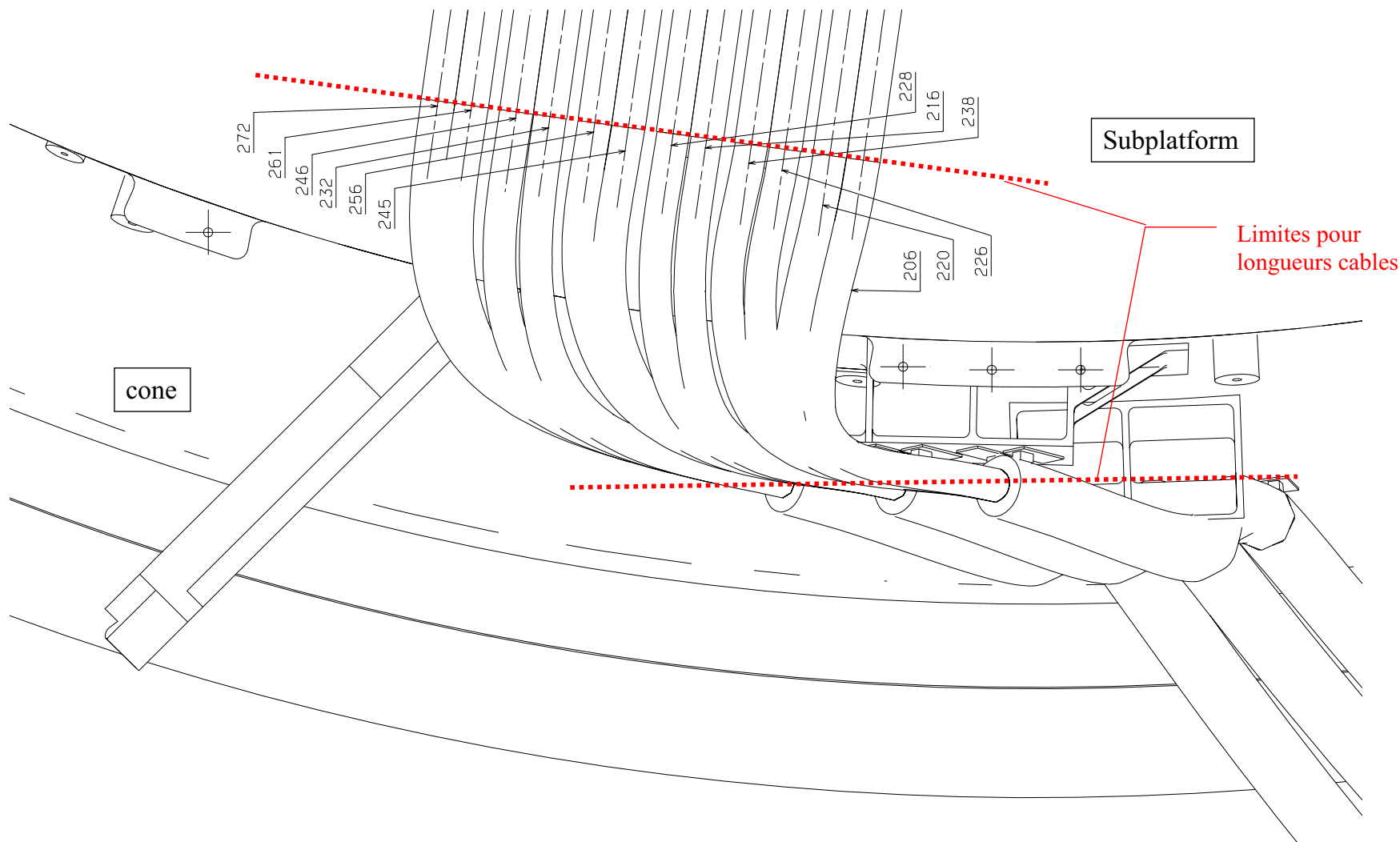
FACE +Xsat REU – 1 seul cable



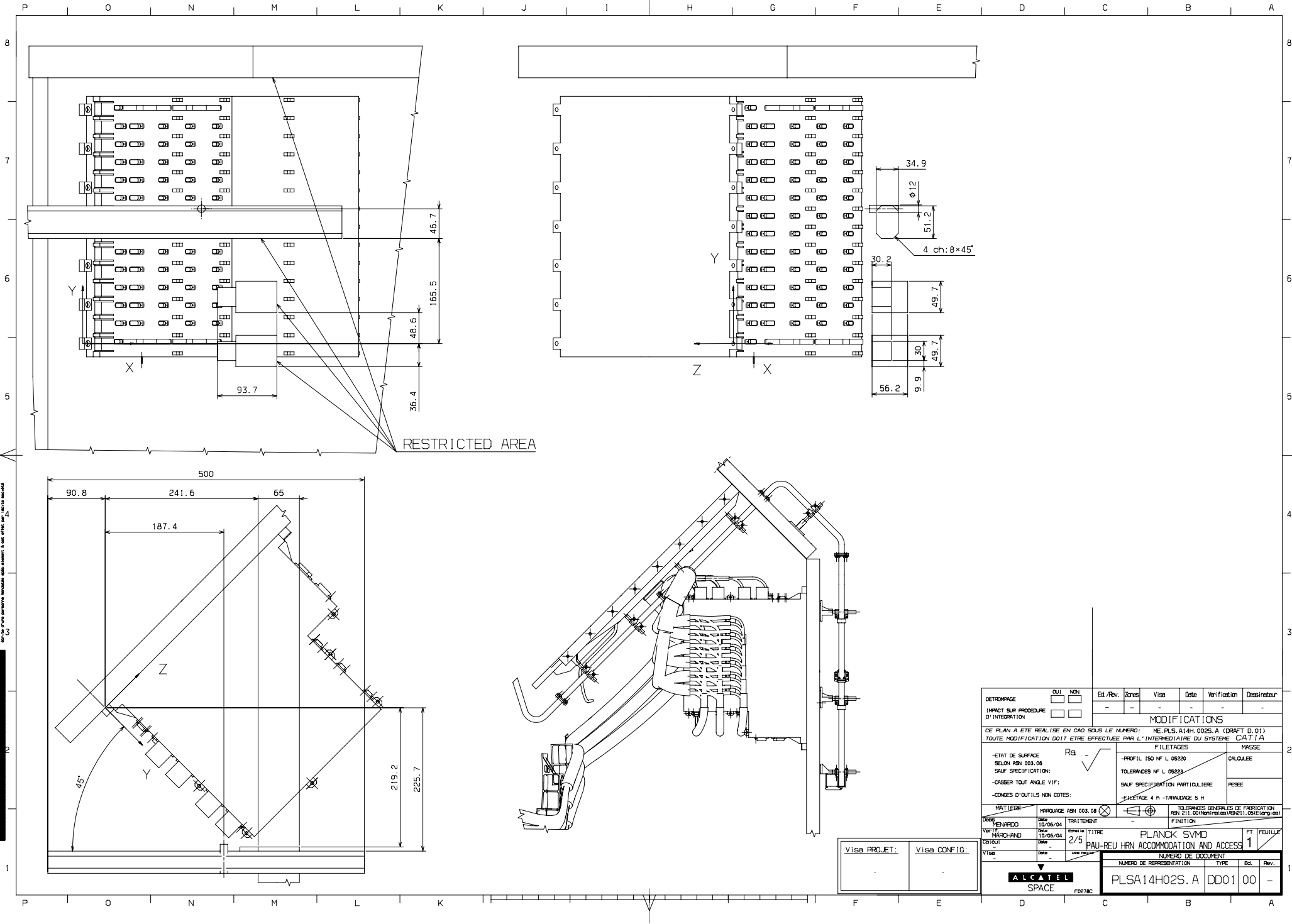
Cablage REU/PAU subplatform / cone – vue transverse



Cablage REU/PAU subplatform / cone – vue de dessus



Ce document est la propriété d'Alcatel Space. Toute réimpression ou utilisation non autorisée sans la permission écrite de la société Alcatel Space est formellement interdite. Toute réimpression ou utilisation non autorisée sans la permission écrite de la société Alcatel Space est formellement interdite.



Visa PROJET: _____
 Visa CONFIG: _____

DETROUPE	<input type="checkbox"/>	OUI	<input type="checkbox"/>	NON	Ed./Rev.	Zones	Vies	Date	Verification	Dessinateur
IMPACT SUR PROCEDURE D'INTEGRATION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	-	-	-	-	-
MODIFICATIONS										
CE PLAN A ETE REALISE EN CAO SOUS LE NUMERO: ME_PLSA14H_002S_A (DRAFT D.01) TOUTE MODIFICATION DOIT ETRE EFFECTUEE PAR L'INTERMEDIAIRE DU SYSTEME CATTIA										
FILETAGES										
MASSE										
-ETAT DE SURFACE SELON ASN 003.06		Ra		-PROFIL ISO NF L 0520		CALCULEE				
SAUF SPECIFICATION:				TOLERANCES NF L 05203		RESEE				
-CASSER TOUT ANGLE VIF:				SAUF SPECIFICATION PARTICULIERE						
-CONGES D'OUTILS NON COTES:				-FILETAGE 4 h - TARALDAGE 5 H						
MATIERE	MANOAGE ASN 003.08	<input checked="" type="checkbox"/>		TOLERANCES GENERALES DE FINITION ASN 211.00 (non traitées) / ASN 211.05 (Elongées)						
DATE	10/06/04	TRAITEMENT		FINITION						
VERIF	MANOCHAND	DATE		2/5						
CATEG		TITRE		PLANCK SVM D						
VISE		DATE		PAU-REU HRN ACCOMMODATION AND ACCESS						
NUMERO DE DOCUMENT										
ALCATEL SPACE		F0278C		PLSA14H02S.A		DD0100		Ed. Rev.		
				1		-				

LIST OF CAD MODELS APPLICABLE TO HFI WIH

WIH : WARM UNIT INTERCONNECTING HARNESS (INSTRUMENT)
SVMh : SVM HARNESS (SATELLITE)

HARNESS 4K INSTRUMENT ON SVM – ALL FILES IN STEP FORMAT; File: 4K panel pack.zip

NUMBER	ISSUE	NAME	CONTENT
HP212001-19-2	B	CENTRE CONE HRN ELT ASSY 4K STEP	HRN 4K CAU->PPLM / SVM PART
HP212001-23-2	D	+Y LATERAL PANEL HRN ELT ASSY (4K)	WIH ON 4K PANEL
HP212002-23-2	B	+Y LATERAL PANEL HRN MECH ASSY (4K)	STAND-OFFS FOR HRN ON 4K PANEL
HP392001-23-2	F	+Y LATERAL PANEL HRN ELT ASSY (4K)	SVMh ON 4K PANEL
ME.PLS.A11F.Z.012SA	J	EQPT SVM PLANCK +Y 4K	WARM UNITS ON 4K PANEL + LATERAL PANEL STRUCTURE

HARNESS 0.1K INSTRUMENT ON SVM – ALL FILES IN STEP FORMAT; File: DCCU 0.1K pack.zip

NUMBER	ISSUE	NAME	CONTENT
HP212001-19-2	B	CENTRE CONE HRN ELT ASSY 0.1K STEP	HRN DCCU->PPLM + HE TANKS / SVM PART
HP212001-22-2	C	+Y+Z LATERAL PANEL HRN ELT ASSY (0.1K) HRN SOE	WIH ON 0.1K PANEL + SMALL PART OF SVMh ROUTING ON DCCU? CONTAINS STAND-OFFS
ME.PLS.A11F.Z.013SA	H	GM EQPT SVM PLANCK +Y+Z DCCU STEP	DCCU MODEL + LATERAL PANEL STRUCTURE
ME.PLS.A14K.Z.101SA	B	DM PIPING 0.1K	PIPES 0.1K ON SVM

