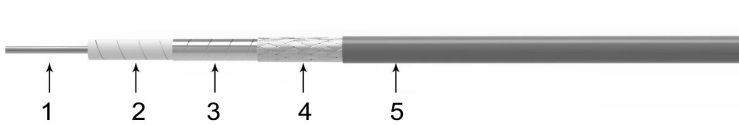


Features & Benefits

- Excellent phase stability with flexure $<\pm 3^\circ@18\text{GHz}$
- Innovative gradient-density dielectric processing, avoiding abrupt phase variation around room temp
- Enhanced impedance consistency to ensure signal integrity and phase matching accuracy
- Temp phase stability typical 20 ppm (+20°C to +22°C)
- 086 small size, highly flexible and low loss
- Frequency DC-18 GHz /26.5 GHz /40 GHz options
- Improved dielectric architecture, ensuring stable RF performance through temperature cycling

Cable Construction



No.	Construction	Size (mm)	Materials
1	Center Conductor	0.51	Solid silver-plated copper
2	Dielectric	1.43	Ultra-low density PTFE
3	Outer Conductor	1.57	Silver-plated copper tape wrap
4	Outer Shield	1.88	Silver-plated copper wire braid
5	Jacket	2.20	Grey PFA



Electrical

Frequency	DC-40 GHz
Impedance	50 Ω
Velocity of Propagation	82%
Shielding Effectiveness	>90 dB
Withstanding Voltage	500 V
*Mechanical Phase Stability	$<\pm 3^\circ@18\text{GHz}$, $<\pm 5^\circ@40\text{GHz}$
Amplitude Stability vs Shaking	$<\pm 0.15\text{dB}@40\text{GHz}$
Temp Phase Stability	$<700\text{ppm}(-55^\circ\text{C to }+85^\circ\text{C})$, typical 20ppm(+20°C to +22°C)
* Wrapped 360° around a 22mm radius mandrel.	

Mechanical & Environmental

Min. Bending Radius Static	11mm
Min. Bending Radius Repeated	22mm
Weight	18g/m
Temperature(Operation)	-50 ~ 150 °C
Temperature(Storage)	-60 ~ 160 °C

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

Frequency MHz	300	1000	2000	4000	6000	8000	10000	12000	18000	26500	32000	40000
dB/100 Meter	34.2	63.1	90.1	129.1	159.7	186.0	209.5	231.0	287.7	355.9	395.2	448.0
Avg. Power kW	0.500	0.271	0.190	0.132	0.107	0.092	0.082	0.074	0.059	0.048	0.043	0.038
Attenuation at any frequency = $[1.95000 \times \text{SQRT}(\text{FMHz})] + [0.001450 \times \text{FMHz}]$												

