

# 100Gb/s CFP4 Optical Transceiver

## ***RTXM290-701***



## Features

- *Direct LC receptacle optical interface*
- *Single +3.3V power supply*
- *Hot-pluggable*
- *Operating optical data rate up to 112Gbps*
- *Operating electrical serial data rate up to 28Gbps*
- *10 parallel electrical serial interface*
- *Transmission distance up to 10km*
- *AC coupling of CML signals*
- *1310 nm window cooled EA-DFB LD*
- *PIN ROSA*
- *Low power dissipation(Max:6W)*
- *Built in digital diagnostic function*
- *Operating case temperature range:0℃ to 70℃*
- *Compliant with RoHs*
- *MDIO Communication Interface*

## Application

- *OTN-OTU4*
- *Switch to switch interface*
- *Switch to router interface*
- *P to P Access Network*

## Standards

- *Compliant with IEEE 802.3ba*
- *Compliant with CFP4 MSA hardware specification, Version 0.1 March 02, 2014*
- *Compliant with CFP MSA management specification, Version 2.2 July 01, 2013*
- *Compliant with ITU-T G.959.1 4/1-9D1F*
- *Compliant with RoHS & WEEE*

## Absolute Maximum Ratings

| Parameter | Symbol | Unit | Min | Max |
|-----------|--------|------|-----|-----|
|-----------|--------|------|-----|-----|

|          |          |             |    |         |                 |
|----------|----------|-------------|----|---------|-----------------|
| I        | H        | 1.2         | IH | 0.84    | 1.5             |
| I        |          | 1.2         | I  | -0.3    | 0.36            |
| I        | C        | 1.2         | II | A       | -100            |
|          | H        | 1.2         | H  | 1.0     | 1.5             |
|          |          | 1.2         |    | -0.3    | 0.2             |
|          | H        | 1.2         | I  | H       | A               |
|          | C        | 1.2         | I  | A       | +4              |
| I        | C        |             | C  | F       | 10              |
| C        |          |             |    |         |                 |
| E        |          |             |    |         |                 |
| (100G E) |          |             | G  | -       | 25.78125        |
| E        |          |             |    |         |                 |
| ( 4)     |          |             |    |         | 27.95249        |
| F        |          | $\lambda 1$ |    | 1294.53 | 1295.56 1296.59 |
|          |          | $\lambda 2$ |    | 1299.02 | 1300.05 1301.09 |
|          |          | $\lambda 3$ |    | 1303.54 | 1304.58 1305.63 |
|          |          | $\lambda 4$ |    | 1308.09 | 1309.14 1310.19 |
| B        |          |             |    |         |                 |
|          | A        |             | B  | 30      | -               |
|          |          |             | B  | -       | 10.5            |
| A        |          | E           |    | -4.3    | +4.5 2          |
| (100G E) |          |             | B  |         |                 |
| A        |          | E           |    | -2.5    | +2.9            |
| ( 4)     |          |             |    |         |                 |
|          | A        |             | A  | B       | -1.3 4.5 3      |
| E        |          |             |    |         |                 |
|          | D        |             |    |         |                 |
| E        | (100G E) |             | D  | B       | 2.2             |
| ( 4)     |          |             |    |         | 1.5             |
| A        |          |             |    |         |                 |
|          | E        |             | B  | -       | -30             |
| E        | (100G E) |             | B  | 4       |                 |
|          |          | E           |    |         |                 |

|   |   |   |     |
|---|---|---|-----|
| A | E |   |     |
| A |   | B | -12 |
| D | - | B | -19 |
| H |   | B | 0.2 |

**Note1.** CF

**Note2.** A , ( ) ;

**Note3.** E D <1 B, A( )

**Note4.**

**Note5.** , ,

**Note6.** ( ) 100GBA E-E 4  
100BA E-E 4 100BA E- 4

**Note7.** A , ( ) ; ,

**Note8.** ( A), ( )

**Note9.** B  $2^{31-1}$  BE = $10^{-5}$ . BE 4  
FEC

**Note10.** 3 BE = $10^{-12}$

**Note11.** 1.8 B; 2 0.3 I; 9  
0.47 I.

Hardware Control Pins

CF - ,

: H C

| #  |               | D    | H | C | I/       |   | H |  | - /     |
|----|---------------|------|---|---|----------|---|---|--|---------|
| 11 | DI<br>( G C ) | D    |   | I | 3.3<br>C | D | E |  | -<br>1  |
| 14 | D             |      |   | I | 3.3<br>C |   | E |  | -<br>1  |
| 16 | D             | (I ) |   | I | 3.3<br>C | E |   |  | -D<br>2 |

