



Connectivity for
Automotive Light & Vision

IN 22002 –HDMI PLL Guided Lock

Inova Semiconductors

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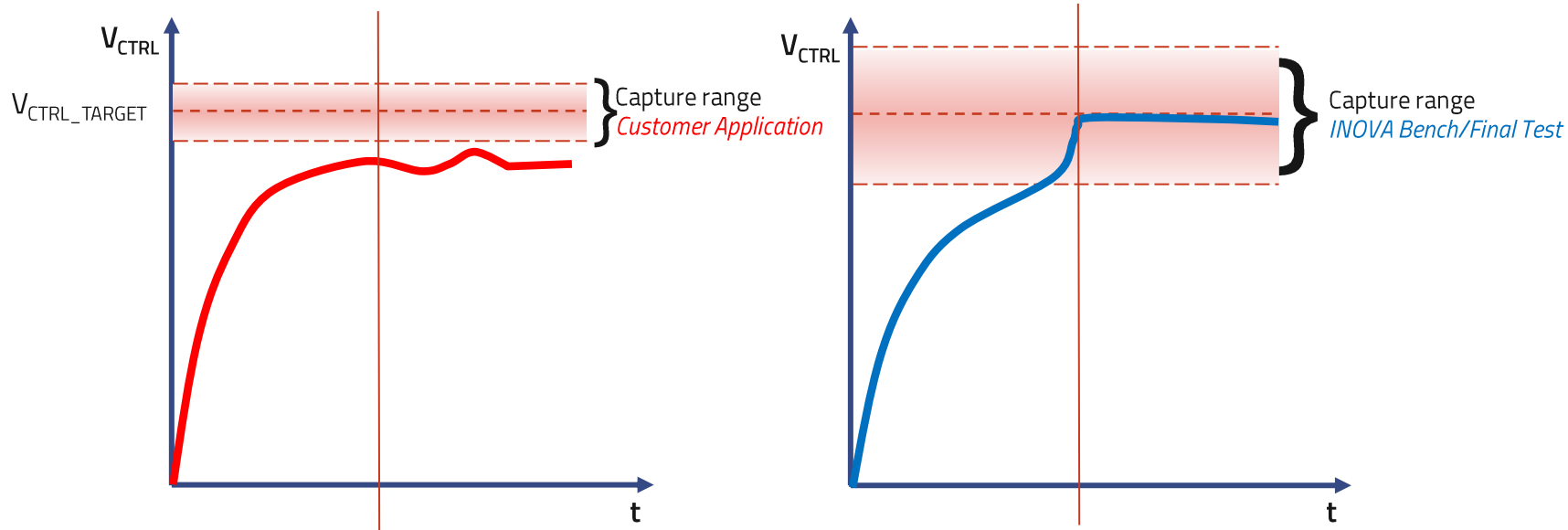


Background

- Q2 2022: Customer returns of INAP5x2/3TAQ devices.
 - HDMI PLL Lock failures in the customer application, that cannot be replicated in the Inova reference design.
 - Customer application influence can lead to HDMI PLL Lock problems.
- The topic can be solved by an additional HDMI PLL guided lock algorithm implemented in the INAP5x2/3TAQ microcode.

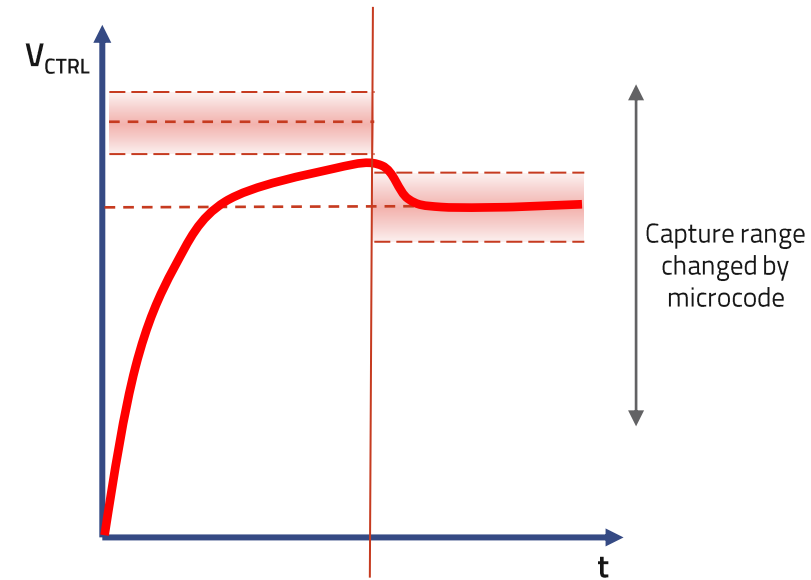
Problem Description & Solution

Problem Situation



- Locking depends on capture range (application dependent)
- Capture range is bigger for noisy clock (application dependent)

Solution



- VCO gain varied by microcode
→ Capture range is moved and PLL is caught by the capture range

Summary

- The microcode is written into the device at the final test.
- The upgrade of the microcode will be realized by a test program update.
- There is no impact on the customer application. Simulation results confirm that there is no conflict with diagnostic implementations in customer applications (HDMI restart, HDMI PLL guided lock).
- As per ZVEI PCN guideline/matrix, the change is classified as Info Note (no customer approval required).



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