

ASPICE

Assessment Briefing

Project Assessment & Capability Gap Analysis

Target Capability Level: 2

PROJECT NAME

BCU-200 Brake Control Unit

DATE

2026.09.14

INTACS CERTIFIED LEAD ASSESSOR

Lee SeungJu

Assessment Purpose & Scope

Assessment Purpose, Scope, and Participants

Purpose

Determine whether the VDA Scope processes of the BCU-200 series development project achieve Capability Level 2 before the customer SOP.

Assessment Overview

Target Project	BCU-200 Brake Control Unit
Organization	Sample Motors
Assessment Period	2026.09.14 ~ 2026.09.18
Assessment Class	3
Assessment Category	A

Process Assessment Model

Automotive SPICE® PAM ASPICE 4.0 (ISO/IEC 33020)

Guideline

Automotive SPICE® Guidelines 2nd Edition

* Scope & Target CL: see next slide
Assessment Date: 2026.09.14 *CONFIDENTIAL*

Participants

SPONSOR

Yoon Taeho — Head of Chassis Electronics (Sample Motors)

INTACS Certified Lead Assessor

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INTERVIEWEES

Kim Doyoon — Project Manager (Sample Motors)

Oh Sejin — System Engineering Lead (Sample Motors)

Bae Hyunwoo — Software Lead (Sample Motors)

Shin Yerin — Software Architect (Sample Motors)

Lim Jaehyuk — Software Test Lead (Sample Motors)

Hwang Jiyeon — System Test Engineer (Sample Motors)

Choi Nayoung — Quality Assurance Engineer (Sample Motors)

Kwon Dahye — Configuration Manager (Sample Motors)

Assessment Purpose & Scope (Cont.) (1/2)

Assessment Purpose, Scope, and Participants (Cont.)

Assessment Information

Assessment Model	Automotive SPICE® PAM ASPICE 4.0
Guideline	Automotive SPICE® Guidelines 2nd Edition
Assessment Method	ISO/IEC 33020

Scope Processes & Target CL

ID	Process Name	Target CL
ACQ.4	Supplier Monitoring	CL 2
MAN.3	Project Management	CL 2
SUP.1	Quality Assurance	CL 2
SUP.8	Configuration Management	CL 2
SUP.9	Problem Resolution Management	CL 2
SUP.10	Change Request Management	CL 2
SWE.1	Software Requirements Analysis	CL 2

Assessment Purpose & Scope (Cont.) (2/2)

Assessment Purpose, Scope, and Participants (Cont.)

Scope Processes & Target CL

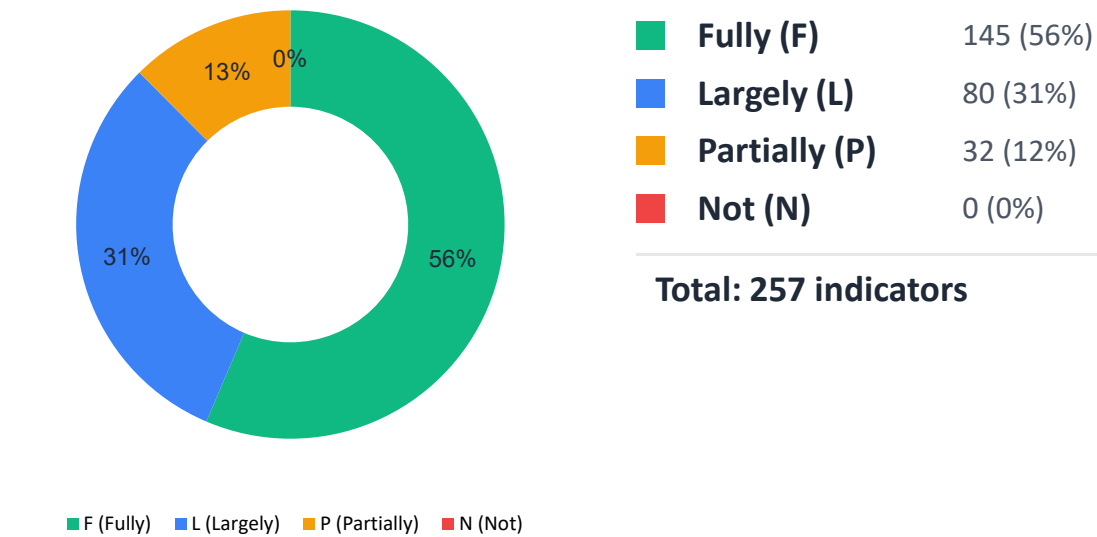
ID	Process Name	Target CL
SWE.2	Software Architectural Design	CL 2
SWE.3	Software Detailed Design and Unit Construction	CL 2
SWE.4	Software Unit Verification	CL 2
SWE.5	Software Component Verification and Integration Verification	CL 2
SWE.6	Software Verification	CL 2
SYS.2	System Requirements Analysis	CL 2
SYS.3	System Architectural Design	CL 2
SYS.4	System Integration and Integration Verification	CL 2
SYS.5	System Verification	CL 2