**Note1:** - (4.7 10 ) CF

**Note2:** -D (4.7 10 ) CF

Hardware Alarm Pins

CF : H A

| #  |         | D | H | A | I/       |   | H |  | - /     |
|----|---------|---|---|---|----------|---|---|--|---------|
| 15 | D AB    | A |   |   | 3.3<br>C | A |   |  | -D<br>1 |
| 12 | ( G A ) |   |   |   | 3.3<br>C |   |   |  |         |

**Note1:** -D (<100 ) CF . -

Management Interface Pins(MDIO)

CF DI . CF

DI : I

| # |  | D | I/ |  | H |  | - / |
|---|--|---|----|--|---|--|-----|
|---|--|---|----|--|---|--|-----|

|    |       |     |   |          |  |   |  |
|----|-------|-----|---|----------|--|---|--|
| 13 | G B A | G A | I | 3.3<br>C |  | A |  |
| 18 | DI    |     |   |          |  |   |  |

|   |  |  |  |  |  |        |
|---|--|--|--|--|--|--------|
| D |  |  |  |  |  | A & DI |
| I |  |  |  |  |  | DI     |

|   |      |     |     |      |          |     |
|---|------|-----|-----|------|----------|-----|
|   |      |     |     |      | C        | C   |
| I |      | 80  | 100 | 120  | $\Omega$ |     |
| F |      |     |     |      | H        | 1/8 |
| D | DIFF | 400 |     | 1200 |          | D   |
| C | D    | C   | 40  | 60   | %        |     |

## CFP Register Allocation

| CF   |      |    |       |    |            |
|------|------|----|-------|----|------------|
| A    | E    | A  | A     | D  | D          |
| H    | A    |    |       | B  |            |
|      | H    |    |       |    |            |
| 0000 | 7FFF | /A | 32768 | /A | IEEE 802.3 |
| 8000 | 807F |    | 128   | 8  | CF 1.B ID  |
| 8080 | 80FF |    | 128   | 8  | CF 2.E ID  |
| 8100 | 817F |    | 128   | 8  | CF 3.      |
| 8180 | 81FF |    | 128   | 8  | CF 4       |
| 8200 | 83FF |    | 4 128 |    |            |

# CFP NVR1

|        |   |   |
|--------|---|---|
| H<br>A |   | A |
|        |   |   |
| 8000   | 1 |   |
| 8001   | 1 |   |
| 8002   | 1 |   |
| 8003   | 1 |   |

7 0 E A C 01 /A



|      |   |  |     |                  |  |  |
|------|---|--|-----|------------------|--|--|
| 8069 | 1 |  | 7 0 | CF A I           |  |  |
| 806A | 2 |  | 7 0 | H                |  |  |
| 806C | 2 |  | 7 0 | F                |  |  |
| 806E | 1 |  | 7 0 | D D              |  |  |
| 806F | 1 |  | 7 0 | D D<br>C 1       |  |  |
| 8070 | 1 |  | 7 0 | D D<br>C 2       |  |  |
| 8071 | 1 |  | 7 0 | E                |  |  |
| 8072 | 1 |  | 7 0 | H - -            |  |  |
| 8073 | 1 |  | 7 0 | - -              |  |  |
| 8074 | 1 |  | 7 0 | H                |  |  |
| 8075 | 1 |  | 7 0 | H                |  |  |
| 8076 | 1 |  | 7 0 | - - -            |  |  |
| 8077 | 1 |  | 7 0 | H - -            |  |  |
| 8078 | 1 |  | 7 0 | E 2              |  |  |
| 8079 | 1 |  | 7 0 | C                |  |  |
| 807A | 1 |  | 7 0 | C                |  |  |
| 807B | 2 |  | 7 0 | F B              |  |  |
| 807D | 2 |  | 7 0 | DI               |  |  |
| 807E | 1 |  | 7 0 | CF CF 2/4 E<br>I |  |  |
| 807F | 1 |  | 7 0 | CF 1 C           |  |  |

