Document Title	SRS_EEPROMDriver: Complete Change Documentation 4.3.0 - 4.3.1
Document Owner	AUTOSAR
Document Responsibility	AUTOSAR
Document Identification No	695

Document Status	Final
Part of AUTOSAR Standard	Classic Platform
Part of Standard Release	4.3.1

Table of Contents

Document ID 695: ChangeDocumentation

1 SRS_EEPROMDriver

1.1 Specification Item SRS_Eep_00087

Trace References:

RS_BRF_01928

Content:

Type:	Valid
Description:	The EEPROM driver shall provide an asynchronous read function that reads a data block starting from the requested EEPROM address with the passed length from the internal EEPROM.
Rationale:	Basic functionality
Applies to:	
Use Case:	–
Supporting Material:	BMW Specification MCAL V1.0a–

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78035: SRS requirements refer to BMW specificatons

  Problem description:

  AUTOSAR documents shall not relate to any particular company.
  The requirements below reference various BMW specifications and have to be corrected.

  Document: SRS_EEPROMDriver:
  ─────────────────

  [SRS_Eep_00087] The EEPROM driver shall provide an asynchronous read function
  "Supporting Material: BMW Specification MCAL V1.0a"

  [SRS_Eep_00088] The EEPROM driver shall provide an asynchronous write function
  "Supporting Material: BMW Specification MCAL V1.0a"

  [SRS_Eep_00089] The EEPROM driver shall provide an asynchronous erase function
  "Supporting Material: BMW Specification MCAL V1.0a"

Document ID 695: ChangeDocumentation

[SRS_Eep_00090] The EEPROM driver shall provide a synchronous cancel function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00091] The EEPROM driver shall provide a synchronous function which returns the job processing status
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00096] EEPROM driver static shall be configured
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00092] The EEPROM driver shall only write data if at least one data value of the affected erasable block is different from the data value to be written
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00094] The EEPROM driver shall handle the EEPROM memory segmentation
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00095] The EEPROM driver shall handle only one job at the same time
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12047] The EEPROM driver shall provide a function that has to be called for job processin
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12050] The job processing function of the EEPROM driver shall process only as much data as the EEPROM hardware can handle
"Supporting Material: BMW Specification MCAL V1.0a"

Document: SRS_SPALGeneral:
——————————————

[SRS_SPAL_12056] All driver modules shall allow the static configuration of notification mechanism
"Supporting Material: BMW Specification MCAL V1.0a, [...]"

[SRS_SPAL_12057] All driver modules shall implement an interface for initialization
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.0.0"

[SRS_SPAL_12063] All driver modules shall only support raw value mode

Document ID 695: ChangeDocumentation

"Supporting Material: BMW Specification MCAL V1.0a, MAL1.6.0"

[SRS_SPAL_12064] All driver modules shall raise an error if the change of the operation mode leads to degradation of running operations
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.2"

SRS_SPAL_12067 All driver modules shall set their wake-up conditions depending on the selected operation mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.0"

Document: SRS_PWMDriver:
———————————

[SRS_Pwm_12293] The PWM driver shall allow the static configuration of PWM channel properties
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4 The idle level configuration covers the active phase requirement from Hella.

[SRS_Pwm_12295] The PWM driver shall provide a service for setting the duty cycle of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.*x*"

[SRS_Pwm_12297] The PWM driver shall provide a service for setting the period of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0; Kojak movies (in case you do not know Kojak)"

Document: SRS_BSWGeneral:
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Chapter 5 "General Requirements on Basic Software"
The ECU application experience is taken from the following concrete applications:

Sunroof and power window ECU
Diesel engine ECU
ESP ECU
BMW, DC and VW standard software packages (Standard Core, Standard Software Platform, Standard Software Core) including OSEK OS, communication modules, bootloader, basic diagnostic functions for the domains listed above
Infotainment control ECU

[SRS_BSW_00305] Data types naming convention

Document ID 695: ChangeDocumentation

"Supporting Material: BMW Standard Core Programming Guidelines"

Document: SRS_COM:
─────────────────-

[SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, particularly for future concepts running at BMW (reuse an ECU within another vehicle product line with different
and incompatible communication layouts)."

Document: SRS_ADCDriver:
─────────────────

[SRS_Adc_12280] The ADC Driver shall allow a specific result access modes for each ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.2.0."

[SRS_Adc_12283] The ADC driver shall mask out information bits from the conversion result not belonging to the ADC value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.1."

[SRS_Adc_12819] The ADC Driver shall provide a synchronous service for reading the last valid conversion results of the selected channel group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12291] The ADC Driver shall provide a service for querying the status of an ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12288] Based on the channel group configuration the ADC driver shall be able to handle the buffers of stream jobs
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12292] If the ADC provides signed values, the ADC driver shall put the sign bit into the MSB of the return value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.2."

Document: SRS_DIODriver:
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[SRS_Dio_12003] The DIO Driver shall provide a service that writes a data word to

the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.0"

[SRS_Dio_12004] The DIO Driver shall provide a service that writes a selectable number of adjoining bits to an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.1"

[SRS_Dio_12005] The DIO Driver shall provide a service for write access to single DIO channels
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12006] The DIO Driver shall provide a service for reading a data word from the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12007] The DIO Driver shall provide a service for reading a selectable number of adjoining bits from an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.1"

[SRS_Dio_12008] The DIO Driver shall provide a service for reading one bit of an assigned DIO channel
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.6.0"

Agreed solution:

CP_SRS_ADCDriver
SRS_Adc_12280, SRS_Adc_12283, SRS_Adc_12819, SRS_Adc_12291, SRS_Adc_12288, SRS_Adc_12292

Change from:
Supporting Material: BMW Specification MCAL V1.0a, [...]
to:
Supporting Material: –

====
CP_SRS_BSWGeneral
replace "BMW Standard Core Programming Guidelines" by "–" in SRS_BSW_00305

===
CP_SRS_COM
Update [SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, for example when reusing an ECU within another vehicle product line

with different and incompatible communication layouts."

====
CP_SRS_DIODriver

SRS_Dio_12003, SRS_Dio_12004, SRS_Dio_12005, SRS_Dio_12006, SRS_Dio_12007, SRS_Dio_12008

Change from:
Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.x.x
to:
Supporting Material: –

====
CP_SRS_EEPROMDriver

SRS_Eep_00087, SRS_Eep_00088, SRS_Eep_00089, SRS_Eep_00090, SRS_Eep_00091, SRS_Eep_00092, SRS_Eep_00094, SRS_Eep_00095, SRS_Eep_00096, SRS_Eep_12047, SRS_Eep_12050

Change from:
Supporting Material: BMW Specification MCAL V1.0a
to:
Supporting Material: –

===
CP_SRS_PWMDriver

SRS_Pwm_12293:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4. The idle level configuration covers the active phase requirement from Hella.

Change to:
Supporting Material: –

SRS_Pwm_12295:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.x

Change to:

Supporting Material: –

SRS_Pwm_12297:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0. Kojak movies (in case you do not know Kojak)

Change to:
Supporting Material: –

===
CP_SRS_SPALGeneral
SRS_SPAL_12056, SRS_SPAL_12057, SRS_SPAL_12063, SRS_SPAL_12064, SRS_SPAL_12067

Change from:
Supporting Material: BMW Specification MCAL V1.0a, ...
to:
Supporting Material: –
–Last change on issue 78035 comment 14–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.2   Specification Item SRS_Eep_00088

Trace References:

RS_BRF_01928

Content:

Type:	Valid
Description:	The EEPROM driver shall provide an asynchronous write function that writes a data block starting from the requested EEPROM address with the passed length to the internal EEPROM.
Rationale:	Basic functionality
Applies to:	
Use Case:	–
Supporting Material:	BMW Specification MCAL V1.0a–

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78035: SRS requirements refer to BMW specificatons

  Problem description:

  AUTOSAR documents shall not relate to any particular company.
  The requirements below reference various BMW specifications and have to be corrected.

  Document: SRS_EEPROMDriver:
  ─────────────────────

  [SRS_Eep_00087] The EEPROM driver shall provide an asynchronous read function
  "Supporting Material: BMW Specification MCAL V1.0a"

  [SRS_Eep_00088] The EEPROM driver shall provide an asynchronous write function
  "Supporting Material: BMW Specification MCAL V1.0a"

  [SRS_Eep_00089] The EEPROM driver shall provide an asynchronous erase function
  "Supporting Material: BMW Specification MCAL V1.0a"

  [SRS_Eep_00090] The EEPROM driver shall provide a synchronous cancel function
  "Supporting Material: BMW Specification MCAL V1.0a"

  [SRS_Eep_00091] The EEPROM driver shall provide a synchronous function which returns the job processing status
  "Supporting Material: BMW Specification MCAL V1.0a"

  [SRS_Eep_00096] EEPROM driver static shall be configured
  "Supporting Material: BMW Specification MCAL V1.0a"

  [SRS_Eep_00092] The EEPROM driver shall only write data if at least one data value of the affected erasable block is different from the data value to be written
  "Supporting Material: BMW Specification MCAL V1.0a"

  [SRS_Eep_00094] The EEPROM driver shall handle the EEPROM memory segmentation

"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00095] The EEPROM driver shall handle only one job at the same time
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12047] The EEPROM driver shall provide a function that has to be called for job processin
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12050] The job processing function of the EEPROM driver shall process only as much data as the EEPROM hardware can handle
"Supporting Material: BMW Specification MCAL V1.0a"

Document: SRS_SPALGeneral:
─────────────────

[SRS_SPAL_12056] All driver modules shall allow the static configuration of notification mechanism
"Supporting Material: BMW Specification MCAL V1.0a, [...]"

