



# Tachograph Cards Test Solutions



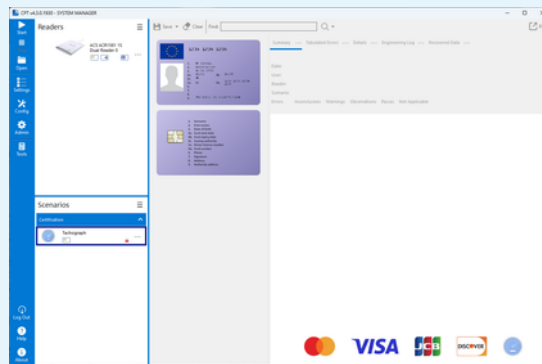
## Speeds up Tachograph Card Testing and reduces the high cost and delay associated with failures

**The Only Test Tool You Need** — From G1 to G2V2. As the EU's G2V2 Smart Tachograph mandate reaches full enforcement — including the extension to light commercial vehicles from 1 July 2026 — the cost of issuing a non-compliant card has never been higher. Barnes' Tachograph Card Test Tool gives card manufacturers, personalisation bureaus, issuing authorities, and fleet operators the assurance they need: every card verified, every regulation met, before it ever reaches a vehicle.

### Card Types Supported:

- Driver Card
- Workshop Card
- Control Card
- Company Card

PCSC card reader interface: Contact chip (ISO 7816, Class A, B, C, Protocol T=0, T=1) 1 full size card slot 5v 3v 1.8v Host Interface: USB CCID Power Source: USB Port



### Regulatory Compliance Covered:

Commission Implementing Regulation (EU) 2016/799 — 18 March 2016 (G1 & G2V1)  
Commission Implementing Regulation (EU) 2021/1228 — 16 July 2021 (G2V2)



### Testing Scope:

- Elementary File (EF) checking
- Full Public Key Infrastructure (PKI) validation
- Mutual Authentication sequences — both G1 and G2V2 cryptographic handshakes fully supported.
- Secure session management — validates encrypted communication channels to confirm data confidentiality and integrity
- G2V2-specific data structures — including extended 56-day activity data and new EF file formats introduced under Regulation 2021/1228
- Backward-compatible testing of G1 cards still in active circulation

## Solution Overview



A contact-interface test tool built specifically for tachograph cards to the ISO 7816 specification. Barnes' custom-designed hardware and software solution tests all four card types across every generation of the EU tachograph system — from Generation 1 through to the latest Generation 2 Version 2 (G2V2) Smart Tachograph cards.

Regulatory Compliance Covered:  
Commission Implementing Regulation (EU) 2016/799 — 18 March 2016 (G1 & G2V1)  
Commission Implementing Regulation (EU) 2021/1228 — 16 July 2021 (G2V2)



## THE BARNES ADVANTAGE

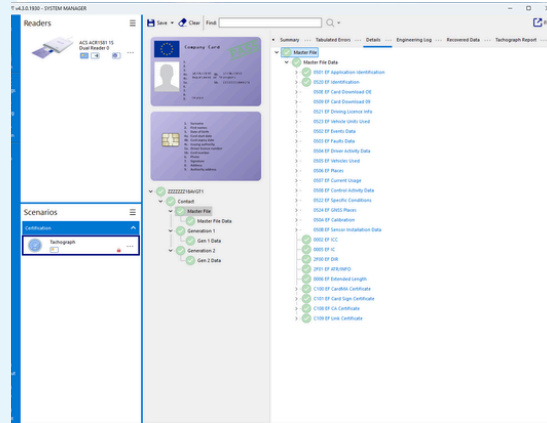
### Key Benefits

- ✓ Full G2V2 Compliance Coverage  
The only Barnes tool needed for the complete EU Smart Tachograph regulatory landscape. Supports the complex cryptographic and data structure requirements of G2V2, including the enhanced PKI and mutual authentication sequences introduced under Regulation 2021/1228. Stay ahead of enforcement — cards are verified against the standard that roadside authorities and remote DSRC pre-screening systems will be checking against.
- ✓ Eliminate Costly Field Failures  
A non-compliant tachograph card detected by enforcement authorities — or worse, one that prevents a driver from recording activity — causes immediate operational disruption, potential fines, and reputational damage. Testing at production or issuance removes the risk entirely. Barnes' tool catches failures before cards leave the facility.
- ✓ One Tool, Every Generation  
G1 cards remain in active circulation. G2V1 cards are still being used. G2V2 is now mandatory for HGVs and will be for LCVs. Barnes' tool handles all three generations in a single platform — no need to maintain multiple tools as the fleet and card base transitions.
- ✓ Speed Up Production & Issuance Cycles  
Automated testing significantly reduces the time required to validate cards during both new product development and high-volume production runs. Fast, reliable results mean fewer bottlenecks — critical as the July 2026 LCV deadline is driving a surge in new card issuance.

