

Dear customers

Aug, 2020

Toshiba Electronic Devices & Storage Corporation
Toshiba Electronic Device Solutions Corporation

Regarding a problem when Serial Peripheral Interface (TSPI) utilize DMA Controller (μ DMAC)

Thank you for using Toshiba microcontrollers.

In the data transfer of μ DMAC + TSPI, a problem that some data was discarded, and we will inform you about the phenomenon and workaround.

We apologize for any inconvenience, but we ask that you review the content.

If you have any questions about this matter, please contact our sales representative.

1. Product

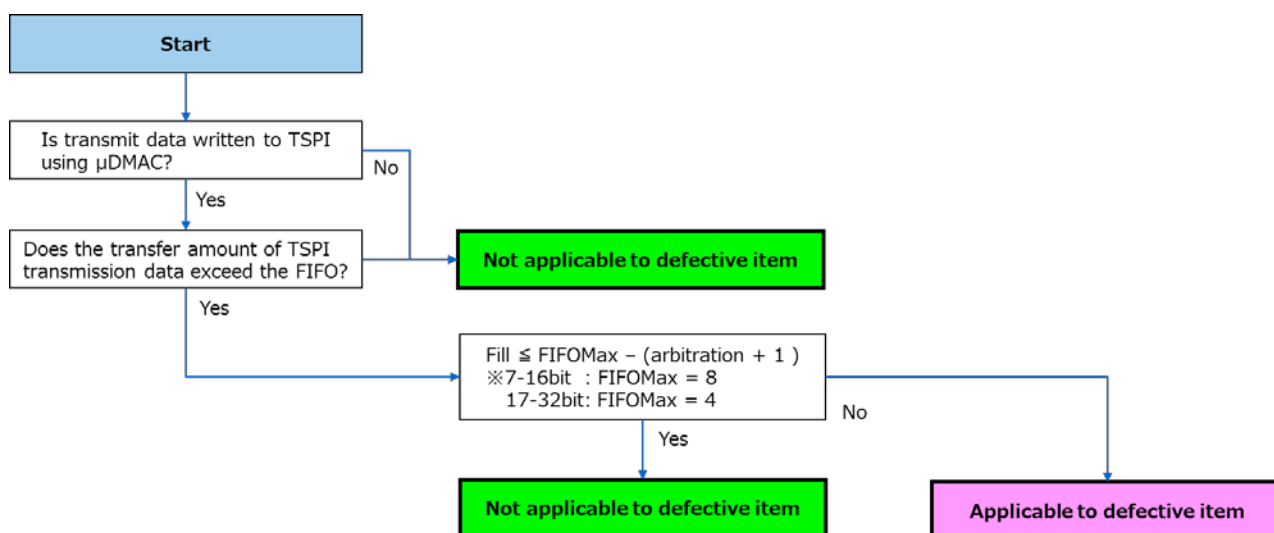
TMPM066FWUG, TMPM067FWQG, TMPM068FWXBG

2. Occurrence phenomenon

When transmitting data to TSPI using the μ DMAC, FIFO control may not be performed correctly depending on the μ DMAC and TSPI setting conditions, and data transferred by the μ DMAC to the TSPI may be discarded.

3. Occurrence condition

Please check the detailed conditions of the problem occurrence in the flowchart below.



4. How to avoid the problem

When performing TSPI transmission using the μ DMAC, set the μ DMAC and TSPI as below.

μ DMAC:

- Write to the Transfer mode setup(DMAChnlCfg)<R_power> in the Channel control data to set arbitration.

<R_power> = "0000", "0001", or "0010"

Arbitration = once, twice, or four times

TSPI :

- set <TIL[3:0]> of [TSPIxCR2] register as below.

Fill \leq FIFOMax - (arbitration + 1)

7-16bit : FIFOMax = 8

17-32bit : FIFOMax = 4