

## C-Q4ARQ4MX-E4M

Arista Networks® to Mellanox® Compatible TAA 400GBase-AEC QSFP-DD to QSFP-DD Active Electrical Cable (AEC, 4m, CMIS 5.2)

### Features:

- Compliant with QSFP-DD MSA and CMIS 5.2
- Supports 8x56G PAM4 Electrical Data Rates
- Enables 400Gbps Transmission
- Wire Gauge: 30AWG
- Typical Power Consumption: 7.5W Per End
- Single 3.3V Power Supply
- Operating Temperature Range: 0 to 70 Celsius
- RoHS Compliant and Lead-Free



### Applications:

- 400GBase Ethernet

### Product Description

This is an Arista Networks® to Mellanox® dual OEM compatible 400GBase-AEC QSFP-DD to QSFP-DD TAA (Trade Agreements Act) compliant active electrical cable that operates over active copper with a maximum reach of 4.0m (13.1ft). It is 100% Arista Networks® to Mellanox® compatible and has been programmed, uniquely serialized, and data-traffic and application tested to ensure that it is compliant and functional. This active electrical cable will initialize and perform identically to Arista Networks® and Mellanox®'s individual cables and is built to meet or exceed Arista Networks® and Mellanox®'s specifications, and comply with MSA (Multi-Source Agreement) standards. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

ProLabs' transceivers are RoHS compliant and lead-free.

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S.-made or designated country end products.")



## General Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Storage Temperature	Tstg	-40		80	°C	
Operating Case Temperature	Tc	0		70	°C	
Power Supply Not Damage Voltage	V	-0.5		3.6		
Relative Operating Humidity	RH	0		85	%	
Power Supply Working Voltage	V	3.135	3.3	3.465		
Bit Rate	Gbps		400			

## Pin Descriptions

Pin	Symbol	Logic	Name/Description	Notes
1	GND		Module Ground.	
2	Tx2-	CML-I	Transmitter Inverted Data Input.	
3	Tx2+	CML-I	Transmitter Non-Inverted Data Input.	
4	GND		Module Ground.	
5	Tx4-	CML-I	Transmitter Inverted Data Input.	
6	Tx4+	CML-I	Transmitter Non-Inverted Data Input.	
7	GND		Module Ground.	
8	ModSelL	LVTTL-I	Module Select.	
9	ResetL	LVTTL-I	Module Reset.	
10	VccRx		+3.3V Receiver Power Supply.	
11	SCL	LVCMOS-I/O	2-Wire Serial Interface Clock.	
12	SDA	LVCMOS-I/O	2-Wire Serial Interface Data.	
13	GND		Module Ground.	
14	Rx3+	CML-O	Receiver Non-Inverted Data Output.	
15	Rx3-	CML-O	Receiver Inverted Data Output.	
16	GND		Module Ground.	
17	Rx1+	CML-O	Receiver Non-Inverted Data Output.	
18	Rx1-	CML-O	Receiver Inverted Data Output.	
19	GND		Module Ground.	
20	GND		Module Ground.	
21	Rx2-	CML-O	Receiver Inverted Data Output.	
22	Rx2+	CML-O	Receiver Non-Inverted Data Output.	
23	GND		Module Ground.	
24	Rx4-	CML-O	Receiver Inverted Data Output.	
25	Rx4+	CML-O	Receiver Non-Inverted Data Output.	
26	GND		Module Ground.	
27	ModPrsL	LVTTL-O	Module Present.	
28	IntL/RxLOSL	LVTTL-O	Interrupt. Optionally configurable as RxLOSL via the management interface.	
29	VccTx		+3.3V Transmitter Power Supply.	
30	Vcc1		+3.3V Power Supply.	
31	LPMode/TxDis	LVTTL-I	Initialization Mode. Optionally configurable as TxDis via the management interface.	

