

### Scope

On 13 October 2009, UCB/SSL took the existing RBSP (Prototype) IDPU and positioned the (Prototype) Cables on the box. Participants included Bill Donakowski, Chris Scholz, Rachel Hochman, Michael Ludlam, and Jorg Fischer.

The goal of the exercise was to:

1. Install the cables onto the IDPU Chassis to validate overall design of box and cable routing scheme.
2. Verify Radiation Shield as-designed is adequate to enclose cables and backshells without unduly preloading or degrading cables.
3. Verify cable bend radius on existing hardware is adequate.

### Hardware Used

The IDPU Chassis employed was the Prototype Unit. This unit is identical to the Flight design in all areas relating to the Front Panels, Radiation Shield, and Cable Routing scheme. (Small internal differences between Prototype and Flight configurations did not affect this fit-up.)

The Cable Harnesses used were Prototype pieces fabricated by UCB/SSL and are identical to Flight design in overall bundle sizing and materials, dressing, connectors, and backshells.

### Routing Fit-Check Performed

1. The cables were positioned and backshells bolted to the IDPU Chassis Front Panel.
2. Cables were routed about the box to the Radiation Shield exit point.
3. Cable Harnesses were secured using cable ties.
4. Radiation Shield was bolted to Chassis card-cage.
5. Overall Assembly was inspected and photographed. Tautness of cables, adequate bend radius, possible box sharp edges, and potential pre-loading of the harnesses were included in the inspection.
6. The Radiation Shield was removed and reversed so that the cables could be inspected with the location of the Radiation Shield wall in the correct position to the IDPU Chassis.

### Conclusions

1. Overall, Cable Harnesses and IDPU chassis as-designed is adequate to support cable harness installation.
2. Cable installation should be straight-forward on the S/C.
3. Cable bending radius is adequate.
4. Radiation Shield provides adequate clearance for cables (including radiation shield 'box' over connector backshells as well as opening for cables to exist IDPU chassis).
5. No design changes are required to any of the mechanical chassis hardware.

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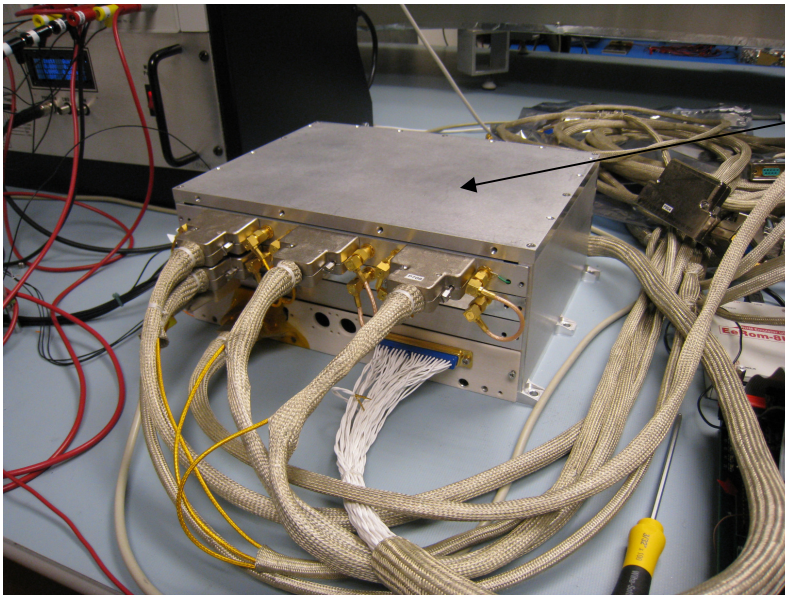
RE: RSPB IDPU Chassis Cable Routing Fit-Check

6. No changes are required on the IDPU Chassis Mechanical Interface Control Drawing.

#### Further Actions

1. UCB/SSL to fabricate simple cable routing model to facilitate cable harness assembly at SSL (scheduled for spring 2010).
2. During flight assembly, it is preferred the sequence be established to not install the cable tie bases onto the IDPU chassis until cable ties are being installed at APL.

