Early optical module package MSA300



Overview

Opm Msa300 | PDF | Time Of Flight Mass Spectrometry Opm Msa300 - Free download as PDF File (.pdf), Text File (.txt) or read online for free. This document.

Key Takeaways

The MSA300 was an early 10G optical module standard featuring a 300-pin transponder interface with I2C control, designed for high-speed optical communication and modular interoperability. Overview of MSA300The MSA300 standard was developed by major optical device manufacturers such as Agere, Alcatel, and Opnext to unify 10G optical transponder modules with a 300-pin interface. It defined both the physical package and the I2C-based control protocol, allowing modules from different vendors to interoperate.

The standard supported three operational modes: hardware mode, configuration mode, and software mode, enabling flexible control and status reporting through either hardware pins or the I2C bus.

Technical Features

Pin Count and Interface: 300 pins, supporting high-speed 10G data transmission and multiple control/status signals. Control Protocol: Based on the Philips I2C bus, the MSA300-I2C protocol allowed software-level control of module functions and monitoring of operational status. Module Operation: Modules could operate in hardware mode (direct pin control), configuration mode (hybrid pin and I2C), or software mode (full I2C control), providing flexibility for system integration.



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Design Considerations: Early MSA300 modules required careful management of I/O pins due to the large number of control and status signals. Expansion logic devices were sometimes used to overcome pin limitations, but this increased module size, which conflicted with trends toward miniaturization and low power consumption.

Historical Context

The MSA300 emerged during the early 2000s when 10G optical modules were large and cumbersome, such as Xenpak and X2 packages. These early modules were gradually replaced by more compact designs like SFP+, which became the mainstream 10G packaging solution. The MSA300 played a key role in standardizing module interfaces and control protocols, paving the way for smaller, more efficient optical transceivers.

Legacy and ImpactMSA300 modules contributed to the standardization of optical module packaging and interfaces, similar to how modern SFP and QSFP modules are standardized today. By defining both the mechanical dimensions and electrical/optical interfaces, MSA300 helped reduce compatibility issues across vendors and facilitated the development of interoperable 10G transponders. Although largely replaced by smaller packages, the MSA300 remains an important milestone in the evolution of optical communication technology.

In summary, the MSA300 early optical module package was a 10G transponder standard with a 300-pin interface and I2C control, representing a critical step in the development of modular, interoperable optical transceivers and influencing the design of subsequent compact packages like SFP+.

Article Content

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msa1000.doc

For data processing with other software packages a conversion program to the ASCII format is included. Two versions of the MSA Standard Software are delivered with the module - one is for Windows 3.1,

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The present invention relates to the implement device in a kind of optical transmission field, in particular, a kind of device of realizing 10G optical module MSA300-I2C agreement.

Device for realizing 10G optical module MSA300-I2C protocol

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The object of the present invention is to provide a device for implementing the 10G optical module MSA300-I2C protocol, aiming at the defects of the prior art, to provide a solution with...

The Evolution of Optical Module Packaging From Bulky to Small

This article will use plain language to take you through the evolution of optical module packaging, and will also include a detailed table of package types and matching rates.

The history of optical module development

The package form is the most important feature of the optical module. The earliest package form was 1*9, and then GBIC, SFF, SFP, Xenpak, X2, XFP, etc. came one after another.

Use of Advance Packaging to Reduce Optical Module PCB Losses

Advance optical modules are using mSAP (modified Semi Additive Package) to save cost and power – mSAP was developed in the last 7-10 years in support of smart phones and watches.

Overview 10G 300 Pin MSA | PDF

This document summarizes optical transceivers that can convert low-speed electrical signals to high-speed optical signals. The transceivers have a built-in multiplexing function that can take 622Mbps

ELSFP Implementation Agreement

ABSTRACT: This implementation agreement defines a form factor optimized for external lasers delivering continuous wave (CW) light to optical transceivers co-packaged within a system. They are

Optical module – A comprehensive exploration

With the gradual increase of the conversion rate, the optical module has become a key element in various application fields, and its development is also of great significance to the entire

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The disclosed device to realize MSA300-I2C protocol for 10G optical module, which comprises: a kernel control unit connected to an interface unit with a self-defining serial bus and a data splice unit with a

The history of optical module development

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The earliest package form was 1*9, and then GBIC, SFF, SFP, Xenpak, X2, XFP, etc. came one after another. Due to the limitations of the era, the 10G optical modules in the early 2000s were made

Understanding MSA (Multi-Source Agreement) in Optical Transceivers

What is Multi-Source Agreement? MSA (Multi-Source Agreement) is an industry-driven standardization framework that defines the mechanical, electrical, and optical specifications of optical

Data Sheet Nov. 2014 40Gb/s 300 Pin MSA Compliant Transponder

Description GTR3T1LL is the industry''s smallest and most advanced 40Gb/s 300 pin MSA compliant transponder module for VSR2000 applications. A 1310/1550nm compatible PIN based low-noise

What is the difference between SFP+, XFP and SFP

SFP, GBIC, SFP, and XFP: What are they GBIC GBIC (Gigabit Interface Converter) is one of the earliest pluggable optical module standards. In summary, it is designed for 1G Ethernet

PowerPoint Presentation

The Optilab EDFA-PA-MSA is a high-gain pre-amplifier module in a multiple source agreement footprint housing. It is an easy-to-use and cost-efficient solution for photonic subsystems, OEM integration,

10GBASE-SR SFP+ Multi Mode LC Module (300m with

TRENDnet''s hot-pluggable 10GBASE-SR SFP+ Multi Mode LC Module, model TEG-10GBSR, works with an MSA compliant SFP+ slot. This Multi Mode transceiver

Open Eye MSA

The MSA specifications will support both existing module types (SFP, QSFP) and higher density emerging module types (SFP-DD, DSFP, QSFP-DD, OSFP, Co-packaged Optics) The MSA work

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