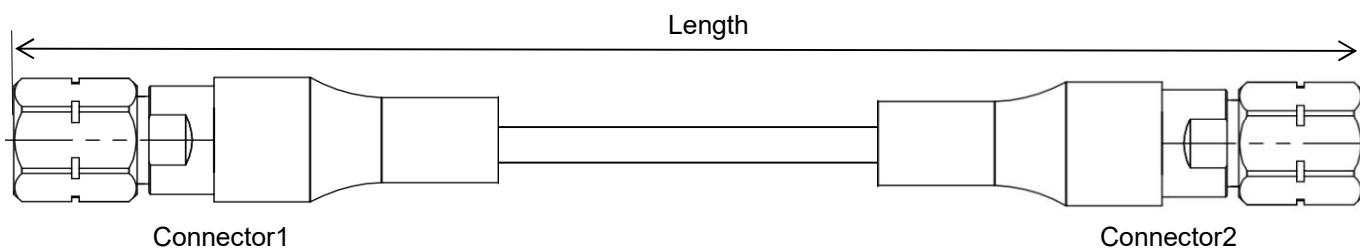


## Thermal Vacuum Phase Stable Cable Assembly, Using TVAC-PL520

DC-26.5 GHz, SMA Male to SMA Male

TVAC-PL520-SMAMSMAM-L(L:Length)

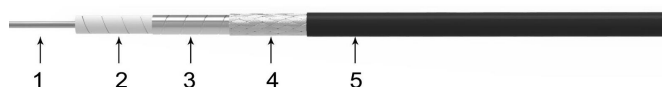


• Length can be in meter or in inch etc, e.g, TVAC-PL520-SMAMSMAM-1M. Standard length tolerance  $\pm 1.5\%$  or  $\pm 5\text{mm}$  whatever is greater. Length is measured from one connector end to the other connector end as shown above.

### Configuration

|                    |                            |                    |                            |
|--------------------|----------------------------|--------------------|----------------------------|
| <b>Connector 1</b> | Vented SMA male            | <b>Connector 2</b> | Vented SMA male            |
| Body               | Passivated stainless steel | Body               | Passivated stainless steel |
| Center Contact     | Gold plated Brass          | Center Contact     | Gold plated Brass          |
| <b>Cable Type</b>  | TVAC-PL520                 |                    |                            |

### Cable Construction



| No. | Construction     | Size (mm) | Materials                       |
|-----|------------------|-----------|---------------------------------|
| 1   | Center Conductor | 1.45      | Solid silver-plated copper      |
| 2   | Dielectric       | 4.00      | Low density PTFE                |
| 3   | Outer Conductor  | 4.20      | Silver-plated copper tape wrap  |
| 4   | Outer Shield     | 4.70      | Silver-plated copper wire braid |
| 5   | Jacket           | 5.20      | Black FEP (ETFE available)      |



### Electrical

|                                |                                                             |
|--------------------------------|-------------------------------------------------------------|
| Frequency                      | DC-26.5 GHz                                                 |
| Impedance                      | 50 $\Omega$                                                 |
| Velocity of Propagation        | 83%                                                         |
| VSWR Max                       | 1.3                                                         |
| IL Max(1 meter assembly)       | 1.7dB                                                       |
| Temp Phase Stability           | <550ppm(-40°C to +85°C)                                     |
| Amplitude Stability vs Shaking | < $\pm 0.15\text{dB}$                                       |
| Mechanical Phase Stability     | < $\pm 5^\circ$ (Wrapped 360° around a 52mm radius mandrel) |

### Mechanical & Environmental

|                                        |                         |
|----------------------------------------|-------------------------|
| Min.Bending Radius Static              | 25mm                    |
| Min. Bending Radius Repeated           | 52mm                    |
| Weight                                 | 63g/m                   |
| Temperature(Operation)                 | -50~165 °C(FEP jacket)  |
| Temperature(Operation)                 | -50~150 °C(ETFE jacket) |
| Heat Shrink and Label                  | Low outgassing PVDF     |
| Laser-marked labels, no ink outgassing |                         |

### Applications

- Satellite TVAC Chambers
- High-Altitude and Space Simulation Systems
- RF connections in high vacuum conditions
- Aerospace ATE & Ground Support Systems

## Thermal Vacuum Phase Stable Cable Assembly, Using TVAC-PL520

DC-26.5 GHz, SMA Male to SMA Male

TVAC-PL520-SMAMSMAM-L(L:Length)

### Features & Benefits

- Ultra low loss, 1.25dB/meter to 26.5 GHz
- Excellent phase stability with temp & flexure
- Extended temperature range -55~165 °C
- Low outgassing materials:TML<1%,CVCM<0.1%
- Vented connectors to allow rapid pressurization test
- Thermally conditioned for reliability over temp extremes

### Bulk Cable Attenuation(Typical@25°C) & Power(VSWR=1.0; 40°C; Sea level)

| Frequency MHz | 300   | 1000  | 2000  | 4000  | 6000  | 8000  | 10000 | 12000 | 14000 | 18000 | 20000 | 26500 |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| dB/100 Meter  | 12.5  | 23.0  | 32.7  | 46.6  | 57.4  | 66.6  | 74.8  | 82.3  | 89.3  | 101.9 | 107.8 | 125.2 |
| Avg.Power kW  | 1.608 | 0.875 | 0.615 | 0.431 | 0.350 | 0.302 | 0.268 | 0.244 | 0.225 | 0.197 | 0.186 | 0.160 |

Attenuation at any frequency=[0.715686×SQRT(FMHz)]+[0.000328×FMHz]

#### Notes:

- 1) The above attenuation refers to typical loss of cable only, max loss is 1.1 times of typical loss. Insertion loss per connector is estimated as 0.03dB x SQRT Freq(GHz).
- 2) Power handling values are calculated based on cable properties. Power handling will vary based on connector type and actual VSWR of the cable assembly.

### Typical Test Data (TVAC-PL520-SMAMSMAM-1M)