HARNESS DPU INSTRUMENT ON SVM – ALL FILES IN STEP FORMAT ; File: DPU pack.zip

NUMBER	ISSUE	NAME	CONTENT
HP212001-21-2	C	+Z LATERAL PANEL HRN ELT ASSY (DPU)	WIH ON DPU LATERAL PANEL
HP212001-50-2	B	LOWER CLOSURE PANEL HRN ELT ASSY	WIH FROM DPU TO OTHER HFI UNITS ON LOWER CLOSURE PANEL
HP212002-50-2	B	LOWER CLOSURE PANEL HRN MECH ASSY	STAND-OFFS AND BRACKETS ON LOWER CLOSURE PANEL
HP392001-21-2	E	+Z LATERAL PANEL HRN ELT ASSY (DPU)	SVMh ON DPU LATERAL PANEL
HP392001-21-2	A	+Z LATERAL PANEL HRN MECH ASSY (DPU)	STAND-OFFS ON DPU
ME.PLS.A11F.Z.014SA	F	EQPT SVM PLANCK +Z DPU	DPU MODELS AND LATERAL PANEL

HARNESS REU-PAU – ALL FILES IN STEP FORMAT; File: hrnreu pau 140604 Step format.zip

NUMBER	ISSUE	NAME	CONTENT
ME.HP212001-60-2	D	STB HRN REU PAU A COTE DU HRN INTERNE	ROUTING OF REU-PAU ON SVM FOR FM + UNITS MODELS
ME.PLS.336000002	C	RCS ASSY BTS 150604 STEP	PROPULSION PIPING AND ELTS IMPACTING ROUTING OF REU-PAU
ME.PLS.346000002	C	WAVE GUIDES ASSY STEP	WAVE-GUIDES ELTS IMPACTING ROUTING OF REU-PAU
ME.PLS.A14K.Z.101SA	B	DM PIPING 0.1K	ROUTING OF 0.1K PIPES IMPACTING REU-PAU HARNESS

NOTA : A CATIA FILE OF REU-PAU HRN ROUTING HAS ALSO BEEN PROVIDED

ADDITIONAL MODELS – ALL FILES IN STEP FORMAT; File: Additional models.zip

NUMBER	ISSUE	NAME	CONTENT
ME.PLS.A120.Z.010SA	K	STB CAISSE PLANCK ALLEGEE	SVM ENTIRE STRUCTURE
ME.PLS.A14L.Z.010SA	D	STB HE TANK SVM PLANCK	HE TANKS (0.1K)

DOCUMENT COMPOSITION

Pages	Annexes	Others
12	19	0



DOCUMENT IDENTIFICATION

Project	: Herschel - Planck
N° Project	: 1680
N° Contract	:
Material	: Herschel-Planck SVM Harness
Doc. Reference	: H-P-4-NXH-RP-0024 A1
Date	: 12/12/06

TITLE

H-P WU LFI Harness

This document has been updated after LFI WIH routing modification in October 2006 - prepared by B.Marchand, Compiled by B.Collaudin

Written by	Function	Date	Signature
Johan Vervliet	Engineer	18-03-04	
Checked by			
Ken Pletinckx	Project Engineering	19.03.04	
Approved by			
Stéphane Dassy	Project Manager	23-3-04	

H-P WU LFI Harness	Doc Id. : H-P-4-NXH-RP-0024		
	DATE : 12/12/06	Ed / Dev : A1	Page : 4 of 12

TABLE OF CONTENTS

1	<u>SCOPE</u>	5
2	<u>INTRODUCTION</u>	5
3	<u>APPLICABLE DOCUMENTS</u>	6
3.1	APPLICABLE DOCUMENTS	6
3.2	REFERENCE DOCUMENTS	6
3.3	ALS BASELINE DOCUMENTS	6
3.4	CATIA HARNESS DIRECTORY STATUS : LFI	6
4	<u>DOCUMENT ORGANISATION</u>	7
4.1	GENERAL INFORMATION : DRAWINGS	7
4.2	2D DRAWING NUMBERING SYSTEM	7
4.3	2D JIG NUMBERING SYSTEM	8
5	<u>2D DRAWING LISTING</u>	9
5.1	LFI 2D DRAWING LISTING	10
5.2	LFI JIG DRAWING LISTING	10
5.3	LFI 2D DRAWINGS	10
6	<u>LFI EXTRACTED LENGTHS</u>	11
6.1	SCS PANEL	11
6.2	IIDB LFI	12

H-P WU LFI Harness	Doc Id. : H-P-4-NXH-RP-0024		
	DATE : 12/12/06	Ed / Rev : A1	Page : 5 of 12

1 Scope

The purpose of this document is to provide a description of the LFI WU harness Planck S/C.

2 Introduction

The WU belonging to the LFI Experiment are located on the -Z LFI/SCS Panel (SCE1/2), the +Y-Z LFI/SCS panel (SCC1) and the -Y-Z Panel LFI/SCS (SCC2). Other WU belonging to the LFI Experiment are located on the +Y+Z Panel HFI 0.1K (REBA1/2) and the Top Floor (DAE-BEU).

The LFI harness is configured taking into account the different interconnection requirements of the experiment and harness design responsibility. The harness is split into 2 different main groups:

1. SVM Harness
2. Instrument WU Harness

The routing accommodation foreseen to have separate routing paths for each of the above harnesses as well as for main and redundant functions.

WU Harness interconnecting SCE and SCC does not require any brackets as the three SCS panels are mounted as a sub_assembly.

Due to the interconnections between the WU located on the 0.1K HFI panel and the Top Floor, a dedicated connector brackets DBH4 is foreseen to route the harnesses.

The instrument WU Harness is defined taking into account the harness data provided by Instruments as well as the SVM Harness Design in order to verify the relevant accommodation in the SVM configuration.

Additional details/drawings on the harness accommodation are reported in this document.

H-P WU LFI Harness	Doc Id. : H-P-4-NXH-RP-0024		
	DATE : 12/12/06	Ed / Rev : A1	Page : 6 of 12

3 Applicable Documents

3.1 Applicable documents

<i>Number</i>	<i>Issue</i>	<i>Title</i>
H-P-1-ASPI-SP-0027	4.0	General Design Interface Requirement Specification
H-P-1-ASPI-SP-0042	4.0	SVM Interface Specification
H-P-RP-AI-0025	1.0	SVM Harness Configuration and Design Description

3.2 ALS Baseline Documents

<i>Number</i>	<i>Issue</i>	<i>Title</i>
H-P-IC-AI-0001	04	Herschel/Planck SVM MICD
H-P-LI-AI-0022	05	List of HP SVM 3D CAD models
SCI-PT-IIDB/LFI-04142 5.12.2003	3.0 <small>diff2</small>	IIDB LFI
PL-LFI-PST-ID-002	2.1	SCC ICD
(BEU Cables-Baseline July 03)	/	BEU to Power Box

3.3 CATIA Harness Directory Status : LFI

<i>ALS Part Nr.</i>	<i>Rev.</i>	<i>Description</i>	<i>Resp.</i>	<i>Date</i>
HP-211102-11-2	A	+Y+Z(+Z) SHEAR PANEL HRN MECH ASSY		20.02.04
HP-211101-22-2	B	+Y+Z LATERAL PANEL HRN ELT ASSY (0.1K)		20.02.04
HP-211101-24-2	B	SCS PANELS HRN ELT ASSY		20.02.04
HP-211102-24-2	B	SCS PANELS HRN MECH ASSY		20.02.04
HP-211101-60-2	A	PAYLOAD SUB-PLATFORM HRN ELT ASSY		20.02.04
HP-211102-60-2	A	PAYLOAD SUB-PLATFORM HRN MECH ASSY		20.02.04

H-P WU LFI Harness	Doc Id. : H-P-4-NXH-RP-0024		
	DATE :	Ed / Rev :	Page :
	12/12/06	A1	7 of 12

4 Document Organisation

4.1 General Information : Drawings

Every Drawing contains all relevant information with reference to the H-P LFI Harness derived from the MICD (Mech. Interface Control Doc.) and the other data provided by instruments, such as :

Power, Signal and Sensitive Routing
 Nominal & Redundant routing
 Mil Bus lay-out
 WIU Harness lay-out
 Mechanical Items lay-out
 Mechanical Items identification

Colour codes used are

colour	Class	Comment
Colour 30 (Dark Red)	1-/POWER	SVM Primary Power
Colour 04 (Light Blue)	2-/SIGNAL	SVM Signal
Colour 45 (Dark Green)	4-/SENS	SVM Sensitive Harness
Colour 75 (Dark Yellow)	2-/Signal	Mil Bus Harness
Colour 02 (Light Red)	--/PWR	Secondary Power
Colour 120 (Dark Blue)	--/Signal	Secondary Signal
Colour 111 (Dark Green)	N/A	Tie-base
Colour 05 (Yellow)	N/A	For Information Only

4.2 2D Drawing Numbering System

Each 2D Drawing is identified by H-P-NXH-DW-XXXX

Part	Field
H-P	Herschel-Planck
NXH	Nexans Harnesses
DW	Drawing
X (first of XXXX)	1 for Herschel 2 for Planck
X (second of XXXX)	0 for General Panel Information 1 for Power (Nom and Red) 2 for Signal (Nom and Red) 4 for Sensitive (Nom/Red/Red2) 9 for MIL BUS (DMS/ACMS-NOM/RED)
XX (last two of XXXX)	00 General Structure XX Panel number in ref. with H-P-LI-AI-0022 iss.4

H-P WU LFI Harness	Doc Id. : H-P-4-NXH-RP-0024		
	DATE : 12/12/06	Ed / Rev : A1	Page : 8 of 12

4.3 2D JIG Numbering System

Each 2D JIG Drawing is identified by H-P-NXH-DR-XXXX

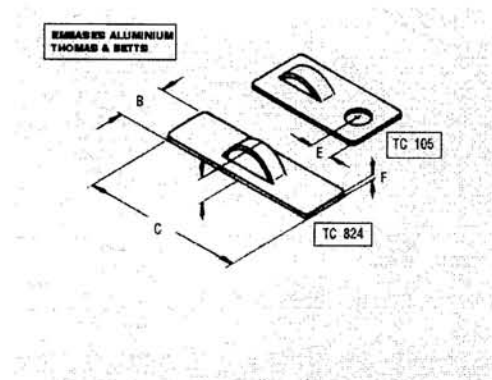
Part	Field
H-P	Herschel-Planck
NXH	Nexans Harnesses
DR	Drawing
X (first of XXXX)	1 for Herschel 2 for Planck
X (second of XXXX)	0 for General Panel Information 1 for Power (Nom and Red) 2 for Signal (Nom and Red) 4 for Sensitive (Nom/Red/Red2) 9 for MIL BUS (DMS/ACMS-NOM/RED)
XX (last two of XXXX)	00 General Structure XX Panel number in ref. with H-P-LI-AI-0022 iss.4

H-P WU LFI Harness	Doc Id. : H-P-4-NXH-RP-0024		
	DATE : 12/12/06	Ed / Rev : A1	Page : 9 of 12

5 Harness Fixing

5.1 Tie-bases

The position of the tie-bases has been designed to meet the requirement to fix the harness bundles on the structure every 100mm maximum. Tiebase type used is TC-105 (Thomas & Betts). Tie-wraps sizes used, are function of bundle diameter and in accordance to the applicable process list.



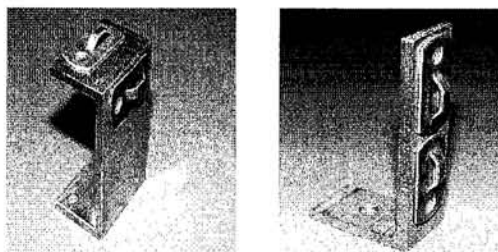
Tie-bases will be glued on the spacecraft structure and will assure harness fixation as well as electrical bonding.

5.2 Stand-off's

To maintain wire-bundles routing and minimize mechanical stress in harness, specific stand-off have been designed, which will be glued on the spacecraft structure.

