**xWR1642BOOST-ODS**

**TABLE OF CONTENTS**

<table>
<thead>
<tr>
<th>SHEET NO.</th>
<th>SHEET NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PROC049B_COVERSHEET</td>
</tr>
<tr>
<td>2</td>
<td>PROC049B_DUT</td>
</tr>
<tr>
<td>3</td>
<td>PROC049B_Decoupling caps</td>
</tr>
<tr>
<td>4</td>
<td>PROC049B_LDO_01 (1.8V Output)</td>
</tr>
<tr>
<td>5</td>
<td>PROC049B_LDO_02 (1.3V Output)</td>
</tr>
<tr>
<td>6</td>
<td>PROC049B_VPP_Supply</td>
</tr>
<tr>
<td>7</td>
<td>PROC049B_Pwr_RST_LEDs</td>
</tr>
<tr>
<td>8</td>
<td>PROC049B_PMIC</td>
</tr>
<tr>
<td>9</td>
<td>PROC049B_QSPI flash section</td>
</tr>
<tr>
<td>10</td>
<td>PROC049B_LPConnector</td>
</tr>
<tr>
<td>11</td>
<td>PROC049B_HDConnector</td>
</tr>
<tr>
<td>12</td>
<td>PROC049B_XDS110Interface_1A</td>
</tr>
<tr>
<td>13</td>
<td>PROC049B_XDS110Interface_1B</td>
</tr>
<tr>
<td>14</td>
<td>PROC049B_CANInterface</td>
</tr>
<tr>
<td>15</td>
<td>PROC049B_SOPselection</td>
</tr>
<tr>
<td>16</td>
<td>PROC049B_Tempsensor</td>
</tr>
<tr>
<td>17</td>
<td>PROC049B_Hardware</td>
</tr>
</tbody>
</table>

---

**BLOCK DIAGRAM**

- 5V ip from jack/MCU
- UART & JTAG
- RX and 2 TX PCl2 antennae
- Power and 2 SPI, LED indicators.
- 3.3V (IO)
- 1.8V
- 1.2V
- 2.7V
- 1.7V
- UART LED
- LDO
- LDO
- Serial flash part number updated to MX25V1635FZNQ
- Added series resisters on I2C lines.
- Enabled by default the 5V supply from the 60pin HD connector.
- Enabled by default the SYNC_IN signal connection to J6 connector.
- Removed the series diode on the NRST signal.
- Added Variant 002, U2, PCB Label, revised AWR1642 to xWR1642

---

**Revision History**

<table>
<thead>
<tr>
<th>Rev</th>
<th>ECN #</th>
<th>Approved Date</th>
<th>Approved by</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>1</td>
<td>22/01/2018</td>
<td>Vivek Dham</td>
<td>ADDED SWITCH CONTROL TO MOVE between SPI and CAN interface</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
<td>22/01/2018</td>
<td>Vivek Dham</td>
<td>Enabled by default the 5V supply from the 60pin HD connector</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
<td>22/01/2018</td>
<td>Vivek Dham</td>
<td>Enabled by default the UART, LED signal connection to J6 connector</td>
</tr>
<tr>
<td>B</td>
<td>4</td>
<td>22/01/2018</td>
<td>Vivek Dham</td>
<td>Serial flash part number updated to MX25V1635FZNQ</td>
</tr>
<tr>
<td>B</td>
<td>5</td>
<td>22/01/2018</td>
<td>Vivek Dham</td>
<td>Added series resisters on I2C lines</td>
</tr>
<tr>
<td>B</td>
<td>6</td>
<td>13/02/2018</td>
<td>Vivek Dham</td>
<td>Removed the series diode on the NRST signal</td>
</tr>
<tr>
<td>B</td>
<td>7</td>
<td>23/02/2018</td>
<td>J Quintal</td>
<td>added Variant 002, U2, PCB Label, revised AWR1642 to xWR1642</td>
</tr>
</tbody>
</table>

---

Note: Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that the design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

---

http://www.ti.com/support
SUPPLY_DECOUPLING_CAPS

OPTIONS FOR INTERNAL DEBUG ONLY

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that the design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.
LDO_01 (1.8V OUTPUT)

Diagram of the LDO_01 (1.8V Output) circuit with components labeled.
Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that the design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.
BP/LP CONNECTOR

ANALOG SIGNALS

Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.
HD CONNECTOR FOR LVDS/CSI AND JTAG

Texas Instruments

Contact:

Engineer:

Drawn By:

SVN Rev:

Number:

Assembly Variant:

Sheet:

Sheet Title:

Mod. Date:

Size:

Designed for:

Proc049

http://www.ti.com/support
By default the XDS supply is disabled.

Gets enabled only once the PMIC is powered up.
XDS110(2/2)

---

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors shall have no liability for any such use.
ONBOARD TEMP SENSORS

DEFAULT I2C ADDRESS 0X49
AND MMWAVE DEVICE
TEMP SENSOR AWAY FROM PMIC

DEFAULT I2C ADDRESS 0X48
TEMP SENSOR CLOSE TO PMIC
## Variant/Label Table

<table>
<thead>
<tr>
<th>Variant</th>
<th>Label Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>AWR1642BOOST-ODS</td>
</tr>
<tr>
<td>002</td>
<td>IWR1642BOOST-ODS</td>
</tr>
</tbody>
</table>

### Assembly Notes

- **ZZ1**: Insert Assembly Notes for PCB labels only
- **ZZ2**: Important Note: For assemblies that are ESD sensitive, ESD precautions shall be observed.
- **ZZ3**: Important Note: Components must be clean and free from flux and all contaminants. Use of no-clean flux is not acceptable.
- **ZZ4**: Important Note: These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.
- **ZZ5**: Important Note: PCB Jumper, brackets, screws, nuts, and bump on need to be placed in a plastic bag.
IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES “AS IS” AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI’s products are provided subject to TI’s Terms of Sale (www.ti.com/legal/termsofsale.html) or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI’s provision of these resources does not expand or otherwise alter TI’s applicable warranties or warranty disclaimers for TI products.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2018, Texas Instruments Incorporated