



# ***CABLE ASSOCIATES***

## **SHADOWX 67GHz RF CABLE DATASHEET**



MADE IN  
USA

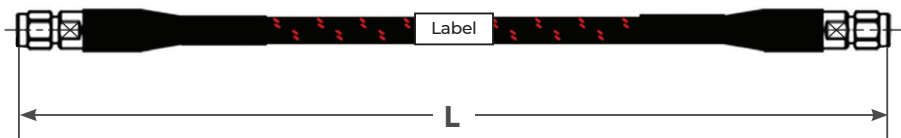
### **INDUSTRIES SERVED**

Military/Aerospace • Communications • Telecom  
Industrial • Utilities • Energy • Medical  
Automotive • Agriculture

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1 Export Lane, Archbald, PA 18403

**[cableassociates.com](http://cableassociates.com)**

# SHADOWX 67GHz RF CABLE DATASHEET



Cable Assembly Diagram

## Assembly Length Tolerance Standard:

1.  $L \leq 1$  m, tolerance is  $+10$  mm / 0;
2.  $L > 1$  m, tolerance is  $+1\%$  / 0 of overall length

## KEY CHARACTERISTICS

- Extruded solid low loss coaxial cable
- Armored and unarmored jacketing available
- Rigid long neck connector for proven durability
- Precision 1.85mm connectors rated to 67GHz
- Cable rated  $-40^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$
- 1 Year warranty

## APPLICATIONS

- General labor antenna test RF cable
- 5G Communication
- Military and Industrial
- R&D Labs
- Wide temperature range
- DC-67GHz
- Custom lengths available



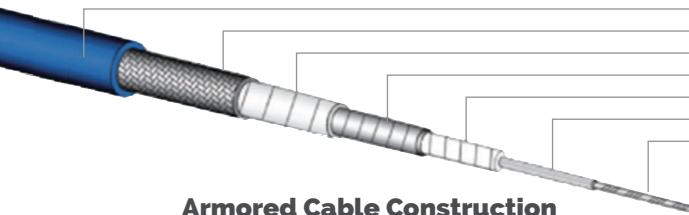
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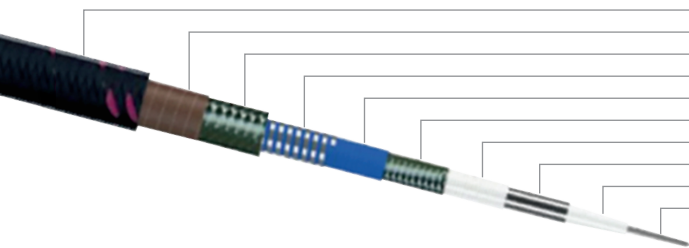
## CABLE TYPES

### Unarmored Cable Construction



- 7 - Jacket FEP
- 6 - Outer Shield SPC Wire
- 5 - Interlayer PTFE
- 4 - Outer Conductor SPC Tape
- 3 - Dielectric PTFE
- 2 - Insulation FEP
- 1 - Center Conductor 19 Strand SPC

### Armored Cable Construction



- 10 - Armored Jacket PTFE Wire (Red + Black)
- 9 - Anti Twist Layer Waterproof Glue
- 8 - Strengthen Net SPC Wire
- 7 - Armored Spring Stainless Steel Spring
- 6 - Jacket FEP
- 5 - Outer Shield SPC Wire
- 4 - Interlayer PTFE
- 3 - Outer Conductor SPC Tape
- 2 - Dielectric PTFE
- 1 - Center Conductor SPC

### Unarmored Mechanical Specs.

Outside Dia. of Cable (mm)	2.60
Min. Bending R: Installation (mm)	11
Min. Bending R: Repeated (mm)	28
Weight (g/m)	20

### Armored Mechanical Specs

Outside Dia. of Armored Cable (mm)	4.65
Armored Min. Bending R: Installation (mm)	23
Armored Min. Bending R: Repeated (mm)	47
Armored Weight (g/m)	60

## COAX PERFORMANCE

### 1.0 MATERIAL SPECS

PIECE PARTS	MATERIALS	PLATING
Coupling nut	Stainless steel	Passivation
Body	Stainless steel	Passivation
Contact Pin	Be-Cu	Gold
Insulator	PEEK & PEI	Natural
Cable	Armoured low loss stable phase RF cable (Black + Red)	

### 2.0 ELECTRICAL SPECS

Impedance	50Ω
Frequency range	DC ~ 67GHz
Voltage rating	335V(rms)
Dielectric withstanding voltage	500V(DC)
Insulation resistance	3000MΩ
Insertion Loss	See back for details
VSWR	≤ 1.35
Mechanical phase stability	±12° Max.
Mechanical amplitude stability	±0.1dB Max.

### 3.0 MECHANICAL SPECS (ARMORED)

Min. bending radius (static)	.95" (24mm)
Min. bending radius (dynamic)	1.85" (47mm)
Recommended coupling torque	7-9 in-lbs (18M)
Coupling nut retention force	60 lbs (18M)
Durability	500 Cycles

### 4.0 ENVIRONMENTAL SPECS

RoHS & REACH	Compliant
Temperature range	-40°C~+105°C

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## COAX PERFORMANCE

### CONNECTORS:

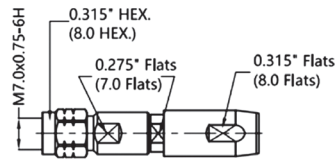
- 1.85mm MALE
- 1.85mm FEMALE
- NMD 1.85mm FEMALE

MAX FREQUENCY: 67 GHz

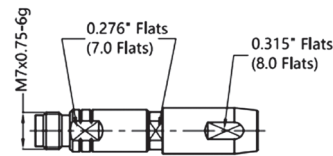
LENGTH (in)	(TYP.) MAX INSERTION LOSS (dB)
6	1.87dB
12	2.87dB
18	3.86dB
24	4.85dB
30	5.84dB
36	6.83dB
42	7.82dB
48	8.81dB
54	9.80dB
60	10.79dB
66	11.78dB
72	12.77dB
78	13.76dB
84	14.75dB
90	15.74dB
96	16.73dB
102	17.72dB
108	18.72dB
114	19.71dB
120	20.70dB

## CONNECTOR OUTLINE DRAWINGS

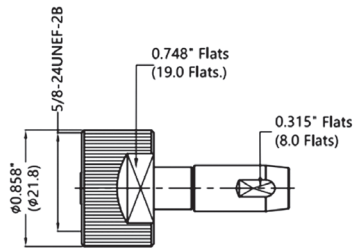
### 1.85mm MALE



### 1.85mm FEMALE



### NMD 1.85mm FEMALE



## VNA TESTING DATA

### TYPICAL S11/S22/S21 PERFORMANCE 48\"/>

