

EXHIBIT 40

Exhibit 40 – Claim Chart Showing TE Connectivity’s Infringement of U.S. Patent 10,877,233 (“’233 Patent”)

The following chart is based on information known to date. Credo reserves the right to amend and update this chart as additional information is obtained and analyzed. The exemplary claim mappings below rely on images and data from TE Connectivity and its suppliers’ public-facing materials. The following chart is representative of TE Connectivity’s infringement by its unlawful importation into the United States, sale for importation into the United States, and/or sale within the United States after importation of all the Accused TE Connectivity Products.

As outlined in the below claim chart, the Accused TE Connectivity Products infringe, either literally or under the doctrine of equivalents, at least Claims 1, 8, and 15 of the ’233 patent.

<u>’233 Patent</u>	<u>Accused TE Connectivity Products</u>
<u>Claim 1</u>	
[1pre] A cable that comprises:	The Accused TE Connectivity Products comprise a cable. See, e.g.:

'233 Patent	Accused TE Connectivity Products
Claim 1	
	<p>OSFP Cable Assembly, 32 Positions, 3 m [9.84 ft], 56 Gb/s, Black Cable, Shielded, 26 AWG, OSFP Plug End A, OSFP Plug End B, VW-1, 16 Pairs</p> <div data-bbox="638 378 1188 927">  </div> <div data-bbox="1220 418 1770 894"> <p>TE Internal #: 2336065-3 TE Internal Description: OSFP - OSFP, 3 METE R, 26AWG</p> <p>Cable Assembly Type : OSFP Number of Positions : 32 Cable Assembly Length : 3 m [9.84 ft] Data Rate (Gb/s): 56 Cable Color : Black</p> <p>Add to List Similar Products Digital Datasheet</p> </div>
<p>[1a] a first data recovery and re-modulation (DRR) device that exchanges inbound and outbound multi-lane data streams with a first host interface port via a first end connector plug;</p>	<p>Ex. 58, <i>TE Connectivity OSFP Cable Assembly Website</i>.</p> <p>The Accused TE Connectivity Products comprise a first data recovery and re-modulation (DRR) device that exchanges inbound and outbound multi-lane data streams with a first host interface port via a first end connector plug.</p> <p>For example, the first DRR device is a first digital signal processor (“DSP”) at one end of the active cable.</p> <p>See, e.g.:</p>

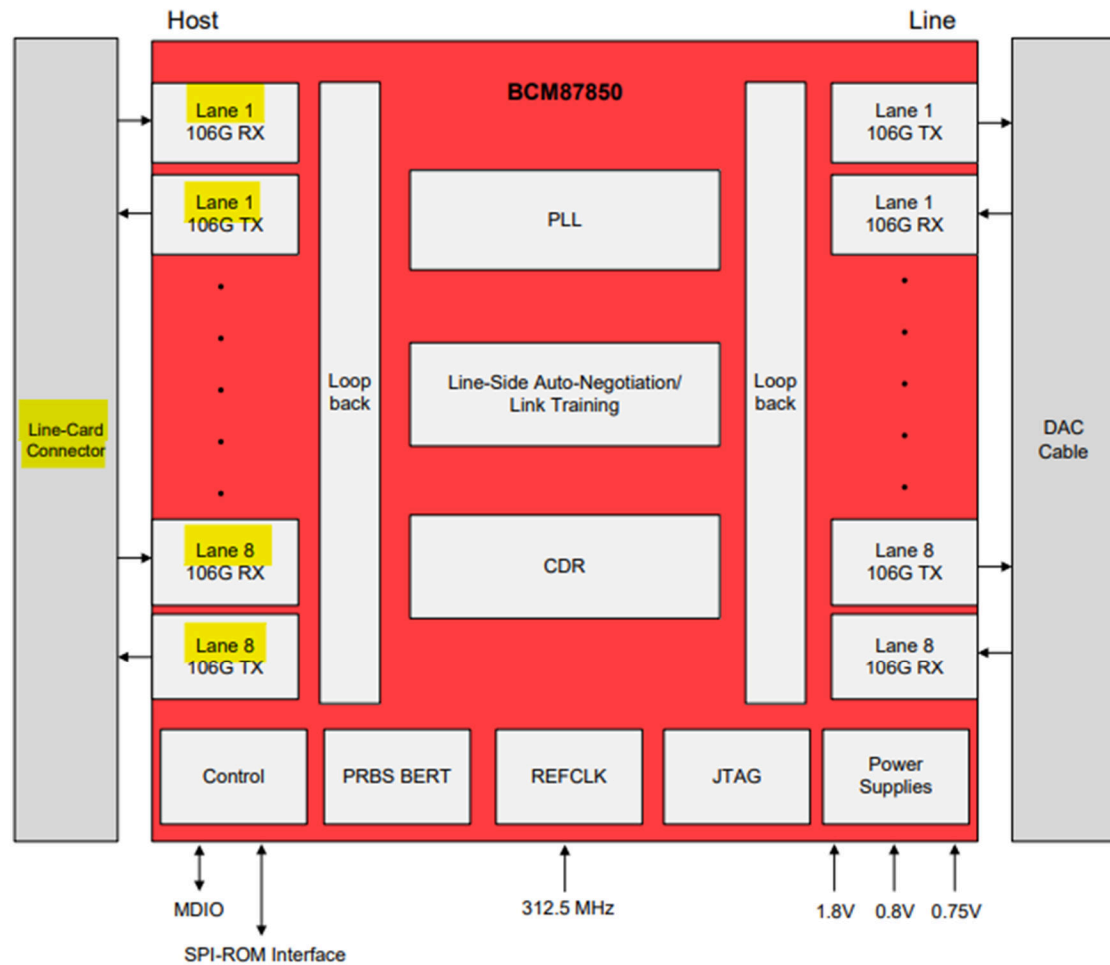
'233 Patent	Accused TE Connectivity Products
Claim 1	
	<p>OSFP Cable Assembly, 32 Positions, 3 m [9.84 ft], 56 Gb/s, Black Cable, Shielded, 26 AWG, OSFP Plug End A, OSFP Plug End B, VW-1, 16 Pairs</p> <div data-bbox="638 378 1188 930">  </div> <div data-bbox="1220 418 1770 894"> <p>TE Internal #: 2336065-3 TE Internal Description: OSFP - OSFP, 3 METE R, 26AWG</p> <p>Cable Assembly Type : OSFP Number of Positions : 32 Cable Assembly Length : 3 m [9.84 ft] Data Rate (Gb/s): 56 Cable Color : Black</p> <p>Add to List Similar Products Digital Datasheet</p> </div> <p>Ex. 58, <i>TE Connectivity OSFP Cable Assembly Website</i>.</p> <ul style="list-style-type: none"> 112G Product Support for SFP, SFP-DD, QSFP, QSFP-DD, OSFP, and OSFP-XD Interconnects <ul style="list-style-type: none"> Direct Attached Copper Cables (DAC) Active Copper Cables (ACC) Active Electrical Cable (AEC) Active Copper Cables (AOC) I/O Connectors and Cages <p>Ex. 59, <i>TE Connectivity 112G Portfolio External Cabling Solutions Datasheet</i>.</p> <p>For example, the DSPs in the Accused Products are manufactured by Broadcom and others.</p>

'233 Patent	Accused TE Connectivity Products
Claim 1	
	<p>The first DSP in the Accused TE Connectivity Products is a retimer that exchanges inbound and outbound multi-lane data streams with a first host interface port via a first end connector plug.</p> <p>See, e.g.:</p> <p>TE's live and static displays will demonstrate how TE is paving the way to meet the technology demands for next-generation products and architectures. TE will showcase its innovative solutions in the following booths:</p> <ul style="list-style-type: none"> • TE Connectivity – Booth #6035 • Broadcom – Booth #6425 • Ethernet Alliance – Booth #5417 • Intel – Booth #2901 • MACOM – Booth #3927 • Marvell – Booth #4326 • Optical Internetworking Forum (OIF) – Booth #5101 • SEMTECH – Booth #5417 • Spirent – Booth #5304

'233 Patent	Accused TE Connectivity Products
Claim 1	
	<p>TE's featured live demos will include:</p> <p>800G QSFP-DD active optical cables (AOC) The 800G quad small form-factor pluggable double density (QSFP-DD) AOC live demo showcases TE's 800 Gbps optical data link using an IEEE 802.3df 800GBASE-SR8 AOC in QSFP-DD form factor running live 8x112G traffic end-to-end. The AOC uses low-cost multimode optics and low power electronics, resulting in a per end power consumption below 14W. Initial beta product sampling is available now.</p> <p>800G active cable technologies The 800G active copper cable (ACC) and active electrical cable (AEC) demonstrate the latest in TE's bulk cable and termination technology. A retimer or redriver embedded in the module extends the reach of copper cables while consuming less power than equivalent optical cables. AEC/ACC technology also enables fine wire gauges for short links to ease routing challenges in dense next-gen racks. This live demo shows eight lanes of 112G PAM-4 data running through TE's AEC/ACC with a host trace and connector on each side.</p> <p>TE's innovative solutions will also be displayed across its partner booths. Broadcom (booth #6425) will showcase TE's 800G AEC technology. Intel (booth #2901) will demonstrate TE's 1.6Tb 224 Gbps OSFP connector and DAC technology. MACOM (booth #3927) will display TE's 800G ACC technology. Marvell's exhibit (booth #4326) will include TE's 800G AEC technology. SEMTECH (booth #5417) will feature TE's 800G ACC technology. And Spirent (booth #5304) will highlight TE's 800G DAC technology in their demonstration.</p> <p><i>Ex. 60, TE Connectivity OFC 2023 Press Release.</i></p> <p>Active electrical cables powered by Marvell Alaska A PAM4 DSPs are sampling now from Amphenol, Molex and TE Connectivity.</p>

