# Message definition

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## BoardAvailable

The BoardAvailable message is sent to the downstream machine to indicate the readiness of the upstream machine to handover a PCB. When an optional attribute is received from an upstream machine, then it must be passed on (possibly altered) to the next downstream machine.

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| --- | --- | --- | --- | --- |
| **BoardAvailable** | **Type** | **Range** | **Optional** | **Description** |
| BoardId | string | GUID | no | Indicating the ID of the available board |
| BoardIdCreatedBy | string | non-empty string | no | MachineId of the machine which created the BoardId (the first machine in a consecutive row of machines implementing this protocol). The MachineId is part of the Hermes configuration. |
| FailedBoard | int | 0 .. 2 | no | A value of the list below |
| ProductTypeId | string | any string | yes | Identifies a collection of PCBs sharing common properties |
| FlippedBoard | int | 0 .. 2 | no | A value of the list below |
| TopBarcode | string | any string | yes | The barcode of the top side of the PCB |
| BottomBarcode | string | any string | yes | The barcode of the bottom side of the PCB |
| Length | float | positive numbers | yes | The length of the PCB in millimeter. |
| Width | float | positive numbers | yes | The width of the PCB in millimeter. |
| Thickness | float | positive numbers | yes | The thickness of the PCB in millimeter. |
| ConveyorSpeed | float | positive numbers | yes | The conveyor speed preferred by the upstream machine in millimeter per second |
| TopClearanceHeight | float | positive numbers | yes | The clearance height for the top side of the PCB in millimeter. |
| BottomClearanceHeight | float | positive numbers | yes | The clearance height for the bottom side of the PCB in millimeter. |

FailedBoard may be one of the following values:

1. Board of unknown quality available
2. Good board available
3. Failed board available

FlippedBoard may be one of the following values:

1. Side up is unknown
2. Board top side is up
3. Board bottom side is up

If FlippedBoard is 2 (Board bottom side is up) then TopBarcode is facing downwards and BottomBarcode is facing upwards.

The definition of board bottom and board top side is outside of the scope of The Hermes Standard and left to the customer.

