

Special Tag Application

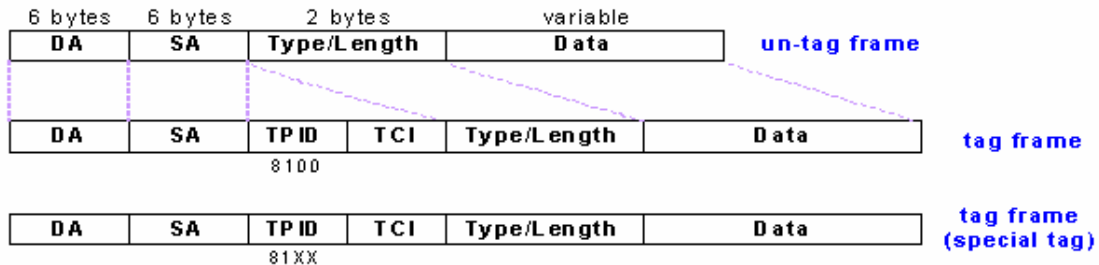
Rev. 0.20

2006/6/07

(1). Special Tag Function

IP178C supports special tag function to exchange switching information with CPU without involving VLAN tag information

(2). Un-tag frame and tag frame



Special tag function enable

1. send packet from port 0~7(un-tag field) to cpu (tag field) port

IP178C will add the TPID and TCI field and re-calculate CRC

Form port 0 (without TPID and TCI field) to cpu port (with TPID = 8101 and TCI)

Form port 1 (without TPID and TCI field) to cpu port (with TPID = 8102 and TCI)

Form port 2 (without TPID and TCI field) to cpu port (with TPID = 8104 and TCI)

Form port 3 (without TPID and TCI field) to cpu port (with TPID = 8108 and TCI)

Form port 4 (without TPID and TCI field) to cpu port (with TPID = 8110 and TCI)

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Form port 7 (without TPID and TCI field) to cpu port (with TPID = 8180 and TCI)

2. send packet from port 0~4 (tag field) to cpu (tag field) port

When special tag function is enabled, IP178C will update the TPID field and re-calculate CRC

Form port 0 (with TPID = 8100 and TCI field) to cpu port (modify TPID = 8101)

Form port 1 (with TPID = 8100 and TCI field) to cpu port (modify TPID = 8102)

Form port 2 (with TPID = 8100 and TCI field) to cpu port (modify TPID = 8104)

Form port 3 (with TPID = 8100 and TCI field) to cpu port (modify TPID = 8108)

Form port 4 (with TPID = 8100 and TCI field) to cpu port (modify TPID = 8110)

....

Form port 7 (with TPID = 8100 and TCI field) to cpu port (modify TPID = 8180)

3. send packet from cpu (tag field) port to port 0~7 (un-tag field)

When special tag function is enabled, IP178C will remove the TPID and TCI and re-calculate CRC

Form cpu port (with TPID = 8101 and TCI field) to port 0 (remove TPID and TCI field)

Form cpu port (with TPID = 8102 and TCI field) to port 1 (remove TPID and TCI field)

Form cpu port (with TPID = 8103 and TCI field) to port 0,1 (remove TPID and TCI field)

- Form cpu port (with TPID = 8104 and TCI field) to port 2 (remove TPID and TCI field)
- Form cpu port (with TPID = 8107 and TCI field) to port 0,1,2 (remove TPID and TCI field)
- Form cpu port (with TPID = 8108 and TCI field) to port 3 (remove TPID and TCI field)
- Form cpu port (with TPID = 810f and TCI field) to port 0,1,2,3 (remove TPID and TCI field)
- Form cpu port (with TPID = 8110 and TCI field) to port 4 (remove TPID and TCI field)
- Form cpu port (with TPID = 811f and TCI field) to port 0,1,2,3,4 (remove TPID and TCI field)
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- Form cpu port (with TPID = 81ff and TCI field) to port 0,1,2,3,4,5,6,7 (remove TPID and TCI field)

4. **send packet from cpu (tag field) port to port 0~7 (tag field)**

When special tag function is enabled, IP178C will update the TIPD field and re-calculate CRC

- Form cpu port (with TPID = 8101 and TCI field) to port 0 (modify TPID = 8100)
- Form cpu port (with TPID = 8102 and TCI field) to port 1 (modify TPID = 8100)
- Form cpu port (with TPID = 8103 and TCI field) to port 0,1 (modify TPID = 8100)
- Form cpu port (with TPID = 8104 and TCI field) to port 2 (modify TPID = 8100)
- Form cpu port (with TPID = 8107 and TCI field) to port 0,1,2 (modify TPID = 8100)
- Form cpu port (with TPID = 8108 and TCI field) to port 3 (modify TPID = 8100)
- Form cpu port (with TPID = 810f and TCI field) to port 0,1,2,3 (modify TPID = 8100)
- Form cpu port (with TPID = 8110 and TCI field) to port 4 (modify TPID = 8100)
- Form cpu port (with TPID = 811f and TCI field) to port 0,1,2,3,4 (modify TPID = 8100)
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- Form cpu port (with TPID = 81ff and TCI field) to port 0,1,2,3,4,5,6,7 (modify TPID = 8100)

(3). Special tag Setting

Table 1 lists the register setting

PHY	MII	Description	Value
31	30.14	Stag_en	1'b1
30	12.8	Port 8 add Tag	1'b1

Table 1 Register Setting