

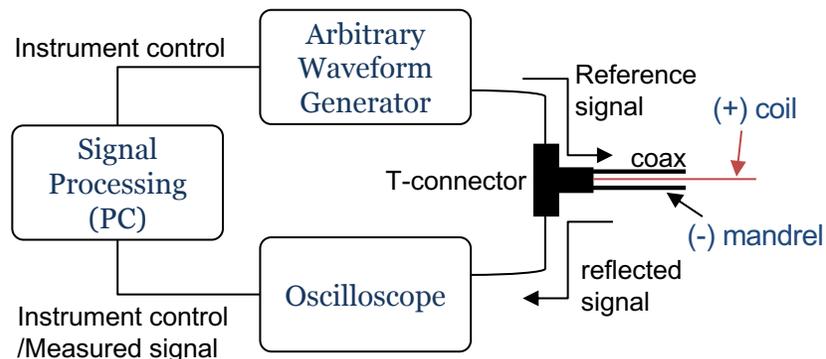
Time-domain reflectometry for CCT subscale2

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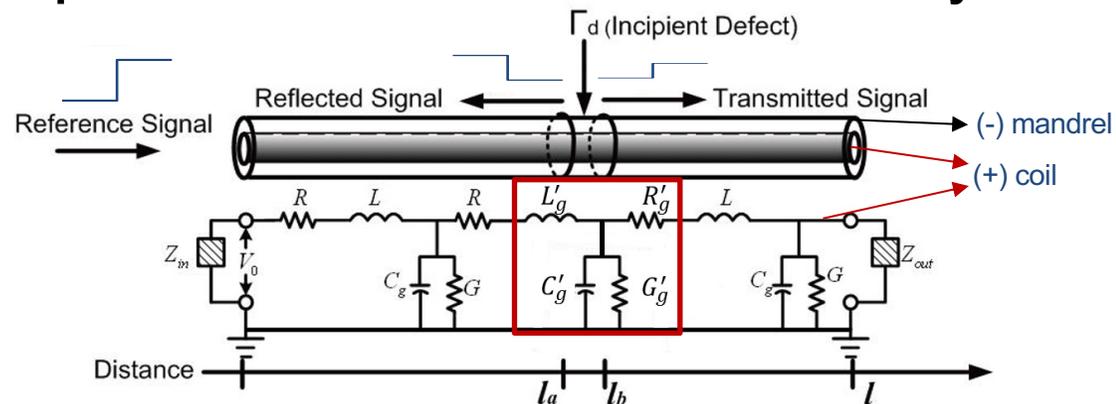
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- The inner/outer layer of CCT subscale 2 can be considered a transmission line.
- Coil (+), Mandrel (-), Resin/Epoxy (insulation)
- The incident signal will be reflected at the impedance discontinuity (mismatch) points
 - Insulation defect, voltage taps, short
- Additional capacitors and diodes are connected to isolate the instrumentation equipment

TDR setup



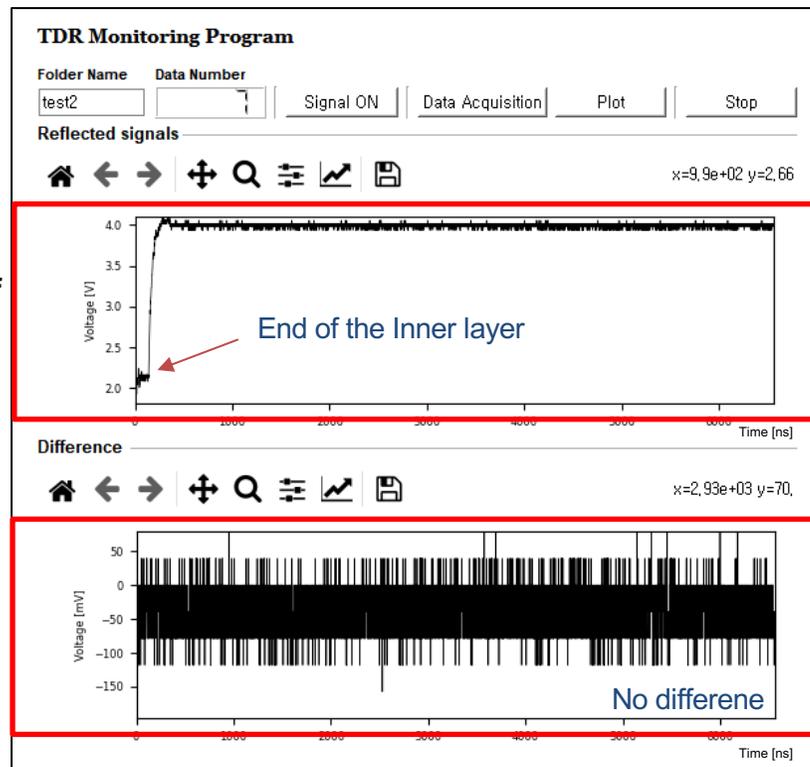
Equivalent circuit for subscale2 – Inner layer



Example of TDR monitoring program

- Monitoring the difference value from the reflected signal at normal conditions
- Quench localization using the point where the difference occurs

Normal (open)



Continuous monitoring of reflected signals.

Baseline subtraction:
 Difference from the first reflected signal (finger prints)

Abnormal (short)

