

Type N Beadless Air Lines

Model Series 2553

Features

- ▶ DC to 18.0 GHz
- ▶ Virtually Reflectionless
- ▶ Beadless Type N Connectors

Description

The 2553T series reference air lines utilize beadless type N connectors which are integral to the air lines, thereby producing extremely low reflection transmission lines. The complete air lines (inner and outer conductor) are fabricated from gold-plated, low-loss copper alloys.

Specifications

Frequency Range DC to 18.0 GHz
 VSWR $<1.02 + 0.002f$ (GHz)
 Electrical Length See Available Models Chart
 Electrical Length Accuracy $\pm 0.01\text{cm}$
 Characteristic Impedance
 (where skin depth is negligible) $50 + 0.2 \text{ ohm}^1$

Available Models

MODEL	CONNECTORS	ELECTRICAL LENGTH (cm)	ODD 1/4-WAVELENGTH FREQUENCY (GHz)
2553T30	Type N female to male ²	29.969	(2n + 1) 0.25
2553T15	Type N female to male ²	14.983	(2n + 1) 0.50
2553T10	Type N female to male ²	9.988	(2n + 1) 0.75
2553T7.5	Type N female to male ²	7.493	(2n + 1) 1.00
2553T6	Type N female to male ²	5.993	(2n + 1) 1.25
2553T5	Type N female to male ²	4.994	(2n + 1) 1.50
2553T3.82	Type N female to male ²	3.816	(2n + 1) 1.96
2353T3.12	Type N female to male ²	3.123	(2n + 1) 2.40
2553T3	Type N female to male ²	2.9969	(2n + 1) 2.50

Type N Beadless Air Line Kits

The 2553K is a kit consisting of six reference air lines from the chart above supplied in an attractive foam-lined wood instrument case.

Type N Bead Supported Air Lines

Model Series 2503

Features

- ▶ DC to 18.0 GHz
- ▶ Virtually Reflectionless
- ▶ Precision Type N Connectors

Description

The 2503 series precision air lines utilize stainless steel type N connectors in which the center conductor is supported by a low-loss dielectric bead. The air lines (inner and outer conductor) are fabricated from gold-plated, low-loss copper alloys.

Specifications

Frequency Range DC to 18.0 GHz
 VSWR $<1.03 + 0.003f$ (GHz)
 Electrical Length See Available Models Chart
 Electrical Length Accuracy $\pm 0.02\text{cm}$
 Characteristic Impedance
 (where skin depth is negligible) $50 + 0.2 \text{ ohm}$

Available Models

MODEL	CONNECTORS	ELECTRICAL LENGTH (cm)	ODD 1/4-WAVELENGTH FREQUENCY (GHz)
2503A	Type N female to male ³	29.979	(2n + 1) 0.25
2503B	Type N female to male ³	19.986	(2n + 1) 0.375
2503C	Type N female to male ³	14.990	(2n + 1) 0.50
2503D	Type N female to male ³	9.993	(2n + 1) 0.75
2503E	Type N female to male ³	7.495	(2n + 1) 1.00
2503F	Type N female to male ³	5.996	(2n + 1) 1.25
2503G	Type N female to male ³	4.997	(2n + 1) 1.50

Type N Bead Supported Air Line Kits

Air lines kits, model 2503K (consisting of one each 2503A, C, D, E, G) and model 2503L (consisting of one each 2503A, B, C, D, E, F, G) are available and are supplied in an attractive foam-lined wood instrument case.

¹ Impedance = 49.987 ohms based on nominal dimensions and tolerances of the conductors, and the equation: $Z = 59.939 \text{ Log}_e D/d$, $D = \text{I.D. inner conductor}$, $d = \text{O.D. outer conductor}$.

² Beadless precision type N connectors, one female and one male.

³ Precision stainless steel type N per Maury data sheet 5E-049.