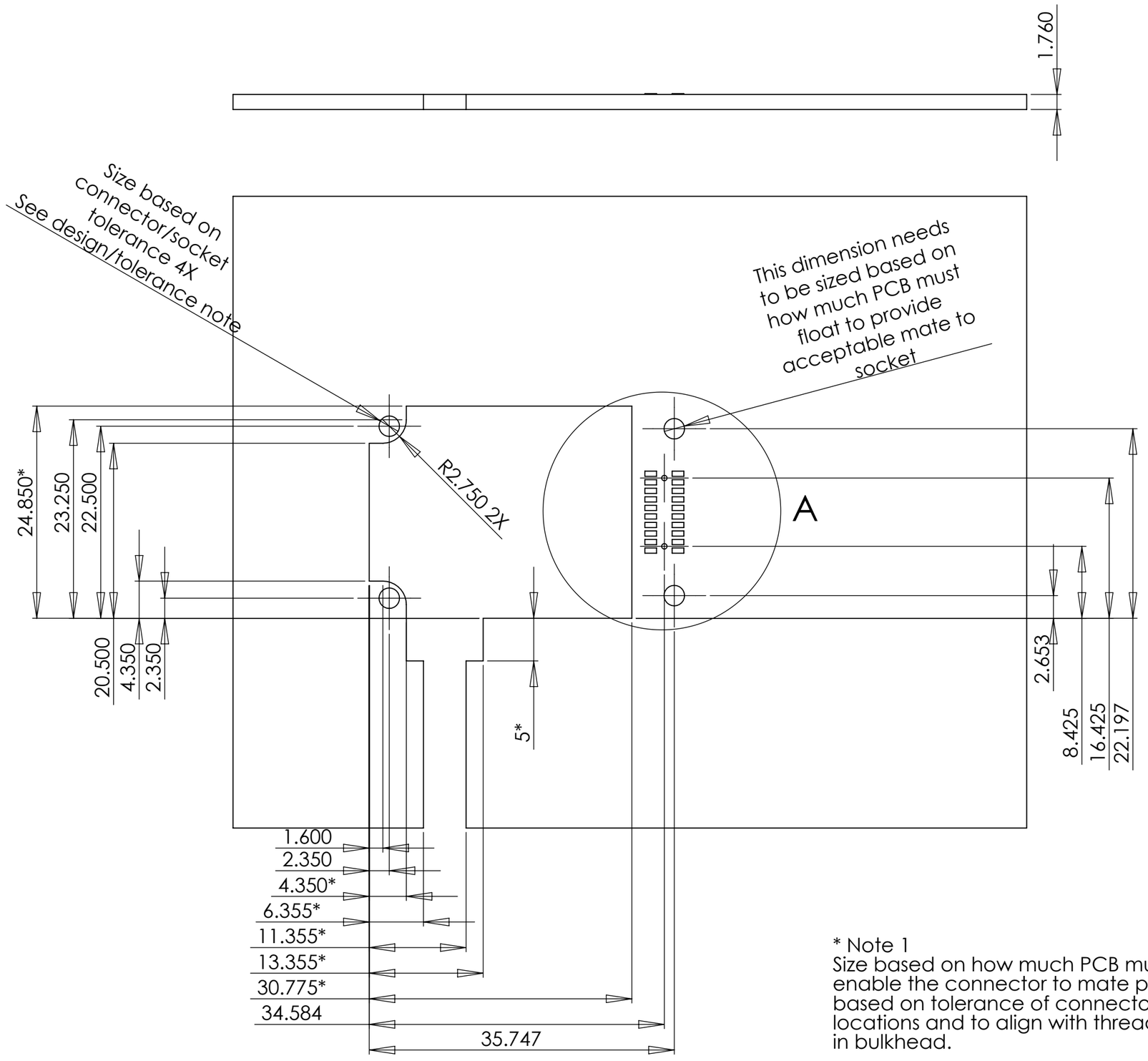
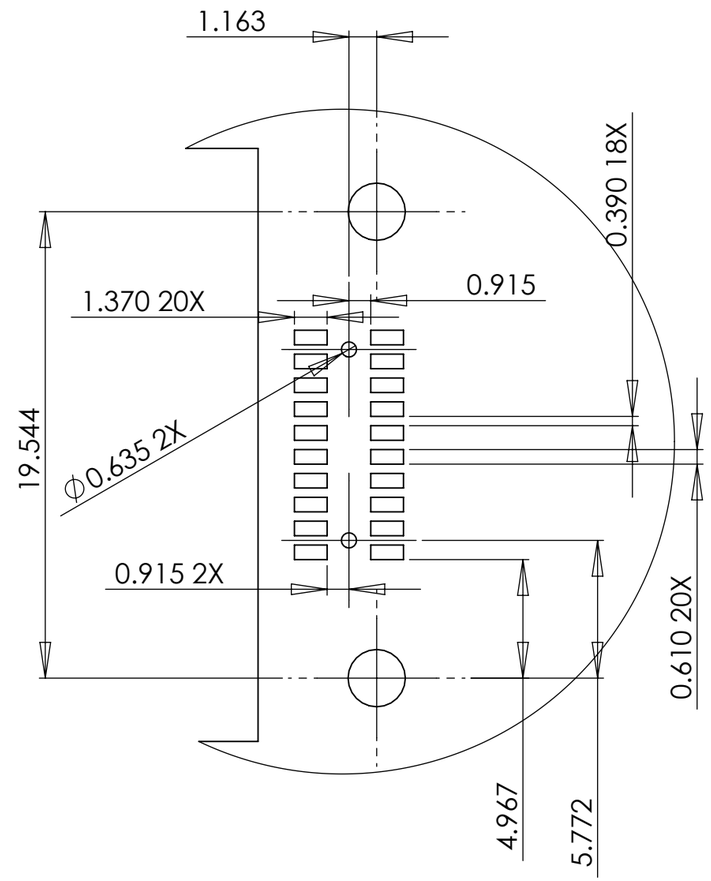
Possible PCB layout Approach 1
Bulkhead not shown.

