



# 2018 Marvell Product Selector Guide

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## ARMADA Series

## Embedded Processors

|              |                       |          |      |     |      |      |            |           |       |                |              |              |            |        |                  |          |
|--------------|-----------------------|----------|------|-----|------|------|------------|-----------|-------|----------------|--------------|--------------|------------|--------|------------------|----------|
| Part Numbers | CPU Base Architecture | Ethernet | PCIe | USB | UART | SATA | Device Bus | Frequency | Cache | DDR Controller | Package Size | Package Type | Ball Pitch | I-Temp | Evaluation Board | Software |
|--------------|-----------------------|----------|------|-----|------|------|------------|-----------|-------|----------------|--------------|--------------|------------|--------|------------------|----------|

## ARMADA 7K/8K

|             |         |                                         |                            |                                                                    |                     |            |              |                              |                                          |                                         |                  |                   |                |        |     |               |                                         |
|-------------|---------|-----------------------------------------|----------------------------|--------------------------------------------------------------------|---------------------|------------|--------------|------------------------------|------------------------------------------|-----------------------------------------|------------------|-------------------|----------------|--------|-----|---------------|-----------------------------------------|
| ARMADA 7020 | 88F7020 | ARM®v8<br>Cortex<br>A72<br>Dual<br>Core | 2x<br>1/2.5GBE<br>1x 10GbE | 1x<br>PCIe3.0<br>x4/x2/x1<br>2x<br>PCIe3.0<br>x1                   | 2x<br>USB3/<br>USB2 | 4x<br>UART | 2 x<br>SATA3 | 8/16<br>bit<br>Device<br>bus | 800MHz<br>, 1.0GHz,<br>1.2GHz,<br>1.6GHz | L1:<br>32KB/32K<br>B L2: 1MB<br>unified | 32-bit ECC       | 17mm<br>x<br>17mm | 429L-FCBGA     | 0.65mm | Yes | DB-88F7040-A2 | U-Boot,<br>Linux,<br>OpenWR<br>T, Yocto |
| ARMADA 7040 | 88F7040 | ARM®v8<br>Cortex<br>A72<br>Quad<br>Core | 2x<br>1/2.5GBE<br>1x 10GbE | 1x<br>PCIe3.0<br>x4/x2/x1<br>2x<br>PCIe3.0<br>x1                   | 2x<br>USB3/<br>USB2 | 4x<br>UART | 2 x<br>SATA3 | 8/16<br>bit<br>Device<br>bus | 800MHz<br>, 1.0GHz,<br>1.2GHz,<br>1.4GHz | L1:<br>32KB/32K<br>B L2: 1MB<br>unified | 32-bit ECC       | 17mm<br>x<br>17mm | 429L-FCBGA     | 0.65mm | Yes | DB-88F7040-A2 | U-Boot,<br>Linux,<br>OpenWR<br>T, Yocto |
| ARMADA 6040 | 88F6040 | ARM®v8<br>Cortex<br>A72<br>Quad<br>Core | 2x<br>1/2.5GBE<br>1x 10GbE | 1x<br>PCIe3.0<br>x4/x2/x1<br>2x<br>PCIe3.0<br>x1                   | 2x<br>USB3/<br>USB2 | 4x<br>UART | 2 x<br>SATA3 | 8/16<br>bit<br>Device<br>bus | 600MHz                                   | L1:<br>32KB/32K<br>B L2: 1MB<br>unified | 32-bit ECC       | 17mm<br>x<br>17mm | 429L-FCBGA     | 0.65mm | Yes | DB-88F7040-A2 | U-Boot,<br>Linux,<br>OpenWR<br>T, Yocto |
| ARMADA 8020 | 88F8020 | ARM®v8<br>Cortex<br>A72<br>Dual<br>Core | 4x<br>1/2.5GBE<br>2x 10GbE | 1x PCIe3.0<br>x4/x2/x1<br>1x<br>PCIe3.0<br>x1/2x<br>4x PCIe3<br>X1 | 3x<br>USB3/<br>USB2 | 4x<br>UART | 4 x<br>SATA3 | 8/16<br>bit<br>Device<br>bus | 1.0GHz,<br>1.2GHz,<br>1.6GHz,<br>2.0GHz  | L1:<br>32KB/32K<br>B L2: 1MB<br>unified | 32/64-bit<br>ECC | 24mm<br>x<br>24mm | 816 -<br>FCBGA | 0.8mm  | Yes | DB-88F8040-A2 | U-Boot,<br>Linux,<br>OpenWR<br>T, Yocto |
| ARMADA 8040 | 88F8040 | ARM®v8<br>Cortex<br>A72<br>Quad<br>Core | 4x<br>1/2.5GBE<br>2x 10GbE | 1x PCIe3.0<br>x4/x2/x1<br>1x<br>PCIe3.0<br>x1/2x<br>4x PCIe3<br>X1 | 3x<br>USB3/<br>USB2 | 4x<br>UART | 4 x<br>SATA3 | 8/16<br>bit<br>Device<br>bus | 1.0GHz,<br>1.2GHz,<br>1.6GHz,<br>2.0GHz  | L1:<br>32KB/32K<br>B L2: 1MB<br>unified | 32/64-bit<br>ECC | 24mm<br>x<br>24mm | 816 -<br>FCBGA | 0.8mm  | Yes | DB-88F8040-A2 | U-Boot,<br>Linux,<br>OpenWR<br>T, Yocto |

## ARMADA XP

|         |         |                        |            |                                                               |             |             |              |                                  |                                           |                                                 |                                         |                   |           |        |  |               |                                                |
|---------|---------|------------------------|------------|---------------------------------------------------------------|-------------|-------------|--------------|----------------------------------|-------------------------------------------|-------------------------------------------------|-----------------------------------------|-------------------|-----------|--------|--|---------------|------------------------------------------------|
| MV78230 | MV78230 | ARM®v7<br>Dual<br>Core | 3 x<br>GbE | 2 x PCIe<br>2.0 2 x<br>PCIe 2.0 (1<br>x4 or 4 x1<br>and 1 x1) | 3 x<br>USB2 | 4 x<br>UART | 2 x<br>SATA2 | 8/16<br>bit<br>Device<br>bus     | 1.06GHz,<br>1.2GHz,<br>1.33GHz,<br>1.6GHz | L1:<br>32KB-I,<br>32KB-D;<br>L2: 1MB<br>unified | 32bit ECC<br>DDR3/L-1600<br>with ECC    | 23mm<br>x<br>23mm | 732-FCBGA | 0.65mm |  | DB-MV784MP-GP | u-boot,<br>Linux,<br>vxWork<br>s and<br>others |
| MV78260 | MV78260 | ARM®v7<br>Dual<br>Core | 4 x<br>GbE | 3 x PCIe<br>2.0 (2 x4<br>or 4 x1, 1<br>x4 /x1)                | 3 x<br>USB2 | 4 x<br>UART | 2 x<br>SATA2 | 8/16/3<br>2 bit<br>Device<br>bus | 1.06GHz,<br>1.2GHz,<br>1.33GHz,<br>1.6GHz | L1:<br>32KB-I,<br>32KB-D;<br>L2: 1MB<br>unified | 32/64bit ECC<br>DDR3/L-1600<br>with ECC | 23mm<br>x<br>23mm | 732-FCBGA | 0.65mm |  | DB-MV784MP-GP | u-boot,<br>Linux,<br>vxWork<br>s and<br>others |

## ARMADA Series

## Embedded Processors

| ARMADA Series       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Part Numbers | CPU Base Architecture                  | Ethernet         | PCIe                    | USB                                    | UART     | SATA      | Device Bus          | Frequency                               | Cache                           | DDR Controller                           | Package Size                      | Package Type | Ball Pitch | I-Temp | Evaluation Board                   | Software                               |                                   |
|---------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--------------|----------------------------------------|------------------|-------------------------|----------------------------------------|----------|-----------|---------------------|-----------------------------------------|---------------------------------|------------------------------------------|-----------------------------------|--------------|------------|--------|------------------------------------|----------------------------------------|-----------------------------------|
| Embedded Processors |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | MV78460      | MV78460                                | ARM®v7 Quad Core | 4 x GbE                 | 4 x PCIe 2.0 (2 x4 or 4 x1 and 2x4/x1) | 3 x USB2 | 4 x UART  | 2 x SATA2           | 8/16/32 bit Device bus                  | 1.2GHz, 1.33GHz, 1.6GHz         | L1: 32KB-I, 32KB-D; L2: 2MB unified      | 32/64bit ECC DDR3/L-1600 with ECC | 23mm x 23mm  | 732-FCBGA  | 0.65mm |                                    | DB-MV784MP-GP                          | u-boot, Linux, vxWorks and others |
| ARMADA 38x          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |              |                                        |                  |                         |                                        |          |           |                     |                                         |                                 |                                          |                                   |              |            |        |                                    |                                        |                                   |
| ARMADA 380          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 88F6810      | ARM®v7 Cortex A9 Single Core with NEON | 2 x 1/2.5GbE     | 3 x PCIe 2.0 x1         | 2 x USB3/USB2 and 1 x USB2             | 2x UART  | 2 x SATA3 | 8/16 bit Device bus | 1.0GHz, 1.33GHz, 1.6GHz                 | L1: 32KB/32KB L2: 512MB unified | 16-bit, ECC DDR3/L-1600 and DDR4-1800    | 17x17mm                           | 372-TFBGA    | 0.8mm      | Yes    | DB-88F6820-GP-A0; DB-88F6820-AP-A0 | U-Boot, Linux, OpenWRT, Yocto, FreeBSD |                                   |
| ARMADA 381          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 88F6811      | ARM®v7 Cortex A9 Single Core with NEON | 1 x 1/2.5GbE     | 3 x PCIe 2.0 x1         | 1 x USB3/USB2 and 1 x USB2             | 2x UART  | 2 x SATA3 | 8/16 bit Device bus | 1.0GHz, 1.33GHz                         | L1: 32KB/32KB B L2: 1MB unified | 16-bit, ECC DDR3/L-1333                  | 14x14mm                           | 298-TFBGA    | 0.65mm     | No     | DB-88F6821-BP-A0                   | U-Boot, Linux, OpenWRT, Yocto, FreeBSD |                                   |
| ARMADA 382          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 88F6821      | ARM®v7 Cortex A9 Dual Core with NEON   | 1 x 1/2.5GbE     | 3 x PCIe 2.0 x1         | 1 x USB3/USB2 and 1 x USB2             | 2x UART  | 2 x SATA3 | 8/16 bit Device bus | 1.0GHz, 1.33GHz                         | L1: 32KB/32KB B L2: 1MB unified | 16-bit, ECC DDR3/L-1333                  | 14x14mm                           | 298-TFBGA    | 0.65mm     | No     | DB-88F6821-BP-A0                   | U-Boot, Linux, OpenWRT, Yocto, FreeBSD |                                   |
| ARMADA 385          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 88F6820      | ARM®v7 Cortex A9 Dual Core with NEON   | 3 x 1/2.5GbE     | 4 x PCIe 2.0 x1 or 1 x4 | 2 x USB3/USB2 and 1 x USB2             | 2x UART  | 2 x SATA3 | 8/16 bit Device bus | 1.0GHz, 1.33GHz, 1.6GHz, 1.8GHz, 2.0GHz | L1: 32KB/32KB B L2: 1MB unified | 16/32-bit, ECC DDR3/L-1600 and DDR4-1800 | 17x17mm                           | 372-TFBGA    | 0.8mm      | Yes    | DB-88F6820-GP-A0; DB-88F6820-AP-A0 | U-Boot, Linux, OpenWRT, Yocto, FreeBSD |                                   |
| ARMADA 388          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 88F6828      | ARM®v7 Cortex A9 Dual Core with NEON   | 3 x 1/2.5GbE     | 4 x PCIe 2.0 x1 or 1 x4 | 2 x USB3/USB2 and 1 x USB2             | 2x UART  | 4 x SATA3 | 8/16 bit Device bus | 1.0GHz, 1.33GHz, 1.6GHz, 1.8GHz, 2.0GHz | L1: 32KB/32KB B L2: 1MB unified | 16/32-bit, ECC DDR3/L-1600 and DDR4-1800 | 17x17mm                           | 372-TFBGA    | 0.8mm      | Yes    | DB-88F6820-GP-A0                   | U-Boot, Linux, OpenWRT, Yocto, FreeBSD |                                   |
| ARMADA 375          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |              |                                        |                  |                         |                                        |          |           |                     |                                         |                                 |                                          |                                   |              |            |        |                                    |                                        |                                   |

