Appendix B: X-Parameter Uncertainty Terms

Below is a sample of the sources of uncertainty included in the evaluations presented in Chapter 5. Many of the sources in the list are repeated, for example line length uncertainty may be included for both the calibration used when measuring the DUT, and for calibrations used previously to characterise those standards. The total number of unique input sources is over 300.

ROMM
ROPU
ZSEr
ZCOE
CFEr
InsE
TRL_CIS–C–11 short inner diameter
TRL_CIS–C–11 short outer diameter
TRL_CIS–C–11 16 mm line inner diameter
TRL_CIS–C–11 16 mm line outer diameter
TRL_CIS–C–11 16 mm line length
TRL_thru_w2p_Reproduce
TRL_shorts_w2p_Reproduce
TRL_lines_w2p_Reproduce
PMPM Match_Reproduce
noise_Reproduce
Cable_Reproduce
CGMatch_term_Reproduce
CGMatch_unterm_Reproduce
TRL_3.5 TRL flush thru meas_Reproduce
TRL_3.5 TRL shorts meas_Reproduce
TRL_3.5 TRL 16 mm line meas_Reproduce
Phase cal_Reproduce
Power Cal_Reproduce
Inner Conductor Diameter d
Outer Conductor Diameter D
Metal Conductivity Sigma
Length of Offset
Center Conductor Pin Length
Inner Conductor Offset
Center Conductor Pin Diameter
Pin Diameter
Pin Depth
ICDiameter

OCDiameter
MetalCond
LineLength
PinDiameterP1
PinDiameterP2
PinDepthP1
PinDepthP2
PinDepthTotal
CGCHAR_MY020_Reproduce
CGCHAR_MY023_Reproduce
CGCHAR_MY113_Reproduce
CGCHAR_MY114_Reproduce
Load Resistance1
Load Inductance1
open_model_fm45
ZeroLength
CGCHAR_Combine_Reproduce
Shunt Conductance GS
Shunt Capacitance CS
Relative Dielectric Constant Air
Substrate Loss Tangent Air
CGCHAR_Scaling
CGCHAR_SFactor
CGCHAR_Theta
CGCHAR_Teflon
CGCHAR_DCres
CGCHAR_DriftCC
CGCHAR_SRaian
CGCHAR_LAsym
CGCHAR_GAMMA
CGCHAR_AutoCor
CGCHAR_FieldPen
CGCHAR_BackRefl
CGCHAR_BeamWidth
CGCHAR_DarkCurrent
CGCHAR_SubtractOffset
CGCHAR_LowFrequency
CGCHAR_IgnoreSigMon
CGCHAR_PhaseLinearizeBeforeAvg
CGCHAR_TimeScale
CGCHAR_StageAlignment
CGCHAR_ProbeTipAlignment
CGCHAR_Combined_Reproduce
CGCHAR_BeforeCalibration
CGCHAR_Set1_Combined_Reproduce
CGCHAR_Set2_Combined_Reproduce
CGCHAR_Set3_Combined_Reproduce