Assess Phase: MCAL: SQA Audit Report

Audit Information

Phase of the Audit	Assess
Date of the Audit	11 Nov 2020
Auditor	Krishna Gopalakrishnan
Auditee	Gagan Maur
Component Leads	Nikki Shah Sunil MS Sunita Nadampalli
Notification	Yashwant Dutt ,Jayant Thakur , Alan Leek

Audit Checklist

Sl#	Audit Checklist	Status (Yes, No, NA)	Links to evidences as applicable	Remarks (Link to Jira Quality Issue)
1	Is there a Functional Safety Manager assigned for the project? If yes, link the nomination and competency document.	Yes	Defined as part of the Product Proposal presentation Assess Phase: MCAL: Product Proposal	
2	Is there at least one of the required inputs to define the scope targeted outcome of the project?(Possible inputs: MRD, PRD, Product Proposal,...)	Yes	Assess Phase: MCAL: Product Proposal Assess Phase: MCAL: Marketing Requirements	
3	Is there specific information outlining the project business case and technical justification.	Yes	Defined as part of the product proposal and MRD	
4	Has a top down schedule of key milestones been documented within the high level project definition documents (MRD, PRD, Project Proposal,...)?	Yes	Defined as part of the product proposal	
5	Are all Assess Phase approvals as required by the QSS 024 - 000 and QRAS AP00216 available and archived? NOTE: It is recommended that the Kick Off Review be conducted and approved prior to the Assess EOP Audit completion so the phase work products can be reviewed in their entirety.	Yes	Approvals are closed	JIRA item to track - MCAL-5085
6	Are all Waivers accepted and approved by the appropriate quality representative.	NA	No Waivers identified as part of the Assess phase.	

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1	Are all actions from the Assess Phase closed?			
2	Has the project reviewed and approved by PSAT which is required for all Functional Safety Projects.			
3	Have you verified whether any Customer Requirements (CRs) are applicable to the project? If there are any applicable CRs, are the CRs dispositioned as per Customer Specification Evaluation System (CSES) Exception Report ? http://quality.sc.ti.com/peaf/reports/excRpt.asp			
4	Are the lessons learned from previous projects considered?			
5	Have all of the tools targeted for use by the project been confirmed as classified and qualified as required by QRAS 00222?			
6	Has an HSI document been created by the hardware development team and reviewed by the SW project key stakeholders for completeness and suitability to start development? At a minimum, the HSI should contain: 1.) The Programmers Model for correctly using the IP within the device 2.) Partitioning of key diagnostic and/or other functional safety related operations and capability as falling to HW or SW and whether it is an integrator or component level responsibility.			
7	Are the coding guidelines to be used by the development team readily available for reference and guidance by the team?			
8	If there are any existing SW components or components developed by 3rd parties that are to be integrated into the functional safety project and have these components been qualified for use within the project per applicable FS standard requirements?			