The stand off designs are well approved at Kayser-Threde and will be modified to the purpose of the SVM Harness. (Pictures below)

Tie-bases will be glued to the stand-off's to allow cable fixation by using fasteners tie-wraps.



We assume 2 types of stand off will be necessary.

H-P WU LFI Harness	Doc Id. : H-P-4-NXH-RP-0024		
	DATE : 12/12/06	Ed / Rev : A1	Page : 10 of 12

6 2D Drawing Listing

6.1 LFI 2D Drawing Listing

<i>Document Ref.</i>	<i>Document Title</i>	<i>Date</i>	<i>Issue</i>
PLSA14HS004FA_(sheets 1/2)	shear web	09/11/06	-
PLSA14HS004FA_(sheets 2/2)	REBA /(DCCU) Panel.	09/11/06	-
PLSA14HS003FA_(sheets 1 to 4/4)	Planck LFI Harness modification on sub-platform.	27/11/06	-
SPB-1141-A-0501A_B (sheet 1)	Support de connecteur 2x50 broches (for DBH4)	05/02/97	_B

6.2 LFI JIG Drawing Listing

<i>Document Ref.</i>	<i>Document Title</i>	<i>Date</i>	<i>Issue</i>

6.3 LFI 2D Drawings

Scs panel, 0.1K panel, Shear panel +Y+Z(+Z) and Sub-platform Lay-out : See Annex

H-P WU LFI Harness		Doc Id. : H-P-4-NXH-RP-0024		
		DATE : 18/03/2004	Ed / Rev : A0	Page : 11 of 12

7 **LFI Extracted Lengths**

Lengths updated according to SCE dwg PL-SCE-ID-0002-CRS iss 1

7.1 **SCS panel**

Bundle Id.	From Connector			To Connector			Bundle								Seq.
	Identification	Con Type	Bck Type	Identification	Con Type	Bck Type	Nom / Red	Cat.	Diam	Bending Radius	Mass BNL (g/m)	Conn. +BCK (g)	L Max (mm)	L (mm)	
W001	SCE PSM/R4 P03	DBMA 25P	DB8949405-1NM	SCC PSM/R3 P01	DBMA 25S	DB8949405-1NM	Nominal Redundant	2	7.5				1500	1960 2153	1
W002	SCE PSM/R5 P09	DAMA 15P	DA8949405-1NM	SCC PSM/R3 P02	DAMA 15S	DA8949405-1NM	Nominal Redundant	1	7				1500	2125 2140	2
W003	SCE PSM/R4 P04	340104401B06G24-29PN	340106209B - 18B	SCC PSM/R3 P03	340104401B06G24-29SN	340106209B - 18B	Nominal Redundant	2	18				1500	2091 1965	1
W004	[REDACTED]														
W005	SCE PSM/R4 P10	DAMA 15P	DA8949405-1NM	SCC PSM/R3 P05	DAMA 15S	DA8949405-1NM	Nominal Redundant	1	8				1500	2211 2200	2
W006	SCE PSM/R4 P06	DCMA 37P	DC8949405-1NM	SCC PSM/R3 P06	DCMA 37S	DC8949405-1NM	Nominal Redundant	2	12.5				1500	1932 2065	1
W007	SCE PSM/R4 P07	DCMA 37P	DC8949405-1NM	SCC PSM/R3 P07	DCMA 37S	DC8949405-1NM	Nominal Redundant	2	12				1500	2469 2721	1
W008	SCE PSM/R4 P08	DCMA 37P	DC8949405-1NM	SCC PSM/R3 P08	DCMA 37S	DC8949405-1NM	Nominal Redundant	2	12				1500	2568 2823	1
W101	SCE PSM4 P01	MDM37	500T010M37B09	SCCE PSM1 +Y BRACKET	(MDM37)	(500T010M37B09)	Nominal	2					5000	1882	1
W101	SCE PSR4 P01	MDM37	500T010M37B09	SCCE PSR1 -Y BRACKET	(MDM37)	(500T010M37B09)	Redundant	2					5000	2474	1
W102	SCE PSM4 P02	MDM37S	500T010M9B07	SCCE PSM1 +Y BRACKET	(MDM25)	(500T010M25B09)	Nominal	2					5000	1874	1
W102	SCE PSR4 P02	MDM37S	500T010M9B08	SCCE PSR1 -Y BRACKET	(MDM25)	(500T010M25B09)	Redundant	2					5000	2393	1

deleted

} length on SVM only

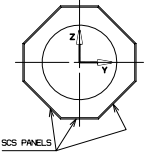
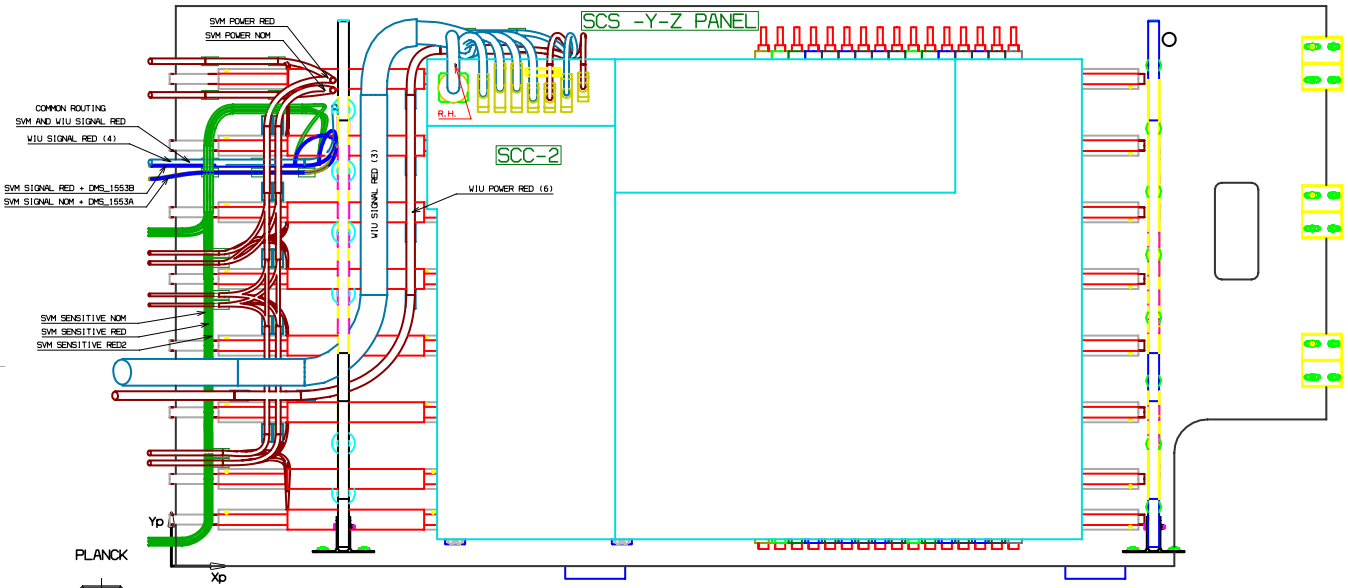
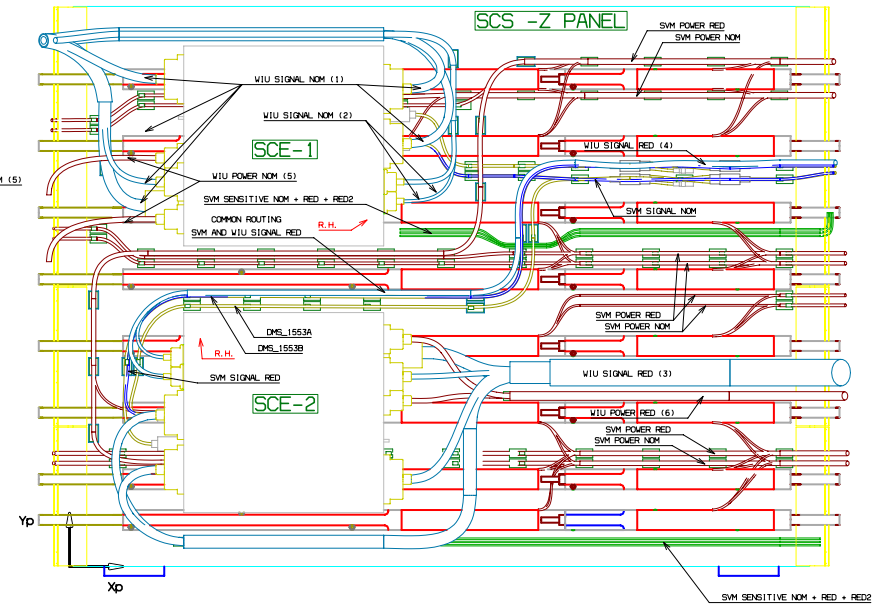
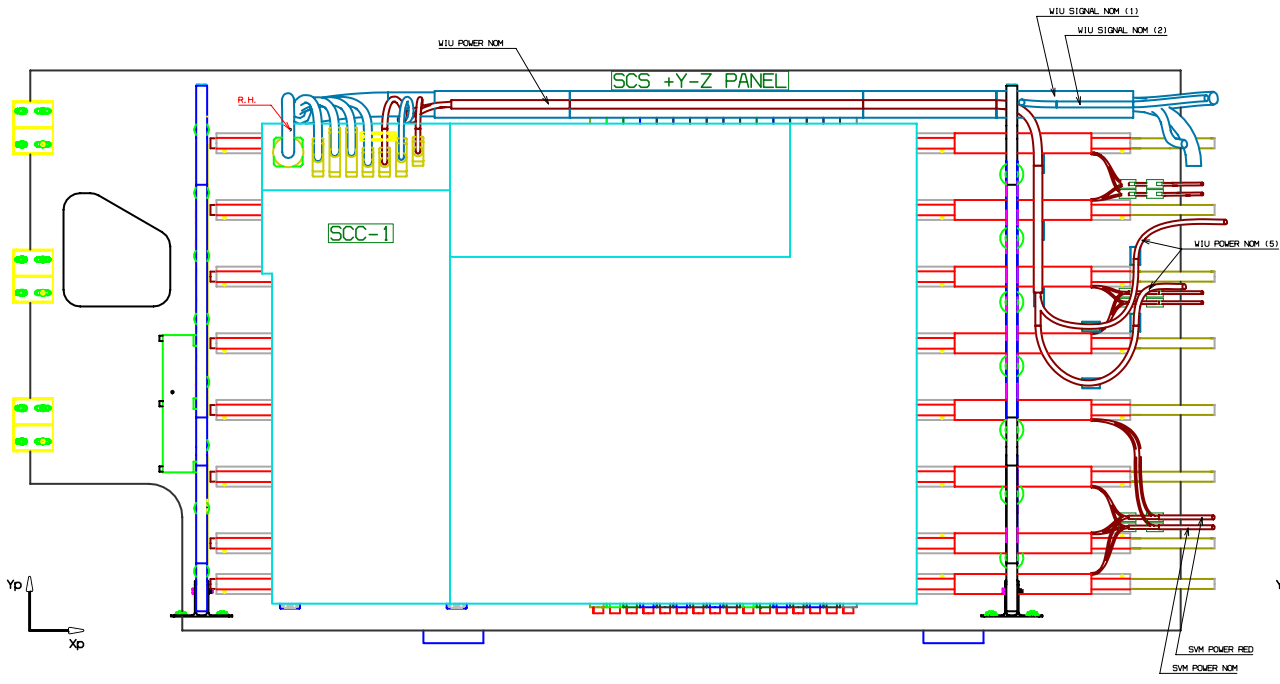
Note : These lengths are CATIA extracted and therefore theoretical values. It is recommended to perform harness production activities on JIG. Lengths are measured from connector front face to connector front face.

Bck type between brackets are uptill now unknown by Nexans. However Nexans has worked with the most logic bck type to be used.

SVM harness is placed before SCS LFI WIU harness.

