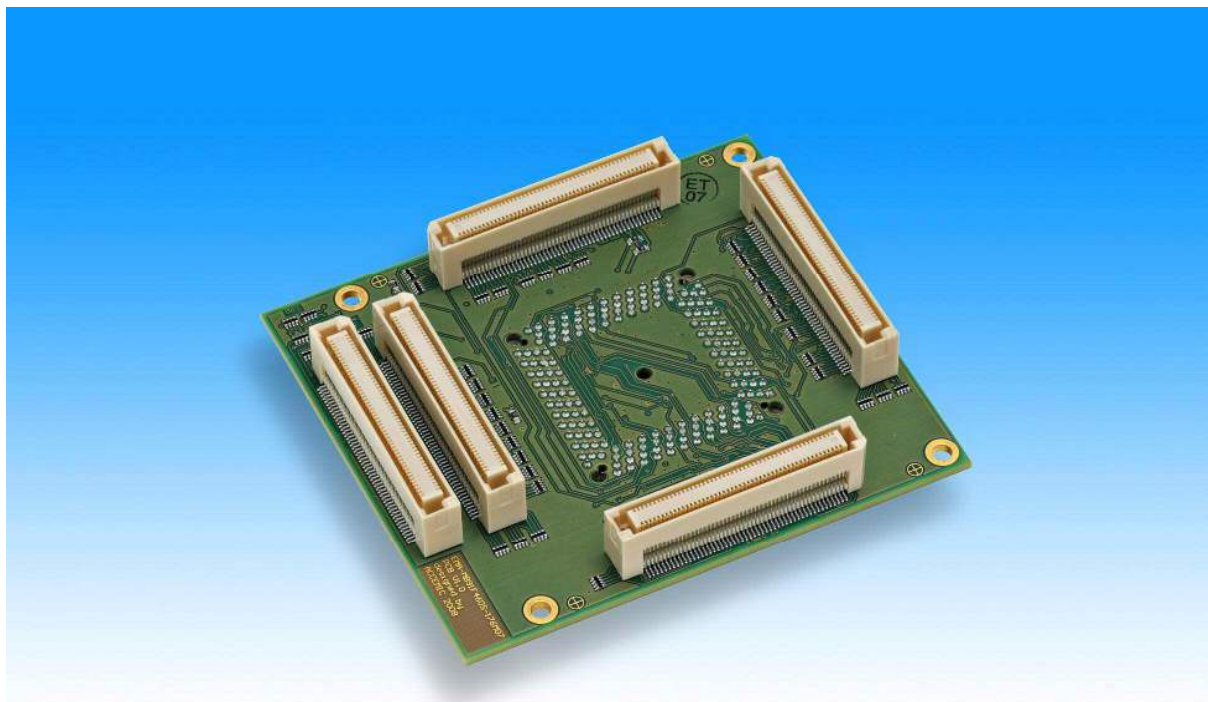


FR60 FAMILY SOCKET ADAPTER BOARD EMA-MB91F460S-176M07

USER GUIDE



Revision History

Date	Issue
2008-12-15	V1.0 AW, First draft
2009-03-09	V1.1 CEy, Updated cover picture

These were the latest revisions of related documents when this user guide revision had been released:

Schematic: 1.0

PCB: 1.0

This document contains 15 pages.

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Contents

REVISION HISTORY	2
WARRANTY AND DISCLAIMER	3
CONTENTS	4
1 INTRODUCTION	5
1.1 Abstract.....	5
1.2 General Description.....	5
2 INSTALLATION	6
3 LOCATION OF PARTS.....	7
4 APIX INTERFACE.....	8
4.1 APIX access via interface cable	9
4.2 APIX access via EMA-MB91F460S-176M07 socket adapter board	10
5 MECHANICAL DIMENSIONS	11
6 INFORMATION IN THE WWW.....	12
7 CHINA-ROHS REGULATION	13
8 RECYCLING	15

1 Introduction

1.1 Abstract

The EMA-MB91F460S-176M07 in combination with the EMA-MB91FV460B-001 is a development system for the Fujitsu FR60 MB91FV460B Flash microcontroller.

The development system allows the designer immediately to start with the software development before MB91FV460B based silicon samples are available.

