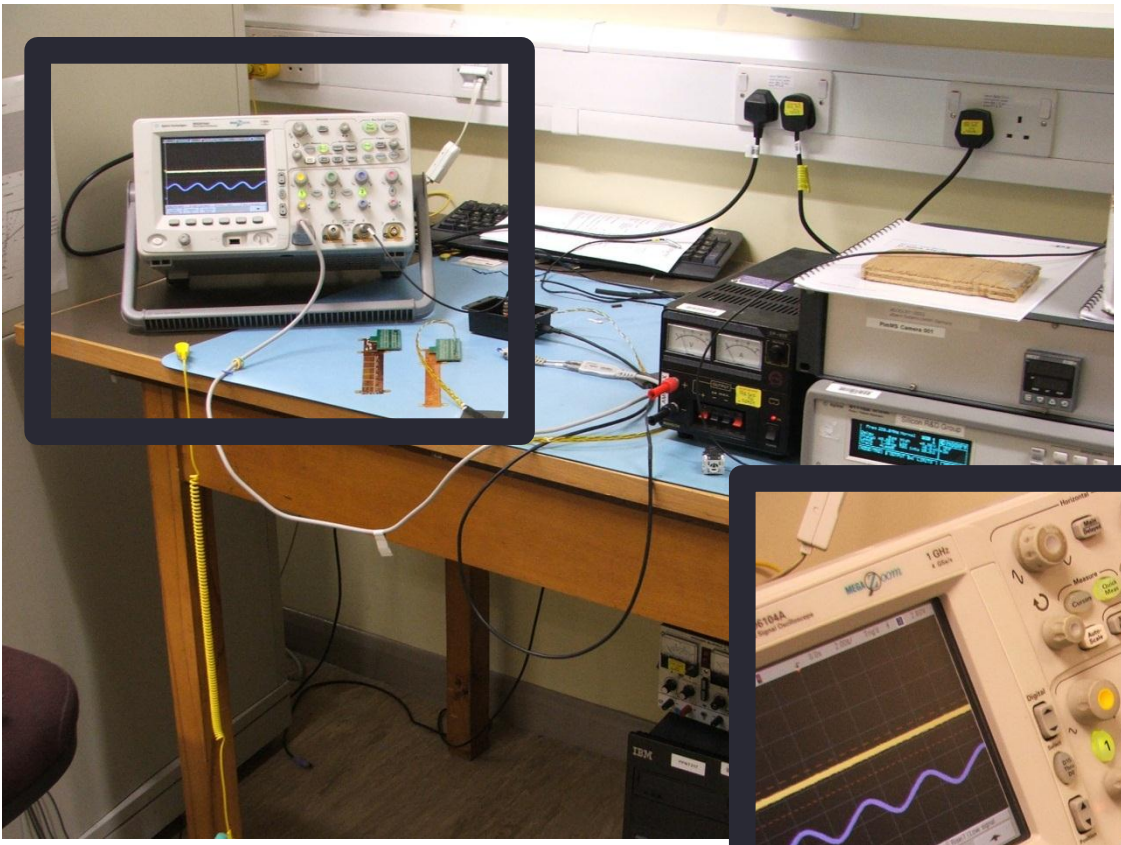
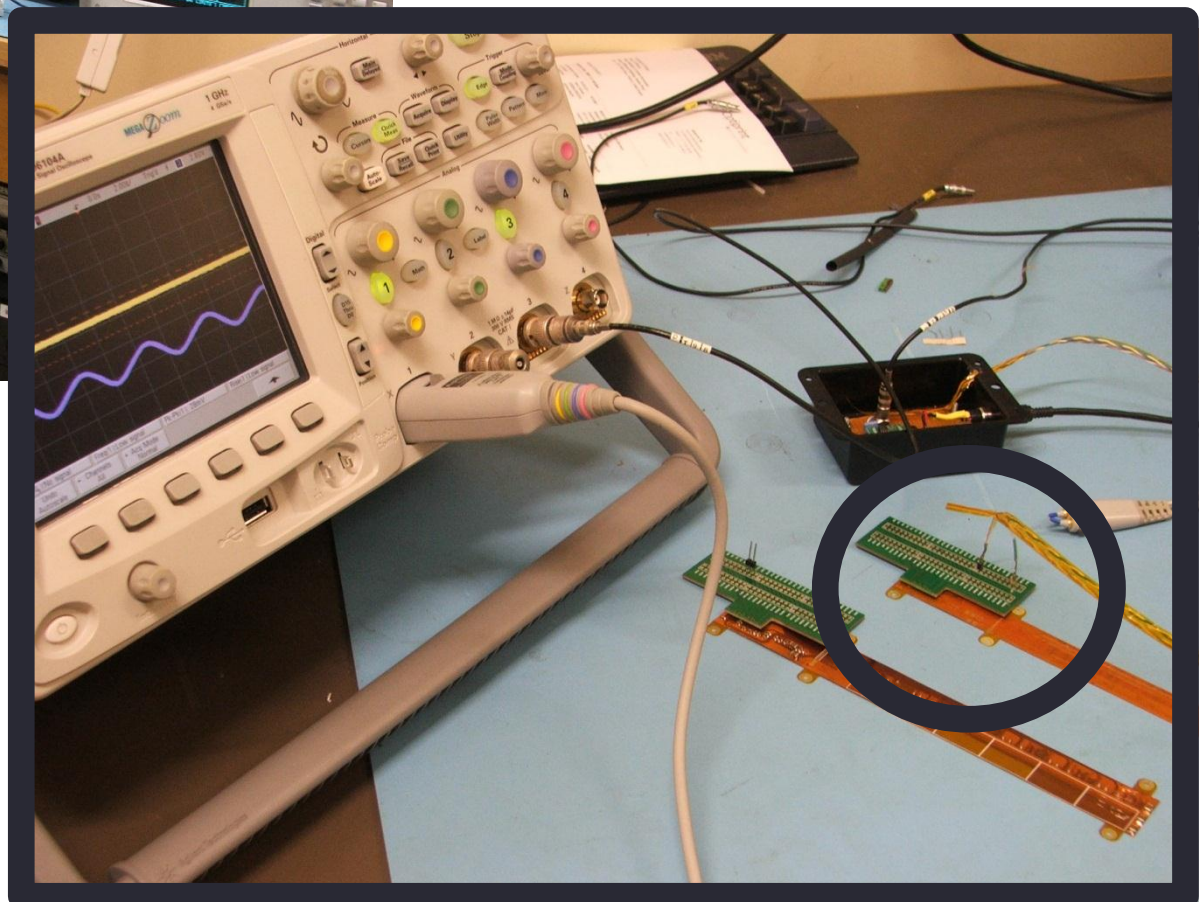
CLOCK PROPAGATION MEASUREMENTS OPTI'10 VS OPTI'11

Rhorry Gauld



Set-up at Oxford

LVDS input separated on new flex design



1GHz Scope
1GHz dig. Probe
LVDS converter
Opti'10 & '11 flex

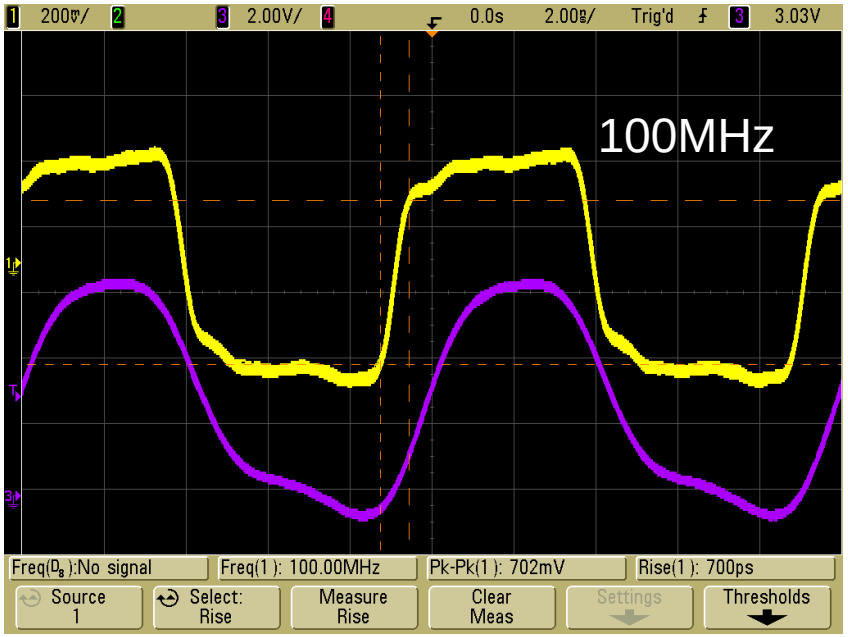
Flex design

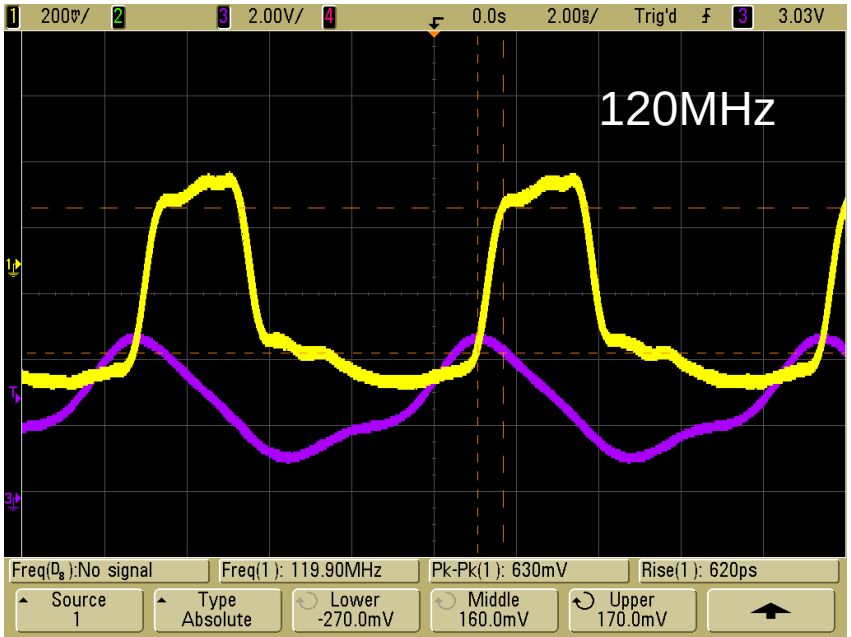
Measurements in microns	Optiprint ’10	Optiprint ’11
Trace Thickness	20	20
Substrate Thickness	25	25
Cover Layer(top/bottom)	38/38	20/20
Trace Width	75	60
Trace Seperation	90	75

Copper traces on both flexes. Each flex terminated with 100 Ohm resistor

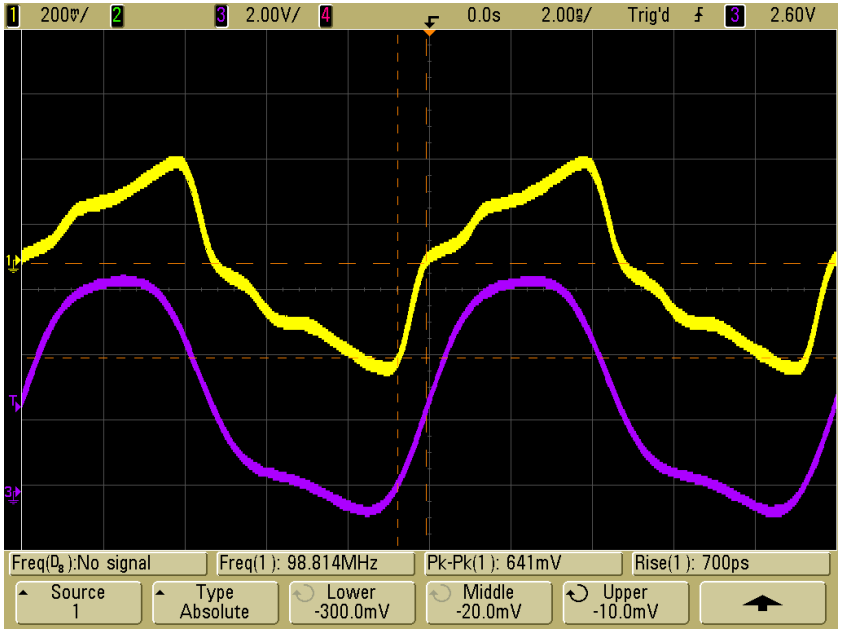
All measurements taken 14/11/11

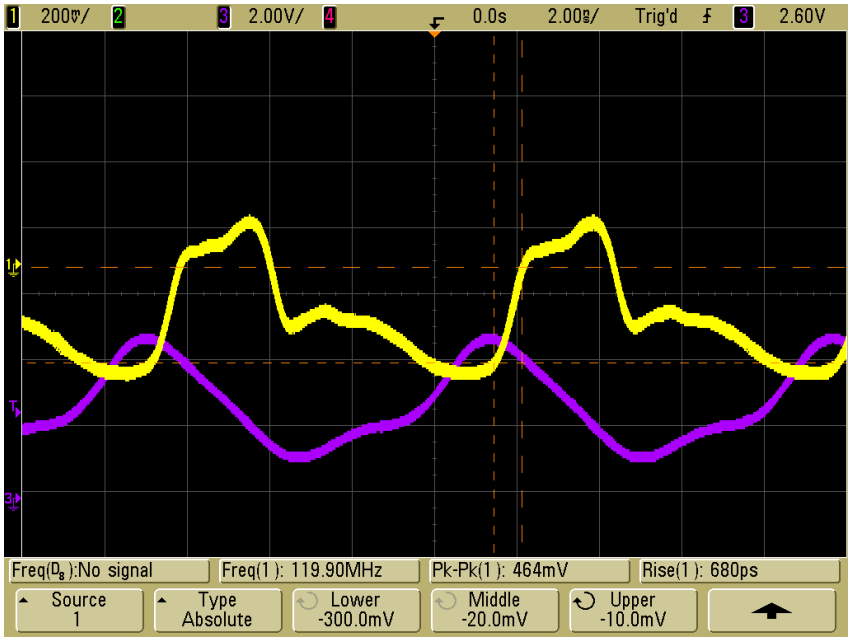
Optiprint 2010 version

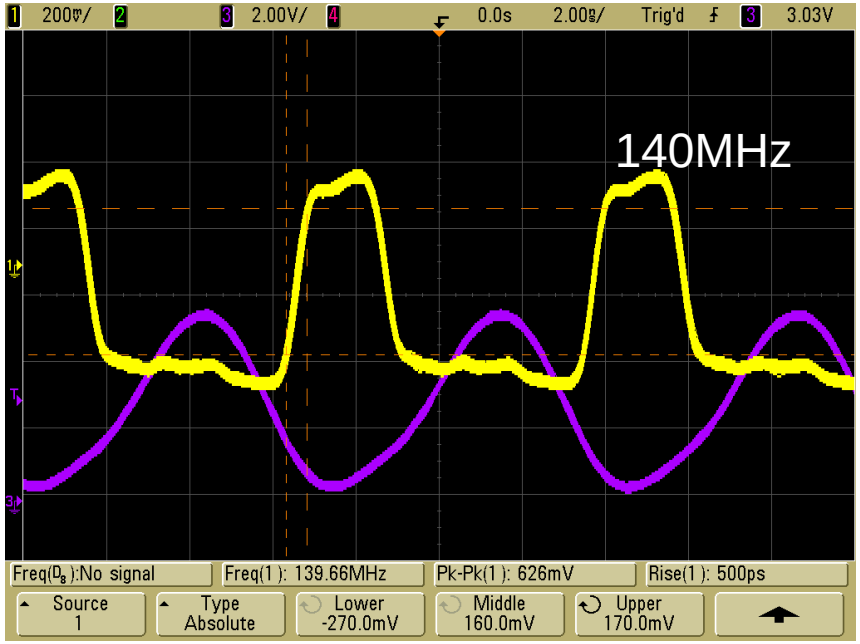




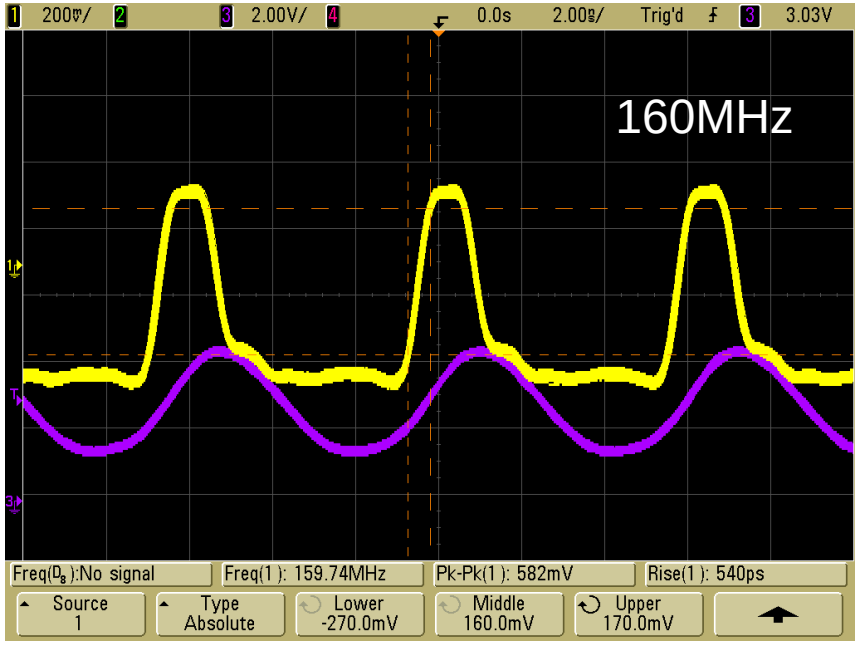
Optiprint 2011 version

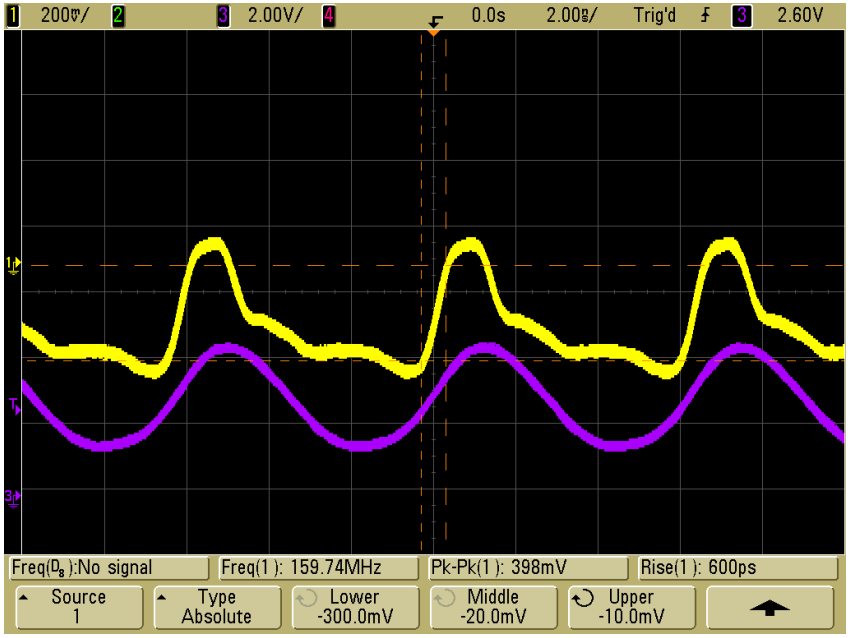


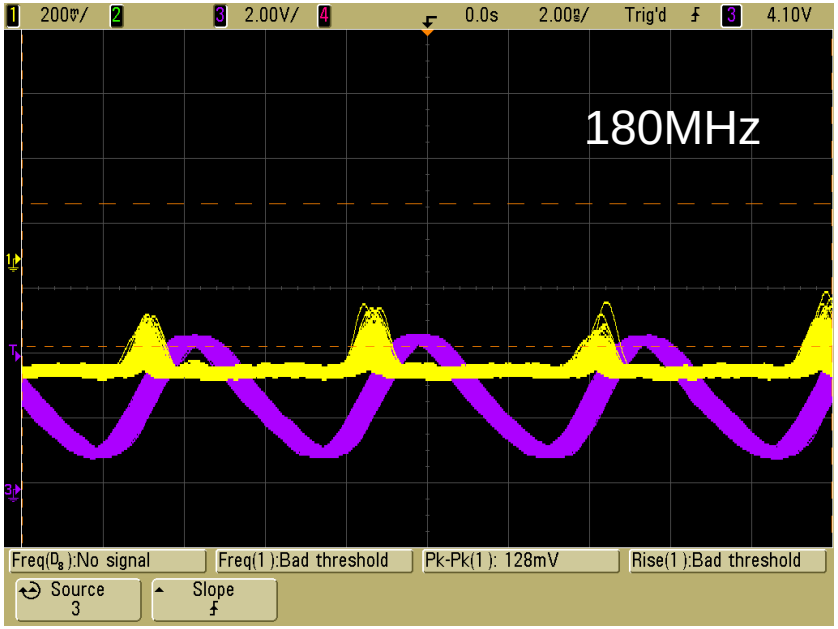


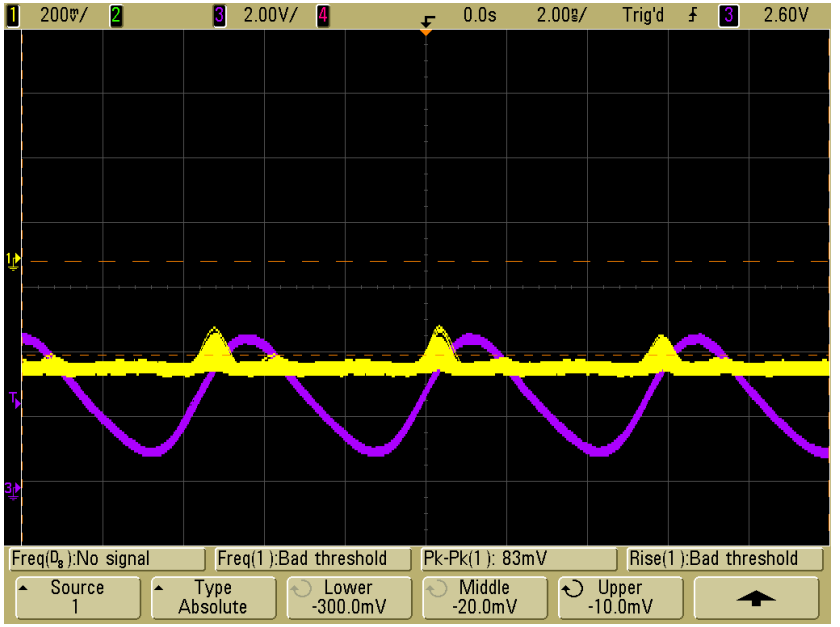

140MHz
Freq(D8):No signal
Freq(1): 139.66MHz
Pk-Pk(1): 626mV
Rise(1): 500ps
Source 1
Type Absolute
Lower -270.0mV
Middle 160.0mV
Upper 170.0mV

