HIGH PERFORMANCE MICROWAVE INTERCONNECT PRODUCTS

PHASE RELATED OPTIONS

Storm Products provides a wide variety of high performance products used in applications where electrical length or phase performance is critical to system performance. A brief discussion of specification options is outlined below. For additional assistance, please contact us.

**ELECTRICAL LENGTH MATCH BETWEEN ASSEMBLIES — RELATIVE PHASE MATCH**

This is typically specified in one of two ways: ± XX pS or ± X° @ YY GHz, relative to a “designated standard” cable assembly within the production batch.

**PROs**
- Typically lowest unit cost, shortest lead time
- Typically easier to correlate results
- Less effort to properly specify

**CONs**
- Requires replacement of set, rather than single cable

**ELECTRICAL LENGTH MATCH BETWEEN ASSEMBLIES — ABSOLUTE PHASE MATCH**

This is typically specified in one of two ways: XX nS ± XX pS or X, XXX°± X° @ YY GHz. In lieu of specifying an insertion phase, master standard cable may be built and maintained. This is used most frequently in higher volume applications.

**PROs**
- Allows later replacement of single damaged or worn cable assembly
- Logistics easier because all cable assemblies are interchangeable

**CONs**
- Typically higher unit cost, more effort to properly specify
- More effort to correlate results
- Extra expense if master standard cable assembly is built & maintained

**ELECTRICAL LENGTH TRACKING BETWEEN ASSEMBLIES OVER TEMPERATURE**

This is typically specified as XXX ppm ± XXX ppm relative to cable assembly electrical length @ 25° C. Generally required when cable assemblies may be at different temperatures within a system and phase is critical. Usually done as a qualification test, not an acceptance test.

**PROs**
- Reduces or eliminates need to calibrate system over time, temperature
- Reduces need for thermal management of system

**CONs**
- Requires most effort to correlate results
- Difficult to validate accurately on short cable assemblies
Relative Phase Match

Absolute Phase Match

Electrical Length vs. Temperature

All numbers are for reference only. Actual values depend on cable, cable length, & frequency.