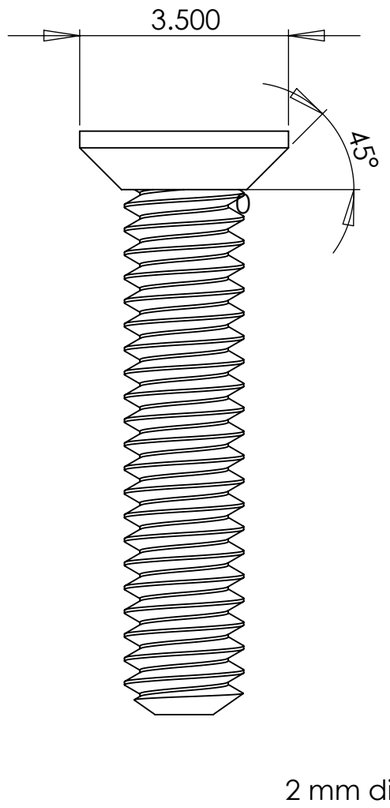




DETAIL A
SCALE 4 : 1

* Note 1
Size based on how much PCB must float to enable the connector to mate properly based on tolerance of connector and socket locations and to align with threaded holes in bulkhead.

Date: 01/31/2012
10/12/2012 rev
11/14/2012 rev



2 mm diameter

Mounting Design Concept/Tolerance Note

The holes in the 2nd level PCB must be large enough to accomodate the positioning tolerance of the connector on the IMU and the positioning tolerance of the socket on the mating PCB.

The positioning accuracy is affected by the degrees of freedom the connector/socket has to move from its true position.

The package out line drawing provides the dimension of the connector/pins relative to the mounting holes in the IMU housing.

Tolerance study of the IMU assembly show that the tolerance should best be presented as an RSS calculation.

This approach provides a statistical tolerance based upon the fact that the probability all the tolerances will come in at the 3 sigma limit and then sum to create a worse case situation is low.

We have determined that RSS tolerance to be +/- 0.300mm in both the X and Y direction.

The customer will need to determine the tolerance of the mating socket on their PCB.

The holes in the PCB should be designed such that the the tolerance of the connector on the IMU and the tolerance of the socket on the mating PCB board is accomodated.

