WIRE EMBEDDING AND RFID INLAY PRODUCTION WITH MÜHLBAUER

All-in-one solution: MTT 2462

MTT 2462

Inlay Production System - MTT

- **ALL 5 processes in ONE system:**
    - Chip module punching
    - Chip module implanting
    - Ultrasonic wire embedding
    - Thermo-compression chip welding
    - Contactless and optical test incl. bad unit marking

FULLY automatic

- **Keeps your Know-How in-house:**
  Your complete Know-How regarding antenna design and sheet
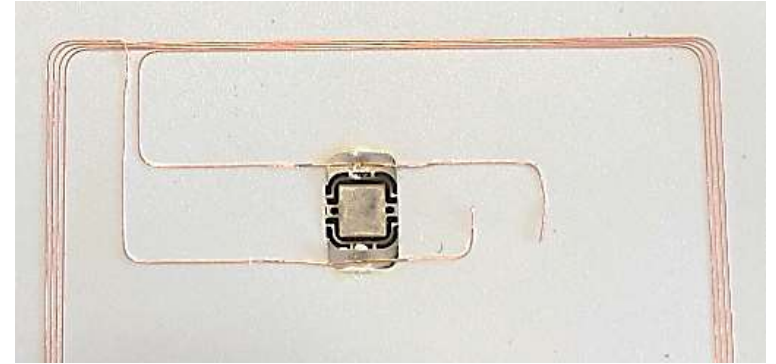 layout stays completely in-house.

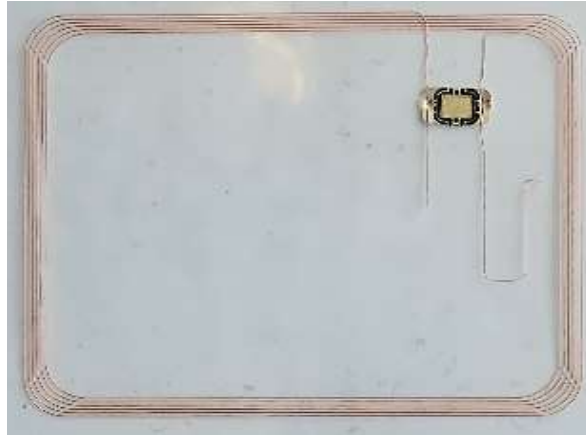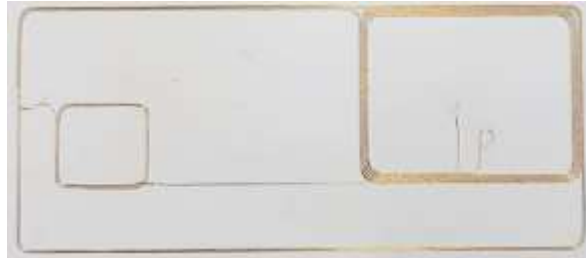*SEMI automatic*

Inlay Production System - MTT

Produce your RFID inlays for any ePassport and Smart Card application:

- ID-1 and ID-3 format
- Hybrid and Dual Interface Cards, contactless cards

Pick and Place Process

- Adaptable to any chip size on the market
- Direct removal of all bad chips (detected by vision inspection)
- Pneumatic shuttle system for continuous transport
- 3-fold or 4-fold punch unit

- Infineon MCC8, NXP: MOA2, MOA4, MOA8, MOB2, MOB4, MOB6

# Chip Module Implanting

- Implanting without any glue!
    - → clean vacuum process
    - → no usage of any chemical materials
    - → higher stability
    - → longer lifetime
- IC modules can be placed in mold-up and mold-down mode, without any major modifications on the machine

Ultrasonic Wire Embedding

- Wire embedding only or in combination with contactless chip embedding
- Adjustable control units for wire embedding and wire bonding
- Highest precision through linear axes in both **x- and y-direction**

Thermo Compression Welding
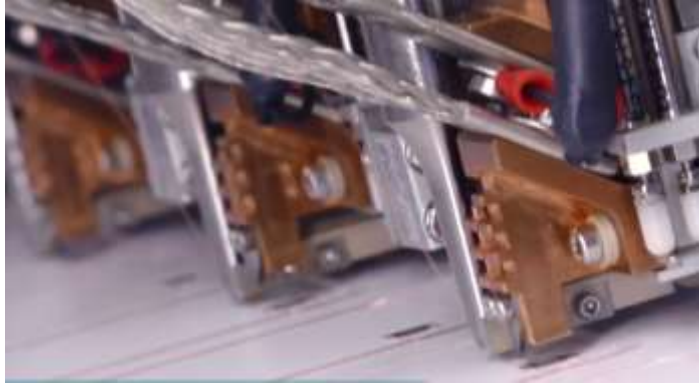
- Standard 4 combi heads incl. thermo compression welding

- Incl. wire break control sensors

- FOR DUAL INTERFACE CARD ONLY: up to 8-head ultrasonic wire embedding possible!

