

# **PER-TAIX8-A10-PCIE Board Quick Installation Guide**

## REVISION HISTORY

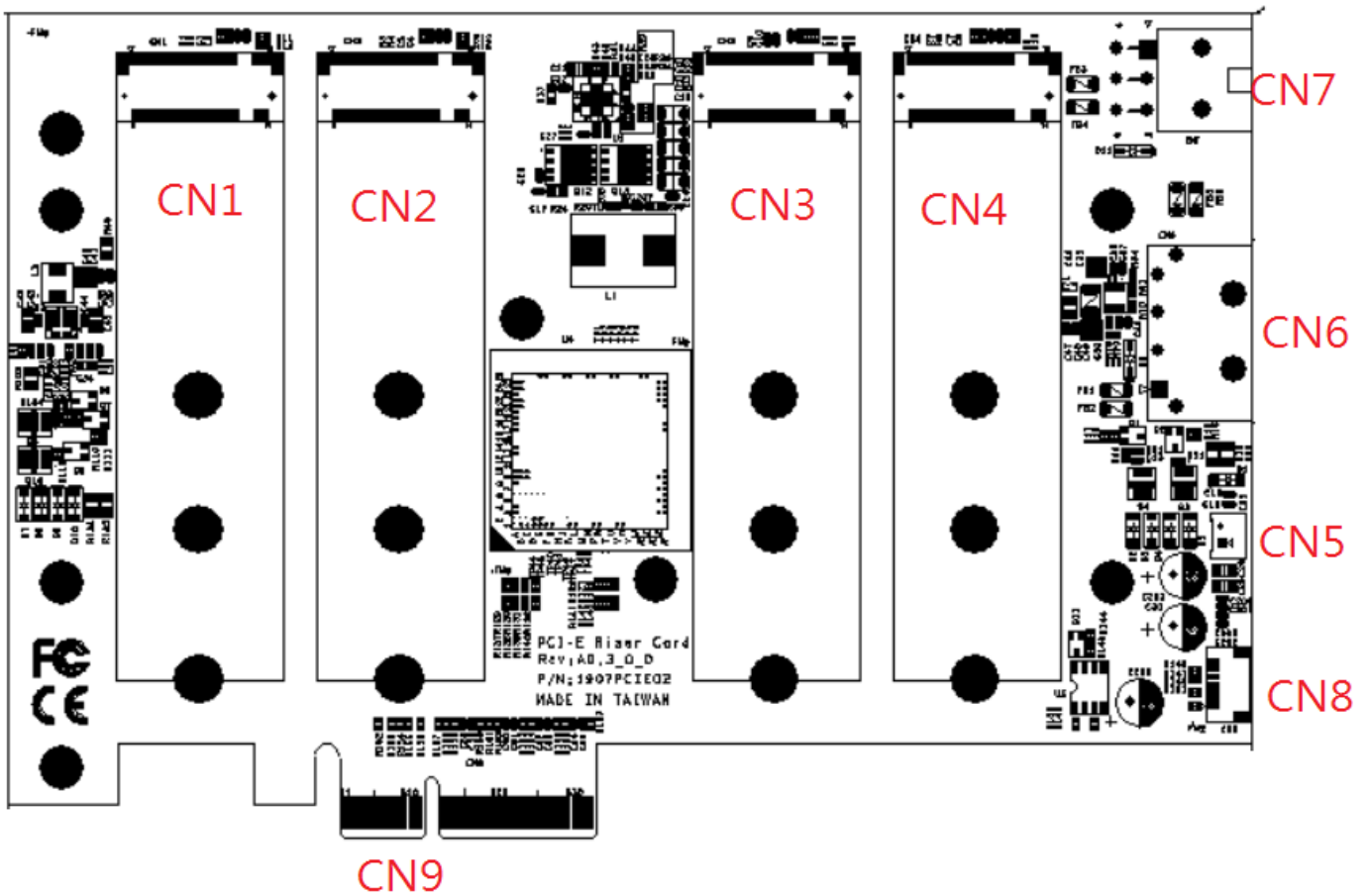
| Revision | Date       | Comments        |
|----------|------------|-----------------|
| A1.0     | 2019/05/30 | Initial Version |

