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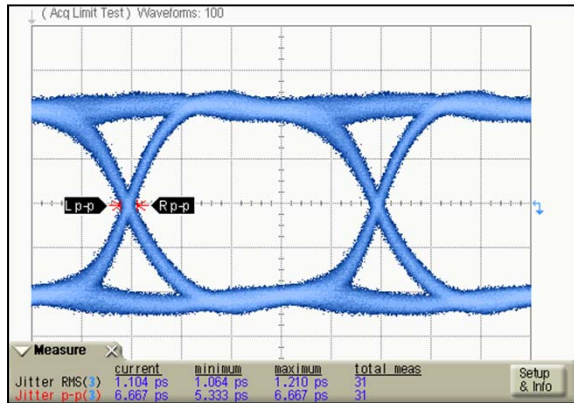
Errata Notice

This document contains references to “Centellax.” Please note that the test and measurement product portfolio once owned by Centellax, Inc. is now part of Agilent Technologies. For more information about these products and support, go to **www.agilent.com/find/bert-news**.

TG5P1A Datasheet

1.5 - 12.5 Gb/s Pattern Generator Remote Tx Head

Highly cost effective solution for accurately characterizing crosstalk, backplanes and multi-lane serial data interfaces



Product Highlights

- 1.5-12.5 Gb/s range of operation
- Differential or single-ended output
- Fully adjustable output parameters
- PRBS 7, 10, 15, 23, 31, clock 1010, 1100 patterns
- Compact size
- Programmable via PCB12500 Parallel Channel BERT

TG5P1A Generator Head

Each head connects to the PCB12500 controller through a 1 m cable. This allows it to be located near the signal connection points in the device under test, minimizing cable loss.

The modular architecture allows you to purchase only the heads your application requires. No need to spend more on unused output or input channels.

Integrated 2-Tap De-Emphasis

TG5P1A generator heads include integrated two tap de-emphasis conditioning. Commonly used in higher data rate systems to open eyes by counteracting high frequency loss in the channel, applying de-emphasis to the test signal is required for receiver testing. Other vendors' generators require additional dedicated external signal processors. The internal de-emphasis conditioning in the TG5P1A generator heads eliminates the expense of additional signal processors, as well as the associated signal degradation resulting from the extra cables used to connect them.

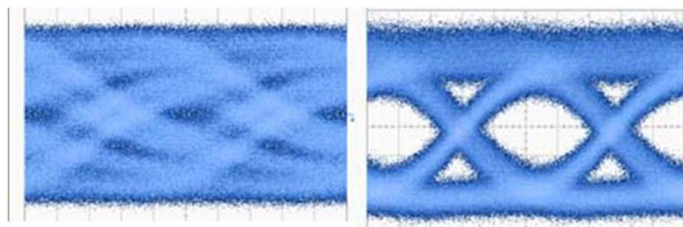
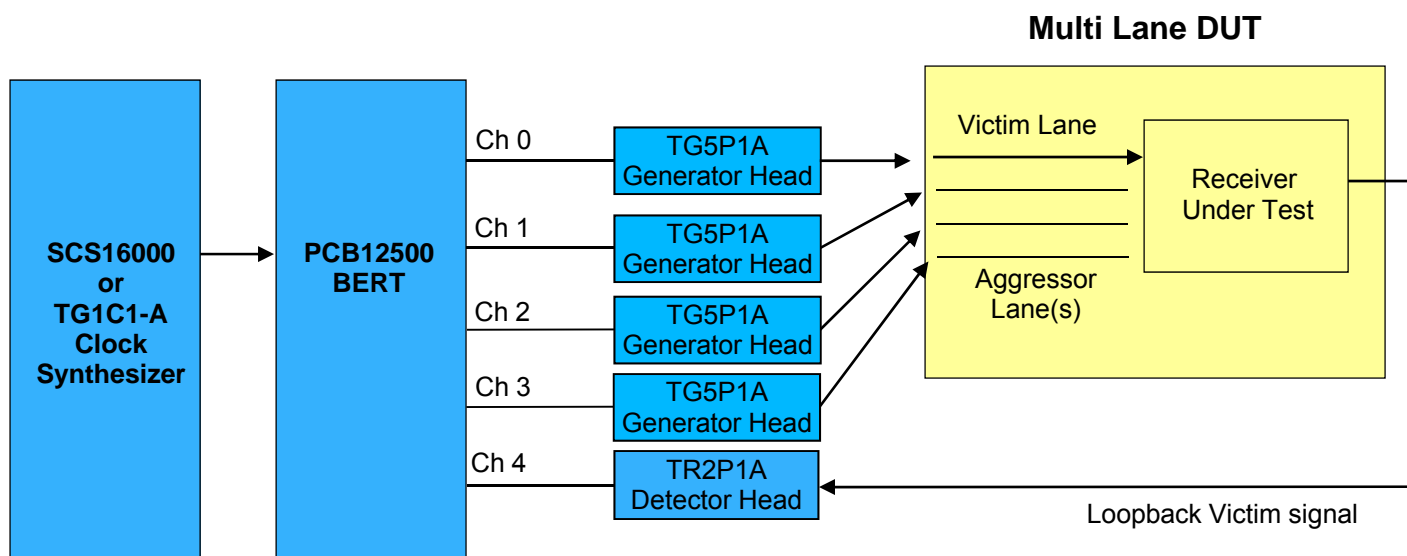


Figure 1: Example of variable de-emphasis

Typical Measurement System Setup – Crosstalk Susceptibility



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Specifications

TG5P1A Generator Head	
Signal Configuration	Differential. Will operate in single-ended mode
Data Line Coding	Non-return to Zero (NRZ)
Output Data Rate	1.5 Gb/s – 12.5 Gb/s ¹
Patterns	PRBS 2 ⁿ -1, <i>n</i> =7, 10, 15, 23, 31 1010 and 1100 Logic 0, Logic 1
Pattern Invert	Available on all patterns except 1010 and 1100
Output Amplitude	0.2 to 2.0 V in 5 mV steps, single ended
Transition Times 20% to 80%	30 ps maximum, <20 ps typical
Additive Jitter	<20 ps p-p max. <6.5 Gb/s <10 ps p-p max. ≥6.5 Gb/s
Output Offset	-1.8 to +1.8 V in 5 mV steps
Termination Voltage	-2.0 to +2.0 V in 5 mV steps
Cross over	20 to 80% in 1% steps
De-Emphasis	2 tap (1 post cursor), 0 to 20 dB in 0.1 dB steps
Delay Range	±1,000 UI, 1 mUI steps ¹
Skew Range	±99.999 UI, 1 mUI steps ¹
DelaySweep	0, 1, 2, 4 UI p-p ¹
Data Connectors	2.92 mm female

¹Timing parameter determined by PCB12500

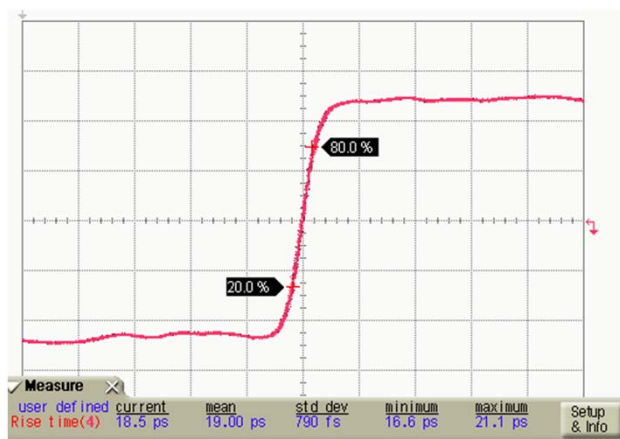


Figure 2: Typical rise time

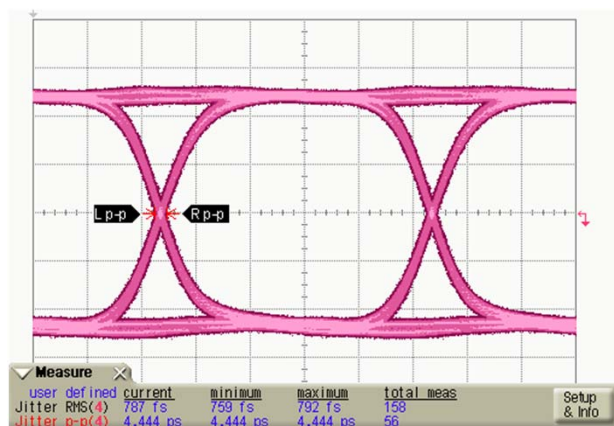


Figure 3: Typical intrinsic jitter, PRBS 2³¹ data signal

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Ordering Information

Product Code	Description
TG5P1A	1.5-12.5Gb/s Pattern Generator Remote Tx Head

TG5P1A includes: 2ea. cable, 12.7 cm (5 in) SMA-M to SMA-M, 1 ea. terminator, 50 Ω SMA-M, printed Quick Start Guide, standard 1 year warranty

Warranty and Calibration Services

-OPT300	1 Year Warranty Extended to 3 Years
-OPT301	1 Year Warranty Extended to 5 Years
-OPT320	Centellax Calibration – Per Incident
-OPT321	Annual Centellax Calibration for 3 Years
-OPT322	Annual Centellax Calibration for 5 Years

More Information

For additional information, to schedule a product demonstration, or to request a quote, contact your local authorized Centellax Distributor or:

Centellax Sales Department
Tel: 1-866-522-6888
Fax: 1-707-568-7647
E-mail: sales@centellax.com
www.centellax.com

Physical and Environmental

Temperature: Operating, (Non-Operating)	+10° to +40° C, (-40° to +70° C)
Dimensions (<i>Height, Width, and Depth</i>)	33 mm (1.3 in) x 72 mm (2.8 in) x 130 mm (5.1 in)
Weight	0.38 kg (13.4 oz)

Compliance

EMC

Complies with:
European EMC Directive 2004/108/EC, IEC/EN 61326, CISPR 11 Group 1 Class A, AS/NZS CISPR 11, ICES/NMB-001