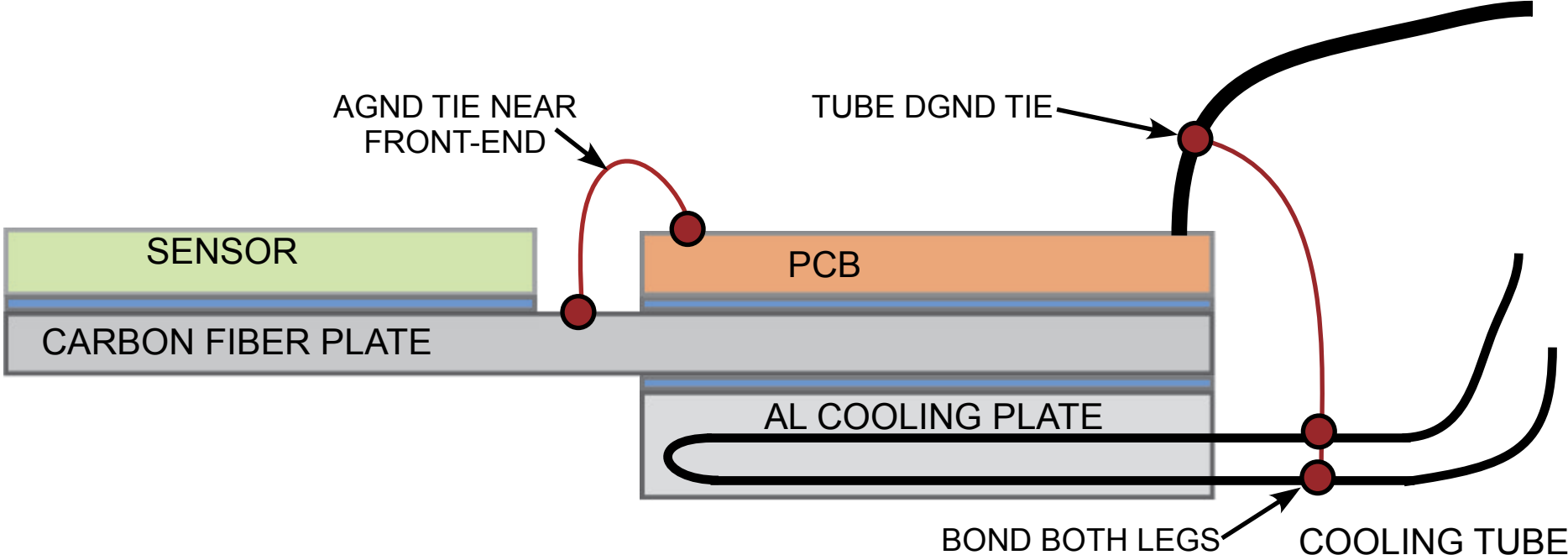
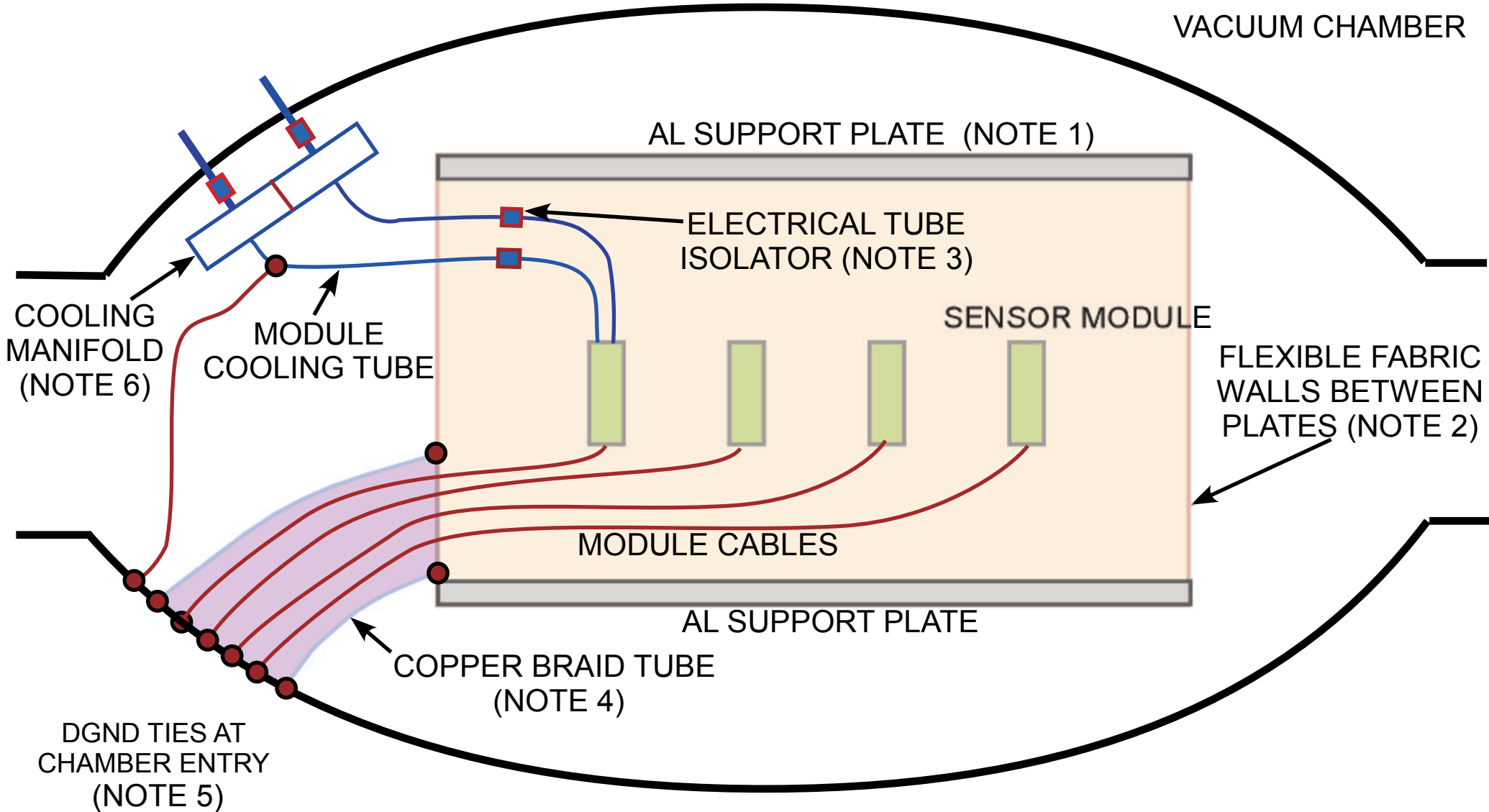