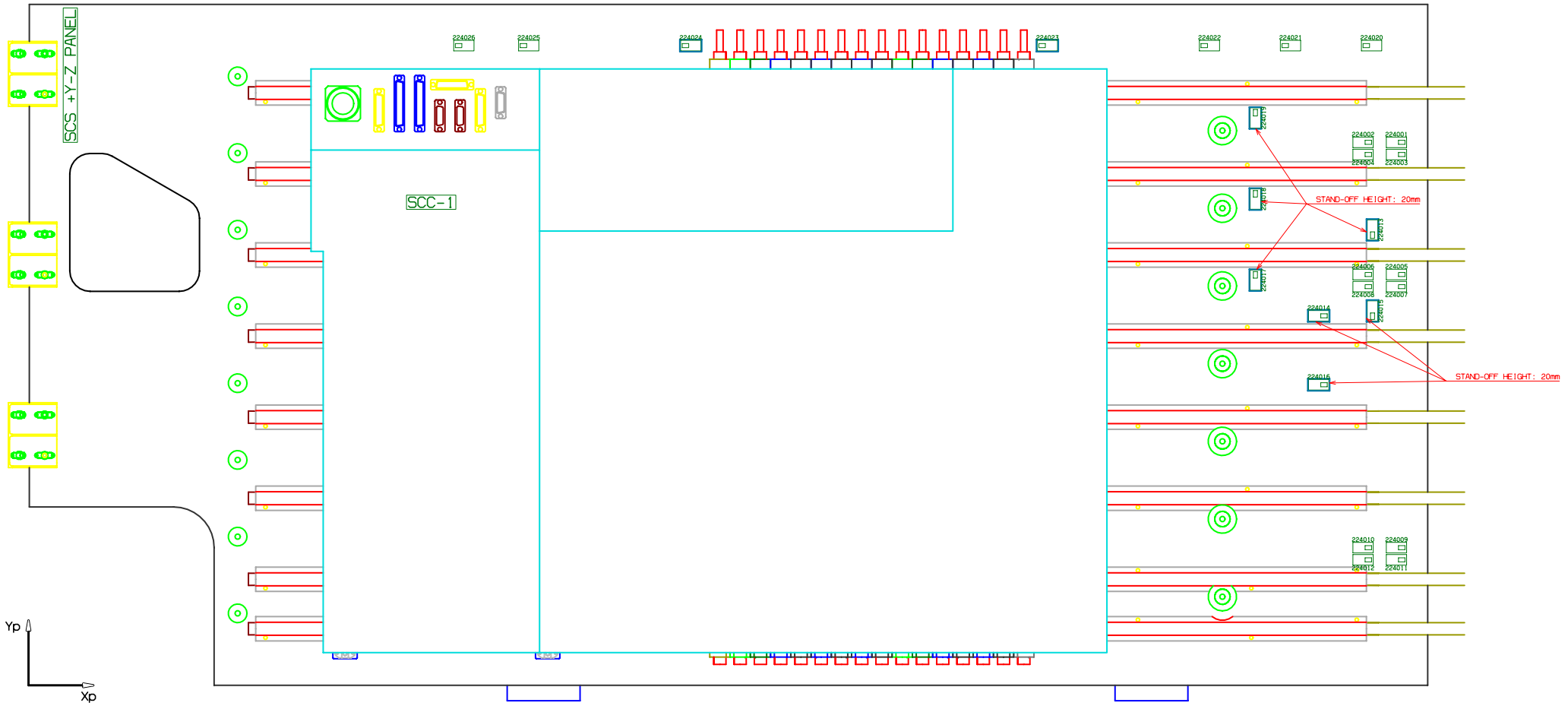
Cable Id.	Connec BEU	Connec DAE	min length (mm)	max length (mm)	Dia DAE	bend. Rad. DAE	Dia BEU	bend. Rad. BEU	split length from BEU	split length from DAE PB
Bundle 3	P48	P47	4111	4261	9	45 mm	9	45 mm	NA	NA
Bundle 4	P50	P49	4020	4170	8	40 mm	8	40 mm	NA	NA
Bundle 1A	P11	P05	4158	4308	16 mm	70 mm	7 mm	35 mm	725 mm	NA
	P13		4215	4365			9 mm	45 mm	782 mm	
	P23		4143	4293			8 mm	40 mm	709 mm	
Bundle 6B	P12	P06	3759	3909	16 mm	70 mm	7 mm	35 mm	236 mm	NA
	P14		3728	3878			9 mm	45 mm	205 mm	
	P24		3785	3935			8 mm	40 mm	263 mm	
Cable Id.	Connec REBA	Connec Brack	min length (mm)	max length (mm)	Dia REBA	bend. Rad. REBA	Dia Brack	bend. Rad. Brack	split length from REBA	split length from bracket
Bundle 15 Nominal	J13N	J01 (Ex DBH4)	1404 (1)	1414 (1)	10,5 mm	50 mm	25 mm	100 mm	440	NA (grouped length 964,1)
	J22N		1364 (1)	1374 (1)	10,5 mm	50 mm			400	
	J23N		1399 (1)	1409 (1)	10,5 mm	50 mm			435	
	J32N		1405 (1)	1415 (1)	10,5 mm	50 mm			440	
	J33N		1448 (1)	1458 (1)	10,5 mm	50 mm			484	
Bundle 16 Redundant	J13R	J02 (Ex DBH4)	1811 (1)	1821 (1)	10,5 mm	50 mm	25 mm	100 mm	456	NA (grouped length 1355)
	J22R		1779 (1)	1789 (1)	10,5 mm	50 mm			424	
	J23R		1804 (1)	1814 (1)	10,5 mm	50 mm			449	
	J32R		1770 (1)	1780 (1)	10,5 mm	50 mm			415	
	J33R		1837 (1)	1847 (1)	10,5 mm	50 mm			482	
Cable Id.	Connec Brack	Connec BEU	min length (mm)	max length (mm)	Dia Brack/BEU	bend. Rad. Brack/BEU	Split dia.	Split bend. Rad.	Split length on SubpF	Grouped length
Bundle 15 Nominal	J01 (Ex DBH4)	J09	3298	3398	25 mm	90 mm	10 mm	50 mm	1165	Bracket side 337 BEU side 1796
			3263	3363					1130	
			3211	3311					1078	
Bundle 16 Redundant	J02 (Ex DBH4)	J10	3605	3705	25 mm	90 mm	10 mm	50 mm	1321	Bracket side 329 BEU side 1955
			3567	3667					1283	
			3538	3638					1254	

(1) bundles shall be manufactured on mock-up thus delivered pre-shaped to fit exactly with

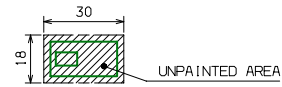
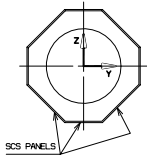


NOTE: (1) Bundle id.: W001/W003/W004/W004/W006/W007/W008 *
 (2) Bundle id.: W021/W022 *
 (3) Bundle id.: W001/W003/W004/W004/W006/W007/W008 *
 (4) Bundle id.: W021/W022 *
 (5) Bundle id.: W002/W005 *
 (6) Bundle id.: W002/W005 *
 * In reference with H-P-4-NXH-RP-0024 iss. A0

REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIEET J.	PLETINCKX K.	---	---	
Rev.	Date	Scale	Format	Sht	
B0	27/05/04	N/A	A1	1/6	
			Title SCS INSTRUMENT PANEL ASSY Dwg N° HP-NXH-DW-2024		

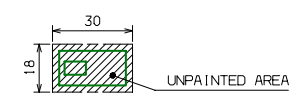
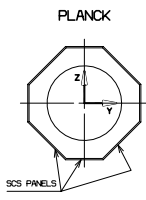
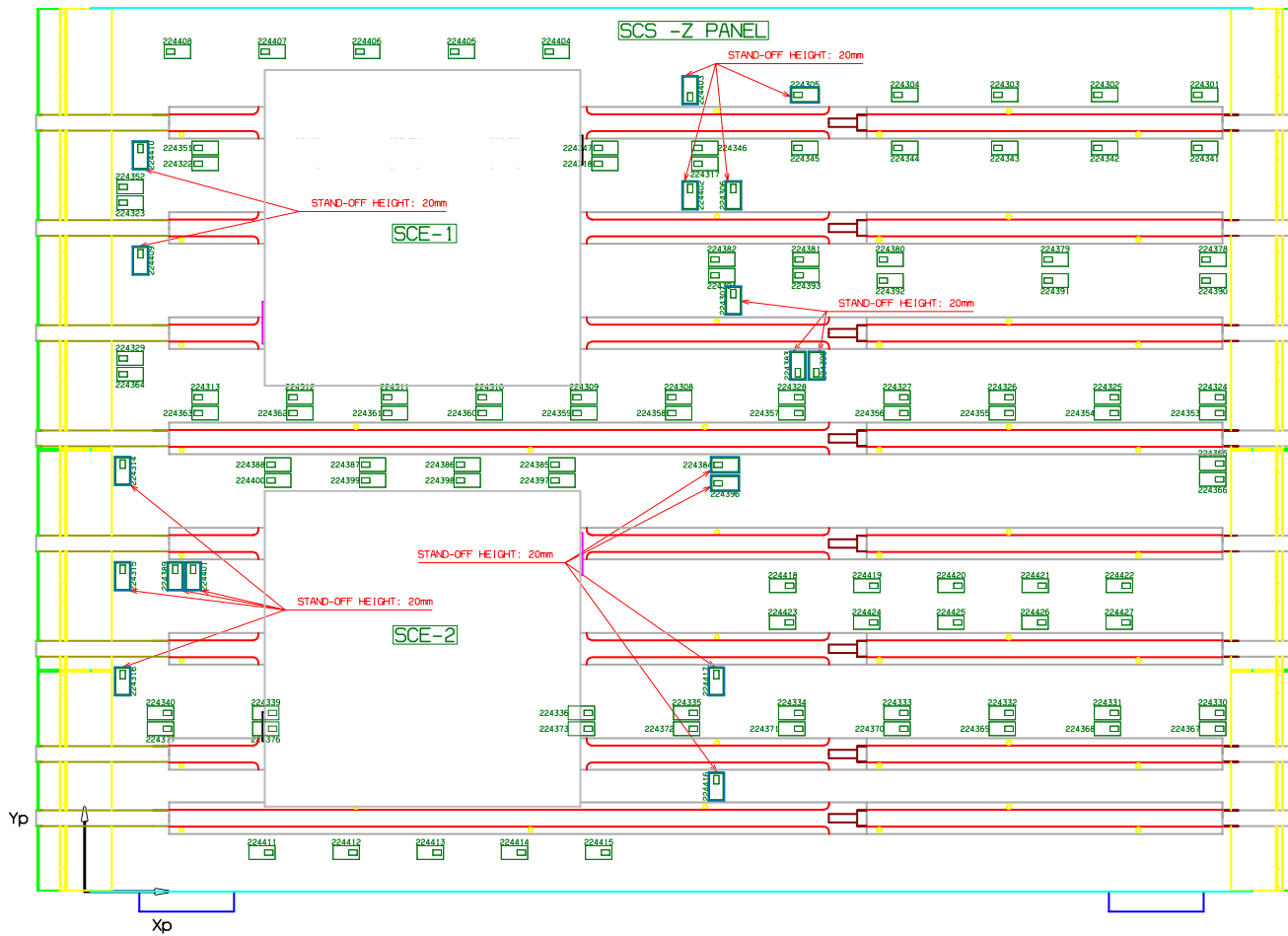


