

Risk Analysis – Travel Adapter, GaN Charger, Power Tower

1. Product Description

The Travel Adapter, GaN Charger, and Power Tower are consumer power accessories designed to supply and distribute electrical power to multiple devices. They include interchangeable plugs (for adapters), USB ports, AC outlets, and integrated safety features. Intended for indoor use and travel scenarios. Risks involve **electrical, thermal, mechanical, operational, and chemical hazards**.

2. Identification of Potential Hazards

Electrical Hazards

- Incorrect voltage matching or faulty plug selection may lead to overvoltage, short circuits, or fire hazards.
- Use of damaged or counterfeit charging cables can cause power instability or device damage.
- Adapter overuse (charging multiple high-power devices simultaneously) may exceed power limits.

Thermal Hazards

- Continuous high-load operation can cause surface overheating.
- Poor ventilation in luggage or enclosed spaces may increase thermal buildup.

Mechanical Hazards

- Forcibly switching between plug types may damage the mechanism.
- Dropping or improper insertion into foreign sockets could break prongs or expose internal components.

Operational Risks

- Incorrect regional plug use (e.g., plugging EU into US sockets) may result in loose connections or poor contact.



- Incompatible devices or excessive draw may degrade power output or cause failure.
- Lack of surge protection may lead to device damage during power spikes in certain countries.

Chemical Hazards

- Exposure to moisture, liquid spills, or cleaning agents can cause corrosion or internal faults.

3. Risk Assessment

Hazard Type	Likelihood	Severity	Mitigation Measures
Electrical	Medium	High	Certified cable usage, load limits, plug-type lock guidance
Thermal	Medium	Medium	Thermal protection design, do not cover while in use
Mechanical	Low	Medium	Reinforced plug-switch mechanism, travel case recommended
Operational	Medium	Medium	User guide on regional compatibility and max wattage
Chemical	Low	Medium	Keep dry, do not expose to rain/humidity or cleaning agents

4. Monitoring and Corrective Actions

Continuous Monitoring

- Track overheating incidents, plug failure rates, and compatibility issues in different regions.
- Monitor port durability and USB-C PD output consistency under stress.

Corrective Actions

- Improve plug selector switch for robustness.
- Add clear user markings for country/voltage compatibility.
- Update instruction manual with max total wattage guidance and charging examples.

5. Consumer Information

Bankverbindung: Commerzbank Eschborn (IBAN: DE24 5004 0000 0388 4012 00) BIC: COBADEFF Deutsche Bank Eschborn (IBAN: DE71 5007 0010 0432 3150 00)
BIC: DEUTDEFF Geschäftsführer: Clive Alberts, Hussin Diraki, Michel Blonk, Gary Chun-Wei Chen, Jesse Ming-Yu Huang Handelsregister: Frankfurt HRB 23036
UST-ID: DE 113885418 Steuer Nr. 04324758689



Labeling

- Output ratings per port, maximum power (e.g., 100W), country compatibility, and safety certifications (CE, FCC, RoHS).
- Caution label: "Do not exceed total output rating. Ensure plug fits securely in socket."

User Instructions

- Proper plug configuration by region.
- Charging power limits and examples.
- Recommended use with original manufacturer cables.

Support

- Manuals, FAQ, and warranty claims available at:
www.verbatim.com/support