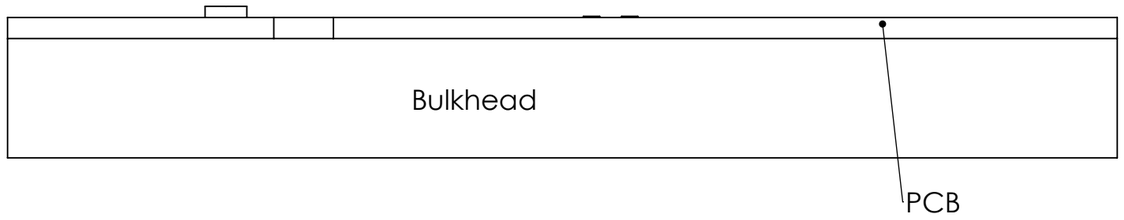
This is somewhat allowed for by the diameter of the mounting holes on the IMU housing but the mounting holes can not be made large enough to compensate for the entire connector/socket tolerance.

The two holes, depending on hole diameter, in the PCB opposite the connector may break out to the inside due to the small clearance availale in the housing.

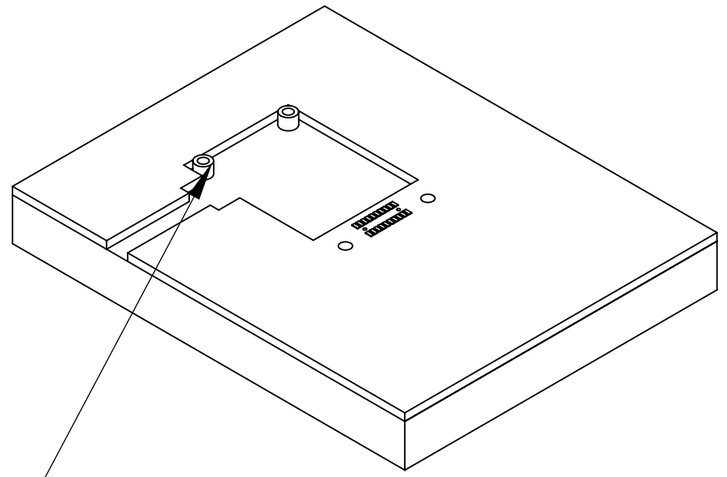
An alternate mounting method maybe invoked incorporating the features in the bulkhead or spacers to create a uniform flat surface for the mounting. See 2nd mounting approach.

In both approaches the 2nd level PCB level needs to be free to align the socket on it with the connector on the IMU and in turn provide alignment of the mounting screws for the entire assembly to the threaded holes in the bulkhead.