## ARMADA Series

## Embedded Processors

ARMADA Series

Embedded Processors

| Part Numbers | CPU Base Architecture | Ethernet                                                      | PCIe                | USB                | UART                              | SATA       | Device Bus   | Frequency                    | Cache                               | DDR Controller                                       | Package Size                  | Package Type              | Ball Pitch    | I-Temp | Evaluation Board | Software                                      |                  |
|--------------|-----------------------|---------------------------------------------------------------|---------------------|--------------------|-----------------------------------|------------|--------------|------------------------------|-------------------------------------|------------------------------------------------------|-------------------------------|---------------------------|---------------|--------|------------------|-----------------------------------------------|------------------|
| 88F6720      | 88F6720               | ARM®v7<br>Cortex<br>A9<br>Dual<br>Core<br>with<br>NEON        | 2 x<br>GbE          | 2 x PCIe<br>2.0 x1 | 1 x USB3/<br>USB2 and<br>1 x USB2 | 2x<br>UART | 2 x<br>SATA2 | 8/16<br>bit<br>Device<br>bus | 800MHz<br>, 1.0GHz                  | L1:<br>32KB-I,<br>32KB-D;<br>L2:<br>256KB<br>unified | 16/32-bit,<br>DDR3/<br>L-1066 | 19mm<br>x<br>19mm         | 511-TFBGA     | 0.65mm | Yes              | DB-88F6720-A0                                 | u-boot,<br>Linux |
| ARMADA LP    |                       |                                                               |                     |                    |                                   |            |              |                              |                                     |                                                      |                               |                           |               |        |                  |                                               |                  |
| 88F3710      | 88F3710               | ARM®v<br>8<br>Cortex<br>A53<br>Single<br>Core<br>with<br>NEON | 2 x<br>1/2.5Gb<br>E | 1 x PCIe<br>2.0 x1 | 1 x USB3/<br>USB2 and<br>1 x USB2 | 1x<br>UART | 1 x<br>SATA3 | None                         | 800MHz<br>, 1.0GHz<br>and<br>1.2GHz | L1:<br>32KB-I,<br>32KB-D;<br>L2:<br>256KB<br>unified | 16 bit<br>DDR3/3L/<br>4       | 10.5m<br>m<br>x11.5m<br>m | 271L<br>TFBGA | 0.5mm  | Yes              | DB-88F3720-DDR3-1;<br>DB-88F3720-<br>DDR4-4GB | u-boot,<br>Linux |
| 88F3720      | 88F3720               | ARM®v8<br>Cortex<br>A53<br>Dual<br>Core<br>with<br>NEON       | 2 x<br>1/2.5Gb<br>E | 1 x PCIe<br>2.0 x1 | 1 x USB3/<br>USB2 and<br>1 x USB2 | 1x<br>UART | 1 x<br>SATA3 | None                         | 800MHz<br>, 1.0GHz<br>and<br>1.2GHz | L1:<br>32KB-I,<br>32KB-D;<br>L2:<br>256KB<br>unified | 16 bit<br>DDR3/3L/<br>4       | 10.5m<br>m<br>x11.5m<br>m | 271L<br>TFBGA | 0.5mm  | Yes              | DB-88F3720-DDR3-1;<br>DB-88F3720-<br>DDR4-4GB | u-boot,<br>Linux |

## EZ Connect

## Microcontrollers

## 88MW300

Microcontroller with Wi-Fi connectivity

## 88MW302

Microcontroller with Wi-Fi connectivity

## 88MB300

Microcontroller with BT/BLE

| Processor               | Frequency | Connectivity               | Memory                                       | execute-In-Place | Security                               | DMA          | Clock       | Timers                         | Digital Interfaces                                                                                                        | Analog                      | GPIOs    | Debug    | Package                  |
|-------------------------|-----------|----------------------------|----------------------------------------------|------------------|----------------------------------------|--------------|-------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------|----------|--------------------------|
| ARM Cortex-M4F with MPU | 200 MHz   | 802.11 b/g/n 1x1           | ROM: 128KB, SRAM: 512KB, Always-On SRAM: 4KB | Yes              | Secure Boot, AES engine, WLAN TKIP/AES | 32x channels | On-chip RTC | 2x GPT with LED PWM, Watch Dog | I2C (2x), UART (3x), SSP/SPI (3x), I2S (3x), QSPI (with 32KB Flash-cache)                                                 | ADC, DAC, Analog Comparator | Up to 35 | JTAG/SWD | 68-pin QFN 8x8 mm        |
| ARM Cortex-M4F with MPU | 200 MHz   | 802.11 b/g/n 1x1           | ROM: 128KB, SRAM: 512KB, Always-On SRAM: 4KB | Yes              | Secure Boot, AES engine, WLAN TKIP/AES | 32x channels | RTC         | 4x GPT with LED PWM, Watch Dog | I2C (2x), UART (3x), SSP/SPI (3x), I2S (3x), QSPI (with 32KB Flash-cache), USB OTG                                        | ADC, DAC, Analog Comparator | Up to 50 | JTAG/SWD | 88-pin QFN 10x10 mm      |
| ARM Cortex-M3 with MPU  | 128 MHz   | Bluetooth 4.2, BDR/EDR BLE | ROM: 320KB, SRAM: 512KB                      | No               | Bluetooth AES                          | 6x channels  | RTC         | 2x GPT, Watch Dog              | I2C (2x), UART (2x), SSP/SPI (2x), I2S/PCM (2x), QSPI 16x16 Keyscan controller, Touch-button module, Trackball controller | ADC, DAC, Analog Comparator | Up to 32 | JTAG/SWD | 48-pin QFN, 69-bump eWLP |

