

STRATEGIC BRIEFING: HEMP Protection for Mobile Platforms

Mission Relevance: Modern military operations depend on highly mobile, electronics-dense platforms such as transportable shelters, tactical vehicles, mobile power systems, and expeditionary command-and-control. Contested EM environments now directly threaten their continuous operation.

These mobile platforms face significant operational risk from exposure to HEMP and IEMI events. An EM attack could mean immediate loss of command, sensing, mobility, and power, creating mission interruption or failure at decisive moments. *Exposure to electromagnetic attack is no longer a theoretical vulnerability but a direct threat to mobile mission execution.*

1. Mobile platforms are a new survivability problem

Mission context: Today's operations depend on mobile, electronics-dense assets, shelters, tactical vehicles, mobile power, expeditionary C2, operating in contested electromagnetic conditions.

Threat / consequence: If an adversary succeeds with HEMP or IEMI, the result can be immediate loss of command, sensing, mobility, and power, mission interruption or failure at decisive moments.

Why this is different: Unlike fixed facilities, transportable platforms cannot rely on heavy structural hardening and must meet tight SWaP, rapid deployment, and sustainment constraints.

The response must offer built-in survivability that fields quickly and scales across platform types.

2. The requirement is continuity, not recovery

Standard-driven reality: Military hardening standards prioritize uninterrupted function, not post-event restoration.

“Electromagnetic attack turns mobility into vulnerability”

Operational meaning: Protection must reach down to the equipment level because mission electronics are distributed across the platform, not concentrated at a fixed node.

The solution must act automatically during an event and return to normal without operator action.

3. The decisive move is to protect points-of-entry

Design rule: MIL-STD-188-125-2A requires an EM barrier and protective devices at all points-of-entry, including EMP/HEMP filters.

Practical translation: Control what enters the platform. Stop conducted energy at the power/interface entry (generator output, shelter input, vehicle/DC bus feed) before it propagates into mission electronics.

Spectrum Control response: Our PulseShield HEMP protection solutions are positioned as

boundary protection at the power point-of-entry, aligned to both the standard and the physics of how damaging energy couples into systems.

4. The solution must be mobile-ready: compact, modular, maintainable, reliable

What programs need: Survivability that fits SWaP limits, deploys fast, retrofits cleanly, and doesn't create sustainment burden.

Spectrum Control response: PulseShield™ Transportable HEMP Filter Series combines broadband EMI filtering with high-energy

transient suppression to provide MIL-STD-188-125-1A (E1/E2) compliant power-line protection for vehicles, transportable shelters, and mobile power.

Proof points:

- Designed for mobility and repeated deployment
- Integrates quickly via standard interfaces
- Supports common AC and DC architectures
- Transparent in normal operation, rapidly diverts energy during a transient, and automatically resets afterward

Solution Highlights - HEMP Protection for Mobile Platforms

PulseShield™ transportable HEMP filtering solutions from Spectrum Control protect mobile platforms by reducing conducted EMP energy at key entry points enabling credible, standards-based mission continuity with minimal integration burden.

Standards-based protection (MIL-STD-188-125-1A, E1/E2)
Credible, spec-driven confidence for program stakeholders.

Small, lightweight, transportable (low SWaP impact)
Protection without major redesign.

Easy to connect (new build or retrofit)
Faster fielding across fleets.

Integrated filtering + suppression at entry points
Reduced risk of electronics upset and cascading mission degradation.



For more information visit spectrumcontrol.com/hemp