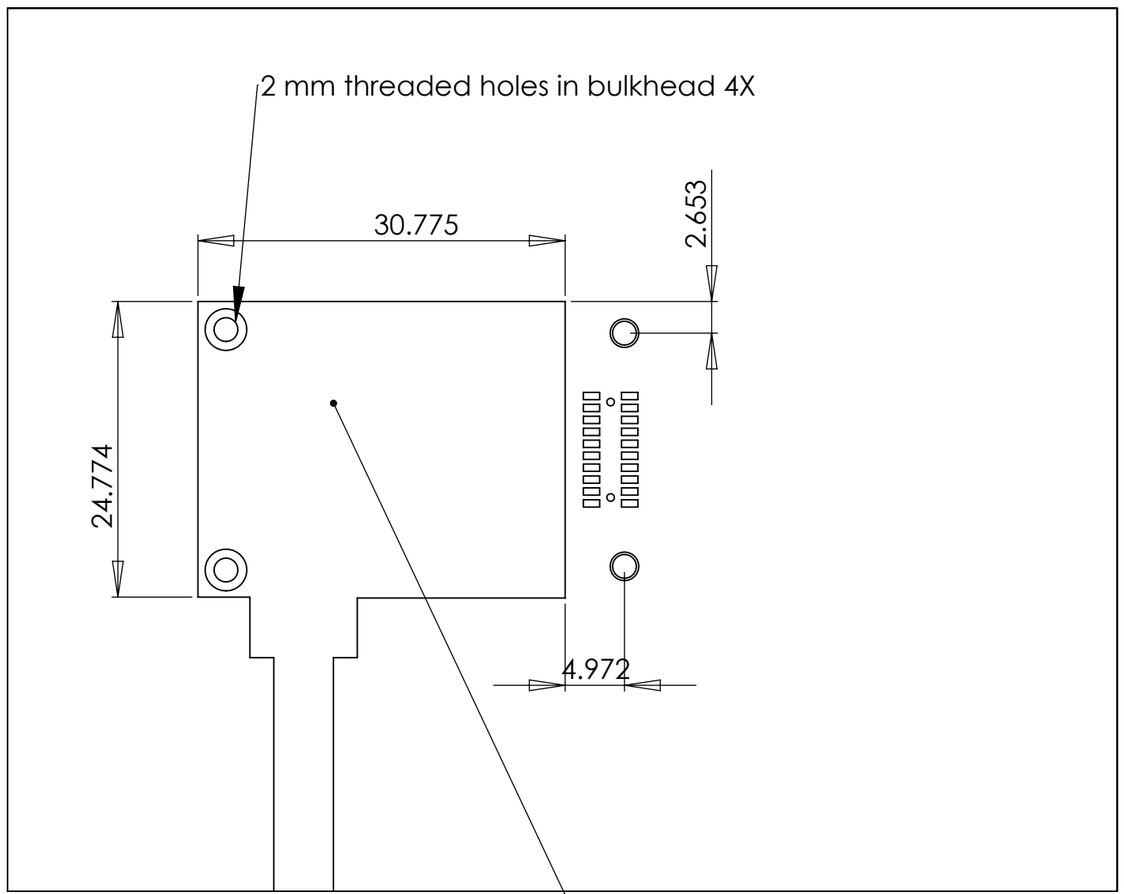
B



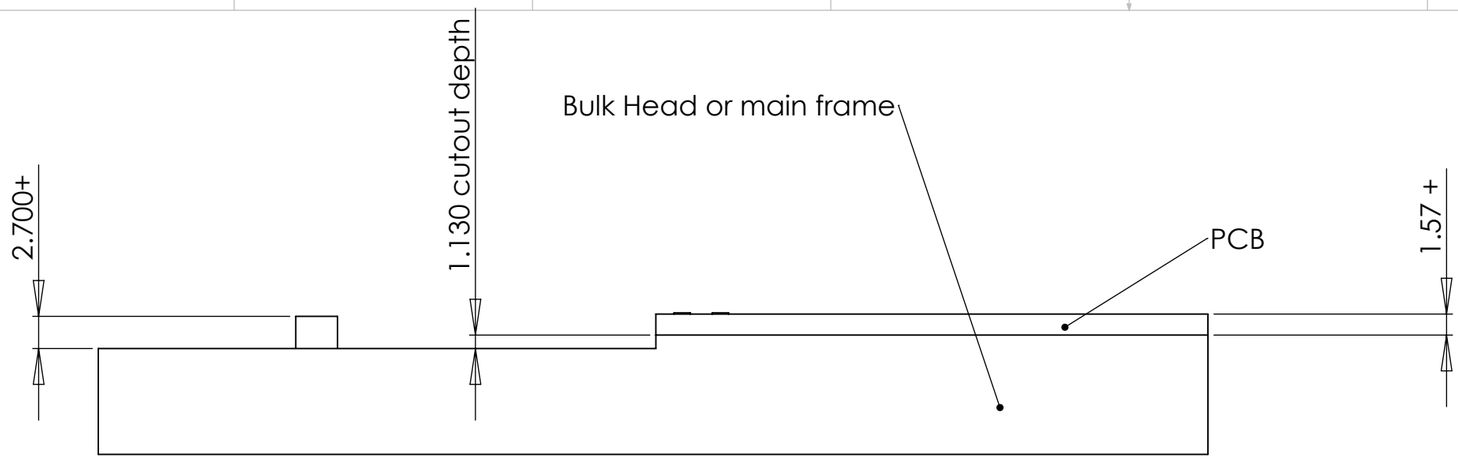
Approach two showing PCB and Bulkhead



The height of the spacers depend upon the thickness of the PCB used and whether the housing is counter sunk into the bulkhead or not. if thebulkhead is not counter sunk to accept some of the housing then this spacer would needs to be nomially 2.7 mm (size as required to mount the IMU firmly) and two more spacers (size as required) will also need to be used on top of the PCB to make the mounting level.



Enlarge opening per Note 1 as required equally in all directions for both PCB and bulkhead if countersink approach is used.
Except for dimensions shown other dimension are the same as Approach 1.



+The height of the spacers shall be sized such that the IMU assembly sets flat/parallel. Depending on the thickness of the PCB and the amount of cutout in the bulkhead there may need to be two more spacers on the connector end of the IMU to make the unit sets flat.