



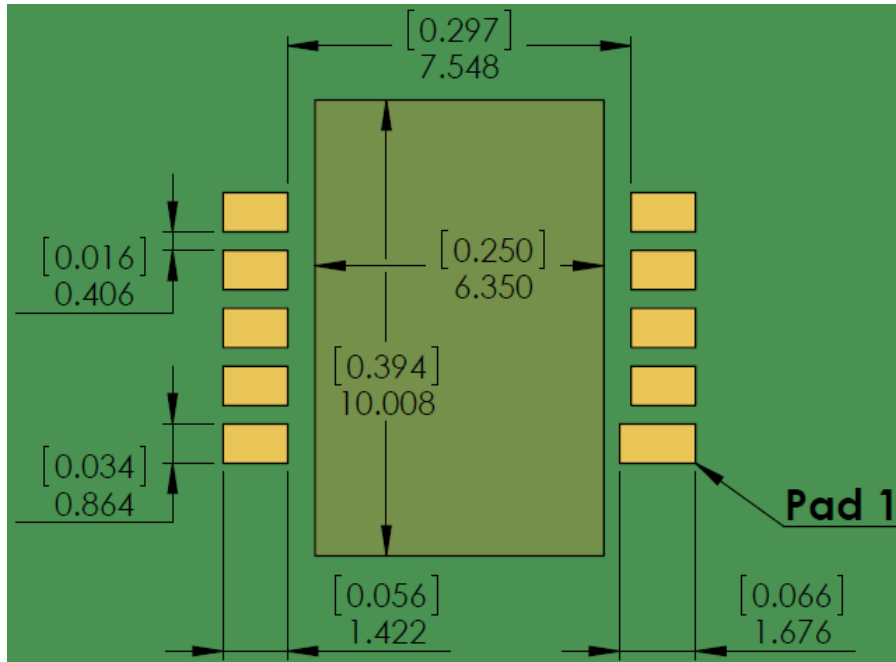
Micro/Nano HORNET Modules LAYOUT RECOMMENDATIONS

ORG1410 / ORG1411/ORG1510

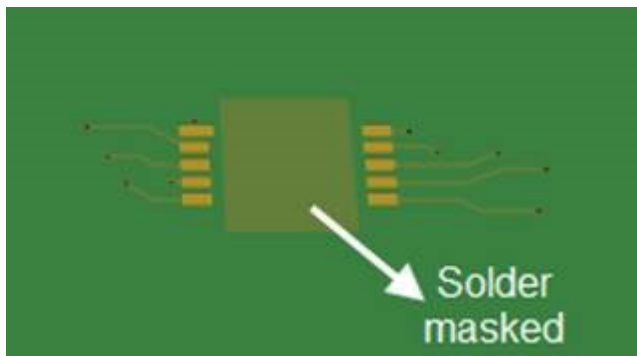
Application Note

1. FOOTPRINT

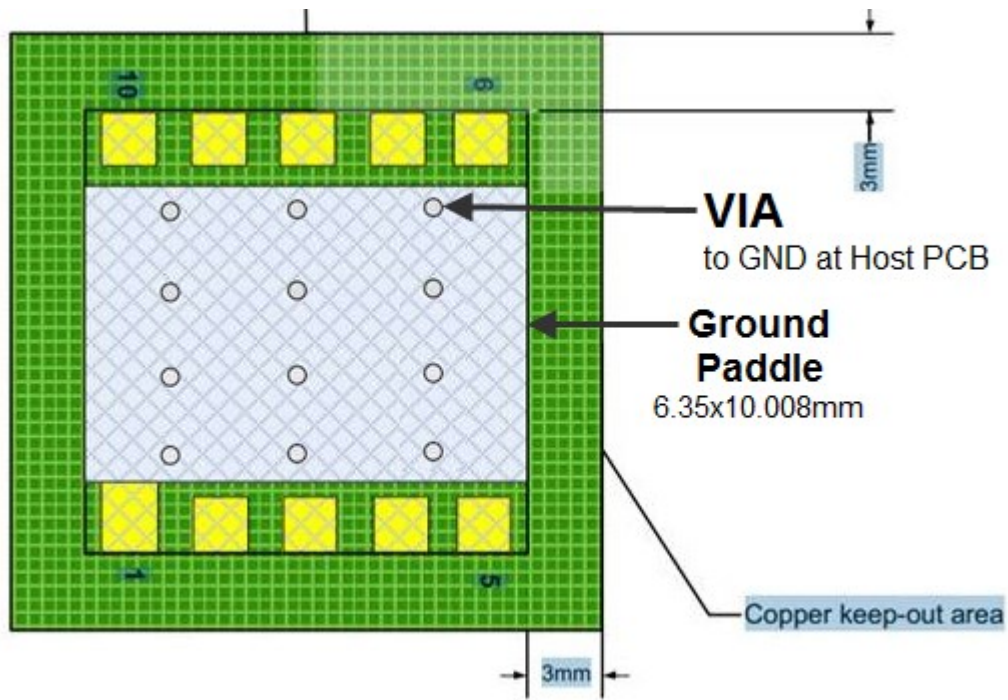
Top View:



At the top layer where ORG141X/151X placed, the Ground Paddle must be solder masked.
Host PCB as shown on picture below:

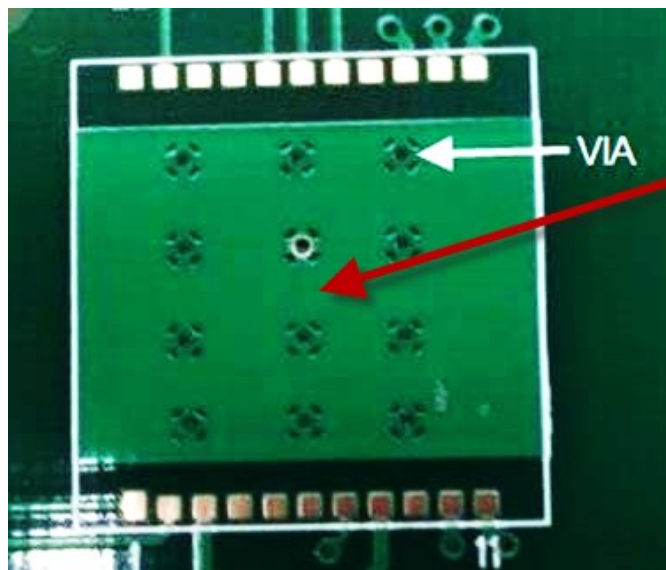


The Ground paddle should be connected to the main Ground plane on Host PCB by multiple VIAs as shown on pictures below:



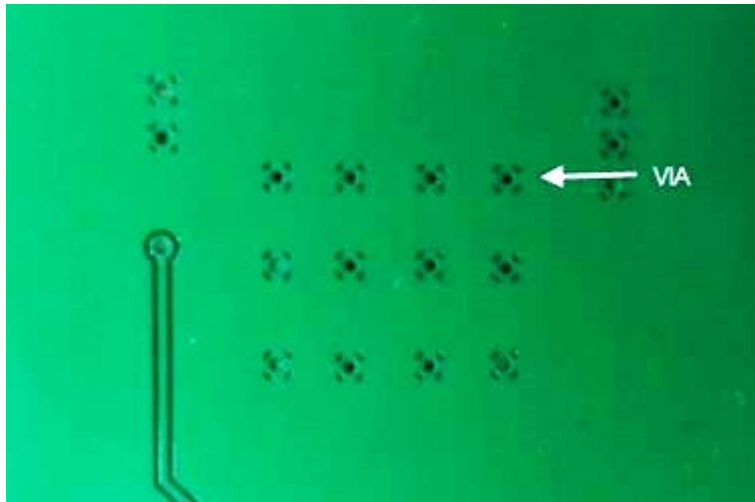
- Keep on the copper keep-out area of 3mm from each side as shown on picture above.
- Recommended Ground plane size below the module should be at least 13x13mm.

Example of PCB TOP view from ORG141X/151X EVB:



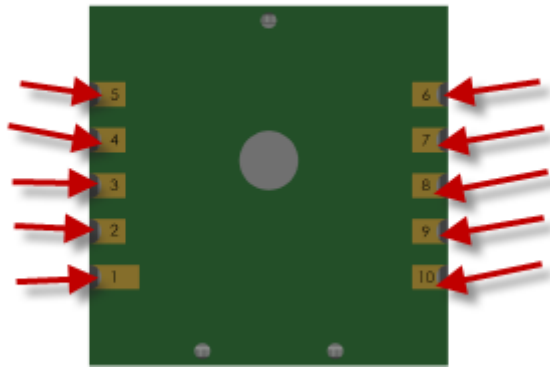
Important: Make sure the vias are not located below the antenna pad. Vias below antenna pad might cause short circuit.

Example of PCB BOTTOM view from ORG141X/151X EVB:



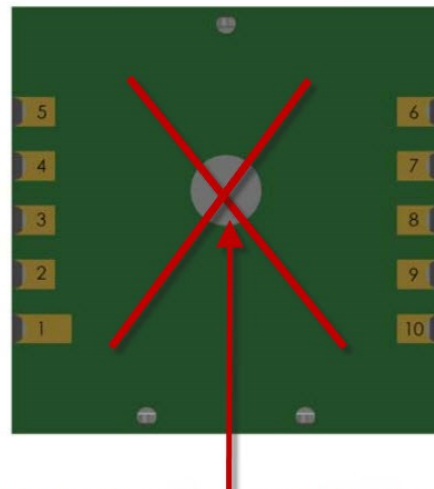
soldering points has marked:

BOTTOM VIEW



Keep the center area without soldering and cooper

BOTTOM VIEW



Make sure there are no ground vias bellow the antenna pad. This might cause a short circuit.

Don't use very thin solder mask.

2. DESIGN RESTRICTIONS

- Avoid current loops by connecting single Ground pad to main Ground.
- Route the selected Ground pad to main Ground with shortest possible trace or via.
- Avoid copper pour on the module side, keeping out the module minimum 6mm from the copper planes, metals planes or enclosures, connectors or LCD screens.
- Keep out of minimum 1.6mm from the copper planes under the module.
- Keep out of signal or switching power traces and vias under the module.
- Signal traces to/from the module should have minimum length.
- In case of adjacent high speed components, like CPU or memory, high frequency components, like transmitters, clock resonators or oscillators, metal planes, like LCD or battery enclosures, please contact OriginGPS for more precise, application specific recommendations.

3. PCB STACK UP

The GND plane should be below the top layer where ORG141X/151X placed and connected with ground VIAs as shown on picture below:

