

# QTG-X110

## 11 Gbps Broadband QSFP+ Clock/Trigger Recovery System



### Overview

The OPTELLENT QTG-X110 is a compact, cost-effective clock/trigger recovery system for testing QSFP+ components and systems in R&D and manufacturing environments. The QTG-X110 enables the recovery of a low frequency trigger from any wavelength out of the composite optical output of QSFP+ modules. This enables viewing the QSFP+ data signals on an oscilloscope for eye-diagram analysis and eye-mask testing. It operates between 9.5 and 11 Gb/s and submultiples of this frequency range. The equipment has LEDs to indicate the chosen wavelength and the clock lock status.

### Key Features

- ▶ **Broadband operation**
- ▶ **Built-in wavelength demultiplexer/switch**
- ▶ **Optical data output of chosen wavelength**
- ▶ **Ideal for eye-diagram/eye-mask analysis**

### Applications

- ▶ Testing of optical transceivers, transponders, linecards, and subsystems
- ▶ Testing of opto-electronic components and devices (TOSA, ROSA, lasers, etc...)
- ▶ Testing of Gb/s ICs, electronic modules, subsystems, and systems
- ▶ Serial high-speed backplane and board design

### Protocol Applications

<b>SONET / SDH</b>	
0C-192: STS-192 / STM-64	9.95328 Gbps
G.709	10.709 Gbps
<b>ETHERNET</b>	
10GBASE-T	10 Gbps
10GBASE-R (LAN/PHY)	10.3125 Gbps
10GBASE-R OTU2 FEC	11.096 Gbps
<b>FIBRE CHANNEL</b>	
10 x FC (10GFC)	10.519 Gbps
10GFC with FEC	11.317 Gbps
<b>INFINIBAND &amp; HDMI</b>	
4 x Infiniband	10 Gbps
HDMI 1.3	10.2 Gbps

## Specifications

Parameter	Min	Typ	Max	Units
Data rates	9.5		11	Gb/s
Optical input wavelength	1270		1335	nm
Optical input power	- 4			dBm
Trigger Output Amplitude		300		mV <sub>p-p</sub>
Trigger frequency	Clock frequency/2			
Electrical terminations/connectors	AC-coupled 50Ω SMA Female			
Optical input connector	LC			
Optical output connector	FC/PC			

## System & General Specifications

PARAMETER	MIN	MAX	UNIT
Chassis Electrical Voltage	100	240	VAC
Current Drain at Normal Voltage		2.5	A
Operating Temperature Range	5	45	°C
Storage Temperature Range	-40	70	°C
Standard Warranty	2 years		

## Ordering information

QTGX110-X-X-X