## SATA Storage Controllers

## Storage Switching

| Part Numbers                                                               | Port Count | Bus Type           | Queueing               | Port Multiplier Support | Flash          | Marvell Firmware | Power | Package Size | Package Type | I-Temp | Ball Pitch | Evaluation Board Part Number |
|----------------------------------------------------------------------------|------------|--------------------|------------------------|-------------------------|----------------|------------------|-------|--------------|--------------|--------|------------|------------------------------|
| 88SE9345<br>PCIe 2.0x4 to 4 SATA 6Gb/s Ports Without RAID                  | 4S         | PCI-Express 2.0x4  | Tag and Native Command | Yes                     | Flash BIOS I/F | N/A              | -5W   | 19mm x 19mm  | 481-TFBGA    | No     | 0.8mm      | EV1-88SE9345                 |
| 88SE9230<br>PCIe 2.0x2 to 4 SATA 6Gb/s Ports RAID Controller               | 4S         | PCI-Express 2.0x2  | Tag and Native Command | FIS-Based               | Flash BIOS I/F | HW RAID 0/1      | 1w    | 9mm x 9mm    | 76-QFN       | No     | 0.4mm      | EV1-88SE9230                 |
| 88SE9235<br>PCIe 2.0x2 to 4 SATA 6Gb/s Ports Without RAID                  | 4S         | PCI-Express 2.0x2  | Tag and Native Command | FIS-Based               | Flash BIOS I/F | N/A              | 1w    | 9mm x 9mm    | 76-QFN       | No     | 0.4mm      | EV1-88SE9235                 |
| 88SE9215<br>PCIe 2.0x1 to 4 SATA 6Gb/s Ports Without RAID                  | 4S         | PCI-Express 2.0x1  | Tag and Native Command | FIS-Based               | Flash BIOS I/F | N/A              | 1w    | 9mm x 9mm    | 76-QFN       | No     | 0.4mm      | EV1-88SE9215                 |
| 88SE9170<br>PCIe 2.0x1 to 2 SATA 6Gb/s Ports Without RAID                  | 2S         | PCI Express 2.0 x1 | Tag and Native Command | FIS-Based               | Flash BIOS I/F | N/A              | 0.8w  | 7mm x 7mm    | 56-QFN       | Yes    | 0.4mm      | EV1-88SE9170                 |
| 88SE9182<br>PCIe 2.0x2 to 2 SATA 6Gb/s Ports Without RAID                  | 2S         | PCI-Express 2.0x2  | Tag and Native Command | FIS-Based               | Flash BIOS I/F | N/A              | 0.8w  | 7mm x 7mm    | 56-QFN       | Yes    | 0.4mm      | EV1-88SE9182                 |
| 88SE9130<br>PCIe 2.0x1 to 2 SATA 6Gb/s Ports RAID controller               | 2S         | PCI-Express 2.0 x1 | Tag and Native Command | FIS-Based               | Flash BIOS I/F | HW RAID 0/1      | 1W    | 9mm x 9mm    | 76-QFN       | No     | 0.4mm      | EV1-88SE9130                 |
| 88SE9128<br>PCIe 2.0x1 to 2 SATA 6Gb/s Ports (1 PATA Port) RAID controller | 2S 1P      | PCI-Express 2.0 x1 | Tag and Native Command | FIS-Based               | Flash BIOS I/F | HW RAID 0/1      | 1W    | 9mm x 9mm    | 76-QFN       | No     | 0.4mm      | EV1-88SE9128                 |
| 88SE9120<br>PCIe 2.0x1 to 2 SATA 6Gb/s Ports (1 PATA Port) Without RAID    | 2S 1P      | PCI-Express 2.0 x1 | Tag and Native Command | FIS-Based               | Flash BIOS I/F | N/A              | 1W    | 9mm x 9mm    | 76-QFN       | Yes    | 0.4mm      | EV1-88SE9120                 |
| 88SE9125<br>PCIe 2.0x1 to 2 SATA 6Gb/s Ports Without RAID                  | 2S         | PCI-Express 2.0 x1 | Tag and Native Command | FIS-Based               | Flash BIOS I/F | N/A              | 1W    | 9mm x 9mm    | 76-QFN       | Yes    | 0.4mm      | EV1-88SE9125                 |

## SATA Storage Controllers

## Storage Switching

88SE1475

PCIe 3.0x8 to 16 SATA 6Gb/s Ports Without RAID

88SE9171

PCIe 2.0x1 to 1 SATA 6Gb/s Port

| Part Numbers | Port Count | Bus Type           | Queueing               | Port Multiplier Support | Flash          | Marvell Firmware | Power | Package Size | Package Type | I-Temp | Ball Pitch | Evaluation Board Part Number |
|--------------|------------|--------------------|------------------------|-------------------------|----------------|------------------|-------|--------------|--------------|--------|------------|------------------------------|
| 88SE1475     | 16S        | PCI-Express 3.0 x8 | Tag and Native Command | FIS-Based               | Flash BIOS I/F | N/A              | 9W    | 21mm x 21mm  | 625 HFCBGA   | No     | 0.8mm      | EV1-88SE1475                 |
| 88SE9171     | 1S         | PCI-Express 2.0x1  | Tag and Native Command | FIS-Based               | Flash BIOS I/F | N/A              | 0.8w  | 7mm x 7mm    | 56-QFN       | Yes    | 0.4mm      | EV1-88SE9171                 |

## SAS/SATA Storage Controllers

## Storage Switching

88RC9580

PCIe 2.0x8 to 8 SAS/SATA 6Gb/s Ports RAID Controller

88SE9485

PCIe 2.0 x8 to 8 SAS/SATA 6Gb/s Ports I/O Controller

88SE9445

PCIe 2.0 x4 to 4 SAS/SATA 6Gb/s Ports I/O Controller

88SE1495

PCIe 3.0x8 to 16 Ports 12Gb/s SAS or 6Gb/s SATA Without RAID

88SE1485

PCIe 3.0x8 to 8 Ports 12Gb/s SAS or 6Gb/s SATA Without RAID

| Part Numbers | Port Count | Bus Type           | Queueing               | SAS Expander Support | Flash          | Target Mode | Marvell RAID Software | Power | Package Size | Package Type | I-Temp | Ball Pitch | Evaluation Board Part Number |
|--------------|------------|--------------------|------------------------|----------------------|----------------|-------------|-----------------------|-------|--------------|--------------|--------|------------|------------------------------|
| 88RC9580     | 8          | PCI-Express 2.0 x8 | Tag and Native Command | Yes                  | Flash BIOS I/F | Yes         | N/A                   | -8W   | 27mm x 27mm  | 676-FCBGA    |        | 1.0mm      | DB1-88RC9580                 |
| 88SE9485     | 8          | PCI-Express 2.0 x8 | Tag and Native Command | Yes                  | Flash BIOS I/F | No          | N/A                   | -6W   | 23mm x 23mm  | 484-HSBGA    |        | 1.0mm      | HA2VA6800m-RC1Vxx            |
| 88SE9445     | 4          | PCI-Express 2.0 x4 | Tag and Native Command | Yes                  | Flash BIOS I/F | Yes         | N/A                   | -5W   | 19mm x 19mm  | 481-TFBGA    |        | 0.8mm      | EV1-88SE9445                 |
| 88SE1495     | 16         | PCI-Express 3.0 x8 | Tag and Native Command | Yes                  | Flash BIOS I/F | Yes         | N/A                   | 9.5W  | 21mm x 21mm  | 625 HFCBGA   |        | 0.8mm      | EV1-88SE1485                 |
| 88SE1485     | 8          | PCI-Express 3.0 x8 | Tag and Native Command | Yes                  | Flash BIOS I/F | Yes         | N/A                   | 7.5W  | 21mm x 21mm  | 625 HFCBGA   |        | 0.8mm      | EV1-88SE1485                 |

## SATA Port Multiplier/Multiplexer

## Storage Switching

## 88SM9715

1 Port to 5 Port 6Gb/s SATA Port Multiplier With Enclosure Management

## 88SM9705

1 Port to 5 Port 6Gb/s SATA Port Multiplier

## 88SM9602

1 Port to 2 Port 6Gb/s SATA Port

## 88SM4140

1:4 Serial ATA 3Gb/s Port Multiplier

| Part Numbers | Port Count | Data Rate  | Power | Package Size | Package Type | I-Temp | Evaluation Board Part Number |
|--------------|------------|------------|-------|--------------|--------------|--------|------------------------------|
| 88SM9715     | 6          | SATA 6Gb/s | 0.88W | 10mm x 10mm  | 84-QFN       | Yes    | EV1-88SM9715                 |
| 88SM9705     | 6          | SATA 6Gb/s | 0.88W | 10mm x 10mm  | 84-QFN       | Yes    | EV1-88SM9705                 |
| 88SM9602     | 3          | SATA 6Gb/s | 0.50W | 6mm x 6mm    | 48-MQFN      |        | EV1-88SM9602                 |
| 88SM4140     | 5          | SATA 3Gb/s | 1.6W  | 12mm x 12mm  | 80-LQFP      |        | DB1-88SM4140C1-8087          |

## SATA Bridge

## Storage Switching

## 88SA8052

SATA/PATA Bridge

| Part Numbers | Port Count     | Data Rate              | Power | Package Size | Package Type | I-Temp    | Evaluation Board Part Number |
|--------------|----------------|------------------------|-------|--------------|--------------|-----------|------------------------------|
| 88SA8052     | Host or Device | SATA 3Gb/s to PATA 133 | 0.25W | 9mm x 9mm    | 64-QFN       | Yes (QFN) | DB-88SA8052-D, DB-88SA8052-H |



## SAS to SATA Protocol Converter

## Storage Switching

|                                                  | Part Number | SAS Port | SATA port | Data Rate         | Internal Flash | Power | Package Size | Package Type | I-Temp | Evaluation Board Part Number |
|--------------------------------------------------|-------------|----------|-----------|-------------------|----------------|-------|--------------|--------------|--------|------------------------------|
| 88SF9210<br>6Gb/s SAS to SATA Protocol Converter | 88SF9210    | 2        | 2         | SAS/SATA 6.0 Gb/s | N/A            | 1.35W | 10mm x 10mm  | 84-QFN       |        | DB1-88SF9210                 |
| 88SF9110<br>6Gb/s SAS to SATA Protocol Converter | 88SF9110    | 2        | 1         | SAS/SATA 6.0 Gb/s | N/A            | 1.20W | 10mm x 10mm  | 84-QFN       |        | DB1-88SF9110                 |

## Link Street® - Fast Ethernet Switches

### SOHO Switching

88E6020  
4-Port FE Switch

88E6070  
5-Port FE Switch

88E6071  
5-Port FE Switch

88E6085  
10-Port FE Switch

88E6065/B  
6-Port FE Switch

| Port Configuration             | Number of Ports | USXGMII / XFI | 2.5G | Number of (R)XAUI | SGMII / 100Base X | GMII | RGMII | MII | RMII | 100Base T | 100Base T | 100Base FX |
|--------------------------------|-----------------|---------------|------|-------------------|-------------------|------|-------|-----|------|-----------|-----------|------------|
| 2 PHYs 2 MII/RMII              | 4               | 0             | 0    | 0                 | 0                 | 0    | 1     | 2   | 2    | 2         | 0         | 1          |
| 5 PHYs                         | 5               | 0             | 0    | 0                 | 0                 | 0    | 0     | 0   | 0    | 5         | 0         | 1          |
| 5 PHYs 2 RMII (or 1 MII/RGMII) | 7               | 0             | 0    | 0                 | 0                 | 0    | 2     | 1   | 2    | 5         | 0         | 1          |
| 8 PHYs 2 MII                   | 10              | 0             | 0    | 0                 | 0                 | 0    | 0     | 2   | 0    | 8         | 0         | 0          |
| 5 PHYs 1 MII or 4 PHYs 2 MII   | 6               | 0             | 0    | 0                 | 0                 | 0    | 0     | 2   | 2    | 5         | 0         | 2          |