## CFP NVR2

### Alarm/Warning Threshold Registers

| H<br>A |   | A | B   |     | C<br>(HE ) | B |
|--------|---|---|-----|-----|------------|---|
| B ID I |   |   |     |     |            |   |
| 8080   | 2 |   | 7 0 | H A |            |   |
| 8082   | 2 |   | 7 0 | H   |            |   |
| 8084   | 2 |   | 7 0 |     |            |   |
| 8086   | 2 |   | 7 0 | A   |            |   |
| 8088   | 2 |   |     |     |            |   |

|      |    |  |     |   |    |   |   |   |
|------|----|--|-----|---|----|---|---|---|
| 809A | 2  |  | 7 0 | A | 1  | H |   |   |
| 809C | 2  |  | 7 0 | A | 1  |   |   |   |
| 809E | 2  |  | 7 0 | A | 1  | A |   |   |
| 80A0 | 2  |  | 7 0 | A | 2  | H | A |   |
| 80A2 | 2  |  | 7 0 | A | 2  | H |   |   |
| 80A4 | 2  |  | 7 0 | A | 2  |   |   |   |
| 80A6 | 2  |  | 7 0 | A | 2  | A |   |   |
| 80A8 | 2  |  | 7 0 |   | B  | C | H | A |
| 80AA | 2  |  | 7 0 |   | B  | C | H |   |
| 80AC | 2  |  | 7 0 |   | B  | C |   |   |
| 80AE | 2  |  | 7 0 |   | B  | C | A |   |
| 80B0 | 2  |  | 7 0 |   |    | H | A |   |
| 80B2 | 2  |  | 7 0 |   |    | H |   |   |
| 80B4 | 2  |  | 7 0 |   |    |   |   |   |
| 80B6 | 2  |  | 7 0 |   |    |   | A |   |
| 80B8 | 2  |  | 7 0 |   |    | H | A |   |
| 80BA | 2  |  | 7 0 |   |    | H |   |   |
| 80BC | 2  |  | 7 0 |   |    |   |   |   |
| 80BE | 2  |  | 7 0 |   |    |   | A |   |
| 80C0 | 2  |  | 7 0 |   |    | H | A |   |
| 80C2 | 2  |  | 7 0 |   |    |   | H |   |
| 80C4 | 2  |  | 7 0 |   |    |   |   |   |
| 80C6 | 2  |  | 7 0 |   |    |   | A |   |
| 80C8 | 55 |  | 7 0 |   |    |   |   |   |
| 80FF | 1  |  | 7 0 |   | CF | 2 | C |   |

## CFP NVR3

### Network Lane BOL Measurement Registers

| H<br>A |    | A | B   |   | C<br>(HE ) | B |
|--------|----|---|-----|---|------------|---|
|        |    |   |     | B | ID I       |   |
| 8100   | 32 |   | 7 0 |   | 0 15       |   |
| 8120   | 32 |   | 7 0 |   | 0 15       |   |
| 8140   | 32 |   | 7 0 | E | 0 15       |   |
| 8160   | 32 |   | 7 0 |   |            |   |

|  |  |  |  |      |  |  |
|--|--|--|--|------|--|--|
|  |  |  |  | 0 15 |  |  |
|--|--|--|--|------|--|--|

## CFP NVR4

| H<br>A |     | A | B   |        | C<br>(HE ) | B |
|--------|-----|---|-----|--------|------------|---|
| B ID I |     |   |     |        |            |   |
| 8180   | 1   |   | 7 0 | CF 3 C |            |   |
| 8181   | 127 |   | 7 1 |        |            |   |

## CFP VR1

| H<br>A |   | A      | B    |                           | C<br>(HE ) | B |
|--------|---|--------|------|---------------------------|------------|---|
| C /    |   |        |      |                           |            |   |
| A000   | 2 |        | 15 0 |                           |            |   |
| A002   | 2 |        | 15 0 |                           |            |   |
| A004   | 1 |        |      | NVR Access Control        |            |   |
|        |   |        | 8 6  |                           |            |   |
|        |   |        | 4    |                           |            |   |
|        |   |        | 3 2  | C                         |            |   |
|        |   |        | 15 9 |                           |            |   |
|        |   |        | 5    | C                         |            |   |
|        |   |        | 1 0  | E C                       |            |   |
| A005   | 1 |        |      | PRG_CNTL3 Function Select |            |   |
|        |   |        | 15 8 |                           |            |   |
|        |   |        | 7 0  | F C                       |            |   |
| A006   | 1 |        |      | PRG_CNTL2 Function Select |            |   |
|        |   |        | 15 8 |                           |            |   |
|        |   |        | 7 0  | F C                       |            |   |
| A007   | 1 |        |      | PRG_CNTL1 Function Select |            |   |
|        |   |        | 15 8 |                           |            |   |
|        |   |        | 7 0  | F C                       |            |   |
| A008   | 1 |        |      | PRG_ALRM3 Source Select   |            |   |
|        |   |        | 15 8 |                           |            |   |
|        |   |        | 7 0  | A C                       |            |   |
| A009   | 1 |        |      | PRG_ALRM2 Source Select   |            |   |
|        |   |        | 15 8 |                           |            |   |
|        |   |        | 7 0  | A C                       |            |   |
| A00A   | 1 |        |      | PRG_ALRM1 Source Select   |            |   |
|        |   |        | 15 8 |                           |            |   |
|        |   |        | 7 0  | A C                       |            |   |
| A00B   | 1 |        |      | B -/ -D                   |            |   |
|        |   |        | 15 3 |                           |            |   |
|        |   |        | 2 0  | B/ -D                     |            |   |
| A00C   | 4 |        |      |                           |            |   |
| C      |   |        |      |                           |            |   |
| A010   | 1 |        |      | Module General Control    |            |   |
|        |   | / C/ H | 15   |                           |            |   |
|        |   |        | 14   |                           |            |   |
|        |   |        | 13   | D                         |            |   |
|        |   |        | 12   | G C 3 C                   |            |   |

|      |   |     |                                |  |  |
|------|---|-----|--------------------------------|--|--|
|      |   | 11  | G C 2 C                        |  |  |
|      |   | 10  | G C 1 C                        |  |  |
|      |   | 9   | G B A                          |  |  |
|      |   | 8 6 |                                |  |  |
|      |   | 5   | DI                             |  |  |
|      |   | 4   | D                              |  |  |
|      |   | 3   | G C 3                          |  |  |
|      |   | 2   | G C 2                          |  |  |
|      |   | 1   | G C 1                          |  |  |
|      |   | 0   |                                |  |  |
| A011 | 1 |     | <b>Network Lane TX Control</b> |  |  |
|      |   | 15  |                                |  |  |
|      |   | 14  | B G E                          |  |  |
|      |   | 13  | B 1                            |  |  |
|      |   | 12  | B 0                            |  |  |
|      |   | 11  | D - E                          |  |  |
|      |   | 10  | FIF                            |  |  |
|      |   | 9   | FIF A                          |  |  |
|      |   | 8   |                                |  |  |
|      |   | 7 5 | C C                            |  |  |
|      |   | 4   |                                |  |  |
|      |   | 3 1 | (10G )                         |  |  |
|      |   | 0   | C                              |  |  |
| A012 | 1 |     | <b>Network Lane RXControl</b>  |  |  |
|      |   | 15  | A D                            |  |  |
|      |   | 14  | B C E                          |  |  |
|      |   | 13  | B 1                            |  |  |
|      |   | 12  | B 0                            |  |  |
|      |   | 11  | C C                            |  |  |
|      |   | 10  | -                              |  |  |
|      |   | 9   | FIF A                          |  |  |
|      |   | 8   |                                |  |  |
|      |   | 7 5 | C C                            |  |  |
|      |   | 4   | FIF                            |  |  |
|      |   | 3 1 |                                |  |  |
|      |   |     |                                |  |  |

|      |   |  |      |                     |  |  |
|------|---|--|------|---------------------|--|--|
|      |   |  | 14   | B C E               |  |  |
|      |   |  | 13   | B 1                 |  |  |
|      |   |  | 12   | B 0                 |  |  |
|      |   |  | 11   |                     |  |  |
|      |   |  | 10   | H - E               |  |  |
|      |   |  | 9    |                     |  |  |
|      |   |  | 8    |                     |  |  |
|      |   |  | 7    | B G E               |  |  |
|      |   |  | 6    | B 1                 |  |  |
|      |   |  | 5    | B 0                 |  |  |
|      |   |  | 4 0  |                     |  |  |
| A015 | 1 |  |      |                     |  |  |
| A016 | 1 |  |      | <b>Module State</b> |  |  |
|      |   |  | 15 9 |                     |  |  |
|      |   |  | 8    | H - -               |  |  |
|      |   |  | 7    | - -                 |  |  |
|      |   |  | 6    | F                   |  |  |
|      |   |  | 5    |                     |  |  |
|      |   |  | 4    | - -                 |  |  |
|      |   |  | 3    | -                   |  |  |
|      |   |  | 2    | H - -               |  |  |

|      |   |  |    |                                              |  |  |
|------|---|--|----|----------------------------------------------|--|--|
|      |   |  | 6  | 6 A                                          |  |  |
|      |   |  | 5  | 5 A                                          |  |  |
|      |   |  | 4  | 4 A                                          |  |  |
|      |   |  | 3  | 3 A                                          |  |  |
|      |   |  | 2  | 2 A                                          |  |  |
|      |   |  | 1  | 1 A                                          |  |  |
|      |   |  | 0  | 0 A                                          |  |  |
| A01A | 1 |  |    | <b>Network Lane Fault and Status Summary</b> |  |  |
|      |   |  | 15 | 15 F                                         |  |  |
|      |   |  | 14 | 14 F                                         |  |  |
|      |   |  | 13 | 13 F                                         |  |  |
|      |   |  | 12 | 12 F                                         |  |  |
|      |   |  | 11 | 11 F                                         |  |  |
|      |   |  | 10 | 10 F                                         |  |  |
|      |   |  | 9  | 9 F                                          |  |  |
|      |   |  | 8  | 8 F                                          |  |  |
|      |   |  | 7  | 7 F                                          |  |  |
|      |   |  | 6  | 6 F                                          |  |  |
|      |   |  | 5  | 5 F                                          |  |  |
|      |   |  | 4  | 4 F                                          |  |  |
|      |   |  | 3  | 3 F                                          |  |  |
|      |   |  | 2  | 2 F                                          |  |  |
|      |   |  | 1  | 1 F                                          |  |  |
|      |   |  | 0  | 0 F                                          |  |  |
| A01B | 1 |  |    | <b>Host Lane Fault and Status Summary</b>    |  |  |
|      |   |  | 15 | 15 F                                         |  |  |
|      |   |  | 14 | 14 F                                         |  |  |
|      |   |  | 13 | 13 F                                         |  |  |
|      |   |  | 12 | 12 F                                         |  |  |
|      |   |  | 11 | 11 F                                         |  |  |
|      |   |  | 10 | 10 F                                         |  |  |

|      |   |  |       |                              |  |
|------|---|--|-------|------------------------------|--|
|      |   |  | 9     | 9 F                          |  |
|      |   |  | 8     | 8 F                          |  |
|      |   |  | 7     | 7 F                          |  |
|      |   |  | 6     | 6 F                          |  |
|      |   |  | 5     | 5 F                          |  |
|      |   |  | 4     | 4 F                          |  |
|      |   |  | 3     | 3 F                          |  |
|      |   |  | 2     | 2 F                          |  |
|      |   |  | 1     | 1 F                          |  |
|      |   |  | 0     | 0 F                          |  |
| A01C | 1 |  |       |                              |  |
| FA   |   |  |       |                              |  |
| A01D | 1 |  |       | <b>Module General Status</b> |  |
|      |   |  | 15    |                              |  |
|      |   |  | 14    |                              |  |
|      |   |  | 13    | H I                          |  |
|      |   |  | 12 11 |                              |  |





|      |   |       |   |         |  |  |
|------|---|-------|---|---------|--|--|
|      |   | / H/C | 4 | A       |  |  |
|      |   | / H/C | 3 | A B H A |  |  |
|      |   | / H/C | 2 | A B H   |  |  |
|      |   | / H/C |   |         |  |  |
|      |   | / H/C |   |         |  |  |
| A026 | 1 |       |   |         |  |  |
|      |   | / H/C |   |         |  |  |
|      |   | / H/C |   |         |  |  |
|      |   | / H/C | 5 | A 1     |  |  |