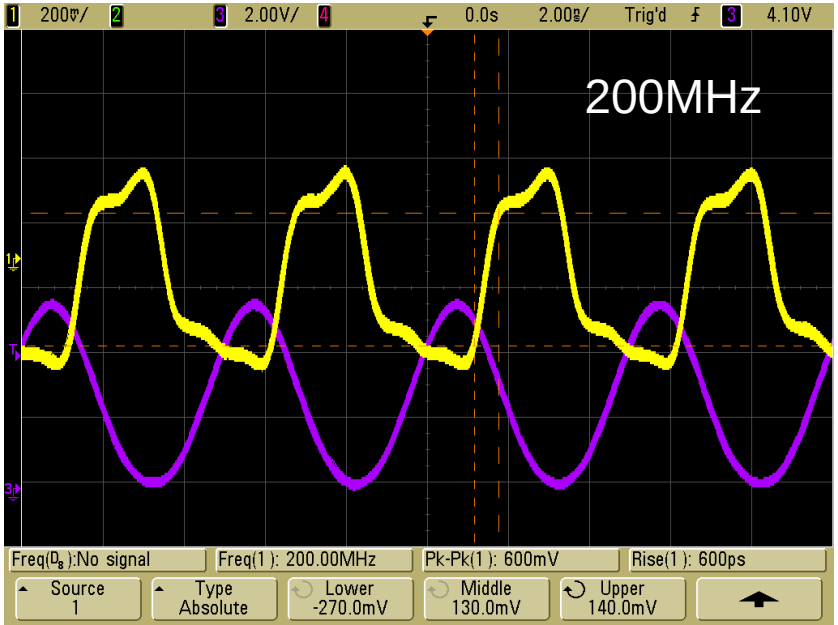

Freq(D8):No signal
Freq(1): 139.66MHz
Pk-Pk(1): 459mV
Rise(1): 600ps
Source 1
Type Absolute
Lower -300.0mV
Middle -20.0mV
Upper -10.0mV

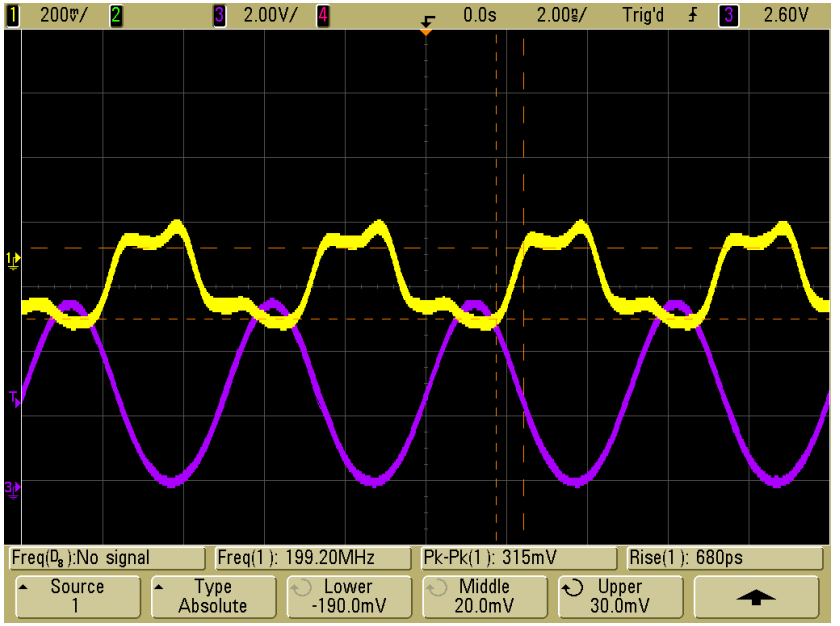

160MHz
Freq(D8):No signal
Freq(1): 159.74MHz
Pk-Pk(1): 582mV
Rise(1): 540ps
Source 1
Type Absolute
Lower -270.0mV
Middle 160.0mV
Upper 170.0mV

