TE Connectivity CAT7A

Lightware Testing Lab

Cable Testing Method

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visual engineering
LIGHTWARE

Professional Cable Performance Analysis

We use Fluke DSX-5000 cable analyzers in the Lightware Testing Lab to measure the properties of the cable relevant to signal transmission. Measured data include the DC resistance of the cable, the loss of signal strength of a signal (attenuation) at one or more frequencies, measuring the isolation between pairs of multi-pair cable threads, cross talk and many more.

This phase of testing can outline the general performance of the cable itself, without the modifying effects of a connected HDBaseT™ device.
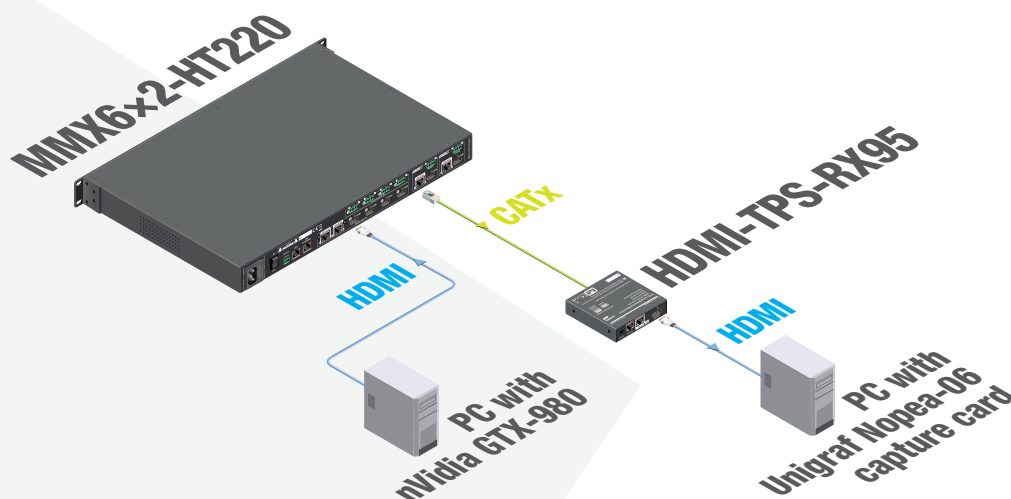
Application Tests

Measuring the performance of CAT cables is generally important, but it is even more useful to test the cables in a system containing HDBaseT™ transmitters and receivers.

These devices along with the used cable greatly affect the overall system performance. HDBaseT™ transmitters and receivers have HDMI input/output stage, reclocking features and other factors that can modify system performance.

We believe that in order to provide the most valuable information for integrators about the HDBaseT™ chain, it is best to test the cables together with HDBaseT™ compatible Lightware TPS products.

Therefore we always run cable performance tests in working applications as well.

Test criteria: Bit Error Rate is under 10^{-9}

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Test Results

	TX	RX	Test Pattern	Length (m)	Pixel errors over 200 sec			
					Red	Green	Blue	Total
Lightware Long Reach Mode	MMX6x2	HDMI-TPS-RX95 ENG-2068	1080p60 pseudorandom	150 m +2×0,3 m patch cable	1	0	0	1

	Bit Error Rate				Tx Error Rate				Rx Error Rate			
	total_ber (tx side)	video_ber (rx side)	audio_ber (rx side)	control_ber (rx_side)	A	B	C	D	A	B	C	D
Lightware Long Reach Mode	10^{-09}	10^{-09}	10^{-09}	10^{-09}	50.5	50.5	50.5	50.5	58.4	58.4	58.4	58.4