|      |   |  |       |                                          |  |  |
|------|---|--|-------|------------------------------------------|--|--|
| A02B | 1 |  | 0     |                                          |  |  |
|      |   |  |       | A                                        |  |  |
|      |   |  | 15 12 | 1 E                                      |  |  |
|      |   |  | 11    | H A E                                    |  |  |
|      |   |  | 10    | H E                                      |  |  |
|      |   |  | 9     | E                                        |  |  |
|      |   |  | 8     | A E                                      |  |  |
|      |   |  | 7     | H A E                                    |  |  |
|      |   |  | 6     | H                                        |  |  |
|      |   |  |       | E                                        |  |  |
|      |   |  | 5     | E                                        |  |  |
|      |   |  | 4     | A E                                      |  |  |
|      |   |  | 3     | A B H A                                  |  |  |
|      |   |  |       | E                                        |  |  |
|      |   |  | 2     | A B H                                    |  |  |
|      |   |  |       | E                                        |  |  |
|      |   |  | 1     | A B                                      |  |  |
|      |   |  |       | E                                        |  |  |
|      |   |  | 0     | A B A                                    |  |  |
|      |   |  |       | E                                        |  |  |
| A02C | 1 |  |       | <b>Module Alarms and Warnings Enable</b> |  |  |
|      |   |  | 15 8  |                                          |  |  |
|      |   |  | 7     | A 1 H A                                  |  |  |
|      |   |  |       | E                                        |  |  |
|      |   |  | 6     | A 1 H                                    |  |  |
|      |   |  |       | E                                        |  |  |
|      |   |  | 5     | A 1                                      |  |  |
|      |   |  |       | E                                        |  |  |
|      |   |  | 4     | A 1 A E                                  |  |  |
|      |   |  | 3     | A 2 H A                                  |  |  |
|      |   |  |       | E                                        |  |  |
|      |   |  | 2     | A 2 H                                    |  |  |
|      |   |  |       | E                                        |  |  |
|      |   |  | 1     | A 2                                      |  |  |
|      |   |  |       | E                                        |  |  |
|      |   |  | 0     | A 2 A E                                  |  |  |

A02D



# CFP Network Lane VR1

| Network Lane VR1            |    |   |    |                                     |            |   |
|-----------------------------|----|---|----|-------------------------------------|------------|---|
| 1                           |    |   |    |                                     |            |   |
| H<br>A                      |    | A | B  |                                     | C<br>(HE ) | B |
| Network Lane FAWS Registers |    |   |    |                                     |            |   |
| A200                        | 16 |   |    | Network Lane n Alarm<br>and Warning |            |   |
|                             |    |   | 15 | B                                   | H          | A |
|                             |    |   | 14 | B                                   | H          |   |



|  |  |      |      |         |  |  |
|--|--|------|------|---------|--|--|
|  |  |      | 14   | F E     |  |  |
|  |  |      | 13   | F A D E |  |  |
|  |  |      | 12 8 |         |  |  |
|  |  |      | 7    | F E     |  |  |
|  |  |      | 6    | E       |  |  |
|  |  |      | 5    |         |  |  |
|  |  |      | 4    | E       |  |  |
|  |  |      | 3    | E       |  |  |
|  |  |      | 2    | FIF E   |  |  |
|  |  |      | 1 0  |         |  |  |
|  |  | A260 | 32   |         |  |  |

## CFP Network Lane VR2

| Network Lane VR2               |    |   |       |                             |         |   |
|--------------------------------|----|---|-------|-----------------------------|---------|---|
| 1                              |    |   |       |                             |         |   |
| H A                            |    | A | B     |                             | C (HE ) | B |
| Network Lane Control Registers |    |   |       |                             |         |   |
| A280                           | 16 |   |       | Network Lane n FEC Controls |         |   |
|                                |    |   | 15 8  | A                           |         |   |
|                                |    |   | 7 0   | A A                         |         |   |
| A290                           | 16 |   | 15 0  | E C B                       |         |   |
|                                |    |   | 15 10 | E                           |         |   |

|                                 |    |       |       |                                     |  |  |
|---------------------------------|----|-------|-------|-------------------------------------|--|--|
| A410                            | 16 |       |       | Host Lane m Fault and Status Latch  |  |  |
|                                 |    |       | 15 2  |                                     |  |  |
|                                 |    | / H/C | 1     | FIF E                               |  |  |
|                                 |    | / H/C | 0     | H                                   |  |  |
| Host Lane FAWS Enable Registers |    |       |       |                                     |  |  |
| A420                            | 16 |       |       | Host Lane m Fault and Status Enable |  |  |
|                                 |    |       | 15 2  |                                     |  |  |
|                                 |    |       | 1     | FIF E E                             |  |  |
|                                 |    |       | 0     | H E                                 |  |  |
| Host Lane Digital PRBS Registe  |    |       |       |                                     |  |  |
| A430                            | 16 |       |       | Host Lane m PRBS TX Error Count     |  |  |
|                                 |    |       | 15 10 | E                                   |  |  |
|                                 |    |       | 9 0   |                                     |  |  |
| Host Lane Control Registers     |    |       |       |                                     |  |  |
| A440                            | 16 |       |       | Host Lane m Control                 |  |  |
|                                 |    |       | 15 4  |                                     |  |  |
|                                 |    |       | 3 0   | /D -                                |  |  |
| A450                            | 48 |       |       |                                     |  |  |

## Pin Description

CF 4 56 B . 1 28  
 . B 1 28  
 . F .