- Incl. wire break control sensors

MTT-A   Fully Automatic Sheet Feeding

Input Material on Sheet:
- Flexible sheet layout
- Flexible antenna design

Two alternately working vacuum tables for maximum throughput

MTT-A   Testing and Marking

- Contactless testing
- Optional: vision inspection
- Bad Unit Marking
- Automatic sheet sorting process
- Rework mode -> Left table

Advantages

- Easy and simple import of **CAD data**
- Any **antenna geometry** is possible, including meander
- Powerful **design software** for easy creation of new antenna layouts
- High stability without any adhesive! **Vacuum** is used instead!
- Testing: electrical **and** optical!
- Bad unit marking
- Sheets including bad units can easily be reworked by MTT's **"rework mode"**

→ **Robust and proven solution, already 100 systems sold worldwide!**
→ **Design – Software – Assembly in Nitra = support from one source!**

Technical Data

- Movable operator panel
- Menu driven software, available in different languages
- Environment conditions:
    - Room temperature: 23 °C +/- 3 °C
    - Humidity: 50% +/- 10%
- Materials: PETG, PVC, Polycarbonate, Teslin, Paper, Neobond; others on request
- Max. sheet size: 600 x 600 mm
- Substrate thickness: 0.1 – 0.3 mm
- Wire thickness: 0.08 – 0.12 mm
- Module tape: 35 mm; Reel diameter max. 330 mm
- Spacer tape: 35 mm; Reel diameter max. 330 mm
- **Throughput:**   Up to 1.600 contactless inlays
                         Up to 2.200 dual interface inlays
- **Yield:**   **up to 99.7%**

Special features

- Light curtain (barrier)
- WE-only heads on linear guidings
- Table size nonstandard
  - Width max. 630 mm
  - Length max. 750 mm
- Universal vacuum tables

Teaser
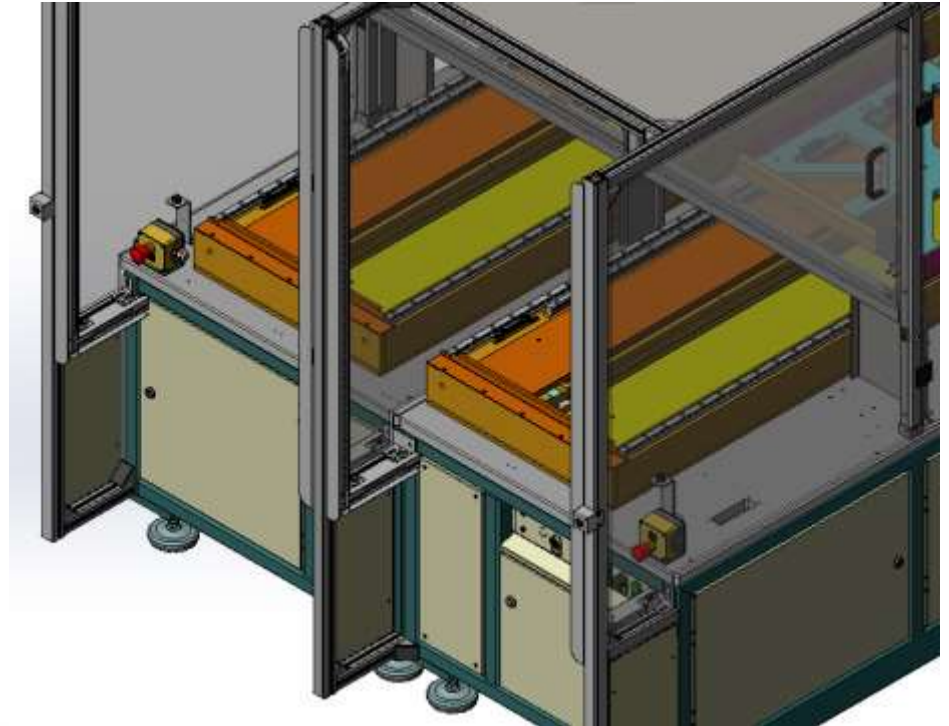
- Gen2 – made by MB Nitra
  - Integration of new modern PLC unit + GUI
  - WE-only heads on linear guiding
  - Vision system implementation in inspection
- Gen3 is comming!
  - Throughput increase
  - Separation of process steps => modularity
  - Auto update of welding parameters
  - New design of MTT-A covers

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