

## Zambian cost-effective liquid-cooled switch PAM4

### Overview

Designed for 800G switch applications, the LMK5B33216 is a high-performance network synchronizer that meets the stringent Ethernet-based networking requirements for jitter, rise or fall time, hitless switching, and holdover. The higher data speeds lower the jitter budget for the 312.5MHz reference clock to less than 100fs RMS for 112G and 35fs RMS with 4MHz high pass filter (HPF) for 224G PAM4 SerDes. TI's Bulk Acoustic Wave (BAW) technology offers industry-leading, ultra-low jitter clocks critical for the 112G and. Imagine a data center where even the most powerful switches run cool and stable— without noise, thermal throttling, or energy waste. We have experienced how each successive signaling technology increases the electro-mechanical design resolution. How to Model and Simulate 112Gbps PAM4 SerDes Using IBIS. With the buildout of 5G wireless networks and the constant demand for bandwidth in cloud-based data centers, serial link data rates continue to skyrocket. PAM4 enhances high-speed data transmission by using four distinct amplitude levels, each representing two bits, effectively doubling the bandwidth of binary modulation methods at the same baud rate.

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	<p>In copper, PAM4 uses four voltage levels to represent two-bits of data per symbol. By encoding two or more bits per symbol, PAM increases the data rate without increasing the required channel bandwidth.</p>
	<p>Liquid-cooling-enable V-switch solution: single-layer PCB supports 128 pluggable ports with optimal SI performance and low system cost. There is also the CPO switch that has been ...</p>
	<p>The current state-of-the-art serial links use 112Gbps data rates, using PAM4 signaling. PAM4 differs from traditional NRZ signaling in that it transmits 2 bits per symbol, effectively reducing ...</p>
	<p>Switching Power Switching power was reduced for all benchmark programs PAM4-MF by 7-9% and PAM4- Sort by more than 20%</p>
	<p>It is the most efficient data center server/switch high-speed interconnection solution. GrowsFiber''s immersion cooling optical transceivers are widely used in data centers adopting liquid-cooling heat ...</p>

	<p>Take steps now to modernize your facility and thermal management strategies for tomorrow's liquid-cooled switches. Meet with your Cisco team or partner to discuss how to design, ...</p>
	<p>PAM4 is the preferred modulation scheme for transmitting data at 224 Gbps due to higher bandwidth efficiency, reduced power consumption and improved scalability.</p>
	<p>With the PAM4 encoding technology, the amount of information transmitted on 50G PAM4-based optical modules within each sampling cycle doubles. A 25G optical component can be used to achieve a 50 ...</p>
	<p>By leveraging PAM4, the module effectively doubles the bit rate compared to traditional NRZ-based solutions, making it ideal for cost-effective, high-performance, and long-distance optical ...</p>
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## Contact Us

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