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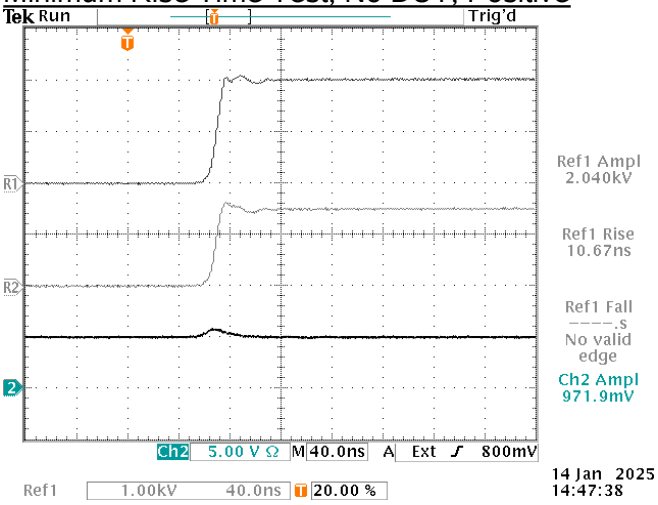
PERFORMANCE CHECKSHEET

Model: AVRQ-5-B-XHV-AC22
Type: Common Mode Transient Immunity (CMTI) Test for Opto-Couplers
S.N.: 14494
Date: January 14, 2025

Minimum Rise Time Test, No DUT, Positive



Top = +1.5 and +2.0 kV HV out (stored - with signal disconnected before recording logic waveform).

Bottom = Logic “A” out for +2 kV, VCC2 = +5V, using P6246, and no DUT, R2 = 1 kΩ. (This shows the parasitic capacitive coupling onto the Logic “A” out.)

a) Output Signal Amplitude: ±1.5 to ±2 kV

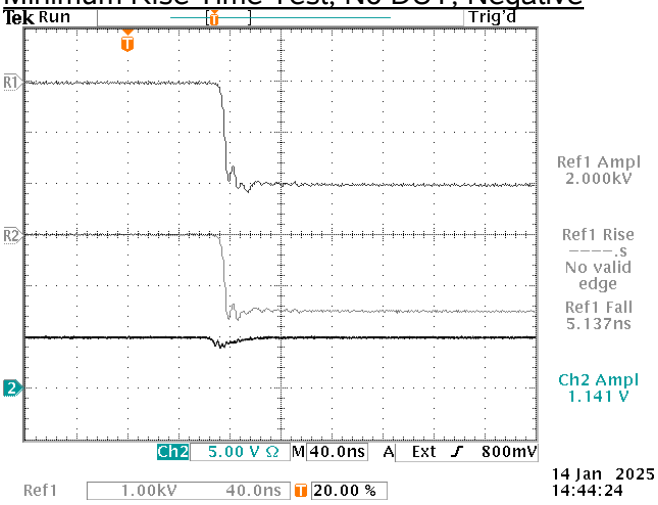
b) Rise Time (10%-90%): < 15 to > 50 ns

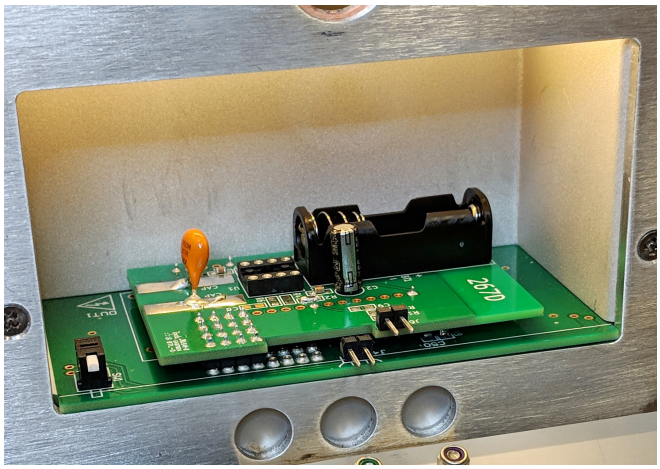
c) PRF: 1 Hz - 100 Hz

d) Jitter, Stability: OK

e) Prime Power: 100-240V AC, 50-60 Hz.

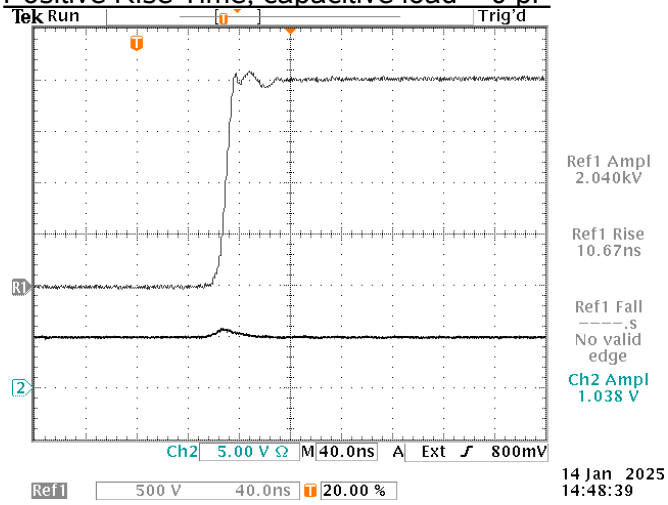
Minimum Rise Time Test, No DUT, Negative



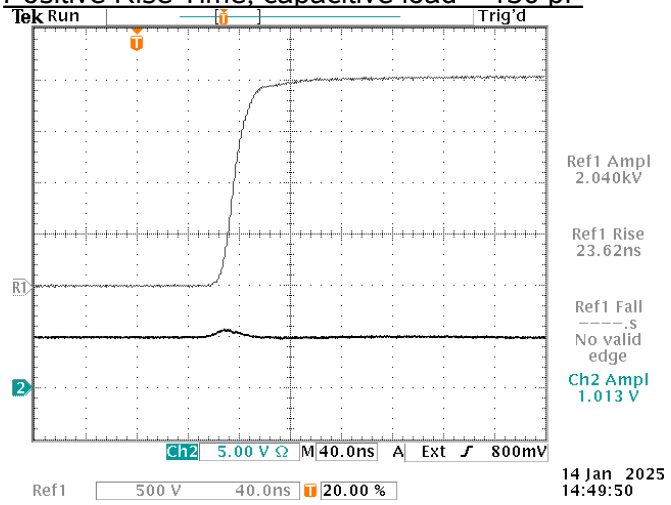


Daughterboard installed
in positive position (with no DUT IC)

Positive Rise Time, capacitive load = 0 pF

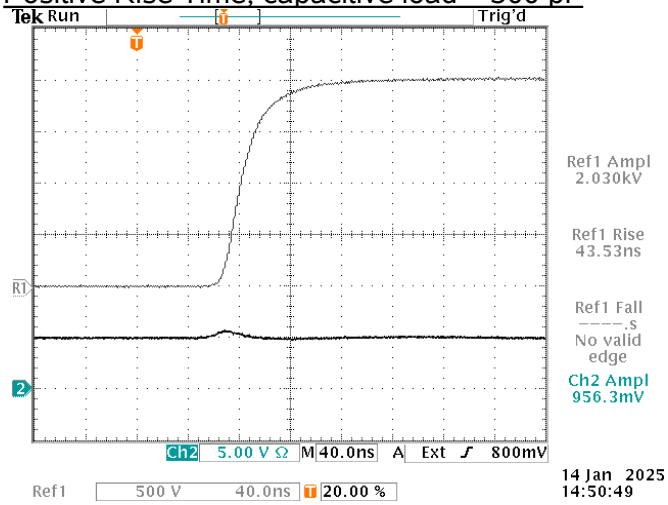


Positive Rise Time, capacitive load = 150 pF

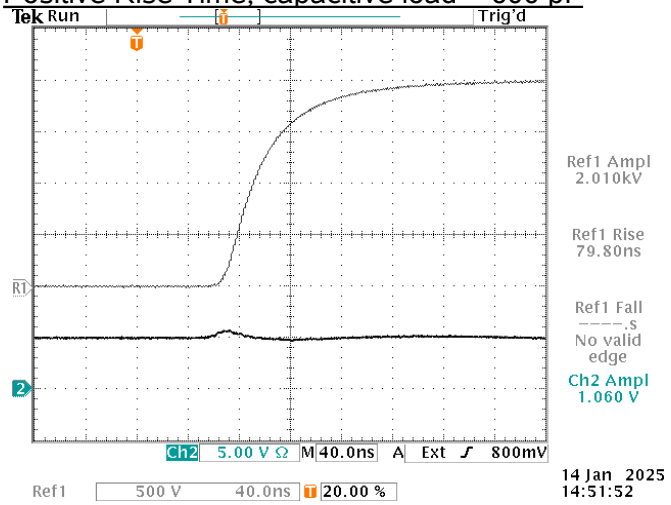


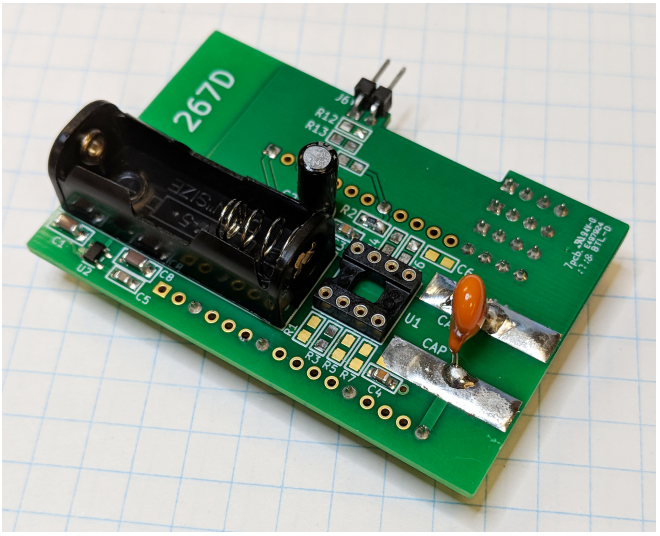
Top = HV out (stored - with signal disconnected before recording logic waveform)
Bottom = Logic "A" out, VCC2 = +5V, using P6246 probe, and no DUT, R2 = 1 kΩ

Positive Rise Time, capacitive load = 300 pF



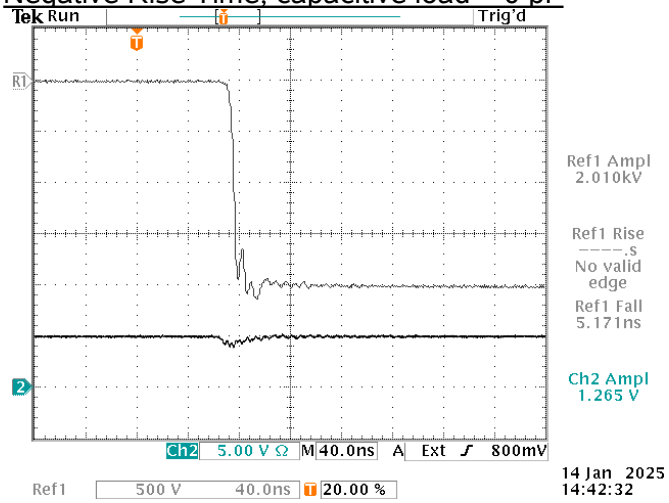
Positive Rise Time, capacitive load = 600 pF



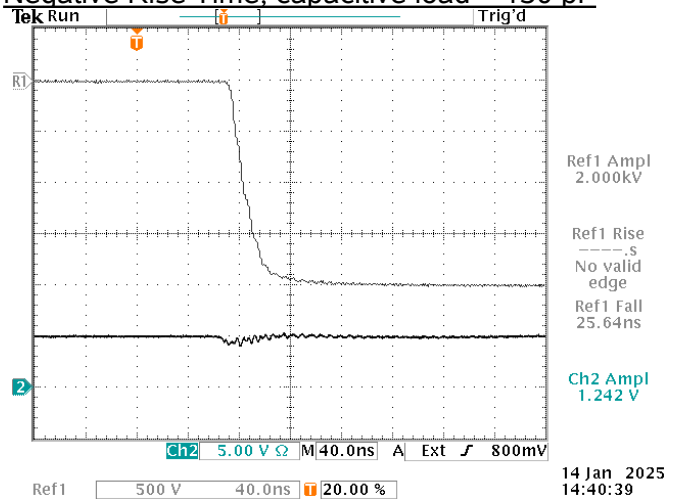


150 pF capacitor (orange) on daughterboard

Negative Rise Time, capacitive load = 0 pF

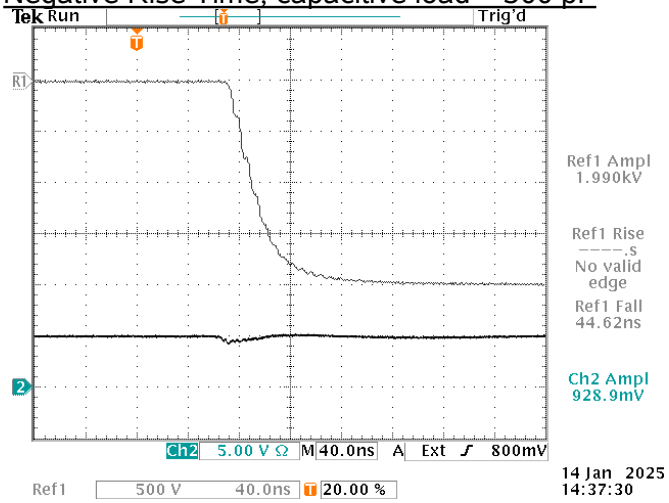


Negative Rise Time, capacitive load = 150 pF

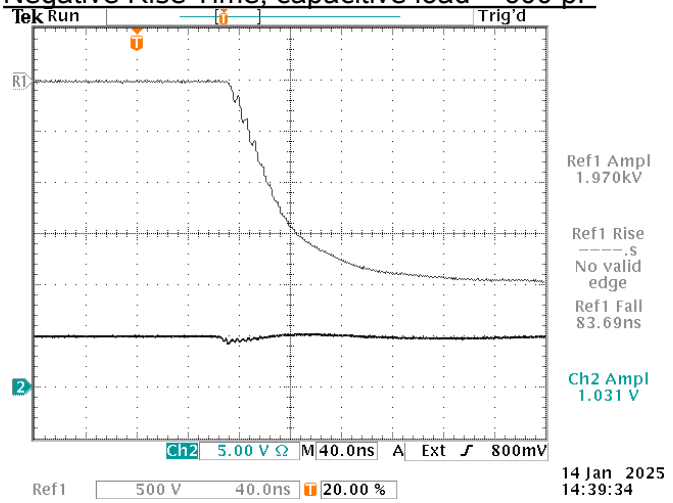


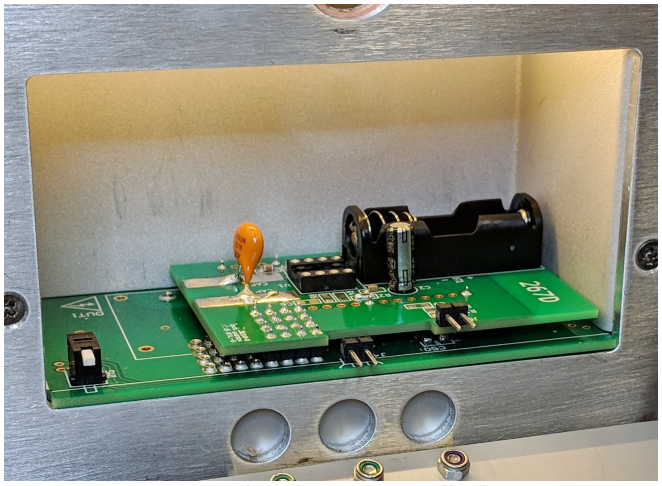
Top = HV out (stored - with signal disconnected before recording logic waveform)
Bottom = Logic "A" out, VCC2 = +5V, using P6246 probe, and no DUT, R2 = 1 kΩ

Negative Rise Time, capacitive load = 300 pF



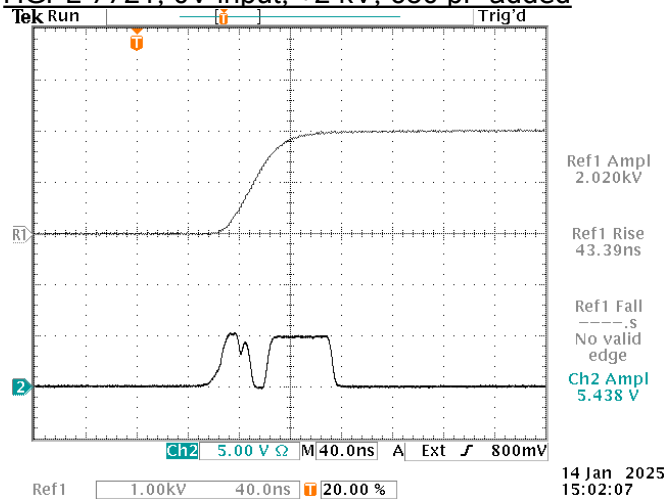
Negative Rise Time, capacitive load = 600 pF



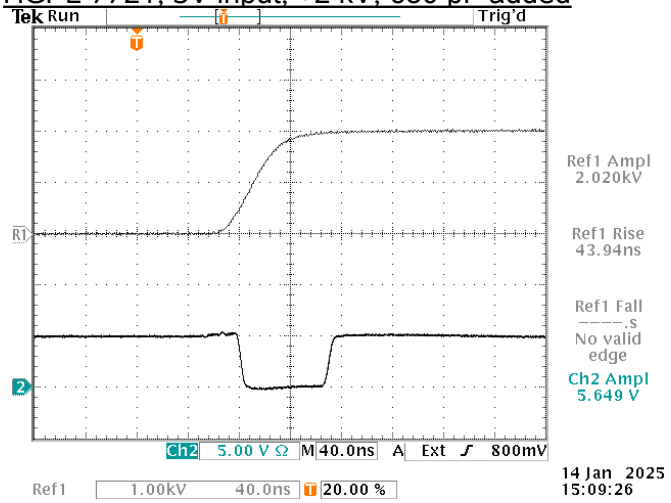


Daughterboard installed
in negative position (with no DUT IC)

HCPL-7721, 0V input, +2 kV, 680 pF added



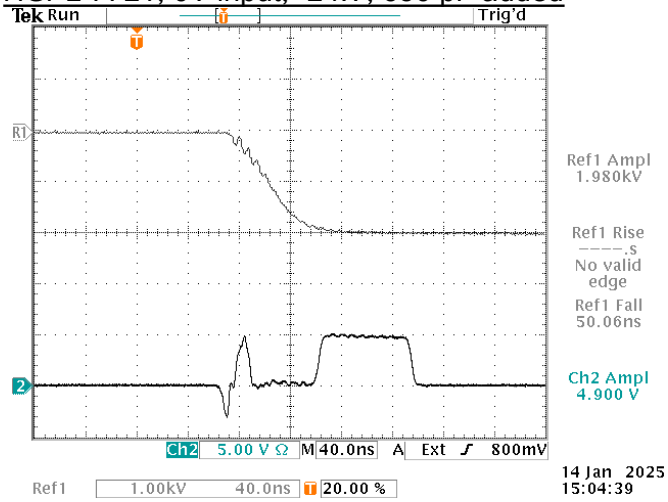
HCPL-7721, 5V input, +2 kV, 680 pF added