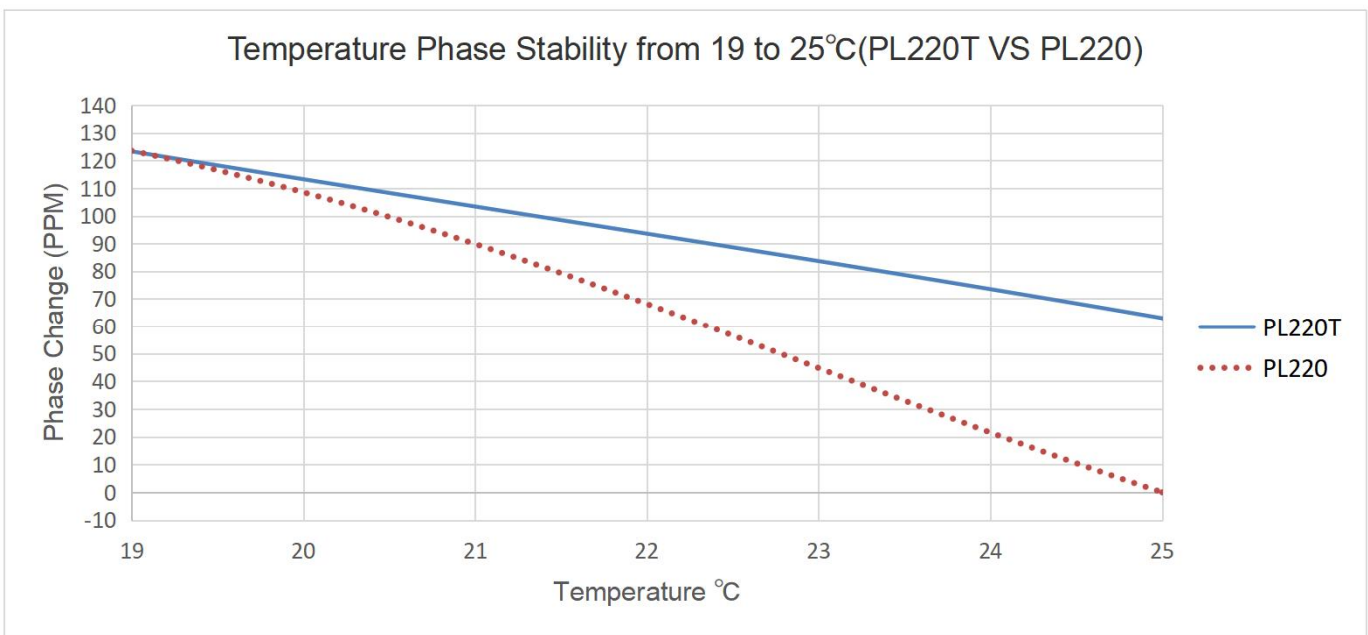
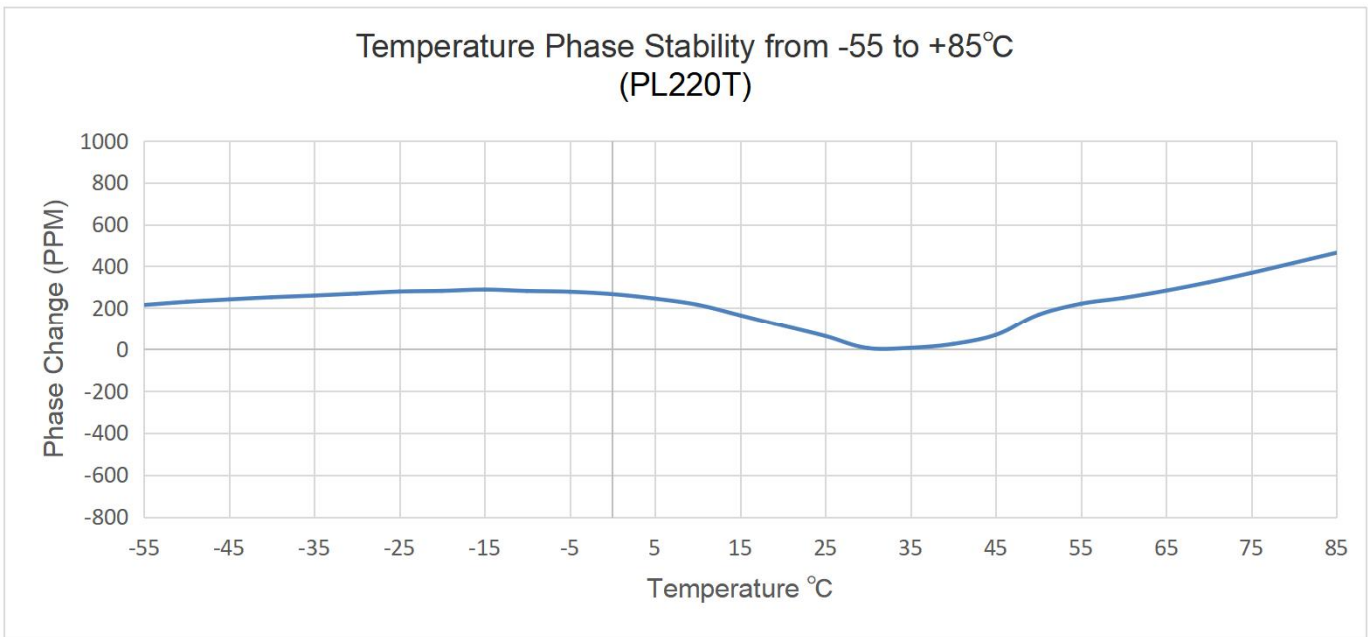
Available connectors (Other connectors available upon request)