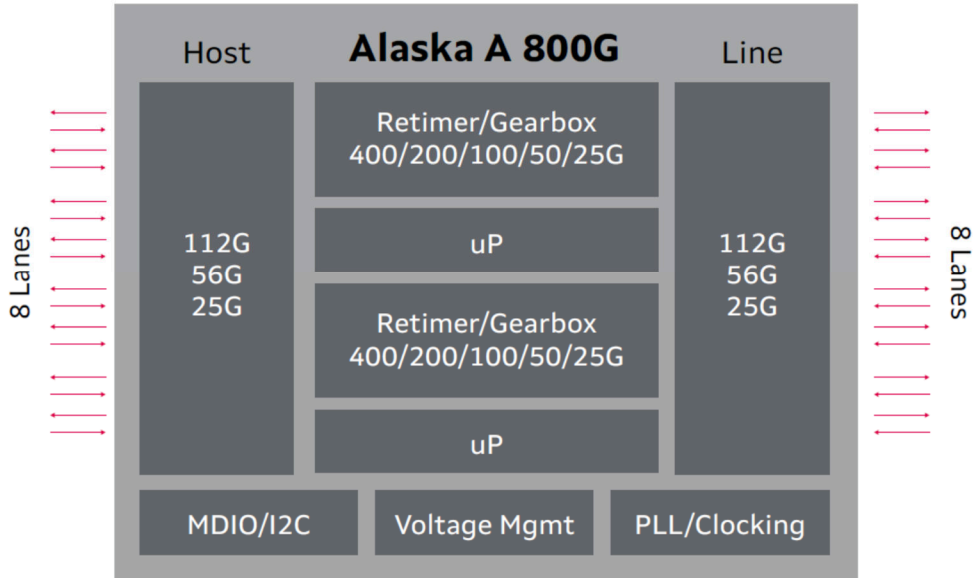
'233 Patent	Accused TE Connectivity Products
Claim 1	
	<p>Ex. 23, <i>Marvell Announces Availability Of Active Electrical Cables Powered By Its Industry-Leading PAM4 DSP Technology Article</i>, Oct. 20, 2022.</p> <p>Overview</p> <p>The Broadcom® BCM87850 is a single-chip, eight-lane, ultra-low power, ultra-low latency PHY that integrates retimer and equalizer to support active cable applications. The BCM87850 is capable of equalizing 22 dB of loss on both the client-side and line-side interfaces. Each lane is capable of multiple data rates, including 106.25 Gb/s.</p> <p>The on-chip clock synthesis is performed by a low-cost 312.5-MHz reference clock through high-frequency, low jitter phase-locked loops (PLLs).</p> <p>The BCM87850 is fabricated in low-power 7-nm CMOS technology and is available in a 12 mm × 12 mm, 0.5-mm pitch, 485-ball BGA, RoHS-compliant package.</p> <p>Ex. 50, <i>Broadcom BCM87850 Product Brief</i> (annotated).</p>

Claim 1



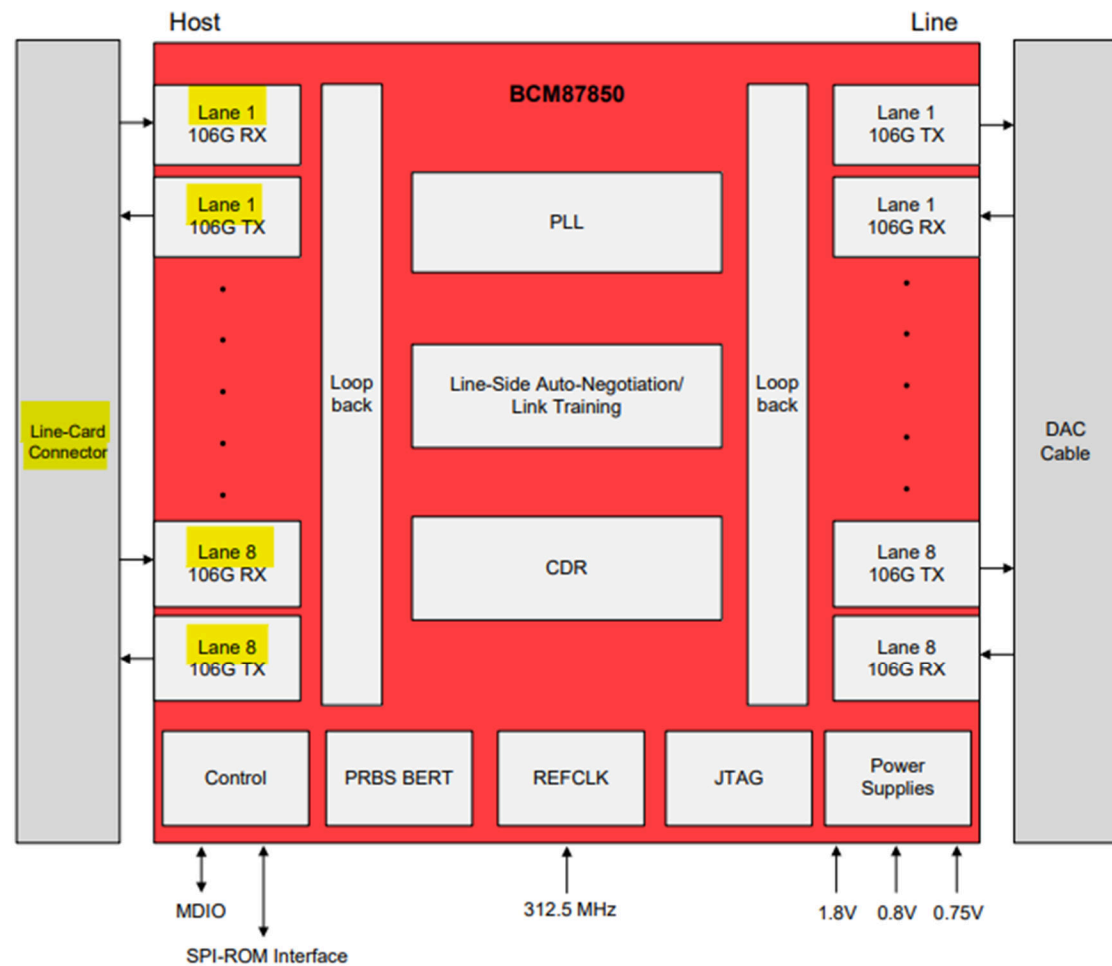
Ex. 50, Broadcom BCM87850 Product Brief (annotated).

'233 Patent	Accused TE Connectivity Products
Claim 1	
	<p data-bbox="657 282 798 315">Overview</p> <p data-bbox="657 337 1287 508">The Marvell Alaska A MV-CHA180C0C 800G is a PAM4 DSP retimer for 800G Active Electrical Cable (AEC) application, optimized for Switch to Switch and Switch to Server connectivity inside next generation cloud data center, high-performance computing and AI systems.</p> <p data-bbox="657 532 1333 703">Alaska A 800G is a retimer device which utilizes a 112G Gbps PAM4 DSP SERDES. There are 8-host and 8-line ports with each receiver port being able to recover 112Gbps PAM-4 signals and transmit to partnered TX. It can provide up to 800G (8 x 112G) full duplex mission mode traffic.</p>

'233 Patent	Accused TE Connectivity Products
Claim 1	
	
<p>[1b] a second DRR device that exchanges inbound and outbound multi-lane data streams with a second host interface port via a second end connector plug; and</p>	<p>Ex. 51, <i>Marvell Alaska Product Brief</i> (annotated).</p> <p>The Accused TE Connectivity Products comprise a second DRR device that exchanges inbound and outbound multi-lane data streams with a second host interface port via a second end connector plug.</p> <p>For example, the second DRR device is a second DSP retimer at the other end of the cable. As shown below, each end of the cable has a symmetrical connector containing a DSP.</p> <p>See, e.g.:</p>