9	Is the project team utilizing the recommended methods and techniques outlined in the methods and techniques table located at the link below? https://confluence.itg.ti.com/display/SWDevelopment/Methods+and+Techniques+for+Functional+Safety+SW+Development		_	
10	Has the software source been baselined for source that is to be used as a starting point for the project? Baselining the original, unaltered source, allows clear delination between newly created source, source used without change and source used with updates.		_	
11	Are the key stakeholders and roles and responsibilities of the safety personnel identified as per the supporting process QRAS AP00221		_	
12	Are the detailed Software Safety Requirements included within the Software Product Specification (SPS)?		_	
13	Have the SW Safety Requirements within the SPS been reviewed and evidence of the review uploaded in Galileo?		_	
14	Does each of the requirements in the SPS have a unique identifer for use in traceability?		_	
15	Are each of the requirements within the SPS traceable back to the top level origination of the requirement (source requirement)?		_	
16	Have each of the requirements been created utilizing the methodologies and techniues outlined in the Methods and Techniques Table at https://confluence.itg.ti.com/display/SWDevelopment /Methods+and+Techniques+for+Functional+Safety+SW+Development?			
17	Have all issues and gaps identified during the review of the SPS been documented, dispositioned, and closed?		_	
18	Have all required work products been uploaded to Galileo? Note: Reference QRAS AP00216 for the list of deliverables that are required.			
19	Is the configuration management tool set up for the project including the CM record for project tracking and metrics?		_	
20	Is the defect tracking tool set up for the project?			
21	Is there a published and baselined project schedule? (details of project tasks including release milestones, dependencies, End of Phase Reviews, safety tasks, requirements, design, coding, reviews, testing, bug fixing, release, documentation with resources, and dates)		_	
22	Is there a release plan? (describing what features are going to be included in what release)		_	
23	Does the detailed project plan include milestones for customer collaterals, user documentation, SW manifests, etc?		_	
24	Is there a risk management plan? (with details of risks, mitigation plan, risk owner, impact and probability of occurance of risk, risk trigger)		_	
25	If the project is using 3rd party content/components, is there an established agreement between TI and the supplier clearly defining expectations and responsobilities to be fulfilled by the supplier and by TI?		_	
26	If using third party content, are the status reports from supplier complete with all the project progress, defects and anomalies communicated?			
27	Is there a Supplier delivery plan to execute per a supplier agreement?		_	
28	Are all the documents precise, readable, and easily accessible?			
29	Are all the documents updated, reviewed and approved as per document control procedure?		_	
30	Are the tool classification and qualificatin reports for each of the tools used by the project team accessible?			
31	If there are in-house components reused or 3rd party components utilized within the project , is there a plan for software component functional safety qualification?		_	
32	The fucntional safety standards refer to the body of work prducts and evidence supporting functional safety claims as the "Safety Case." Since Galileo is the defacto Safety Case for the SW project, has it been properly set up and using the appropriate Software Subflow based on project goals?		_	
33	Is there a record of Plan Phase review in terms of presentation, minutes of meeting, Project Plan Review check list, (Approval to proceed/ Rejected/ Conditional Approvals) and are these reviews sufficient to assure appropriate scrutiny by the stake holders and subject matter experts?		_	
34	Are all documents in baselined/ approved state? (No documents with preliminary watermark, draft, initial, TBDs)		_	
35	Has the initial baseline report been ran and uploaded to Galileo to capture the work products and project baselines at the conclusion of the close of the plan phase? Note: This task is capturing the current state of the safety case as required by the targeted functional safety standards. The safety case is simply the collection of work products generated in the process of developing a functional safety compliant product.		_	
36	Has the initial CM Audit taken place to insure CM process compliance and to establish project baseline for the project plan definition.		_	
37	Are all Plan Phase approvals as required by the QSS 024 - 000 and QRAS AP00216 available and archived? NOTE: It is recommended that the PPR Review be conducted and approved prior to the Plan EOP Audit completion so the phase work products can be reviewed in their entirety.		_	

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1	Are all the actions from the Plan Phase closed?			
2	Is there a test plan including unique test IDs for each defined test with traceability to the software design documentationi and architecture document (if required)?			
3	Are all tests of all safety related elements within the SW design and architecure traceable to the safety related requirements within the Software Product Specification (SPS)?			
4	Has the Test Plan been reviewed and evidence of the review uploaded to Galileo?			
5	Have all issues discovered during the Test Plan document review process been documented as actions and tracked to closure?			
6	If the software fits the definition of Class 1 software, is there a Software Architecture Document?			
7	If a Software Architecture Document is required, has it been reviewed and evidence of the review uploaded to Galileo?			
8	Have all issues discovered during the software architecture review process been documented as actions and tracked to closure?			
9	Has the HSI document been updated by the HW team to create a refined HSI document and has the SW related work products impacted by the updates been updated accordingly? At a minimum, the HSI should contain: 1.) The Programmers Model for correctly using the IP within the device 2.) Partitioning of key diagnostic and/or other functional safety related operations and capability as falling to HW or SW and whether it is an integrator or component level responsibility.			
10	Is there an FMEA report? Note: This report should include failure modes related to software component dependencies and potential interference of safety related tasks from other components defined within the architecture and/or design documentation.			
11	Have all design related documents been uploaded to Galileo and baselined?			
12	Have all design related documents been reviewed and evidence of the reviews uploaded to Galileo?			
13	Have all issues discovered during the software design document review process been documented as actions and tracked to closure?			
14	Has the Bi-directional traceability document been updated to add traceability up to and including the test plan. Note: Bi-Directional traceability should include traceability MRD<->SPS<->SW Arch./Design<--> Integration/Unit Test Plans			
15	Has the Bi-directional traceability document been reviewed and evidence of the review uploaded to Galileo?			
16	Have all issuees discovered during the review of the Bi-Directional Traceability document been recorded, dispositioned and closed?			
17	Have all code review and inspection reports been uploaded to Galileo?			
18	Are all issues identifed during the code review or inpection process been documented as actions and tracked to closure?			
19	If there have been updates to any of the baseline documents as captured at the conclusion of the plan phase, have change requests (CRs) been filed and all relevant information to desribe the requested change documented.			
20	For each of the CRs that have been filed, has there been an detailed impact analysis completed with respect to the requested change?			
21	Have all CRs been dispositioned by a Change Control Board and approved CRs been implemented including updates to baselined work products impacted by the change? Note: In the case of reviewed work products, a delta review may be required to capture review of the impacted work products.			
22	Has the CR been fully implemented including updates to all impacted work products prior to the CR being closed?			
23	If a CR is implemented after a product has been released to market, has the potential customer impact been evaluated and appropriate communication of potential work around or SW update recommendations been initiated?			
24	If the CR introduces new requirments, removes requirements, or identifies missed requirements, has the traceabilty documentation been updated?			
25	If the software requires integration of mulitple components, does the project include an integration test plan?			
26	Does the test plan include a unit test plan?			
27	Has a static analysis including checks against the MISRA C requirements , been executed and the report uploaded to Galileo? Ensure that the deliverable comply with the EP MISRA C Policy as specified in MISRA-C Compliance.			
28	Has a dynamic anaysis been executed on the software and the subsequent report uploaded to Galileo?			
29	Are all the critical and major issues from static analysis and dynamic analysis reports been captured, dispositioned, and closed?			
30	Has an updated baseline report been ran and uploaded to Galileo to capture the work products and baseline updates at the conclusion of the create phase? Note: This task is capturing the current state of the safety case as required by the targeted functional safety standards. The safety case is simply the collection of work products generated in the process of developing a funcitonal safety compliant product.			
31	Has the project risk management plan been updated to reflect the current status of earlier identified risks and add newly identified risks if applicable?			

32	Are the unit test failures logged in the defect tracking tool?			
33	Are the defects from unit testing closed after appropriate actions?			
34	Are the structural coverage metrics collected and analyzed at unit level?			
35	Is there an integration test report?			
36	Are the integration test defects logged in a defect tracking tool?			
37	Are the structural coverage metrics collected and analyzed at integration level?			
38	Are all Create Phase approvals as required by the QSS 024 - 000 and QRAS AP00216 available and archived? NOTE: It is recommended that the Create Phase Review be conducted and approved prior to the Create EOP Audit completion so the phase work products can be reviewed in their entirety.			

Sl #	**Audit Checklist**	**Status (Yes, No, NA)**	**Links to evidences as applicable**	**Remarks (Link to Jira Quality Issue)**
1	Are all the action items from the Create Phase closed?			
2	Are all work products required for the Validation Phase uploaded in final form to Galileo? Note: reference QRAS AP00216 which defines the required work products for Automotive and Functional Safety Quality products.			
3	Have the Verification Results as well as customer facing documentation been reviewed?			
4	Have all identifeid gaps from the work product reviews been entered into the issue tracking software package so that they may be dispositioned, repaired and closed..			
5	Do the software test reports include all safety related requirements, features, and procedures as defined by the SPS and HSI?			
6	Have all tests been executed per plan with expected results?			
7	Is the test report complete with details of test cases passed, failed, release tag, defect IDs, Tester, platform tested, date, etc?			
8	Are all the planned features complete before Beta release?			
9	Are the Production Stop and Major defects closed? If not, a waiver for General Availability (GA) release should be generated and approved by the required stakeholders?			
10	Are performance values in datasheet sync with SPS /test report values?			
11	Are all known issues documented in release notes?			
12	Are all the customer documents(release notes, user guide, data sheet, Safety Manual and any other customer requested documents) reviewed before GA release?			
13	Are all defects filed in a defect tracking tool?			
14	Have all defects been dispositioned and resulting Chanfe Requests (CRs) generated per QRAS AP00218 including CCB consideration, impact analysis, and baseline updates as needed.			
15	Are all the planning documents updated and closed? (schedule, release plan, risk and issue management plan)			
16	Is the traceability matrix updated with final test report data and any additional work product baseline updates?			
17	Does the content of Galileo have all of the necessary work products to demonstrate the viabilty of the product to be utilized in a functional safety system?			
18	Has an updated baseline report been ran and uploaded to Galileo to capture the work products and baseline updates at the conclusion of the create phase? Note: This task is capturing the current state of the safety case as required by the targeted functional safety standards. The safety case is simply the collection of work products generated in the process of developing a funcitonal safety compliant product.			
19	Is there a record of Ramp review in terms of updated Galileo, End Of Phase Audits, Checklist, minutes of meeting (Approval to proceed/ Rejected/ Conditional Approvals)?			
20	Has the Validate CM Audit, including both the Physical and Functional Audits, been completed?			
21	Have all identifeid gaps from the CM Audits been documented in the issue tracking tool.			
22	Is there a record of lessons learned with actions identified?			
23	Is there an approval for closing the project before moving to maintenance phase?			

Audit Findings

Insert the Jira filter macro with the query project = "project name"AND issuetype = Quality AND "Phase Found In" = "Asses, Plan, Validate, Create"

Key	Summary	T	Created	Due	Assignee	Reporter	P	Status	Resolution	Classification	Phase Found In
MCAL-5085	Approvals are pending in Galileo for the Assess Phase		Nov 11, 2020	Nov 25, 2020	Gagan Maur	Krishna Gopalakrishnan		CLOSED	Done	S2 - Minor	Assess

Template Revision

Author Name	Description	Version	Date
Krishna Gopalakrishnan	Initial Version to address EPSWDEVCCB-216	1.0	11 Aug 2020