### BOOT\_TestAndConfigureAdditionalHW\_TCAHW

#### BOOT\_TCAHW\_Expander2

This function reads the inputs on expander 2 and reports the failure when the inputs are not readable.

Prototype:

void BOOT\_TCAHW\_Expander2(ts\_PBIT\_Results\* p\_PBIT\_Results)

Parameters:

Function return : Not used

p\_PBIT\_Results (W) : Status of the access to expander 2

Calls:

LIBBSP\_I2C\_Initialize

LIBBSP\_DISC\_Open

LIBBSP\_DISC\_Configure

LIBBSP\_DISC\_Read

LIBBSP\_DISC\_Close

Preconditions:

None

##### Input Data

Data:

None

Preconditions:

None

##### Output Data

Data:

None

##### Requirements

REQ\_SDDD\_BOOT\_000xx-0x

*[COV.REQ\_SRD\_BOOT\_00168]*

BOOT\_TCAHW\_Expander2

|  |  |  |  |
| --- | --- | --- | --- |
|  | Causes | | |
| Effects | **[**Initialize I2C bus**]**  **[**Open the I2C link to the IO Expander**]** | | |
| [I2C link to IO Expander is successful] | | [I2C link to IO Expander is not successful] |
| **[**Configure the IO Expander**]** | | Set {p\_PBIT\_Results->Expander2AccessPBIT\_Failed} to TRUE |
| [No error detected on the I2C link] | [An error is detected on the I2C link] |
| **[**Read the discrete on IO expander**]**  **[**Close the I2C link to the device**]** | **[**Close the I2C link to the device**]** |
| [I2C link to IO Expander is not successful after DISC close] | [I2C link to IO Expander is successful after DISC close] |
| Set {p\_PBIT\_Results->Expander2AccessPBIT\_Failed} to TRUE | No effect |

**[**Initialize I2C bus**]** corresponds to the following call:

**LIBBSP\_I2C\_Initialize**

* **Function return:** Not used

**[**Open the I2C link to the IO Expander**]** corresponds to the following call:

**LIBBSP\_DISC\_Open**

* **Function return:** {DISC open status}
* **IN**: {E\_LIBBSP\_DISC\_EXPANDER\_2}

[I2C link to IO Expander is successful]: {DISC open status} is equal to {E\_LIBBSP\_I2C\_OK}.

**[**Configure the IO Expander**]** corresponds to the following call:

**LIBBSP\_DISC\_Configure**

* **Function return:** {DISC configure Status}
* **IN**: {E\_LIBBSP\_DISC\_EXPANDER\_2}

[No error detected on the I2C link]: {DISC configure Status} is equal to {E\_LIBBSP\_I2C\_OK}.

[An error is detected on the I2C link]: {DISC configure Status} is different from {E\_LIBBSP\_I2C\_OK}.

**[**Read the discrete on IO expander**]** corresponds to the following call:

**LIBBSP\_DISC\_Read**

* **Function return:** Not used
* **IN**: {E\_LIBBSP\_DISC\_EXPANDER\_2}
* **OUT**: address of the {DISC read on IO expander}
* **IN/OUT**: address of the {DISC read status}

**[**Close the I2C link to the device**]** corresponds to the following call:

**LIBBSP\_DISC\_Close**

* **Function return:** Not used

[I2C link to IO Expander is not successful after DISC close]: {DISC read status} is different from {E\_LIBBSP\_I2C\_OK}.

[I2C link to IO Expander is successful after DISC close]: {DISC read status} is equal to {E\_LIBBSP\_I2C\_OK}.

Traceability: Refined

Rationale:

Mean of verification: Test

[END\_REQ\_SDDD\_BOOT\_TCAHW\_Expander2\_00xx\_xx]