The calibration and measurement procedure:

General:

The calibration is done to display the substitution EIRP from the EUT directly on the screen of the spectrum analyzer and the test system. It is a well known method and recommended by the ETSI.

The attached diagram shows the measurement and calibration paths. After the calibration all elements of the measurement path are known. They are put into the test system software and called transducer. They are calibrated over the whole frequency range of the required measurements.

Calibration procedure:

The transducer (TRD) is: $TRD = a_{MAC} + g_{ANT} + a_{FS}$

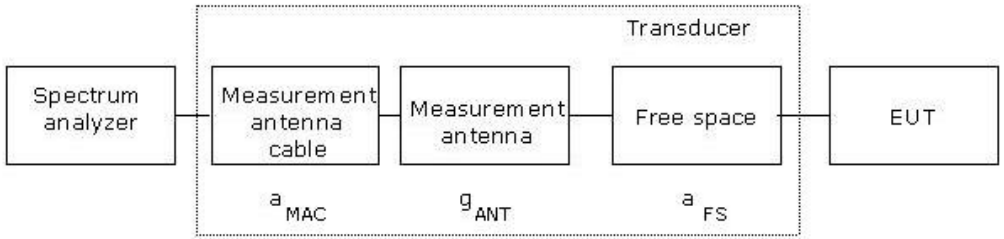
Steps 1 and 2 in the diagram are used to determine the attenuation of the cable between the spectrum analyzer and the measurement antenna a_{MAC}.

Step 3 is used to determine the free space attenuation a_{FS}.

Measurement procedure:

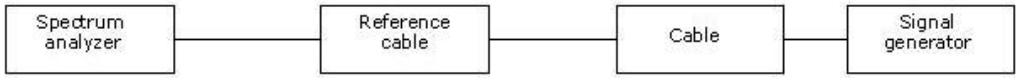
The test system software adds the transducer to the spectrum analyzer's measurement value. So the measurement values of the spectrum analyzer are corrected values which are based on the substitution method when calibrated. The spectrum analyzer shows directly the measured EIRP value of the spurious emission of the EUT.

Measurement:

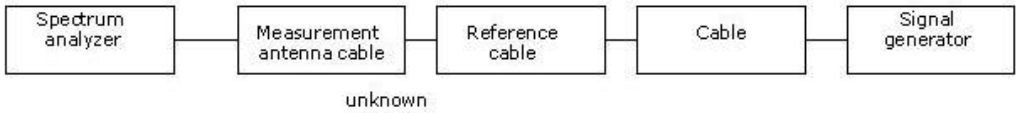


Calibration of the measurement antenna cable:

Step 1:



Step 2:



Calibration of the free space path loss in the anechoic chamber:

Step 3: