This user’s guide contains support documentation for the 5-8-Logic Evaluation Module (EVM). Included is a description of how to set up and configure the EVM, the printed circuit board (PCB) layout, and the bill of materials (BOM) of the 5-8-Logic-EVM.

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1 Introduction
The 5-8-Logic-EVM is a generic EVM developed to support leaded Logic devices in the DBV, DCK, DCT, DCU, and DRL packages. This EVM can be used to evaluate any device in the package family and pin counts described in Table 1. The PCB can be broken down into six sections with each section supporting certain packages indicated on the board. This EVM allows the user to have a great amount of flexibility when evaluating leaded Logic devices.

<table>
<thead>
<tr>
<th>TI Package Name</th>
<th>Package Family</th>
<th># of Pins</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCK</td>
<td>SC–70</td>
<td>5, 6</td>
</tr>
<tr>
<td>DBV</td>
<td>SOT–23</td>
<td>5, 6</td>
</tr>
<tr>
<td>DCU</td>
<td>VSSOP</td>
<td>8</td>
</tr>
<tr>
<td>DCT</td>
<td>SSOP</td>
<td>8</td>
</tr>
<tr>
<td>DRL</td>
<td>SOT-5X3</td>
<td>5, 6, 8</td>
</tr>
</tbody>
</table>
1.1 **Kit Contents**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-8-Logic-EVM</td>
<td>PCB</td>
<td>1</td>
</tr>
<tr>
<td>Headers</td>
<td>4 position, 100-mil (2.54 mm), thru-hole</td>
<td>12</td>
</tr>
<tr>
<td>Red Test Points</td>
<td>Miniature, thru-hole, red test point</td>
<td>2</td>
</tr>
<tr>
<td>Black Test Points</td>
<td>Miniature, thru-hole, red test point</td>
<td>2</td>
</tr>
</tbody>
</table>

1.2 **Features**

The 5-8-Logic-EVM has the following features:

- Multiple package support
- Breadboard compatible
- Easy-to-use / Flexible evaluation
- Support for both single supply and dual supply devices
- Small form factor for system integration
2 Hardware

2.1 PCB Overview

The 5-8-Logic-EVM PCB is designed to be straightforward for new users to begin evaluating leaded Logic devices. This section will highlight a few aspects of the PCB that are helpful to the user.

• Board breakable into smaller sections with the inclusion of v-scored grooves
• Each section has headers connected to device pins, \( V_{CCA}, V_{CCB}, \) and GND
• Designated supply inputs with included thru-hole test points
• Bypass capacitor footprints included for device supplies
• Option for single supply or dual supply evaluation with easy configuration
2.2 Hardware Setup

This section will cover the six steps to take when evaluating a leaded Logic device using this EVM.

1. Identify the package you will be using for the device being evaluated. As stated previously, this EVM has six sections each of which contains a footprint in which a logic device can be placed. Break off the selected section (optional).

2. Solder down the device. Some sections support multiple packages so carefully solder down the device to make sure it is aligned properly. Figure 2 illustrates an example of proper placement.

![Figure 2. 5-pin DCK Placement](image)

3. Ensure EVM is configured accordingly for dual supply or single supply device. EVM comes default configured for dual supply devices, but is easily configured using a 0-Ω resistor for single supply devices. Figure 3 illustrates how this is done.

![Figure 3. Single Supply Configuration](image)
4. Interface with device pins. The kit includes twelve 4-pin headers and four supply test points which will allow the user to fully populate two sections. An example of this, with the addition of bypass capacitors for the supplies, can be seen in Figure 4.

![Figure 4. Fully Populated Section](image)

5. Before applying power to the EVM, ensure the proper supply configuration is in place to avoid shorting two supplies together.

3 Board Layout

![Figure 5. 5-8-Logic-EVM Layout Top View](image) ![Figure 6. 5-8-Logic-EVM Layout Bottom View](image)
4 Bill of Materials

This section provides information on the components that can be used with the 5-8-Logic-EVM. Other components can be used as long as they are able to fit the provided plated holes and pads.

Table 3. Bill of Materials

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Package Reference</th>
<th>Part Number</th>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bypass Capacitor</td>
<td>CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, 0603</td>
<td>0603</td>
<td>C1608X7R1E104K080AA</td>
<td>TDK</td>
</tr>
<tr>
<td>Header</td>
<td>Header, 100mil, 4x1, Tin, TH</td>
<td></td>
<td>PEC04SAAN</td>
<td>Sullins Connector Solutions</td>
</tr>
<tr>
<td>Red Test Point</td>
<td>Test Point, Miniature, Red, TH</td>
<td>Red Miniature Testpoint</td>
<td>5000</td>
<td>Keystone</td>
</tr>
<tr>
<td>Black Test Point</td>
<td>Test Point, Miniature, Black, TH</td>
<td>Black Miniature Testpoint</td>
<td>5001</td>
<td>Keystone</td>
</tr>
</tbody>
</table>
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