

# W3150A+/W5100 Errata Sheet

## Document History

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Errata 1	
Phenomenon	Unable to complete SEND/SENDMAC command in UDP/IP-Raw mode. That is, do not assert SEND_OK interrupt and do not equal the values of <b>Socket n Tx Read Pointer Register (Sn_TX_RD)</b> and <b>Socket n Tx Write Pointer Register (Sn_TX_WR)</b> .
Condition	<p>In normal case, the Sn_TX_RD value is equal to the Sn_TX_WR value and assert SEND_OK interrupt when a transmission process is complete.</p> <p>There is a case which the Sn_TX_RD value is different from the Sn_TX_WR value and do not assert SEND_OK interrupt in UDP/IP-Raw mode. When our chip receive data in opened socket (i.e. assert RECV interrupt), the application program (Host MCU) runs SEND/SENDMAC command on that socket.</p> <div style="text-align: center;"> <p>The diagram shows a local network labeled 'Network A' with a subnet mask of 255.255.255.0. It contains three devices: HOST_AB (IP 10.11.12.4), HOST_AA (IP 10.11.12.3), and GW_A (IP 10.11.0.1). All three are connected to a central horizontal bus. GW_A is also connected to a cloud representing the Internet.</p> </div> <p><b>Figure 1. General network</b></p> <p>In Figure 1 network,</p> <ol style="list-style-type: none"> <li>1. Open UDP socket in AA. Port number is 1000.</li> <li>2. Send UDP data packet(destination port number 1000) from AB to AA.</li> <li>3. AA processes the UDP data packet from AB.</li> <li>4. Host MCU in AA runs SEND command to send.</li> </ol> <p>When completion of 3 in AA (i.e. AA assert RECV interrupt), AA also runs 4(i.e. run SEND command). In that case, do not complete 4 process due to errata.</p>
Solution	In case of W3150A+, If you can monitor the RXDV signal (in MII interface), you can solve the problem.

	<p>Before you runs SEND/SENDMAC command in UDP/IP-Raw mode, you check the value of RXDV signal is '0'. That means there is no received data packet, so do not happen errata condition.</p> <p>Refer to following pseudo-code.</p> <pre style="background-color: black; color: yellow; padding: 10px;"> /* Change sendto() function */ Function sendto() { ...     While (RXDV == '1') ;     SEND command; /* Complete Sending */ ... } </pre> <p>In case of W5100, There is no solving method except following recommendation.</p>
<p>Recommen- dation</p>	<ol style="list-style-type: none"> <li>1. Be sure to check whether Sn_TX_RD has same value as Sn_TX_WR or not after a transmission process is complete.</li> <li>2. If the two values are still different, close the socket by force RESET.</li> </ol> <p>Refer to following pseudo-code.</p> <pre style="background-color: black; color: yellow; padding: 10px;"> /* Change sendto() function */ Function sendto() { ... /* Complete Sending */     /* wait until Sn_TX_WR and Sn_TX_RD are same */     while (Sn_TX_WR!= Sn_TX_RD )     {         wait some time;         loop_cnt++;         if ( loop_cnt &gt; CONST_BLOCK_CNT ) goto RESET.     } } </pre>