

TTCex module test procedure

Check that capacitors C16 and C19 are 33 $\mu\text{F}/16\text{v}$ and **not** 47 $\mu\text{F}/10\text{v}$ by mistake.

TTCex module without shield on extender with C10 open

Jumpers set for Single mode.

Check $-5.2\text{v} \pm 0.1\text{v}$ at test point.

Check that with the switch off the red LED is off and with the switch on the LED is on.

With the switch on, connect SYSFAIL* (C10) of the module to Gnd via a 1.1K 1% resistor with a DVM across it. Check the red LED goes off and the DVM reads less than +0.6v.

TTCex module without shield in crate (with empty slots to the right of it to permit access to helitrim)

Connect 40.08 MHz clock generator in minicrate to CLK I/P via Y adapter. Scope triggered by another output of the clock generator. Timebase 2 ns/div. Lasers On.

Connect scope input to Y adapter and set **falling edge** of CLK on a graticule line. Transfer scope to CLK1 O/P socket and adjust Phase helitrim for phase lock.

Check that phase lock holds for helitrim turned clockwise until **rising edge** of CLK1 is at least 8 ns before falling edge of CLK I/P. Check that phase lock holds for helitrim turned anticlockwise until **rising edge** of CLK1 is at least 12 ns after falling edge of CLK1.

Change scope timebase to 500 ps/div and set Phase helitrim for **rising edge** of CLK1 O/P 2 ns after **falling edge** of CLK I/P.

Remove CLK I/P and check that the CLK1 O/P frequency is 40.08 MHz ± 0.01 MHz.

TTCex module with shield in crate

Drive A1 and B1 I/Ps with PRBS data.

Zero the optical power meter and connect it to O/P 1 via the 100 m reel of optical fibre.

Check that with the switch off the optical output is zero and that with the switch on the optical output is $+1.0 \text{ dBm} \pm 1.5 \text{ dBm}$.

Repeat for each of the other optical O/Ps 2 - 10.

Connect O/P 1 via a 3 dB attenuator and the 100 m reel of optical fibre to the input of the 1:32 tree coupler. Connect one of the coupler outputs to the input of the Monitor Rx in the minicrate via a 5 m optical patchcord.

Measure the jitter of the Monitor Rx O/P D relative to the clock generator (typically 25 - 35 ps rms). Repeat for O/Ps 2 - 10.

Measure the jitter of the ENC1 O/P relative to the clock generator (typically 10 ps rms). Measure the jitter of the CLK1 O/P (typically 8 ps rms).

Transfer the PRBS inputs to A2 and B2.

Measure the jitter of the ENC2 O/P relative to the clock generator (typically 10 ps rms). Measure the jitter of the CLK2 O/P (typically 8 ps rms).