<b>32</b>	GND		Module Ground.	
<b>33</b>	Tx3+	CML-I	Transmitter Non-Inverted Data Input.	
<b>34</b>	Tx3-	CML-I	Transmitter Inverted Data Input.	
<b>35</b>	GND		Module Ground.	
<b>36</b>	Tx1+	CML-I	Transmitter Non-Inverted Data Input.	
<b>37</b>	Tx1-	CML-I	Transmitter Inverted Data Input.	
<b>38</b>	GND		Module Ground.	
<b>39</b>	GND		Module Ground.	
<b>40</b>	Tx6-	CML-I	Transmitter Inverted Data Input.	
<b>41</b>	Tx6+	CML-I	Transmitter Non-Inverted Data Input.	
<b>42</b>	GND		Module Ground.	
<b>43</b>	Tx8-	CML-I	Transmitter Inverted Data Input.	
<b>44</b>	Tx8+	CML-I	Transmitter Non-Inverted Data Input.	
<b>45</b>	GND		Module Ground.	
<b>46</b>	Reserved		For Future Use.	
<b>47</b>	VS1		Module Vendor-Specific 1.	
<b>48</b>	VccRx1		+3.3V Receiver Power Supply.	
<b>49</b>	VS2		Module Vendor-Specific 2.	
<b>50</b>	VS3		Module Vendor-Specific 3.	
<b>51</b>	GND		Module Ground.	
<b>52</b>	Rx7+	CML-O	Receiver Non-Inverted Data Output.	
<b>53</b>	Rx7-	CML-O	Receiver Inverted Data Output.	
<b>54</b>	GND		Module Ground.	
<b>55</b>	Rx5+	CML-O	Receiver Non-Inverted Data Output.	
<b>56</b>	Rx5-	CML-O	Receiver Inverted Data Output.	
<b>57</b>	GND		Module Ground.	
<b>58</b>	GND		Module Ground.	
<b>59</b>	Rx6-	CML-O	Receiver Inverted Data Output.	
<b>60</b>	Rx6+	CML-O	Receiver Non-Inverted Data Output.	
<b>61</b>	GND		Module Ground.	
<b>62</b>	Rx8-	CML-O	Receiver Inverted Data Output.	
<b>63</b>	Rx8+	CML-O	Receiver Non-Inverted Data Output.	
<b>64</b>	GND		Module Ground.	
<b>65</b>	NC		Not Connected.	
<b>66</b>	Reserved		For Future Use.	
<b>67</b>	VccTx1		+3.3V Transmitter Power Supply.	
<b>68</b>	Vcc2		+3.3V Power Supply.	
<b>69</b>	Reserved		For Future Use.	
<b>70</b>	GND		Module Ground.	
<b>71</b>	Tx7+	CML-I	Transmitter Non-Inverted Data Input.	
<b>72</b>	Tx7-	CML-I	Transmitter Inverted Data Input.	
<b>73</b>	GND		Module Ground.	
<b>74</b>	Tx5+	CML-I	Transmitter Non-Inverted Data Input.	
<b>75</b>	Tx5-	CML-I	Transmitter Inverted Data Input.	
<b>76</b>	GND		Module Ground.	

## Electrical Pin-Out Details

Bottom side viewed from bottom

Module Card Edge (Host Side)	GND	39	GND	1
	TX6n	40	TX2n	2
	TX6p	41	TX2p	3
	GND	42	GND	4
	TX8n	43	TX4n	5
	TX8p	44	TX4p	6
	GND	45	GND	7
	Reserved	46	ModselL	8
	VS1	47	ResetL	9
	VccRx1	48	VccRx	10
	VS2	49	SCL	11
	VS3	50	SDA	12
	GND	51	GND	13
	RX7p	52	RX3p	14
	RX7n	53	RX3n	15
	GND	54	GND	16
	RX5p	55	RX1p	17
	RX5n	56	RX1n	18
	GND	57	GND	19