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# 1. PER-TAIX8-A10-PCIE Board Layout

## Top side



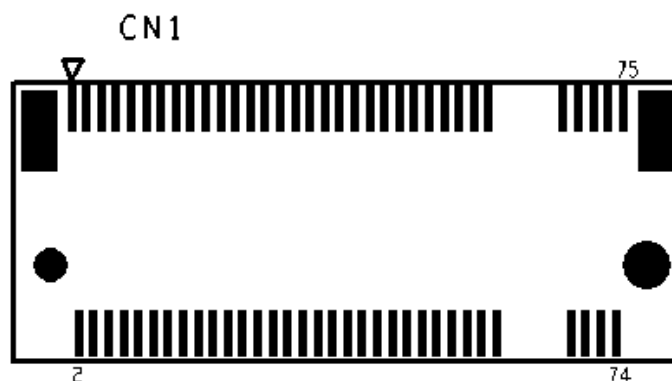
## 2. Connector References

### Connector Index

| Reference Designation | Functional Description | Connector Type   |
|-----------------------|------------------------|--|
| CN1                   | M.2 Key M              | (TF)M.2 KeyM Slot.H=3.2mm.conn.75P.90D(F).BLACK.SMD.FOXCONN.AS0BC21-S30BM-7H   |
| CN2                   | M.2 Key M              | (TF)M.2 KeyM Slot.H=3.2mm.conn.75P.90D(F).BLACK.SMD.FOXCONN.AS0BC21-S30BM-7H   |
| CN3                   | M.2 Key M              | (TF)M.2 KeyM Slot.H=3.2mm.conn.75P.90D(F).BLACK.SMD.FOXCONN.AS0BC21-S30BM-7H   |
| CN4                   | M.2 Key M              | (TF)M.2 KeyM Slot.H=3.2mm.conn.75P.90D(F).BLACK.SMD.FOXCONN.AS0BC21-S30BM-7H   |
| CN5                   | FAN Power              | (TF)WAFER BOX.2P.180D(M).DIP.2.0mm.w/LOCK.PINREX.721-81-02TW00                 |
| CN6                   | 4P Power Supply        | (TF)HOUSING.4P.90D.(M).DIP.5.08mm.W/LOCK.何迪.5082-WR                            |
| CN7                   | PCI-E Power Supply     | (TF)PCI-E Power Conn.3P*2.90D(M).DIP.Pitch=4.2mm.Astron.6652206-T0002T-H.Black |
| CN9                   | PCI-E x4 Gold Finger   | NA   |