## Link Street® - Fast Gigabit Ethernet Switches

### SOHO Switching

88E6046  
6-Port FE+GE Switch

| Port Configuration         | Number of Ports | USXGMII / XFI | 2.5G | Number of (R)XAUI | SGMII / 100Base X | GMII | RGMII | MII | RMII | 100Base T | 100Base T | 100Base FX |
|----------------------------|-----------------|---------------|------|-------------------|-------------------|------|-------|-----|------|-----------|-----------|------------|
| 4 FE PHYs GMII/RGMII/SGMII | 6               | 0             | 0    | 0                 | 2                 | 1    | 0     | 2   | 0    | 4         | 0         | 0          |

## Link Street® - Fast Gigabit Ethernet Switches

### SOHO Switching

| Port Configuration                                                 | Number of Ports | USXGMII / XFI | 2.5G | Number of (R)XAUI | SGMII / 100Base X | GMII | RGMII | MII | RMII | 100Base T | 1000Base T | 100Base FX |   |
|--------------------------------------------------------------------|-----------------|---------------|------|-------------------|-------------------|------|-------|-----|------|-----------|------------|------------|---|
| 4 FE PHYs 1 GE PHY 1 Serdes 1 RGMII/MII/RMII 1 GMII/RGMII/MII/RMII | 7               | 0             | 0    | 0                 | 1                 | 1    | 2     | 2   | 2    | 2         | 5          | 1          | 1 |
| 8 FE PHYs GMII/RGMII/SGMII                                         | 11              | 0             | 0    | 0                 | 3                 | 1    | 1     | 2   | 0    | 8         | 0          | 0          |   |
| 8 FE PHYs GMII/RGMII/SGMII                                         | 11              | 0             | 0    | 0                 | 3                 | 2    | 1     | 2   | 0    | 8         | 0          | 8          |   |
| 8 FE PHYs 1 RGMII/MII/RMII 2 2.5G Serdes/SGMII                     | 11              | 0             | 2    | 0                 | 2                 | 0    | 1     | 1   | 1    | 8         | 0          | 0          |   |

## Link Street® - Gigabit Ethernet Switches

### SOHO Switching

| Port Configuration                          | Number of Ports | USXGMII / XFI | 2.5G | Number of (R)XAUI | SGMII / 100Base-X | GMII | RGMII | MII | RMII | 100Base T | 100Base T | 100Base FX |
|---------------------------------------------|-----------------|---------------|------|-------------------|-------------------|------|-------|-----|------|-----------|-----------|------------|
| 4 GE PHYs 1 RGMII/MII/RMII 1 2.5G/1G SERDES | 6               | 0             | 1    | 0                 | 1                 | 0    | 1     | 1   | 1    | 4         | 4         | 0          |
| 6 SerDes or 5 SerDes 1 GMII                 | 6               | 0             | 0    | 0                 | 6                 | 1    | 0     | 1   | 0    | 0         | 0         | 0          |

## Link Street® - Gigabit Ethernet Switches

### SOHO Switching

88E6352  
7-Port AVB GE Switch

88E6321  
7-Port AVB GE Switch

88E6185  
10-Port GE Switch

88E6390  
11-Port AVB GE Switch, 8 GE PHYs + 1 RGMII/MII/RMII + 2 2.5G SerDes/SGMII

88E6122  
6-Port GE Switch

88E6131  
8-Port GE Switch

| Port Configuration                                        | Number of Ports | USXGMII / XFI | 2.5G | Number of (R)XAUI | SGMII / 100Base X | GMII | RGMII | MII | RMII | 100Base T | 100Base T | 100Base FX |
|-----------------------------------------------------------|-----------------|---------------|------|-------------------|-------------------|------|-------|-----|------|-----------|-----------|------------|
| 5 GE PHYs 1 SerDes 1 RGMII/MII/RMII 1 GMII/RGMII/MII/RMII | 7               | 0             | 0    | 0                 | 1                 | 1    | 2     | 2   | 2    | 5         | 5         | 1          |
| 2 GE PHYs 3 RGMII/MII/RGMII 2 SerDes/SGMII                | 7               | 0             | 0    | 0                 | 2                 | 1    | 3     | 3   | 3    | 2         | 2         | 2          |
| 10 SerDes or 9 SerDes 1 GMII                              | 10              | 0             | 0    | 0                 | 10                | 1    | 0     | 1   | 0    | 0         | 0         | 0          |
| 8 GE PHYs 1 RGMII/MII/RMII 2 2.5G SerDes/SGMII            | 11              | 0             | 2    | 0                 | 2                 | 0    | 1     | 1   | 1    | 8         | 8         | 0          |
| 2 GE PHYs 3 SerDes 1 GMII                                 | 6               | 0             | 0    | 0                 | 3                 | 1    | 0     | 1   | 0    | 2         | 2         | 3          |
| 3 GE PHYs 4 SerDes 1 GMII                                 | 8               | 0             | 0    | 0                 | 4                 | 1    | 0     | 1   | 0    | 3         | 3         | 4          |

## Link Street® - Gigabit 10G Ethernet Switches

### SOHO Switching

88E6390X  
11-Port AVB GE+10G Switch

| Port Configuration                              | Number of Ports | USXGMII / XFI | 5G Serdes | 2.5G | Number of (R)XAUI | SGMII / 100Base X | GMII | RGMII | MII | RMII | 100Base T | 100Base T | 100Base FX |   |
|-------------------------------------------------|-----------------|---------------|-----------|------|-------------------|-------------------|------|-------|-----|------|-----------|-----------|------------|---|
| 8 GE PHYs 1 RGMII/<br>MII/RMII 2 XAUI/<br>RXAUI | 11              | 0             |           |      | 2                 | 2                 | 8    | 0     | 1   | 1    | 1         | 8         | 8          | 0 |

## Presteria DX

## Switching

Part Numbers

Port Configuration

Type

Evaluation Boards

Number of Ports

Package Size

Package Type

I-Temp

## DX Series

**Presteria-DX107**  
10-Port Gigabit Ethernet Packet Processor

98DX107-xx-LKJ

10 SGMII

Layer  
2/3

DB-DX107-10G, RD-DX107-48F4G

10

14mm x 20mm

128-LQFP

Yes

**Presteria-DX160**  
16-Port Gigabit Ethernet Packet Processor

98DX160-xx

16 SGMII

Layer 2

RD-DX240-24G

16

31mm x 31mm

458-HSBGA

**Presteria-DX167**  
16-Port Gigabit Ethernet Packet Processor

98DX167-xx

16 SGMII

Layer  
2/3

RD-DX247-24G

16

31mm x 31mm

458-HSBGA

Yes

**Presteria-DX240**  
24-Port Gigabit Ethernet Packet Processor

98DX240-xx

24 SGMII

Layer 2

RD-DX240-24G

24

31mm x 31mm

458-HSBGA

**Presteria-DX249**  
24-Port Gigabit Ethernet with 2 HX Ports Packet Processor

98DX249-xx

24 SGMII, 2 HX

Layer 2

DB-DX249-24G-2HX

26

31mm x 31mm

480-HSBGA

**Presteria-DX253**  
24-Port Gigabit Ethernet Packet Processor

98DX253-xx

24 SGMII

Layer  
2/3DB-DX273-24G3XG, RD-  
DX273-48G2XG

24

37.5mm x  
37.5mm

788-HSBGA

Yes

**Presteria-DX269**  
24-Port Gigabit Ethernet with 2 HX/HGS Ports Packet Processor

98DX269-xx

24 SGMII, 3 HX/  
XAUI

Layer 2

DB-DX269-24G-2HX-IB

27

37.5mm x  
37.5mm

788-HSBGA

**Presteria-DX273**  
24-Port Gigabit Ethernet with 3 HGS Ports Packet Processor

98DX273-xx

24 SGMII, 3 XAUI

Layer  
2/3DB-DX273-24G3XG, RD-  
DX273-48G2XG

27

37.5mm x  
37.5mm

788-HSBGA

**Presteria-DX5128**  
24-Port Gigabit Ethernet with 4 10GE Ports Packet Processor

98DX5128-xx

24 SGMII, 4 XAUI

Layer 3

DB-DX3-6XG-4HGS, RD-  
DX3-48GE-4HGS

28

35mm x 35mm

1138-FCBGA

-

## Presteria DX

## Switching

|                                                                 | Part Numbers                             | Port Configuration | Type    | Evaluation Boards                 | Number of Ports | Package Size | Package Type | I-Temp |
|-----------------------------------------------------------------|------------------------------------------|--------------------|---------|-----------------------------------|-----------------|--------------|--------------|--------|
| Presteria-DX8110<br>10-Port 10Gigabit Ethernet Packet Processor | 98DX8110-xx                              | 10 XAUI            | Layer 3 | DB-DX3-6XG-4HGS, RD-DX3-48GE-4HGS | 10              | 35mm x 35mm  | 1138-FCBGA   |        |
| Presteria-DXx24<br>24-Port Gigabit Ethernet Packet Processor    | 98DX324-A0-LKJ2C000, 98DX224-A0-LKJ2C000 | 6 QSGMII           | Layer 2 | RD-DX-24G-A RD-DX-22GE2C-A        | 24              | 14mm x 20mm  | LQFP         | No     |
| Presteria-DXx16<br>16-Port Gigabit Ethernet Packet Processor    | 98DX316-A0-LKJ2C000, 98DX216-A0-LKJ2C000 | 4 QSGMII           | Layer 2 | RD-DX-16UNM                       | 16              | 14mm x 20mm  | LQFP         | No     |
| Presteria-DXx08<br>8-Port Gigabit Ethernet Packet Processor     | 98DX308-A0-LKJ2C000, 98DX208-A0-LKJ2C000 | 2 QSGMII           | Layer 2 | RD-DX-8G-A                        | 8               | 14mm x 20mm  | LQFP         | No     |

## Alaska C Ethernet

## Transceivers

Alaska C 88X5113

Alaska C 88X5123

|  | Number of Ports | Optical (Line) | MACSec (LinkCrypt) | 1-Temp | 2-Step PTP (1588 v2) | SyncE | Supported Speeds | Host Interfaces               | Optical Interface                  | Optical Module Types    | Direct Attach Copper            | Energy Efficient Ethernet | Core Voltage | Digital I/O                  | Analog Voltage                | Reference Clock | JTAG       | Package Type |            |
|--|-----------------|----------------|--------------------|--------|----------------------|-------|------------------|-------------------------------|------------------------------------|-------------------------|---------------------------------|---------------------------|--------------|------------------------------|-------------------------------|-----------------|------------|--------------|------------|
|  | 1               | Yes            | No                 | Yes    | No                   | No    | Yes              | 100G, 50GCAUI-4, 25G, 10G, 1G | 50GCAUI-4, 25GCAUI-4, 10G, 1G, XFI | 100G, 40G, 25G, 10G, 1G | 25GBASE-R, 10GBASE-R, 40GBASE-R | Yes                       | No           | 0.9V (C-temp), 0.9V (I-temp) | 1.0V/1.2V/1.5V/1.8V/2.5V/3.3V | 1.0V            | 156.25 MHz | Yes          | 169-FCBGA  |
|  | 2               | Yes            | No                 | Yes    | No                   | No    | Yes              | 100G, 50GCAUI-4, 25G, 10G, 1G | 50GCAUI-4, 25GCAUI-4, 10G, 1G, XFI | 100G, 40G, 25G, 10G, 1G | 25GBASE-R, 10GBASE-R, 40GBASE-R | Yes                       | No           | 1.0V                         | 1.2V/1.8V/2.5V                | 1.0V            | 156.25 MHz | Yes          | 256-HFCBGA |

## Alaska M Multi-Gigabit Ethernet

## Transceivers

88E2180

Octal EEE 10/100/1G/2.5G/5GBASE-T PHY

88E2110

Single EEE 10/100/1G/2.5G/5GBASE-T PHY

88E2040P

Quad EEE 10/100/1G/2.5G/5GBASE-T PHY with MACSec, PTP

88E2040L

Quad EEE 10/100/1G/2.5G/5GBASE-T PHY

| et | Comprehensive Ethernet Port Specifications and Features |                |                     |        |                      |       |                         |                                                  |                                                  |                      |                      |                           |              |                           |                            |                            |                |              |            |
|----|---------------------------------------------------------|----------------|---------------------|--------|----------------------|-------|-------------------------|--------------------------------------------------|--------------------------------------------------|----------------------|----------------------|---------------------------|--------------|---------------------------|----------------------------|----------------------------|----------------|--------------|------------|
|    | Number of Ports                                         | Optical (Line) | MACSec (LinkCrypt®) | 1-Temp | 2-Step PTP (1588 v2) | SyncE | BASE-T (Copper)         | Host Interfaces                                  | Optical Interface                                | Optical Module Types | Direct Attach Copper | Energy Efficient Ethernet | Core Voltage | Digital I/O               | Analog Voltage             | Reference Clock            | JTAG           | Package Type |            |
|    | 8                                                       | No             | No                  | Yes    | No                   | No    | Yes                     | 5G, 2.5G, 1G, 100M, 10M                          | USXGMII-M, XFI, 5GBASE-R, 2500BASE-X, SGMII      | No                   | No                   | No                        | Yes          | 0.80V                     | 1.2V/1.5V/1.8V/2.5V /3.3V  | 1.5V, 1.8V, 3.3V           | 50, 156.25 MHz | Yes          | 529-HFCBGA |
|    | 1                                                       | No             | No                  | Yes    | No                   | No    | Yes                     | 5G, 2.5G, 1G, 100M, 10M                          | USXGMII-M, XFI, 5GBASE-R, 2500BASE-X, SGMII      | No                   | No                   | No                        | Yes          | 0.80V                     | 1.2V/1.5V/1.8V/2.5V /3.3V  | 1.5V, 1.8V, 3.3V           | 50, 156.25 MHz | Yes          | 104-HFCBGA |
|    | 4                                                       | No             | Yes                 | Yes    | Yes                  | Yes   | Yes                     | 5G, 2.5G, 1G, 100M, 10M                          | USXGMII, XFI, RXAUI, 5GBASE-R, 2500BASE-X, SGMII | No                   | No                   | No                        | Yes          | 0.80V                     | 1.2V/1.5V/1.8V/2.5V /3.3V  | 1.5V, 1.8V/2.0V, 2.3V/2.5V | 50, 156.25 MHz | Yes          | 484-HFCBGA |
| 4  | No                                                      | No             | Yes                 | No     | No                   | Yes   | 5G, 2.5G, 1G, 100M, 10M | USXGMII, XFI, RXAUI, 5GBASE-R, 2500BASE-X, SGMII | No                                               | No                   | No                   | Yes                       | 0.80V        | 1.2V/1.5V/1.8V/2.5V /3.3V | 1.5V, 1.8V/2.0V, 2.3V/2.5V | 50, 156.25 MHz             | Yes            | 484-HFCBGA   |            |

## Alaska M Multi-Gigabit Ethernet

## Transceivers

## 88E2010P

Single EEE 10/100/1G/2.5G/5GBASE-T PHY with MACSec, PTP

## 88E2010

Single EEE 10/100/1G/2.5G/5GBASE-T PHY

| Number of Ports | Optical (Line) | MACSec (LinkCrypt®) | 1-Temp | 1-Step PTP (1588 v2) | 2-Step PTP | SyncE | BASE-T Speeds (Copper)  | Host Interfaces                                  | Optical Interface | Optical Module Types | Direct Attach Copper | Energy Efficient Ethernet | Core Voltage | Digital I/O              | Analog Voltage             | Reference Clock | JTAG | Package Type |
|-----------------|----------------|---------------------|--------|----------------------|------------|-------|-------------------------|--------------------------------------------------|-------------------|----------------------|----------------------|---------------------------|--------------|--------------------------|----------------------------|-----------------|------|--------------|
| 1               | No             | Yes                 | Yes    | Yes                  | Yes        | Yes   | 5G, 2.5G, 1G, 100M, 10M | USXGMII, XFI, RXAUI, 5GBASE-R, 2500BASE-X, SGMII | No                | No                   | No                   | Yes                       | 0.80V        | 1.2V/1.5V/1.8V/2.5V/3.3V | 1.5V, 1.8V/2.0V, 2.3V/2.5V | 50, 156.25 MHz  | Yes  | 168-HFCBGA   |
| 1               | No             | No                  | Yes    | No                   | No         | Yes   | 5G, 2.5G, 1G, 100M, 10M | USXGMII, XFI, RXAUI, 5GBASE-R, 2500BASE-X, SGMII | No                | No                   | No                   | Yes                       | 0.80V        | 1.2V/1.5V/1.8V/2.5V/3.3V | 1.5V, 1.8V/2.0V, 2.3V/2.5V | 50, 156.25 MHz  | Yes  | 168-HFCBGA   |

## Alaska 1-Gigabit Ethernet

## Transceivers

## Single Port Devices

## Alaska 88E1518

EEE 10/100/1000BASE-T PHY with RGMII

## Alaska 88E1514P

EEE 10/100/1000BASE-T PHY with SGMII, Copper/Fiber Autotmedia Detect and Low-Latency (1Step-PTP) 1588 v2 support

## Alaska 88E1514

EEE 10/100/1000BASE-T PHY with SGMII, Copper/Fiber Autotmedia Detect

| Number of Ports | Optical (Line) | MACSec (LinkCrypt®) | 1-Temp | 1-Step PTP (1588 v2) | 2-Step PTP | SyncE | BASE-T Speeds (Cu) | Optical Line Interfaces (SGMII) | Mac Interfaces | Energy Efficient Ethernet | Core Voltage | Digital I/O    | Analog Voltage | Internal Regulator   | Integrated Passives | Reference Clock | JTAG | Package Type |
|-----------------|----------------|---------------------|--------|----------------------|------------|-------|--------------------|---------------------------------|----------------|---------------------------|--------------|----------------|----------------|----------------------|---------------------|-----------------|------|--------------|
| 1               | No             | No                  | No     | No                   | No         | Yes   | 10M/100M/1G        | No                              | RGMII          | Yes                       | 1.0V         | 1.8V           | 1.8V/3.3V      | Switch-cap Regulator | Yes                 | 25 MHz          | No   | 48-QFN       |
| 1               | No             | No                  | No     | Yes                  | Yes        | Yes   | 10M/100M/1G        | No                              | SGMII          | Yes                       | 1.0V         | 1.8V/2.5V/3.3V | 1.8V/3.3V      | Switch-cap Regulator | Yes                 | 25 MHz          | No   | 56-QFN       |
| 1               | No             | No                  | No     | No                   | No         | Yes   | 10M/100M/1G        | No                              | SGMII          | Yes                       | 1.0V         | 1.8V/2.5V/3.3V | 1.8V/3.3V      | Switch-cap Regulator | Yes                 | 25 MHz          | No   | 56-QFN       |