**This board must only be used for test applications
in an evaluation laboratory environment.**

Before using the EMA-MB91F460S-176M07 adapter board, make sure that the following packed components have been delivered:

- 1 pcs. EMA-MB91F460S-176M07 socket adapter board
- 1 pcs. YQPACK176SD
- 1 pcs. APIX interface cable
- 5 pcs. Screw M2x12
- 5 pcs. Washer M2, Nylon
- 1 pcs. User Guide

1.2 General Description

The EMA-MB91F460S-176M07 in combination with the EMA-MB91FV460B-001 replaces a MB91F460S series microcontroller. For further details of the EMA-MB91FV460B-001 board please refer to the User Guide of the EMA-MB91FV460B-001.

2 Installation

Remove carefully the EMA-MB91F460S-176M07 board from the shipping carton and check if there are any damages.

Please refer to the attached document “NQPACK/ YQPACK/ HQPACK Technical Information” for the installation of the socket adapter.

Please refer to the User Guide of the EMA-MB91FV460B-001 for a description of the assembling and disassembling process of the EMA system stack.

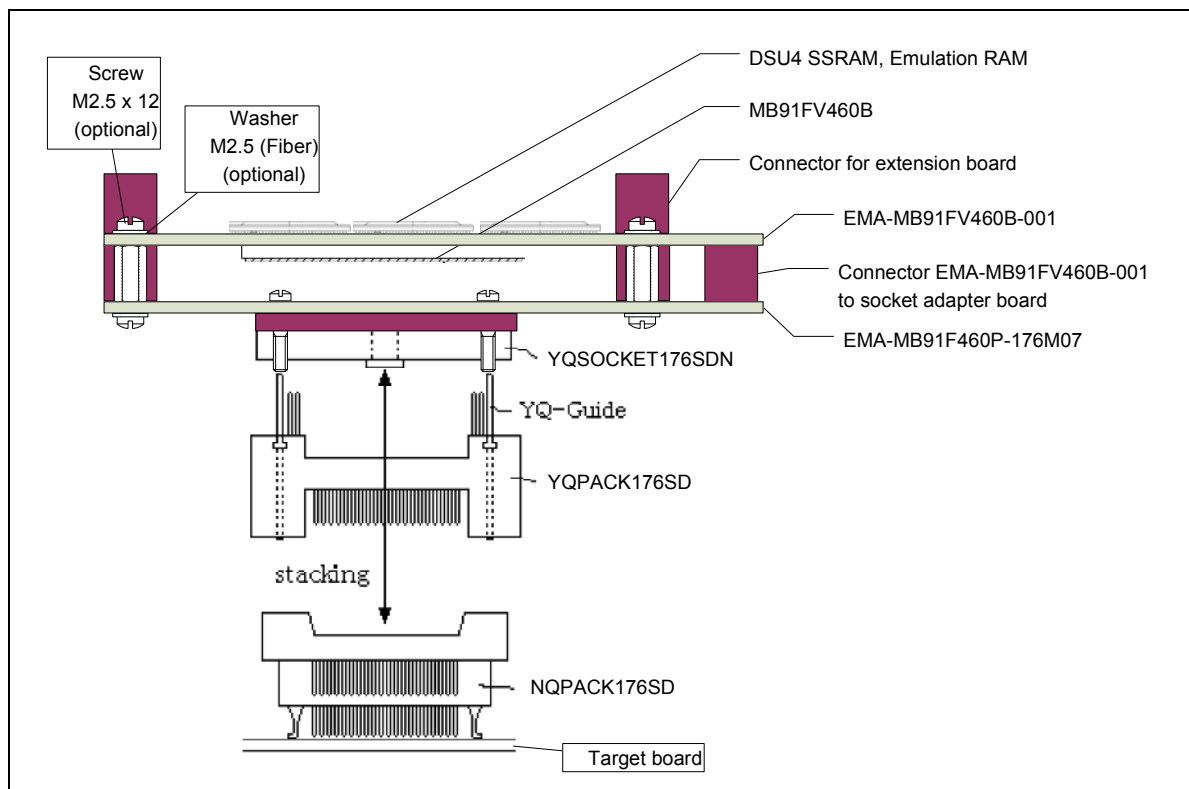


Figure 2-1: Installation

3 Location of Parts

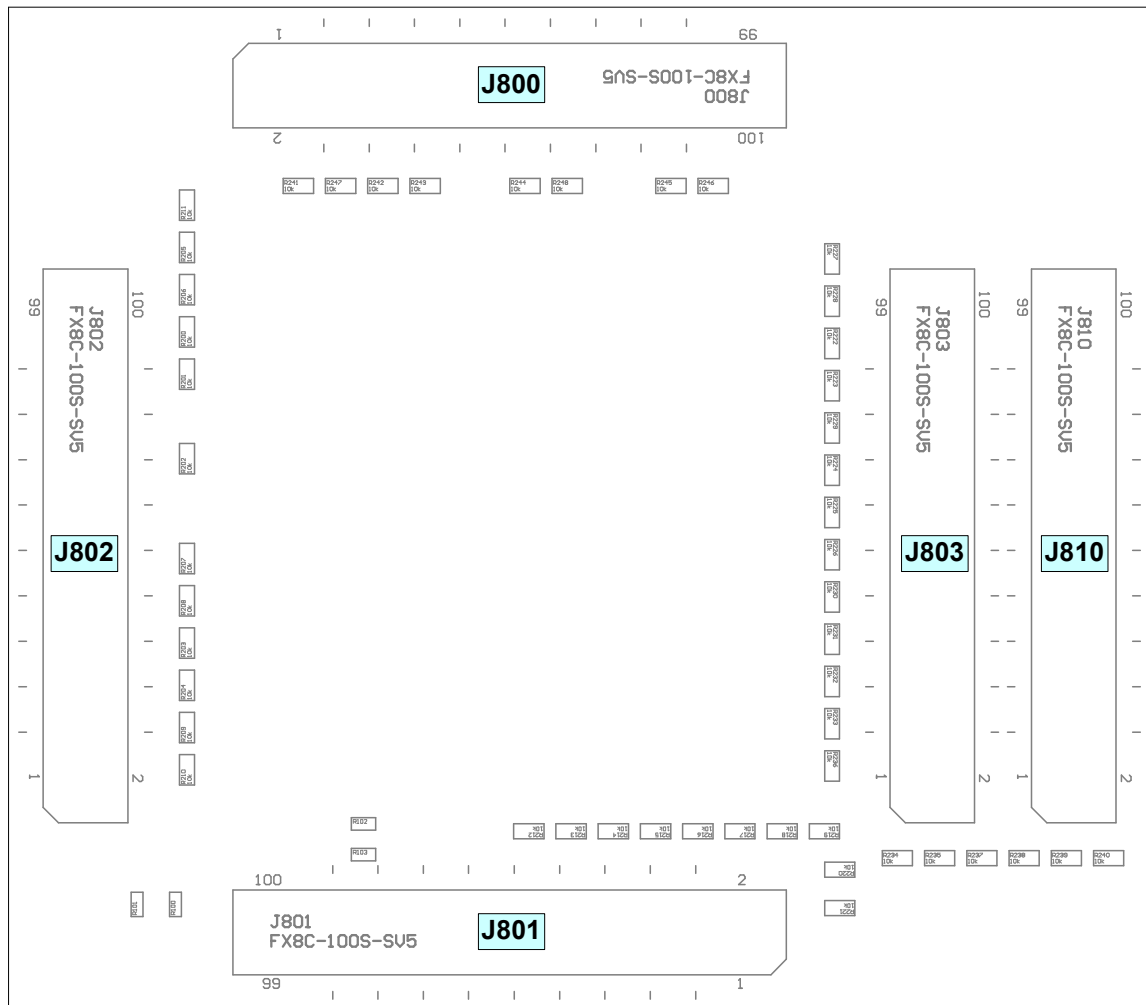


Figure 3-1: Location of parts (top layer)

4 APIX interface

The APIX interface of the MB91FV460B signals can be accessed via an interface cable or via the EMA-MB91F460S-176M07 socket adapter board.

Depending on the operation mode, use the following settings on the EMA-MB91FV460B-001 board:

Part	APIX access via	
	Interface cable (EMA-MB91FV460B-001-CON100)	EMA-MB91F460S-176M07 socket adapter board
R101	Open	0R 0603
R102	Open	0R 0603
R103	Open	0R 0603
R104	Open	0R 0603
C105	100nF / 0603	Open
C106	100nF / 0603	Open
C107	100nF / 0603	Open
C108	100nF / 0603	Open

Default: R101 – R104: Open, C105 – C108: 100nF / 0603

4.1 APIX access via interface cable

An appropriate cable (IEEE1394a <-> RJ45) for the connection to e.g. Indigo (MB88F332) evaluation board is included in EMA-MB91F460S-176M07 socket adapter board.

