



## Quality Assurance Coordination Memo

Honeywell International, Inc  
12001 State Highway 55  
Plymouth, MN 55441

<b>Product Name</b>	HRF-SW1000, HRF-SW1020, HRF-SW1030, HRF-SW1031, HRF-AT4511, HRF-AT4520, HRF-AT4521, HRF-AT4610, HRF-AT4611	<b>Ref. Number</b>	QA11-004
<b>Customer</b>	All Honeywell Microwave Product Line customers	<b>Initial Issue Date</b>	11 May 2011
<b>Memo Type</b>	Quality Notification		
<b>Status</b>	Open	<b>Originator</b>	W. Orf Quality Assurance Mgr.

### SUBJECT: Potential Solderability Variability During Printed Circuit Board Assembly

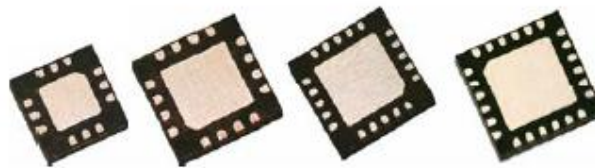


Figure 1  
Bottom View of V-PQFN Packages

#### Scope of Product Affected

Honeywell Aerospace-Plymouth microwave products may exhibit low to moderate non-wetting of peripheral pads when used with a Pb-free board assembly process. One customer experienced a high fallout for one product, though general feedback across the customer base showed this is most likely an isolated case and the actual fallout levels are much lower (below 1%). Nonetheless, Honeywell is notifying customers of the possibility of this solderability variability and supporting the customer with information and troubleshooting options. If you are not currently experiencing fallout for Pb-free solderability, no action is needed and this notice can be disregarded.

#### System Effects

Affected units may experience non-wetting on the peripheral pads, which can be detected at board level electrical test as an “open” electrical connection.

#### Description

The cleaning process used during the part assembly can thin the gold on some bond pads to the point that an occasional peripheral pad may not wet during board assembly.

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### **Recommendations to Improve Solderability**

The Honeywell microwave product line is fully RoHS-compliant. The small package size, half-etch peripheral pads and Pb-free finish presents unique soldering challenges. If you are experiencing solderability issues, the following actions may improve solderability:

- Using a more active flux
- Increase peak reflow temperature
- Increase pre-heat soak time

Additional recommendations for working with Honeywell's Quad Flat No-Lead Packages with Pb-free finishes can be found in AN-310 Lead-Free QFN Surface Mount Application.

### **Product Improvement**

Honeywell has selected a NiPdAu-Ag full-etch lead frame with increased peripheral pad size, and will communicate the change via their Product Change Notice (PCN) process. The improved product is expected to be available in Q3 2011.

### **Reference**

AN310 QFN Surface Mount Application can be found online at

<http://www.honeywell.com/sites/portal?smap=aerospace&page=Application-Notes&theme=T5>

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