Overall Assessment Dashboard

Overall Assessment Summary & Capability Profile

PA Rating Distribution (NPLF)

Distribution of all BP/GP ratings across assessed processes



⌘ P+/P- → P, L+/L- → L (merged)

Total: 257 indicators

Key Strengths

- Supplier progress reviewed against milestones every month
- Scope of work kept consistent across three documents
- QA independent of the project line

Key Weaknesses

- Joint interfaces with the supplier not agreed
- Work packages lack dates and effort
- Work-product QA checks existence, not content

Process Capability Rating (1/3)

Overall Process Capability Profile (NPLF Matrix)

ID	Process Name	PA 1.1	PA 2.1	PA 2.2	CL
	Acquisition (ACQ)				
ACQ.4	Supplier Monitoring	P+	P+	P+	CL0
	Management (MAN)				
MAN.3	Project Management	L+	P+	L+	CL1
	Supporting Process (SUP)				
SUP.1	Quality Assurance	L+	L+	L+	CL1
SUP.8	Configuration Management	F	L+	F	CL2
SUP.9	Problem Resolution Management	F	L+	L+	CL2
SUP.10	Change Request Management	F	L+	L+	CL2
	Software Engineering (SWE)				

Process Capability Rating (2/3)

Overall Process Capability Profile (NPLF Matrix)

ID	Process Name	PA 1.1	PA 2.1	PA 2.2	CL
SWE.1	Software Requirements Analysis	F	L+	L+	CL2
SWE.2	Software Architectural Design	F	L+	L+	CL2
SWE.3	Software Detailed Design and Unit Construction	F	F	L+	CL2
SWE.4	Software Unit Verification	F	L+	L+	CL2
SWE.5	Software Component Verification and Integration Verification	L-	P+	L+	CL1
SWE.6	Software Verification	F	L+	L+	CL2
	System Engineering (SYS)				
SYS.2	System Requirements Analysis	F	L+	F	CL2
SYS.3	System Architectural Design	F	L+	P+	CL1
SYS.4	System Integration and Integration Verification	L+	P+	P+	CL1

Process Capability Rating (3/3)

Overall Process Capability Profile (NPLF Matrix)

ID	Process Name	PA 1.1	PA 2.1	PA 2.2	CL
SYS.5	System Verification	F	L+	P+	CL1

■ N: 0~15% ■ P-: >15% ■ P+: >32.5% ■ L-: >50% ■ L+: >67.5% ■ F: >85% □ Unrated ■ Target CL not met

Refined, 6 levels · ISO/IEC 33020 Assessment Scale (refined) — ASPICE PAM Table 19

Target Capability Level not met: 7 process(es) (ACQ.4, MAN.3, SUP.1, SWE.5, SYS.3, SYS.4, SYS.5)

Detailed Assessment Result - ACQ.4 (1/2)

Supplier Monitoring

PA1.1
P+

PA2.1
P+

Target: CL2
PA2.2
P+

Strength

ACQ.4.BP4

- Every monthly report compares planned and actual milestones, and the comparison is reviewed in the supplier meeting and minuted.

Weakness

ACQ.4.BP1

- The agreement defines deliverables and dates only. Joint review activities, the defect data to be exchanged and the format of interim deliveries are not agreed, and the annex meant to define them was never issued.

ACQ.4.BP2

- Because the information to be exchanged was never agreed (BP1), defect lists and test results of interim deliveries are not exchanged as a rule; the last two drops arrived without test reports.

Detailed Assessment Result - ACQ.4 (2/2)

Supplier Monitoring

PA1.1
P+

PA2.1
P+

Target: CL2
PA2.2
P+

Weakness

ACQ.4.BP5

- Deviations raised in the supplier meeting are minuted but not recorded as actions with an owner and a due date; two delays raised in May were raised again in July.

Detailed Assessment Result - MAN.3 (1/2)

Project Management

PA1.1
L+

PA2.1
P+

Target: CL2
PA2.2
L+

Strength

MAN.3.BP1

- The project plan, the customer statement of work and the system requirements together define the scope; the plan references both, and the three were consistent at the last gate.

Weakness

MAN.3.BP4

- About 40% of the 146 work packages, mainly software and test, have no planned start and end dates or planned effort, and actual effort is booked at project level only. Dependencies between packages are not identified, so progress of these packages cannot be measured.

