###### **MTX-HSMC-160-ADAPTER**

###### **High Speed Mezzanine**

###### **Connector**

###### **Adapter Board**

###### Rev 2

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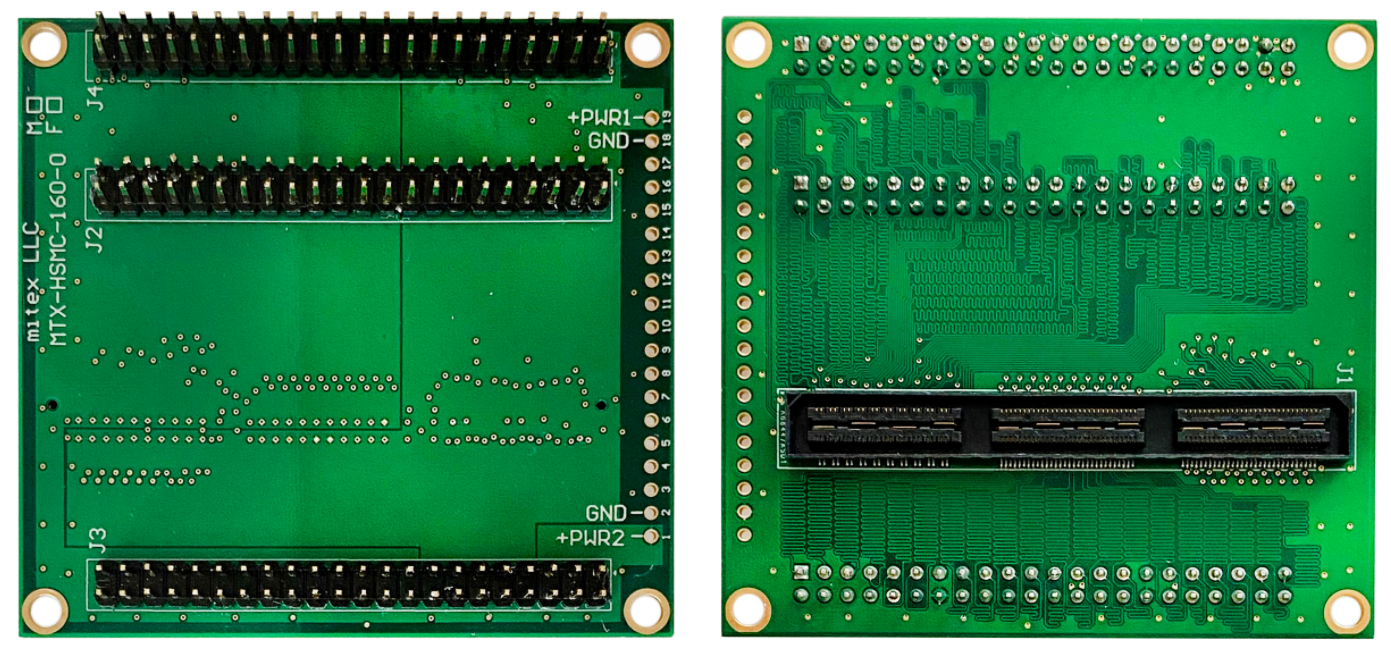
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# Overview

The MTX-HSMC-160-ADAPTER is designed to convert its High-Speed Mezzanine connector I/O from 160 pins to three 44 pins, which results in 2 rows measured 0.1” (2.54mm).



**Figure 1. MTX-HSMC-160-ADAPTER** **board top and back side view. Female version.**

# Key specifications

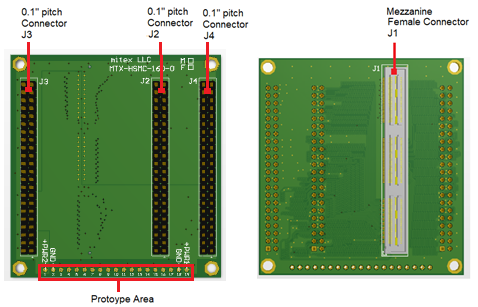
* Uses three standard, two-row, 44-pin headers
* Each header is dedicated to one of the three banks of the HSMC
* Headers have a pitch of 2.54 mm (0.1 in)
* Equally sized data traces ensure optimal signal integrity
* Prototyping area with plated holes for creating small circuits when debugging hardware
* Dimensions: 7.3 x 6.8 x 1.3 cm

# Targeted application

Any application that requires a bridging between an HSMC interface to the standard 0.1” pitch connector.