## Alaska 1-Gigabit Ethernet

## Transceivers

|                                                                                                                                            | Number of Ports | Optical (Line) | MACSec (LinkCrypt) | 1-Temp | 1-Step PTP (1588 v2) | 2-Step PTP | SyncE | BASE-T Speeds (Cu) | Optical Line Interfaces (SGMII)    | Mac Interfaces                     | Energy Efficient Ethernet | Core Voltage | Digital I/O         | Analog Voltage | Internal Regulator   | Integrated Passives | Reference Clock     | JTAG | Package Type              |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|--------------------|--------|----------------------|------------|-------|--------------------|------------------------------------|------------------------------------|---------------------------|--------------|---------------------|----------------|----------------------|---------------------|---------------------|------|---------------------------|
| Alaska 88E1512P<br>EEE 10/100/1000BASE-T PHY with RGMII, SGMII, Copper/Fiber Autotmedia Detect and Low-Latency (1Step-PTP) 1588 v2 support | 1               | Yes            | No                 | Yes    | Yes                  | Yes        | Yes   | 10M/100M/1G        | SGMII, 100BASE-FX, 1000BASE-X, SFP | RGMII, SGMII, MII                  | Yes                       | 1.0V         | 1.8V/2.5V/3.3V      | 1.8V/3.3V      | Switch-cap Regulator | Yes                 | 25 MHz              | No   | 56-QFN                    |
| Alaska 88E1512<br>EEE 10/100/1000BASE-T PHY with RGMII, SGMII Copper/Fiber Autotmedia Detect                                               | 1               | Yes            | No                 | Yes    | No                   | Yes        | Yes   | 10M/100M/1G        | SGMII, 100BASE-FX, 1000BASE-X, SFP | RGMII, SGMII                       | Yes                       | 1.0V         | 1.8V/2.5V/3.3V      | 1.8V/3.3V      | Switch-cap Regulator | Yes                 | 25 MHz              | No   | 56-QFN                    |
| Alaska 88E1510Q<br>EEE 10/100/1000BASE-T PHY with RGMII and Low-Latency (1Step-PTP) 1588 v2 support                                        | 1               | No             | No                 | Yes    | Yes                  | Yes        | Yes   | 10M/100M/1G        | No                                 | RGMII                              | Yes                       | 1.0V         | 1.8V/2.5V/3.3V      | 1.8V/3.3V      | Switch-cap Regulator | Yes                 | 25 MHz              | No   | 48-QFN                    |
| Alaska 88E1510P<br>EEE 10/100/1000BASE-T PHY with RGMII and Low-Latency (1Step-PTP) 1588 v2 support                                        | 1               | No             | No                 | Yes    | Yes                  | Yes        | Yes   | 10M/100M/1G        | No                                 | RGMII, MII                         | Yes                       | 1.0V         | 1.8V/2.5V/3.3V      | 1.8V/3.3V      | Switch-cap Regulator | Yes                 | 25 MHz              | No   | 48-QFN                    |
| Alaska 88E1510<br>EEE 10/100/1000BASE-T PHY with RGMII                                                                                     | 1               | No             | No                 | Yes    | No                   | Yes        | Yes   | 10M/100M/1G        | No                                 | RGMII                              | Yes                       | 1.0V         | 2.5V/3.3V           | 1.8V/3.3V      | Switch-cap Regulator | Yes                 | 25 MHz              | No   | 48-QFN                    |
| Alaska 88E1112<br>10/100/1000BASE-T PHY with Dual SERDES/SGMII                                                                             | 1               | Yes            | No                 | Yes    | No                   | No         | No    | 10M/100M/1G        | 100BASE-FX, 1000BASE-X, SFP        | SGMII                              | No                        | 1.2V         | 2.5V                | 2.5V           | No                   | No                  | 25 MHz              | No   | 64-QFN                    |
| Alaska 88E1111<br>10/100/1000BASE-T PHY with multiple MAC Interfaces                                                                       | 1               | Yes            | No                 | Yes    | No                   | No         | No    | 10M/100M/1G        | SGMII, 100BASE-FX, 1000BASE-X, SFP | RGMII, SGMII, GMII, MII, TBI, RTBI | No                        | 1.0V/1.2V    | 2.5V                | 2.5V           | No                   | No                  | 25, 125 MHz         | Yes  | Multiple Packages         |
| Quad-Port Devices                                                                                                                          |                 |                |                    |        |                      |            |       |                    |                                    |                                    |                           |              |                     |                |                      |                     |                     |      |                           |
| Alaska 88E1548P<br>EEE 100/100/1000BASE-T PHY with QSGMII                                                                                  | 4               | Yes            | Yes                | Yes    | Yes                  | Yes        | Yes   | 10M/100M/1G        | SGMII, 100BASE-FX, 1000BASE-X, SFP | SGMII, QSGMII                      | Yes                       | 1.0V         | 1.2V/1.8V/2.5V/3.3V | 1.8V/3.3V      | No                   | Yes                 | 25, 125, 156.25 MHz | Yes  | 15mm x 15mm 196-pin TFBGA |

## Alaska 1-Gigabit Ethernet

## Transceivers

|                                                                                        | Number of Ports | Optical (Line) | MACSec (LinkCrypt) | 1-Temp | 1-Step PTP (1588 v2) | 2-Step PTP | SyncE | BASE-T Speeds (Cu) | Optical Line Interfaces (SGMII)    | Mac Interfaces | Energy Efficient Ethernet | Core Voltage | Digital I/O         | Analog Voltage | Internal Regulator | Integrated Passives | Reference Clock     | JTAG | Package Type              |
|----------------------------------------------------------------------------------------|-----------------|----------------|--------------------|--------|----------------------|------------|-------|--------------------|------------------------------------|----------------|---------------------------|--------------|---------------------|----------------|--------------------|---------------------|---------------------|------|---------------------------|
| Alaska 88E1548M<br>EEE 100/100/1000BASE-T PHY with SGMII plus MACSec, Automedia Detect | 4               | Yes            | Yes                | No     | No                   | Yes        | Yes   | 10M/100M/1G        | SGMII, 100BASE-FX, 1000BASE-X, SFP | SGMII, QSGMII  | Yes                       | 1.0V         | 1.2V/1.8V/2.5V/3.3V | 1.8V/3.3V      | No                 | Yes                 | 25, 125, 156.25 MHz | Yes  | 196-TFBGA                 |
| Alaska 88E1548<br>EEE 100/100/1000BASE-T PHY with QSGMII                               | 4               | Yes            | No                 | No     | No                   | No         | No    | 10M/100M/1G        | SGMII, 100BASE-FX, 1000BASE-X, SFP | SGMII, QSGMII  | Yes                       | 1.0V         | 1.2V/1.8V/2.5V/3.3V | 1.8V/3.3V      | No                 | Yes                 | 25, 125, 156.25 MHz | Yes  | 15mm x 15mm 196-pin TFBGA |
| Alaska 88E1545M<br>EEE 100/100/1000BASE-T PHY with QSGMII plus MACSec                  | 4               | No             | Yes                | No     | No                   | No         | No    | 10M/100M/1G        | No                                 | QSGMII         | Yes                       | 1.0V         | 1.2V/1.8V/2.5V/3.3V | 1.8V/3.3V      | No                 | Yes                 | 25, 125, 156.25 MHz | Yes  | 128-LQFP                  |
| Alaska 88E1545<br>EEE 100/100/1000BASE-T PHY with QSGMII                               | 4               | No             | No                 | No     | No                   | No         | No    | 10M/100M/1G        | No                                 | QSGMII         | Yes                       | 1.0V         | 1.2V/1.8V/2.5V/3.3V | 1.8V/3.3V      | No                 | Yes                 | 25, 125, 156.25 MHz | Yes  | 128-LQFP                  |
| Alaska 88E1543M<br>EEE 100/100/1000BASE-T PHY with SGMII plus MACSec                   | 4               | Yes            | Yes                | No     | No                   | No         | No    | 10M/100M/1G        | SGMII, 100BASE-FX, 1000BASE-X, SFP | SGMII          | Yes                       | 1.0V         | 2.5V/3.3V           | 1.8V/3.3V      | No                 | Yes                 | 25, 125, 156.25 MHz | Yes  | 128-LQFP                  |
| Alaska 88E1543<br>EEE 100/100/1000BASE-T PHY with SGMII                                | 4               | Yes            | No                 | No     | No                   | No         | No    | 10M/100M/1G        | SGMII, 100BASE-FX, 1000BASE-X, SFP | SGMII          | Yes                       | 1.0V         | 2.5V/3.3V           | 1.8V/3.3V      | No                 | Yes                 | 25, 125, 156.25 MHz | Yes  | 128-LQFP                  |
| Alaska 88E1540M<br>EEE 100/100/1000BASE-T PHY with QSGMII plus MACSec                  | 4               | No             | Yes                | No     | No                   | Yes        | Yes   | 10M/100M/1G        | No                                 | QSGMII         | Yes                       | 1.0V         | 1.2V/1.8V/2.5V/3.3V | 1.8V/3.3V      | No                 | Yes                 |                     | Yes  | 196-TFBGA                 |
| Octal-Port-Devices                                                                     |                 |                |                    |        |                      |            |       |                    |                                    |                |                           |              |                     |                |                    |                     |                     |      |                           |
| Alaska 88E1685<br>EEE 10/100/1000BASE-T PHY with QSGMII                                | 8               | No             | No                 | No     | No                   | No         | No    | 10M/100M/1G        | No                                 | QSGMII         | Yes                       | 0.9V         | 1.2V/1.8V/2.5V/3.3V | 1.5V/1.8V      | No                 | Yes                 | 125 MHz             | Yes  | 128-LQFP                  |
| Alaska 88E1680M<br>EEE 10/100/1000BASE-T PHY with QSGMII plus MACSec, PTP, SyncE       | 8               | No             | Yes                | No     | Yes                  | Yes        | Yes   | 10M/100M/1G        | No                                 | QSGMII         | Yes                       | 0.9V         | 1.2V/1.8V/2.5V/3.3V | 1.5V/1.8V      | No                 | Yes                 | 125, 156.25 MHz     | Yes  | 128-LQFP                  |

## Alaska 1-Gigabit Ethernet

## Transceivers

## Alaska 88E1680

EEE 10/100/1000BASE-T PHY with QSGMII, MACSec, PTP, SyncE

| Number of Ports | Optical (Line) | MACSec (LinkCrypt) | I-Temp | 1-Step PTP (1588 v2) | 2-Step PTP | SyncE | BASE-T Speeds (Cu) | Optical Line Interfaces (SGMII) | Mac Interfaces | Energy Efficient Ethernet | Core Voltage | Digital I/O             | Analog Voltage | Internal Regulator | Integrated Passives | Reference Clock       | JTAG | Package Type |
|-----------------|----------------|--------------------|--------|----------------------|------------|-------|--------------------|---------------------------------|----------------|---------------------------|--------------|-------------------------|----------------|--------------------|---------------------|-----------------------|------|--------------|
| 8               | No             | No                 | Yes    | No                   | Yes        | Yes   | 10M/100M/1G        | No                              | QSGMII         | Yes                       | 0.9V         | 1.2V/1.8V/<br>2.5V/3.3V | 1.5V/1.8V      | No                 | Yes                 | 125,<br>156.25<br>MHz | Yes  | 128-LQFP     |

