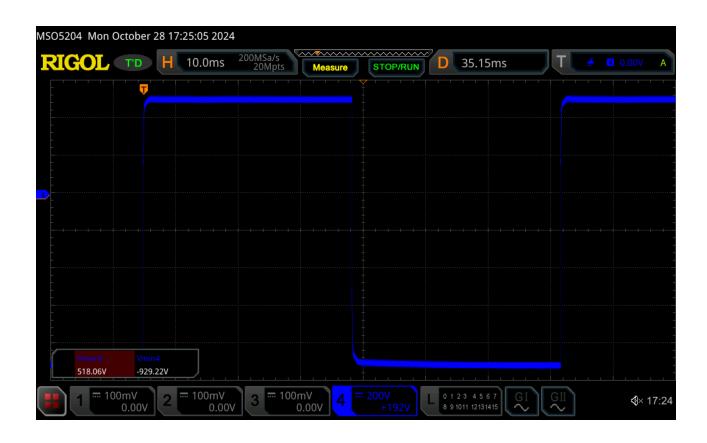
RTP Driver Prototype Crosstalk tests

Jim Kortze 20 October 2024

Summary:

- Tests done to identify HV channel crosstalk
- Tests conducted using Rigol MSO5204 oscilloscope and 1000:1 HV divider box.
- For each test, the ground lead of the divider box was connected in parallel to the common lead of the RTP box and crystal being tested, and the lead under test connected to the HV divider signal input. All leads not under test were connected to their respective crystal connections
- For each lead, four measurements were made: All supplies on, DUT supplies on with all others off, Pos on/ Neg off, Pos off/ Neg on

RTP1 POS LEAD ALL ON



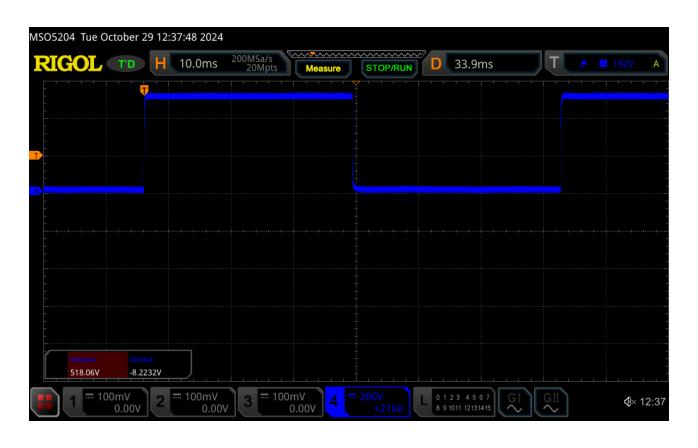
• 518.06V/-929.22V

RTP1 POS LEAD OTHERS OFF



• 518.06V/-929.22V

RTP1 POS LEAD POS ON/ NEG OFF



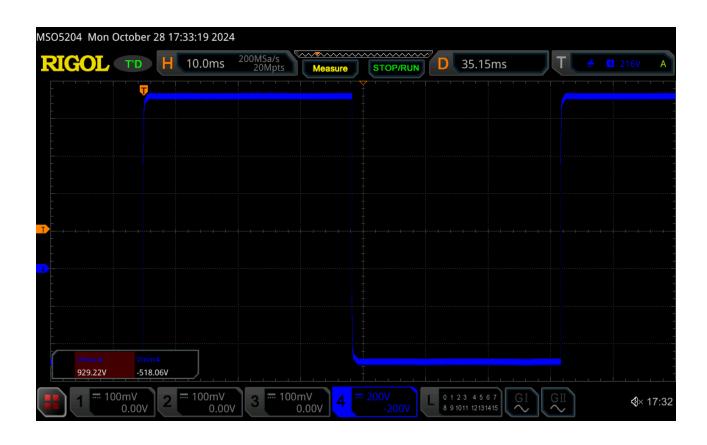
• 518.06V/-8.223

RTP1 POS LEAD POS OFF/ NEG ON



• 16.446V/-929.22V

RTP1 NEG LEAD ALL ON



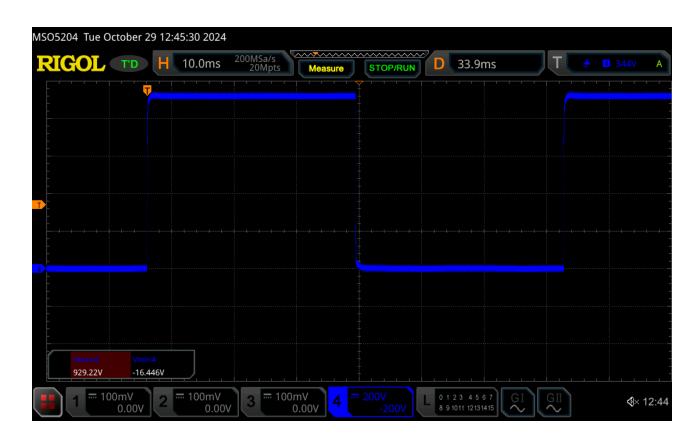
• 929.22V/ -518.06V

RTP1 NEG LEAD OTHERS OFF



• 929.22V/ -518.06V

RTP1 NEG LEAD POS ON/ NEG OFF



• 929.22V/ -15.446V

RTP1 NEG LEAD POS OFF/ NEG ON



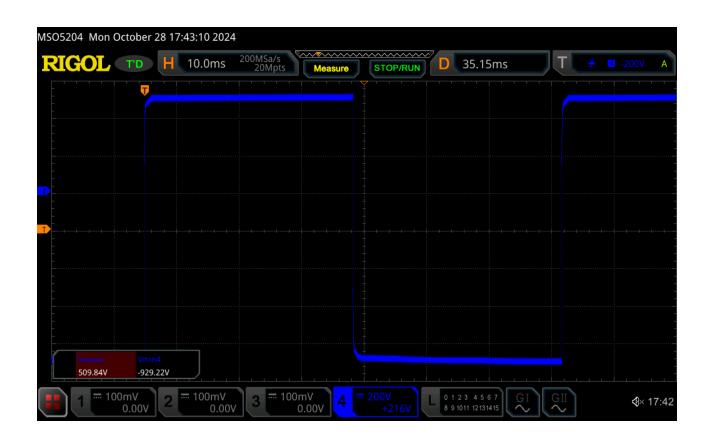
• 16.446V/ -518.06V

RTP2 POS LEAD ALL ON



• 509.84V/ -921.00V

RTP2 POS LEAD OTHERS OFF



• 509.84V/ -929.22V

RTP2 POS LEAD POS ON/ NEG OFF



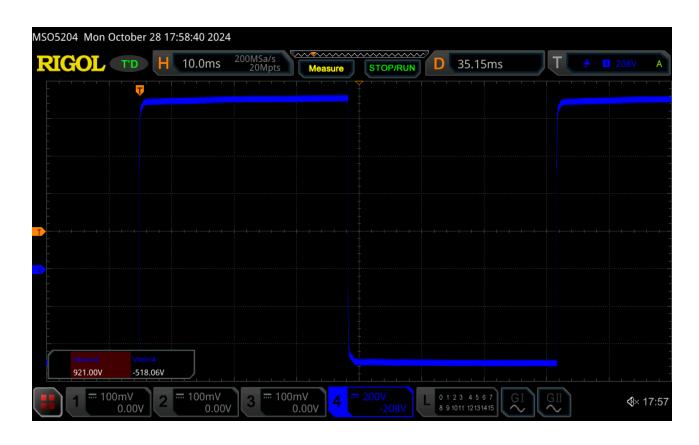
• 518.06V/ -16.446V

RTP2 POS LEAD POS OFF/ NEG ON



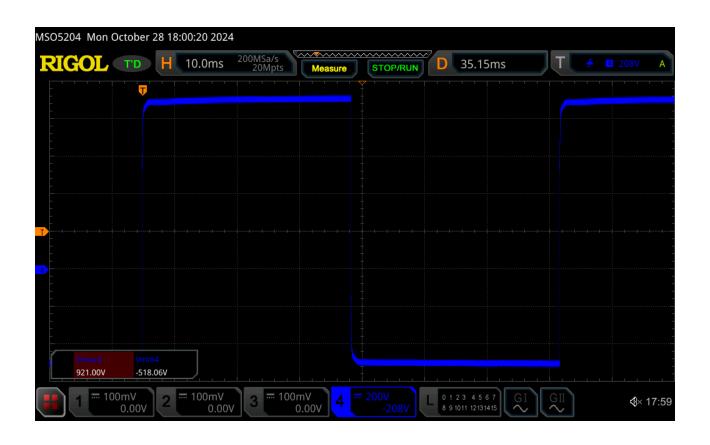
• 16.446V/ -929.22V

RTP2 NEG LEAD ALL ON



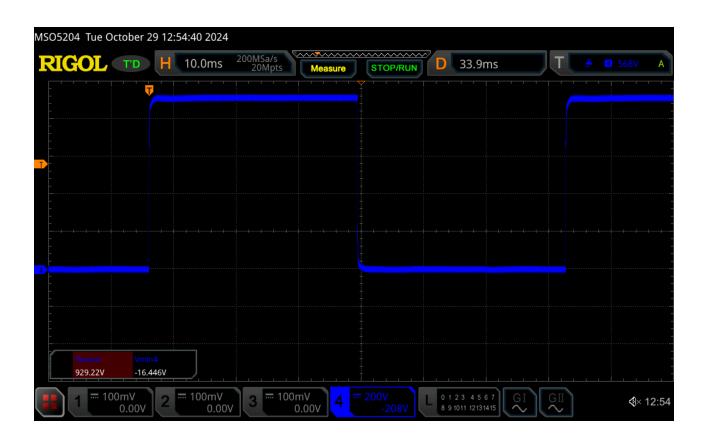
• 921.00V/ -518.06V

RTP2 NEG LEAD OTHERS OFF



• 921.00V/ -518.06V

RTP2 NEG LEAD POS ON/ NEG OFF



• 929.22V/ -16.446V

RTP2 NEG LEAD POS OFF/ NEG ON



• 16.446V/ -526.28V

Conclusions

RTP1	POS	ALL ON	518.06	-929.22
		OTHERS OFF	518.06	-929.22
		POS ON/ NEG OFF	518.06	-8.223
		POS OFF/ NEG ON	16.446	-929.22
	NEG	ALL ON	929.22	-518.06
		OTHERS OFF	929.22	-518.06
		POS ON/ NEG OFF	929.22	-16.446
		POS OFF/ NEG ON	16.446	-518.06
RTP2	POS	ALL ON	509.84	-921
		OTHERS OFF	509.84	-929.22
		POS ON/ NEG OFF	518.06	-16.446
		POS OFF/ NEG ON	16.446	-929.22
	NEG	ALL ON	921	-518.06
		OTHERS OFF	921	-518.06
		POS ON/ NEG OFF	929.22	-16.446
		POS OFF/ NEG ON	16.446	-526.28

- No notable signs of crosstalk between measurements
- The largest variance between supply measurements was less than 2%, which is attributed to measurement noise