## TAIYO AMERICA, INC.

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## CERTIFICATE OF ANALYSIS and CONFORMANCE

This is to certify that the following product has been inspected prior to sale and shipment, and complies with Taiyo America's manufacturing specifications for this product.

This product meets all the requirements of IPC-SM-840E Classes H and T and Bellcore (Telecordia) GR-78-CORE and is UL recognized 94V-0 (File #E166421, UL Name: PSR-4000BN).

| PSR-4000BN                  | Lot # 9121337  | Mfg. Date:  2-(3-(3) Warranty Ends:  2-(3)   | -20    |                |
|-----------------------------|--|--|--------|----------------|
| PROPERTY<br>VISCOSITY       | TEST METHOD  Toki Sangyo RE100U Viscometer 5 rpms @ 25°C   | MANUFACTURING SPECIFICATION  Before mixing: 225 - 275 ps  After mixing: 135 - 165 ps | 0      | LT<br>ps<br>ps |
| THIXOTROPIC INDEX           | Toki Sangyo RE100U Viscometer<br>Viscosity ratio: 5 rpm / 50 rpm   | After mixing: 1.2 - 1.6  | 1.3    |                |
| FINENESS OF GRIND           | TAI-0-0002   | 15 microns maximum   | 5      | microns        |
| VISUAL EXAMINATION          | Microscopic examination:  1. 1-mil drawdown of wet film  | No bubbles, pits, voids, particles, color differences.                               | Passed |                |
|                             | 2. Wet film drawdown on grind gauge  | No bubbles, pits, voids, particles, color differences.                               | Passed |                |
| SCREENABILITY               | Visual inspection of screen printed panel  | No surface defects, such as bubbles, pinholes, etc.                                  | Passed | V              |
| TACK-DRY                    | Hot air convection oven 80°C / 30 minutes  | Tack-free to the touch   | Passed | V              |
| IMAGING                     | ORC HMW 680GW - 7 kW<br>500 mJ / cm <sup>2</sup><br>Horizontal Developer - 1% Na2CO3<br>30°C (86°F) / 60 secs., 28 psi | Stouffer 21 step: 9 - 13<br>(clear on copper)  | * 11   | **             |
| RESISTANCE TO SOLDERING (*) | 260°C (500°F) / 10 sec x 3 cycles<br>Rosin-based flux  | No discoloration, peeling, or blistering   | Passed |                |
| SOLVENT<br>RESISTANCE (*)   | Immersion in PM Acetate /<br>20°C / 30 mins.   | No swelling, softening, or blistering  | Passed |                |
| PENCIL HARDNESS (*)         | TAI-0-0020   | 7H or greater  | 71 1   | 100 m. 12      |
| ADHESION (*)                | TAI-0-0021   | 100/100 on copper  | Passed | W.             |

(\*) - Final cure for these tests was 60 minutes @  $150^{\circ}$ C ( $302^{\circ}$ F) in a convection oven

| Verified B |             | / /           |
|------------|-------------|---------------|
| A.         | Q.C. SUPERN | 150n 12/20/19 |
| Name,      | Title,      | Date          |