



**Intel® PRO/Wireless 2200BG Network Connection  
*MiniPCI Card Handling Guidelines***

**Revision 1.1  
August 13, 2004**



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**Document Revision History**

<b>Document Revision Number</b>	<b>Date</b>	<b>Comments</b>
1.0	March 31, 2004 September 3, 2004	Initial release
1.1	August 13, 2004	Updated guidelines and added safe handling load recommendation.



## **Overview**

MPCI cards are 37% thinner than standard motherboards or PCI NIC cards. As a result, they are more susceptible to solder joint damage related to bow and flex forces applied to the assembly. Accordingly, these cards should be treated with additional care to avoid potential harm. The document provides appropriate minimum guidelines for handling these cards.

## **General Instructions**

- Do not bend or flex the unit along any axis.
- Always apply force parallel to the PCB surface.
- If you need to apply force perpendicular to the PCB surface, make sure the PCB is fully supported underneath to prevent any bow or flex.

## **ESD Bag Removal**

- Do not apply pressure to the unit while inside the ESD bag at any time.
- Always hold the ESD bag on the edge of the bag, not on any area of the MiniPCI card assembly.
- Tear the ESD label by holding the edge of the ESD bag flap and the edge the ESD bag.

## **Unit Handling**

- Do not carry the unit without proper packaging.
- Keep the unit in its original box/packaging until you are ready to insert it into the laptop Mini-PCI connector.
- Place the unit in an ESD-approved tray or tote if required to move the unit between stations.
- Do not stack units on top of each other, and do not stack trays in a manner which would potentially enable the units to come into contact with each other.

## **Insertion into Mini-PCI Connector**

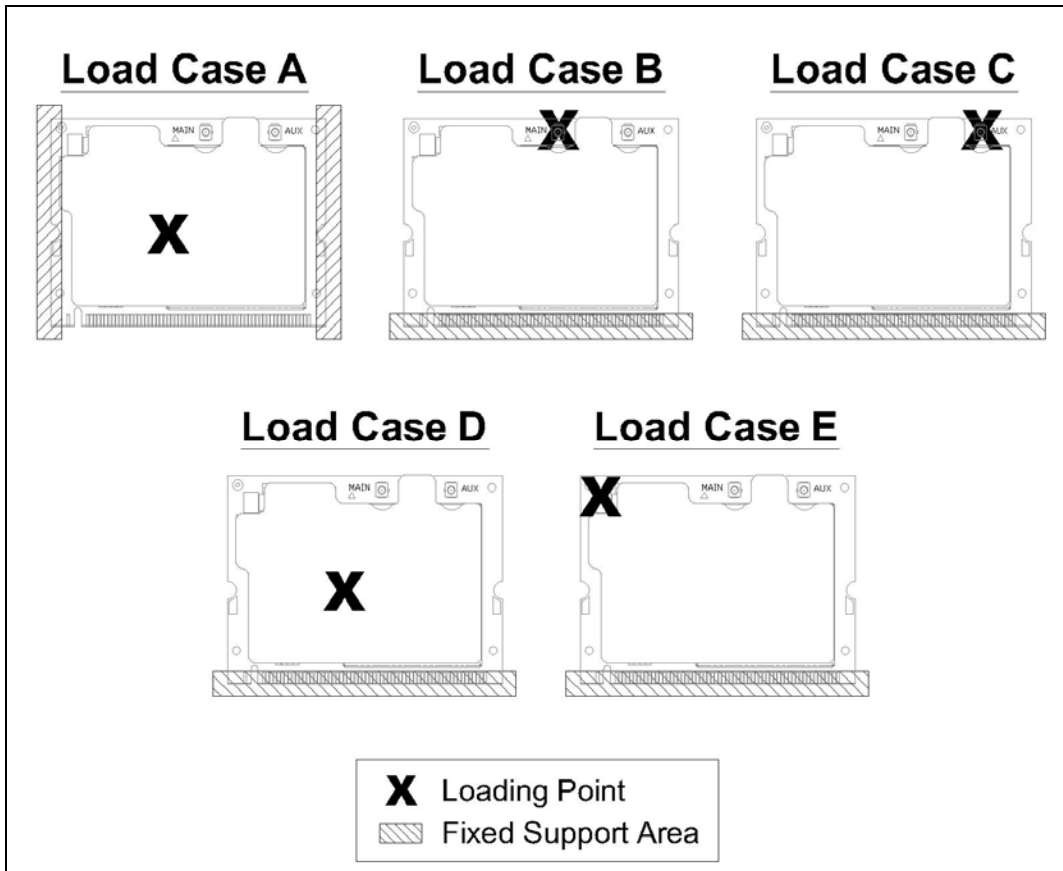
- Slide the unit into the connector at an angle per the connector manufacturer's recommendations.
- Additionally, it is recommended to apply a minimal force with two fingers to latch the unit in place. Each finger should be located at a maximum of 10mm from the center of the board edge notches.
- Only apply enough pressure to latch the unit into the ground clips. Do not over-press the unit; this may cause excessive bow or flex to the MiniPCI card.
- Do not press on the corners of the PCB opposite the system connector gold contacts at anytime during the insertion process. Minimal amounts of force in these areas, without support underneath the unit, will flex the PCB beyond acceptable limits.

## **Antenna Connector Insertion**

- Antenna connectors should be applied with care to avoid causing any bow or flex to the unit.
- Place a non-conductive support block/foam under the antenna locations to support the unit during insertion.

Certain recommendations for safe handling are set forth in Exhibit A:

### Exhibit A - MiniPCI Card Safe Handling Load Recommendations



Load Case	Maximum Safe Load (N)	Corresponding Maximum Safe Deflection (mm)
A	50	0.50
B	15	1.80
C	15	2.00
D	35	0.90
E	8	1.70