[SRS_SPAL_12057] All driver modules shall implement an interface for initialization
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.0.0"

[SRS_SPAL_12063] All driver modules shall only support raw value mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.6.0"

[SRS_SPAL_12064] All driver modules shall raise an error if the change of the operation mode leads to degradation of running operations
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.2"

SRS_SPAL_12067 All driver modules shall set their wake-up conditions depending on the selected operation mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.0"

Document: SRS_PWMDriver:
─────────────────

[SRS_Pwm_12293] The PWM driver shall allow the static configuration of PWM channel properties
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4 The idle level configuration covers the active phase requirement from Hella.

Document ID 695: ChangeDocumentation

[SRS_Pwm_12295] The PWM driver shall provide a service for setting the duty cycle of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.x"

[SRS_Pwm_12297] The PWM driver shall provide a service for setting the period of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0; Kojak movies (in case you do not know Kojak)"

Document: SRS_BSWGeneral:
—————————-

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The ECU application experience is taken from the following concrete applications:

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Infotainment control ECU

[SRS_BSW_00305] Data types naming convention
"Supporting Material: BMW Standard Core Programming Guidelines"

Document: SRS_COM:
—————————-

[SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, particularly for future concepts running at BMW (reuse an ECU within another vehicle product line with different
and incompatible communication layouts)."

Document: SRS_ADCDriver:
—————————

[SRS_Adc_12280] The ADC Driver shall allow a specific result access modes for each ADC Channel Group

"Supporting Material: BMW Specification MCAL V1.0a, MAL14.2.0."

[SRS_Adc_12283] The ADC driver shall mask out information bits from the conversion result not belonging to the ADC value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.1."

[SRS_Adc_12819] The ADC Driver shall provide a synchronous service for reading the last valid conversion results of the selected channel group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12291] The ADC Driver shall provide a service for querying the status of an ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12288] Based on the channel group configuration the ADC driver shall be able to handle the buffers of stream jobs
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12292] If the ADC provides signed values, the ADC driver shall put the sign bit into the MSB of the return value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.2."

Document: SRS_DIODriver:
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[SRS_Dio_12003] The DIO Driver shall provide a service that writes a data word to the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.0"

[SRS_Dio_12004] The DIO Driver shall provide a service that writes a selectable number of adjoining bits to an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.1"

[SRS_Dio_12005] The DIO Driver shall provide a service for write access to single DIO channels
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12006] The DIO Driver shall provide a service for reading a data word from the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12007] The DIO Driver shall provide a service for reading a selectable number of adjoining bits from an assigned part of a DIO port

"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.1"

[SRS_Dio_12008] The DIO Driver shall provide a service for reading one bit of an assigned DIO channel
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.6.0"

Agreed solution:

CP_SRS_ADCDriver
SRS_Adc_12280, SRS_Adc_12283, SRS_Adc_12819, SRS_Adc_12291, SRS_Adc_12288, SRS_Adc_12292

Change from:
Supporting Material: BMW Specification MCAL V1.0a, [...]
to:
Supporting Material: –

====
CP_SRS_BSWGeneral
replace "BMW Standard Core Programming Guidelines" by "–" in SRS_BSW_00305

===
CP_SRS_COM
Update [SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, for example when reusing an ECU within another vehicle product line with different and incompatible communication layouts."

====
CP_SRS_DIODriver

SRS_Dio_12003, SRS_Dio_12004, SRS_Dio_12005, SRS_Dio_12006, SRS_Dio_12007, SRS_Dio_12008

Change from:
Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.x.x
to:
Supporting Material: –

====
CP_SRS_EEPROMDriver

SRS_Eep_00087, SRS_Eep_00088, SRS_Eep_00089, SRS_Eep_00090,

SRS_Eep_00091,   SRS_Eep_00092,   SRS_Eep_00094,   SRS_Eep_00095,
SRS_Eep_00096, SRS_Eep_12047, SRS_Eep_12050

Change from:
Supporting Material: BMW Specification MCAL V1.0a
to:
Supporting Material: –

===
CP_SRS_PWMDriver

SRS_Pwm_12293:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4. The idle level
configuration covers the active phase requirement from Hella.

Change to:
Supporting Material: –

SRS_Pwm_12295:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.x

Change to:
Supporting Material: –

SRS_Pwm_12297:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0. Kojak movies (in
case you do not know Kojak)

Change to:
Supporting Material: –

===
CP_SRS_SPALGeneral
SRS_SPAL_12056, SRS_SPAL_12057, SRS_SPAL_12063, SRS_SPAL_12064,
SRS_SPAL_12067

Change from:

Supporting Material: BMW Specification MCAL V1.0a, ...
to:
Supporting Material: –
–Last change on issue 78035 comment 14–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.3 Specification Item SRS_Eep_00089

Trace References:

RS_BRF_01928

Content:

Type:	Valid
Description:	The EEPROM driver shall provide an asynchronous erase function that erases a data block starting from the requested EEPROM address with the passed length from the internal EEPROM.
Rationale:	For some EEPROM types an erased EEPROM can be programmed much faster.
Applies to:	
Use Case:	
Supporting Material:	BMW Specification MCAL V1.0a–

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78035: SRS requirements refer to BMW specificatons

  Problem description:

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  [SRS_Eep_00087] The EEPROM driver shall provide an asynchronous read function
  "Supporting Material: BMW Specification MCAL V1.0a"

Document ID 695: ChangeDocumentation

[SRS_Eep_00088] The EEPROM driver shall provide an asynchronous write function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00089] The EEPROM driver shall provide an asynchronous erase function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00090] The EEPROM driver shall provide a synchronous cancel function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00091] The EEPROM driver shall provide a synchronous function which returns the job processing status
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00096] EEPROM driver static shall be configured
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00092] The EEPROM driver shall only write data if at least one data value of the affected erasable block is different from the data value to be written
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00094] The EEPROM driver shall handle the EEPROM memory segmentation
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00095] The EEPROM driver shall handle only one job at the same time
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[SRS_Eep_12047] The EEPROM driver shall provide a function that has to be called for job processin
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12050] The job processing function of the EEPROM driver shall process only as much data as the EEPROM hardware can handle
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Document: SRS_SPALGeneral:
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cation mechanism
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[SRS_SPAL_12057] All driver modules shall implement an interface for initialization
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.0.0"

[SRS_SPAL_12063] All driver modules shall only support raw value mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.6.0"

[SRS_SPAL_12064] All driver modules shall raise an error if the change of the operation mode leads to degradation of running operations
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.2"

SRS_SPAL_12067 All driver modules shall set their wake-up conditions depending on the selected operation mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.0"

Document: SRS_PWMDriver:
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[SRS_Pwm_12293] The PWM driver shall allow the static configuration of PWM channel properties
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4 The idle level configuration covers the active phase requirement from Hella.

[SRS_Pwm_12295] The PWM driver shall provide a service for setting the duty cycle of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.*"

[SRS_Pwm_12297] The PWM driver shall provide a service for setting the period of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0; Kojak movies (in case you do not know Kojak)"

Document: SRS_BSWGeneral:
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Chapter 5 "General Requirements on Basic Software"
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BMW, DC and VW standard software packages (Standard Core, Standard Software Platform, Standard Software Core) including OSEK OS, communication modules, bootloader, basic diagnostic functions for the domains listed above
Infotainment control ECU

[SRS_BSW_00305] Data types naming convention
"Supporting Material: BMW Standard Core Programming Guidelines"

Document: SRS_COM:
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[SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, particularly for future concepts running at BMW (reuse an ECU within another vehicle product line with different
and incompatible communication layouts)."

Document: SRS_ADCDriver:
———————————

[SRS_Adc_12280] The ADC Driver shall allow a specific result access modes for each ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.2.0."

[SRS_Adc_12283] The ADC driver shall mask out information bits from the conversion result not belonging to the ADC value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.1."

[SRS_Adc_12819] The ADC Driver shall provide a synchronous service for reading the last valid conversion results of the selected channel group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12291] The ADC Driver shall provide a service for querying the status of an ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12288] Based on the channel group configuration the ADC driver shall be able to handle the buffers of stream jobs
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12292] If the ADC provides signed values, the ADC driver shall put the sign bit into the MSB of the return value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.2."

Document: SRS_DIODriver:
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[SRS_Dio_12003] The DIO Driver shall provide a service that writes a data word to the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.0"

[SRS_Dio_12004] The DIO Driver shall provide a service that writes a selectable number of adjoining bits to an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.1"

[SRS_Dio_12005] The DIO Driver shall provide a service for write access to single DIO channels
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12006] The DIO Driver shall provide a service for reading a data word from the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12007] The DIO Driver shall provide a service for reading a selectable number of adjoining bits from an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.1"

[SRS_Dio_12008] The DIO Driver shall provide a service for reading one bit of an assigned DIO channel
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.6.0"

Agreed solution:

CP_SRS_ADCDriver
SRS_Adc_12280, SRS_Adc_12283, SRS_Adc_12819, SRS_Adc_12291, SRS_Adc_12288, SRS_Adc_12292

Change from:
Supporting Material: BMW Specification MCAL V1.0a, [...]
to:
Supporting Material: –

====
CP_SRS_BSWGeneral

replace "BMW Standard Core Programming Guidelines" by "–" in SRS_BSW_00305

===
CP_SRS_COM
Update [SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, for example when reusing an ECU within another vehicle product line with different and incompatible communication layouts."

====
CP_SRS_DIODriver

SRS_Dio_12003, SRS_Dio_12004, SRS_Dio_12005, SRS_Dio_12006, SRS_Dio_12007, SRS_Dio_12008

Change from:
Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.x.x
to:
Supporting Material: –

====
CP_SRS_EEPROMDriver

SRS_Eep_00087, SRS_Eep_00088, SRS_Eep_00089, SRS_Eep_00090, SRS_Eep_00091, SRS_Eep_00092, SRS_Eep_00094, SRS_Eep_00095, SRS_Eep_00096, SRS_Eep_12047, SRS_Eep_12050

Change from:
Supporting Material: BMW Specification MCAL V1.0a
to:
Supporting Material: –

===
CP_SRS_PWMDriver

SRS_Pwm_12293:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4. The idle level configuration covers the active phase requirement from Hella.

Change to:

Supporting Material: –

SRS_Pwm_12295:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.x

Change to:
Supporting Material: –

SRS_Pwm_12297:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0. Kojak movies (in case you do not know Kojak)

Change to:
Supporting Material: –

===
CP_SRS_SPALGeneral
SRS_SPAL_12056, SRS_SPAL_12057, SRS_SPAL_12063, SRS_SPAL_12064, SRS_SPAL_12067

Change from:
Supporting Material: BMW Specification MCAL V1.0a, ...
to:
Supporting Material: –
–Last change on issue 78035 comment 14–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.4   Specification Item SRS_Eep_00090

Trace References:

RS_BRF_01928

Content:

Type:	Valid

Description:	The EEPROM driver shall provide a synchronous cancel function that stops the currently processed job. The states and data of the affected EEPROM cells are undefined!
Rationale:	Urgent write commands can be performed without any delay
Applies to:	
Use Case:	Writing crash relevant data in case of detected vehicle crash.
Supporting Material:	BMW Specification MCAL V1.0a–

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78035: SRS requirements refer to BMW specificatons

Problem description:

AUTOSAR documents shall not relate to any particular company.
The requirements below reference various BMW specifications and have to be corrected.

Document: SRS_EEPROMDriver:
―――――――――――――

[SRS_Eep_00087] The EEPROM driver shall provide an asynchronous read function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00088] The EEPROM driver shall provide an asynchronous write function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00089] The EEPROM driver shall provide an asynchronous erase function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00090] The EEPROM driver shall provide a synchronous cancel function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00091] The EEPROM driver shall provide a synchronous function which returns the job processing status
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00096] EEPROM driver static shall be configured

Document ID 695: ChangeDocumentation

"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00092] The EEPROM driver shall only write data if at least one data value of the affected erasable block is different from the data value to be written
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00094] The EEPROM driver shall handle the EEPROM memory segmentation
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00095] The EEPROM driver shall handle only one job at the same time
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12047] The EEPROM driver shall provide a function that has to be called for job processin
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12050] The job processing function of the EEPROM driver shall process only as much data as the EEPROM hardware can handle
"Supporting Material: BMW Specification MCAL V1.0a"

Document: SRS_SPALGeneral:
——————————

[SRS_SPAL_12056] All driver modules shall allow the static configuration of notification mechanism
"Supporting Material: BMW Specification MCAL V1.0a, [...]"

[SRS_SPAL_12057] All driver modules shall implement an interface for initialization
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.0.0"

[SRS_SPAL_12063] All driver modules shall only support raw value mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.6.0"

[SRS_SPAL_12064] All driver modules shall raise an error if the change of the operation mode leads to degradation of running operations
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.2"

SRS_SPAL_12067 All driver modules shall set their wake-up conditions depending on the selected operation mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.0"

Document: SRS_PWMDriver:
――――――――――

[SRS_Pwm_12293] The PWM driver shall allow the static configuration of PWM channel properties
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4 The idle level configuration covers the active phase requirement from Hella.

[SRS_Pwm_12295] The PWM driver shall provide a service for setting the duty cycle of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.x"

[SRS_Pwm_12297] The PWM driver shall provide a service for setting the period of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0; Kojak movies (in case you do not know Kojak)"

Document: SRS_BSWGeneral:
――――――――――――

Chapter 5 "General Requirements on Basic Software"
The ECU application experience is taken from the following concrete applications:

Sunroof and power window ECU
Diesel engine ECU
ESP ECU
BMW, DC and VW standard software packages (Standard Core, Standard Software Platform, Standard Software Core) including OSEK OS, communication modules, bootloader, basic diagnostic functions for the domains listed above
Infotainment control ECU

[SRS_BSW_00305] Data types naming convention
"Supporting Material: BMW Standard Core Programming Guidelines"

Document: SRS_COM:
――――――――――

[SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, particularly for future concepts running at BMW (reuse an ECU within

another vehicle product line with different
and incompatible communication layouts)."

Document: SRS_ADCDriver:
————————————

[SRS_Adc_12280] The ADC Driver shall allow a specific result access modes for each ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.2.0."

[SRS_Adc_12283] The ADC driver shall mask out information bits from the conversion result not belonging to the ADC value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.1."

[SRS_Adc_12819] The ADC Driver shall provide a synchronous service for reading the last valid conversion results of the selected channel group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12291] The ADC Driver shall provide a service for querying the status of an ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12288] Based on the channel group configuration the ADC driver shall be able to handle the buffers of stream jobs
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12292] If the ADC provides signed values, the ADC driver shall put the sign bit into the MSB of the return value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.2."

Document: SRS_DIODriver:
————————————

[SRS_Dio_12003] The DIO Driver shall provide a service that writes a data word to the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.0"

[SRS_Dio_12004] The DIO Driver shall provide a service that writes a selectable number of adjoining bits to an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.1"

[SRS_Dio_12005] The DIO Driver shall provide a service for write access to single DIO channels

"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12006] The DIO Driver shall provide a service for reading a data word from the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12007] The DIO Driver shall provide a service for reading a se-lectable number of adjoining bits from an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.1"

[SRS_Dio_12008] The DIO Driver shall provide a service for reading one bit of an assigned DIO channel
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.6.0"

Agreed solution:

CP_SRS_ADCDriver
SRS_Adc_12280, SRS_Adc_12283, SRS_Adc_12819, SRS_Adc_12291, SRS_Adc_12288, SRS_Adc_12292

Change from:
Supporting Material: BMW Specification MCAL V1.0a, [...]
to:
Supporting Material: –

====
CP_SRS_BSWGeneral
replace "BMW Standard Core Programming Guidelines" by "–" in SRS_BSW_00305

===
CP_SRS_COM
Update [SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, for example when reusing an ECU within another vehicle product line with different and incompatible communication layouts."

====
CP_SRS_DIODriver

SRS_Dio_12003, SRS_Dio_12004, SRS_Dio_12005, SRS_Dio_12006, SRS_Dio_12007, SRS_Dio_12008

Change from:

Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.x.x
to:
Supporting Material: –

====
CP_SRS_EEPROMDriver

SRS_Eep_00087, SRS_Eep_00088, SRS_Eep_00089, SRS_Eep_00090,
SRS_Eep_00091, SRS_Eep_00092, SRS_Eep_00094, SRS_Eep_00095,
SRS_Eep_00096, SRS_Eep_12047, SRS_Eep_12050

Change from:
Supporting Material: BMW Specification MCAL V1.0a
to:
Supporting Material: –

===
CP_SRS_PWMDriver

SRS_Pwm_12293:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4. The idle level
configuration covers the active phase requirement from Hella.

Change to:
Supporting Material: –

SRS_Pwm_12295:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.x

Change to:
Supporting Material: –

SRS_Pwm_12297:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0. Kojak movies (in
case you do not know Kojak)

Change to:

Supporting Material: –

===
CP_SRS_SPALGeneral
SRS_SPAL_12056, SRS_SPAL_12057, SRS_SPAL_12063, SRS_SPAL_12064, SRS_SPAL_12067

Change from:
Supporting Material: BMW Specification MCAL V1.0a, ...
to:
Supporting Material: –
–Last change on issue 78035 comment 14–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.5   Specification Item SRS_Eep_00091

Trace References:

RS_BRF_01928

Content:

Type:	Valid
Description:	The EEPROM driver shall provide a synchronous function which returns the job processing status.
Rationale:	Check if EEPROM driver is busy
Applies to:	
Use Case:	Only example (will be specified within API definition):
Supporting Material:	BMW Specification MCAL V1.0a–

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78035: SRS requirements refer to BMW specificatons

  Problem description:

  AUTOSAR documents shall not relate to any particular company.
  The requirements below reference various BMW specifications and have to be corrected.

Document: SRS_EEPROMDriver:
————————————

[SRS_Eep_00087] The EEPROM driver shall provide an asynchronous read function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00088] The EEPROM driver shall provide an asynchronous write function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00089] The EEPROM driver shall provide an asynchronous erase function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00090] The EEPROM driver shall provide a synchronous cancel function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00091] The EEPROM driver shall provide a synchronous function which returns the job processing status
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00096] EEPROM driver static shall be configured
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00092] The EEPROM driver shall only write data if at least one data value of the affected erasable block is different from the data value to be written
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00094] The EEPROM driver shall handle the EEPROM memory segmentation
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00095] The EEPROM driver shall handle only one job at the same time
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12047] The EEPROM driver shall provide a function that has to be called for job processin
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12050] The job processing function of the EEPROM driver shall

process only as much data as the EEPROM hardware can handle
"Supporting Material: BMW Specification MCAL V1.0a"

Document: SRS_SPALGeneral:
———————————————

[SRS_SPAL_12056] All driver modules shall allow the static configuration of notification mechanism
"Supporting Material: BMW Specification MCAL V1.0a, [...]"

[SRS_SPAL_12057] All driver modules shall implement an interface for initialization
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.0.0"

[SRS_SPAL_12063] All driver modules shall only support raw value mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.6.0"

[SRS_SPAL_12064] All driver modules shall raise an error if the change of the operation mode leads to degradation of running operations
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.2"

SRS_SPAL_12067 All driver modules shall set their wake-up conditions depending on the selected operation mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.0"

Document: SRS_PWMDriver:
———————————————

[SRS_Pwm_12293] The PWM driver shall allow the static configuration of PWM channel properties
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4 The idle level configuration covers the active phase requirement from Hella.

[SRS_Pwm_12295] The PWM driver shall provide a service for setting the duty cycle of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.x"

[SRS_Pwm_12297] The PWM driver shall provide a service for setting the period of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0; Kojak movies (in case you do not know Kojak)"

Document: SRS_BSWGeneral:
————————-

Chapter 5 "General Requirements on Basic Software"
The ECU application experience is taken from the following concrete applications:

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Diesel engine ECU
ESP ECU
BMW, DC and VW standard software packages (Standard Core, Standard Software Platform, Standard Software Core) including OSEK OS, communication modules, bootloader, basic diagnostic functions for the domains listed above
Infotainment control ECU

[SRS_BSW_00305] Data types naming convention
"Supporting Material: BMW Standard Core Programming Guidelines"

Document: SRS_COM:
————————-

[SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, particularly for future concepts running at BMW (reuse an ECU within another vehicle product line with different
and incompatible communication layouts)."

Document: SRS_ADCDriver:
————————

[SRS_Adc_12280] The ADC Driver shall allow a specific result access modes for each ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.2.0."

[SRS_Adc_12283] The ADC driver shall mask out information bits from the conversion result not belonging to the ADC value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.1."

[SRS_Adc_12819] The ADC Driver shall provide a synchronous service for reading the last valid conversion results of the selected channel group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12291] The ADC Driver shall provide a service for querying the

Document ID 695: ChangeDocumentation

status of an ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12288] Based on the channel group configuration the ADC driver shall be able to handle the buffers of stream jobs
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12292] If the ADC provides signed values, the ADC driver shall put the sign bit into the MSB of the return value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.2."

Document: SRS_DIODriver:
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[SRS_Dio_12003] The DIO Driver shall provide a service that writes a data word to the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.0"

[SRS_Dio_12004] The DIO Driver shall provide a service that writes a selectable number of adjoining bits to an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.1"

[SRS_Dio_12005] The DIO Driver shall provide a service for write access to single DIO channels
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12006] The DIO Driver shall provide a service for reading a data word from the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12007] The DIO Driver shall provide a service for reading a selectable number of adjoining bits from an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.1"

[SRS_Dio_12008] The DIO Driver shall provide a service for reading one bit of an assigned DIO channel
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.6.0"

Agreed solution:

CP_SRS_ADCDriver
SRS_Adc_12280, SRS_Adc_12283, SRS_Adc_12819, SRS_Adc_12291, SRS_Adc_12288, SRS_Adc_12292

Change from:
Supporting Material: BMW Specification MCAL V1.0a, [...]
to:
Supporting Material: –

====
CP_SRS_BSWGeneral
replace "BMW Standard Core Programming Guidelines" by "–" in SRS_BSW_00305

===
CP_SRS_COM
Update [SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, for example when reusing an ECU within another vehicle product line with different and incompatible communication layouts."

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CP_SRS_DIODriver

SRS_Dio_12003, SRS_Dio_12004, SRS_Dio_12005, SRS_Dio_12006, SRS_Dio_12007, SRS_Dio_12008

Change from:
Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.x.x
to:
Supporting Material: –

====
CP_SRS_EEPROMDriver

SRS_Eep_00087, SRS_Eep_00088, SRS_Eep_00089, SRS_Eep_00090, SRS_Eep_00091, SRS_Eep_00092, SRS_Eep_00094, SRS_Eep_00095, SRS_Eep_00096, SRS_Eep_12047, SRS_Eep_12050

Change from:
Supporting Material: BMW Specification MCAL V1.0a
to:
Supporting Material: –

===
CP_SRS_PWMDriver

SRS_Pwm_12293:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4. The idle level configuration covers the active phase requirement from Hella.

Change to:
Supporting Material: –

SRS_Pwm_12295:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.x

Change to:
Supporting Material: –

SRS_Pwm_12297:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0. Kojak movies (in case you do not know Kojak)

Change to:
Supporting Material: –

===
CP_SRS_SPALGeneral
SRS_SPAL_12056, SRS_SPAL_12057, SRS_SPAL_12063, SRS_SPAL_12064, SRS_SPAL_12067

Change from:
Supporting Material: BMW Specification MCAL V1.0a, ...
to:
Supporting Material: –
–Last change on issue 78035 comment 14–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.6 Specification Item SRS_Eep_00092

Trace References:

RS_BRF_01928

Content:

Type:	Valid
Description:	The EEPROM driver shall only write data if at least one data value of the affected erasable block in the EEPROM is different from the data value to be written.
Rationale:	An erase and write cycle is only done if necessary. Thereby the
Applies to:	
Use Case:	The value '0x45' shall be written to an EEPROM cell. This value is already contained in this EEPROM cell.
Supporting Material:	BMW Specification MCAL V1.0a–

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78035: SRS requirements refer to BMW specificatons

  Problem description:

  AUTOSAR documents shall not relate to any particular company.
  The requirements below reference various BMW specifications and have to be corrected.

  Document: SRS_EEPROMDriver:
  ⎯⎯⎯⎯⎯⎯⎯⎯⎯

  [SRS_Eep_00087] The EEPROM driver shall provide an asynchronous read function
  "Supporting Material: BMW Specification MCAL V1.0a"

  [SRS_Eep_00088] The EEPROM driver shall provide an asynchronous write function
  "Supporting Material: BMW Specification MCAL V1.0a"

  [SRS_Eep_00089] The EEPROM driver shall provide an asynchronous erase function
  "Supporting Material: BMW Specification MCAL V1.0a"

  [SRS_Eep_00090] The EEPROM driver shall provide a synchronous cancel function

"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00091] The EEPROM driver shall provide a synchronous function which returns the job processing status
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00096] EEPROM driver static shall be configured
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00092] The EEPROM driver shall only write data if at least one data value of the affected erasable block is different from the data value to be written
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00094] The EEPROM driver shall handle the EEPROM memory segmentation
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00095] The EEPROM driver shall handle only one job at the same time
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12047] The EEPROM driver shall provide a function that has to be called for job processin
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12050] The job processing function of the EEPROM driver shall process only as much data as the EEPROM hardware can handle
"Supporting Material: BMW Specification MCAL V1.0a"

Document: SRS_SPALGeneral:
────────────────────

[SRS_SPAL_12056] All driver modules shall allow the static configuration of notification mechanism
"Supporting Material: BMW Specification MCAL V1.0a, [...]"

[SRS_SPAL_12057] All driver modules shall implement an interface for initialization
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.0.0"

[SRS_SPAL_12063] All driver modules shall only support raw value mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.6.0"

[SRS_SPAL_12064] All driver modules shall raise an error if the change of the operation mode leads to degradation of running operations
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.2"

SRS_SPAL_12067 All driver modules shall set their wake-up conditions depending on the selected operation mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.0"

Document: SRS_PWMDriver:
────────────────

[SRS_Pwm_12293] The PWM driver shall allow the static configuration of PWM channel properties
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4 The idle level configuration covers the active phase requirement from Hella.

[SRS_Pwm_12295] The PWM driver shall provide a service for setting the duty cycle of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.x"

[SRS_Pwm_12297] The PWM driver shall provide a service for setting the period of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0; Kojak movies (in case you do not know Kojak)"

Document: SRS_BSWGeneral:
─────────────────-

Chapter 5 "General Requirements on Basic Software"
The ECU application experience is taken from the following concrete applications:

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Diesel engine ECU
ESP ECU
BMW, DC and VW standard software packages (Standard Core, Standard Software Platform, Standard Software Core) including OSEK OS, communication modules, bootloader, basic diagnostic functions for the domains listed above
Infotainment control ECU

[SRS_BSW_00305] Data types naming convention
"Supporting Material: BMW Standard Core Programming Guidelines"

Document: SRS_COM:
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[SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, particularly for future concepts running at BMW (reuse an ECU within another vehicle product line with different
and incompatible communication layouts)."

Document: SRS_ADCDriver:
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[SRS_Adc_12280] The ADC Driver shall allow a specific result access modes for each ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.2.0."

[SRS_Adc_12283] The ADC driver shall mask out information bits from the conversion result not belonging to the ADC value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.1."

[SRS_Adc_12819] The ADC Driver shall provide a synchronous service for reading the last valid conversion results of the selected channel group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12291] The ADC Driver shall provide a service for querying the status of an ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12288] Based on the channel group configuration the ADC driver shall be able to handle the buffers of stream jobs
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12292] If the ADC provides signed values, the ADC driver shall put the sign bit into the MSB of the return value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.2."

Document: SRS_DIODriver:
––––––––––––––––––

[SRS_Dio_12003] The DIO Driver shall provide a service that writes a data word to the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.0"

[SRS_Dio_12004] The DIO Driver shall provide a service that writes a selectable number of adjoining bits to an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.1"

[SRS_Dio_12005] The DIO Driver shall provide a service for write access to single DIO channels
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12006] The DIO Driver shall provide a service for reading a data word from the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12007] The DIO Driver shall provide a service for reading a selectable number of adjoining bits from an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.1"

[SRS_Dio_12008] The DIO Driver shall provide a service for reading one bit of an assigned DIO channel
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.6.0"

Agreed solution:

CP_SRS_ADCDriver
SRS_Adc_12280, SRS_Adc_12283, SRS_Adc_12819, SRS_Adc_12291, SRS_Adc_12288, SRS_Adc_12292

Change from:
Supporting Material: BMW Specification MCAL V1.0a, [...]
to:
Supporting Material: –

====
CP_SRS_BSWGeneral
replace "BMW Standard Core Programming Guidelines" by "–" in SRS_BSW_00305

===
CP_SRS_COM
Update [SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, for example when reusing an ECU within another vehicle product line with different and incompatible communication layouts."

====
CP_SRS_DIODriver

SRS_Dio_12003, SRS_Dio_12004, SRS_Dio_12005, SRS_Dio_12006, SRS_Dio_12007, SRS_Dio_12008

Change from:
Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.x.x
to:
Supporting Material: –

====
CP_SRS_EEPROMDriver

SRS_Eep_00087, SRS_Eep_00088, SRS_Eep_00089, SRS_Eep_00090, SRS_Eep_00091, SRS_Eep_00092, SRS_Eep_00094, SRS_Eep_00095, SRS_Eep_00096, SRS_Eep_12047, SRS_Eep_12050

Change from:
Supporting Material: BMW Specification MCAL V1.0a
to:
Supporting Material: –

===
CP_SRS_PWMDriver

SRS_Pwm_12293:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4. The idle level configuration covers the active phase requirement from Hella.

Change to:
Supporting Material: –

SRS_Pwm_12295:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.x

Change to:
Supporting Material: –

Document ID 695: ChangeDocumentation

SRS_Pwm_12297:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0. Kojak movies (in case you do not know Kojak)

Change to:
Supporting Material: –

===
CP_SRS_SPALGeneral
SRS_SPAL_12056, SRS_SPAL_12057, SRS_SPAL_12063, SRS_SPAL_12064, SRS_SPAL_12067

Change from:
Supporting Material: BMW Specification MCAL V1.0a, ...
to:
Supporting Material: –
–Last change on issue 78035 comment 14–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.7 Specification Item SRS_Eep_00094

Trace References:

RS_BRF_01928

Content:

Type:	Valid
Description:	The EEPROM driver shall handle the EEPROM memory segmentation.
Rationale:	Identical API behavior for different EEPROM types.
Applies to:	
Use Case:	–
Supporting Material:	BMW Specification MCAL V1.0a–

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78035: SRS requirements refer to BMW specificatons

Document ID 695: ChangeDocumentation

Problem description:

AUTOSAR documents shall not relate to any particular company.
The requirements below reference various BMW specifications and have to be corrected.

Document: SRS_EEPROMDriver:
————————————

[SRS_Eep_00087] The EEPROM driver shall provide an asynchronous read function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00088] The EEPROM driver shall provide an asynchronous write function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00089] The EEPROM driver shall provide an asynchronous erase function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00090] The EEPROM driver shall provide a synchronous cancel function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00091] The EEPROM driver shall provide a synchronous function which returns the job processing status
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00096] EEPROM driver static shall be configured
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00092] The EEPROM driver shall only write data if at least one data value of the affected erasable block is different from the data value to be written
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00094] The EEPROM driver shall handle the EEPROM memory segmentation
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00095] The EEPROM driver shall handle only one job at the same time

"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12047] The EEPROM driver shall provide a function that has to be called for job processin
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12050] The job processing function of the EEPROM driver shall process only as much data as the EEPROM hardware can handle
"Supporting Material: BMW Specification MCAL V1.0a"

Document: SRS_SPALGeneral:
————————————

[SRS_SPAL_12056] All driver modules shall allow the static configuration of notification mechanism
"Supporting Material: BMW Specification MCAL V1.0a, [...]"

[SRS_SPAL_12057] All driver modules shall implement an interface for initialization
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.0.0"

[SRS_SPAL_12063] All driver modules shall only support raw value mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.6.0"

[SRS_SPAL_12064] All driver modules shall raise an error if the change of the operation mode leads to degradation of running operations
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.2"

SRS_SPAL_12067 All driver modules shall set their wake-up conditions depending on the selected operation mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.0"

Document: SRS_PWMDriver:
————————————

[SRS_Pwm_12293] The PWM driver shall allow the static configuration of PWM channel properties
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4 The idle level configuration covers the active phase requirement from Hella.

[SRS_Pwm_12295] The PWM driver shall provide a service for setting the duty cycle of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.x"

[SRS_Pwm_12297] The PWM driver shall provide a service for setting the period of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0; Kojak movies (in case you do not know Kojak)"

Document: SRS_BSWGeneral:
————————————-
Chapter 5 "General Requirements on Basic Software"
The ECU application experience is taken from the following concrete applications:

Sunroof and power window ECU
Diesel engine ECU
ESP ECU
BMW, DC and VW standard software packages (Standard Core, Standard Software Platform, Standard Software Core) including OSEK OS, communication modules, bootloader, basic diagnostic functions for the domains listed above
Infotainment control ECU

[SRS_BSW_00305] Data types naming convention
"Supporting Material: BMW Standard Core Programming Guidelines"

Document: SRS_COM:
————————————-
[SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, particularly for future concepts running at BMW (reuse an ECU within another vehicle product line with different
and incompatible communication layouts)."

Document: SRS_ADCDriver:
————————————————
[SRS_Adc_12280] The ADC Driver shall allow a specific result access modes for each ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.2.0."

[SRS_Adc_12283] The ADC driver shall mask out information bits from the conversion result not belonging to the ADC value

"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.1."

[SRS_Adc_12819] The ADC Driver shall provide a synchronous service for reading the last valid conversion results of the selected channel group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12291] The ADC Driver shall provide a service for querying the status of an ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12288] Based on the channel group configuration the ADC driver shall be able to handle the buffers of stream jobs
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12292] If the ADC provides signed values, the ADC driver shall put the sign bit into the MSB of the return value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.2."

Document: SRS_DIODriver:
————————————

[SRS_Dio_12003] The DIO Driver shall provide a service that writes a data word to the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.0"

[SRS_Dio_12004] The DIO Driver shall provide a service that writes a selectable number of adjoining bits to an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.1"

[SRS_Dio_12005] The DIO Driver shall provide a service for write access to single DIO channels
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12006] The DIO Driver shall provide a service for reading a data word from the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12007] The DIO Driver shall provide a service for reading a selectable number of adjoining bits from an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.1"

[SRS_Dio_12008] The DIO Driver shall provide a service for reading one bit

of an assigned DIO channel
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.6.0"

Agreed solution:

CP_SRS_ADCDriver
SRS_Adc_12280, SRS_Adc_12283, SRS_Adc_12819, SRS_Adc_12291, SRS_Adc_12288, SRS_Adc_12292

Change from:
Supporting Material: BMW Specification MCAL V1.0a, [...]
to:
Supporting Material: –

====
CP_SRS_BSWGeneral
replace "BMW Standard Core Programming Guidelines" by "–" in SRS_BSW_00305

===
CP_SRS_COM
Update [SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, for example when reusing an ECU within another vehicle product line with different and incompatible communication layouts."

====
CP_SRS_DIODriver

SRS_Dio_12003, SRS_Dio_12004, SRS_Dio_12005, SRS_Dio_12006, SRS_Dio_12007, SRS_Dio_12008

Change from:
Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.x.x
to:
Supporting Material: –

====
CP_SRS_EEPROMDriver

SRS_Eep_00087, SRS_Eep_00088, SRS_Eep_00089, SRS_Eep_00090, SRS_Eep_00091, SRS_Eep_00092, SRS_Eep_00094, SRS_Eep_00095, SRS_Eep_00096, SRS_Eep_12047, SRS_Eep_12050

Change from:
Supporting Material: BMW Specification MCAL V1.0a
to:
Supporting Material: –

===
CP_SRS_PWMDriver

SRS_Pwm_12293:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4. The idle level
configuration covers the active phase requirement from Hella.

Change to:
Supporting Material: –

SRS_Pwm_12295:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.x

Change to:
Supporting Material: –

SRS_Pwm_12297:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0. Kojak movies (in
case you do not know Kojak)

Change to:
Supporting Material: –

===
CP_SRS_SPALGeneral
SRS_SPAL_12056, SRS_SPAL_12057, SRS_SPAL_12063, SRS_SPAL_12064,
SRS_SPAL_12067

Change from:
Supporting Material: BMW Specification MCAL V1.0a, ...
to:

Supporting Material: –
–Last change on issue 78035 comment 14–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.8   Specification Item SRS_Eep_00095

Trace References:

RS_BRF_01928

Content:

Type:	Valid
Description:	The EEPROM driver shall handle only one job (read or write or erase or compare) at the same time. Requested jobs during a running job shall be rejected and handled as error.
Rationale:	Different operations like read, write, erase, compare can't be handled at the same time and the results are dependent of the execution order.
Applies to:	
Use Case:	–
Supporting Material:	BMW Specification MCAL V1.0a–

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78035: SRS requirements refer to BMW specificatons

  Problem description:

  AUTOSAR documents shall not relate to any particular company.
  The requirements below reference various BMW specifications and have to be corrected.

  Document: SRS_EEPROMDriver:
  ————————————

  [SRS_Eep_00087] The EEPROM driver shall provide an asynchronous read function
  "Supporting Material: BMW Specification MCAL V1.0a"

  [SRS_Eep_00088] The EEPROM driver shall provide an asynchronous write

function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00089] The EEPROM driver shall provide an asynchronous erase function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00090] The EEPROM driver shall provide a synchronous cancel function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00091] The EEPROM driver shall provide a synchronous function which returns the job processing status
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00096] EEPROM driver static shall be configured
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00092] The EEPROM driver shall only write data if at least one data value of the affected erasable block is different from the data value to be written
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00094] The EEPROM driver shall handle the EEPROM memory segmentation
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00095] The EEPROM driver shall handle only one job at the same time
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12047] The EEPROM driver shall provide a function that has to be called for job processin
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12050] The job processing function of the EEPROM driver shall process only as much data as the EEPROM hardware can handle
"Supporting Material: BMW Specification MCAL V1.0a"

Document: SRS_SPALGeneral:
_____

[SRS_SPAL_12056] All driver modules shall allow the static configuration of notification mechanism

"Supporting Material: BMW Specification MCAL V1.0a, [...]"

[SRS_SPAL_12057] All driver modules shall implement an interface for initialization
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.0.0"

[SRS_SPAL_12063] All driver modules shall only support raw value mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.6.0"

[SRS_SPAL_12064] All driver modules shall raise an error if the change of the operation mode leads to degradation of running operations
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.2"

SRS_SPAL_12067 All driver modules shall set their wake-up conditions depending on the selected operation mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.0"

Document: SRS_PWMDriver:
————————————
[SRS_Pwm_12293] The PWM driver shall allow the static configuration of PWM channel properties
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4 The idle level configuration covers the active phase requirement from Hella.

[SRS_Pwm_12295] The PWM driver shall provide a service for setting the duty cycle of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.x"

[SRS_Pwm_12297] The PWM driver shall provide a service for setting the period of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0; Kojak movies (in case you do not know Kojak)"

Document: SRS_BSWGeneral:
————————————-
Chapter 5 "General Requirements on Basic Software"
The ECU application experience is taken from the following concrete applications:

Sunroof and power window ECU
Diesel engine ECU
ESP ECU

BMW, DC and VW standard software packages (Standard Core, Standard Software Platform, Standard Software Core) including OSEK OS, communication modules, bootloader, basic diagnostic functions for the domains listed above
Infotainment control ECU

[SRS_BSW_00305] Data types naming convention
"Supporting Material: BMW Standard Core Programming Guidelines"

Document: SRS_COM:
————————-
[SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, particularly for future concepts running at BMW (reuse an ECU within another vehicle product line with different
and incompatible communication layouts)."

Document: SRS_ADCDriver:
————————————
[SRS_Adc_12280] The ADC Driver shall allow a specific result access modes for each ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.2.0."

[SRS_Adc_12283] The ADC driver shall mask out information bits from the conversion result not belonging to the ADC value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.1."

[SRS_Adc_12819] The ADC Driver shall provide a synchronous service for reading the last valid conversion results of the selected channel group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12291] The ADC Driver shall provide a service for querying the status of an ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12288] Based on the channel group configuration the ADC driver shall be able to handle the buffers of stream jobs
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12292] If the ADC provides signed values, the ADC driver shall

put the sign bit into the MSB of the return value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.2."

Document: SRS_DIODriver:
────────────────

[SRS_Dio_12003] The DIO Driver shall provide a service that writes a data word to the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.0"

[SRS_Dio_12004] The DIO Driver shall provide a service that writes a selectable number of adjoining bits to an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.1"

[SRS_Dio_12005] The DIO Driver shall provide a service for write access to single DIO channels
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12006] The DIO Driver shall provide a service for reading a data word from the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12007] The DIO Driver shall provide a service for reading a selectable number of adjoining bits from an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.1"

[SRS_Dio_12008] The DIO Driver shall provide a service for reading one bit of an assigned DIO channel
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.6.0"

Agreed solution:

CP_SRS_ADCDriver
SRS_Adc_12280,   SRS_Adc_12283,   SRS_Adc_12819,   SRS_Adc_12291,
SRS_Adc_12288, SRS_Adc_12292

Change from:
Supporting Material: BMW Specification MCAL V1.0a, [...]
to:
Supporting Material: –

====
CP_SRS_BSWGeneral
replace "BMW Standard Core Programming Guidelines" by "–" in SRS_BSW_00305

===
CP_SRS_COM
Update [SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, for example when reusing an ECU within another vehicle product line with different and incompatible communication layouts."

====
CP_SRS_DIODriver

SRS_Dio_12003, SRS_Dio_12004, SRS_Dio_12005, SRS_Dio_12006, SRS_Dio_12007, SRS_Dio_12008

Change from:
Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.x.x
to:
Supporting Material: –

====
CP_SRS_EEPROMDriver

SRS_Eep_00087, SRS_Eep_00088, SRS_Eep_00089, SRS_Eep_00090, SRS_Eep_00091, SRS_Eep_00092, SRS_Eep_00094, SRS_Eep_00095, SRS_Eep_00096, SRS_Eep_12047, SRS_Eep_12050

Change from:
Supporting Material: BMW Specification MCAL V1.0a
to:
Supporting Material: –

===
CP_SRS_PWMDriver

SRS_Pwm_12293:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4. The idle level configuration covers the active phase requirement from Hella.

Change to:
Supporting Material: –

SRS_Pwm_12295:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.x

Change to:
Supporting Material: –

SRS_Pwm_12297:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0. Kojak movies (in case you do not know Kojak)

Change to:
Supporting Material: –

===
CP_SRS_SPALGeneral
SRS_SPAL_12056, SRS_SPAL_12057, SRS_SPAL_12063, SRS_SPAL_12064, SRS_SPAL_12067

Change from:
Supporting Material: BMW Specification MCAL V1.0a, ...
to:
Supporting Material: –
–Last change on issue 78035 comment 14–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.9 Specification Item SRS_Eep_00096

Trace References:

RS_BRF_01136

Content:

Type:	Valid
Description:	The following constants of the EEPROM driver shall be statically configurable:

Rationale:	Basic configuration
Applies to:	
Use Case:	5: needed if the EEPROM hardware does not provide this timing and/or deadline checks are necessary
Supporting Material:	BMW Specification MCAL V1.0a–

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78035: SRS requirements refer to BMW specificatons

Problem description:

AUTOSAR documents shall not relate to any particular company.
The requirements below reference various BMW specifications and have to be corrected.

Document: SRS_EEPROMDriver:
_____

[SRS_Eep_00087] The EEPROM driver shall provide an asynchronous read function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00088] The EEPROM driver shall provide an asynchronous write function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00089] The EEPROM driver shall provide an asynchronous erase function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00090] The EEPROM driver shall provide a synchronous cancel function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00091] The EEPROM driver shall provide a synchronous function which returns the job processing status
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00096] EEPROM driver static shall be configured
"Supporting Material: BMW Specification MCAL V1.0a"

Document ID 695: ChangeDocumentation

[SRS_Eep_00092] The EEPROM driver shall only write data if at least one data value of the affected erasable block is different from the data value to be written
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00094] The EEPROM driver shall handle the EEPROM memory segmentation
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00095] The EEPROM driver shall handle only one job at the same time
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12047] The EEPROM driver shall provide a function that has to be called for job processin
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12050] The job processing function of the EEPROM driver shall process only as much data as the EEPROM hardware can handle
"Supporting Material: BMW Specification MCAL V1.0a"

Document: SRS_SPALGeneral:
———————————

[SRS_SPAL_12056] All driver modules shall allow the static configuration of notification mechanism
"Supporting Material: BMW Specification MCAL V1.0a, [...]"

[SRS_SPAL_12057] All driver modules shall implement an interface for initialization
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.0.0"

[SRS_SPAL_12063] All driver modules shall only support raw value mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.6.0"

[SRS_SPAL_12064] All driver modules shall raise an error if the change of the operation mode leads to degradation of running operations
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.2"

SRS_SPAL_12067 All driver modules shall set their wake-up conditions depending on the selected operation mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.0"

Document: SRS_PWMDriver:
————————————

[SRS_Pwm_12293] The PWM driver shall allow the static configuration of PWM channel properties
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4 The idle level configuration covers the active phase requirement from Hella.

[SRS_Pwm_12295] The PWM driver shall provide a service for setting the duty cycle of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.x"

[SRS_Pwm_12297] The PWM driver shall provide a service for setting the period of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0; Kojak movies (in case you do not know Kojak)"

Document: SRS_BSWGeneral:
————————————-

Chapter 5 "General Requirements on Basic Software"
The ECU application experience is taken from the following concrete applications:

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Diesel engine ECU
ESP ECU
BMW, DC and VW standard software packages (Standard Core, Standard Software Platform, Standard Software Core) including OSEK OS, communication modules, bootloader, basic diagnostic functions for the domains listed above
Infotainment control ECU

[SRS_BSW_00305] Data types naming convention
"Supporting Material: BMW Standard Core Programming Guidelines"

Document: SRS_COM:
————————————-

[SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, particularly for future concepts running at BMW (reuse an ECU within another vehicle product line with different
and incompatible communication layouts)."

Document ID 695: ChangeDocumentation

Document: SRS_ADCDriver:
―――――――――

[SRS_Adc_12280] The ADC Driver shall allow a specific result access modes for each ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.2.0."

[SRS_Adc_12283] The ADC driver shall mask out information bits from the conversion result not belonging to the ADC value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.1."

[SRS_Adc_12819] The ADC Driver shall provide a synchronous service for reading the last valid conversion results of the selected channel group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12291] The ADC Driver shall provide a service for querying the status of an ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12288] Based on the channel group configuration the ADC driver shall be able to handle the buffers of stream jobs
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12292] If the ADC provides signed values, the ADC driver shall put the sign bit into the MSB of the return value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.2."

Document: SRS_DIODriver:
―――――――――

[SRS_Dio_12003] The DIO Driver shall provide a service that writes a data word to the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.0"

[SRS_Dio_12004] The DIO Driver shall provide a service that writes a selectable number of adjoining bits to an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.1"

[SRS_Dio_12005] The DIO Driver shall provide a service for write access to single DIO channels
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12006] The DIO Driver shall provide a service for reading a data word from the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12007] The DIO Driver shall provide a service for reading a selectable number of adjoining bits from an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.1"

[SRS_Dio_12008] The DIO Driver shall provide a service for reading one bit of an assigned DIO channel
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.6.0"

Agreed solution:

CP_SRS_ADCDriver
SRS_Adc_12280, SRS_Adc_12283, SRS_Adc_12819, SRS_Adc_12291, SRS_Adc_12288, SRS_Adc_12292

Change from:
Supporting Material: BMW Specification MCAL V1.0a, [...]
to:
Supporting Material: –

====
CP_SRS_BSWGeneral
replace "BMW Standard Core Programming Guidelines" by "–" in SRS_BSW_00305

===
CP_SRS_COM
Update [SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, for example when reusing an ECU within another vehicle product line with different and incompatible communication layouts."

====
CP_SRS_DIODriver

SRS_Dio_12003, SRS_Dio_12004, SRS_Dio_12005, SRS_Dio_12006, SRS_Dio_12007, SRS_Dio_12008

Change from:
Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.x.x
to:

Supporting Material: –

====
CP_SRS_EEPROMDriver

SRS_Eep_00087,   SRS_Eep_00088,   SRS_Eep_00089,   SRS_Eep_00090,
SRS_Eep_00091,   SRS_Eep_00092,   SRS_Eep_00094,   SRS_Eep_00095,
SRS_Eep_00096, SRS_Eep_12047, SRS_Eep_12050

Change from:
Supporting Material: BMW Specification MCAL V1.0a
to:
Supporting Material: –

===
CP_SRS_PWMDriver

SRS_Pwm_12293:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4. The idle level
configuration covers the active phase requirement from Hella.

Change to:
Supporting Material: –

SRS_Pwm_12295:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.x

Change to:
Supporting Material: –

SRS_Pwm_12297:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0. Kojak movies (in
case you do not know Kojak)

Change to:
Supporting Material: –

===
CP_SRS_SPALGeneral
SRS_SPAL_12056, SRS_SPAL_12057, SRS_SPAL_12063, SRS_SPAL_12064,
SRS_SPAL_12067

Change from:
Supporting Material: BMW Specification MCAL V1.0a, ...
to:
Supporting Material: –
–Last change on issue 78035 comment 14–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.10 Specification Item SRS_Eep_12047

Trace References:

RS_BRF_01928

Content:

Type:	Valid
Description:	The EEPROM driver shall provide a function that has to be called for job processing. All job processing shall be done within this function.
Rationale:	Allow flexible possibilities of job processing. Fulfill requirements of OS independency.
Applies to:	
Use Case:	Example: The job processing function is called every 10ms.
Supporting Material:	BMW Specification MCAL V1.0a–

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78035: SRS requirements refer to BMW specificatons

  Problem description:

  AUTOSAR documents shall not relate to any particular company.
  The requirements below reference various BMW specifications and have to be corrected.

Document: SRS_EEPROMDriver:

[SRS_Eep_00087] The EEPROM driver shall provide an asynchronous read function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00088] The EEPROM driver shall provide an asynchronous write function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00089] The EEPROM driver shall provide an asynchronous erase function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00090] The EEPROM driver shall provide a synchronous cancel function
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00091] The EEPROM driver shall provide a synchronous function which returns the job processing status
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00096] EEPROM driver static shall be configured
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00092] The EEPROM driver shall only write data if at least one data value of the affected erasable block is different from the data value to be written
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00094] The EEPROM driver shall handle the EEPROM memory segmentation
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00095] The EEPROM driver shall handle only one job at the same time
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12047] The EEPROM driver shall provide a function that has to be called for job processin
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12050] The job processing function of the EEPROM driver shall process only as much data as the EEPROM hardware can handle

"Supporting Material: BMW Specification MCAL V1.0a"

Document: SRS_SPALGeneral:
————————————

[SRS_SPAL_12056] All driver modules shall allow the static configuration of notification mechanism
"Supporting Material: BMW Specification MCAL V1.0a, [...]"

[SRS_SPAL_12057] All driver modules shall implement an interface for initialization
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.0.0"

[SRS_SPAL_12063] All driver modules shall only support raw value mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.6.0"

[SRS_SPAL_12064] All driver modules shall raise an error if the change of the operation mode leads to degradation of running operations
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.2"

SRS_SPAL_12067 All driver modules shall set their wake-up conditions depending on the selected operation mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.0"

Document: SRS_PWMDriver:
————————————

[SRS_Pwm_12293] The PWM driver shall allow the static configuration of PWM channel properties
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4 The idle level configuration covers the active phase requirement from Hella.

[SRS_Pwm_12295] The PWM driver shall provide a service for setting the duty cycle of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.x"

[SRS_Pwm_12297] The PWM driver shall provide a service for setting the period of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0; Kojak movies (in case you do not know Kojak)"

Document: SRS_BSWGeneral:

————————————-
Chapter 5 "General Requirements on Basic Software"
The ECU application experience is taken from the following concrete applications:

Sunroof and power window ECU
Diesel engine ECU
ESP ECU
BMW, DC and VW standard software packages (Standard Core, Standard Software
Platform, Standard Software Core) including OSEK OS, communication modules,
bootloader, basic diagnostic functions for the domains listed above
Infotainment control ECU

[SRS_BSW_00305] Data types naming convention
"Supporting Material: BMW Standard Core Programming Guidelines"

Document: SRS_COM:
————————————-

[SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple
configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile-
or build-time, particularly for future concepts running at BMW (reuse an ECU within
another vehicle product line with different
and incompatible communication layouts)."

Document: SRS_ADCDriver:
————————————

[SRS_Adc_12280] The ADC Driver shall allow a specific result access modes for
each ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.2.0."

[SRS_Adc_12283] The ADC driver shall mask out information bits from the
conversion result not belonging to the ADC value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.1."

[SRS_Adc_12819] The ADC Driver shall provide a synchronous service for
reading the last valid conversion results of the selected channel group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12291] The ADC Driver shall provide a service for querying the
status of an ADC Channel Group

"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12288] Based on the channel group configuration the ADC driver shall be able to handle the buffers of stream jobs
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12292] If the ADC provides signed values, the ADC driver shall put the sign bit into the MSB of the return value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.2."

Document: SRS_DIODriver:
——————————

[SRS_Dio_12003] The DIO Driver shall provide a service that writes a data word to the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.0"

[SRS_Dio_12004] The DIO Driver shall provide a service that writes a selectable number of adjoining bits to an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.1"

[SRS_Dio_12005] The DIO Driver shall provide a service for write access to single DIO channels
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12006] The DIO Driver shall provide a service for reading a data word from the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12007] The DIO Driver shall provide a service for reading a selectable number of adjoining bits from an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.1"

[SRS_Dio_12008] The DIO Driver shall provide a service for reading one bit of an assigned DIO channel
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.6.0"

Agreed solution:

CP_SRS_ADCDriver
SRS_Adc_12280, SRS_Adc_12283, SRS_Adc_12819, SRS_Adc_12291, SRS_Adc_12288, SRS_Adc_12292

Change from:

Supporting Material: BMW Specification MCAL V1.0a, [...]
to:
Supporting Material: –

====
CP_SRS_BSWGeneral
replace "BMW Standard Core Programming Guidelines" by "–" in SRS_BSW_00305

===
CP_SRS_COM
Update [SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, for example when reusing an ECU within another vehicle product line with different and incompatible communication layouts."

====
CP_SRS_DIODriver

SRS_Dio_12003, SRS_Dio_12004, SRS_Dio_12005, SRS_Dio_12006, SRS_Dio_12007, SRS_Dio_12008

Change from:
Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.x.x
to:
Supporting Material: –

====
CP_SRS_EEPROMDriver

SRS_Eep_00087, SRS_Eep_00088, SRS_Eep_00089, SRS_Eep_00090, SRS_Eep_00091, SRS_Eep_00092, SRS_Eep_00094, SRS_Eep_00095, SRS_Eep_00096, SRS_Eep_12047, SRS_Eep_12050

Change from:
Supporting Material: BMW Specification MCAL V1.0a
to:
Supporting Material: –

===
CP_SRS_PWMDriver

SRS_Pwm_12293:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4. The idle level configuration covers the active phase requirement from Hella.

Change to:
Supporting Material: –

SRS_Pwm_12295:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.x

Change to:
Supporting Material: –

SRS_Pwm_12297:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0. Kojak movies (in case you do not know Kojak)

Change to:
Supporting Material: –

===
CP_SRS_SPALGeneral
SRS_SPAL_12056, SRS_SPAL_12057, SRS_SPAL_12063, SRS_SPAL_12064, SRS_SPAL_12067

Change from:
Supporting Material: BMW Specification MCAL V1.0a, ...
to:
Supporting Material: –
–Last change on issue 78035 comment 14–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.11   Specification Item SRS_Eep_12050

Trace References:

RS_BRF_01928

Content:

Type:	Valid
Description:	The job processing function of the EEPROM driver shall process only as much data as the EEPROM hardware can handle in one step (particularly write operation) or as much as a defined user limit (particularly read operation).
Rationale:	Minimize processor load, reduce blocking times.
Applies to:	
Use Case:	The job processing function performs the writing of one byte and the reading of max. 8 bytes during one call.
Supporting Material:	BMW Specification MCAL V1.0a–

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78035: SRS requirements refer to BMW specificatons

  Problem description:

  AUTOSAR documents shall not relate to any particular company.
  The requirements below reference various BMW specifications and have to be corrected.

  Document: SRS_EEPROMDriver:
  ————————————————

  [SRS_Eep_00087] The EEPROM driver shall provide an asynchronous read function
  "Supporting Material: BMW Specification MCAL V1.0a"

  [SRS_Eep_00088] The EEPROM driver shall provide an asynchronous write function
  "Supporting Material: BMW Specification MCAL V1.0a"

  [SRS_Eep_00089] The EEPROM driver shall provide an asynchronous erase function
  "Supporting Material: BMW Specification MCAL V1.0a"

  [SRS_Eep_00090] The EEPROM driver shall provide a synchronous cancel function

Document ID 695: ChangeDocumentation

"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00091] The EEPROM driver shall provide a synchronous function which returns the job processing status
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00096] EEPROM driver static shall be configured
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00092] The EEPROM driver shall only write data if at least one data value of the affected erasable block is different from the data value to be written
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[SRS_Eep_00094] The EEPROM driver shall handle the EEPROM memory segmentation
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_00095] The EEPROM driver shall handle only one job at the same time
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12047] The EEPROM driver shall provide a function that has to be called for job processin
"Supporting Material: BMW Specification MCAL V1.0a"

[SRS_Eep_12050] The job processing function of the EEPROM driver shall process only as much data as the EEPROM hardware can handle
"Supporting Material: BMW Specification MCAL V1.0a"

Document: SRS_SPALGeneral:
————————————

[SRS_SPAL_12056] All driver modules shall allow the static configuration of notification mechanism
"Supporting Material: BMW Specification MCAL V1.0a, [...]"

[SRS_SPAL_12057] All driver modules shall implement an interface for initialization
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.0.0"

[SRS_SPAL_12063] All driver modules shall only support raw value mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.6.0"

[SRS_SPAL_12064] All driver modules shall raise an error if the change of the operation mode leads to degradation of running operations
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.2"

SRS_SPAL_12067 All driver modules shall set their wake-up conditions depending on the selected operation mode
"Supporting Material: BMW Specification MCAL V1.0a, MAL1.5.0"

Document: SRS_PWMDriver:
─────────────────

[SRS_Pwm_12293] The PWM driver shall allow the static configuration of PWM channel properties
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4 The idle level configuration covers the active phase requirement from Hella.

[SRS_Pwm_12295] The PWM driver shall provide a service for setting the duty cycle of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.x"

[SRS_Pwm_12297] The PWM driver shall provide a service for setting the period of a selected channel
"Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0; Kojak movies (in case you do not know Kojak)"

Document: SRS_BSWGeneral:
──────────────────-
Chapter 5 "General Requirements on Basic Software"
The ECU application experience is taken from the following concrete applications:

Sunroof and power window ECU
Diesel engine ECU
ESP ECU
BMW, DC and VW standard software packages (Standard Core, Standard Software Platform, Standard Software Core) including OSEK OS, communication modules, bootloader, basic diagnostic functions for the domains listed above
Infotainment control ECU

[SRS_BSW_00305] Data types naming convention
"Supporting Material: BMW Standard Core Programming Guidelines"

Document: SRS_COM:
────────────────-

[SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, particularly for future concepts running at BMW (reuse an ECU within another vehicle product line with different
and incompatible communication layouts)."

Document: SRS_ADCDriver:
────────────────

[SRS_Adc_12280] The ADC Driver shall allow a specific result access modes for each ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.2.0."

[SRS_Adc_12283] The ADC driver shall mask out information bits from the conversion result not belonging to the ADC value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.1."

[SRS_Adc_12819] The ADC Driver shall provide a synchronous service for reading the last valid conversion results of the selected channel group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12291] The ADC Driver shall provide a service for querying the status of an ADC Channel Group
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12288] Based on the channel group configuration the ADC driver shall be able to handle the buffers of stream jobs
"Supporting Material: BMW Specification MCAL V1.0a."

[SRS_Adc_12292] If the ADC provides signed values, the ADC driver shall put the sign bit into the MSB of the return value
"Supporting Material: BMW Specification MCAL V1.0a, MAL14.4.2."

Document: SRS_DIODriver:
────────────────

[SRS_Dio_12003] The DIO Driver shall provide a service that writes a data word to the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.0"

Document ID 695: ChangeDocumentation

[SRS_Dio_12004] The DIO Driver shall provide a service that writes a selectable number of adjoining bits to an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.3.1"

[SRS_Dio_12005] The DIO Driver shall provide a service for write access to single DIO channels
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12006] The DIO Driver shall provide a service for reading a data word from the assigned DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.0"

[SRS_Dio_12007] The DIO Driver shall provide a service for reading a selectable number of adjoining bits from an assigned part of a DIO port
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.4.1"

[SRS_Dio_12008] The DIO Driver shall provide a service for reading one bit of an assigned DIO channel
"Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.6.0"

Agreed solution:

CP_SRS_ADCDriver
SRS_Adc_12280, SRS_Adc_12283, SRS_Adc_12819, SRS_Adc_12291, SRS_Adc_12288, SRS_Adc_12292

Change from:
Supporting Material: BMW Specification MCAL V1.0a, [...]
to:
Supporting Material: –

====
CP_SRS_BSWGeneral
replace "BMW Standard Core Programming Guidelines" by "–" in SRS_BSW_00305

===
CP_SRS_COM
Update [SRS_Com_00177] AUTOSAR COM and LargeDataCOM shall support multiple configuration stages
"Use Case: It must be possible to configure the handled bus frames after compile- or build-time, for example when reusing an ECU within another vehicle product line with different and incompatible communication layouts."

====
CP_SRS_DIODriver

SRS_Dio_12003, SRS_Dio_12004, SRS_Dio_12005, SRS_Dio_12006,
SRS_Dio_12007, SRS_Dio_12008

Change from:
Supporting Material: BMW Specification MCAL V1.0a, REQ MAL10.x.x
to:
Supporting Material: –

====
CP_SRS_EEPROMDriver

SRS_Eep_00087, SRS_Eep_00088, SRS_Eep_00089, SRS_Eep_00090,
SRS_Eep_00091, SRS_Eep_00092, SRS_Eep_00094, SRS_Eep_00095,
SRS_Eep_00096, SRS_Eep_12047, SRS_Eep_12050

Change from:
Supporting Material: BMW Specification MCAL V1.0a
to:
Supporting Material: –

===
CP_SRS_PWMDriver

SRS_Pwm_12293:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.1.4. The idle level
configuration covers the active phase requirement from Hella.

Change to:
Supporting Material: –

SRS_Pwm_12295:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.x

Change to:
Supporting Material: –

SRS_Pwm_12297:

Change from:
Supporting Material: BMW Specification MCAL V1.0a, MAL13.8.0. Kojak movies (in case you do not know Kojak)

Change to:
Supporting Material: –

===
CP_SRS_SPALGeneral
SRS_SPAL_12056, SRS_SPAL_12057, SRS_SPAL_12063, SRS_SPAL_12064, SRS_SPAL_12067

Change from:
Supporting Material: BMW Specification MCAL V1.0a, ...
to:
Supporting Material: –
–Last change on issue 78035 comment 14–

BW-C-Level:

Application	Specification	Bus
1	1	1