## Alaska X 10-Gigabit Ethernet

## Transceivers

## Copper (Base-T) PHYs

## Alaska X 88X3340P

Quad EEE 10/100/1G/2.5G/5G/10GBASE-T PHY with XFI, MACSec, PTP

## Alaska X 88X3340

Quad EEE 10/100/1G/2.5G/5G/10GBASE-T PHY with XFI

## Alaska X 88X3310P

Single EEE 10/100/1G/2.5G/5G/10GBASE-T PHY with XFI, MACSec, PTP

## Alaska X 88X3310

Single EEE 10/100/1G/2.5G/5G/10GBASE-T PHY with XFI

| Number of Ports | Optical (Line) | MACSec (LinkCrypt) | I-Temp | 1-Step PTP (1588 v2) | 2-Step PTP | SyncE | Supported Speeds                            | Host Interfaces                                                    | Optical Interface | Optical Module Types                | Direct Attach Copper | Energy Efficient Ethernet | Core Voltage | Digital I/O                      | Analog Voltage                   | Reference Clock      | JTAG | Package Type |
|-----------------|----------------|--------------------|--------|----------------------|------------|-------|---------------------------------------------|--------------------------------------------------------------------|-------------------|-------------------------------------|----------------------|---------------------------|--------------|----------------------------------|----------------------------------|----------------------|------|--------------|
| 4               | Yes            | Yes                | Yes    | Yes                  | Yes        | Yes   | 10G,<br>5G,<br>2.5G,<br>1G,<br>100M,<br>10M | USXGMII,<br>XFI, RXAUI,<br>5GBASE-R,<br>2500BASE-X, SGMII          | XFI/SFI           | 10GBASE-SR/ER/LR,<br>1000BASE-SX/LX | Yes                  | Yes                       | 0.80V        | 1.2V/1.5V/<br>1.8V/2.5V<br>/3.3V | 1.5V,<br>1.8V/2.0V,<br>2.3V/2.5V | 50,<br>156.25<br>MHz | Yes  | 484-HFCBGA   |
| 4               | Yes            | No                 | Yes    | No                   | No         | Yes   | 10G,<br>5G,<br>2.5G,<br>1G,<br>100M,<br>10M | USXGMII,<br>XFI, RXAUI,<br>5GBASE-R,<br>2500BASE-X, SGMII          | XFI/SFI           | 10GBASE-SR/ER/LR,<br>1000BASE-SX/LX | Yes                  | Yes                       | 0.80V        | 1.2V/1.5V/<br>1.8V/2.5V<br>/3.3V | 1.5V,<br>1.8V/2.0V,<br>2.3V/2.5V | 50,<br>156.25<br>MHz | Yes  | 484-HFCBGA   |
| 1               | Yes            | Yes                | Yes    | Yes                  | Yes        | Yes   | 10G,<br>5G,<br>2.5G,<br>1G,<br>100M,<br>10M | USXGMII,<br>XFI, RXAUI,<br>XAUI,<br>5GBASE-R,<br>2500BASE-X, SGMII | XFI/SFI           | 10GBASE-SR/ER/LR,<br>1000BASE-SX/LX | Yes                  | Yes                       | 0.80V        | 1.2V/1.5V/<br>1.8V/2.5V<br>/3.3V | 1.5V,<br>1.8V/2.0V,<br>2.3V/2.5V | 50,<br>156.25<br>MHz | Yes  | 168-HFCBGA   |
| 1               | Yes            | No                 | Yes    | No                   | No         | Yes   | 10G,<br>5G,<br>2.5G,<br>1G,<br>100M,<br>10M | USXGMII,<br>XFI, RXAUI,<br>XAUI,<br>5GBASE-R,<br>2500BASE-X, SGMII | XFI/SFI           | 10GBASE-SR/ER/LR,<br>1000BASE-SX/LX | Yes                  | Yes                       | 0.80V        | 1.2V/1.5V/<br>1.8V/2.5V<br>/3.3V | 1.5V,<br>1.8V/2.0V,<br>2.3V/2.5V | 50,<br>156.25<br>MHz | Yes  | 168-HFCBGA   |

## Alaska X 10-Gigabit Ethernet

## Transceivers

|                                                                             | Number of Ports | Optical (Line) | MACSec (LinkCrypt) | 1-Temp | 1-Step PTP (1588 v2) | 2-Step PTP | SyncE | Supported Speeds   | Host Interfaces         | Optical Interface | Optical Module Types                                                             | Direct Attach Copper | Energy Efficient Ethernet | Core Voltage | Digital I/O              | Analog Voltage             | Reference Clock    | JTAG | Package Type |
|-----------------------------------------------------------------------------|-----------------|----------------|--------------------|--------|----------------------|------------|-------|--------------------|-------------------------|-------------------|----------------------------------------------------------------------------------|----------------------|---------------------------|--------------|--------------------------|----------------------------|--------------------|------|--------------|
| Alaska X 88X3240P<br>Quad EEE 10/100/1G/10GBASE-T PHY with XFI, MACSec, PTP | 4               | Yes            | Yes                | No     | Yes                  | Yes        | Yes   | 10G, 1G, 100M, 10M | XFI, RXAUI, SGMII       | XFI/SFI           | 10GBASE-SR/ER/LR, 1000BASE-SX/LX                                                 | Yes                  | Yes                       | 0.80V        | 1.2V/1.5V/1.8V/2.5V/3.3V | 1.5V, 2.0V, 2.5V           | 50, 156.25 MHz     | Yes  | 484-HFCBGA   |
| Alaska X 88X3240<br>Dual EEE 10/100/1G/10GBASE-T PHY with XFI               | 4               | Yes            | No                 | No     | No                   | No         | Yes   | 10G, 1G, 100M, 10M | XFI, RXAUI, SGMII       | XFI/SFI           | 10GBASE-SR/ER/LR, 1000BASE-SX/LX                                                 | Yes                  | Yes                       | 0.80V        | 1.2V/1.5V/1.8V/2.5V/3.3V | 1.5V, 2.0V, 2.5V           | 50, 156.25 MHz     | Yes  | 484-HFCBGA   |
| Alaska X 88X3220P<br>Dual EEE 10/100/1G/10GBASE-T PHY with XFI, MACSec, PTP | 2               | Yes            | Yes                | No     | Yes                  | Yes        | Yes   | 10G, 1G, 100M, 10M | XFI, RXAUI, SGMII       | XFI/SFI           | 10GBASE-SR/ER/LR, 1000BASE-SX/LX                                                 | Yes                  | Yes                       | 0.80V        | 1.2V/1.5V/1.8V/2.5V/3.3V | 1.5V, 2.0V, 2.5V           | 50, 156.25 MHz     | Yes  | 256-HFCBGA   |
| Alaska X 88X3220<br>Dual EEE 10/100/1G/10GBASE-T PHY with XFI               | 2               | Yes            | No                 | No     | No                   | No         | Yes   | 10G, 1G, 100M, 10M | XFI, RXAUI, SGMII       | XFI/SFI           | 10GBASE-SR/ER/LR, 1000BASE-SX/LX                                                 | Yes                  | Yes                       | 0.80V        | 1.2V/1.5V/1.8V/2.5V/3.3V | 1.5V, 2.0V, 2.5V           | 50, 156.25 MHz     | Yes  | 256-HFCBGA   |
| Fiber/Backplane PHYs                                                        |                 |                |                    |        |                      |            |       |                    |                         |                   |                                                                                  |                      |                           |              |                          |                            |                    |      |              |
| Alaska X 88X2340P<br>Quad-10G PHY with MacSec and PTP                       | 4               | Yes            | Yes                | Yes    | Yes                  | Yes        | No    | 10G, 1G            | XFI                     | XFI/SFI           | 10GBASE-SR/ER/LR, 1000BASE-SX/LX                                                 | Yes                  | No                        | 0.80V        | 1.2V/1.5V/1.8V/2.5V/3.3V | 1.5V, 1.8V/2.0V, 2.3V/2.5V | 50, 156.25 MHz     | Yes  | 484-HFCBGA   |
| Alaska X 88X2320P<br>Dual-10G PHY with MacSec and PTP                       | 2               | Yes            | Yes                | No     | Yes                  | Yes        | No    | 10G, 1G            | XFI                     | XFI/SFI           | 10GBASE-SR/ER/LR, 1000BASE-SX/LX                                                 | Yes                  | No                        | 0.80V        | 1.2V/1.5V/1.8V/2.5V/3.3V | 1.5V, 1.8V/2.0V, 2.3V/2.5V | 50, 156.25 MHz     | Yes  | 256-HFCBGA   |
| Alaska X 88X2242<br>40G/Quad-10G EDC PHY                                    | 4               | Yes            | No                 | No     | No                   | Yes        | Yes   | 40G, 10G, 1G       | XLAUI, XFI, XAUI, RXAUI | SFI, XLPPi        | 40GBASE-SR4/LR4, 10GBASE-SR/ER/LR, 10GBASE-SW/EW/LW, 10GBASE-LRM, 1000BASE-SX/LX | Yes                  | No                        | 1.0V         | 1.5V/1.8V/2.5V/3.3V      | 1.1V/1.5V                  | 156.25, 155.52 MHz | Yes  | 324-FCBGA    |
| Alaska X 88X2222<br>Dual-10G EDC PHY with MacSec                            | 2               | Yes            | No                 | No     | No                   | No         | Yes   | 10G, 1G            | XAUI, RXAUI, XFI        | SFI               | 10GBASE-SR/ER/LR, 10GBASE-SW/EW/LW, 10GBASE-LRM, 1000BASE-X                      | Yes                  | No                        | 1.0V         | 1.5V/1.8V/2.5V/3.3V      | 1.1V/1.5V                  | 156.25, 155.52 MHz | Yes  | 324-FCBGA    |