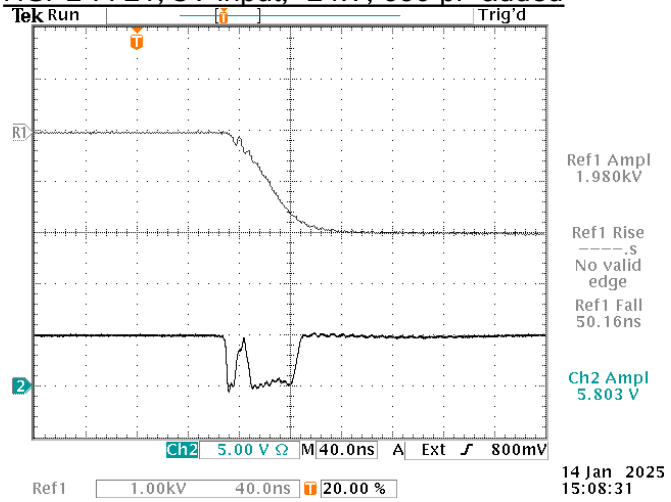
Top = high voltage pulse (stored - with signal disconnected before recording logic waveform).

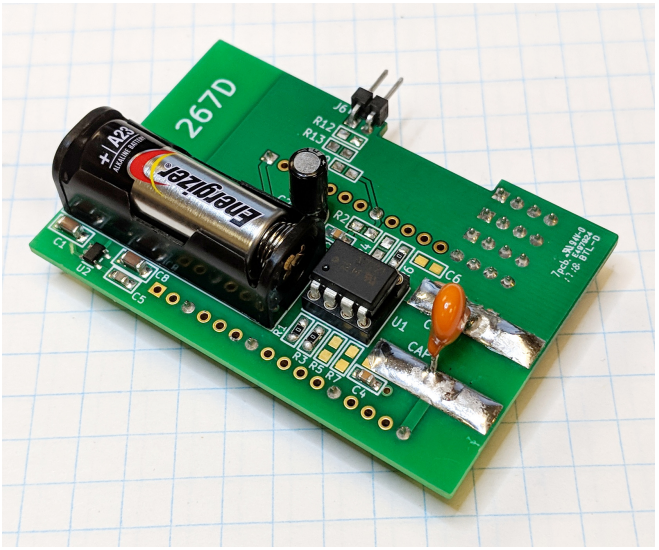
Bot = Logic "A" out (with 0V input) using P6246.

HCPL-7721, 0V input, -2 kV, 680 pF added

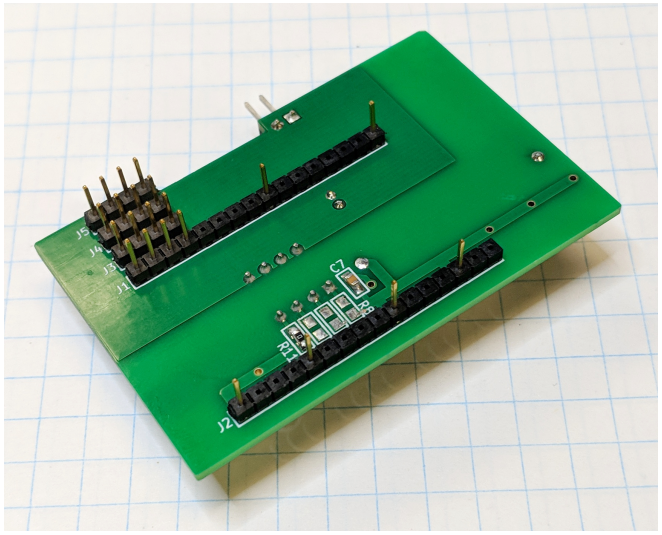


HCPL-7721, 5V input, -2 kV, 680 pF added





Top side of daughterboard with HCPL-7721 configured for 5V bias.



Bottom side of daughterboard with HCPL-7721 configured for 5V bias.