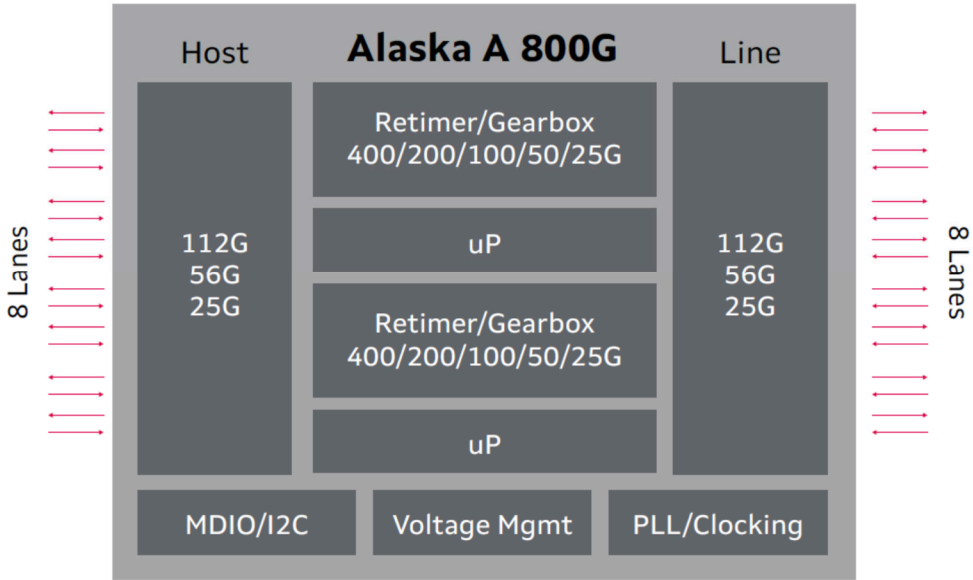
'233 Patent	Accused TE Connectivity Products
Claim 1	
	<p>OSFP Cable Assembly, 32 Positions, 3 m [9.84 ft], 56 Gb/s, Black Cable, Shielded, 26 AWG, OSFP Plug End A, OSFP Plug End B, VW-1, 16 Pairs</p> <div data-bbox="638 378 1188 927">  </div> <div data-bbox="1220 418 1770 894"> <p>TE Internal #: 2336065-3 TE Internal Description: OSFP - OSFP, 3 METE R, 26AWG</p> <p>Cable Assembly Type : OSFP Number of Positions : 32 Cable Assembly Length : 3 m [9.84 ft] Data Rate (Gb/s): 56 Cable Color : Black</p> <p>Add to List Similar Products Digital Datasheet</p> </div> <p>Ex. 58, <i>TE Connectivity OSFP Cable Assembly Website</i>.</p> <ul style="list-style-type: none"> • 112G Product Support for SFP, SFP-DD, QSFP, QSFP-DD, OSFP, and OSFP-XD Interconnects <ul style="list-style-type: none"> - Direct Attached Copper Cables (DAC) - Active Copper Cables (ACC) - Active Electrical Cable (AEC) - Active Copper Cables (AOC) - I/O Connectors and Cages <p>Ex. 59, <i>TE Connectivity 112G Portfolio External Cabling Solutions Datasheet</i>.</p> <p>The second DSP exchanges inbound and outbound multi-lane data streams with a second host interface port via a second end connector plug:</p>

Claim 1



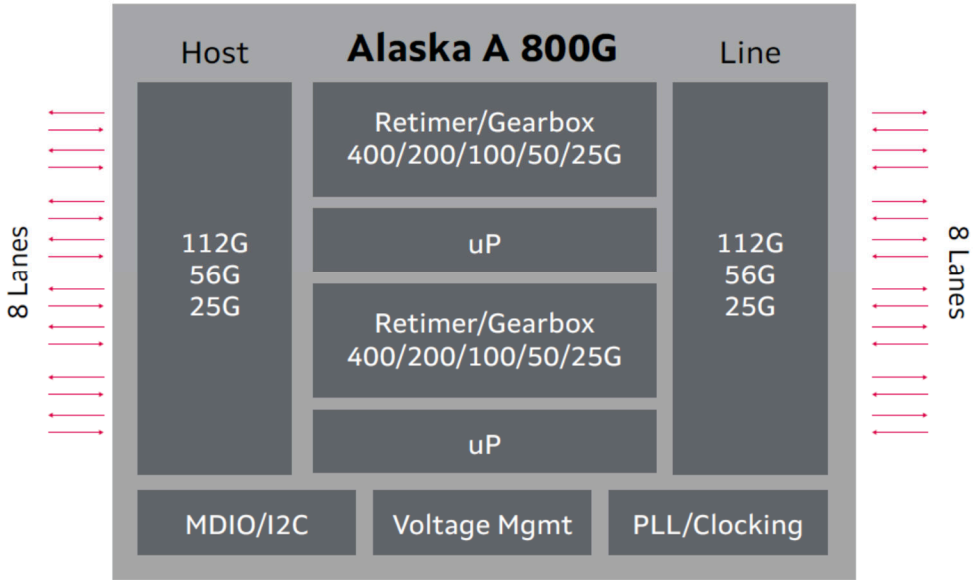
Ex. 50, *Broadcom BCM87850 Product Brief* (annotated).

'233 Patent	Accused TE Connectivity Products
Claim 1	
	<p>Overview</p> <p>The Marvell Alaska A MV-CHA180C0C 800G is a PAM4 DSP retimer for 800G Active Electrical Cable (AEC) application, optimized for Switch to Switch and Switch to Server connectivity inside next generation cloud data center, high-performance computing and AI systems.</p> <p>Alaska A 800G is a retimer device which utilizes a 112G Gbps PAM4 DSP SERDES. There are 8-host and 8-line ports with each receiver port being able to recover 112Gbps PAM-4 signals and transmit to partnered TX. It can provide up to 800G (8 x 112G) full duplex mission mode traffic.</p>

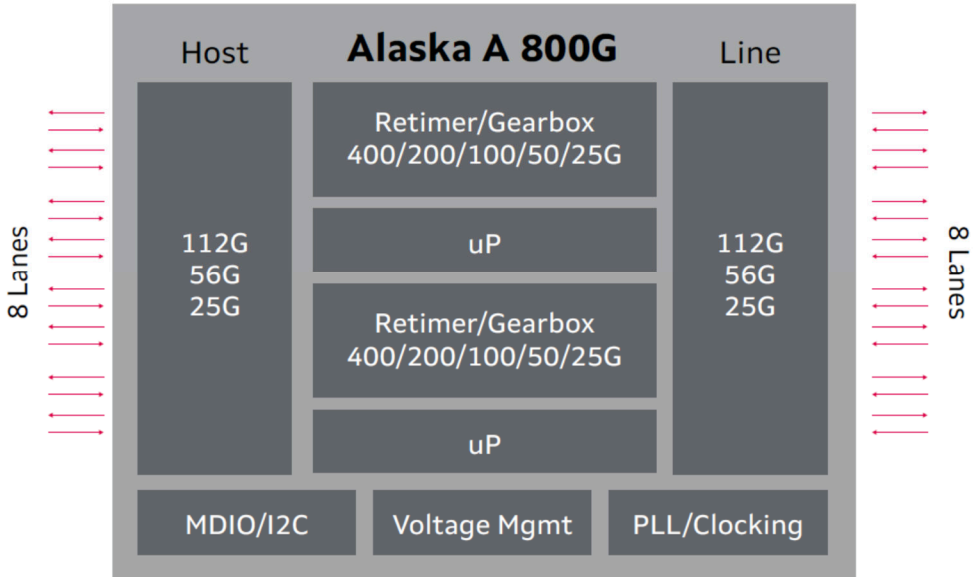
'233 Patent	Accused TE Connectivity Products
Claim 1	
	 <p>Ex. 51, <i>Marvell Alaska Product Brief</i> (annotated).</p> <p>See also [1pre] and [1a] above.</p>
<p>[1c] electrical conductors connecting the first and second DRR devices to convey electrical transit signals therebetween,</p>	<p>The Accused TE Connectivity Products comprise electrical conductors connecting the first and second DRR devices to convey electrical transit signals therebetween.</p> <p>For example, the electrical conductors are round jacketed twin-axial copper wires that connect the first and second DSPs to convey electrical transit signals therebetween.</p> <p>See, e.g.:</p>

'233 Patent	Accused TE Connectivity Products
Claim 1	
	<div> <div>Product Type</div> <div>Features</div> </div> <div> Cable Assembly Category : High Speed Cable Assembly Type : OSFP Cable Style : Round Jacketed Twinax Cable Assembly (End A) : OSFP Plug Cable Assembly (End B) : OSFP Plug </div> <p>Ex. 58, <i>TE Connectivity OSFP Cable Assembly Website</i>.</p>
<p>[1d] the first DRR device converting between said electrical transit signals and said inbound and outbound multi-lane data streams for the first host interface port, and</p>	<p>The first DRR device in the Accused TE Connectivity Products converts between said electrical transit signals and said inbound and outbound multi-lane data streams for the first host interface port.</p> <p>For example, the first DSP receives electrical transit signals from the cable and converts them (via the retimer) into multi-lane data streams that are sent to the host. The first DSP also receives multi-lane data streams from the host and converts them (via the retimer) into electrical transit signals that are sent to the cable.</p> <p>See, e.g.:</p>

'233 Patent	Accused TE Connectivity Products
Claim 1	
	<p>Overview</p> <p>The Broadcom® BCM87850 is a single-chip, eight-lane, ultra-low power, ultra-low latency PHY that integrates retimer and equalizer to support active cable applications. The BCM87850 is capable of equalizing 22 dB of loss on both the client-side and line-side interfaces. Each lane is capable of multiple data rates, including 106.25 Gb/s.</p> <p>The on-chip clock synthesis is performed by a low-cost 312.5-MHz reference clock through high-frequency, low jitter phase-locked loops (PLLs).</p> <p>The BCM87850 is fabricated in low-power 7-nm CMOS technology and is available in a 12 mm × 12 mm, 0.5-mm pitch, 485-ball BGA, RoHS-compliant package.</p> <p>Ex. 50, <i>Broadcom BCM87850 Product Brief</i> (annotated).</p> <p>Overview</p> <p>The Marvell Alaska A MV-CHA180C0C 800G is a PAM4 DSP retimer for 800G Active Electrical Cable (AEC) application, optimized for Switch to Switch and Switch to Server connectivity inside next generation cloud data center, high-performance computing and AI systems.</p> <p>Alaska A 800G is a retimer device which utilizes a 112G Gbps PAM4 DSP SERDES. There are 8-host and 8-line ports with each receiver port being able to recover 112Gbps PAM-4 signals and transmit to partnered TX. It can provide up to 800G (8 × 112G) full duplex mission mode traffic.</p>

'233 Patent	Accused TE Connectivity Products
Claim 1	
	 <p>Ex. 51, <i>Marvell Alaska Product Brief</i> (annotated).</p>
<p>[1e] the second DRR device converting between said electrical transit signals and said inbound and outbound multi-lane data streams for the second host interface port,</p>	<p>The second DRR device in the Accused TE Connectivity Products converts between said electrical transit signals and said inbound and outbound multi-lane data streams for the second host interface port.</p> <p>For example, the second DSP at the other end of the cable also converts between said electrical transit signals and said inbound and outbound multi-lane data streams for the first host interface port via the retimer.</p>

'233 Patent	Accused TE Connectivity Products
Claim 1	
	<p>Overview</p> <p>The Broadcom® BCM87850 is a single-chip, eight-lane, ultra-low power, ultra-low latency PHY that integrates retimer and equalizer to support active cable applications. The BCM87850 is capable of equalizing 22 dB of loss on both the client-side and line-side interfaces. Each lane is capable of multiple data rates, including 106.25 Gb/s.</p> <p>The on-chip clock synthesis is performed by a low-cost 312.5-MHz reference clock through high-frequency, low jitter phase-locked loops (PLLs).</p> <p>The BCM87850 is fabricated in low-power 7-nm CMOS technology and is available in a 12 mm × 12 mm, 0.5-mm pitch, 485-ball BGA, RoHS-compliant package.</p> <p>Ex. 50, <i>Broadcom BCM87850 Product Brief</i> (annotated).</p> <p>Overview</p> <p>The Marvell Alaska A MV-CHA180C0C 800G is a PAM4 DSP retimer for 800G Active Electrical Cable (AEC) application, optimized for Switch to Switch and Switch to Server connectivity inside next generation cloud data center, high-performance computing and AI systems.</p> <p>Alaska A 800G is a retimer device which utilizes a 112G Gbps PAM4 DSP SERDES. There are 8-host and 8-line ports with each receiver port being able to recover 112Gbps PAM-4 signals and transmit to partnered TX. It can provide up to 800G (8 x 112G) full duplex mission mode traffic.</p>

'233 Patent	Accused TE Connectivity Products
Claim 1	
	 <p>Ex. 51, <i>Marvell Alaska Product Brief</i> (annotated).</p> <p>See also 1[b] and 1[d] above.</p>
<p>[1f] the first and second DRR devices providing pre-equalization of the electrical transit signals using transmit filter coefficient values stored in nonvolatile memories.</p>	<p>The first and second DRR devices in the Accused TE Connectivity Products provide pre-equalization of the electrical transit signals using transmit filter coefficient values stored in nonvolatile memories.</p> <p>For example, the first and second DSPs provide different levels of pre-equalization corresponding to “short” and “long” modes used for 112G-per-lane chip-to-module (C2M) transmission, per the IEEE 802.3ck standard. On information and belief, the transmit filter coefficient values used for short-channel and long-channel pre-equalization are stored in nonvolatile memories so they are available for C2M communications when the cable is connected to the host.</p>

'233 Patent	Accused TE Connectivity Products
Claim 1	
	<p>See, e.g.:</p> <p>120G.3.2.1 Module output modes</p> <p>The module output shall support two modes: short and long. The means of controlling the module output mode is implementation dependent. For each output mode, the module shall meet the requirements for eye height (min) and VEC (max) in Table 120G-3 for both near-end and far-end measurements (see 120G.3.2.2.1).</p> <p>Ex. 52, <i>IEEE 802.3ck Specification</i> at 7275 (annotated).</p> <p>The website for the exemplary TE Connectivity products notes that they support the 802.3ck standard:¹</p> <p>TE Connectivity's (TE) next generation octal small form-factor pluggable 224G DAC/AEC/ACC portfolio offers industry standard operations at 1600 Gbps complying with IEEE 802.3df and IEEE 802.3ck. The OSFP specification is designed to support high density applications, up to 32 1.6T ports per 1RU and TE offers a wide variety of configurations to support a range of power levels and cooling solutions. TE's OSFP-224G product line is well suited for artificial intelligence (AI) and machine learning (ML) architectures.</p>

¹ The Accused TE Connectivity Products that use a QSFP form factor likewise comply with the IEEE 802.3ck standard. See Ex. 77, QSFP-DD Specification at 34; Ex. 78, *QSFP112 Specification* at 10.

'233 Patent	Accused TE Connectivity Products
Claim 1	
	<p data-bbox="701 297 1224 326">OSFP 1.6T AEC (Active Electrical Cable)</p> <ol data-bbox="653 350 1801 509" style="list-style-type: none"> <li data-bbox="653 350 1801 386">1. Industry Standard - Up to 1600 Gbps aggregate throughput, compliant to IEEE 802.3ck . <li data-bbox="653 410 1650 446">2. Low Power – Lower power compared to optics; targeting <20W per module. <li data-bbox="653 475 1486 509">3. Active cables optimized for heat dissipation and system airflow. <p data-bbox="625 548 1730 581">Ex. 61, <i>TE Connectivity OSFP Connectors and Cable Assemblies Website</i> (annotated).</p> <p data-bbox="625 620 1818 719">On information and belief, a nonvolatile memory is integrated into the cable assembly, which contains the registers that is selected to specify initial pre-equalizer coefficient values, thus implementing the IEEE 802.3ck standard.</p>

'233 Patent	Accused TE Connectivity Products
Claim 8	
[8pre] A cable manufacturing method that comprises:	<p>The Accused TE Connectivity Products are produced using a cable manufacturing method.</p> <p><i>See [1pre] above.</i></p>
[8a] connecting a first connector plug to a first data recovery and re-modulation (DRR) device that exchanges multi-lane data streams with a first host interface port via the first connector plug;	<p>The Accused TE Connectivity Products are produced using a cable manufacturing method, including connecting a first connector plug in the Accused TE Connectivity Products to a first data recovery and re-modulation (DRR) device that exchanges multi-lane data streams with a first host interface port via the first connector plug.</p> <p><i>See [1a] above.</i></p>
[8b] connecting a second connector plug to a second DRR device that exchanges multi-lane data streams with a second host interface port via the second connector plug;	<p>The Accused TE Connectivity Products are produced using a cable manufacturing method, including connecting a second connector plug in the Accused TE Connectivity Products to a second DRR device that exchanges multi-lane data streams with a second host interface port via the second connector plug.</p> <p><i>See [1b] above.</i></p>
[8c] connecting electrical conductors to the first and second DRR devices to convey electrical transit signals therebetween,	<p>The Accused TE Connectivity Products are produced using a cable manufacturing method, including connecting electrical conductors in the Accused TE Connectivity Products to the first and second DRR devices to convey electrical transit signals therebetween.</p> <p><i>See [1c] above.</i></p>
[8d] the first DRR device converting between said electrical transit signals and said multi-lane data streams for the first host interface port, and	<p>The Accused TE Connectivity Products are produced using a cable manufacturing method, wherein the first DRR device in the Accused TE Connectivity Products converts between said electrical transit signals and said multi-lane data streams for the first host interface port.</p> <p><i>See [1d] above.</i></p>

'233 Patent	Accused TE Connectivity Products
<u>Claim 8</u>	
[8e] the second DRR device converting between said electrical transit signals and said multi-lane data streams for the second host interface port,	<p>The Accused TE Connectivity Products are produced using a cable manufacturing method, wherein the second DRR device in the Accused TE Connectivity Products converts between said electrical transit signals and said multi-lane data streams for the second host interface port.</p> <p><i>See [1e] above.</i></p>
[8f] the first and second DRR devices providing pre-equalization of the electrical transit signals using transmit filter coefficient values stored in nonvolatile memories.	<p>The Accused TE Connectivity Products are produced using a cable manufacturing method, wherein the first and second DRR devices in the Accused TE Connectivity Products provide pre-equalization of the electrical transit signals using transmit filter coefficient values stored in nonvolatile memories.</p> <p><i>See [1f] above.</i></p>

'233 Patent	Accused TE Connectivity Products
Claim 15	
[15pre] A communications method that comprises:	<p>TE Connectivity performs a communication method.</p> <p><i>See [1pre] above.</i></p>
[15a] inserting a first end connector plug of a cable into a first host interface port, the first end connector plug being connected to a first data recovery and re-modulation (DRR) device that converts a multi-lane data stream from the first host interface port into electrical transit signals conveyed by electrical conductors to a second DRR device connected to a second end connector plug of the cable; and	<p>TE Connectivity inserts a first end connector plug of a cable into a first host interface port, the first end connector plug being connected to a first data recovery and re-modulation (DRR) device that converts a multi-lane data stream from the first host interface port into electrical transit signals conveyed by electrical conductors to a second DRR device connected to a second end connector plug of the cable.</p> <p><i>See [1a], [1c], [1d] above.</i></p>
[15b] inserting the second end connector plug of the cable into a second host interface port, the second DRR device converting a multi-lane data stream from the second host interface port into electrical transit signals conveyed by electrical conductors to the first DRR device,	<p>TE Connectivity inserts the second end connector plug of the cable into a second host interface port, the second DRR device converting a multi-lane data stream from the second host interface port into electrical transit signals conveyed by electrical conductors to the first DRR device.</p> <p><i>See [1b], [1c], [1e] above.</i></p>

'233 Patent	Accused TE Connectivity Products
<u>Claim 15</u>	
[15c] the first and second DRR devices providing pre-equalization of the electrical transit signals using transmit filter coefficient values stored in nonvolatile memories.	<p>The first and second DRR devices of the Accused TE Connectivity Products provide pre-equalization of the electrical transit signals using transmit filter coefficient values stored in nonvolatile memories.</p> <p><i>See [1f] above.</i></p>