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Part of Standard Release	4.3.1

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1 SRS_SPALGeneral

1.1 Specification Item SRS_SPAL_00157

Trace References:

RS_BRF_01064, RS_BRF_02232, RS_BRF_02168

Content:

Type:	Valid
Description:	All drivers and handlers of the AUTOSAR Basic Software shall implement the following notification mechanisms (configurable per module) for use within the Basic Software:
Rationale:	Flexible integration
Applies to:	
Use Case:	The completion of an EEPROM write command can be signaled via a callback function or by setting status information (which is accessible via the module interface).
Supporting Material:	—

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78035: SRS requirements refer to BMW specifications

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

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[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)."

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[SRS_Adc_12280] The ADC Driver shall allow a specific result access modes for each ADC Channel Group
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[SRS_Adc_12283] The ADC driver shall mask out information bits from the conversion result not belonging to the ADC value
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[SRS_Adc_12819] The ADC Driver shall provide a synchronous service for reading the last valid conversion results of the selected channel group
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"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
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[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

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

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[SRS_Dio_12006] The DIO Driver shall provide a service for reading a data word from the assigned DIO port

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[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_ADCCDriver

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: –

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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: –

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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: –

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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_SPAL_12056

Trace References:

RS_BRF_01064

Content:

Type:	Valid
Description:	All driver modules shall allow the static configuration of notification mechanisms.
Rationale:	Flexibility and scalability
Applies to:	
Use Case:	Give the possibility to run a driver within a protected operating system. Callbacks passed by the API and "pointing anywhere" cannot be used within a protected OS.
Supporting Material:	BMW Specification MCAL V1.0a, MISRA-C. –

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

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[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

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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:

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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:

[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_ADCCDriver:

[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."

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"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"

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[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"

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"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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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_SPAL_12057

Trace References:

RS_BRF_01096

Content:

Type:	Valid
Description:	All driver modules shall implement an interface for initialization.
Rationale:	Basic functionality.
Applies to:	
Use Case:	–
Supporting Material:	BMW Specification MCAL V1.0a, MAL1.0.0–

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

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"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_SPAL_12063

Trace References:

none

Content:

Type:	Valid
Description:	All driver modules shall only support raw value mode. In this mode values passed via the API services are used directly without further scaling.

Rationale:	Scaling and adaptation to physical values is task of the ECU Abstraction Layer.
Applies to:	
Use Case:	The I/O Hardware Abstraction converts a raw ADC value to a scaled value (e.g. voltage) and the other way round.
Supporting Material:	BMW Specification MCAL V1.0a, MAL1.6.0—

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78035: SRS requirements refer to BMW specifications

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 processing
"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_ADCCDriver:

[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_ADCCDriver

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_SPAL_12064

Trace References:

RS_BRF_02168, RS_BRF_01440

Content:

Type:	Valid
Description:	All driver modules shall raise an error if the change of the operation mode leads to degradation of running operations.
Rationale:	–
Applies to:	
Use Case:	The SPI EEPROM operation mode is valid during a running SPI communication sequence.
Supporting Material:	BMW Specification MCAL V1.0a, MAL1.5.2–

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78035: SRS requirements refer to BMW specifications

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 processing

"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"

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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 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_ADCCDriver

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

1.6 Specification Item SRS_SPAL_12067

Trace References:

RS_BRF_01104

Content:

Type:	valid
Description:	All driver modules shall set their wake-up conditions depending on the selected operation mode.
Rationale:	Allow enabling of module specific wake-up interrupts.
Applies to:	
Use Case:	Example:
Supporting Material:	BMW Specification MCAL V1.0a, MAL1.5.0—

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78035: SRS requirements refer to BMW specifications

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"

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Diesel engine ECU

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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:

[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_ADCCDriver

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

1.7 Specification Item SRS_SPAL_12163

Trace References:

RS_BRF_01096

Content:

Type:	Valid
Description:	All driver modules shall implement an interface for de-initialization.
Rationale:	Shut down the module. Create the same conditions like before initialization. Empty queues.
Applies to:	
Use Case:	–
Supporting Material:	HIS I/O Driver Specification

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73567: [diverse] references to HIS

Problem description:

The HIS website is no more available.

We should check what is the impact on the AUTOSAR documents.

There is already RfC 64155 which will make us rid of some references, but I assume some will remain:

- * SHE
- * list of vendor IDs
- * IO driver API
- * bootloader
- ...

I tried to list the document where the HIS reference will survive RfC 64155 to avoid duplicate ITs.

Agreed solution:

Generic approach for the solutions (to be refined per document by documents owners (see below)

- * Check the need for an external reference
- * Try to find a replacement
- * Backup: ask PL solution

AUTOSAR_SRS_BSW_GENERAL

=====

Create new reference to the AUTOSAR Vendor ID List in §6.1:

[VENDOR_ID_LIST] AUTOSAR Vendor ID List

<https://www.autosar.org/documents/vendor-id/>

SRS_BSW_00374:

Remove reference "(according to HIS)" in the Description

Supporting Material:

replace	reference	"HIS	Software	Supplier	Identifications
[STD_HIS_SUPPLIER_IDS]"					
to "AUTOSAR Vendor ID List [VENDOR_ID_LIST]"					

Remove Chapter 6.2.2 HIS

SRS_COM

=====

Remove Chapter 7.4 HIS

(the reference is not used anymore)

SRS_CryptoStack

=====

Remove abbreviation SHE from table in chapter 3 Acronyms and abbreviations

SRS_DIODriver

=====

Remove abbreviation HIS from table in chapter 3 Acronyms and abbreviations.

SRS_EEPROMDriver

=====

Remove abbreviation HIS from table in chapter 3 Acronyms and abbreviations.
Remove chapter 6.2 Related standards and norms.

SRS_FlashDriver

=====

- remove HIS from list of abbreviations
- remove requirement SRS_Fls_12083
- remove HIS Flash Driver document from reference list

SRS_FlashTest

=====

- Remove HIS from the table of acronyms in chapter 3

SRS_GPTDriver

=====

- Remove abbreviation HIS from table in chapter 4 Acronyms and abbreviations
- Remove from Chapter 7.2 the reference "[5] HIS API I/O Driver Specification [www.automotive-his.de/results/ API_IODriver_2.1.3.pdf](http://www.automotive-his.de/results/API_IODriver_2.1.3.pdf)".

SRS_ICUDriver

=====

- Remove abbreviation HIS from table in chapter 3 Acronyms and abbreviations
- Remove Chapter 7.1.1 HIS

SRS_IOHWAbstraction

=====

Remove chapter 7.2 Related standards and norms.

SRS_MCUDriver

=====

- Remove abbreviation HIS from table in chapter 3 Acronyms and abbreviations
- Remove from Chapter 7.2 the reference "[5] HIS API I/O Driver Specification [www.automotive-his.de/results/ API_IODriver_2.1.3.pdf](http://www.automotive-his.de/results/API_IODriver_2.1.3.pdf)".

SRS_NetworkManagement

=====

- Remove section 7.2.2 "HIS"

SRS_OCUDriver

=====

- Remove abbreviation HIS from table in chapter 2 Acronyms and abbreviations
- Remove whole chapter 5.2 Related standards and norms (including the single subchapter 5.2.1 HIS)

SRS_OS

=====

- Remove abbreviation HIS from table in chapter 2.2 Acronyms and abbreviations
- Remove chapter 5.2.2 HIS

SRS_PortDriver

=====

- Remove abbreviation HIS from table in chapter 3 Acronyms and abbreviations
- Remove reference [STD_HIS_IO_DRIVER] in chapter 6.1 Deliverables of AUTOSAR "[STD_HIS_IO_DRIVER] HIS API IO Driver, V2.1.3, April 29th, 2004, [http://www.automotive-his.de/download API_IODriver_2_1_3.pdf](http://www.automotive-his.de/download/API_IODriver_2_1_3.pdf)"
- Remove chapter 6.2 Related standards and norms

SRS_PWMDriver

=====

- Remove abbreviation HIS from table in chapter 4 Acronyms and abbreviations
- Remove Supporting Material for requirement SRS_Pwm_12299

SRS_RAMTest

=====

- Remove abbreviation HIS from table in chapter 3 Acronyms and abbreviations

SRS_SPALGeneral

=====

- Remove HIS from acronym table in chapter 3
- Set "Supporting Material:" of SRS_SPAL_12163 to –
- Remove section 7.2 "Related standards and norms"

SRS_SPIHandlerDriver

=====

- Remove abbreviation HIS from table in chapter 3 Acronyms and abbreviations

SRS_WatchdogDriver

=====

Remove from Chapter 7.2 the reference "[5] HIS API I/O Driver Specification
[www.automotive-his.de/results/ API_IODriver_2.1.3.pdf](http://www.automotive-his.de/results/API_IODriver_2.1.3.pdf)".

SRS_ADCCDriver

=====

- Remove chapter 7.2 Related standards and norms.
- Remove abbreviation HIS from table in chapter 4 Acronyms and abbreviations

SRS_DIAGNOSTIC

=====

Remove in SRS_Diag_04098 the part of the sentence : "(according HIS [FL-504])"

SWS_BSWGeneral

=====

- Remove HIS from section 3.2 "Related standards and norms"
- Remove the sentence "The ID is the same as in HIS Software Supplier Identifications [19]." from the description of the line "<MIP>_VENDOR_ID" in

SWS_BSW_00059

SWS_DiagnosticCommunicationManager

=====

Remove last 3 occurrences sentences in SWS_Dcm_00988:

"HIS representation of FL_ExtProgRequestType".

"HIS representation of FL_ApplicationUpdateType."

"HIS representation of FL_ResponseRequiredType."

SWS_DIODriver

=====

Remove chapter 3.2 Related standards and norms.

SWS_EEPROMDriver

=====

Remove chapter 3.2 Related standards and norms.

SWS_FlashDriver

=====

- remove SRS_Fls_12083 from traceability Matrix (should be done automatically by the update)

- remove HIS Flash Driver document from reference list

SWS_FlexRayDriver

=====

- Remove HIS from abbreviation table in chapter 2

SWS_FlexRayISOTransportLayer

=====

- Remove HIS from acronym table in chapter 2

- Remove reference to HIS MISRA subset from section 3.2

SWS_FlexRayTransceiverDriver

=====

- remove HIS from table Acronyms and abbreviations

SWS_OS

=====

- remove HIS from table in chapter 2 "Acronyms and abbreviations"
- remove chapter 3.2.2 "HIS" completely
- remove reference to HIS document in chapter 4.1 ("HIS Protected OSEK")

SWS_XCP

=====

- Remove abbreviation HIS from table in chapter 2 Acronyms and abbreviations
- Last change on issue 73567 comment 49–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.8 Specification Item SRS_SPAL_12448

Trace References:

RS_BRF_02232

Content:

Type:	Valid
Description:	In case of a development error detection, all driver modules shall
Rationale:	Uniform behavior of all SPAL modules.
Applies to:	
Use Case:	The development error detection is enabled for a Driver.
Supporting Material:	–

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78035: SRS requirements refer to BMW specifications

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 processing

"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_ADCCDriver:

[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_ADCCDriver

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