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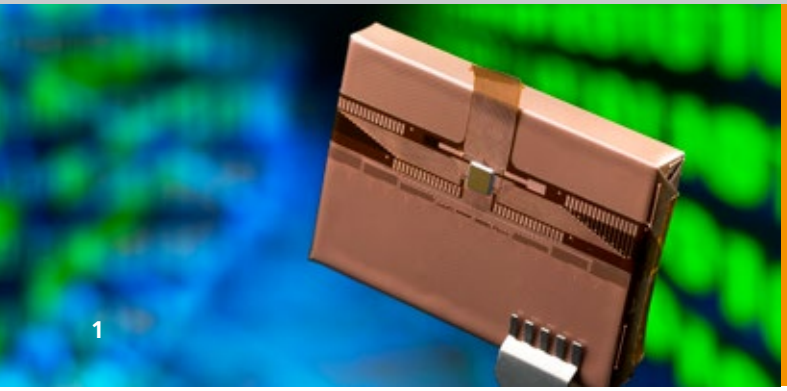

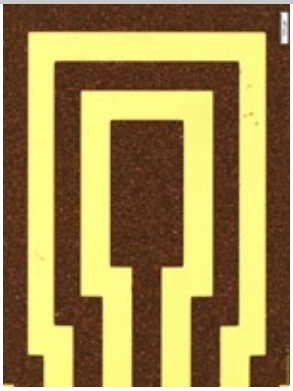

1 *Tamper-protection foil, wrapped around an electronic system*
2 *Electrode structure M1 with 10 µm line/space*
3 *Electrode structure M2 with laser vias to M1*

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Fraunhofer EMFT is participant of the

Forschungsfabrik Mikroelektronik Deutschland

TAMPER-PROTECTION FOIL FOR ELECTRONIC COMPONENTS

Applications

Data security and protection against manipulation of electronic systems are becoming increasingly important in the digital age. Innovative protective measurements are needed in order to secure communication and operation. The most important fields of application include:

- Critical infrastructures
- Intelligent Power Meters
- Healthcare
- Banking and Finance

Technical Innovation

The tamper-protection foil developed jointly by the Fraunhofer Institutes EMFT, AISEC and IMS already implements system security at the hardware level: A foil with an electrically conductive grid structure is wrapped around sensitive electronic components to protect them from spying attempts. If the grid is perforated, the information or cryptographic key is deleted. The capacitive sensor foil with integrated evaluation chip was implemented at Fraunhofer EMFT.

Technical Data

The system is energy self-sufficient and offers reliable protection against drilling attacks up to a diameter of 300 µm. Extensive tests for for security gaps in other complex attack scenarios are planned.

Outlook

Further tests and developments are planned for optimizing the product protection foil for use in field applications, regarding e.g.

- Mechanical stability
- Electrical characterization of the film for stability with regard to humidity and temperature
- Optimization of the bending behavior
- Improvement of drill attack protection to below 300 µm