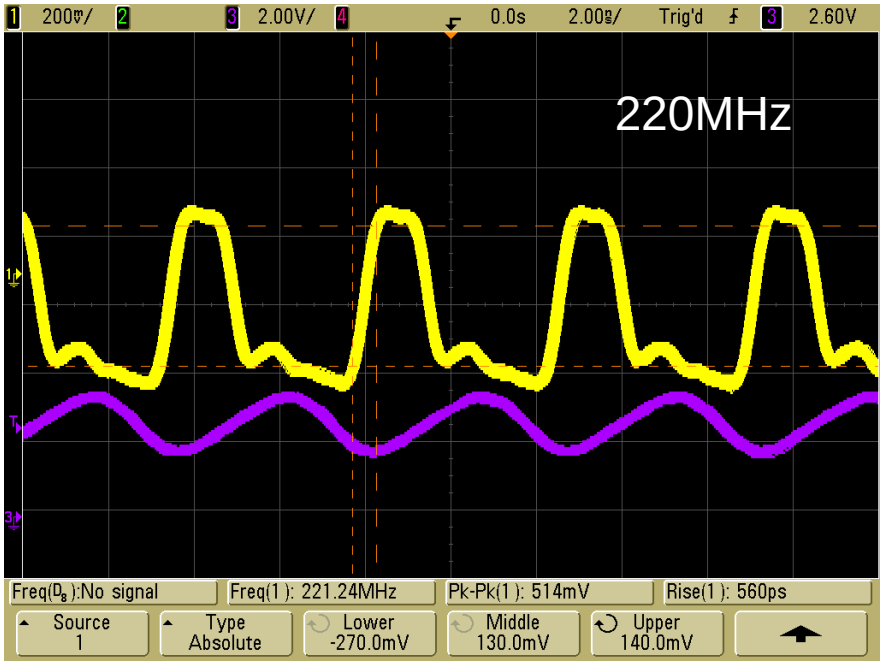

Freq(D8):No signal
Freq(1): 159.74MHz
Pk-Pk(1): 398mV
Rise(1): 600ps
Source 1
Type Absolute
Lower -300.0mV
Middle -20.0mV
Upper -10.0mV

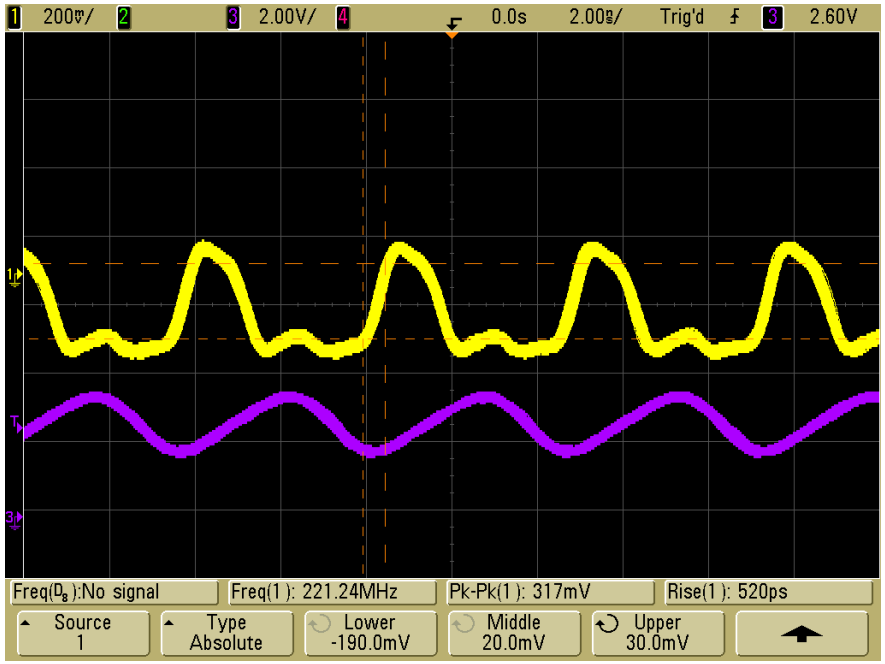

180MHz
1 200mV/ 2 3 2.00V/ 4 0.0s 2.00ns/ Trig'd 3 4.10V
Freq(D8):No signal
Freq(1):Bad threshold
Pk-Pk(1): 128mV
Rise(1):Bad threshold
Source 3
Slope


1 200mV/ 2 3 2.00V/ 4 0.0s 2.00ns/ Trig'd 3 2.60V
Freq(D8):No signal
Freq(1):Bad threshold
Pk-Pk(1): 83mV
Rise(1):Bad threshold
Source 1
Type Absolute
Lower -300.0mV
Middle -20.0mV
Upper -10.0mV


200MHz
1 200mV/ 2 3 2.00V/ 4 0.0s 2.00ns/ Trig'd 3 4.10V
Freq(D8):No signal
Freq(1): 200.00MHz
Pk-Pk(1): 600mV
Rise(1): 600ps
Source 1
Type Absolute
Lower -270.0mV
Middle 130.0mV
Upper 140.0mV


1 200mV/ 2 3 2.00V/ 4 0.0s 2.00ns/ Trig'd 3 2.60V
Freq(D8):No signal
Freq(1): 199.20MHz
Pk-Pk(1): 315mV
Rise(1): 680ps
Source 1
Type Absolute
Lower -190.0mV
Middle 20.0mV
Upper 30.0mV





Need to use Network Analyser for more accurate results?

Need to test aluminium flex