**Acceptance Filter Requirement（Prefix：AF）**

**Reset Condition:**

1. ‘i\_uaf1,2,3,4’ shall be set to 0 when ‘i\_reset’ is 1.
2. All exist AFMR’s contents shall be kept when ‘i\_reset’ is 1.
3. All exist AFIR’s contents shall be kept when ‘i\_reset’ is 1.
4. ‘i\_rx\_message[127:0]’ shall output all 0s when ‘i\_reset’ is 1.
5. ‘o\_rx\_w\_en’ and ‘o\_acfbsy’ shall be set to 0 when ‘i\_reset’ is 1

**Acceptance Filter Register (Prefix: AF\_AFR)**

1. ‘i\_can\_ready’ and ‘i\_rx\_message[127:0]’ shall be synchronized with the system clock.
2. The number of acceptance filters shall be either 1,2,3 or 4.
3. If ‘i\_uaf1’ is set to 1, AFIR1 and AFMR1 shall be used.
4. If ‘i\_uaf2’ is set to 1, AFIR2 and AFMR2 shall be used.
5. If ‘i\_uaf3’ is set to 1, AFIR3 and AFMR3 shall be used.
6. If ‘i\_uaf4’ is set to 1, AFIR4 and AFMR4 shall be used.
7. Module shall receive data from ‘i\_rx\_message[127:0]’ when ‘i\_can\_ready’ is 1
8. Module shall set ‘o\_rx\_w\_en’ to 1 for one clock cycle, if identifier of the received data is passed by either one of AFIR and AFMR pairs.
9. ‘o\_rx\_fifo\_w\_data[127:0]’ shall read data from ‘i\_rx\_message[127:0]’, if identifier of the received data is passed by either one of AFIR and AFMR pairs.
10. Module shall set ‘o\_rx\_w\_en’ to 0, if identifier of the received data isn’t passed all of AFIR and AFMR pairs.
11. ‘o\_rx\_fifo\_w\_data[127:0]’ shall retain its previous value, if identifier of the received data isn’t passed all of AFIR and AFMR pairs.
12. Module shall not output data into Rx\_FIFO if ‘i\_rx\_full’ is 1
13. If all valid ‘i\_uaf’ bits or number of acceptance filters are set to 0, all received data shall be directly stored into RX\_FIFO.

**Acceptance Filter ID Register (Prefix: AF\_AFIR)**

1. If ‘i\_uaf1’ and ‘o\_acfbsy’ are set to 0, ID information is written to ’AFIR1’ through ‘i\_afir1[31:0]’
2. If ‘i\_uaf2’ and ‘o\_acfbsy’ are set to 0, ID information is written to ’AFIR2’ through ‘i\_afir2[31:0]’
3. If ‘i\_uaf3’ and ‘o\_acfbsy’ are set to 0, ID information is written to ’AFIR3’ through ‘i\_afir3[31:0]’
4. If ‘i\_uaf4’ and ‘o\_acfbsy’ are set to 0, ID information is written to ’AFIR4’ through ‘i\_afir4[31:0]’

**Acceptance Filter Master Register (Prefix: AF\_AFMR)**

1. If ‘i\_uaf1’ and ‘o\_acfbsy’ are set to 0, mask information is written to ’AFMR1’ through ‘i\_afir1[31:0]’
2. ‘i\_uaf2’ and ‘o\_acfbsy’ are set to 0, mask information is written to ’AFMR2’ through ‘i\_afir2[31:0]’
3. ‘i\_uaf3’ and ‘o\_acfbsy’ are set to 0, mask information is written to ’AFMR3’ through ‘i\_afir3[31:0]’
4. ‘i\_uaf4’ and ‘o\_acfbsy’ are set to 0, mask information is written to ’AFMR4’ through ‘i\_afir4[31:0]’