PLANCK



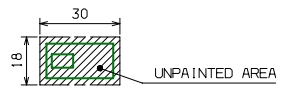
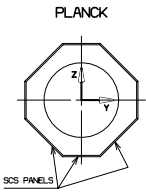
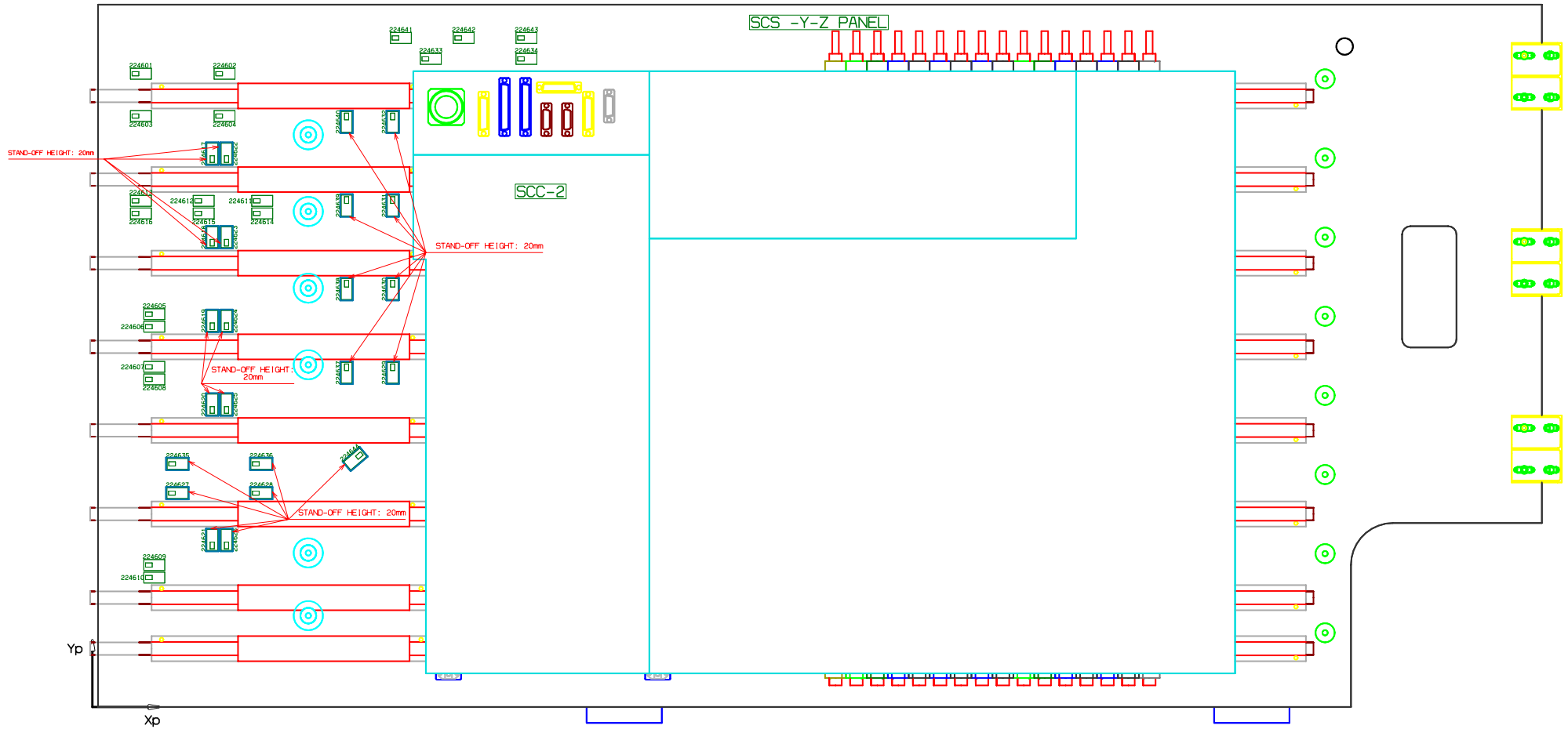
REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVL IET J.	PLET INCKX K.	---	---	
Rev.	B0	Date	27/05/04	Scale	N/A
				Format	A1
				Sht	2/6
Title			SCS INSTRUMENT PANEL ASSY		
Dwg N°			HP-NXH-DW-2024		



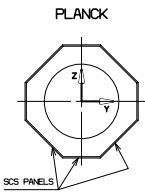
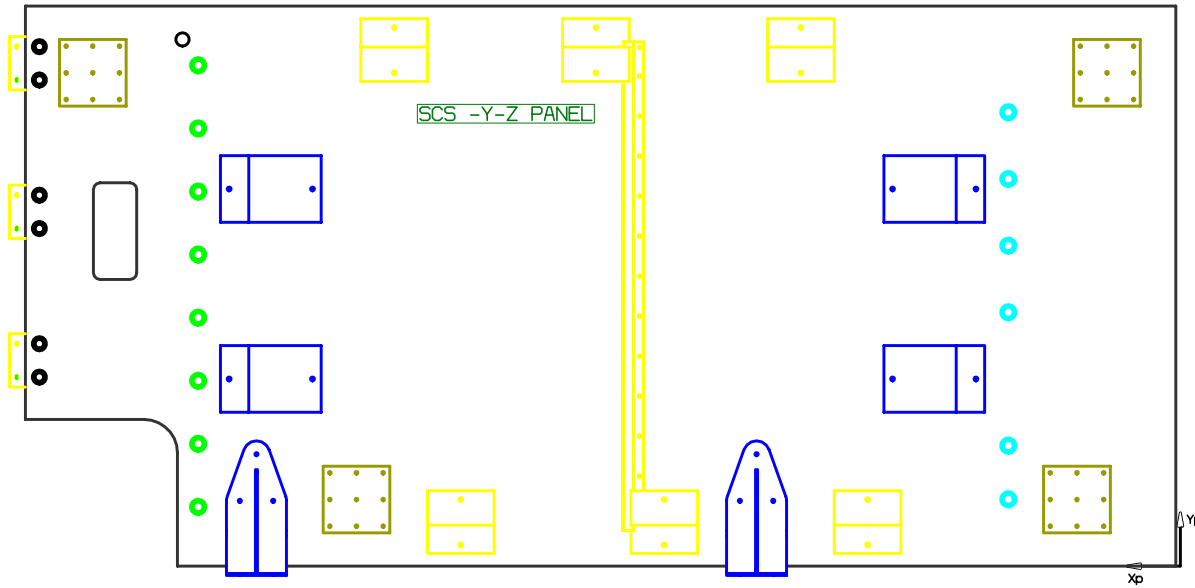
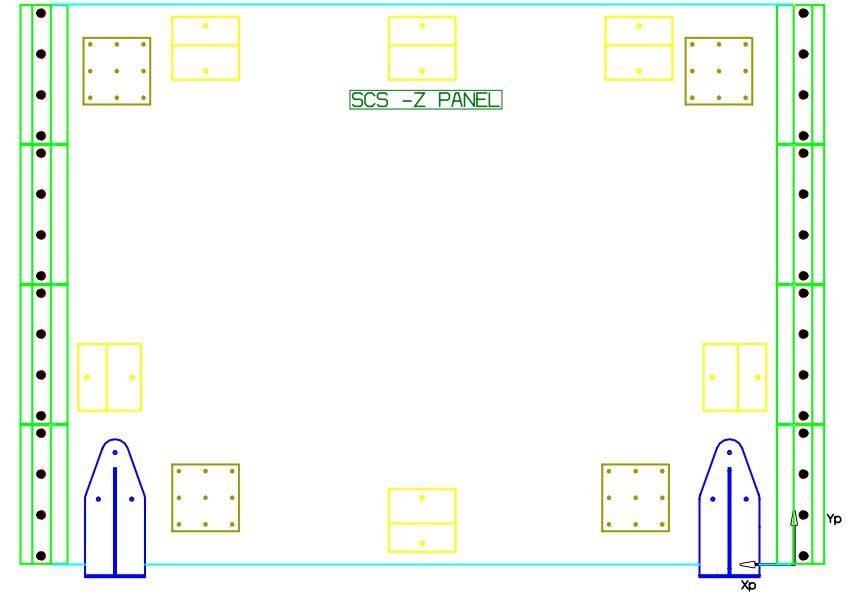
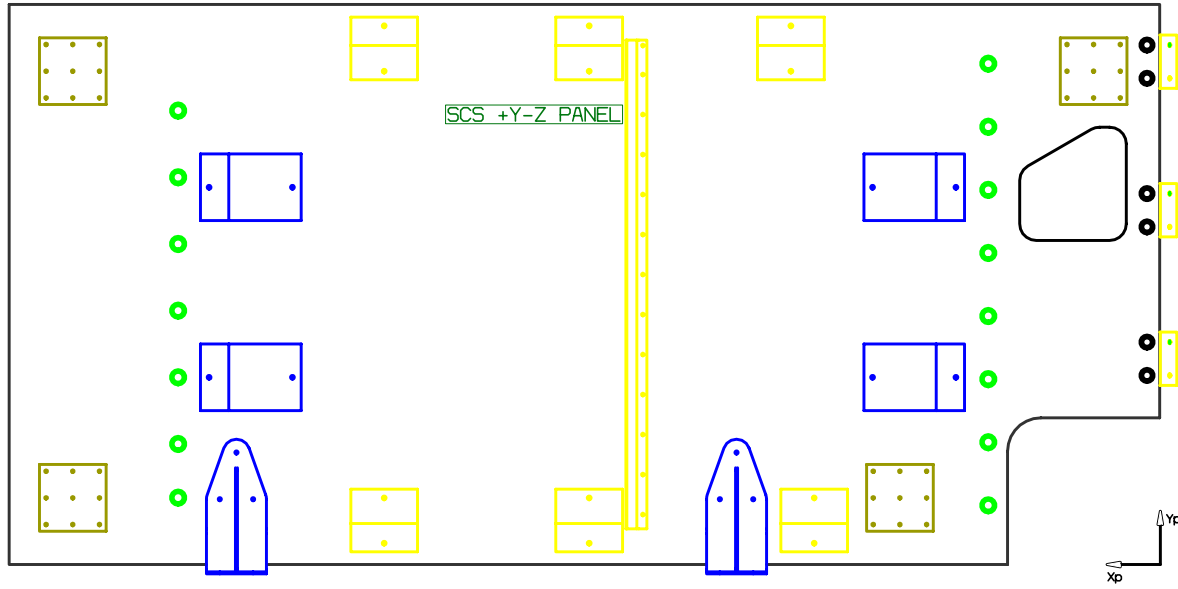


REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIET J.	PLETINCKX K.	---	---	
Rev.	Date	Scale	Format	Sht	
B0	27/05/04	N/A	A1	3/6	
Title			SCS INSTRUMENT PANEL ASSY		
Dwg #			HP-NXH-DW-2024		