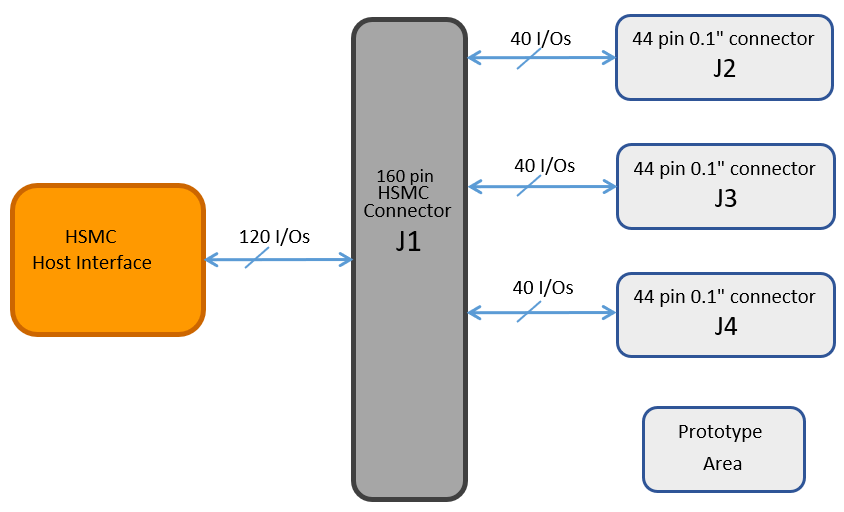
# Architecture

Figure 2 depicts the layout of the board and indicates the locations of the connectors.



**Figure 2. MTX-HSMC-160-0** **top and back side of female version**

Figure 3 shows the block diagram of the MTX-HSMC-160-ADAPTER board.

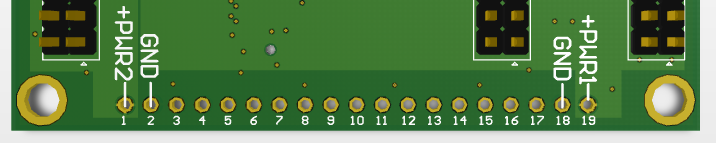


**Figure 3. MTX-HSMC-160-0** **block diagram**

# Protype area

Figure 4 shows the prototype area’s detailed view of the

MTX-HSMC-160-ADAPTER board. Its holes are plated with a diameter measured 1mm.



**Figure 4. MTX-HSMC-160-ADAPTER** **protype area**

Each area’s holes have connections as follows:

Hole 1: +PWR2

Hole 2: GND

Holes 3-17: no connections

Hole 18: GND

Hole 19: +PWR1

# Connection Tables

Table 1 contains the Bank 1 connection information of the signals and power/ground mechanisms found in the HSMC and 0.1” pitch connectors of the

MTX-HSMC-160-ADAPTER board.

**Table 1. Bank 1 connections**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **HSMC connector**  **J1** | **Connector**  **J2** | **HSMC connector**  **J1** | **Connector**  **J2** | **Power/Gnd** | **HSMC connector**  **J1** | **Connector**  **J2** |
| 1 | 1 | 21 | 23 | +PWR1 |  | 13 |
| 2 | 2 | 22 | 24 | +PWR2 |  | 31 |
| 3 | 3 | 23 | 25 | Gnd | 161 | 14 |
| 4 | 4 | 24 | 26 | Gnd | 162 | 32 |
| 5 | 5 | 25 | 27 | Gnd | 163 |  |
| 6 | 6 | 26 | 28 | Gnd | 164 |  |
| 7 | 7 | 27 | 29 |  |  |  |
| 8 | 8 | 28 | 30 |  |  |  |
| 9 | 9 | 29 | 33 |  |  |  |
| 10 | 10 | 30 | 34 |  |  |  |
| 11 | 11 | 31 | 35 |  |  |  |
| 12 | 12 | 32 | 36 |  |  |  |
| 13 | 15 | 33 | 37 |  |  |  |
| 14 | 16 | 34 | 38 |  |  |  |
| 15 | 17 | 35 | 39 |  |  |  |
| 16 | 18 | 36 | 40 |  |  |  |
| 17 | 19 | 37 | 41 |  |  |  |
| 18 | 20 | 38 | 42 |  |  |  |
| 19 | 21 | 39 | 43 |  |  |  |
| 20 | 22 | 40 | 44 |  |  |  |

Table 2 contains the Bank 2 connection information of the signals and power/ground mechanisms found in the HSMC and 0.1” pitch connectors of the

MTX-HSMC-160-ADAPTER board.

**Table 2. Bank 2 connections**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **HSMC connector**  **J1** | **Connector**  **J3** | **HSMC connector**  **J1** | **Connector**  **J3** | **Power/Gnd** | **HSMC connector**  **J1** | **Connector**  **J3** |
| 41 | 1 | 77 | 27 | +PWR1 | 45 | 13 |
| 42 | 2 | 78 | 28 | +PWR1 | 51 |  |
| 43 | 3 | 79 | 29 | +PWR1 | 57 |  |
| 44 | 4 | 80 | 30 | +PWR1 | 63 |  |
| 47 | 5 | 83 | 33 | +PWR1 | 69 |  |
| 48 | 6 | 84 | 34 | +PWR1 | 75 |  |
| 49 | 7 | 85 | 35 | +PWR1 | 81 |  |
| 50 | 8 | 86 | 36 | +PWR1 | 87 |  |
| 53 | 9 | 89 | 37 | +PWR1 | 93 |  |
| 54 | 10 | 90 | 38 | +PWR1 | 99 |  |
| 55 | 11 | 91 | 39 | +PWR2 | 46 | 31 |
| 56 | 12 | 92 | 40 | +PWR2 | 52 |  |
| 59 | 15 | 95 | 41 | +PWR2 | 58 |  |
| 60 | 16 | 96 | 42 | +PWR2 | 64 |  |
| 61 | 17 | 97 | 43 | +PWR2 | 70 |  |
| 62 | 18 | 98 | 44 | +PWR2 | 76 |  |
| 65 | 19 |  |  | +PWR2 | 82 |  |
| 66 | 20 |  |  | +PWR2 | 88 |  |
| 67 | 21 |  |  | +PWR2 | 94 |  |
| 68 | 22 |  |  | +PWR2 | 100 |  |
| 71 | 23 |  |  | Gnd | 165 | 14 |
| 72 | 24 |  |  | Gnd | 166 | 32 |
| 73 | 25 |  |  | Gnd | 167 |  |
| 74 | 26 |  |  | Gnd | 168 |  |

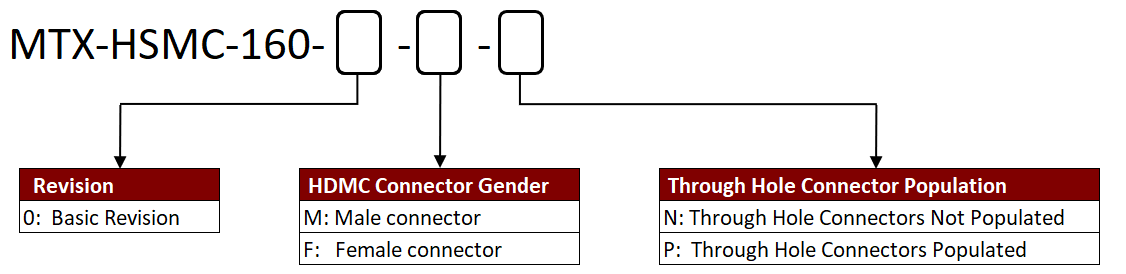
Table 3 contains the Bank 3 connection information of the signals and power/ground mechanisms found in the HSMC and 0.1” pitch connectors of the

MTX-HSMC-160-ADAPTER board.

**Table 3. Bank 3 connections**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **HSMC connector**  **J1** | **Connector**  **J4** | **HSMC connector**  **J1** | **Connector**  **J4** | **Power/Gnd** | **HSMC connector**  **J1** | **Connector**  **J4** |
| 101 | 1 | 137 | 27 | +PWR1 | 105 | 13 |
| 102 | 2 | 138 | 28 | +PWR1 | 111 |  |
| 103 | 3 | 139 | 29 | +PWR1 | 117 |  |
| 104 | 4 | 140 | 30 | +PWR1 | 123 |  |
| 107 | 5 | 143 | 33 | +PWR1 | 129 |  |
| 108 | 6 | 144 | 34 | +PWR1 | 135 |  |
| 109 | 7 | 145 | 35 | +PWR1 | 141 |  |
| 110 | 8 | 146 | 36 | +PWR1 | 147 |  |
| 113 | 9 | 149 | 37 | +PWR1 | 153 |  |
| 114 | 10 | 150 | 38 | +PWR1 | 159 |  |
| 115 | 11 | 151 | 39 | +PWR2 | 106 | 31 |
| 116 | 12 | 152 | 40 | +PWR2 | 112 |  |
| 119 | 15 | 155 | 41 | +PWR2 | 118 |  |
| 120 | 16 | 156 | 42 | +PWR2 | 124 |  |
| 121 | 17 | 157 | 43 | +PWR2 | 130 |  |
| 122 | 18 | 158 | 44 | +PWR2 | 136 |  |
| 125 | 19 |  |  | +PWR2 | 142 |  |
| 126 | 20 |  |  | +PWR2 | 148 |  |
| 127 | 21 |  |  | +PWR2 | 154 |  |
| 128 | 22 |  |  | +PWR2 | 160 |  |
| 131 | 23 |  |  | Gnd | 169 | 14 |
| 132 | 24 |  |  | Gnd | 170 | 32 |
| 133 | 25 |  |  | Gnd | 171 |  |
| 134 | 26 |  |  | Gnd | 172 |  |

# Ordering information



# Revision history

|  |  |  |
| --- | --- | --- |
| **Date** | **Version** | **Revision** |
| 7/22/2020 | 0 | Original revision |
| 11/25/2020 | 1 | 1.The product name changed to HSMC-160-ADAPTER.  2. EU market compliance notes added to the Disclaimer section. |
| 1/28/2021 | 1 | 1.The product name changed to MTX-HSMC-160-ADAPTER.  2. EU market compliance notes added to the Disclaimer section. |
|  |  |  |

# Disclaimer

We expressly disclaim any liability arising out of the application or use of the MTX-HSMC-160-ADAPTER. We reserve the right to make changes, at any time, to the HSMC-160-0 as deemed desirable in the sole discretion of ours. We assume no obligation to correct any errors contained herein or to advise you of any correction if such be made. We will not assume any liability for the accuracy or correctness of any engineering or technical support or assistance provided to you in connection with the MTX-HSMC-160-ADAPTER.

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The MTX-HSMC-160-ADAPTER is not designed or intended for use in the development of on-line control equipment in hazardous environments requiring fail-safe controls, such as in the operation of nuclear facilities, aircraft navigation or communications systems, air traffic control, life support, or weapons systems (“High-Risk Applications”). We specifically disclaim any express or implied warranties of fitness for such High-Risk Applications. You represent that use of the

MTX-HSMC-160-ADAPTER in such High-Risk Applications is fully at your risk.

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mitex LLC to be a finished end-product fit for general consumer use. Persons handling the product must have electronics training and observe good engineering practice standards. The MTX-HSMC-160-ADAPTER board does not fall within the scope of the European Union directives regarding electromagnetic compatibility, restricted substances (RoHS), recycling (WEEE), FCC, CE or UL, and therefore may not meet the technical requirements of these directives or other related directives.