

## Sample Mounting Boards

for use with the HMS-3000 Hall Effect Measurement System

Ecopia offers various styles of sample mounting boards for use with the HMS-3000 Hall Effect Measurement System.



### The Manual Wire Bond Sample Mounting Boards

The HMS-3000 includes 5 of each of the two types of standard mounting boards as shown to the left which require manual installation of small wires. The smaller board is used for mounting samples that are square in shape and up to 6mm on a side. The larger board is used to mount samples up to 20mm on a side. You can read about the process involved in mounting a sample onto one of the standard mounting boards by reading the following online PDF file: [http://www.fourpointprobes.com/sample\\_mounting.pdf](http://www.fourpointprobes.com/sample_mounting.pdf)

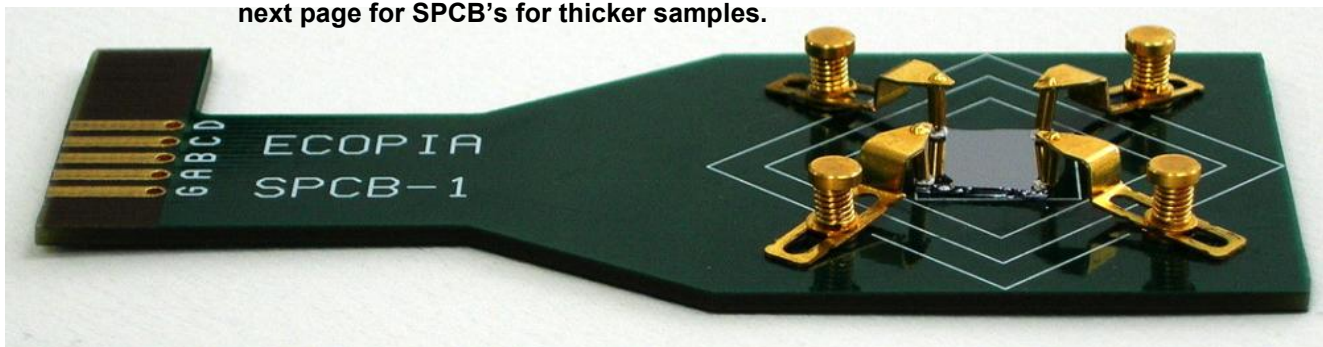
The HMS-3000 includes a small amount of the indium-tin compound and the thin wire that is used to mount samples onto these re-useable boards.

### The Spring Clip Board Sample Mounting Boards

The SPCB-1 Spring Clip Sample Mounting Board makes sample mounting much quicker and easier. One of the SPCB-1 sample mounting boards is included with the HMS-3000, or it can be exchanged instead for any of the other choices of spring clip boards as shown on the following pages. The benefits of the SPCB-1 include:

- The SPCB-1 can mount square shaped samples up to 2mm thick and up to 20mm on a side.
- Hand-bonding the small contact wires is eliminated
- The gold plated spring loaded pins make good ohmic contact to the sample, although contacts on the sample are normally still required.
- The SPCB-0 is designed for use with the 1.0 Tesla magnet kit at room temperature.
- Compatible with measurements at LN<sub>2</sub> temperature or 300K using the 0.55T magnet kit.

SPCB-1 for sample up to 2mm thick. See next page for SPCB's for thicker samples.



*Continued*

Ecopia offers the following additional models of the SPCB Spring Clip boards. The samples should be square in shape. Construction is of gold plated non-magnetic phosphor-bronze alloy. Contacts applied to the corners of the sample are normally required for good ohmic contact. A complete listing of the available board types is shown on the next page.

