MTP_REG_CRC_DET IP SPEC

Table of Contents

Introduction	. 2
Feature	. 2
Register Definition	. 2
Register Map	. 2
Functional Details	
Block Diagram	. 2
Module input/output list	. 2
Clock Domain	
MTP_REG_CRC_DET function description	.3

Introduction

Check the CRC value of MTP shadow registers every 2ms, if no right, output MTP REG CRC FLT is high.

Feature

Monitor the MTP shadow register to ensure all values are right.

Register Definition

Register Map

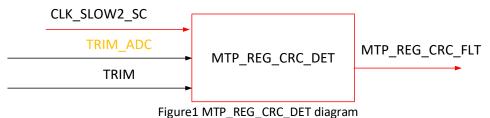
Table 1 1MTP REG CRC DET Register Map

Name	Add	D7	D6	D5	D4	D3	D2	D1	D0	default
FACT_CRCH	0x107E	FACT_CRC16[15:8]					0x00			
FACT_CRCL	0x107F	FACT_CRC16[7:0]				0x00				
SYS_FLT2	0x5114				MTP_C RC					0x00

Functional Details

Block Diagram

The following diagram shows the MTP_REG_CRC_DET inputs and outputs.



Module input/output list

Name	Dir	Width	Discirption	duration
MTP_REG_CRC_FLT	О	1	MTP shadow register crc fault bit	Level(CLK_SLOW2 domain)
CLK_SLOW2_SC	I	1	Redundant CLK_SLOW	256KHz, 50%duty
resetb_SR_CLK_SLOW	I	1	Scan_muxed resetb and soft resetb for CLK_SLOW domain	level
load_done	Ι	1	MTP load done	Level(CLK_MTP domain)

pulse_SLOW2_2ms	I	1	2ms pulse in CLK_SLOW2 domain	1 CLK_SLOW2
reg1000~107F	I	8*128	MTPuration registers 1000~107F (MTP shadow registers)	Level(CLK_REG domain)

Clock Domain

The clock for MTP REG CRC DET is CLK SLOW2 SC.

MTP_REG_CRC_DET function description

IBM algorithm with polynomial (x16+x15+x2+1) and default value 16'hFFFF is used for CRC. MTP_adr[6:0] is defined that goes through all MTP shadow registers, i.e., 16'h1000~107F. MTP_CRC_data[7:0] changes to corresponding register value every time MTP_adr changes. CRC calculator updates every time MTP_data[7:0] changes. Once MTP_adr[6:0] went through all the registers, check the calculator result, if not 0, MTP_REG_CRC_FLT is high. (HWSR001_MTP_REG_CRC_DET)