HEAVY PHOTON MODULE G&S REFERENCING



ELECTRICAL ISOLATION

HEAVY PHOTON SUPPORT STRUCTURE G&S REFERENCING



NOTES FOR PAGE 2: MODULE MOUNTING BONDING

- (1) The two Al mounting plates should be isolated except for the electrical ties described here.
The modules should be isolated from their mounting plate.
- (2) Between the two plates a flexible shielding screen should be mounted.
The rear end of the mounting plate shield can have no screening to allow the deflected electron beam to continue without more scattering.
The flexible screen can be copper screening, Kapton/copper sheeting or nickel plated fabric.
The attachment to the mounting plate edges can be at ~20 mm centers.
The screening can have slots and modest openings as needed.
- (3) The two cooling tubes should have electrical isolators near the Al module cooling plate.
The cooling tubes should not electrically contact the mounting structure.
- (4) The electrical cabling from the vacuum chamber wall to the module connector should be grouped together.
A tin-plated copper tubular braid should be slipped over the whole group.
The braid should bond to the vacuum chamber wall at the cable entry area with multiple attachments or, better, circumferential capture.
The other end of the braid should attach to the mounting plate shield with circumferential capture or multiple tie points.
- (5) Module cable DGND is tied to vacuum chamber wall at entry point.
- (6) The cooling manifold is isolated from the vacuum chamber.
The resulting isolated tube array should have a bonding strap to the vacuum chamber near where the module cables and braid bond.