Dear customer

LAPIS Semiconductor Co., Ltd. ("LAPIS Semiconductor"), on the 1st day of October, 2020, implemented the incorporation-type company split (shinsetsu-bunkatsu) in which LAPIS established a new company, LAPIS Technology Co., Ltd. (“LAPIS Technology”) and LAPIS Technology succeeded LAPIS Semiconductor’s LSI business.

Therefore, all references to "LAPIS Semiconductor Co., Ltd.", "LAPIS Semiconductor" and/or "LAPIS" in this document shall be replaced with "LAPIS Technology Co., Ltd."

Furthermore, there are no changes to the documents relating to our products other than the company name, the company trademark, logo, etc.

Thank you for your understanding.

LAPIS Technology Co., Ltd.
October 1, 2020

LAPIS SEMICONDUCTOR

FEXL7396_EVA_startguide-03

ML7396 Family LSI Evaluation Kit Start Guide

※ Please read first

Data: Feb 28, 2013

Introduction

Thank you very much for purchasing products of our company. Before using this product, please use correctly after reading this “start guide”. Moreover, please keep it carefully even after reading this. This start guide indicates enclosure attachment ant the connection method.

The manual shown in the following other than this document is prepared. Please check if needed.

ML7396 or ML7396A_B_E Datasheet
ML7396 Family LSI Design Guide
ML7396 Family LSI simple MAC User’s Manual

Notation

Classification	Notation	Description
● Numeric value	0x*nn*	Represents a hexadecimal number.
	0b*nnnn*	Represents a binary number.
● Address	0x*nnnn_nnnn*	Represents a hexadecimal number. (indicates 0xnnnnnnnn)
● Unit	word, W	1 word = 32 bits
	byte, B	1 byte = 8 bits
	Mega, M	10^6
	Kilo, K (uppercase)	2^{10}=1024
	Kilo, k (lowercase)	10^3=1000
	Milli, m	10^{-3}
	Micro, μ	10^{-6}
	Nano, n	10^{-9}
	Second, s (lowercase)	Second
● Term	"H" level	Signal level on the high voltage side; indicates the voltage level of V_{IH} and V_{OH} as defined in electrical characteristics.
	"L" level	Signal level on the low voltage side; indicates the voltage level of V_{IL} and V_{OL} as defined in electrical characteristics.

● Register description

Read/write attribute: R indicates read-enabled; W indicates write-enabled.
MSB: Most significant bit in an 8-bit register (memory)
LSB: Least significant bit in an 8-bit register (memory)

Table of Contents

1. Attention on the handling of this product

- This product is evaluation kit. It is available for evaluation only.
- Please use the application software of this product with the PC with which Japanese version Windows XP is installed.
- It will become infringement of copyright, if all or apart of software of this product is reproduced without permission of copyright or duplicate things are distributed.
- Any responsibility cannot be taken about reconstruction and illegal use of this product.
- If the example of a harmful electric wave interference should occur from this product, please change operating frequency promptly, or suspend the output of an electric wave, and perform disposal for interference evasion etc.
- The evaluation board at the time of shipment is set as the constant of the data rate of 200kbps or less, and a 920MHz band. When evaluated except this conditions, please use it after changing a constant with reference to a design guide.

2. Setup Flow

This is flow from check of contents of packing to an assembly

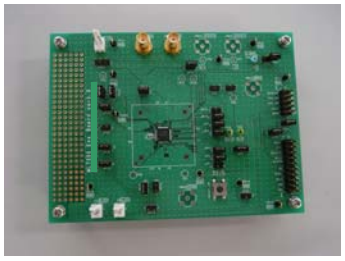
STEP 1
Check the contents of packing
STEP 2
Connect evaluation board and MCU board
STEP 3
Setup serial communication soft-ware

STEP1 Check the contents of packing

Please check when open the box and all the following articles are assembled first.
If it should run short or should have damaged, please inform a purchasing agency.

*1 CD-ROM and BNC cable are packed only when first time purchase. BNC cable is used when BER measurement.
*2 By shipment time, mounting parts etc may differ from a photograph in part.
*3 Please prepare a stabilized power supply, a RS-232C cable(straight), and serial communication software(TeraTerm).

□ ML7396 Evaluation Board…1



□ Rohm/Lapis Semiconductor MCU Board…1
(ML610Q482 Reference Board)

□ Power Supply Cable…1

□ CD-ROM…1
(First time purchase only)

□ BNC Cable…2
(First time purchase only)

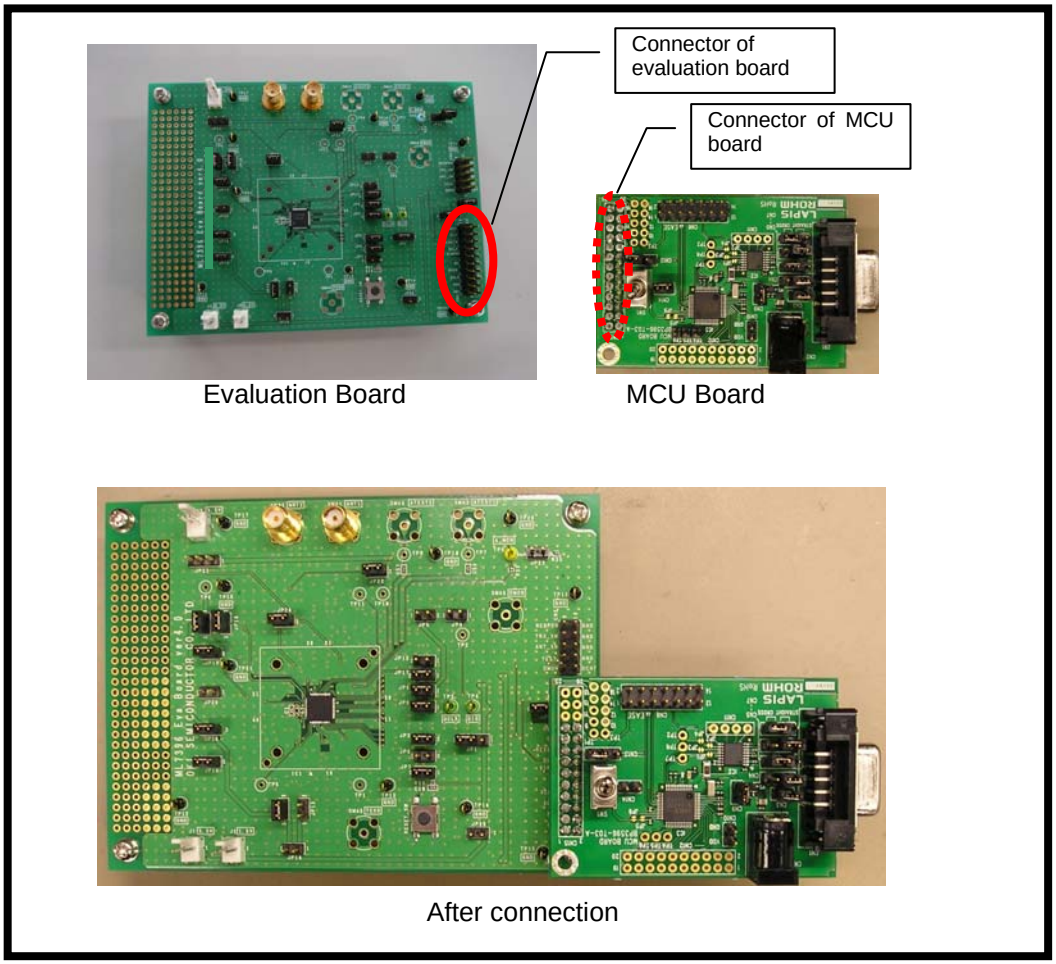
STEP2 Connect evaluation board and MCU board

This chapter explains the connection method of an evaluation board and a MCU board.

*1 When you connect each boar or you remove, please be sure to operate by power supply OFF state.

Please connect the connector of an evaluation board and a MCU board as shown in below figure.

*2 If a board is put aslant, there is risk of breakage of a connector.
*3 If it is made to fall where a MCU board is put in an evaluation board or a strong shock is given, there is risk of breakage of a connector. After use, please remove and keep an evaluation board from a MCU board.



Connect evaluation board and MCU board

STEP3 Setup serial communication software

This chapter explains the setup of serial communication software used for operation of an evaluation kit.

(Note) Tera Term(Freeware) is recommended as serial communication software.
The macro used by simple MAC is described by the macro language of Tera Term.
Please download before beginning this operation.

1. Install Tera Term to a PC which is used for evaluation.
2. Connect Evaluation board and MCU board.
3. Connect MCU board to a PC which Tera Term is installed by a RS-232C cable(Straight).
4. Start Tera Term.

   After start, the screen shown in Fig.1 is displayed.

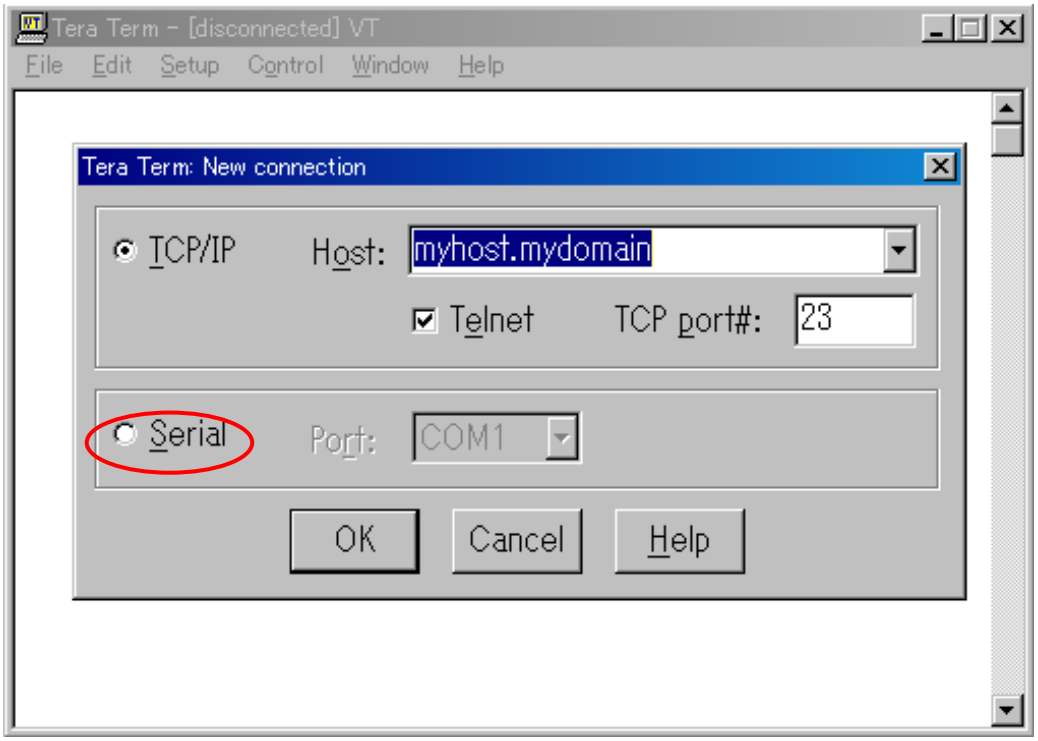


Fig.1 Tera Term start up screen

5. Select "**Serial**", and select COM port from "**Port:**" box.
6. After starting, select "**Setup**" Menu => "**Serial port…**", change setup into reference for Fig.2, and push the "OK" botton.

   Setting valu Baud Rate: 38400
   Data: 8 bit
   Parity: none
   Stop: 1 bit
   Flow Control: hardware

7. Select "**Setup**" Menu => "**Terminal…**", change setup into reference for Fig.2, and push the "OK" botton.

   Setting value New Line
   Recei ve: CR+LF
   Transmit: CR
   Local echo: Check ON

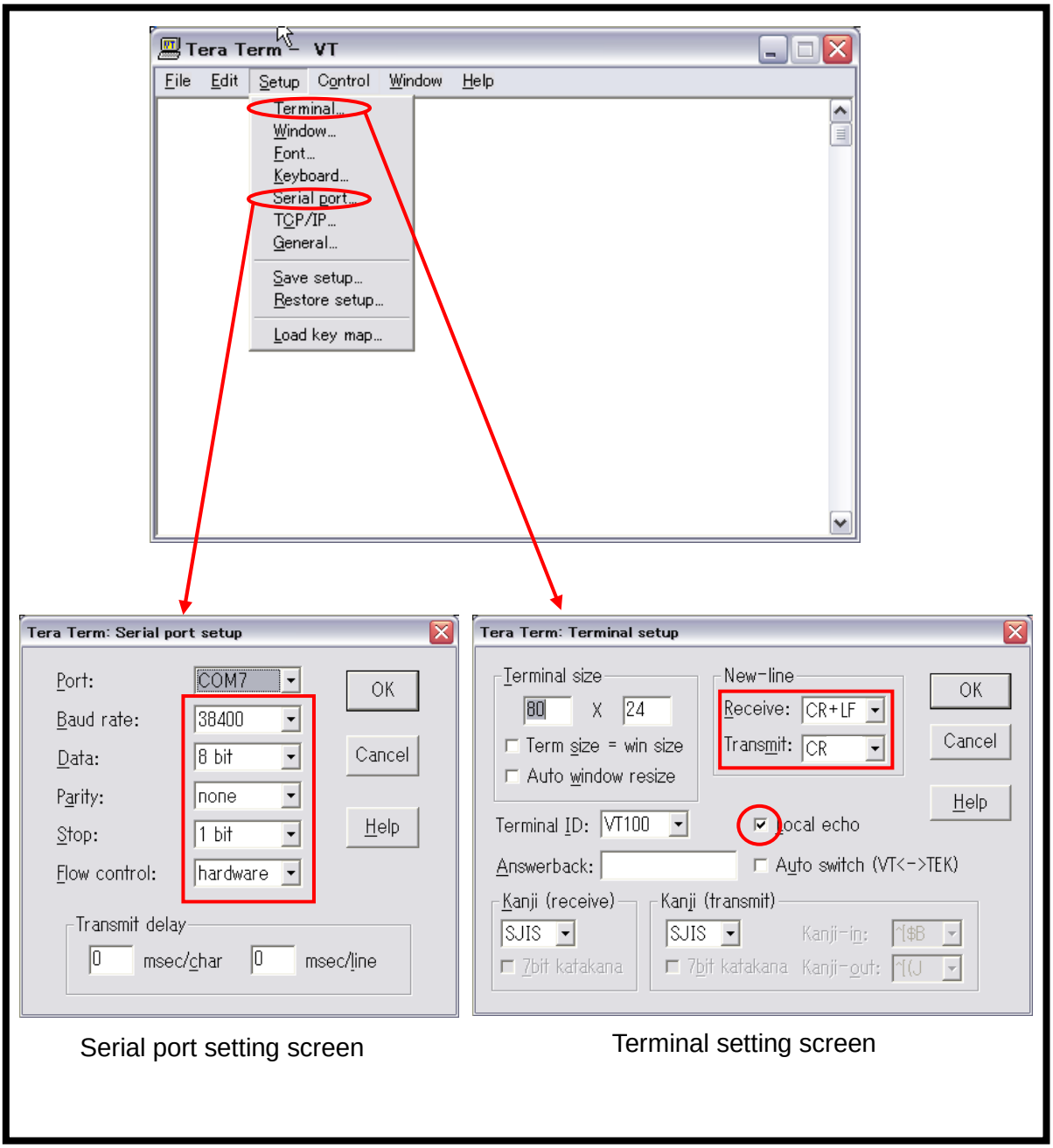


Fig.2 Tera Term communication setting

8. Turn on power supply of evaluation board.

9. Input “RREG 6C” from serial communication software.
   If “OK 88” is displayed as shown in Fig.3, connection is success.

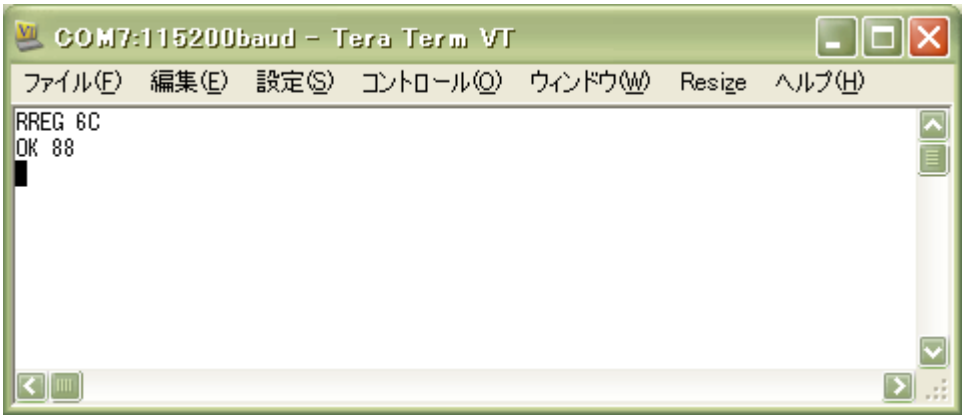


Fig.3 After input “RREG 6C”

Preparation of this product is completion above.

After this preparation, please carry out a communication test and check the connection state, and operating correctly, after referring to an attached simple MAC user’s manual.

REVISION HISTORY

Document No.	Date	Page		Description
		Previous Edition	Current Edition	
FEXL7396 EVA_ startguide-01	–	–	–	–
FEXL7396 EVA_ startguide-02	–	–	–	–
FEXL7396 EVA_ startguide-03	Feb 27, 2013	–	–	First edition

(Note) Corrections in spelling, improvements in the description are not included in the Revision history.

■NOTES

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