FUJITSU SEMICONDUCTOR
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F²MC-16 FAMILY

16-BIT MICROCONTROLLER

An Additional Manual for the Softune Linkage Kit

(F²MC-16LX Standby Mode Transition Instruction Check)

FUJITSU LIMITED

PREFACE

■ Objectives and Intended Readership

This manual describes the additional functions and operations of the Fujitsu SOFTUNE Linkage Kit operating on Windows 98, Windows Me, Windows NT 4.0, Windows 2000, and Windows XP.
This manual is intended for engineers who are developing application programs using F²MC-16LX series microcontroller.

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CONTENTS

1 General Description of the Added Function

This section explains a general description of the added function.

■ General Description of the Added Function

The function added to the linker checks Cautions for Access to Low Power Consumption Mode Control Register (LPMCR) for Standby Mode Transition on the F²MC-16LX series.
For details about Cautions for Access to Low Power Consumption Mode Control Register (LPMCR) for Standby Mode Transition, refer to **F²MC-16LX family Standby Mode Transition Instruction Check Tool Manual**.
The linker determines whether the product corresponds to the Cautions for Access to Low Power Consumption Mode Control Register (LPMCR) for Standby Mode Transition based on the MB number specified by the link option after making the absolute format load module file for the F²MC-16LX series. If the product corresponds to the Cautions for Access to Low Power Consumption Mode Control Register (LPMCR) for Standby Mode Transition, the linker automatically calls up the check tool to check standby mode transition instruction.
For details on the check tool, refer to **F²MC-16LX family Standby Mode Transition Instruction Check Tool Manual**.

■ List of Added Option

Table 1 shows a list of the available start up options that have been added for checking the Cautions for Access to Low Power Consumption Mode Control Register (LPMCR) for Standby Mode Transition.

Table 1 List of Added Option

	Functions	Options	Remarks
Check-Related	Checks Standby Mode Transition Instruction	-check_SCF	
	Prohibits checks on the Standby Mode Transition Instruction	-Xcheck_SCF	
	Checks only in fetch units	-Wf	

2 Details of Added Options

2.1 Specification of Standby Mode Transition Instruction (-check_SCF)

The linker always checks Standby Mode Transition Instruction.

■ Specification of Standby Mode Transition Instruction (-check_SCF)

[Format]

-check_SCF

[Parameters]

None

[Explanation]

When this option is specified, the linker always checks Standby Mode Transition Instruction. With the default operation of the linker, the linker checks the Standby Mode Transition Instruction only when the MB number specified at startup is that of the product corresponding to the Cautions for Access to Low Power Consumption Mode Control Register (LPMCR) for Standby Mode Transition. However, if this option is specified, the linker always checks the Standby Mode Transition Instruction regardless of whether it does correspond to the Cautions for Access to Low Power Consumption Mode Control Register (LPMCR) for Standby Mode Transition or not.

[Example]

1. **When the -check_SCF option is specified:**

```
flnk907s –cpu MB90F462 main.obj standby.obj –check_SCF
*** F:Warning pls. chk. -> (mov   io, #imm8, 00F90001 standby.asm:61)
*** B:Warning pls. chk. -> (mov   io, #imm8, 00F90003 standby.asm:101)
*** F:Warning pls. chk. -> (mov   io, #imm8, 00F90007 standby.asm:122)
*** F:Warning pls. chk. -> (mov   io, #imm8, 00F9000D standby.asm:183)
*** B:Warning pls. chk. -> (mov   io, #imm8, 00F9002F standby.asm:211)
Total Warning Message : 5
```

MB90F462 does not correspond to Cautions for Access to Low Power Consumption Mode Control Register (LPMCR) for Standby Mode Transition, but by specifying the -check_SCF option, the linker checks Standby Mode Transition Instruction.

2. **When the -check_SCF option is not specified:**

```
flnk907s –cpu MB90F462 main.obj standby.obj
```

MB90F462 does not correspond to Cautions for Access to Low Power Consumption Mode Control Register (LPMCR) for Standby Mode Transition, so the linker does not check the Standby Mode Transition Instruction.

