|  |
| --- |
| Insert here the name of the project. |
|  |
|  |
| Version: |
| CI Number: |
| DRL ID: N/A |

Release Information

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Name | Function | Signature | Date |
| Prepared by: |  |  |  |  |
| Reviewed by: |  |  |  |  |
| Approved by: | G. Ferreira (GCOR) | SAIT Engineer |  |  |
| Authorized by: |  |  |  |  |

Execution Information

|  |  |  |  |
| --- | --- | --- | --- |
| Project = Insert here the name of the project.  WO = Insert here the number of the work order. | | | |
|  | Name (Initials) | Date | Signature |
| Performed by: |  |  |  |
| Peer-Reviewed by |  |  |  |
| QA inspection by: |  |  |  |

Distribution List

|  |  |  |
| --- | --- | --- |
| Name | Organization | Description |
| N/A | ISISPACE | Innovative Solutions In Space B.V. |
|  |  |  |

Disclaimer

The contents of this document are subject to the relevant provisions in the contract concluded between the parties. ISISPACE Group (“ISISPACE”) shall not be liable, in full or in part, for any damage arising out from the application or use of any product or circuit described herein, in case such application or use are carried out in a manner not in line with the instructions and warranties provided in the User Manual, Safety Manual, product information sheets or any other document provided by ISISPACE upon the delivery of the product (“Documents”). Further, ISISPACE shall not be liable for any damage caused by any use which exceeds the function(s) of the product, or does not conform to such function(s) as described in the Documents. ISISPACE shall not be liable for any damage arising from a use which is not carried out in a manner conforming to acceptable practices in the aerospace industry.

ISISPACE warrants that the product is supplied after relevant tests had shown the product is in good order and functioning, as far as these tests may indicate and predict product functionality.

Change Log

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Date | Affects | Description |
| 1.0 | 2024-11-15 | All | First Version |

**Table of Contents**

[1 Introduction 6](#_Toc182588556)

[1.1 Applicable Documents 6](#_Toc182588557)

[1.2 Reference Documents 6](#_Toc182588558)

[2 Required Equipment 7](#_Toc182588559)

[2.1 Satellite Equipment and Parts 7](#_Toc182588560)

[2.2 Ground Support Equipment and tools 7](#_Toc182588561)

[2.3 Consumables 7](#_Toc182588562)

[2.4 Preparation 7](#_Toc182588563)

[3 Frames and Brackets Assembly Procedure 8](#_Toc182588564)

[4 Procedure Variation Log 10](#_Toc182588565)

Figures

**No table of figures entries found.**

Tables

[Table 1 - Applicable Documents 5](#_Toc182588566)

[Table 2 - Reference Documents 5](#_Toc182588567)

Acronyms

| Name | Description |
| --- | --- |
| ABF | Apply Before Flight |
| CSKB | CubeSat Kit Bus |
| DB | IOBC Daughterboard |
| ESD | Electrostatic Discharge |
| GSE | Ground Support Equipment |
| HISJ | Horizontal Integration Support Jig |
| ICEPS2 | ISISPACE Compact Electric Power System (version 2) |
| IOBC | ISISPACE On Board Computer |
| MGSE | Mechanical Ground Support Equipment |
| MMCX | Micro Miniature Coaxial connector |
| PCB | Printed Circuit Board |
| PLT | Platform |
| RX | Receiver |
| SAIT | System Assembly, Integration, and Test |
| STA1U | Stack Integration 1U Support Jig |
| STS | ISISPACE Structure |
| TRXVU | ISISPACE Transmiter/Receiver VHF/UHF |
| TX | Transmitter |
| VISJ | Vertical Integration Support Jig |

# Introduction

This document concerns the standard **1U platform, Type B** structure. This document contains the procedure to assemble the structure frames (called for the Type B structure as guiderails) and brackets on the platform module.

The procedure can be performed with or without payload as long as the platform module height is met according to the platform module assembly procedure.

## Applicable Documents

The table below contains documents which applicability is required. The contents of the present document follow the standards, guidelines and requirements here mentioned.

Table 1 - Applicable Documents

|  |  |  |
| --- | --- | --- |
| **Reference** | **Name** | **Version** |
| ISIS-1UPLT-PLN-001 | 1U CubeSat Platform SAIT Plan | 2.0 |
| ISIS-1UPLT-DDD-0003 | 1U CubeSat Platform Design Description (Type B STS) | 1.0 |

## Reference Documents

The table below contains documents that are not fully applicable and will provide supplementary information relevant for the present document.

Table 2 - Reference Documents

|  |  |  |
| --- | --- | --- |
| Reference | Name | Version |
| ISIS.SAIT.GL.001 | SAIT guidelines | 1.0 |
| ISIS-QMS-PLN-0001 | Product Assurance Plan | 1.1 |
| ISIS.SAIT.POL.002 | SAIT Cleanliness and Contamination Control Policy | 1.0 |

# Required Equipment

## Satellite Equipment and Parts

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Subsystem | Amount | Remark | ID / Serial number | Check |
| Platform Module | 1 | Assembled Platform Module (Payload/ICEPS/TRXVU/IOBC/DB) |  |  |
| 1U Type B STS | 1  1  1  4  24  4 | Set of ABF Brackets:  ISIS-STS-1-1-029  ISIS-STS-1-1-030  ISISPACE-STS-1-01-009-A-1 : TBS-1U Guiderail  M2.5x6mm Countersunk Screw  M2.5x10mm Countersunk Screw |  |  |

## Ground Support Equipment and tools

| Item | Remark | ID / Serial number | Check |
| --- | --- | --- | --- |
| Screwdriver Torx 8 (M2.5) | Example: AEX 8x75 |  |  |
| Torque screwdriver | Torque ≈ 0.5 Nm  Example: A.402 or A.301MT |  |  |
| Torque Bit Torx 8 (M2.5) | Example: EX.108 |  |  |
| Additional screws | (1x) M2.5x5mm cylinder screws |  |  |
| VISJ | Vertical Integration Jig |  |  |

## Consumables

| Item | Remark | ID / Serial number | Check |
| --- | --- | --- | --- |
| Epoxy | Example: Scotch-Weld DP2216 Epoxy adhesive |  |  |
| Large ESD bag |  |  |  |

## Preparation

| Step | Description | Remark | Check |
| --- | --- | --- | --- |
|  | Collect all satellite equipment and parts, GSEs and Tools according to the checklists in this section | Make sure not to touch anything without gloves and ESD wrist strap attached |  |
|  | Make sure all fasteners are cleaned with ultrasound machine |  |  |
|  | Make sure also that all structural parts are clean. |  |  |
|  | Take high resolution pictures of during the execution of the procedure and store them in the appropriate folder following the subsequent naming guidelines |  |  |

# Frames and Brackets Assembly Procedure

| Step | Description | Check | Comment |
| --- | --- | --- | --- |
|  | If not done yet, attach a grounding cable to the bottom bracket of the platform module with a (1) M2.5x5 Cap Head screw in a Solar Panel hole (not at the feet) |  |  |
|  | If the platform module is still at the VISJ, take it carefully out of the jig and place it on the workbench.  Place at every corner of the platform module the ISISPACE-STS-1-01-009-A-1 : TBS-1U Guiderail  Four (4x) guiderails in total.  Screw them in place with (6x) M2.5x6 CSK screws per guiderail  **Torque ≈ 0.5 Nm**    *Note: The holes on top of the guiderail is mounted to the top bracket.* |  |  |
|  | Place the umbilical brackets:  ISISPACE-STS-1-01-029-A-1  ISISPACE-STS-1-01-030-A-1  Use (2x) M2.5x10 per bracket, four (4x) screws in total  **Torque ≈ 0.5 Nm**      **IMPORTANT:** PLACE THE BRACKETS WITH THE CORRECT ORIENTATION OF THE SMALL CUT-OUT AND BIG CUT-OUT AS SHOWN IN THE PICTURE. |  |  |
|  | *Take photos of the platform module.* |  |  |
|  | Place the platform module in a safe place |  |  |

|  |
| --- |
| **Activity performed by:**  **Date:** Click here to enter a date. |

# Procedure Variation Log

The following table shall be used to log all variations with respect to the original procedure. Please provide as much information as possible regarding the nature and cause of the change. Add pages as required.

| PV # | Section / Page / Step affected | Description | Reason for deviation | Initiated by (Initials) | QA Sign off |
| --- | --- | --- | --- | --- | --- |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |