



# SOM-LV Mechanical Interface Specification

## White Paper 340

Logic Product Development  
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### REVISION HISTORY

REV	EDITOR	DESCRIPTION	APPROVAL	DATE
A	Jed Anderson	Release	ER	02/12/07
B	Jed Anderson	Specified J1 and J2 connectors on drawings; Introduced Type I and Type II distinctions, added Section 2; Added connector height information	JCA	08/23/07

# 1 Introduction

This White Paper serves as a guideline for designing a custom baseboard that can accommodate the Logic SOM-LV module form factor.

## 2 SOM-LV Types

The SOM-LV form factor is comprised of two subsets based upon the physical size of the module: Type I and Type II (Type I being the larger of the two). Both the SOM-LV Type I and Type II form factors utilize the same expansion connectors and pin-out scheme.

### 2.1 Comparison of Type I and Type II

	SOM-LV Type I	SOM-LV Type II
<b>Width</b>	59.1 mm	50.8 mm
<b>Length</b>	76.2 mm	76.2 mm
<b>Height</b>	7.9 mm	7.9 mm
<b>Connectors</b>	BTH-120-01-L-D-A	BTH-120-01-L-D-A

## 3 Mechanical Specifications

### 3.1 Interface Connectors

The SOM-LV module connects to a Printed Circuit Board (PCB) through two 240-pin board-to-board (BTB) connectors (J1 and J2). The connector height is 4.064 mm and the height when mated with the baseboard connector is 5.001 mm; both measurements are according to the manufacturer's device specifications.

#### Important Notes:

1. Do not place any baseboard components within the area beneath the connected SOM-LV module. Some components on the SOM-LV take advantage of the full mating height and their locations are subject to change as the board is revised. If the baseboard design requires components to be placed beneath the module, contact Logic Product Development for assistance.

Ref Designator	Manufacturer	SOM-LV Connector PN	Mating Connector PN
J1, J2	Samtec	BTH-120-01-L-D-A	BTH-120-01-L-D-A

### 3.2 SOM-LV Mechanical Drawings

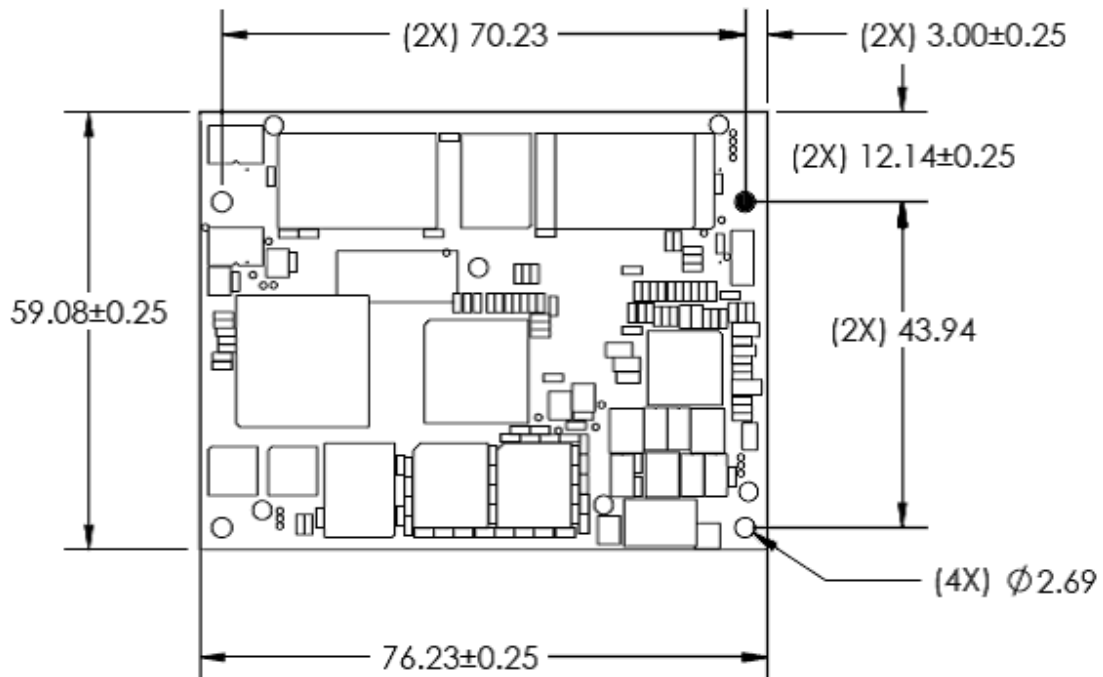
The SOM-LV form factor exists in two different sizes: Type I and Type II. Both Types use the same expansion connectors and have the same length and height. Provided the baseboard design takes into consideration locations for the mounting holes on both Types, there should be no repercussions to substituting one Type for the other.

#### 3.2.1 SOM-LV Type I Mechanical Drawings

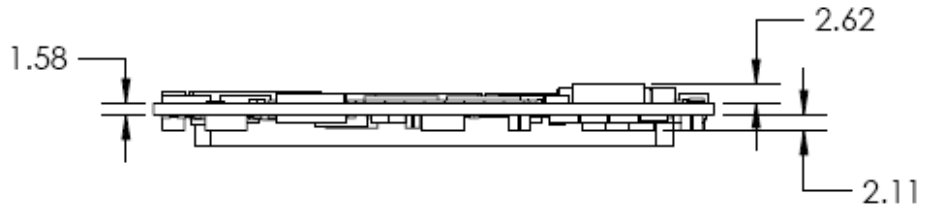
The SOM-LV Type I form factor is used on the standard i.MX31 SOM-LV product.

**Notes:**

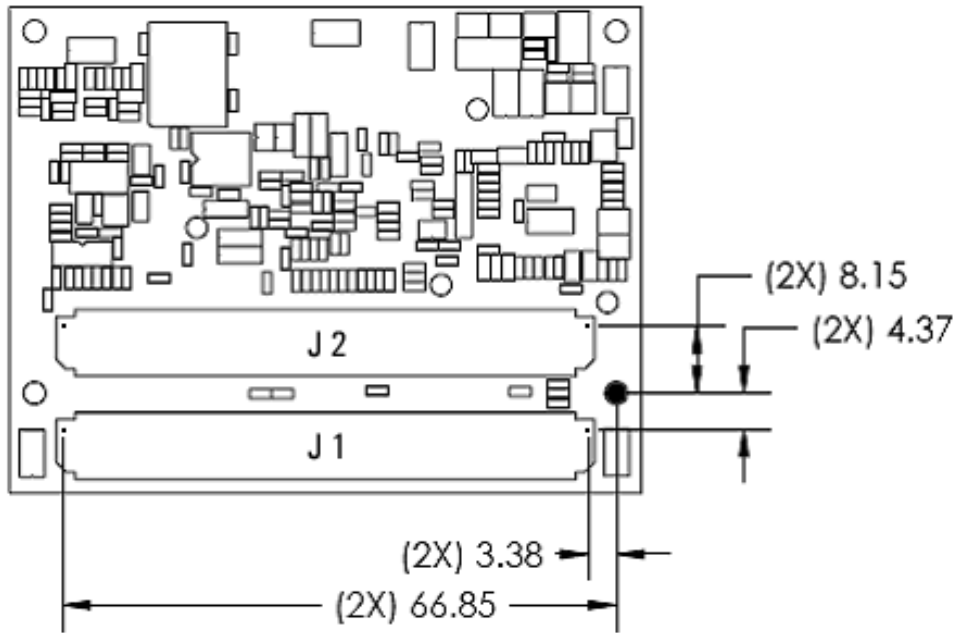
1. All measurements are in mm.
2. All hole dimensions have a  $\pm 0.01$  mm tolerance.
3. Maximum component height on bottom of board is 3.8 mm.
4. Point of origin is the mounting hole filled in with a solid color.
5. Connector measurements point to connector alignment holes.



**Figure 3.1: SOM-LV Type I Top View**



**Figure 3.2:: SOM-LV Type I Side View**



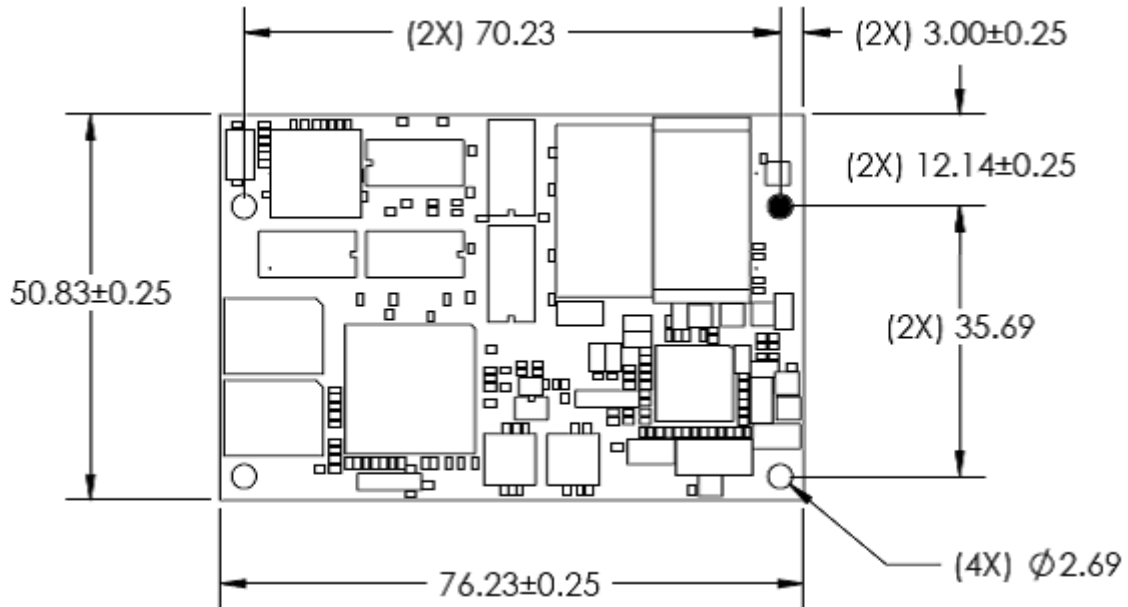
**Figure 3.3: SOM-LV Type II Bottom View**

### 3.2.2 SOM-LV Type II Mechanical Drawings

The SOM-LV Type II form factor is used on the standard i.MX27 SOM-LV product.

#### Notes:

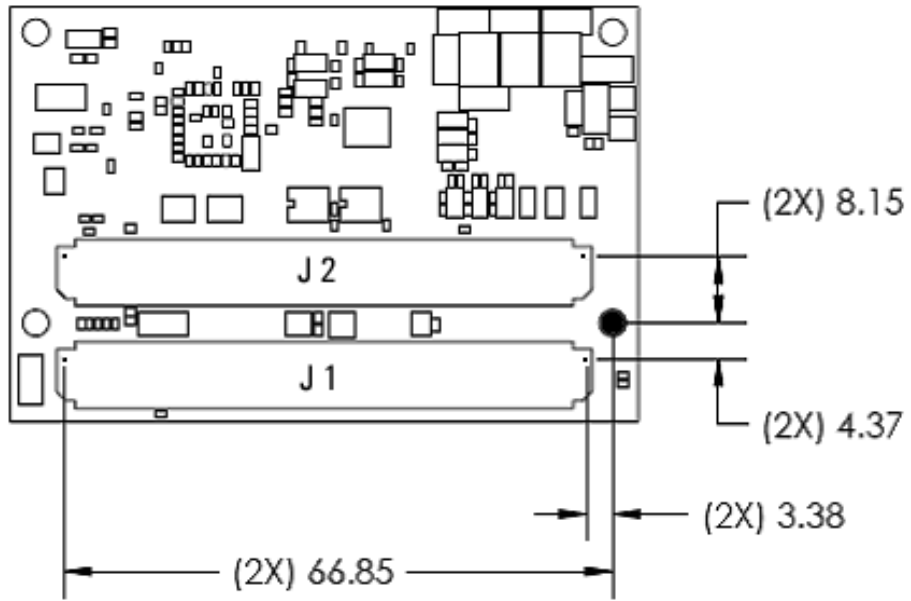
1. All measurements are in mm.
2. All hole dimensions have a  $\pm 0.01$  mm tolerance.
3. Maximum component height on bottom of board is 3.8 mm.
4. Point of origin is the mounting hole filled in with a solid color.
5. Connector measurements point to connector alignment holes.



**Figure 3.4: SOM-LV Type II Top View**



**Figure 3.5: SOM-LV Type II Side View**



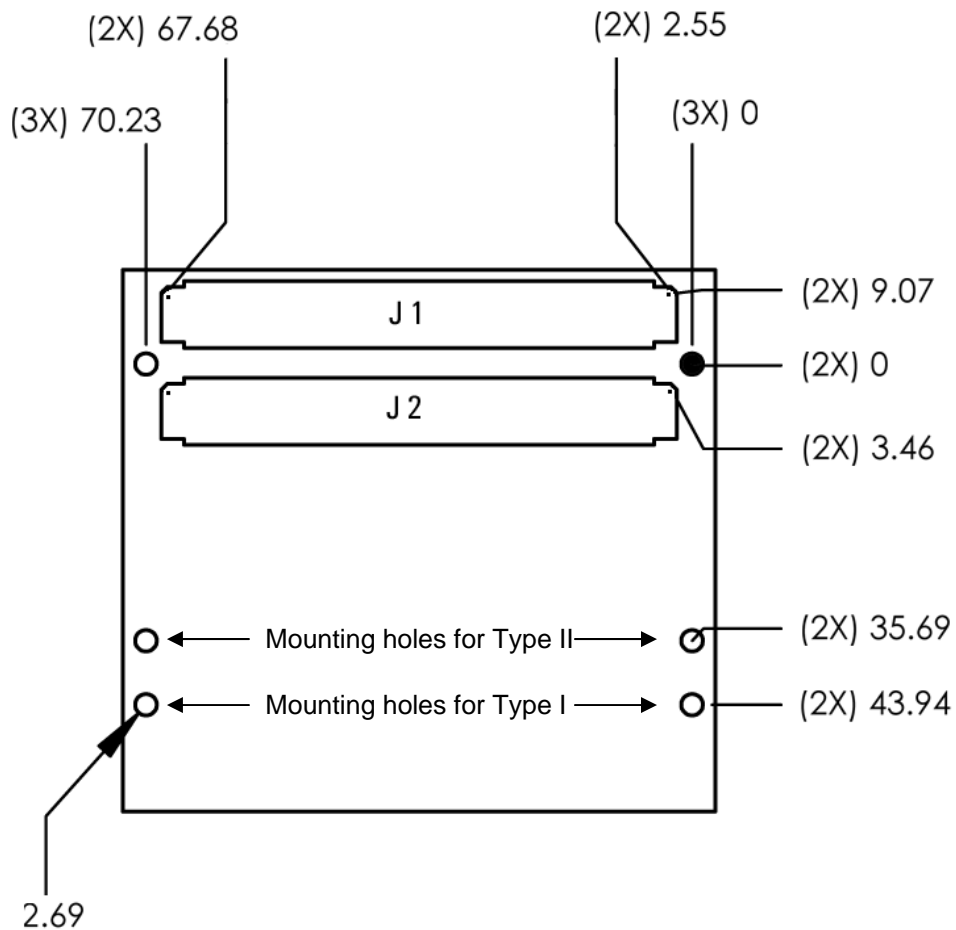
**Figure 3.6: SOM-LV Type II Bottom View**

### 3.2.3 Recommended Baseboard PCB Layout

The baseboard footprint below demonstrates how a design can accommodate both the SOM-LV Type I and Type II form factors by providing mounting holes for both sizes.

#### Notes:

1. All measurements are in mm.
2. All hole dimensions have a  $\pm 0.01$  mm tolerance.
3. Within the layout area of the SOM-LV, the maximum component height on the application baseboard is 1.0 mm.
4. Point of origin is the mounting hole filled in with a solid color.
5. Connector measurements point to connector alignment holes.



**Figure 3.7: Baseboard Footprint for the SOM-LV**