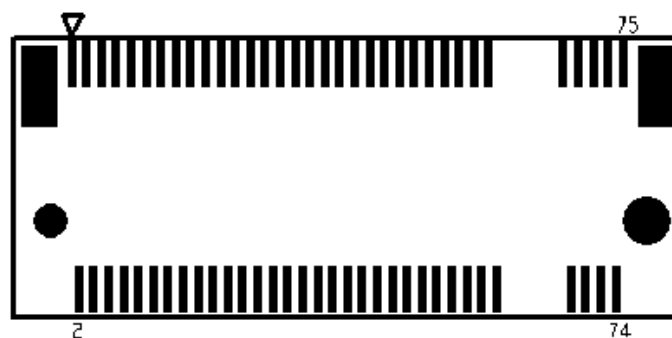
### 3. Connector Pin Assignments

CN1: M.2 Key M



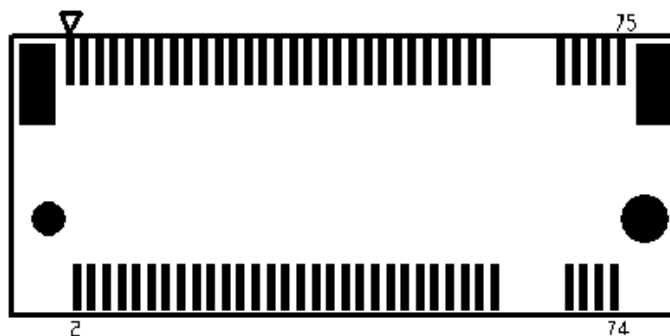
| Pin | Signal Description | Pin | Signal Description | Pin | Signal Description |
|-----|--------------------|-----|--------------------|-----|--------------------|
| 1   | GND                | 2   | +3.3V_NGFF4        | 3   | GND                |
| 4   | +3.3V_NGFF4        | 5   | NC                 | 6   | NC                 |
| 7   | NC                 | 8   | NC                 | 9   | GND                |
| 10  | NC                 | 11  | NC                 | 12  | +3.3V_NGFF4        |
| 13  | NC                 | 14  | +3.3V_NGFF4        | 15  | GND                |
| 16  | +3.3V_NGFF4        | 17  | NC                 | 18  | +3.3V_NGFF4        |
| 19  | NC                 | 20  | NC                 | 21  | GND                |
| 22  | NC                 | 23  | NC                 | 24  | NC                 |
| 25  | NC                 | 26  | NC                 | 27  | GND                |
| 28  | NC                 | 29  | NC                 | 30  | NC                 |
| 31  | NC                 | 32  | NC                 | 33  | GND                |
| 34  | NC                 | 35  | NC                 | 36  | NC                 |
| 37  | NC                 | 38  | DEVSLP_4           | 39  | GND                |
| 40  | NC                 | 41  | DPE_RXN11_R        | 42  | NC                 |
| 43  | DPE_RXP11_R        | 44  | NC                 | 45  | GND                |
| 46  | NC                 | 47  | DPE_TXN11_C        | 48  | NC                 |
| 49  | DPE_TXP11_C        | 50  | DPE_RSTN           | 51  | GND                |
| 52  | DPE_CLKREQN5       | 53  | DPE_CLKN5_R        | 54  | PCIE_WAKE#         |
| 55  | DPE_CLKP5_R        | 56  | NC                 | 57  | GND                |
| 58  | NC                 | 59  | Key M              | 60  | Key M              |
| 61  | Key M              | 62  | Key M              | 63  | Key M              |
| 64  | Key M              | 65  | Key M              | 66  | Key M              |
| 67  | NC                 | 68  | TP49               | 69  | NC                 |
| 70  | +3.3V_NGFF4        | 71  | GND                | 72  | +3.3V_NGFF4        |
| 73  | GND                | 74  | +3.3V_NGFF4        | 75  | GND                |
| 76  | GND                | 77  | GND                |     |                    |