Figure : CFP4 Pin Map Orientation

|    |     |    |             |    |     |
|----|-----|----|-------------|----|-----|
| 52 | 2   | 5  | 3.3         | 52 | 1   |
| 51 | 2   | 6  | 3.3         | 51 | 1   |
| 50 | G D | 7  | 3.3 G D     | 50 | G D |
| 49 | 1   | 8  | 3.3 G D     | 49 | 2   |
| 48 | 1   | 9  | D I A       | 48 | 2   |
| 47 | G D | 10 | D I B       | 47 | G D |
| 46 | 0   | 11 | DI ( G C 1) | 46 | 3   |
| 45 | 0   | 12 | ( G A 1)    | 45 | 3   |
| 44 | G D | 13 | G B A       | 44 | G D |
| 43 | EFC | 14 | D           | 43 | EFC |
| 42 | EFC | 15 | D AB        | 42 | EFC |
| 41 | G D | 16 | D           | 41 | G D |
| 40 | 3   | 17 | DC          | 40 | 3   |
| 39 | 3   | 18 | DI          | 39 | 3   |
| 38 | G D | 19 | AD 0        | 38 | G D |
| 37 | 2   | 20 | AD 1        | 37 | 2   |
| 36 | 2   | 21 | AD 2        | 36 | 2   |
| 35 | G D | 22 | D I C       | 35 | G D |
| 34 | 1   | 23 | D I D       | 34 | 1   |
| 33 | 1   | 24 | D I E       | 33 | 1   |
| 32 | G D | 25 | G D         | 32 | G D |
| 31 | 0   | 26 | C           | 31 | 0   |
| 30 | 0   | 27 | C           | 30 | 0   |
| 29 | G D | 28 | G D         | 29 | G D |

**Table: Pin description**

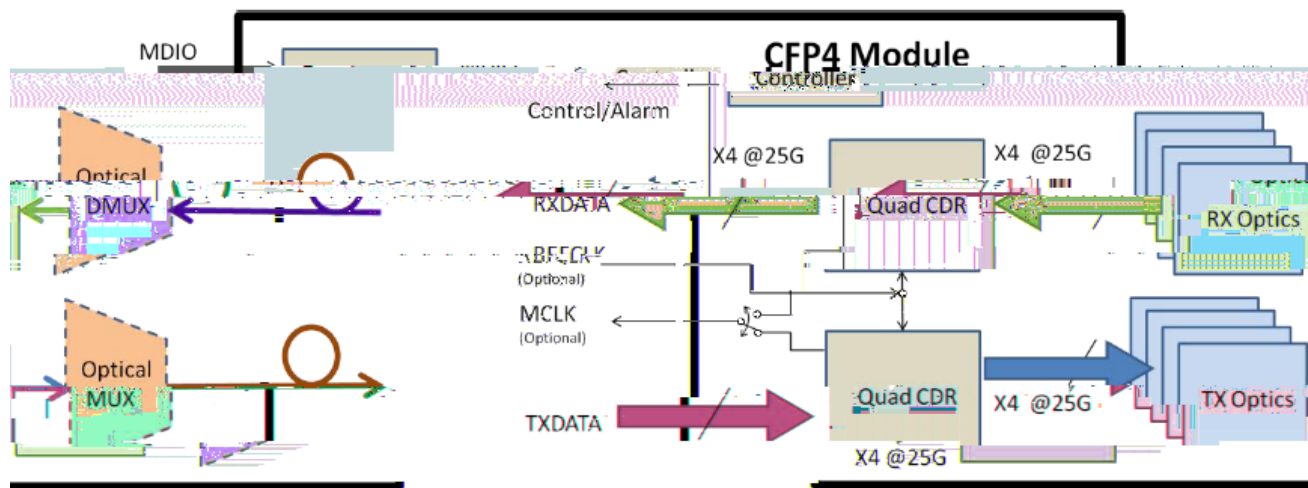
| PIN# | Name    | I/O | Logic | Description |
|------|---------|-----|-------|-------------|
| 1    | 3.3 G D |     |       |             |

|    |         |    |  |            |
|----|---------|----|--|------------|
| 8  | 3.3 G D |    |  | 3.3<br>G , |
| 9  | D I A   | I/ |  | I/ . D C   |
| 10 | D I B   |    |  |            |

