

DDR3

Deskew Procedure

Steps for deskewing D610 and D620 probes for DDR2/DDR3

Pre-steps:

1. Let the probes warm up for 10-15 minutes.
2. Autozero each probe using the channel menu.
3. Set the Vertical Scaling for all input channels to 100 mV/div.
4. Set the Vertical Offset for all input channels to 0 V.
5. Connect PCF to Fast Edge out as shown in Figure 1.
6. Attach one (any) of the probe tips to the PCF200. The same tip will be used to deskew all (3 or 4) probes.
- 7a. Terminate the PCF200 using a 50-ohm coaxial connector [shown in Figure 1]
- 7b. If a coaxial 50-ohm termination is not available, then connect a cable instead [shown in Figure 2] and terminate it into an unused channel (where the channel coupling is set to 50 ohms). Note: Do not use Aux Out to terminate the the cable.

Steps for deskewing:

1. Set the Trigger Source to "FastEdge" in the Trigger menu.
2. Turn on only C1.
3. Connect the C1 probe amplifier and base-cable assembly to the probe tip which is currently attached to the PCF200 [see hot-swapping safety information in Figure 3]
4. Move the rising edge of C1 to the center screen.
5. Set the time/div to 100 ps/div (or faster)
6. Set BWL to 6 GHz (6 GHz and "Full" may be the same when using the D610/D620) in the channel menu.
7. Turn on averaging, set to 50 averages in the channel menu
8. Move the Horizontal position to place C1 edge at center screen. Once this is set for the first probe, do not adjust the Horizontal offset for any channels.
9. Save C1 into M1 and select to display it
10. Disconnect the C1 probe, and connect the C2 probe to PCF200
11. Do not touch the horizontal position control
12. Dial in deskew from the C2 menu align C2 and M1. Use the Deskew measurement parameter: Deskew(M1,C2) to measure accurate skew at the 50% level.
13. Repeat the same steps for C3 (and C4 if using 4 probes)

Post-steps:

1. Set averaging back to 1 on all channels.
2. Set trigger source back to C1.

Note: Skew is negligible through the probe tip. The same tip can be used for all three probes during DDR3 deskew.

**Figure 1: Recommended Configuration for Deskewing:
PCF-200 terminates with 50-ohm coaxial termination**



**Figure 2: Alternate Configuration for Deskewing:
PCF-200 terminates with cable into 50-ohm termination**

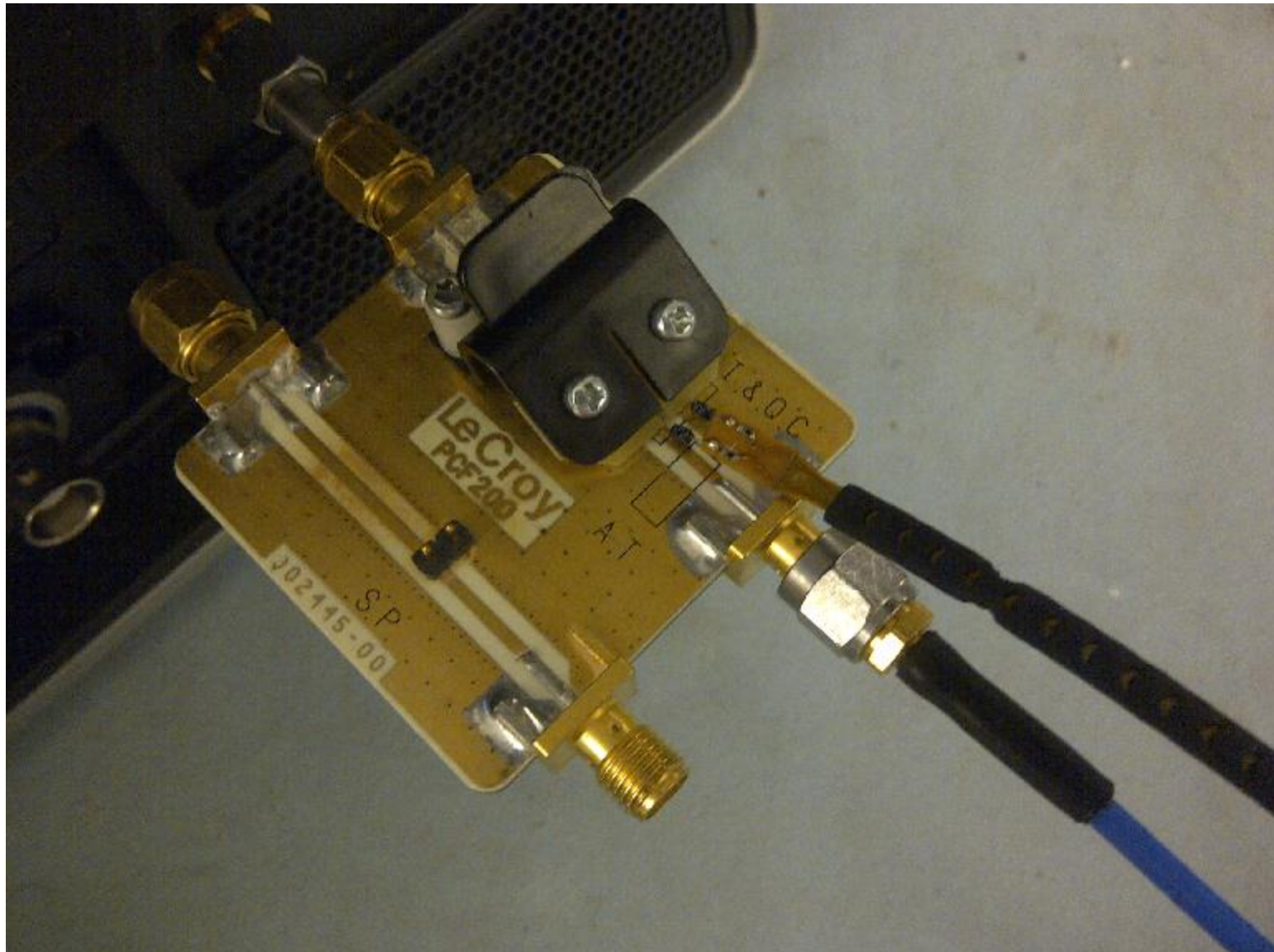


Figure 3: Hot-Swapping Probes

Safe disconnection diagram



Probe base-cable assembly can be disconnected from scope anytime during operation (ok to hot-swap)

Probe head can be disconnected from probe amplifier anytime during operation (ok to hot-swap)

Probe tip can be disconnected from DUT anytime during operation (ok to hot-swap)

Probe amplifier cannot be disconnected from probe base-cable assembly during operation (disconnect probe base-cable assembly from scope first)