Detailed Assessment Result - MAN.3 (2/2)

Project Management

PA1.1
L+

PA2.1
P+

Target: CL2
PA2.2
L+

Weakness

GP2.1.2, GP2.1.5

- The plan covers the release milestones only. Project management activities themselves - plan updates, plan reviews, estimate revisions - and the review of their work products are not planned, and with the plan incomplete their execution is not monitored or adjusted.

Detailed Assessment Result - SUP.1

Quality Assurance

PA1.1
L+

PA2.1
L+

Target: CL2
PA2.2
L+

Strength

SUP.1.BP1

- The QA engineer reports to the head of the quality department; the QA charter and the organisation chart confirm it.

Weakness

SUP.1.BP3

- For test specifications and source code, the QA checklists confirm only that the work product exists and was reviewed; the content is not checked against criteria. The QA records of the last two releases show "present" as the only result.

Detailed Assessment Result - SUP.8

Configuration Management

PA1.1
F

PA2.1
L+

Target: CL2
PA2.2
F

Strength

SUP.8.BP1,
SUP.8.BP5

- Release baselines cover requirements, models, source, calibration data and tool versions, and a baseline audit confirms completeness before each release.

Weakness

SUP.8.BP6

- Configuration status is presented in the weekly project meeting, but no status report is issued; what was reported can be reconstructed only from the meeting minutes.

Detailed Assessment Result - SUP.9

Problem Resolution Management

PA1.1
F

PA2.1
L+

Target: CL2
PA2.2
L+

Strength

SUP.9.BP3

- The procedure defines who may authorise an urgent fix (software lead and QA engineer together); the path has not been needed in this project.

Weakness

SUP.9.BP6

- Closure requires a verification note. In 9 of 30 sampled problems the re-test was performed (confirmed in the test logs) but the problem record names only the build, not the result.

Detailed Assessment Result - SUP.10

Change Request Management

PA1.1
F

PA2.1
L+

Target: CL2
PA2.2
L+

Strength

SUP.10.BP3

- A board with all relevant disciplines - and the customer representative for customer-visible changes - approves changes against defined criteria.

Weakness

SUP.10.BP2

- Impact analysis covers effort, schedule and affected work products, but the template has no field for side effects on other functions; 4 of 15 sampled analyses do not address them.

Detailed Assessment Result - SWE.1

Software Requirements Analysis

PA1.1
F

PA2.1
L+

Target: CL2
PA2.2
L+

Strength

SWE.1.BP1

- All 40 sampled software requirements are derived from a system requirement and recorded in the requirements tool.

Weakness

SWE.1.BP5

- Traceability is maintained in the tool and consistency is confirmed through peer review comments, but 3 of 40 sampled links were lost when the parent requirements were revised.

Detailed Assessment Result - SWE.2

Software Architectural Design

PA1.1
F

PA2.1
L+

Target: CL2
PA2.2
L+

Strength

SWE.2.BP1

- The architecture is described in Simulink models; the notation guideline and supplementary descriptions are kept in the SAD and linked to the model elements, and the interfaces of the supplier driver are included.

Weakness

GP2.2.4

- Of 23 findings from the SAD v3.2 review, two editorial findings (figure numbering, a glossary entry) remain open; they have an owner and are planned for v3.3.

Detailed Assessment Result - SWE.3

Software Detailed Design and Unit Construction

PA1.1
F

PA2.1
F

Target: CL2
PA2.2
L+

Strength

SWE.3.BP1

- All six functions above the complexity limit have a recorded deviation with a rationale (state machines generated from the model) approved by the software lead.

Weakness

SWE.3.BP3

- Two hand-written units were changed for a hotfix before their design notes, which were updated only in the next release.

Detailed Assessment Result - SWE.4

Software Unit Verification

PA1.1
F

PA2.1
L+

Target: CL2
PA2.2
L+

Strength

SWE.4.BP1

- The strategy states, with a rationale, that unmodified code from the qualified generator is verified at model level with back-to-back tests, while modified generated code is unit-tested.

Weakness

SWE.4.BP2

- Tests are selected by changed units, but the selection list for the last release was not kept, so the selection cannot be re-checked.

Detailed Assessment Result - SWE.5

Software Component Verification and Integration Verification

PA1.1
L-

PA2.1
P+

Target: CL2
PA2.2
L+

Strength

SWE.5.BP6,
SWE.5.BP7

- Results are linked to test cases and summarised per build in the pipeline report sent to the software lead and the system team.

Weakness

SWE.5.BP1,
SWE.5.BP2

- Component behaviour tests are specified for only 4 of 11 components, and the specification does not address how the correctness of the automated integration test scripts is assured.

