



## Application Note

### Shielded Connectors – Plated Plastic

#### Problem

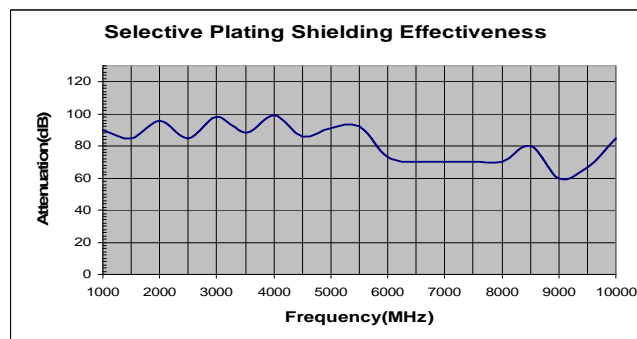
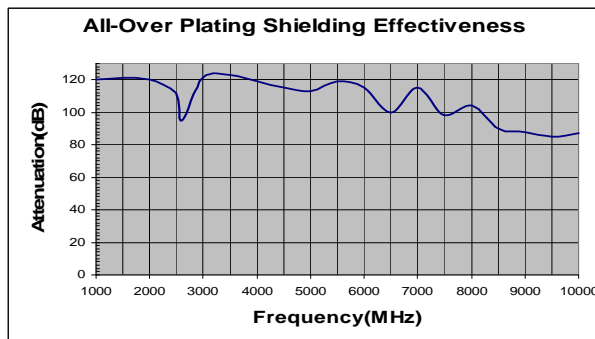
Connector designs in today's electronic equipment face the competing demand for a smaller form factor, lighter weight, improved mechanical performance, increasing need for EMI shielding, and lower cost. Metal shells, used to shield connectors, add weight, cost and space. Connector OEM's are turning to plated plastic connectors to meet the EMI shielding, cost, weight, space, mechanical and environmental requirements.

#### Cybershield Solution

Cybershield has worked with several connector manufacturers to design and manufacture plated plastic connectors. The small size, thin wall sections, demanding mechanical requirements, and resistance to chemicals, oils and UV exposure demand high performance engineered plastics. Cybershield has developed both All-Over and Selective Plating processes to apply the required Nickel over Copper EMI shielding system onto a wide range of resins.



See charts below for the EMI shielding effectiveness of Cybershield plating systems. Additionally, Nickel thickness can be varied between 50 and 600 micro-inches (1.25 -15.0  $\mu$ ) to meet mechanical and environmental requirements.



Many plastic resins are compatible with Cybershield All-Over and Selective Plating processes.

#### **Plateable Resins** – Consult Cybershield for details

ABS, PC/ABS, Polycarbonate, Polyetherimide (Ultem), Syndiotactic Polystyrene (SPS), Noryl, Xenoy, Polypropylene, Polyphthalamide, Polyethersulfone (PES), LCP, Xylex, Urethane, Nylon, Epoxy, Polyetheretherketone (PEEK),

**For more information about this application, Cybershield capabilities and/or to review your application requirements for metallized plastic, contact Cybershield or its sales representatives**

**Cybershield**  
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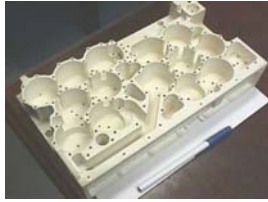
- Fabricate a full range of EMI shielding solutions – Electroless Plating and Conductive Paint
- Electroplating Copper, Nickel, Trivalent Chrome, including decorative plating on plastics and metal
- Offer engineering design assistance – plastic resin selection, metal coating specification and mechanical design recommendations
- Serve applications in volumes from 25 units per month to millions of units per month
- Provide extensive mechanical assembly services to its customers
- Manage entire supply chain, including plastic injection molding to provide customers with turnkey solutions, designed and manufactured to strict OEM requirements

<b>EMI Shielding, ESD and Electroplated Coatings</b>	<b>Assembly Services</b>
All-over & Selective Coverage Electroless Plating Copper, Nickel, Tin, Gold Electroplating Copper, Nickel, Trivalent Chrome Conductive Paint	Dispensed Gaskets (Conductive or Environmental) Insert Installation (Ultrasonic or Heat Staking) Decorative Paint Mechanical Assembly

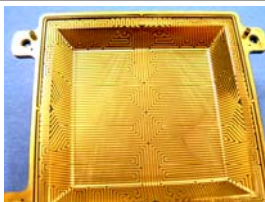
**Other Cybershield Plastic Metallization Systems**



Plated Plastic  
Router Chassis



Plated Plastic RF  
Filter Housing



EXACT™ 3D  
Circuits



Plated Plastic PDA  
Shield