## CN2: M.2 Key M



| Pin | Signal Description | Pin | Signal Description | Pin | Signal Description |
|-----|--------------------|-----|--------------------|-----|--------------------|
| 1   | GND                | 2   | +3.3V_NGFF3        | 3   | GND                |
| 4   | +3.3V_NGFF3        | 5   | NC                 | 6   | NC                 |
| 7   | NC                 | 8   | NC                 | 9   | GND                |
| 10  | NC                 | 11  | NC                 | 12  | +3.3V_NGFF3        |
| 13  | NC                 | 14  | +3.3V_NGFF3        | 15  | GND                |
| 16  | +3.3V_NGFF3        | 17  | NC                 | 18  | +3.3V_NGFF3        |
| 19  | NC                 | 20  | NC                 | 21  | GND                |
| 22  | NC                 | 23  | NC                 | 24  | NC                 |
| 25  | NC                 | 26  | NC                 | 27  | GND                |
| 28  | NC                 | 29  | NC                 | 30  | NC                 |
| 31  | NC                 | 32  | NC                 | 33  | GND                |
| 34  | NC                 | 35  | NC                 | 36  | NC                 |
| 37  | NC                 | 38  | DEVSLP_3           | 39  | GND                |
| 40  | NC                 | 41  | DPE_RXN10_R        | 42  | NC                 |
| 43  | DPE_RXP10_R        | 44  | NC                 | 45  | GND                |
| 46  | NC                 | 47  | DPE_TXN10_C        | 48  | NC                 |
| 49  | DPE_TXP10_C        | 50  | DPE_RSTN           | 51  | GND                |
| 52  | DPE_CLKREQN4       | 53  | DPE_CLKN4_R        | 54  | PCIE_WAKE#         |
| 55  | DPE_CLKP4_R        | 56  | NC                 | 57  | GND                |
| 58  | NC                 | 59  | Key M              | 60  | Key M              |
| 61  | Key M              | 62  | Key M              | 63  | Key M              |
| 64  | Key M              | 65  | Key M              | 66  | Key M              |
| 67  | NC                 | 68  | TP49               | 69  | NC                 |
| 70  | +3.3V_NGFF3        | 71  | GND                | 72  | +3.3V_NGFF3        |
| 73  | GND                | 74  | +3.3V_NGFF3        | 75  | GND                |
| 76  | GND                | 77  | GND                |     |                    |

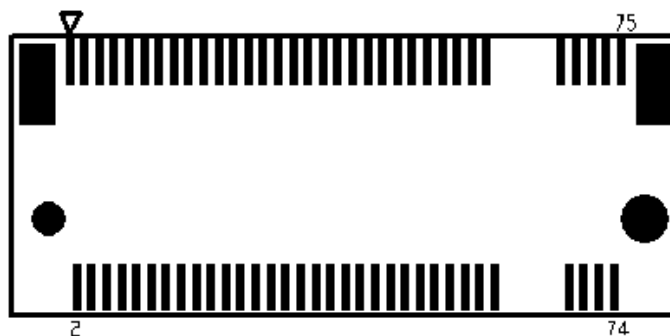
# CN3: M.2 Key M



| Pin | Signal Description | Pin | Signal Description | Pin | Signal Description |
|-----|--------------------|-----|--------------------|-----|--------------------|
| 1   | GND                | 2   | +3.3V_NGFF2        | 3   | GND                |
| 4   | +3.3V_NGFF2        | 5   | NC                 | 6   | NC                 |
| 7   | NC                 | 8   | NC                 | 9   | GND                |
| 10  | NC                 | 11  | NC                 | 12  | +3.3V_NGFF2        |
| 13  | NC                 | 14  | +3.3V_NGFF2        | 15  | GND                |
| 16  | +3.3V_NGFF2        | 17  | NC                 | 18  | +3.3V_NGFF2        |
| 19  | NC                 | 20  | NC                 | 21  | GND                |
| 22  | NC                 | 23  | NC                 | 24  | NC                 |
| 25  | NC                 | 26  | NC                 | 27  | GND                |
| 28  | NC                 | 29  | DPE_RXN9_R         | 30  | NC                 |
| 31  | DPE_RXP9_R         | 32  | NC                 | 33  | GND                |
| 34  | NC                 | 35  | DPE_TXN9_C         | 36  | NC                 |
| 37  | DPE_TXP9_C         | 38  | DEVSLP_2           | 39  | GND                |
| 40  | NC                 | 41  | DPE_RXN8_R         | 42  | NC                 |
| 43  | DPE_RXP8_R         | 44  | NC                 | 45  | GND                |
| 46  | NC                 | 47  | DPE_TXN8_C         | 48  | NC                 |
| 49  | DPE_TXP8_C         | 50  | DPE_RSTN           | 51  | GND                |
| 52  | DPE_CLKREQN3       | 53  | DPE_CLKN3_R        | 54  | PCIE_WAKE#         |
| 55  | DPE_CLKP3_R        | 56  | NC                 | 57  | GND                |
| 58  | NC                 | 59  | Key M              | 60  | Key M              |
| 61  | Key M              | 62  | Key M              | 63  | Key M              |
| 64  | Key M              | 65  | Key M              | 66  | Key M              |
| 67  | NC                 | 68  | TP49               | 69  | NC                 |
| 70  | +3.3V_NGFF2        | 71  | GND                | 72  | +3.3V_NGFF2        |
| 73  | GND                | 74  | +3.3V_NGFF2        | 75  | GND                |
| 76  | GND                | 77  | GND                |     |                    |

