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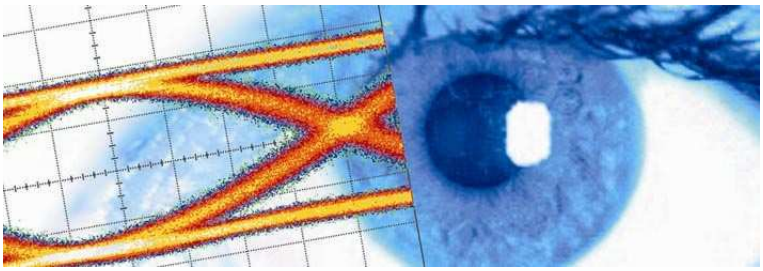

Preliminary Datasheet SHF 11110 A SHF 11122 A Error Analyzers

Description

The SHF 11110 A and SHF 11122 A are error analyzers for applications where cost, space and functionalities need to be carefully balanced. They are particularly suited for 40G components, module and subsystem production tests.

The units contain a built-in frequency synthesizer[1] and clock recovery to access bit rates from 39.8 to 43.1 Gbps; therefore rendering them equally valuable as a general purpose error analyzer for a wide range of digital test applications covering the key bit rates from 39.8 to 43.1 Gbps.

The devices allow the analysis of PRBS signals with pattern lengths of 2^7-1, 2^9-1, 2^{11}-1, 2^{15}-1, 2^{20}-1, 2^{23}-1 and 2^{31}-1.

The units are controlled over a standard Ethernet connection by an external computer. An easy to use software package provides not only a user friendly interface for changing the operating parameters but also the capabilities of feature enhancement through firmware & software upgrades.

The plug-in version SHF 11110 A is to be used together with the SHF 10000 B and SHF 10001 A mainframes to allow an individual test setup together with modules from the broad selection of SHF 10000 series extension modules. For production testing up to 4 SHF 11110 A can be combined into one mainframe for multiple device testing.

The stand alone bench top unit SHF 11122 A is a small size unit to be used in the case that no further extension modules are required.

Feature

- Differential data input interface (single ended operation supported)
- Built-in clock recovery
- Seven built-in PRBS patterns: 2^7-1, 2^9-1, 2^{11}-1, 2^{15}-1, 2^{20}-1, 2^{23}-1, 2^{31}-1
- Supports bit rates of 39.8 to 43.1
- Sub-rate clock outputs (1/2 clock, 1/4 clock, 1/32 clock)
- Built-in frequency synthesizer for all bit rate operations (to provide the reference clock)
- Supports external reference clock input
- Internal gating by time and bits
- Remote operation by intuitive software interface or commonly used measurement control software

[1] The unit can also be operated by using an external reference clock of 1/64th, 1/32nd or 1/16th of the 39.8 to 43.1 Gbps bit rate range.

Preliminary Specifications – SHF 11110A and SHF 11122 A

Parameter	Unit	Min.	Typ.	Max.	Comment
Data Inputs					
Connector Type			50 Ω		1.85 mm female
Bit rate	Gbps	39.8		43.1	
Input level	mV	100		800	Single ended
Clock Input					
Connector type Reference Clock			50 Ω		SMA female
Reference Clock frequency Clock/32 Clock/64	 MHz MHz	 1243.8 621.9		 1346.9 673.4	
Reference Clock Input level	mV	300		800	V_{pp}, internal AC coupled
Clock Output					
Connector type Reference Clock output Clock/2 Clock/4 Clock/32			50 Ω		 SMA female 2.92 mm female 2.92 mm female SMA female
Output level Clock/2 Clock/4 Clock/32	mV	 200 300 400		 500 700 700	V_{pp} Ground-Referenced CML Ground-Referenced CML Ground-Referenced CML
Output frequency Clock/2 Clock/4 Clock/32	 GHz GHz MHz	 19.9 9.95 1243.8		 21.5 10.7 1346.9	
Patterns					
Standard CCITT PRBS			2^7-1 2^9-1 2^{11}-1 2^{15}-1 2^{20}-1 2^{23}-1 2^{31}-1		Apply to all bit rates