# 寄存器列表

OnetSwitch寄存器地址0x48000000-0x4fffffff，包含了寄存器的读和写，共128M，使用AXI4-Lite接口。基地址从0x48开始，没有用到的地方用deadbeef填满。

|  |  |
| --- | --- |
| **Base\_address** | **0x48000000** |

|  |  |  |
| --- | --- | --- |
| **Name** | **Offset\_address(hex)** | **Type** |
| T0\_Openflow\_Action\_0 | 0x0000000+np\*0x100 | RW |
| T0\_Openflow\_Action\_1 | 0x0000004+np\*0x100 | RW |
| T0\_Openflow\_Action\_2 | 0x0000008+np\*0x100 | RW |
| T0\_Openflow\_Action\_3 | 0x000000c+np\*0x100 | RW |
| T0\_Openflow\_Action\_4 | 0x0000010+np\*0x100 | RW |
| T0\_Openflow\_Action\_5 | 0x0000014+np\*0x100 | RW |
| T0\_Openflow\_Action\_6 | 0x0000018+np\*0x100 | RW |
| T0\_Openflow\_Action\_7 | 0x000001c+np\*0x100 | RW |
| T0\_Openflow\_Action\_8 | 0x0000020+np\*0x100 | RW |
| T0\_Openflow\_Action\_9 | 0x0000024+np\*0x100 | RW |
| T0\_CMP\_Mask\_0 | 0x0000030+np\*0x100 | RW |
| T0\_CMP\_Mask\_1 | 0x0000034+np\*0x100 | RW |
| T0\_CMP\_Mask\_2 | 0x0000038+np\*0x100 | RW |
| T0\_CMP\_Data\_0 | 0x0000040+np\*0x100 | RW |
| T0\_CMP\_Data\_1 | 0x0000044+np\*0x100 | RW |
| T0\_CMP\_Data\_2 | 0x0000048+np\*0x100 | RW |
| T0\_Head\_Parser | 0x0000050 | RW |
| T0\_Entry\_Match\_Bytes | 0x0000060+ np\*0x100 | RO |
| T0\_Entry\_Match\_Frames | 0x0000064+ np\*0x100 | RO |
| T0\_Table\_Match\_Bytes | 0x0000068 | RO |
| T0\_Table\_Match\_Frames | 0x000006c | RO |
| T1\_Openflow\_Action\_0 | 0x0100000+np\*0x100 | RW |
| T1\_Openflow\_Action\_1 | 0x0100004+np\*0x100 | RW |
| T1\_Openflow\_Action\_2 | 0x0100008+np\*0x100 | RW |
| T1\_Openflow\_Action\_3 | 0x010000c+np\*0x100 | RW |
| T1\_Openflow\_Action\_4 | 0x0100010+np\*0x100 | RW |
| T1\_Openflow\_Action\_5 | 0x0100014+np\*0x100 | RW |
| T1\_Openflow\_Action\_6 | 0x0100018+np\*0x100 | RW |
| T1\_Openflow\_Action\_7 | 0x010001c+np\*0x100 | RW |
| T1\_Openflow\_Action\_8 | 0x0100020+np\*0x100 | RW |
| T1\_Openflow\_Action\_9 | 0x0100024+np\*0x100 | RW |
| T1\_CMP\_Mask\_0 | 0x0100030+np\*0x100 | RW |
| T1\_CMP\_Mask\_1 | 0x0100034+np\*0x100 | RW |
| T1\_CMP\_Mask\_2 | 0x0100038+np\*0x100 | RW |
| T1\_CMP\_Data\_0 | 0x0100040+np\*0x100 | RW |
| T1\_CMP\_Data\_1 | 0x0100044+np\*0x100 | RW |
| T1\_CMP\_Data\_2 | 0x0100048+np\*0x100 | RW |
| T1\_Head\_Parser | 0x0100050 | RW |
| T1\_Entry\_Match\_Bytes | 0x0100060+ np\*0x100 | RO |
| T1\_Entry\_Match\_Frames | 0x0100064+ np\*0x100 | RO |
| T1\_Table\_Match\_Bytes | 0x0100068 | RO |
| T1\_Table\_Match\_Frames | 0x010006c | RO |
| T2\_Openflow\_Action\_0 | 0x0200000+np\*0x100 | RW |
| T2\_Openflow\_Action\_1 | 0x0200004+np\*0x100 | RW |
| T2\_Openflow\_Action\_2 | 0x0200008+np\*0x100 | RW |
| T2\_Openflow\_Action\_3 | 0x020000c+np\*0x100 | RW |
| T2\_Openflow\_Action\_4 | 0x0200010+np\*0x100 | RW |
| T2\_Openflow\_Action\_5 | 0x0200014+np\*0x100 | RW |
| T2\_Openflow\_Action\_6 | 0x0200018+np\*0x100 | RW |
| T2\_Openflow\_Action\_7 | 0x020001c+np\*0x100 | RW |
| T2\_Openflow\_Action\_8 | 0x0200020+np\*0x100 | RW |
| T2\_Openflow\_Action\_9 | 0x0200024+np\*0x100 | RW |
| T2\_CMP\_Mask\_0 | 0x0200030+np\*0x100 | RW |
| T2\_CMP\_Mask\_1 | 0x0200034+np\*0x100 | RW |
| T2\_CMP\_Mask\_2 | 0x0200038+np\*0x100 | RW |
| T2\_CMP\_Data\_0 | 0x0200040+np\*0x100 | RW |
| T2\_CMP\_Data\_1 | 0x0200044+np\*0x100 | RW |
| T2\_CMP\_Data\_2 | 0x0200048+np\*0x100 | RW |
| T2\_Head\_Parser | 0x0200050 | RW |
| T2\_Entry\_Match\_Bytes | 0x0200060+ np\*0x100 | RO |
| T2\_Entry\_Match\_Frames | 0x0200064+ np\*0x100 | RO |
| T2\_Table\_Match\_Bytes | 0x0200068 | RO |
| T2\_Table\_Match\_Frames | 0x020006c | RO |
| Meter\_Token\_Interval | 0x1000000+nm1\*0x100 | RW |
| Meter\_Token\_Increment | 0x1000004+nm1\*0x100 | RW |
| Meter\_Pass\_Frames | 0x1000020+nm2\*0x100 | RO |
| Meter\_Pass\_Bytes | 0x1000024+nm2\*0x100 | RO |
| Meter\_Drop\_Frames | 0x1000028+nm2\*0x100 | RO |
| Meter\_Drop\_Bytes | 0x100002c+nm2\*0x100 | RO |
| QOS\_Weight\_0 | 0x2000000 | RW |
| QOS\_Weight\_1 | 0x2000004 | RW |
| QOS\_Weight\_2 | 0x2000008 | RW |
| QOS\_Weight\_3 | 0x200000c | RW |
| QOS\_Weight\_4 | 0x2000010 | RW |
| QOS\_Weight\_5 | 0x2000014 | RW |
| QOS\_Transmit\_Frames | 0x2000040+nP\*0x10000+nQ\*0x100 | RO |
| QOS\_Transmit\_Bytes | 0x2000044+nP\*0x10000+nQ\*0x100 | RO |
| QOS\_Drop\_Frames | 0x2000048+nP\*0x10000+nQ\*0x100 | RO |
| QOS\_Drop\_Bytes | 0x200004c+nP\*0x10000+nQ\*0x100 | RO |
| SW\_Started | 0x3000000 | RW |

\*np 是流表优先级，范围从0-15。 nm1和nm2都是meter优先级，nm1从0到3，nm2从0到4。nP是QOS的端口，0,2,4,6对应设备的网口1,2,3,4，1,3,5,7对应DMA端口1,2,3,4。nQ是QOS的优先级，从0到5。

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Openflow\_Action\_0:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| OPENFLOW\_NF2\_ACTION\_FLAG[23:8] | | | | | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| OPENFLOW\_NF2\_ACTION\_FLAG[7:0] | | | | | | | | OPENFLOW\_FORWARD\_BITMASK | | | | | | | |

OPENFLOW\_FORWARD\_BITMASK为openflow action中送出的口，用掩码表示送出到哪个口，其中0,2,4,6位对应设备的网口1,2,3,4，1,3,5,7位对应DMA端口1,2,3,4。

|  |  |  |  |
| --- | --- | --- | --- |
| OPENFLOW\_NF2\_ACTION\_FLAG | Bit | Name | Description |
| 0 | NF2\_OFPAT\_OUTPUT | Set ports to forward on |
| 1 | NF2\_OFPAT\_SET\_VLAN\_VID | Set vlan ID to be replaced |
| 2 | NF2\_OFPAT\_SET\_VLAN\_PCP | Set Vlan priority to be replaced |
| 3 | NF2\_OFPAT\_STRIP\_VLAN | Strip vlan |
| 4 | NF2\_OFPAT\_SET\_DL\_SRC | Set source MAC address to be replaced |
| 5 | NF2\_OFPAT\_SET\_DL\_DST | Set destination MAC address to be replaced |
| 6 | NF2\_OFPAT\_SET\_NW\_SRC | Set source network address to be replaced |
| 7 | NF2\_OFPAT\_SET\_NW\_DST | Set destination network address to be replaced |
| 8 | NF2\_OFPAT\_SET\_NW\_TOS | Set TOS to be replaced |
| 9 | NF2\_OFPAT\_SET\_TP\_SRC | Set source transport port to be replaced |
| 10 | NF2\_OFPAT\_SET\_TP\_DST | Set destination transport port to be replaced |
| 11 | NF2\_OFPAT\_METER | Set meter ID |
| 12 | NF2\_OFPAT\_GOTO\_TABLE | Set go to table ID |
| 13 | NF2\_OFPAT\_SET\_QOS | Set QOS ID |
| 14 | NF2\_OFPAT\_SET\_METADATA | Set metadata |
| 15 | NF2\_OFPAT\_ADD\_VLAN\_VID | Add vlan ID |
| 16 | NF2\_OFPAT\_ADD\_VLAN\_PCP | Add Vlan priority |

OPENFLOW\_NF2\_ACTION\_FLAG为openflow动作标识，掩码，执行哪个就把哪一位置为1。对应执行从openflow\_action\_1-openflow\_action\_9对应的动作。

**Openflow\_Action\_1:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| OPENFLOW\_ADD\_VLAN\_PCP | | | | OPENFLOW\_ADD\_VLAN\_VID | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| OPENFLOW\_SET\_VLAN\_PCP | | | | OPENFLOW\_SET\_VLAN\_VID | | | | | | | | | | | |

**Openflow\_Action\_2:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| OPENFLOW\_SET\_DL\_SRC[31:16] | | | | | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| OPENFLOW\_SET\_DL\_SRC[15:0] | | | | | | | | | | | | | | | |

**Openflow\_Action\_3:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| OPENFLOW\_SET\_DL\_DST[15:0] | | | | | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| OPENFLOW\_SET\_DL\_SRC[47:32] | | | | | | | | | | | | | | | |

**Openflow\_Action\_4:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| OPENFLOW\_SET\_DL\_DST[47:32] | | | | | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| OPENFLOW\_SET\_DL\_DST[31:16] | | | | | | | | | | | | | | | |

**Openflow\_Action\_5:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| OPENFLOW\_SET\_NW\_SRC[31:16] | | | | | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| OPENFLOW\_SET\_NW\_SRC[15:0] | | | | | | | | | | | | | | | |

**Openflow\_Action\_6:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| OPENFLOW\_SET\_NW\_DST[31:16] | | | | | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| OPENFLOW\_SET\_NW\_DST[15:0] | | | | | | | | | | | | | | | |

**Openflow\_Action\_7:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| OPENFLOW\_SET\_TP\_DST | | | | | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| OPENFLOW\_SET\_TP\_SRC | | | | | | | | | | | | | | | |