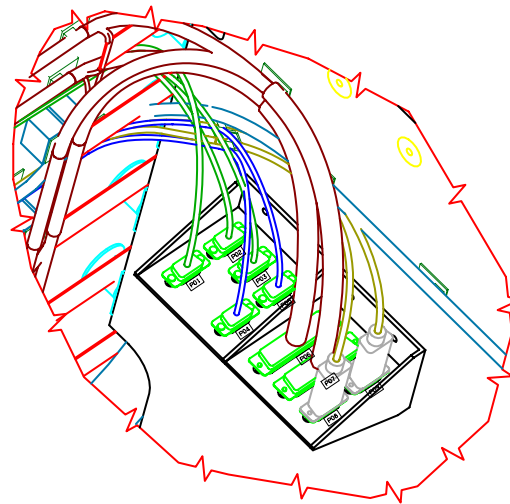
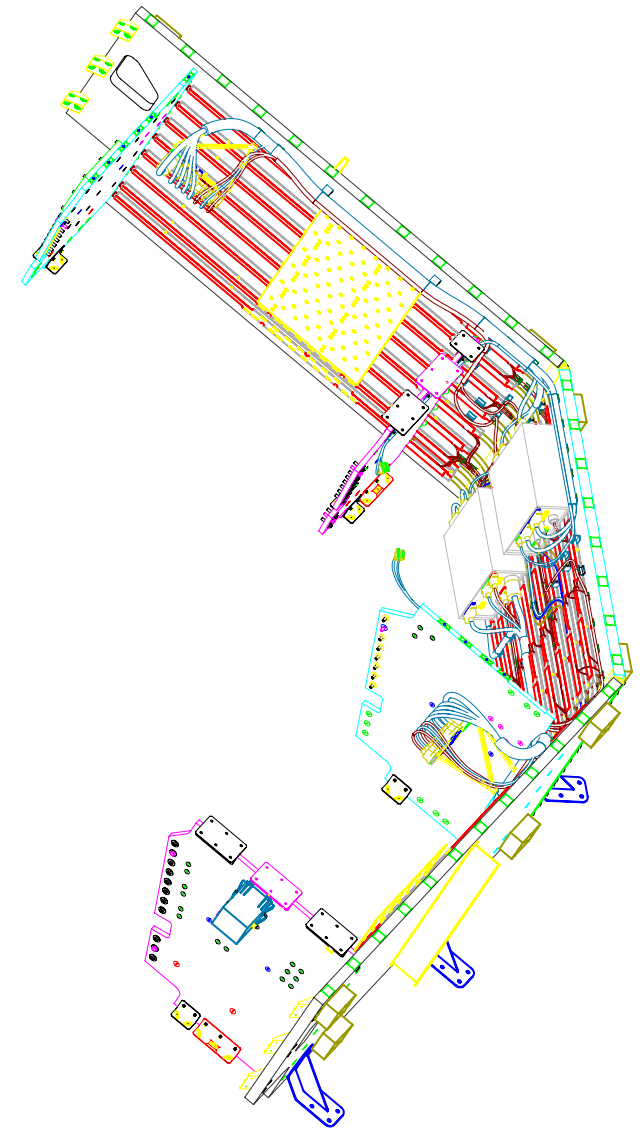
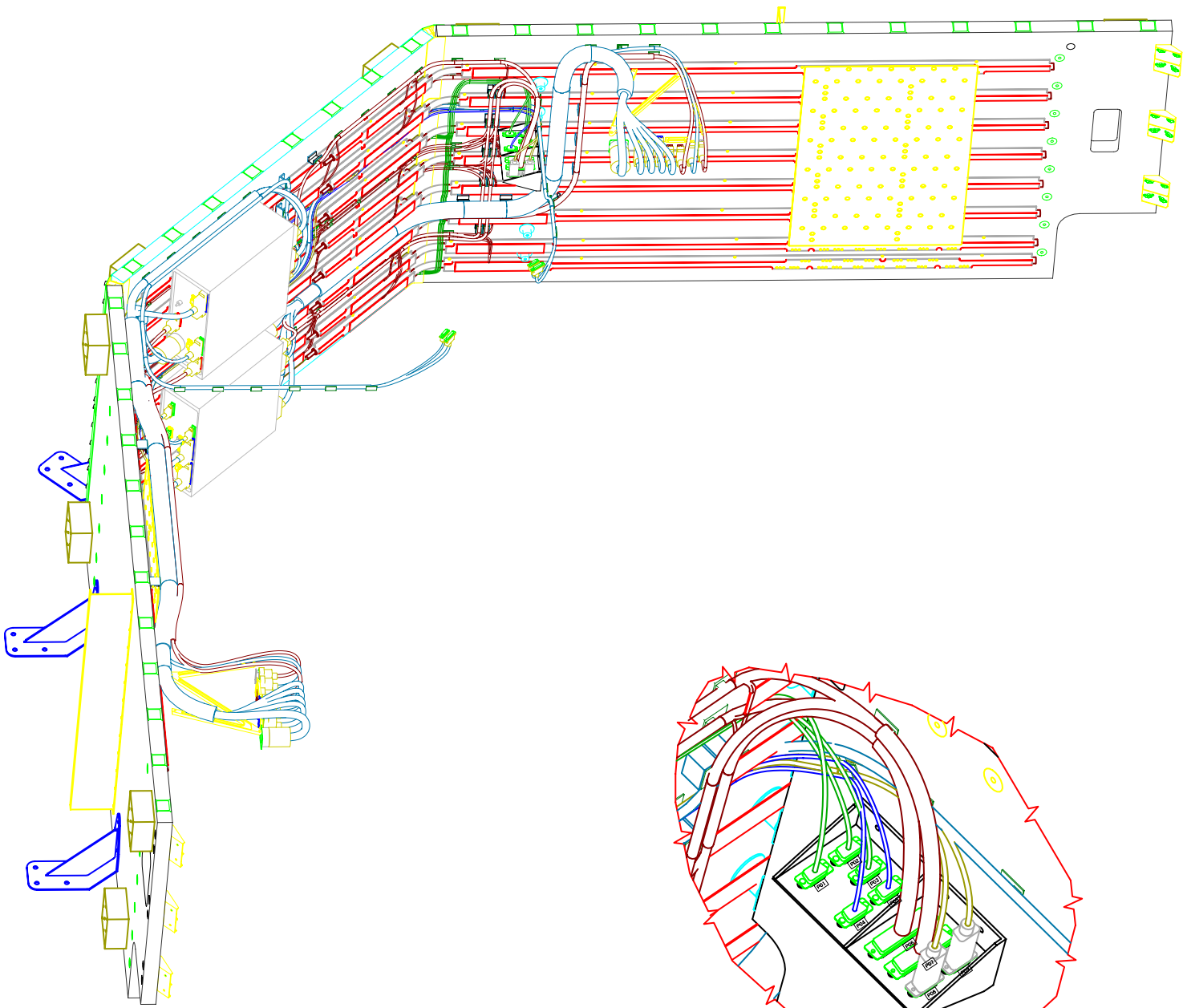




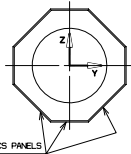
REV.	DATE	BY	MODIFICATION		APPROVAL
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVLIET J.	PLETINCKX K.	---	---	
Rev.	Date	Scale	Format	Sht	
B0	27/05/04	N/A	A1	4/6	
		Title SCS INSTRUMENT PANEL ASSY Dwg N° HP-NXH-DW-2024			



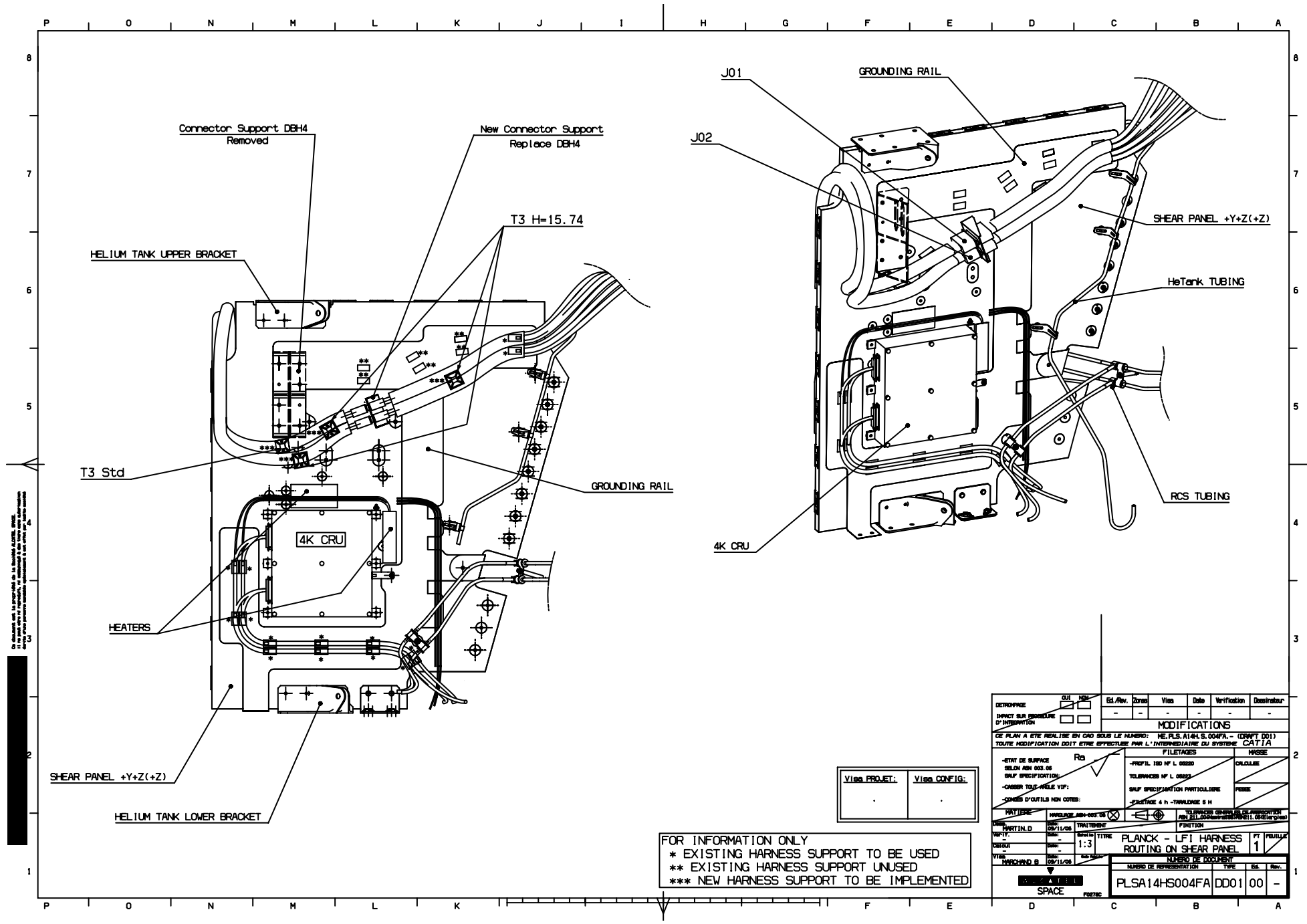
REV.	DATE	BY	MODIFICATION		APPROVAL
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	QUALITY	
N/A	VERVL IET J.	PLETINCKX K.	---	---	
Rev.	Date	Scale	Format	Sht	
B0	27/05/04	N/A	A1	5/6	
			Title SCS INSTRUMENT PANEL ASSY		
			Dwg N° HP-NXH-DW-2024		



PLANCK



REV.	DATE	BY	MODIFICATION	APPROVAL	
DESIGNED BY		DRAWN BY	CHECKED BY	APPROVED BY	QUALITY
N/A		VERVLIET J.	PLETINCKX K.	---	---
Rev.	B0	Date	27/05/04	Scale	N/A
				Format	A1
				Shr	6/6
			Title		
			SCS INSTRUMENT PANEL ASSY		
			Dwg N° HP-NXH-DW-2024		