**SPCB-2** Spring Clip Sample Mounting Board for samples from **2mm up to 4.5mm thick** with square shape from **5mm to 20mm on a side**:

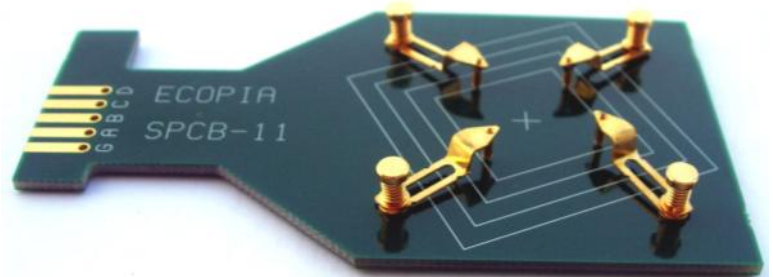


**SPCB-3** Spring Clip Sample Mounting Board for samples from **3mm up to 5.5mm thick** with square shape and from **5mm up to 20mm on a side**:

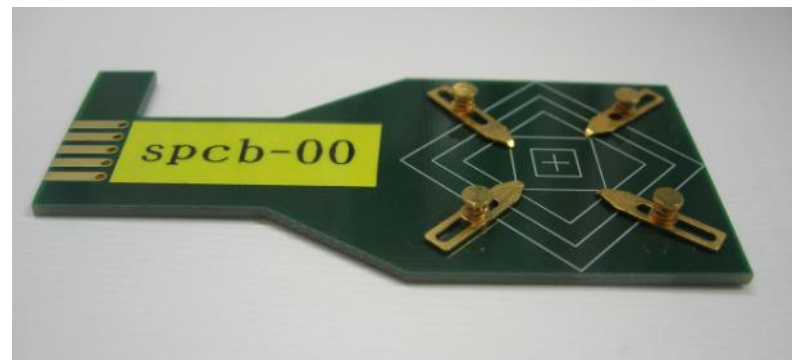


The **SPCB-11, -12, & -13** Spring Clip Sample Mounting Board are for samples from **15mm to 30mm on a side**.

NOTE: Due to the magnetic flux density area of the HMS-3000, Ecopia sample boards with up to 30mm square sample capacity are only for use with samples that are up to 20mm square, or for use with non-Hall effect measurement applications. These have been made available due to customer requests to mount larger samples, but for non-Hall Effect Applications.



The **SPCB-00** Spring Clip Sample Mounting Board for use with the 1.0 Tesla magnet, and samples **up to 1.5mm thick** with square shape up to **20mm on a side**:



Instructions for mounting a sample onto the SPCB boards can be found here:

[http://www.four-point-probes.com/springclip\\_mounting.pdf](http://www.four-point-probes.com/springclip_mounting.pdf)

See next page for a description of the available SPCB Spring Clip Sample Mounting Boards

## Spring Clip Sample Mounting Board Types and Sample Capacities

Model	Sample X-Y Size Range	Sample Thickness Range
SPCB-00	5mm x 5mm to 20mm x 20mm	<= 1.5mm thick samples
SPCB-01	5mm x 5mm to 20mm x 20mm	<= 2.0mm thick samples
SPCB-02	5mm x 5mm to 20mm x 20mm	2 to 4.5mm thick samples
SPCB-03	5mm x 5mm to 20mm x 20mm	3 to 5.5mm thick samples
SPCB-11	15mm x 15mm to 30mm x 30mm	<= 2mm thick samples
SPCB-12	15mm x 15mm to 30mm x 30mm	2 to 4.5mm thick samples
SPCB-13	15mm x 15mm to 30mm x 30mm	3 to 5.5mm thick samples

Notes:

1. The SPCB-00 is for use with the 1.0 Tesla Magnet
2. Models for samples up to 30mm square are for use with samples up to 20mm square when using the HMS-3000 due to the 20mm square size of the uniform magnetic flux density that the HMS-3000 provides. These larger capacity sample boards have been provided by Ecopia due to customer requests for use with either non-Hall Effect applications, resistivity only testing, or for samples that are larger than 20mm square for which a less accurate measurement is acceptable, taking into account that the area of uniform magnetic flux density is 20mm square.