GP2.1.3, GP2.1.4

- Resource needs name only the two test engineers. The target boards with sensor simulation needed for component tests are not determined and only one is available, so the resource needs themselves are incomplete.

Detailed Assessment Result - SWE.6

Software Verification

PA1.1
F

PA2.1
L+

Target: CL2
PA2.2
L+

Strength

SWE.6.BP1,
SWE.6.BP2

- Tests are specified per requirement with entry and exit criteria per set; although the release plan missed some changes, the selection covered all of them.

Weakness

SWE.6.BP3

- For R3.0, 14 low-priority tests were deferred to R3.1 with the agreement of the system lead; the risk for the requirements they cover was not evaluated.

Detailed Assessment Result - SYS.2

System Requirements Analysis

PA1.1
F

PA2.1
L+

Target: CL2
PA2.2
F

Strength

**SYS.2.BP1,
SYS.2.BP3**

- Each requirement carries verification criteria, feasibility and safety attributes, and analysis results are recorded as attributes and comments in the tool; legal requirements kept in a spreadsheet are imported each release and managed in one place.

Weakness

SYS.2.BP5

- Carry-over functions are traced at group level, which is adequate; for new functions, 6 of 40 sampled requirements have no link to a stakeholder requirement.

Detailed Assessment Result - SYS.3

System Architectural Design

PA1.1
F

PA2.1
L+

Target: CL2
PA2.2
P+

Strength

SYS.3.BP3

- Two partitioning options were compared qualitatively and the rationale for the choice is recorded; qualitative analysis is adequate for the complexity of this system.

Weakness

SYS.3.BP2

- Dynamic behaviour is described for start-up, normal braking and degraded mode, but the transition from degraded mode back to normal mode is missing.

GP2.2.1, GP2.2.4

- No review criteria are defined for the architecture description, and as a result the review records list only attendees and date. They name neither the reviewed version nor the findings, so it cannot be shown what was reviewed and what was found.

Detailed Assessment Result - SYS.4 (1/2)

System Integration and Integration Verification

PA1.1
L+

PA2.1
P+

Target: CL2
PA2.2
P+

Strength

SYS.4.BP5

- Integration test results are summarised per integration step and sent to the project.

Weakness

SYS.4.BP1

- Integration test cases and criteria are specified, but how the correctness of the automated HIL scripts and of the plant model is assured is not part of the verification measures; script errors could go undetected.

GP2.1.2, GP2.1.5

- Integration dates and bench slots are agreed per hardware sample, but the plan is not revised when samples arrive late, leaving the planned activities incomplete. Progress is checked only at the release gate, too late to react.

Detailed Assessment Result - SYS.4 (2/2)

System Integration and Integration Verification

PA1.1
L+

PA2.1
P+

Target: CL2
PA2.2
P+

Weakness

GP2.2.2, GP2.2.3

- The storage requirements for integration work products omit the HIL test results and the plant model versions; test results stay on the bench PC, and their link to the tested build cannot always be established.

Strength

**SYS.5.BP1,
SYS.5.BP2**

- Test cases are defined per requirement, with entry and exit criteria per campaign. Although the release plan omitted some content, the selection based on the matrix of changed requirements covered every change.

Weakness

SYS.5.BP3

- The winter tests were run with the B-sample software, and the changes up to R3.0 were verified on HIL only, not in the vehicle.

GP2.2.2, GP2.2.3

- The project handbook says where test reports are stored but defines no versioning; three test reports with the same name and different content were found, so it cannot be shown which report belongs to which software release.

Conclusions

Assessment Conclusions

Assessment Summary

16 processes were assessed against Automotive SPICE® PAM 4.0. Target Capability Level achieved: 9 · not achieved: 7.

Below target — key weakness

ACQ.4	CL0/2	Joint interfaces with the supplier not agreed
MAN.3	CL1/2	Work packages lack dates and effort
SUP.1	CL1/2	Work-product QA checks existence, not content
SWE.5	CL1/2	Verification measures incomplete; script correctness not addressed
SYS.3	CL1/2	Architecture review without criteria or traceable record
SYS.4	CL1/2	Correctness of automated HIL scripts not assured
SYS.5	CL1/2	No versioning rule for test specifications and reports

Target achieved

SUP.8 · CL2	SUP.9 · CL2	SUP.10 · CL2	SWE.1 · CL2	SWE.2 · CL2	SWE.3 · CL2	SWE.4 · CL2	SWE.6 · CL2	SYS.2 · CL2
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Final Remark

We confirm that the assessment was performed according to the requirements of ISO/IEC 33020.

(INTACS Certified Lead Assessor: Lee SeungJu)

Principal Lead Assessor · INTACS#: INTACS-2019-0471

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Competent Lead Assessor · INTACS#: INTACS-2022-1188

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