

# QA500

## Ultra Low Loss & Phase Stable

**Features:**

- \* Low Insertion Loss
- \* High Phase Stability
- \* High Power
- \* Low PIM

**Applications:**

- \* Phased-array Radar
- \* Satellite Communication
- \* Avionics

**Electrical**

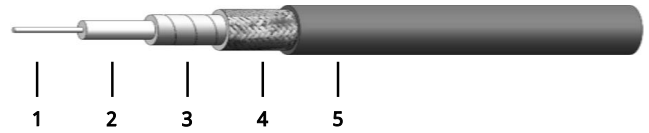
Frequency:	DC~26.5GHz
Cut-off Frequency:	29GHz
Impedance:	50Ω
Velocity of Propagation:	83%
Shielding Effectiveness:	90dB min.
Voltage Withstand:	1500V DC
PIM:	-155dBc
Phase Stability:	750PPM@-55°C~+85°C max.

**Mechanical**

Bend Radius (installation):	26.0mm
Bend Radius (repeated):	52.0mm
Weight:	67g/m

**Environmental**

Temperature: -55~+165°C

**Construction**


No.	Name	Size (mm)	Material
1	Inner Conductor	1.45	Silver-plated copper
2	Dielectric	3.99	Low density PTFE
3	Inner Shield	4.19	Silver-plated copper tape
4	Outer Shield	4.60	Silver-plated copper braid
5	Jacket	5.20	PFA

**Attenuation & Power Handling**

Frequency (GHz)	0.1	0.3	0.5	1	2	4	6	8	12	18	26.5
Attenuation*1 (dB/100m)	7.4	12.8	16.5	23.5	33.3	47.5	58.6	68.0	83.9	103.9	127.6
Average Power*2 (W)	2934	1688	1305	919	646	453	368	317	256	207	169

[1] VSWR:1.0; Ambient: +25°C (77°F)

[2] VSWR:1.0; Ambient: +40°C (104°F); Sea level

 Calculate Cable Attenuation: Attenuation (dB/100m) =  $0.730000 * \sqrt{F} \text{ (MHz)} + 0.000328 * F \text{ (MHz)}$ 

 Calculate Connector Attenuation: Attenuation (dB) =  $0.03 * \sqrt{F} \text{ (GHz)}$ 
**How To Order**
**QA500-X-Y-Z**

X: Frequency in GHz

Y: Connector type

Z: Length in meters

**Examples:**

To order a QA500 cable assembly, DC-26.5GHz, SMA male to SMA female, 0.8 meter, specify QA500-26.5-SSF-0.8.

**Connector naming rules:**

3 - 3.5mm (26.5GHz, VSWR 1.3)

S - SMA (26.5GHz, VSWR 1.3)

N - N (18GHz, VSWR 1.25)

T - TNC (18GHz, VSWR 1.25)

Female Connector - Add 'F' after connector name

Right Angle - Add 'R' after connector name (VSWR increase 0.1)

**Mating Connector**

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**QC3-MG-A500-1**

3.5mm male, Stainless steel

**QCN-MG-A500-4**

N male, Stainless steel

**QC3-FG-A500-1**

3.5mm female, Stainless steel

**QCN-FG-A500-1**

N female, Stainless steel

**QCS-MG-A500-2**

SMA male, Stainless steel

**QCN-FHG-A500-1**

N female bulk head, Stainless steel

**QCS-FG-A500-2**

SMA female, Stainless steel

**QCN-MRG-A500-1**

N male right angle, Stainless steel

**QCS-MRG-A500-2**

SMA male right angle, Stainless steel

**QCT-MG-A500-1**

TNC male, Stainless steel

