How RF ONE Test Phase Stability of Cable Assemblies

Phase Stability Test with Flexure

Phase stability vs. flexure is a measure of the phase change as a result of cable flexing. The phase stability can be affected by the following factors:

- Cable material and construction
- Assembly technique
- Cable bend radius and bend angle
- The number of flexures

RF ONE performs the test of Phase Stability of Cable Assembly in below procedures.

1. Initial Test

1) Connect the two ports of cable under test(CUT) with VNA, the cable is held in an initial unwrapped position and is measured in the phase and attenuation.

2) Normalize VNA in the phase.

2. Test with cable wrapped 360 degree clockwise

1)Disconnect the CUT cable and wrap it 360 degree clockwise around a mandrel(diameter is ten times of cable outer diameter).

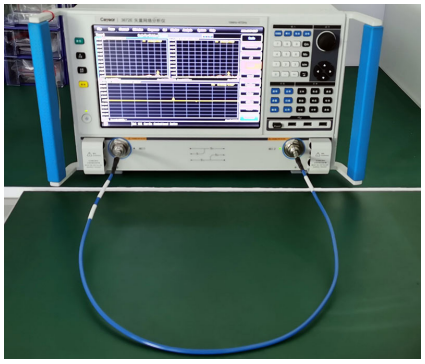
2) The CUT cable is held in such position for measurement, record the max phase and attenuation change over frequency range.

3. Test with cable returned to original unwrapped position

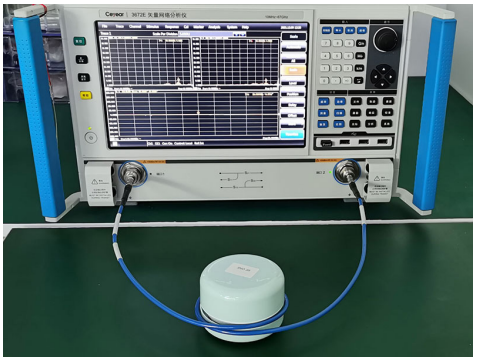
1) Disconnect the CUT cable and return it to its original unwrapped position.

2) The CUT cable is held in such position for measurement, record the max phase change.

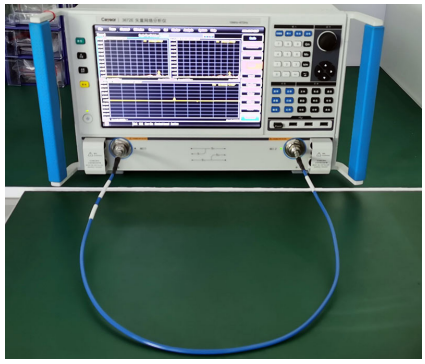
3) The worst-case phase variation in the above procedure is recorded as the phase stability value.



1. Initial Test



2. Wrapped 360 degree clockwise



3. Returned to unwrapped position

Test Data on Phase Stability with Flexure