



## Application Note

### PDA - Plated Plastic Shield

#### Problem

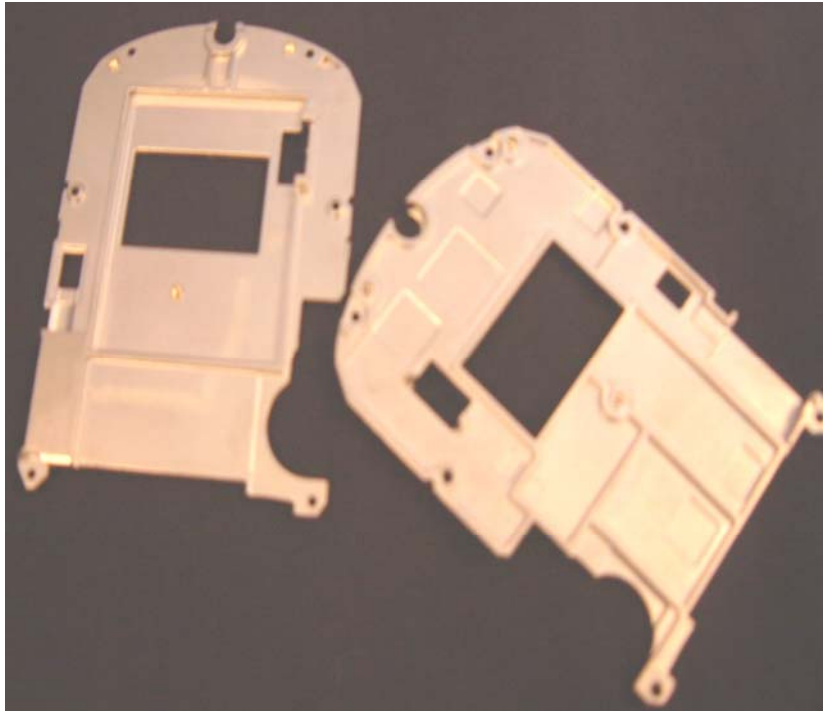
A major PDA manufacturer utilized a plated magnesium die cast shield to provide EMI shielding and mechanical strength. The magnesium shield was costly due to excessive tool wear during forming operation and the magnesium plating cost. In its newest models, the OEM sought a cost reduction and evaluated a plated plastic shield that provided the required mechanical strength as well as EMI shielding.

#### Cybershield Solution

Cybershield teamed with the OEM, an injection molder, and a plastic resin supplier to design and fabricate the plated plastic shield. PC/ABS was specified due to its low cost, high impact strength and ability to be plated. Cybershield applies All-Over electroless plating 10 micro-inches (0.25  $\mu$ ) Nickel over 40 micro-inches (1.0  $\mu$ ) Copper, which meets ASTM 3359 plating adhesion standard.

Three inserts are installed by heat staking to facilitate assembly. Cybershield offers customers a wide range of manufacturing services, including dispensed gaskets, hardware installation, decorative paint and mechanical assembly.

Many other plastic resins are compatible with Cybershield plating processes.



Plated Plastic Shield

<b>Plateable Resins</b> – Consult Cybershield for details
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ABS, PC/ABS, Polycarbonate, Polyetherimide (Ultem), Syndiotactic Polystyrene (SPS), Noryl, Polypropylene, Polyphthalamide, Polyethersulfone (PES), LCP, Xylex, Urethane, Nylon, Epoxy, Polyetheretherketone (PEEK),
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**For more information about this application, Cybershield capabilities and/or to review your application requirements for metallized plastic, contact 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**



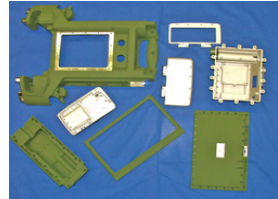
Plated Plastic  
Router Chassis



Plated Plastic RF  
Filter Housing



Plated Plastic  
Shielded Connectors



Military Electronics  
EMI Shielding