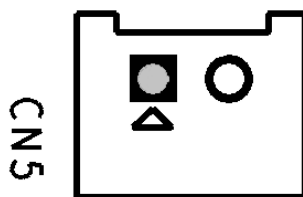


# CN4: M.2 Key M



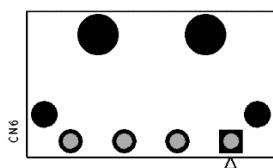
| Pin | Signal Description | Pin | Signal Description | Pin | Signal Description |
|-----|--------------------|-----|--------------------|-----|--------------------|
| 1   | GND                | 2   | +3.3V_NGFF1        | 3   | GND                |
| 4   | +3.3V_NGFF1        | 5   | NC                 | 6   | NC                 |
| 7   | NC                 | 8   | NC                 | 9   | GND                |
| 10  | NC                 | 11  | NC                 | 12  | +3.3V_NGFF1        |
| 13  | NC                 | 14  | +3.3V_NGFF1        | 15  | GND                |
| 16  | +3.3V_NGFF1        | 17  | NC                 | 18  | +3.3V_NGFF1        |
| 19  | NC                 | 20  | NC                 | 21  | GND                |
| 22  | NC                 | 23  | NC                 | 24  | NC                 |
| 25  | NC                 | 26  | NC                 | 27  | GND                |
| 28  | NC                 | 29  | NC                 | 30  | NC                 |
| 31  | NC                 | 32  | NC                 | 33  | GND                |
| 34  | NC                 | 35  | NC                 | 36  | NC                 |
| 37  | NC                 | 38  | DEVSLP_1           | 39  | GND                |
| 40  | NC                 | 41  | DPE_RXN0_R         | 42  | NC                 |
| 43  | DPE_RXP0_R         | 44  | NC                 | 45  | GND                |
| 46  | NC                 | 47  | DPE_TXN0_C         | 48  | NC                 |
| 49  | DPE_TXP0_C         | 50  | DPE_RSTN           | 51  | GND                |
| 52  | DPE_CLKREQN0       | 53  | DPE_CLKN0_R        | 54  | PCIE_WAKE#         |
| 55  | DPE_CLKP0_R        | 56  | NC                 | 57  | GND                |
| 58  | NC                 | 59  | Key M              | 60  | Key M              |
| 61  | Key M              | 62  | Key M              | 63  | Key M              |
| 64  | Key M              | 65  | Key M              | 66  | Key M              |
| 67  | NC                 | 68  | TP49               | 69  | NC                 |
| 70  | +3.3V_NGFF1        | 71  | GND                | 72  | +3.3V_NGFF1        |
| 73  | GND                | 74  | +3.3V_NGFF1        | 75  | GND                |
| 76  | GND                | 77  | GND                |     |                    |

## CN5: FAN Power



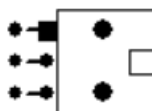
| Pin | Signal Description | Pin | Signal Description |
|-----|--------------------|-----|--------------------|
| 1   | +12V               | 2   | GND                |

## CN6: 4P Power Supply(Optional)



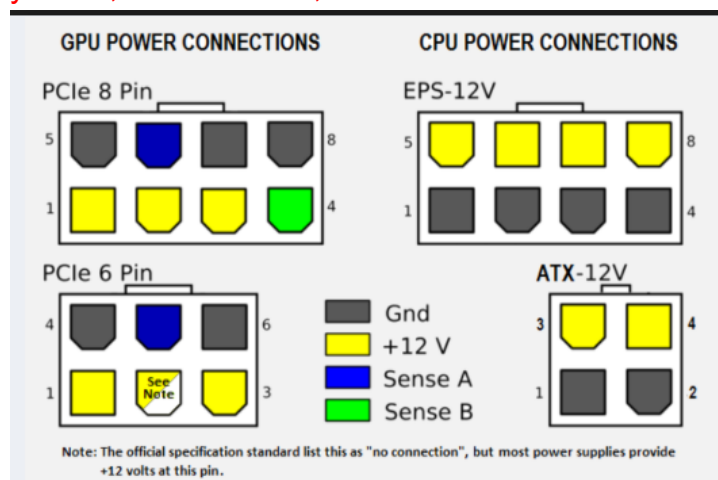
| Pin | Signal Description | Pin | Signal Description |
|-----|--------------------|-----|--------------------|
| 1   | +ATX_12V           | 2   | GND                |
| 3   | GND                | 4   | NC                 |
| H1  | NC                 | H2  | NC                 |
| H3  | NC                 | H4  | NC                 |

## CN7: PCI-E Power Supply



| Pin | Signal Description | Pin | Signal Description |
|-----|--------------------|-----|--------------------|
| 1   | +ATX_12V           | 2   | +ATX_12V           |
| 3   | +ATX_12V           | 4   | GND                |
| 5   | GND                | 6   | GND                |

Note: CN7 is powered by PCIE, not EPS/ATX; Do not confuse with CPU Power



## CN7: PCI-E x4 Gold Finger



CN9

| Pin | Signal Description | Pin | Signal Description |
|-----|--------------------|-----|--------------------|
| A1  | PRSNT              | B1  | +PCIE_12V          |
| A2  | +PCIE_12V          | B2  | +PCIE_12V          |
| A3  | +PCIE_12V          | B3  | +PCIE_12V          |
| A4  | GND                | B4  | GND                |
| A5  | NC                 | B5  | SMB_CLK_R          |
| A6  | NC                 | B6  | SMB_DATA_R         |
| A7  | NC                 | B7  | GND                |
| A8  | NC                 | B8  | +V3.3_PCIE         |
| A9  | +V3.3_PCIE         | B9  | NC                 |
| A10 | +V3.3_PCIE         | B10 | +3.3VAUX           |
| A11 | PLT_RST#           | B11 | PCIE_Wake#         |
| A12 | GND                | B12 | RSVD               |
| A13 | PCIESLOT_CLK       | B13 | GND                |
| A14 | PCIESLOT_CLK#      | B14 | CPETP0             |
| A15 | GND                | B15 | CPETN0             |
| A16 | CPERP0             | B16 | GND                |
| A17 | CPERN0             | B17 | PRSNT2             |
| A18 | GND                | B18 | GND                |
| A19 | NC                 | B19 | CPETP1             |
| A20 | GND                | B20 | CPETN1             |
| A21 | CPERP1             | B21 | GND                |
| A22 | CPERN1             | B22 | GND                |
| A23 | GND                | B23 | CPETP2             |
| A24 | GND                | B24 | CPETN2             |
| A25 | CPERP2             | B25 | GND                |
| A26 | CPERN2             | B26 | GND                |
| A27 | GND                | B27 | CPETP3             |
| A28 | GND                | B28 | CPETN3             |
| A29 | CPERP3             | B29 | GND                |
| A30 | CPERN3             | B30 | NC                 |
| A31 | GND                | B31 | PRSNT2             |
| A32 | NC                 | B32 | GND                |