ML610Q102 Reference Board
User's Manual

Issue Date: Feb 20, 2013

NOTES

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ML610Q102 Reference board is prepared by LAPIS SEMICONDUCTOR to have you study the operations of ML610Q102.
The board is only minimum necessary components are mounted on the board by LAPIS SEMICONDUCTOR for brief use of ML610Q102.
By using the board with "uEASE on-chip debug emulator" (hereinafter referred to "uEASE") and "free sample U8 Development Tools CD-ROM" which is bundled in the package of uEASE not only Software development/debugging but also writing Flash ROM in the devices are capable.
This board also works in stand alone mode with external power suppy without uEASE.
Before starting works with this board, read below carefully and understand notices.

1. The board features

Supports flash ROM programming and on-chip debugging (using RESET_N and TEST pins)

2. The board hardware specifications

Please refer to the reference schematics for detail on connections of each hardware parts.

| Embedded microcontroller	U1: ML610Q102
Embedded parts	J1: Jumper for RESET_N switch（3pin pin-header and short pin）
	J2: Jumper for VDD switch（3pin pin-header and short pin）
	CNU1,2: Connector for Peripheral
	CNUE: Connector for on-chip debug emulator（14pin connector）
	C1 – C3: Capacitors for power supply
Operating voltage	+2.7V to +5.5V
Board size	30.00 x 40.00 mm

3. Parts layout
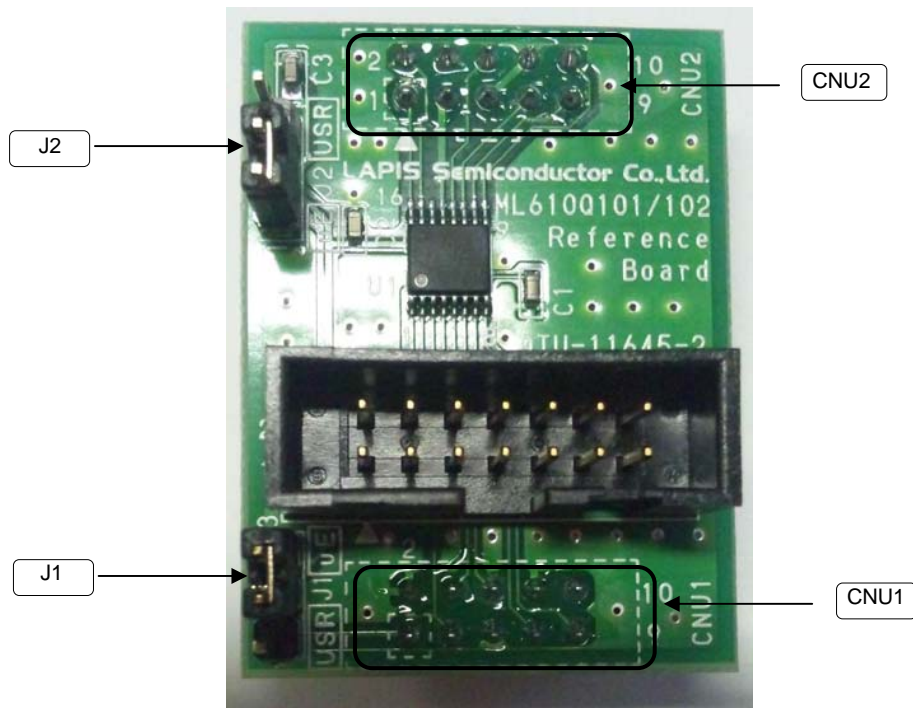
4. Notes on use

(1) The information contained herein can change without notice owing to product and/or technical improvements.
Before using the product, please make sure that the information being referred to is up-to-date.
(2) Before using this board, read carefully and understand the contents of the ML610Q102 user's manual and the uEASE user's manual.
(3) The engineering sample of ML610Q102 is mounted on the board.
Therefore, please confirm the characteristic finally by using MP of ML610Q102 and customer's mass production boards.
(4) When you use uEASE, please set J1 jumper to the uE side.
(5) When a power supply is given from the exterior, please be given by pin4 of CNU2 connector and set J2 jumper to the USR side.
(6) When you set J2 jumper to the USR side and uEASE is connected, please turn ON the power supply of a board before starting uEASE.
Moreover, please stop uEASE before turning off the power supply of a board.
(7) When J2 jumper is set to the uE side, the power supply capacity of uEASE. is +3.3V/100mA.
(8) This board has a conductivity pattern in the back, therefore it may short-circuits when it is used having put on the existing conductive component.
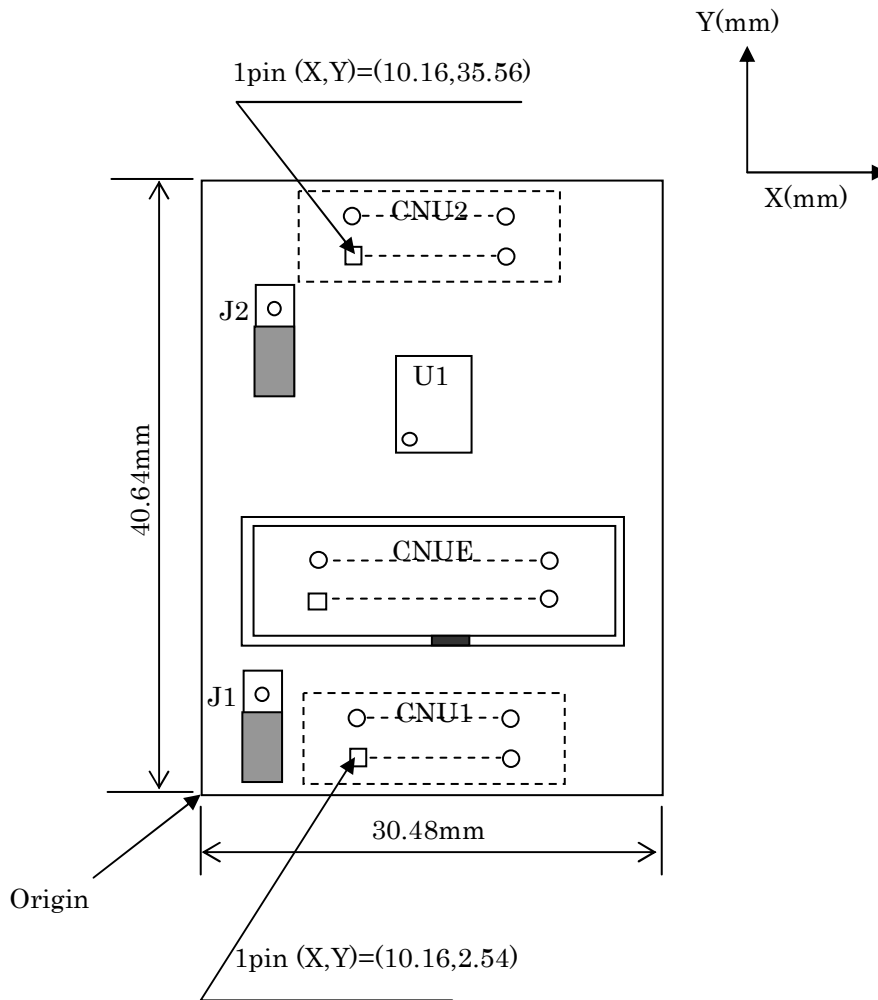
5. Reference schematic:

The reference schematic of this reference board is shown below.
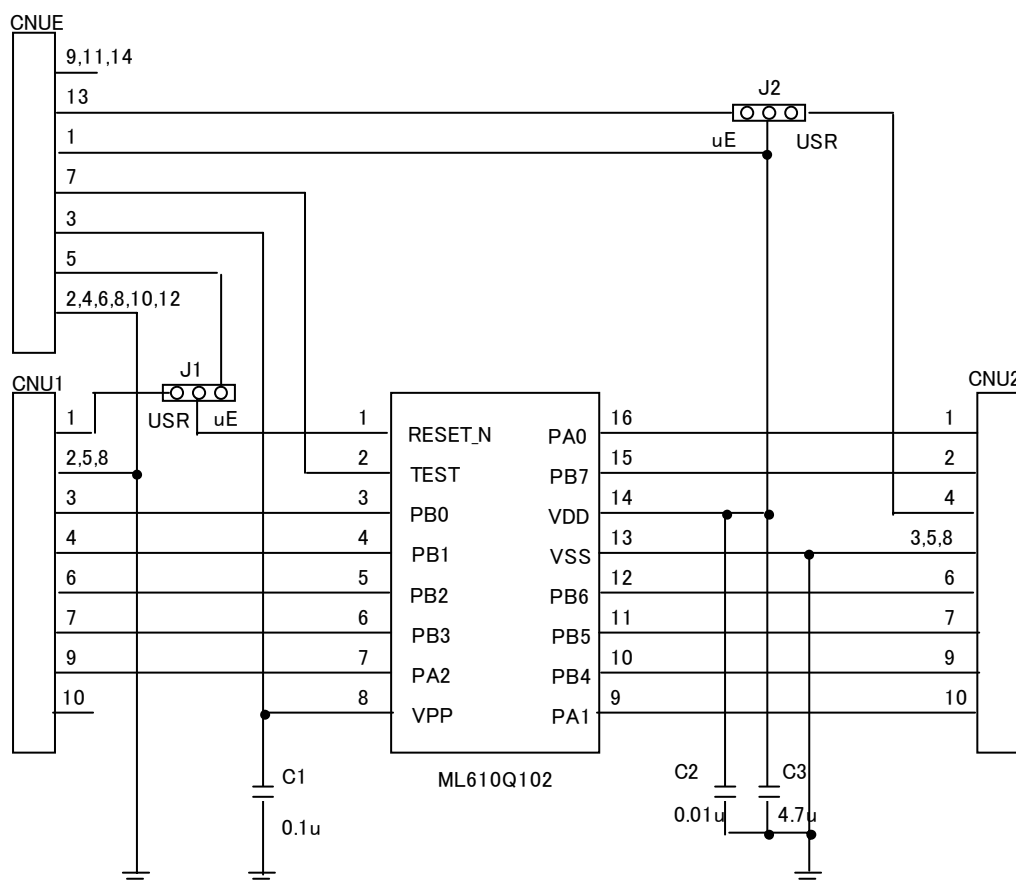
6. Reference dimensions

The reference dimentions of this reference board is shown below.