

**FR60 FAMILY**  
SOCKET ADAPTER BOARD  
**EMA-MB91F467C-NLS-144M08**

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USER GUIDE



## Revision History

Date	Issue
18.09.2006	V1.00, RH/AW, First Release
03.05.2007	V1.1, Recycling Note added
16.01.2009	V1.2, CEy Description for EMA-MB91FV460B-001 added

Schematic version: 1.1

PCB version: 1.0

This document contains 9 pages.

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To the maximum extent permitted by applicable law, Fujitsu Microelectronics Europe GmbH restricts its warranties and its liability for **the EMA-MB91F467C-NLS-144M08 Board and all its deliverables** (eg. software include or header files, application examples, target boards, evaluation boards, engineering samples of IC's etc.), its performance and any consequential damages, on the use of the Product in accordance with (i) the terms of the License Agreement and the Sale and Purchase Agreement under which agreements the Product has been delivered, (ii) the technical descriptions and (iii) all accompanying written materials. In addition, to the maximum extent permitted by applicable law, Fujitsu Microelectronics Europe GmbH disclaims all warranties and liabilities for the performance of the Product and any consequential damages in cases of unauthorised decompiling and/or reverse engineering and/or disassembling. **Note, the EMA-MB91F467C-NLS-144M08 Board and all its deliverables are intended and must only be used in an evaluation laboratory environment.**

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2. Should a Product turn out to be defect, Fujitsu Microelectronics Europe GmbH's entire liability and the customer's exclusive remedy shall be, at Fujitsu Microelectronics Europe GmbH's sole discretion, either return of the purchase price and the license fee, or replacement of the Product or parts thereof, if the Product is returned to Fujitsu Microelectronics Europe GmbH in original packing and without further defects resulting from the customer's use or the transport. However, this warranty is excluded if the defect has resulted from an accident not attributable to Fujitsu Microelectronics Europe GmbH, or abuse or misapplication attributable to the customer or any other third party not relating to Fujitsu Microelectronics Europe GmbH.
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4. To the maximum extent permitted by applicable law, Fujitsu Microelectronics Europe GmbH's and its supplier's liability are restricted to intention and gross negligence.

### **NO LIABILITY FOR CONSEQUENTIAL DAMAGES**

**To the maximum extent permitted by applicable law, in no event shall Fujitsu Microelectronics Europe GmbH and its suppliers be liable for any damages whatsoever (including but without limitation, consequential and/or indirect damages for personal injury, assets of substantial value, loss of profits, interruption of business operation, loss of information, or any other monetary or pecuniary loss) arising from the use of the Product.**

Should one of the above stipulations be or become invalid and/or unenforceable, the remaining stipulations shall stay in full effect

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# 1 Overview

## 1.1 Abstract

The EMA-MB91F467C-NLS-144M08 in combination with the EMA-MB91V460A-002B/-80/003 or EMA-MB91FV460B-001 is a development system for the Fujitsu FR60 MB91V460 Flash microcontroller.

The development system allows the designer immediately to start with the software development before MB91V460 based silicon samples are available.

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

Before using the EMA-MB91F467C-NLS-144M08 adapter board, make sure that the following packed components have been delivered:

- 1 pcs. EMA-MB91F467C-NLS-144M08 socket adapter board
- 1 pcs. YQPACK144SD
- 5 pcs. Screw M2x12
- 5 pcs. Washer M2, Nylon
- 1 pcs. User Guide

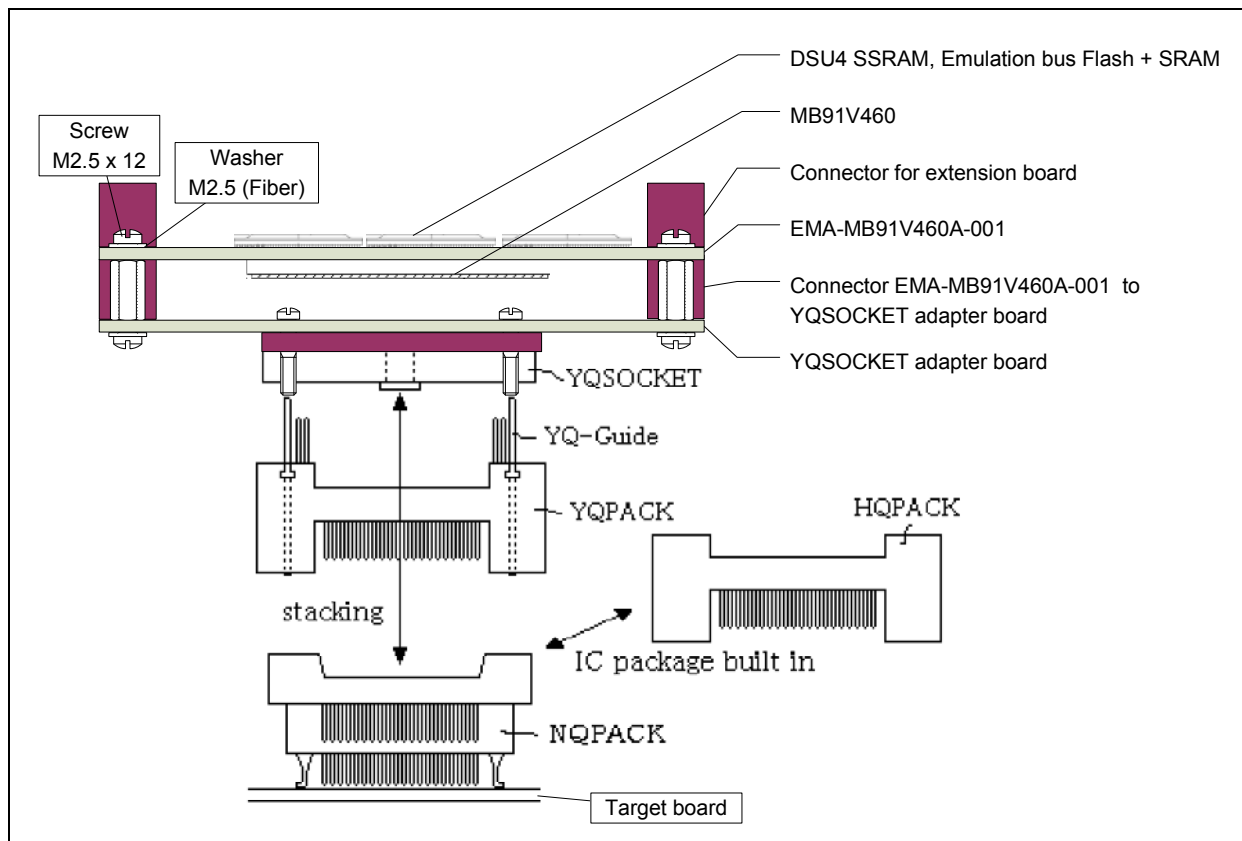
## 1.2 General Description

The EMA-MB91F467C-NLS-144M08 in combination with the EMA-MB91V460A-002B/-80/003 or EMA-MB91FV460B-001 replaces a MB91F467C microcontroller. For further details of the EMA-MB91V460A-002B/-80/003 or EMA-MB91FV460B-001 board please refer to the User Guide of EMA-MB91V460A-002B/-80/003 or EMA-MB91FV460B-001.

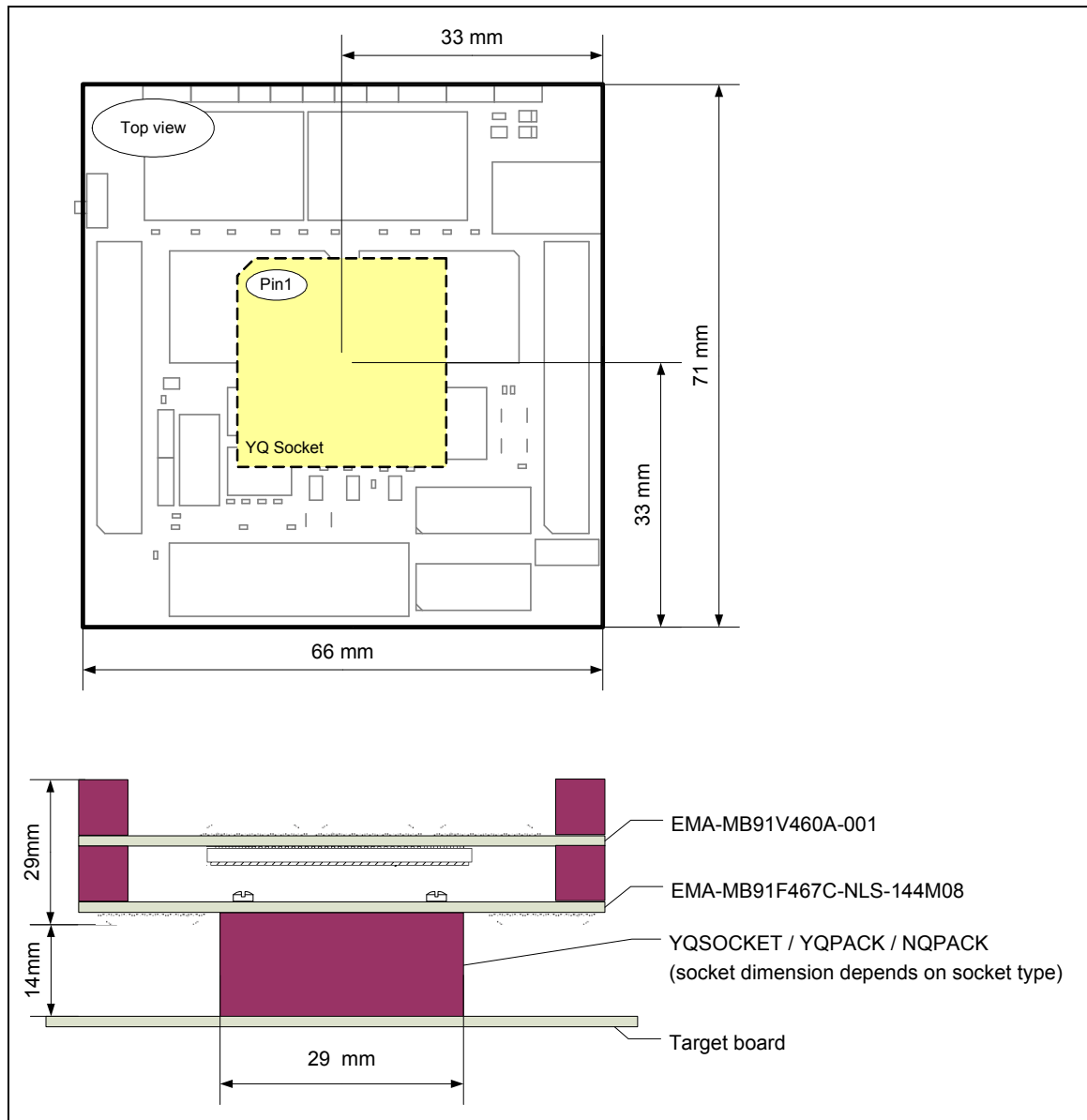
## 2 Installation

Remove carefully the EMA-MB91F467C-NLS-144M08 board from the shipping carton and check if there are any damages.

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



### 3 Mechanical dimensions



## 4 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://www.fme.gsdc.de/gsdc.htm>

Linear Products: Power Management, A/D and D/A Converters

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

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>



## 5 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  
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  
63225 Langen