The cable can be connected to CON100 of the EMA-MB91FV460B-001 board.

MB91FV460B Signal	CON 100 pin (IEEE1394a type)	RJ45 pin
SDINM	1	5
SDINP	2	4
SDOUTM	3	2
SDOUTP	4	1

Table 4-1: APIX interface cable signals

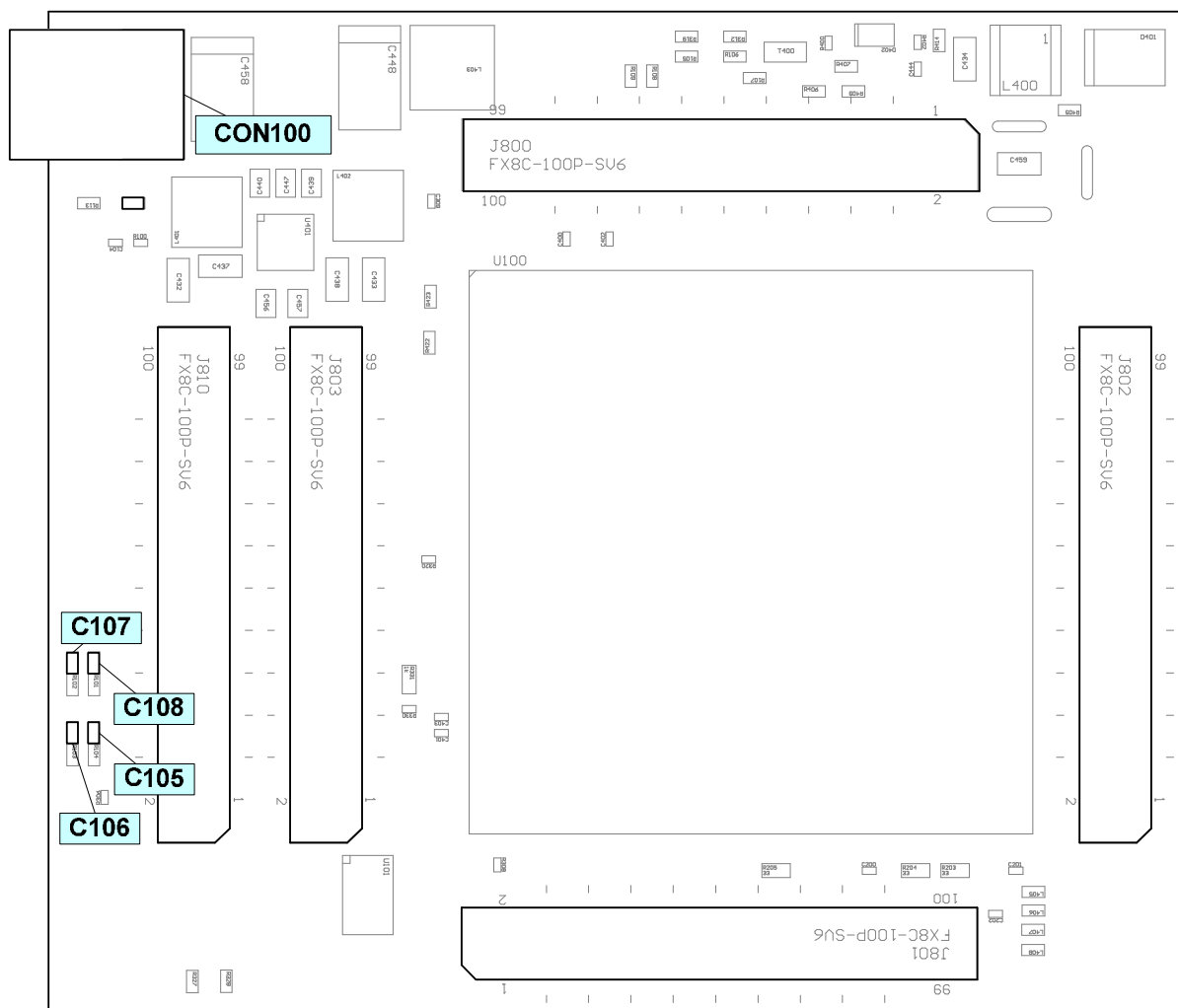


Figure 4-1: Location of parts for APIX access via interface cable (EMA-MB91FV460B-001 bottom layer)