## Alaska X 10-Gigabit Ethernet

## Transceivers

## Alaska X 88X2242M

40G/Quad-10G EDC PHY with MacSec

## Alaska X 88X2222M

Dual-10G EDC PHY with MacSec

## Alaska X 88X2242P

40G/Quad-10G EDC PHY with MacSec and PTP

## Alaska X 88X2222P

Dual-10G EDC PHY with MacSec, and PTP

|  | Number of Ports | Optical (Line) | MACSec (LinkCrypt) | 1-Temp | 1-Step PTP (1588 v2) | 2-Step PTP | SyncE | Supported Speeds | Host Interfaces         | Optical Interface | Optical Module Types                                                             | Direct Attach Copper | Energy Efficient Ethernet | Core Voltage | Digital I/O         | Analog Voltage | Reference Clock    | JTAG | Package Type |
|--|-----------------|----------------|--------------------|--------|----------------------|------------|-------|------------------|-------------------------|-------------------|----------------------------------------------------------------------------------|----------------------|---------------------------|--------------|---------------------|----------------|--------------------|------|--------------|
|  | 4               | Yes            | Yes                | No     | No                   | No         | Yes   | 40G, 10G, 1G     | XLAUI, XFI, XAUI, RXAUI | SFI, XLPPi        | 40GBASE-SR4/LR4, 10GBASE-SR/ER/LR, 10GBASE-SW/EW/LW, 10GBASE-LRM, 1000BASE-SX/LX | Yes                  | No                        | 1.0V         | 1.5V/1.8V/2.5V/3.3V | 1.1V/1.5V      | 156.25, 155.52 MHz | Yes  | 324-FCBGA    |
|  | 2               | Yes            | Yes                | No     | No                   | No         | Yes   | 10G, 1G          | XAUI, RXAUI, XFI        | SFI               | 10GBASE-SR/ER/LR, 10GBASE-SW/EW/LW, 10GBASE-LRM, 1000BASE-X                      | Yes                  | No                        | 1.0V         | 1.5V/1.8V/2.5V/3.3V | 1.1V/1.5V      | 156.25, 155.52 MHz | Yes  | 324-FCBGA    |
|  | 4               | Yes            | Yes                | No     | Yes                  | Yes        | Yes   | 10G, 1G          | XAUI, RXAUI, XFI, KR    | SFI               | 10GBASE-SR/ER/LR, 10GBASE-SW/EW/LW, 10GBASE-LRM, 1000BASE-X                      | Yes                  | No                        | 1.0V         | 1.5V/1.8V/2.5V/3.3V | 1.1V/1.5V      | 156.25, 155.52 MHz | Yes  | 324-FCBGA    |
|  | 2               | Yes            | Yes                | No     | Yes                  | Yes        | Yes   | 10G, 1G          | XAUI, RXAUI, XFI, KR    | SFI               | 10GBASE-SR/ER/LR, 10GBASE-SW/EW/LW, 10GBASE-LRM, 1000BASE-X                      | Yes                  | No                        | 1.0V         | 1.5V/1.8V/2.5V/3.3V | 1.1V/1.5V      | 156.25, 155.52 MHz | Yes  | 324-FCBGA    |

## Fast Ethernet (FE) PHY

## Transceivers

## Single-Port Devices

## 88E3015

10/100BASE-T Fast Ethernet PHY

## 88E3016

10/100BASE-T Fast Ethernet PHY

|  | Port & Interface Features |                |                    |        |                      |              |            |                | Power & Control Features |             |                |                    |                      |                  |                  |      |              | Compliance & Packaging |  |
|--|---------------------------|----------------|--------------------|--------|----------------------|--------------|------------|----------------|--------------------------|-------------|----------------|--------------------|----------------------|------------------|------------------|------|--------------|------------------------|--|
|  | Number of Ports           | Optical (Line) | MACSec (LinkCrypt) | I-Temp | 1-Step PTP (1588 v2) | 10/100BASE-T | 100BASE-FX | Mac Interfaces | Core Voltage             | Digital I/O | Analog Voltage | Internal Regulator | Virtual Cable Tester | Programmable LED | RoHS 6/6, Green* | JTAG | Package Type |                        |  |
|  | 1                         | Yes            | No                 | No     | No                   | No           | Yes        | Yes            | MII, RGMII               | 1.2V        | 2.5V/3.3V      | 2.5V               | Yes                  | Yes              | Yes              | R    | No           | 56-QFN                 |  |
|  | 1                         | Yes            | No                 | No     | No                   | No           | Yes        | Yes            | RGMII                    | 1.2V        | 2.5V/3.3V      | 2.5V               | Yes                  | Yes              | Yes              | R    | Yes          | 64-QFN                 |  |

## Fast Ethernet (FE) PHY

## Transceivers

|                                           | Number of Ports | Optical (Line) | MACSec (LinkCrypt) | I-Temp | 1-Step PTP (1588 v2) | 10/100BASE-T | 100BASE-FX | Mac Interfaces                 | Core Voltage | Digital I/O | Analog Voltage | Internal Regulator | Virtual Cable Tester | Programmable LED | RoHS 6/6, Green* | JTAG | Package Type |
|-------------------------------------------|-----------------|----------------|--------------------|--------|----------------------|--------------|------------|--------------------------------|--------------|-------------|----------------|--------------------|----------------------|------------------|------------------|------|--------------|
| 88E3018<br>10/100BASE-T Fast Ethernet PHY | 1               | Yes            | No                 | Yes    | No                   | Yes          | Yes        | MII, RGMII                     | 1.2V         | 2.5V/3.3V   | 2.5V           | Yes                | Yes                  | Yes              | R                | Yes  | 64-QFN       |
| 88E3019<br>10/100BASE-T Fast Ethernet PHY | 1               | No             | No                 | No     | No                   | Yes          | No         | MII, RMII, RGMII               | 1.2V         | 2.5V/3.3V   | 2.5V           | No                 | Yes                  | Yes              | G                | No   | 32-QFN       |
| Octal-Port Devices                        |                 |                |                    |        |                      |              |            |                                |              |             |                |                    |                      |                  |                  |      |              |
| 88E3082<br>10/100BASE-T Octal PHY         | 8               | Yes            | No                 | Yes    | No                   | Yes          | Yes        | RMII, SMII, SSSMII, DDR-SSSMII | 1.5V         | 2.5V/3.3V   | 2.5V           | Yes                | Yes                  | Yes              | R                | Yes  | 224-TFBGA    |
| 88E3083<br>10/100BASE-T Octal PHY         | 8               | Yes            | No                 | No     | No                   | Yes          | Yes        | SMII, SSSMII, DDR-SSSMII       | 1.5V         | 2.5V/3.3V   | 2.5V           | Yes                | Yes                  | Yes              | R                | Yes  | 128-LQFP     |

## AVASTAR™

## Wireless

Part Number  
Wireless Technologies  
Interface Support  
Package Type  
Package Size  
Ball Pitch  
Embedded CPU  
Temp  
Evaluation Boards  
Process

## AVASTAR 8900 Family

|         |         |                                           |                                   |           |                         |              |     |             |                         |      |
|---------|---------|-------------------------------------------|-----------------------------------|-----------|-------------------------|--------------|-----|-------------|-------------------------|------|
| 88W8997 | 88W8997 | 802.11 a/b/g/n/ac 2x2 + BT 4.0, Dual-mode | PCIe, SDIO 3.0, USB 3.0/2.0, UART | QFN, CSP  | 9mm x 9mm & Chip Scale  | 400um, 350um | Yes | -30 to +85C | RD-88W-8997-PCIe/SD/USB | 28nm |
| 88W8977 | 88W8977 | 802.11 a/b/g/n/ac 1x1 + BT 4.0, Dual-mode | SDIO 3.0, UART                    | QFN, eWLP | 8mm x 8mm & Wafer-Level | 400um        | Yes | -30 to +85C | RD-88W-8977e/Q          | 28nm |
| 88W8964 | 88W8964 | 802.11 a/b/g/n/ac 4x4                     | PCIe, UART                        | aQFN      | 11.8mm x 11mm           | 650um        | Yes | 0 to +70C   | RD-88W-AP8964-DR2       | 28nm |

## AVASTAR 8800 Family

|         |         |                                           |                               |          |                           |       |     |             |                    |      |
|---------|---------|-------------------------------------------|-------------------------------|----------|---------------------------|-------|-----|-------------|--------------------|------|
| 88W8897 | 88W8897 | 802.11 a/b/g/n/ac 2x2 + BT 4.0, Dual-mode | PCIe, SDIO 3.0, USB 2.0, UART | QFN, CSP | 9.5mm x 11mm & Chip Scale | 400um | Yes | -30 to +85C | RD-88W-8897PCIe/SD | 40nm |
| 88W8887 | 88W8887 | 802.11a/b/g/n/ac 1x1 + BT 4.0 Dual-mode   | SDIO 3.0, UART                | QFN, CSP | 9mm x 9mm & Chip Scale    | 400um | Yes | -30 to +85C | RD-88W-8887-AGC/Q  | 40nm |
| 88W8864 | 88W8864 | 802.11 a/b/g/n/ac 4x4                     | PCIe, UART                    | aQFN     | 11.8mm x 11mm             | 800um | Yes | 0 to +70C   | RD-88W-AP-8864DR2  | 40nm |
| 88W8801 | 88W8801 | 802.11a/b/g/n 1x1 Dual-mode               | SDIO 3.0, USB 2.0             | QFN      | 6mm x 6mm                 | 400um | Yes | -30 to +85C | RD-88W-SD/USB 8801 | 40nm |

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**President and Chief Executive Officer:** Mr. Matt Murphy

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**Patents worldwide** 9,000+

**Marvell US Headquarters:**  
Marvell Semiconductor, Inc.  
5488 Marvell Lane  
Santa Clara, CA 95054  
Phone: 408-222-2500

**Marvell Asia Headquarters:**  
Marvell Asia Pte, Ltd.  
No. 8 Tai Seng Link  
Singapore 534158  
Phone: (65) 6756-1600

**Marvell European Headquarters:**  
Marvell Switzerland Sarl  
Route de Pallatex 17  
CH-1163 Etoy  
Switzerland

**Website:** [www.marvell.com](http://www.marvell.com)