2.2 Specification of Prohibiting Standby Mode Transition Instruction Check (-Xcheck_SCF)

The linker does not check Standby Mode Transition Instruction.

■ Specification of Prohibiting Standby Mode Transition Instruction Check (-Xcheck_SCF)

[Format]

-Xcheck_SCF

[Parameters]

None

[Explanation]

When this option is specified, the linker does not check Standby Mode Transition Instruction. With the default operation of the Linker, the Linker checks the Standby Mode Transition Instruction when the MB number specified at startup is that of the product corresponding to the Cautions for Access to Low Power Consumption Mode Control Register (LPMCR) for Standby Mode Transition. However, if this option is specified, the linker does not check the Standby Mode Transition Instruction regardless of whether it does correspond to the Cautions for Access to Low Power Consumption Mode Control Register (LPMCR) for Standby Mode Transition or not.

[Example]

1. When the -Xcheck_SCF option is specified:

flnk907s –cpu MB90F387 main.obj standby.obj **–Xcheck_SCF**

MB90F387 corresponds to Cautions for Access to Low Power Consumption Mode Control Register (LPMCR) for Standby Mode Transition, but by specifying the -Xcheck_SCF option, the linker does not check Standby Mode Transition Instruction.

2. When the -Xcheck_SCF option is not specified:

```
flnk907s –cpu MB90F387 main.obj standby.obj
*** F:Warning pls. chk. -> (mov   io, #imm8, 00F90001 standby.asm:61)
*** B:Warning pls. chk. -> (mov   io, #imm8, 00F90003 standby.asm:101)
*** F:Warning pls. chk. -> (mov   io, #imm8, 00F90007 standby.asm:122)
*** F:Warning pls. chk. -> (mov   io, #imm8, 00F9000D standby.asm:183)
*** B:Warning pls. chk. -> (mov   io, #imm8, 00F9002F standby.asm:211)
Total Warning Message : 5
```

MB90F387 corresponds to Cautions for Access to Low Power Consumption Mode Control Register (LPMCR) for Standby Mode Transition, so the linker checks the Standby Mode Transition Instruction.

2.3 Specification of Fetch Unit Checks (-Wf)

The linker only checks in fetch units when checking Standby Mode Transition Instruction.

■ Specification of Fetch Unit Checks (-Wf)

[Format]

-Wf

[Parameters]

None

[Explanation]

When this option is specified, the linker only checks in fetch units when checking Standby Mode Transition Instruction.

With the default operation of the linker, the linker checks using both fetch units and byte units when checking Standby Mode Transition Instruction. However, if this option is specified, the linker checks in only fetch unit.

For details about how to check Standby Mode Transition Instruction, refer to F²MC-16LX family Standby Mode Transition Instruction Check Tool Manual.

[Example]

1. When the -Xcheck_SCF option is specified:

```
flnk907s –cpu MB90F387 main.obj standby.obj –Wf
*** F:Warning pls. chk. -> (mov   io, #imm8, 00F90001 standby.asm:61)
*** F:Warning pls. chk. -> (mov   io, #imm8, 00F90007 standby.asm:122)
*** F:Warning pls. chk. -> (mov   io, #imm8, 00F9000D standby.asm:183)
Total Warning Message : 3
```

By specifying the –Wf option, the linker checks in only fetch unit and does not check in byte unit.

2. When the -Xcheck_SCF option is not specified:

```
flnk907s –cpu MB90F387 main.obj standby.obj
*** F:Warning pls. chk. -> (mov   io, #imm8, 00F90001 standby.asm:61)
*** B:Warning pls. chk. -> (mov   io, #imm8, 00F90003 standby.asm:101)
*** F:Warning pls. chk. -> (mov   io, #imm8, 00F90007 standby.asm:122)
*** F:Warning pls. chk. -> (mov   io, #imm8, 00F9000D standby.asm:183)
*** B:Warning pls. chk. -> (mov   io, #imm8, 00F9002F standby.asm:211)
Total Warning Message : 5
```

Checks both in fetch unit and byte unit.