4.2 APIX access via EMA-MB91F460S-176M07 socket adapter board

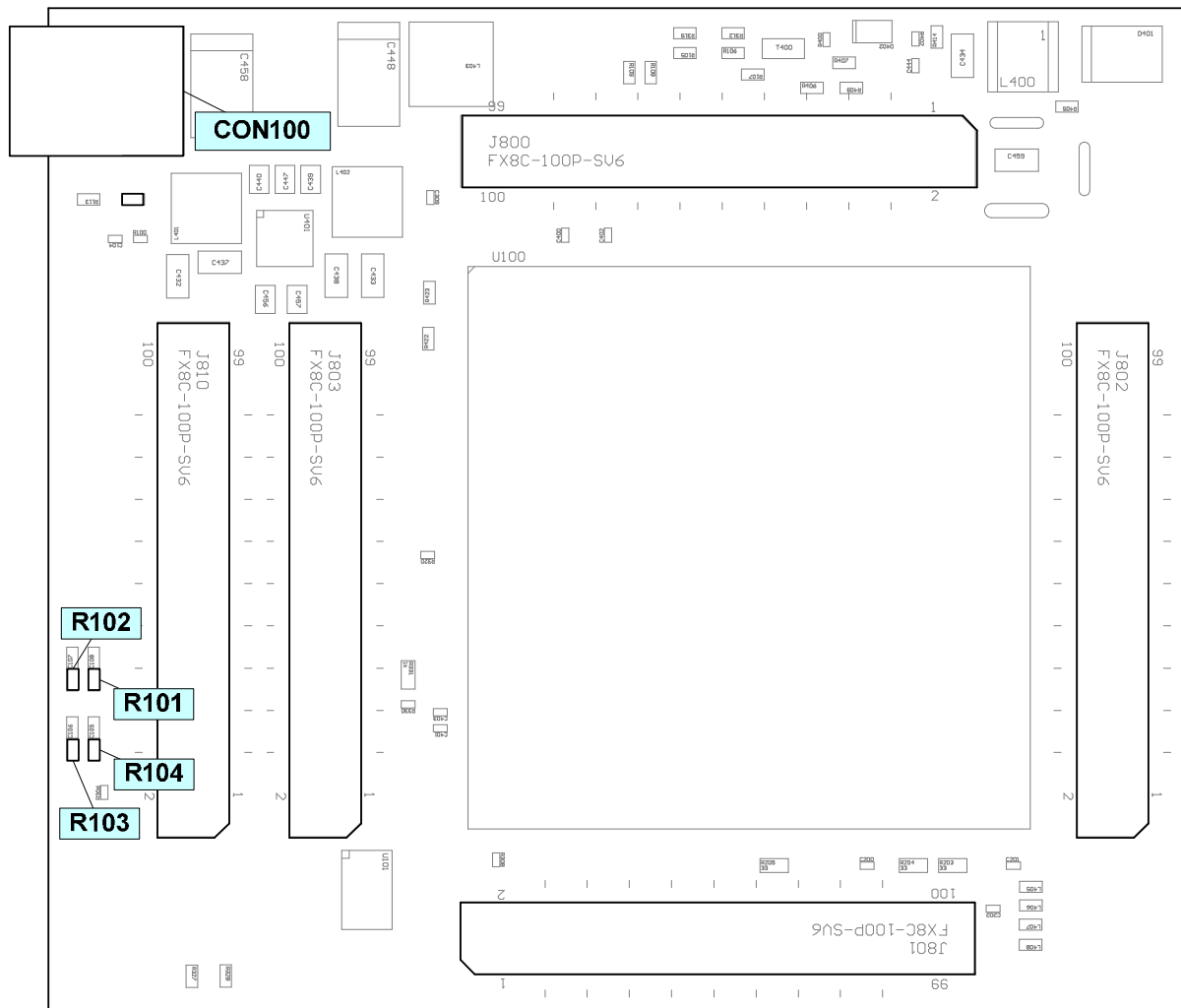


Figure 4-2: Location of parts for APIX access via EMA-MB91F460S-176M07 socket adapter board (EMA-MB91FV460B-001 - bottom layer)

Please note, in this operation mode there may be some limitations of the APIX signal quality.

5 Mechanical dimensions

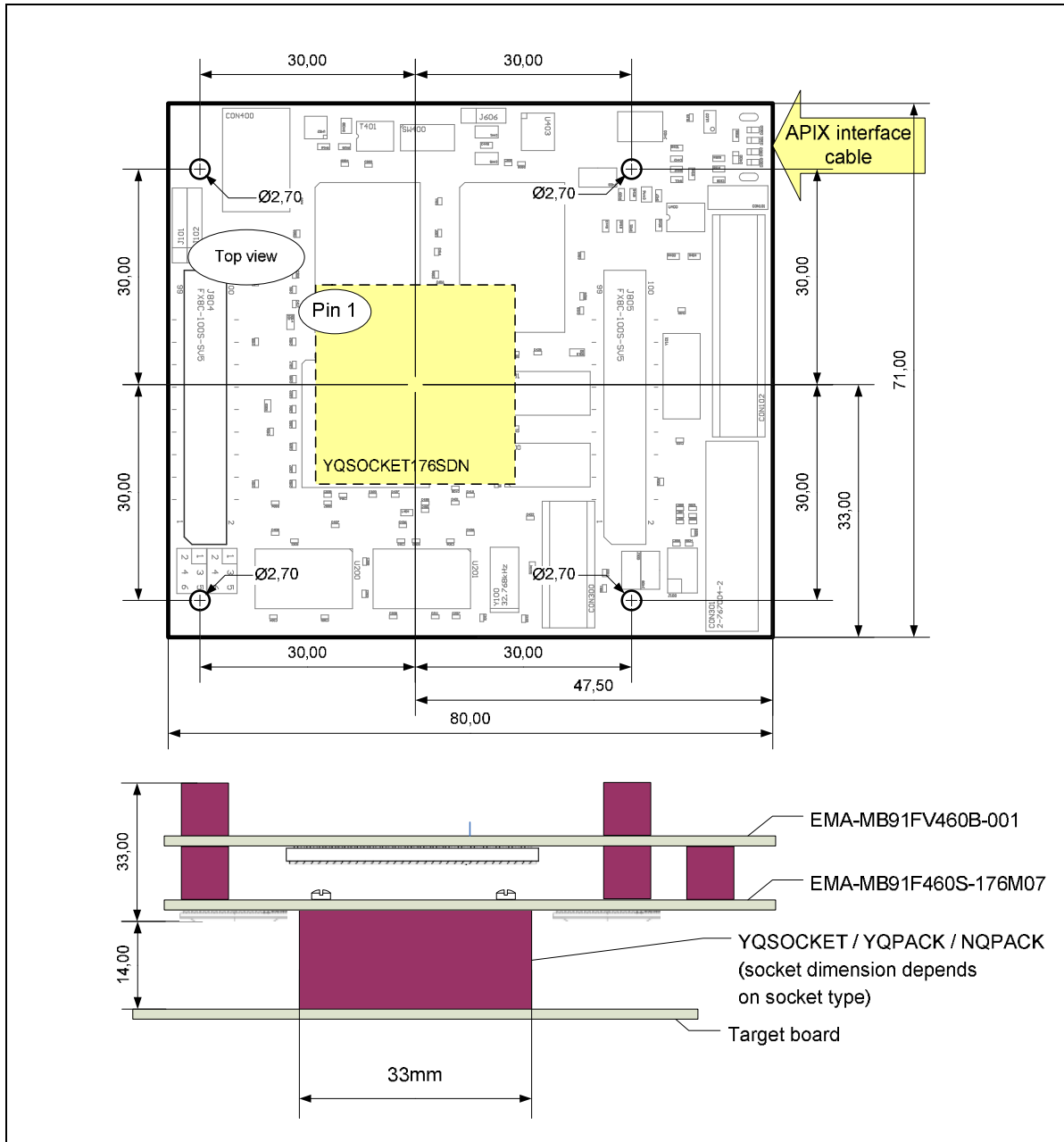


Figure 5-1: Mechanical Dimensions

6 Information in the WWW

Information about FUJITSU MICROELECTRONICS Products can be found on the following Internet pages:

Microcontrollers (8-, 16- and 32bit), Graphics Controllers
Datasheets and Hardware Manuals, Support Tools (Hard- and Software)

<http://mcu.emea.fujitsu.com/>

Power Management Products

<http://www.fujitsu.com/emea/services/microelectronics/powerman/>

Media Products: SAW filters, acoustic resonators and VCOs

<http://www.fujitsu.com/emea/services/microelectronics/saw/>

For more information about FUJITSU MICROELECTRONICS

<http://www.fujitsu.com/emea/services/microelectronics/>

7 China-RoHS regulation

Evaluation Board 评估板

Emulation Board 仿真板

根据SJ/T11364-2006

《电子信息产品污染控制标识要求》特提供如下有关污染控制方面的信息。

The following product pollution control information is provided according to SJ/T11364-2006 *Marking for Control of Pollution caused by Electronic Information Products*.

1. 电子信息产品污染控制标志说明 Explanation of Pollution Control Label



该标志表明本产品含有超过中国标准SJ/T11363-2006

《电子信息产品中有毒有害物质的限量要求》中限量的有毒有害物质。标志中的数字为本产品的环保使用期，表明本产品在正常使用的条件下，有毒有害物质不会发生外泄或突变，用户使用本产品不会对环境造成严重污染或对其人身、财产造成严重损害的期限，单位为年。

为保证所声明的环保使用期限，应按产品手册中所规定的环境条件和方法进行正常使用，并严格遵守产品维修手册中规定的定期维修和保养要求。

产品中的消耗件和某些零部件可能有其单独的环保使用期限标志，并且其环保使用期限有可能比整个产品本身的环保使用期限短。应到期按产品维修程序更换那些消耗件和零部件，以保证所声明的整个产品的环保使用期限。

本产品在使用寿命结束时不可作为普通生活垃圾处理，应被单独收集妥善处理。

请注意：环保使用期限50年的指定不是与产品的耐久力，使用期限或任何担保要求等同的。

This symbol to be added to all EIO sold to China, indicates the product contains hazardous materials in excess of the limits established by the Chinese standard SJ/T11363-2006 *Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products*. The number in the symbol is the Environment-friendly Use Period (EFUP), which indicates the period, starting from the manufacturing date, during which the toxic or hazardous substances or elements contained in electronic information products will not leak or mutate under normal operating conditions so that the use of such electronic information products will not result in any severe environmental pollution, any bodily injury or damage to any assets, the unit of the period is "Year".

In order to maintain the declared EFUP, the product shall be operated normally according to the instructions and environmental conditions as defined in the product manual, and periodic maintenance schedules specified in Product Maintenance Procedures shall be followed strictly.

Consumables or certain parts may have their own label with an EFUP value less than the product. Periodic replacement of those consumables or parts to maintain the declared EFUP shall be done in accordance with the Product Maintenance Procedures.

This product must not be disposed of as unsorted municipal waste, and must be collected separately and handled properly after decommissioning.

Please note: The designation of 10 years EFUP is not to be equated with the durability, use-duration or any warranty-claims of the product.

产品中有毒有害物质或元素的名称及含量

Table of hazardous substances name and concentration

部件名称 Component Name	有毒有害物质或元素 Hazardous substances name					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
EMA-MB91F460S-176M07	○	○	○	○	○	○

O: 表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 标准规定的限量要求以下

X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求

此表所列数据为发布时所能获得的最佳信息

由于缺少经济上或技术上合理可行的替代物质或方案，此医疗设备运用以上一些有毒有害物质来实现设备的预期临床功能，或给人员或环境提供更好的保护效果。

O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.

X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.

Data listed in the table represents best information available at the time of publication

8 Recycling

Gültig für EU-Länder:

Gemäß der Europäischen WEEE-Richtlinie und deren Umsetzung in landesspezifische Gesetze nehmen wir dieses Gerät wieder zurück.

Zur Entsorgung schicken Sie das Gerät bitte an die folgende Adresse:

Fujitsu Microelectronics Europe GmbH
Warehouse/Disposal
Monzastraße 4a
D-63225 Langen

Valid for European Union Countries:

According to the European WEEE-Directive and its implementation into national laws we take this device back.

For disposal please send the device to the following address:

Fujitsu Microelectronics Europe GmbH
Warehouse/Disposal
Monzastraße 4a
D-63225 Langen
GERMANY

-- END --