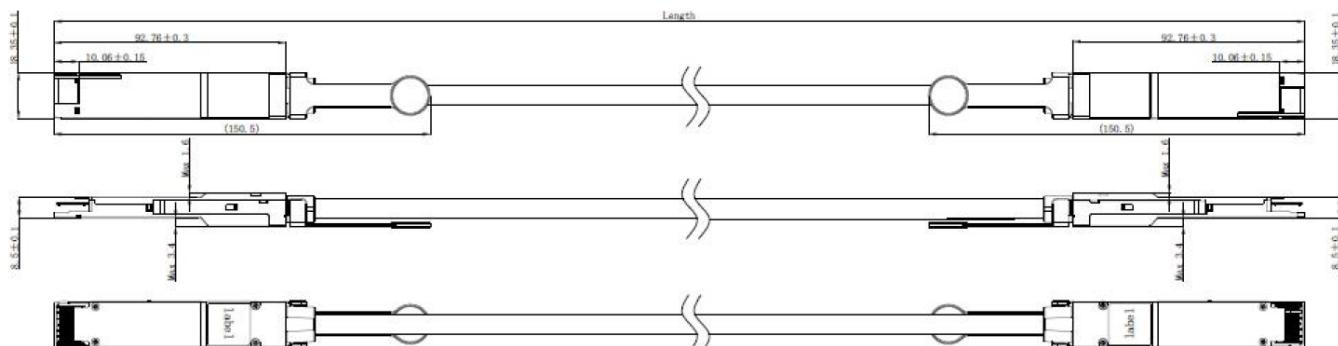
(Module Side)

Top side viewed from top

38 GND	76 GND	76 GND	76 GND
37 TX1n	75 TX5n	75 TX5n	75 TX5n
36 TX1p	74 TX5p	74 TX5p	74 TX5p
35 GND	73 GND	73 GND	73 GND
34 TX3n	72 TX7n	72 TX7n	72 TX7n
33 TX3p	71 TX7p	71 TX7p	71 TX7p
32 GND	70 GND	70 GND	70 GND
31 InitMode	69 Reserved	69 Reserved	69 Reserved
30 Vcc1	68 Vcc2	68 Vcc2	68 Vcc2
29 VccTx	67 VccTx1	67 VccTx1	67 VccTx1
28 IntL	66 Reserved	66 Reserved	66 Reserved
27 ModPrsL	65 NC	65 NC	65 NC
26 GND	64 GND	64 GND	64 GND
25 RX4p	63 RX8p	63 RX8p	63 RX8p
24 RX4n	62 RX8n	62 RX8n	62 RX8n
23 GND	61 GND	61 GND	61 GND
22 RX2p	60 RX6p	60 RX6p	60 RX6p
21 RX2n	59 RX6n	59 RX6n	59 RX6n
20 GND	58 GND	58 GND	58 GND

(Module Side)

## Mechanical Specifications



Unit: mm

## About ProLabs

Our experience comes as standard; for over 15 years ProLabs has delivered optical connectivity solutions that give our customers freedom and choice through our ability to provide seamless interoperability. At the heart of our company is the ability to provide state-of-the-art optical transport and connectivity solutions that are compatible with over 90 optical switching and transport platforms.

## Complete Portfolio of Network Solutions

ProLabs is focused on innovations in optical transport and connectivity. The combination of our knowledge of optics and networking equipment enables ProLabs to be your single source for optical transport and connectivity solutions from 100Mb to 400G while providing innovative solutions that increase network efficiency. We provide the optical connectivity expertise that is compatible with and enhances your switching and transport equipment.

## Trusted Partner

Customer service is our number one value. ProLabs has invested in people, labs and manufacturing capacity to ensure that you get immediate answers to your questions and compatible product when needed. With Engineering and Manufacturing offices in the U.K. and U.S. augmented by field offices throughout the U.S., U.K. and Asia, ProLabs is able to be our customers best advocate 24 hours a day.



## Contact Information

### ProLabs US

Email: [sales@prolabs.com](mailto:sales@prolabs.com)

Telephone: 952-852-0252

### ProLabs UK

Email: [salessupport@prolabs.com](mailto:salessupport@prolabs.com)

Telephone: +44 1285 719 600