#### Backup Documentation: Photographs



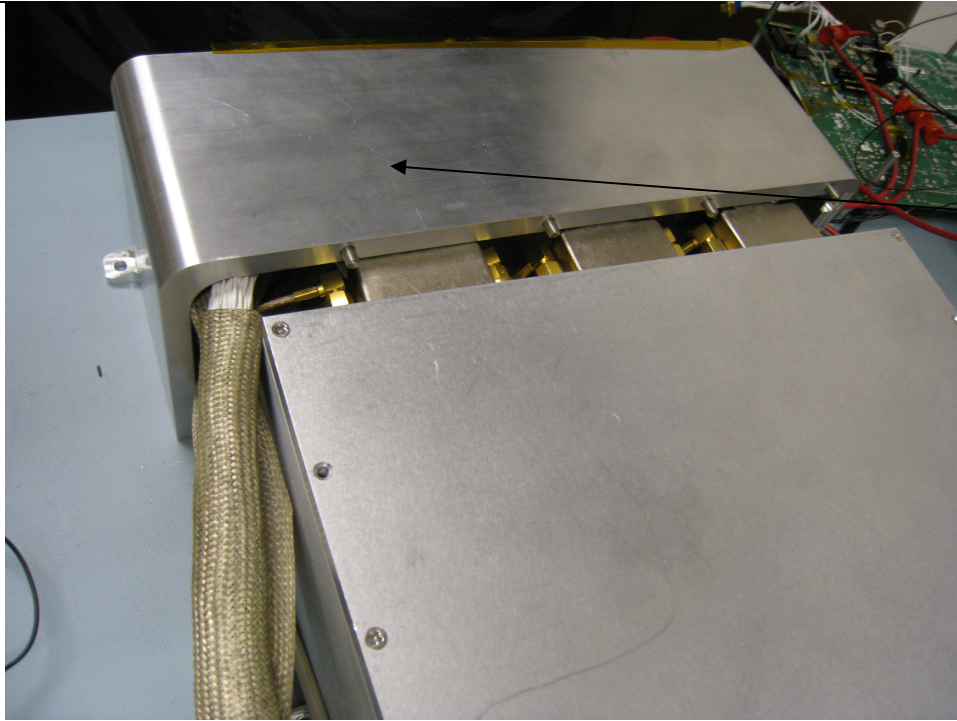
IDPU  
Chassis

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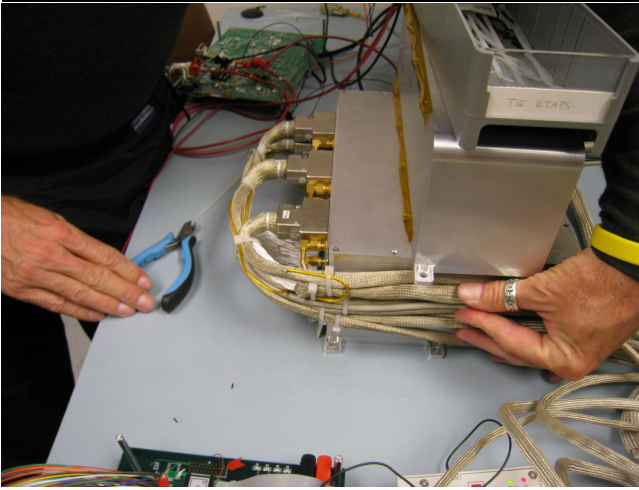
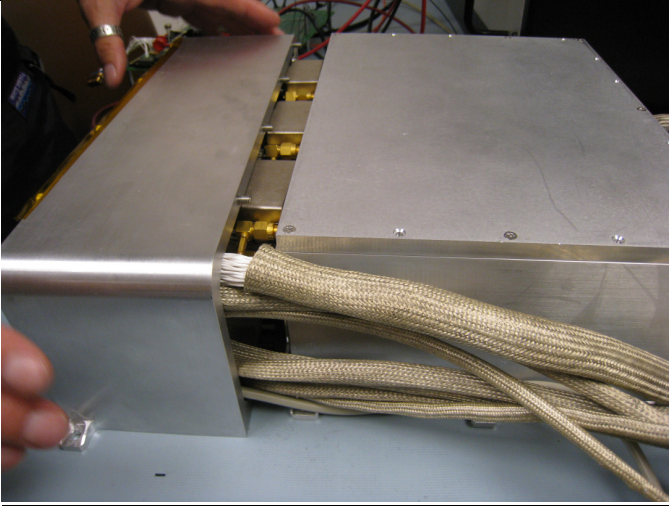
Radiation Shield