**Openflow\_Action\_8:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| OPENFLOW\_SET\_METADATA | | | | | | | | | | | | OPENFLOW\_SET\_QOS | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| OPENFLOW\_SET\_NW\_TOS | | | | | | | | OPENFLOW\_SET  \_NEXT\_TABLE\_ID | | | | OPENFLOW  \_SET\_METER | | | |

**Openflow\_Action\_9:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| NA | | | | | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| NA | | | | | | | | | | | | | | | |

**CMP\_Mask\_0，CMP\_Mask\_1，CMP\_Mask\_2，CMP\_Data\_0，CMP\_Data\_1，CMP\_Data\_2**

这六个寄存器为TCAM寄存器。Data为对比的数据，Mask为对比掩码。

Entry为匹配的64位数据。

Metadata\_ID为action里set\_metadata的数据，Metadata\_table为写入metadata的table\_ID。比如，若在表1写入metadata为2，则在表2匹配的时候， Metadata\_table为1，metadata\_ID为2。

Enable位为此条TCAM是否参与匹配，1为不参与，0为参与。

**CMP\_Data\_0，CMP\_Mask\_0：**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| Entry[31:16] | | | | | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| Entry[15:0] | | | | | | | | | | | | | | | |

**CMP\_Data\_1，CMP\_Mask\_1：**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| Entry[63:48] | | | | | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| Entry[47:32] | | | | | | | | | | | | | | | |

**CMP\_Data\_2，CMP\_Mask\_2：**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| Enable | NA | | | | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| NA | | | | | | | | Metadata\_table | | | | Metadata\_ID | | | |

**Head\_Parser:**

Head\_Parser可以用来修改64位Entry的组成，一共可以写0-4。

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 63 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | 52 | 51 | 50 | 49 | 48 |
| DST\_MAC[47:32] | | | | | | | | | | | | | | | |
| 47 | 46 | 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 |
| DST\_MAC[31:16] | | | | | | | | | | | | | | | |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| DST\_MAC[15:0] | | | | | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| SRC\_PORT | | | | | | | | | | | | | | | |

**Head\_Parser=0：**

**Head\_Parser=1：**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 63 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | 52 | 51 | 50 | 49 | 48 |
| DST\_IP[31:16] | | | | | | | | | | | | | | | |
| 47 | 46 | 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 |
| DST\_IP[15:0] | | | | | | | | | | | | | | | |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| TCP\_UDP\_DST\_PORT | | | | | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| TCP\_UDP\_SRC\_PORT | | | | | | | | | | | | | | | |

**Head\_Parser=2：**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 63 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | 52 | 51 | 50 | 49 | 48 |
| SRC\_MAC[47:32] | | | | | | | | | | | | | | | |
| 47 | 46 | 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 |
| SRC\_MAC[31:16] | | | | | | | | | | | | | | | |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| SRC\_MAC[15:0] | | | | | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| ETH\_TYPE | | | | | | | | | | | | | | | |

**Head\_Parser=3：**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 63 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | 52 | 51 | 50 | 49 | 48 |
| SRC\_MAC[47:32] | | | | | | | | | | | | | | | |
| 47 | 46 | 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 |
| SRC\_MAC[31:16] | | | | | | | | | | | | | | | |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| SRC\_MAC[15:0] | | | | | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| VLAN\_PRIO | | | | VLAN\_ID | | | | | | | | | | | |

**Head\_Parser=4：**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 63 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | 52 | 51 | 50 | 49 | 48 |
| SRC\_IP[31:16] | | | | | | | | | | | | | | | |
| 47 | 46 | 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 |
| SRC\_IP[15:0] | | | | | | | | | | | | | | | |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
| ETH\_TYPE | | | | | | | | | | | | | | | |
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| IP\_TOS | | | | | | | | ETH\_IP\_PROTO | | | | | | | |

**QOS\_Weight\_0，QOS\_Weight\_1，QOS\_Weight\_2，QOS\_Weight\_3，QOS\_Weight\_4，QOS\_Weight\_5：**

这几个寄存器为QOS权重寄存器，对应QOS\_ID中0,1,2,3,4,5中的权重，QOS默认过QOS\_0。权重寄存器默认值依次为1,2,3,4,5,6。