

ANT-1776 Ethernet wiring to connector at 100Base-T using 4 wires (2 pair)

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The ANT-1776 Ethernet port is 1 gigabit using 8 wires (4 pair) with auto-negotiation link speed features. The information in the document will allow a link of 100Base-T / 100Mbps, using 4 wires (2 pair) to be established. The Network IP switch MUST be forced to a speed of 100Base-T / 100Mbps as the auto-negotiation within the ANT-1776 is disabled due to all 8 wires not being used.

Document info

Version	date	author	Comments
0.1	6-Oct-23	David M	Initial draft
0.2	2-Nov-23	David M	Typo correction

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1. Images of the ANT-1776 board

In Figure 1 and Figure 2 are shown images and representations of the ANT-1776 board with emphasis on the Ethernet connector. Table 1 shows the pin for the Ethernet connector J5.

Figure 1 : ANT-1776 – processor side up, with out and with heatsink



Figure 2 : ANT-1776 – processor side up

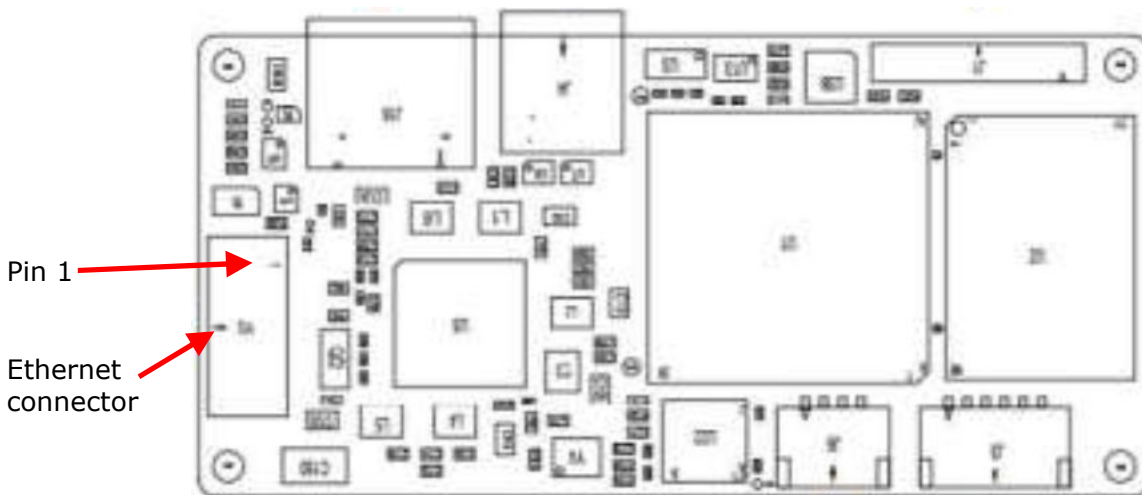


Table 1 : Ethernet

Pin Number	Signal
1	TX0_P
2	TX0_N
3	TX1_P
4	TX1_N
5	TX2_P
6	TX2_N
7	TX3_P
8	TX3_N



2. Connection at 100Bse-T

In Figure 3, the shown cable is that used with the ANT-1774. As can be seen the “left-hand” side of the Ethernet connector is used, these are pins 1 thru’ 4. Figure 4 shows details of the RJ45 connector at the other endo of the cable. This is the same connector used for the ANT-1774 and ANT-1776

Figure 3 : ANT-1776 with 4 wire Ethernet cable

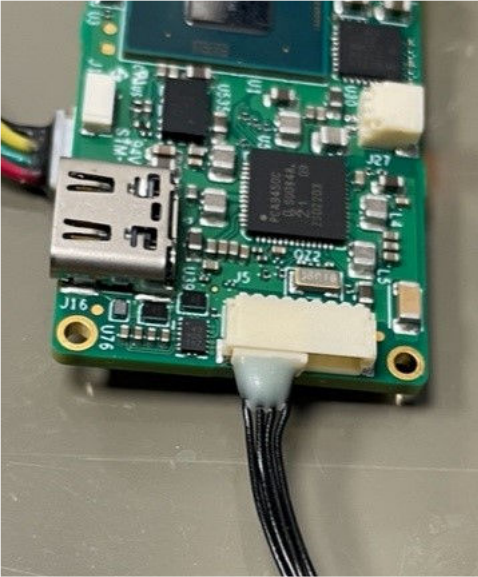
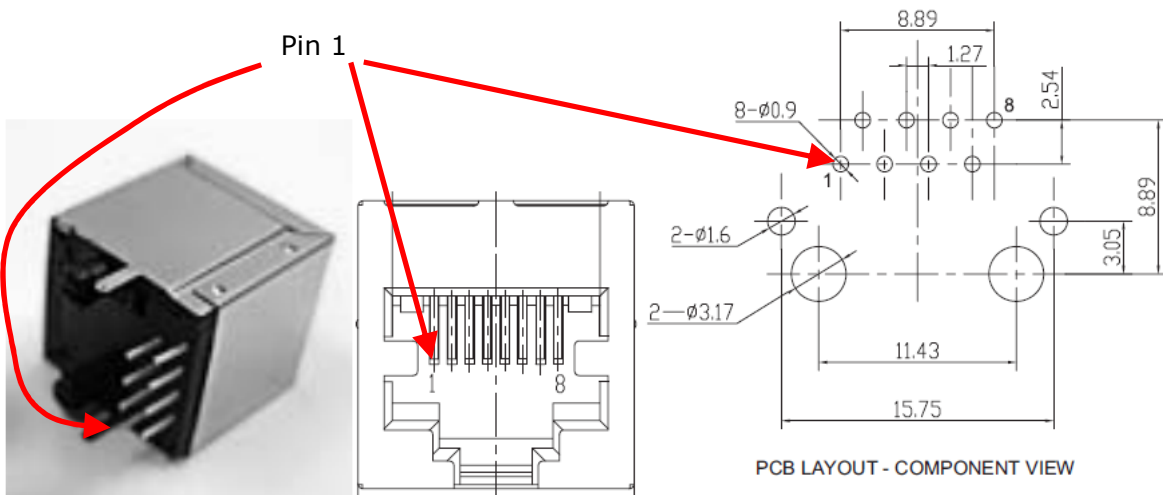


Figure 4 : RJ45 connector



2.1. Pinout

Show in Table 2 is the pin required to enable a 100Base-T link. Shown in Figure 5 is a representation of the required wiring between the ANT-1776 Ethernet port and the RJ45 connector.

As mentioned, the network device connected to the RJ45 connector MUST be force / set to be 100Base-T / 100Mbps as the auto-negotiation feature of the PHY in the ANT-1776 is no longer functional.

Table 2: Ethernet to RJ45 pinout

ANT-1776 Ethernet J5	RJ45 connector	Function
1	1	TX0_P
2	2	TX0_N
3	3	TX1_P
4	6	TX1_N

Figure 5 : ANT-1776 Ethernet to RJ45 connector