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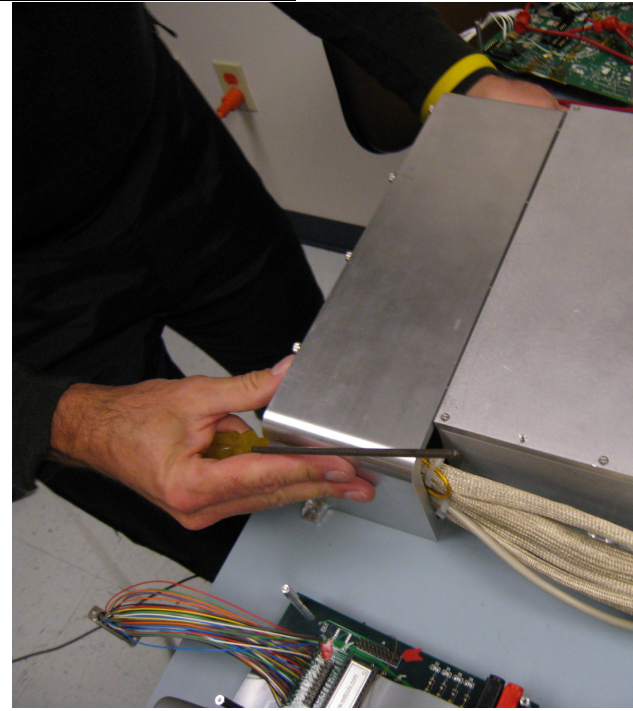
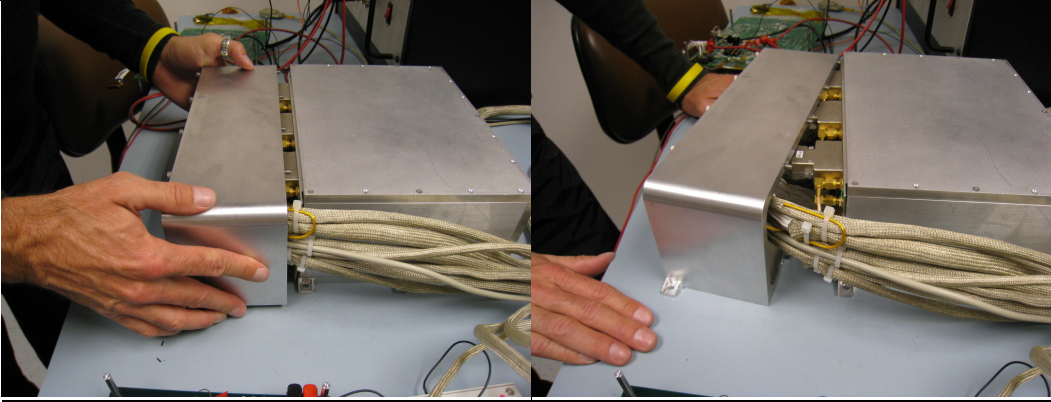


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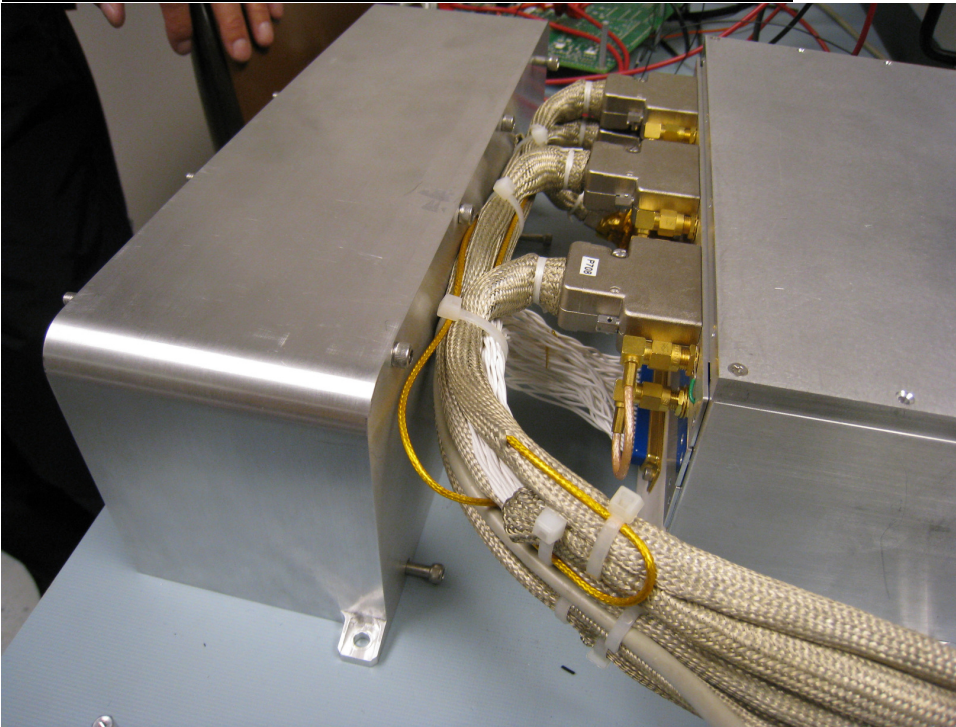
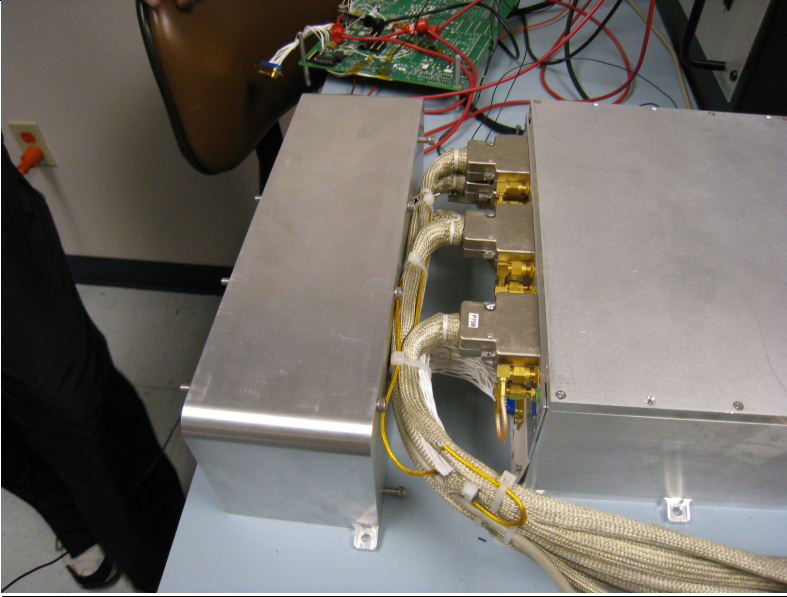
Harness Exit from IDPU Box  
(not installed: cable tie bases)

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Radiation Shield repositioned to mimic cable harness bend radiuses (Wall of Radiation Shield at exact distance from IDPU box face as in Flight configuration).