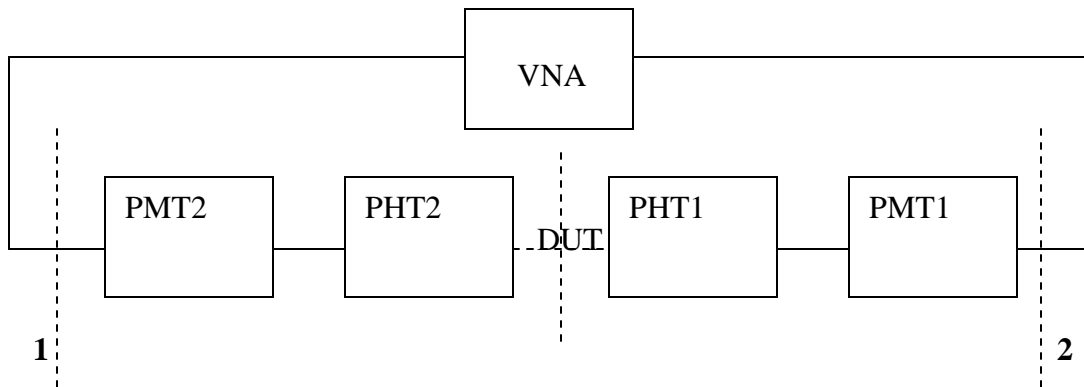**IN-SITU CALIBRATION PROCEDURE FOR 2 PHT AND 2 PMT TUNERS IN THE SETUP**

IMPORTANT: VNA should be calibrated in 1-2 reference plane !

1) All four tuners are initialized and the resonators of the harmonic tuners are out → in order to have 50 Ohm line (tuners can also be tuned to 50 Ohm)
2) TRL calibration is applied from WinNoise software (WinCCMT→Measure→Noise or WinCCMT→Utilities→Manual Tune). In WinNoise the option TRL/TRM (meas) should be activate from Calibration→Components menu. After CONA and CONB files are created in the directory that is specified in WinCCMT→File→Configure→Directories , Calculation should be done with specifying the calibration type (TRL) and options (Short or open). After that, verification must be run.
3) Calibration of the T1 is de-embed type with de-embedding CONC in the Input section. When doing that, resonators of the PHTs are out. Options 2f0 and 3f0 together with the Prematch calibration option must be checked in Calibration→Tuner→Tuner Calibration→More window.
4) Calibration of PHT1: → resonators are in, calibration is de-embed with CONA de-embed in the Input section (resonators of the PHT2 are out, tuners are initialized).
5) Calibration of T2 is de-embed with CONC de-embed in the Output section. Resonators of both PHT tuners are taken out. Options 2f0 and 3f0 together with Prematch calibration option are checked.
6) Calibration of the PHT2 is de-embed type with CONB de-embed in the Output Section. Resonators are in for PHT2, out for PHT1.

Calibrated files will be put in the directory specified in:
WinCCMT→File→Configure→Directories→Tuner Cal
Those files should be integrated in the Load Pull setup
(WinCCMT→Measure→Passive Load Pull→Start→Load Setup).