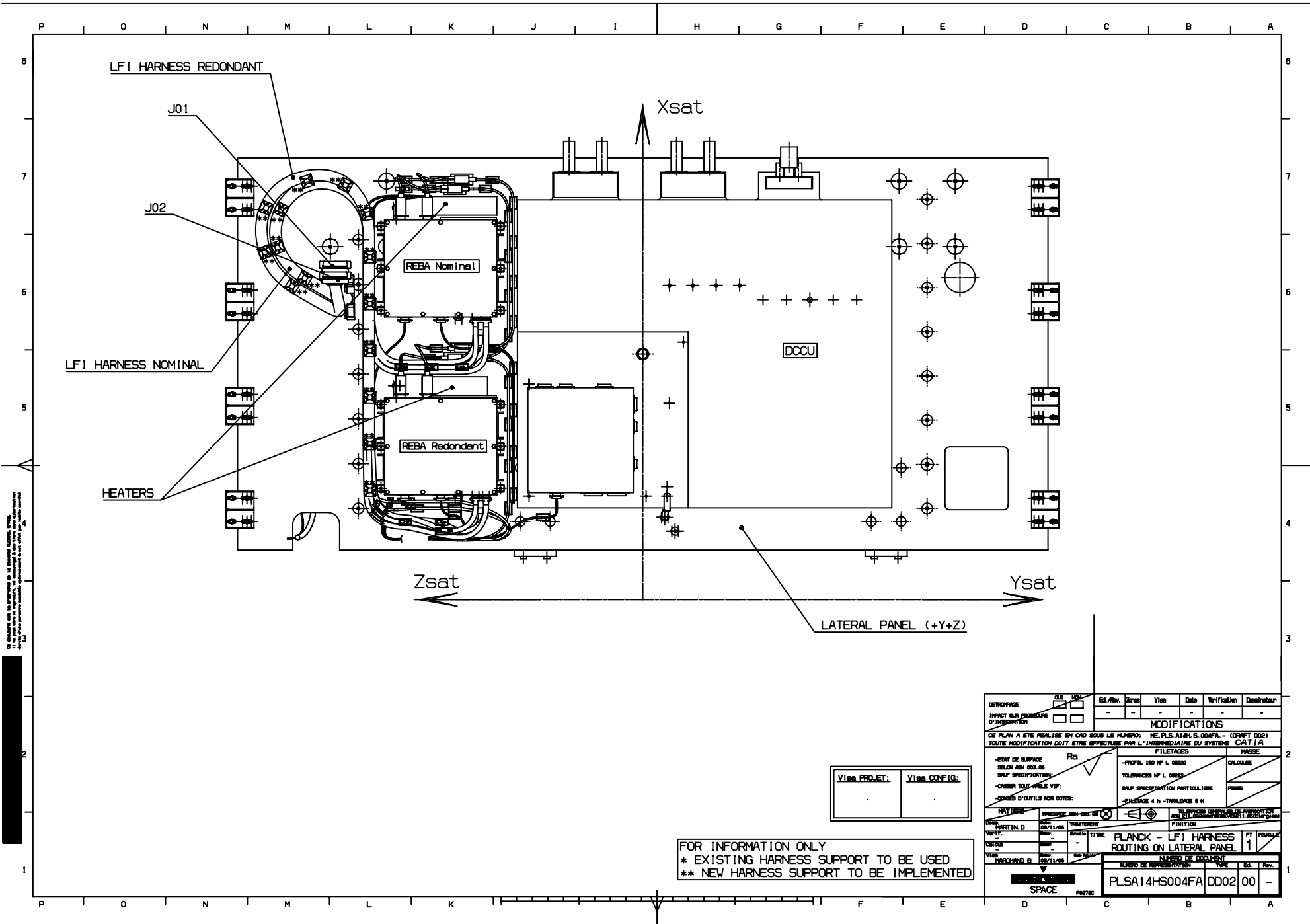


1) Vérifier que la structure est en état de recevoir les câbles.
 2) Vérifier que les câbles sont correctement fixés et que les supports sont bien installés.
 3) Vérifier que les câbles sont correctement étiquetés et que les étiquettes sont lisibles.
 4) Vérifier que les câbles sont correctement protégés et que les protections sont bien installées.
 5) Vérifier que les câbles sont correctement routés et que les courbes sont respectées.
 6) Vérifier que les câbles sont correctement terminés et que les terminaisons sont bien installées.
 7) Vérifier que les câbles sont correctement testés et que les tests sont satisfaisants.
 8) Vérifier que les câbles sont correctement documentés et que les documents sont à jour.

FOR INFORMATION ONLY
 * EXISTING HARNESS SUPPORT TO BE USED
 ** EXISTING HARNESS SUPPORT UNUSED
 *** NEW HARNESS SUPPORT TO BE IMPLEMENTED

Visei PROJET: Visei CONFIG:

RETROUVERE	OUT	DATE	Ed./Rev.	Zones	Vies	Date	Verification	Dessinateur
IMPACT SUR SECURITE D'INTERVENTION								
MODIFICATIONS								
CE PLAN A ETE REALISE EN CAD SOUS LE NUMERO: HE.PLS.A14H.S.004FA - (DRAFT 001) TOUTE MODIFICATION DOIT ETRE EFFECTUEE PAR L'INTERMEDIAIRE DU SYSTEME CATIA								
-SEIT DE SURFACE SELON AIN 003.06 SANS SPECIFICATION			FILETAGES			MISSE		
-CARRER TOUT ANGLE VIF:			-PROFIL 100 N° L. 0820			CALOISE		
-CONES D'OUTILS NON COTES:			SANS SPECIFICATION PARTICULIERE			PEREE		
TRAYLISE			TOLERANCE 4 N° - TOLERANCE 8 N°			FINITION		
PARTIN.D 02/11/05	TRAITEMENT 02/11/05	TITRE 1:3	PLANCK - LFT HARNESS ROUTING ON SHEAR PANEL			PT 1	PERALLEL	
CHECK 02/11/05	VISEI 02/11/05	N° DE DOCUMENT PLSA14HS004FA	NUMERO DE DOCUMENT DDO1 00			TYPE -		
SPACE			PLOTIC			A		

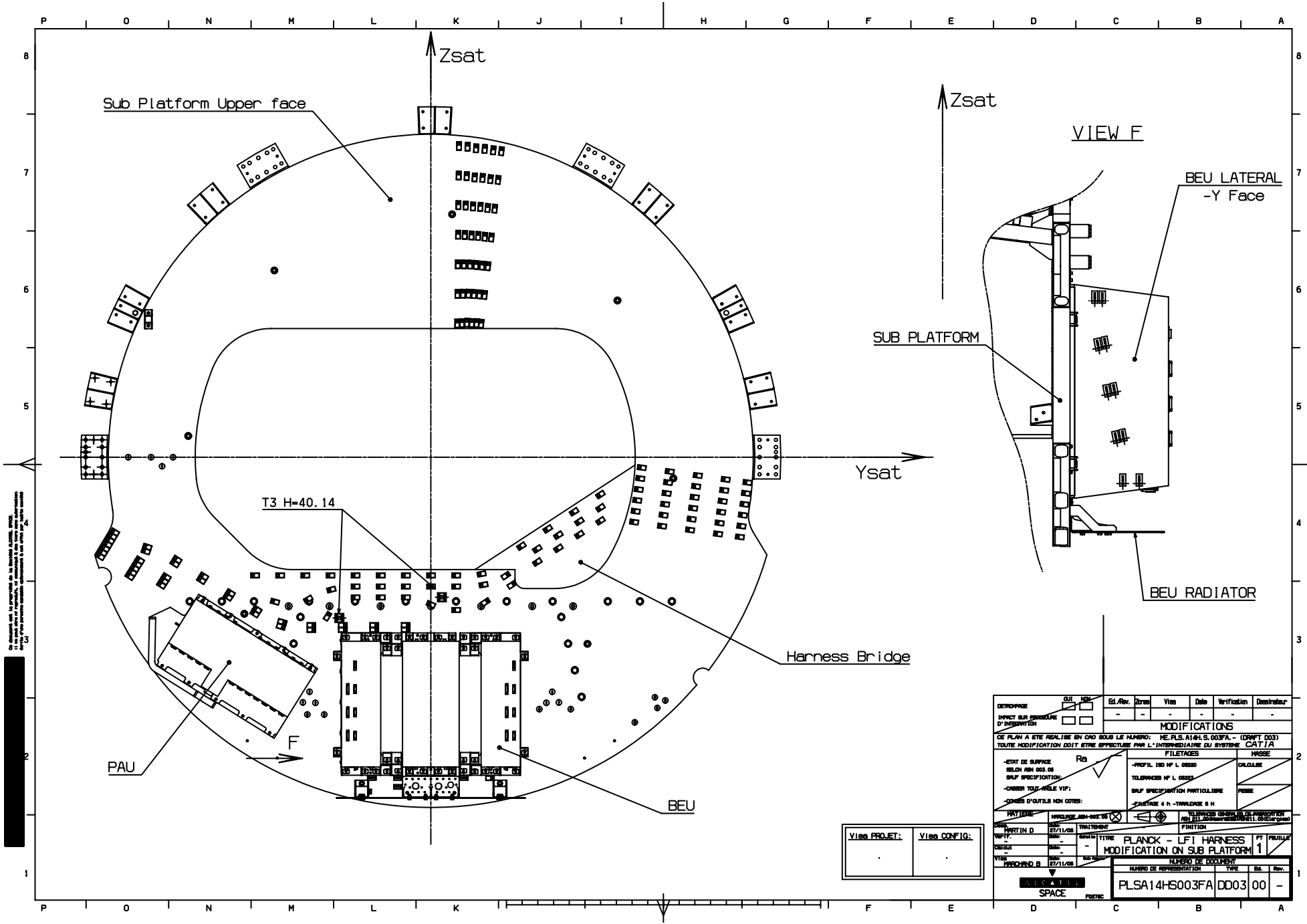


Ce document est la propriété de la Direction Générale de l'Armement (DGA).
 Il est communiqué à titre d'information et ne doit pas être réutilisé sans autorisation écrite de la DGA.

Visa PROJET:	Visa CONFIG:

FOR INFORMATION ONLY
 * EXISTING HARNESS SUPPORT TO BE USED
 ** NEW HARNESS SUPPORT TO BE IMPLEMENTED

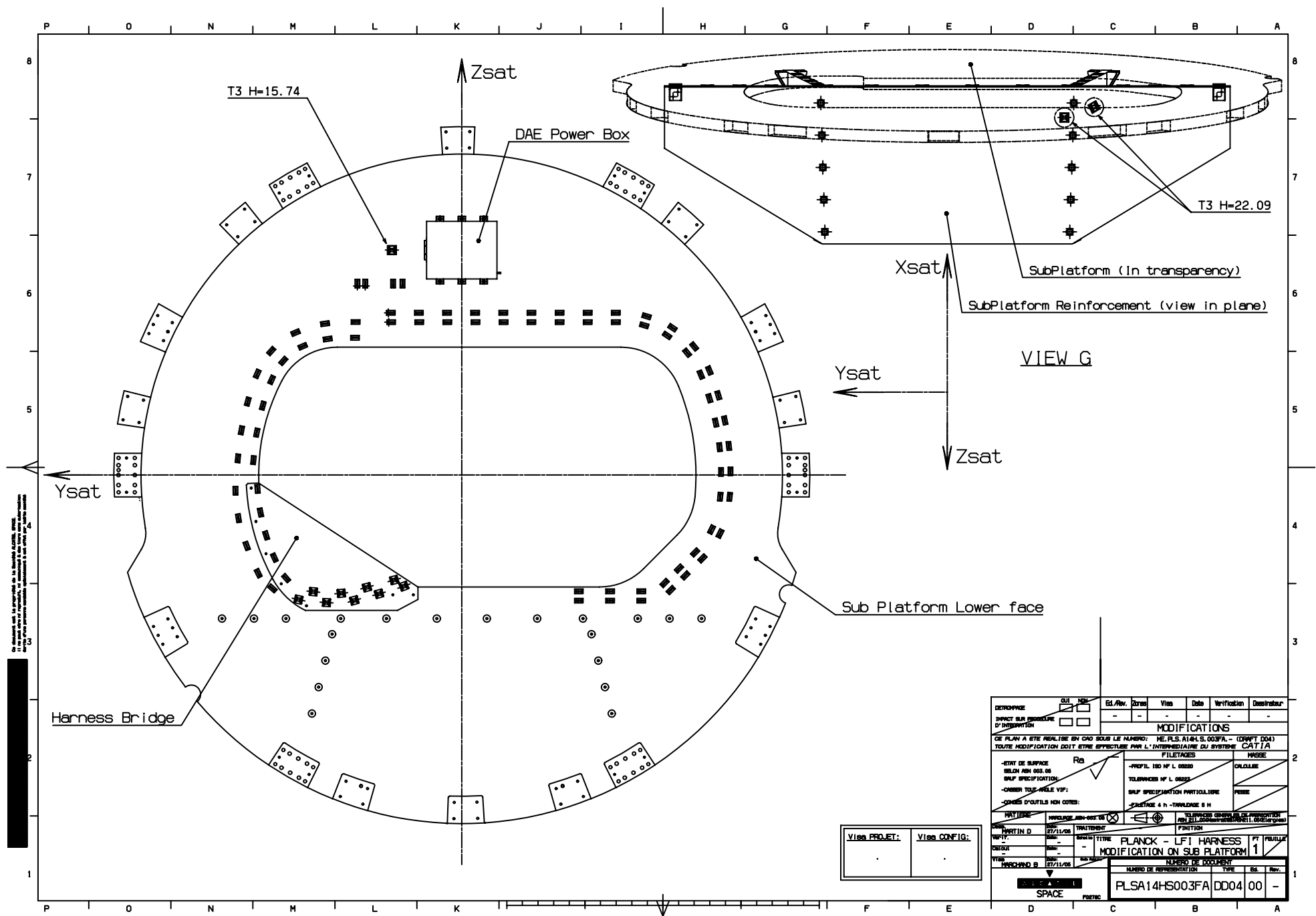
DETERMINER	<input type="checkbox"/>	ES. Rev.	Corr.	Visa	Date	Verification	Dessinateur
INVENT SUR PROCEDURE D'IMPLEMENTATION	<input type="checkbox"/>	-	-	-	-	-	-
MODIFICATIONS							
CE PLAN A ETE REALISE EN CAD SOUS LE NUMERO: YLSA14HS004FA - (DRAFT D02) TOUTE MODIFICATION DOIT ETRE EFFECTUEE PAR L'INTERMEDIAIRE DU SYSTEME CATIA							
FILETAGES - ETAT DE SURFACE SELON NBS 08 - SAUF SPECIFICATION - CHAMF TOUTE ARRETE VIF - CHAMF D'OUTILS NON COTES				Rb - PROFIL ISO NF L 0820 - TOLERANCES NF L 0820 - SAUF SPECIFICATION PARTICULIERE - CHAMFRE 4 R - TOLERANCE 8 H		MASSE - CALQUE - PEISE	
MATIERE: <input checked="" type="checkbox"/> POLYURETHANE AMB-005-05 <input type="checkbox"/> AUTRES							
PRELIM.D DATE: 02/11/05 VERIF: <input type="checkbox"/> DATE: <input type="checkbox"/>		REALISATION DATE: 02/11/05 VERIF: <input type="checkbox"/>		FINITION DATE: <input type="checkbox"/>		TOLERANCES GENERALES DE PRECISION (NF L 0820) (NF L 0820) (NF L 0820)	
N° PROJET: PLSA14HS004FA				N° DE DOCUMENT: DD02 00			
TYPE: PLANCH - LFI HARNESS ROUTING ON LATERAL PANEL				N° DE REPRESENTATION: DD02 00			
TYPE: PLANCH - LFI HARNESS ROUTING ON LATERAL PANEL				N° DE REPRESENTATION: DD02 00			
TYPE: PLANCH - LFI HARNESS ROUTING ON LATERAL PANEL				N° DE REPRESENTATION: DD02 00			



Ce document est la propriété de la Direction Nationale des Armées.
 Il est prêt à être communiqué à l'extérieur de la Direction Nationale des Armées.
 Toute réimpression ou utilisation non autorisée sans la permission écrite de la Direction Nationale des Armées est formellement interdite.

View PROJET: View CONFIG:

DEVELOPPE	OUT	NON	Ed./Rev.	02/05	Viss	Date	Verifcation	Desinateur
IMPACT SUR SCHEMATS D'INSTALLATION	<input type="checkbox"/>	<input type="checkbox"/>						
MODIFICATIONS								
CE PLAN A ETE REALISE EN CHOISISSANT LE NOMBRE: NE.PLS.A14H.S.003FA - (DIRFT 003)								
TOUTE MODIFICATION DOIT ETRE EFFECTUEE PAR L'INTERMEDIAIRE DU SYSTEME CATIA								
-ETAT DE SURFACE SELON N° L. 0830 SANS SPECIFICATION			Re			FILETAGES		
-CHANGER TOUTE ANGLE VIF:						CALCULEE		
-COTES D'OUTILS NON COTES:						PESSE		
						-SANS TITRE 4 H - TITRE 08 H		
PARTIEN			N°/REV. 001-001-001			N°/REV. 001-001-001		
PROJET D	27/11/06	TITRE	FINITION	N°/REV. 001-001-001				
VERIF.		TITRE	PLANCK - LFT HARNESS	PT	PRELIEU			
DESIGN		TITRE	MODIFICATION ON SUB PLATFORM	1				
VIS		TITRE	NOMBRE DE DOCUMENT					
PROJOND B	27/11/06	NOMBRE DE REPRESENTATION		TYPE	SS	REV.		
SPACE				PLSA14HS003FA		DD03 00		-



Ce document est la propriété de la Direction Aérospatiale.
 Il est communiqué en vertu de la Loi sur l'accès à l'information.
 This document is the property of the Direction Aérospatiale.
 It is communicated pursuant to the Access to Information Act.

VIEW G

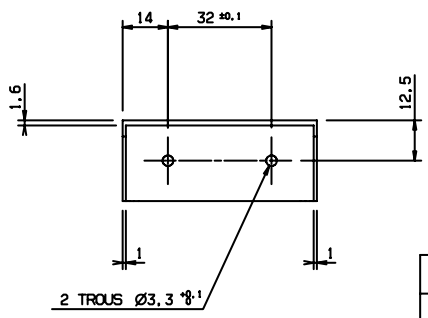
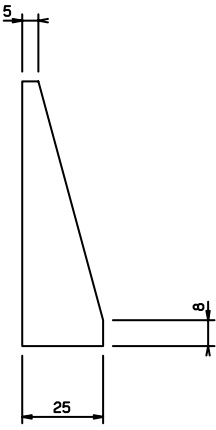
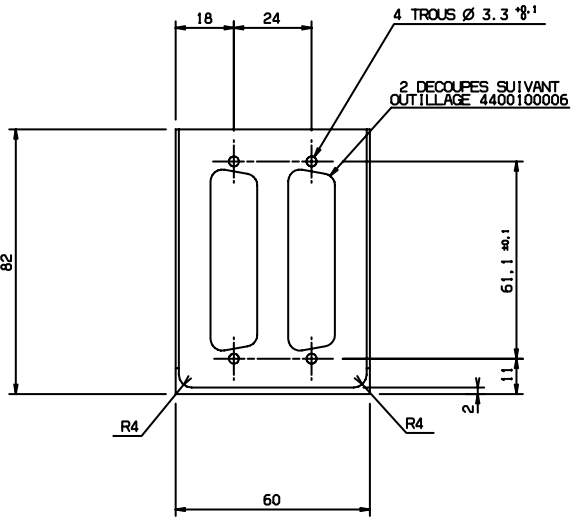
Viseo PROJET: Viseo CONFIG:
 . .

DESCRIPTION	Qui	Non	Et./Rev.	Date	Vies	Verif.	Destinataire
IMPACT SUR PROCEDURE D'INTERVENTION			-	-	-	-	-
MODIFICATIONS							
CE PLAN A ETE REALISE EN CAD SOUS LE NUMERO: HE, PLS, A14HS, 003FA - (DRAFT 004) TOUTE MODIFICATION DOIT ETRE EFFECTUEE PAR L'INTERMEDIAIRE DU SYSTEME CATTIA							
-ETRI DE SURFACE SELON AIN 003.06 -CHANGER TOUS MOLE VIF: -CHANGER D'OUTILS NON COTES:				FILETAGES -PROFIL. ISO N° L. 0030 TOLERANCES N° L. 0030 SAUF SPECIFICATION PARTICULIERE -SERRAGE A N -TORNILLE 8 H		CALQUE PESE	
MULTISE INCLUSE AIN-003.06		<input checked="" type="checkbox"/>		<input type="checkbox"/>		TOLERANCES GÉNÉRALES DE FINITION AIN 211.000-000-000-000-000-000	
MARTIN D 07/11/06	TRAITEMENT		FINITION		PLANCK - LFT HARNESS MODIFICATION ON SUB PLATFORM		
N°REV. 0001	DATE 07/11/06	TYPE PLANCK	N°REV. 0001	DATE 07/11/06	TYPE PLANCK	N°REV. 0001	DATE 07/11/06
NOMBRE DE DOCUMENT							
PLSA14HS003FA		DD04		00		-	
SPACE				PORTIC			

MODIFICATIONS

IndosZones	Visea	Date	Verification	Origine
B	JN PAOLINI 05/02/97	12/01/97	S. LE GOFF 05/02/97	SAES Fr.


4
-MISE A JOUR DE LA COTATION
-SUPPRIMER COTE ET TOLERANCE
-DE POSITIONNEMENT
-COTE 61,1 DEVIENT 61,1±0,1
-COTE 32 DEVIENT 32±0,1
-TROUS Ø 3,1 PASSENT A Ø 3,3
-MODIFIER NOTA EN ZONE F1



NOTA:
- MOUCHER LES ARETES VIVES.
- TOLERANCE GENERALE : ±0,3
- SAUF INDICATION CONTRAIRE

DETROMPAGE	<input type="checkbox"/>	OUI	<input type="checkbox"/>	NON
IMPACT SUR PROCEDURE D'INTEGRATION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CE PLAN A ETE REALISE EN C.A.O SOUS LE NUMERO : ME.SPB.1141.A.0501A.B DRAFT D1
TOUTE MODIFICATION DOIT ETRE EFFECTUEE PAR L'INTERMEDIAIRE DU SYSTEME CATIA

PROTECTION	ETAT DE SURFACE ASN 003.06	MARQUAGE ASN 003.08	<input checked="" type="checkbox"/> ELEMENT	<input type="checkbox"/> CRITIQUE
TOLERANCES GENERALES DE FABRICATION ASN 211.00 (Nominales) / ASN H-06 (Etrees)	3,2 MICRONS SAUF INDICATIONS CONTRAIRES			
VISAS DES SERVICES D'ETAT				
 <p>AEROSPATIALE ESPACE & DEFENSE</p>				
CE DESSIN EST LA PROPRIETE DE Aerospatiale ET NE PEUT ETRE REPRODUIT OU COMMUNIQUE SANS SON AUTORISATION.				
DES GRANDOU LE 08/07/95	VERIF S. RAPUC LE 06/09/96	CALCUL LE	VISA JN PAOLINI LE 06/09/96	TITRE
				SUPPORT DE CONNECTEUR 2 X 50 BROCHES
BOHELLE 1/1	CODE DOC 20	REFERENCE F4060C	SPB 1141 A 0501A	INDICE B
				PLANCHE 1

CODE FORMAT

LIST OF CAD MODELS APPLICABLE TO SCS WIH

WIH : WARM UNIT INTERCONNECTING HARNESS (INSTRUMENT)

SVMh : SVM HARNESS (SATELLITE)

HARNESS SCS INSTRUMENT ON SVM – ALL FILES IN STEP FORMAT

NUMBER	ISSUE	NAME	CONTENT
HP211101-24-2	B	SCS PANELS HRN ELT ASSY HRN SOE	WIH ON SCS PANELS AND CRYOHARNESS FROM SCE TO BRACKETS ON SUBPLATFORM (W101 & W102)
HP211102-24-2	B	SCS PANELS HRN MECH ASSY HRN	WIH SUPPORTS ON SCS PANELS
HP392001-24-2	E	SCS PANELS HRN ELT ASSY HRN STEP	SVM HARNESS ON SCS PANELS
HP392002-24-2	B	SCS PANELS HRN MECH ASSY HRN	SVM HARNESS SUPPORTS ON SCS PANELS
ME.PLS.A11F.Z.011SA	H	GM EQPT SVM PLANCK -Z -Z+Y -Z-Y SCC STEP	SCCs AND SCEs MODELS
ME.PLS.A11F.Z.011SA	H	GM STRUCT SVM PLANCK -Z -Z+Y -Z-Y SCC STEP	PANELS STRUCTURE AND HEAT-PIPES