RT500 ROM A0 Patch 0.1

Friday, April 26, 2019 1:26 PM

ROM patch list for the A0 chip.

Patch index	JIRA Ticket	Criticality	Patch details	Patch type	Patch data in ROM patch fuses

0	KBL-4308		*It is likely that the ROM cannot boot from Octal FLASH devices (for example, MX25UM51345G, ATXP032 or MT35X) on some boards, see the details from the TKT description*	`Code patch`	`0x55020106`
					`0x1301cb73`
					`0x51faf44f`
					`0x1e414608`
					`0xd1fb2800`
					`0x506cf641`
					`0x0001f2c1`
					`0x47709000`

1	KBL-4566		*Flash config block will be programmed to offset 0x0 without patch*	`Code patch`	`0x55020103`
					`0x130171d9`
					`0x4400F240`
					`0x0400F6C0`
					`0x47709400`
					`0x55020103`
					`0x1301720b`
					`0x4400F240`
					`0x0400F6C0`
					`0x47709400`

2	KBL-4586		*Writing data at alias address will fail without patch, caused by the MPU protection*	`Code patch`	`0x55020106`
					`0x13011815`
					`0xF64F9901`
					`0xF6CE72FF`
					`0xEA0172FF`
					`0xF04F0102`
					`0x91010204`
					`0x47709202`

3	KBL-4189		*SPI clock is 99Mhz in High power boot without patch, should patch to 50Mhz*	`Code patch`	`0x55020102`
					`0x13002941`
					`0x90002007`
					`0x47704770`

4	KBL-4662		*This issue found in the eMMC device*
			Sandisk SDINBDG4-8G
			Here are the test steps to reproduce the issue.
			1. Power up the board.
				`Code patch`	`0x55020104`
					`0x13018637`
					`0xF2426820`
					`0x4A017110`

			2. Do a power cycle for the eMMC: power down the eMMC and wait about 20ms. And then power up the eMMC and wait about 5ms. *3. (optional) wait 100ms to make sure the eMMC power is table.* *4. Send CMD0. (No response is needed)* *5. Send CMD1, and get no response.{code}* *The root cause seems that the eMMC devices need more clock cycles to do the clock sync, which cannot be completed during CMD*		0x47704710 0x130196E3
5	KBL-4661		*This issue found in two eMMC devices* *Micron MTFC8GAKAJCN-1M WT* *Sandisk SDINBDG4-8G*	Code patch	0x55020107 0x1301796B 0xBF1C2E00 0x47709600 0x0040980D 0x6D21BF42 0x7180F441 0x96006521 0x47704770
6	KBL-4718		*There is an un-initialized variable in the code.* *So it depends on the run-time context to have an real impact.*	Data patch	0x55010001 0x13018a69 0xe01670f5

- Merge all the R500 A0 0.1 patches together, program them from Fuse word **0xA1**

```
@000000A1  0x55020106 // KBL-4308
@000000A2  0x1301cb73
@000000A3  0x51faf44f
@000000A4  0x1e414608
@000000A5  0xd1fb2800
@000000A6  0x506cf641
@000000A7  0x0001f2c1
@000000A8  0x47709000

@000000A9  0x55020103 // KBL-4566
@000000AA  0x130171d9
@000000AB  0x4400F240
@000000AC  0x0400F6C0
@000000AD  0x47709400
@000000AE  0x55020103
@000000AF  0x1301720b
@000000B0  0x4400F240
@000000B1  0x0400F6C0
```

```
@000000B2  0x47709400

@000000B3  0x55020106 // KBL-4586
@000000B4  0x13011815
@000000B5  0xF64F9901
@000000B6  0xF6CE72FF
@000000B7  0xEA0172FF
@000000B8  0xF04F0102
@000000B9  0x91010204
@000000BA  0x47709202

@000000BB  0x55020102 // KBL-4189
@000000BC  0x13002941
@000000BD  0x90002007
@000000BE  0x47704770

@000000BF  0x55020104 // KBL-4662
@000000C0  0x13018637
@000000C1  0xF2426820
@000000C2  0x4A017110
@000000C3  0x47704710
@000000C4  0x130196E3

@000000C5  0x55020107 // KBL-4661
@000000C6  0x1301796B
@000000C7  0xBF1C2E00
@000000C8  0x47709600
@000000C9  0x0040980D
@000000CA  0x6D21BF42
@000000CB  0x7180F441
@000000CC  0x96006521
@000000CD  0x47704770

@000000CE  0x55010001 // KBL-4718
@000000CF  0x13018a69
@000000D0  0xe01670f5
```