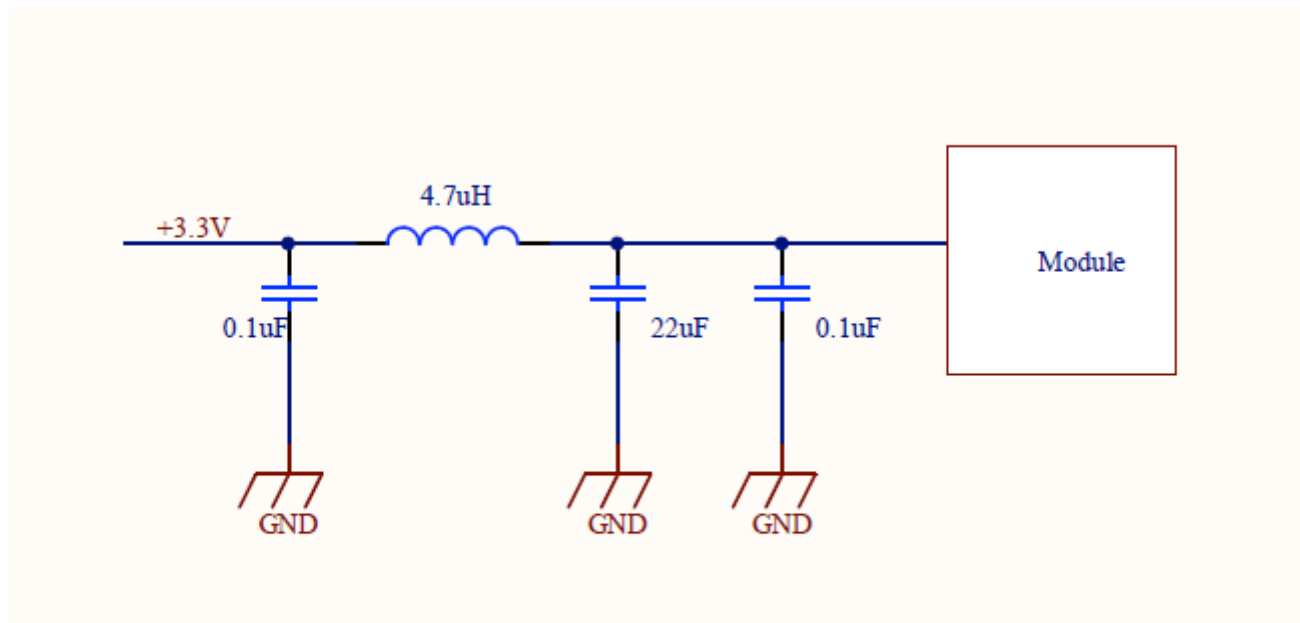




## Block diagram



## Required Host Board Components





|  |                     |
|--|---------------------|
|  | CD H 21-CF 1040 C 1 |
|  |                     |
|  | -G                  |
|  | CE                  |

## Ordering Information

| Part No      | Specifications                               |  |  |  |  |  |  |  |  |  |  |  |  | Application |  |
|--------------|----------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|-------------|--|
|              | D                                            |  |  |  |  |  |  |  |  |  |  |  |  | Code        |  |
| 290-701 CF 4 | 1310                                         |  |  |  |  |  |  |  |  |  |  |  |  |             |  |
|              | A                                            |  |  |  |  |  |  |  |  |  |  |  |  |             |  |
|              | 103.125/111.8                                |  |  |  |  |  |  |  |  |  |  |  |  |             |  |
|              | C -2.5 +2.9 I <-8.6 B 0 70 C 10 DD 100G E/ 4 |  |  |  |  |  |  |  |  |  |  |  |  |             |  |
|              | G B                                          |  |  |  |  |  |  |  |  |  |  |  |  |             |  |
|              | E A                                          |  |  |  |  |  |  |  |  |  |  |  |  |             |  |
|              | DFB- D                                       |  |  |  |  |  |  |  |  |  |  |  |  |             |  |