Cable P/N	Connectors	Gender	Orientation	Mounting	Max Freq.(GHz)	VSWR Max
PL220T	SMA	M/F	Straight	Standard	26.5	1.3
PL220T	SMP	F	Straight	Standard	18	1.25
PL220T	2.92mm	M/F	Straight	Standard	40	1.3

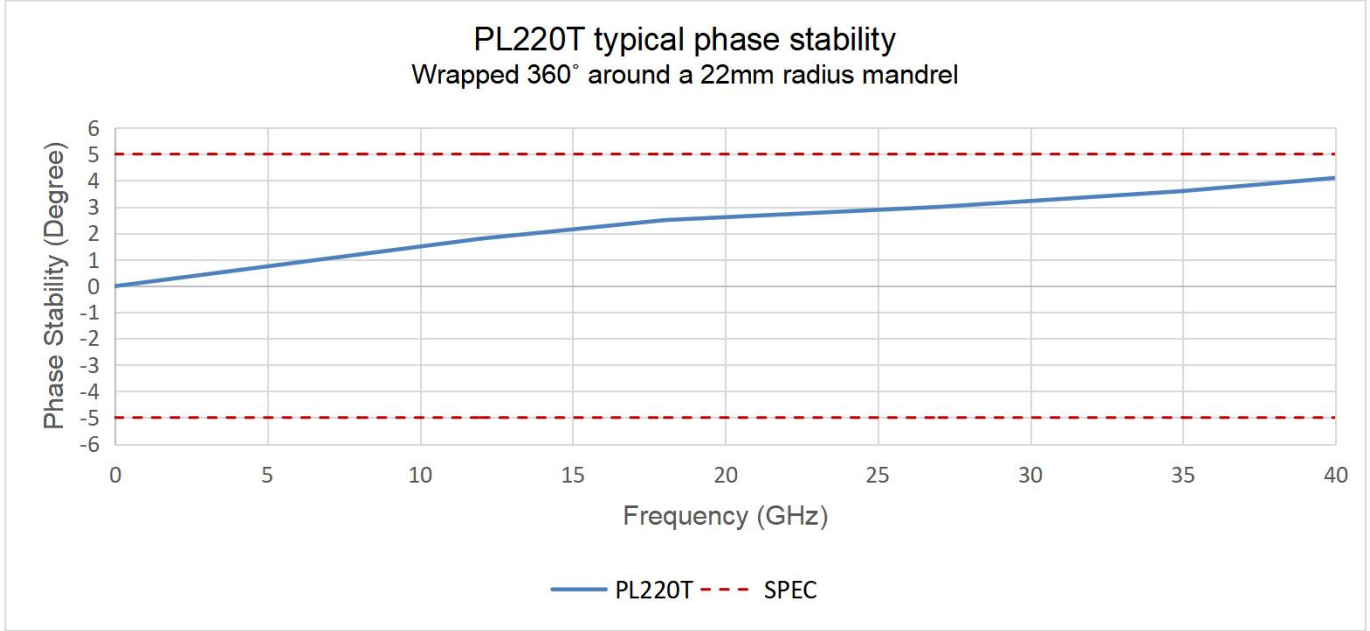
The traditional solid-extruded PTFE cables have a drastic phase shift that undermines measurement accuracy. And while standard low-density PTFE offers some relief, but at around room temperature, it still manifests apparent phase change.

Faced with this challenge and through extensive experiments and analysis, RF ONE has engineered a multi-layer innovative gradient-density dielectric processing, which leads to flattened phase curve from 19 to 25 °C, typical 20ppm(+20 °C to +22°C) and maintains the phase stability <700 PPM from wide temperature -55°C to +85°C.

Typical Test Plot for Temperature Phase Stability



While conquering the phase change pain, this improved PL220T retains the ultra-low loss and mechanical phases stability vs.flexure which are inherent to our previous PL220 designs.



Typical Test Data (PL220T-SMAMSMAM-1M)

