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| **Executive**  **Summary** | This document presents the quality metrics of the DAIMLER MMA regarding the R8.0 version. | | |

DAIMLER MMA:

Software QualiTy METRICS report

ON R8.0 Version

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# General Information

## Revision history

|  |  |  |  |
| --- | --- | --- | --- |
| **Revision** | **Date** | **Author(s)** | **Description/comment** |
| 1.2.5.3 | 11.02.2022 | S.Dominte | Initial version |
| 1.2.5.4 | 11.02.2022 | S.Dominte | Table of content and revison were updated |
| 1.2.5.5 | 13.04.2022 | S.Dominte | Release updated |
| 1.2.5.6 | 12.05.2022 | S.Dominte | Release updated |
| 1.2.5.7 | 29.06.2022 | S.Dominte | QAC updated for R2.0.5 |
| 1.2.5.8 | 12.09.2022 | S.Dominte | QAC updated for R3.0 |
| 1.2.5.9 | 21.12.2022 | S.Dominte | QAC updated for R4.0 |
| 1.2.5.10 | 15.03.2023 | S.Dominte | QAC updated for R5.0 |
| 1.2.5.11 | 16.03.2023 | S.Dominte | QAC updated for R5.1 |
| 1.2.5.12 | 22.05.2023 | S.Dominte | QAC updated for R6.0 |
| 1.2.5.13 | 21.06.2023 | M. Obada | QAC updated for R6.1 |
| 1.2.5.14 | 21.06.2023 | M. Obada | QAC updated for R7.0 |
| 1.2.5.15 | 26.09.2023 | M. Obada | QAC updated for R7.1 |
| 1.2.5.16 | 20.10.2023 | M. Obada | QAC updated for R7.1 with correct version |
| 1.2.5.17 | 23.10.2023 | M. Obada | QAC updated for R7.0 with correct version |
| 1.2.5.18 | 13.11.2023 | M. Serban | QAC updated for R8.0 |
| 1.2.5.19 | 27.11.2023 | M. Serban | QAC updated for R8.0 patch 1 |

## Purpose and Scope

The purpose of this report is to describe the software code analysis done with QAC on all software components used by the R8.0

Product: DAIMLER MMA

Software Version: **R8.0**

QAC version: **8.1.2.R**

## Referenced documents

|  |  |  |
| --- | --- | --- |
| **Id** | **Document name** | **Location** |
|  | PP4G\_QAC\_Analysis.py | [*S:\Metrics\Static\_Analysis*](file:///S:\Metrics\Static_Analysis) |
|  | QAC\_Warning\_Report.xlsx |
|  | QAC\_Metrics\_Report.xlsx |
|  | MISRA C 2012 | *MISRA C Guidelines* |
|  | SW03OTH003 - SW coding rules user guide | *PLM AEM\_PROCESS\_1.18.00* |

## Terminology and definitions

|  |  |
| --- | --- |
| **Terminology** | **Meaning** |
|  |  |

# Metrics Acceptability Criteria

The metrics acceptability criteria used to obtain a good software quality are defined in [Ref5].

# List of the improvable functions

This table is extracted from **Improvable** Excel sheet in ***QAC\_Metrics\_Report.xlsx*** *[Ref3].* This shows which functions do not meet the metrics acceptability criteria defined in Chapter 2. For more details please see [Ref3].

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| File Name | The following functions must be improved on next release | Justification | Action | Status |
| ATM.c 1.1.1.6.3.9 | atm\_PlayOneShotTests | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| BMM.c 1.1.1.16.2.9 | OS\_ISR\_BMM\_HES\_IT | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| CIL\_AppliToCAN.c 1.5.2.52 | cil\_ManageFctPrecondSignal | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| CIL\_AppliToCAN.c 1.5.2.52 | cil\_ManageActiveClientRequestSource | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| CIL\_AppliToCAN.c 1.5.2.52 | cil\_ManageActiveLevelSignal | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| CIL\_AppliToCAN.c 1.5.2.52 | CIL\_Autotest\_CheckTimeoutError\_BelthandoverL | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| CIL\_Autotest.c 1.34.1.38 | CIL\_Autotest\_CheckTimeoutError\_BelthandoverR | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| CIL\_Autotest.c 1.34.1.38 | cil\_ManageInhibitConditions | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| CIL\_Autotest.c 1.34.1.38 | cil\_ManageAbortingConditions | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| CIL\_CANToAppli.c 1.6.2.114 | cil\_ManageInputSignals | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| CIL\_CANToAppli.c 1.6.2.114 | cil\_ManageHapticRepetition | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| CIL\_CANToAppli.c 1.6.2.114 | cil\_RequestTensioning | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| CIL\_CANToAppli.c 1.6.2.114 | cil\_TriggerProfiles | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| CIL\_CANToAppli.c 1.6.2.114 | CIL\_runCANToAppli | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| CIL\_CANToAppli.c 1.6.2.114 | cil\_Update\_07Cx\_Block05\_InfosToSend | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| CIL\_CANToAppli.c 1.6.2.114 | CIL\_runManageMeasurementFrame | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| DIA.c 1.1.11.11 | DIA\_cyclicProcessingTask | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| DIA.c 1.1.11.11 | DIA\_runRid0329\_TriggerBSRStart | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| DIA\_CustomerSpecific.c 1.51 | DIA\_runRid0330\_TriggerTensioningCycleRequestResults | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| DIA\_CustomerSpecific.c 1.51 | DIA\_runRid0330\_TriggerTensioningCycleStart | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| EOL.c 1.1.1.9.2.24 | eol\_ManageCycleCounters | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| EOL.c 1.1.1.9.2.24 | eol\_GetCounterIndex | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| ERH.c 1.2.11.47 | erh\_ManageFailedCounterEvent | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| ERH.c 1.2.11.47 | erh\_ManagePassedCounterEvent | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| ERH.c 1.2.11.47 | erh\_ManageAECCommand | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| ERH.c 1.2.11.47 | erh\_UpdateGroup | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| MMG.c 1.1.7.49 | mmg\_CheckCycleEnable | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| MMG.c 1.1.7.49 | MMG\_runUpdateModeStatus | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| MMG.c 1.1.7.49 | MMG\_runUpdateNVMBlocks | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| MMG.c 1.1.7.49 | mmg\_PreSafe\_HandleStateData | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| MMG\_BatteryModes.c 1.1.5.14 | mmg\_PreSafe\_HandleStartData | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| MMG\_CommunicationModes.c 1.1.8.13 | mmg\_PreSafe\_HandleStopData | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| MMG\_CriticalAutoTestsModes.c 1.1.4.12 | MMG\_runPreSafeRecorder | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| NVP.c 1.3.1.14 | nvp\_CopyVehicleEquipmentDefaultData | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| NVP.c 1.3.1.14 | nvp\_CopyVehicleEquipmentEOLData | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| PAL\_Autotests.c 1.4.6.25 | PAL\_Autotest\_CheckMosfetOCAT | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| PAL\_Autotests.c 1.4.6.25 | PAL\_Autotest\_CheckHighSideSwRegulation | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| PAL\_Autotests.c 1.4.6.25 | PAL\_Autotest\_CheckMotorCurrent | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| PAL\_Autotests.c 1.4.6.25 | PAL\_Autotest\_CheckMotorPowerOrder | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| PAL\_Autotests.c 1.4.6.25 | PAL\_Autotest\_CheckMotorDisengagement | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| PAL\_Autotests.c 1.4.6.25 | PAL\_Autotest\_CheckMotorSC | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| PMP.c 1.1.6.11 | PMP\_runComputeDeficiencyLevel | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| PMP.c 1.1.6.11 | PMP\_Autotest\_CheckPowerSupplyUVDuringActivation | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| PMP\_autotests.c 1.1.7.26 | PMP\_Autotest\_CheckPowerSupplyOVDuringActivation | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| Rcm.c 1.1.1.17.2.6 | RCM\_runDetermineResetCause | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| Rcm.c 1.1.1.17.2.6 | RCM\_PreInit | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| Scm.c 1.1.1.6.2.7 | scm\_ManageSystemContextStorage | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| Scm.c 1.1.1.6.2.7 | SCM\_runMonitoreExecutedCycle | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| Scm.c 1.1.1.6.2.7 | scm\_RecoverSystemContextContent | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| Scm\_Cfg.c 1.1.1.12.2.8 | SCM\_RecoverSystemContext | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |
| Scm\_Cfg.c 1.1.1.12.2.8 | SCM\_StoreSystemContext | Out of bounds metrics have no functional impact | NONE | JUSTIFIED |

# Warnings report

Following table is extracted from **Warnings\_metrics** Excel sheet in ***QAC\_Warning\_Report.xlsx*** [Ref2]. The warning are reported according to Ref[4].y