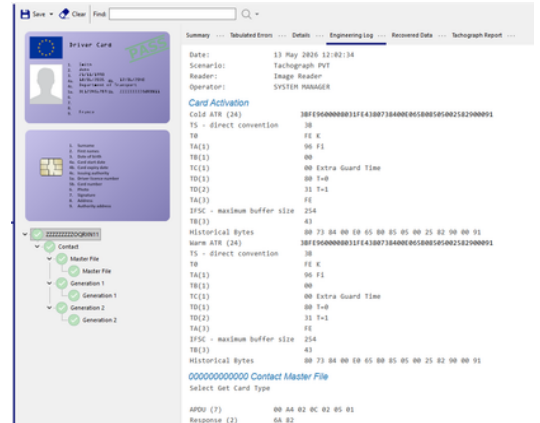



Tabs provide access to [Details Tree](#), [Engineering Log](#) and [Test Report](#). The detailed Results Tree and Engineering Log enable analysis and clear guidance for all levels of user.

## Details Tree



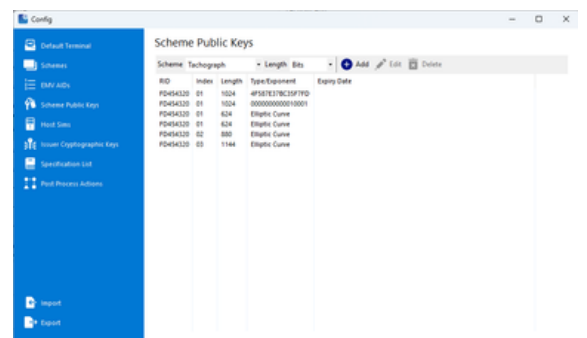
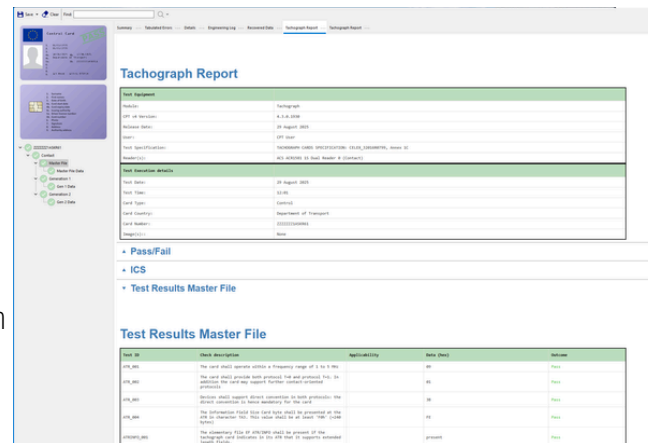
## Engineering Log



A full [Test Report](#) detailing the tests carried out and more in-depth detail on the errors, plus a list of all the tests performed. 

## Testing Scope:

Elementary File (EF) checking — presence, length, and value across the Masterfile, G1, and G2 applications  
Full Public Key Infrastructure (PKI) validation — verifies digital signatures to confirm the card is genuine and untampered  
Mutual Authentication sequences — both G1 and G2V2 cryptographic handshakes fully supported, ensuring the card and verification system authenticate correctly before any data exchange  
Secure session management — validates encrypted communication channels to confirm data confidentiality and integrity  
G2V2-specific data structures — including extended 56-day activity data and new EF file formats introduced under Regulation 2021/1228  
Backward-compatible testing of G1 cards still in active circulation



## Report

**Instant Result Summary** — clear PASS/FAIL with error codes and comments  
Full Test Report — detailed breakdown of every test performed, with actionable error guidance  
Details Tree and Engineering Log views — enabling analysis at both operator and engineering level



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