



# Armored Test Cable

## KBL-2FT-LOW+

50Ω 2FT DC to 40 GHz Low Loss 2.92mm-Male

### FEATURES

- Extremely Low Insertion Loss
- Extra rugged construction includes protective shield and strain relief for longer life
- Stainless steel 40 GHz connector for long mating-cycle life
- Double shield cable for excellent shielding effectiveness
- 40 GHz connector mates with 2.92mm, k\*, 3.5mm, SMA



Generic photo used for illustration purposes only

### APPLICATIONS

- Military and Defense applications
- Research & development labs

|            |              |
|------------|--------------|
| Model No.  | KBL-2FT-LOW+ |
| Case Style | MA1628-2     |
| Connectors | 2.92mm-Male  |

#### +RoHS Compliant

The +Suffix identifies RoHS Compliance.  
See our website for methodologies and qualifications

### ELECTRICAL SPECIFICATIONS AT +25°C

| Parameter       | Frequency (GHz) | Min. | Typ. | Max. | Units |
|-----------------|-----------------|------|------|------|-------|
| Frequency range |                 | DC   |      | 40   | GHz   |
| Length          |                 | 2    |      |      | FT    |
| Insertion Loss  | DC - 6          | —    | 0.61 | 0.95 | dB    |
|                 | 6 - 18          | —    | 1.05 | 1.55 |       |
|                 | 18 - 26.5       | —    | 1.34 | 1.85 |       |
|                 | 26.5 - 40       | —    | 1.74 | 2.35 |       |
| Return Loss     | DC - 6          | 17   | 25   | —    | dB    |
|                 | 6 - 18          | 17   | 20   | —    |       |
|                 | 18 - 26.5       | 16   | 19   | —    |       |
|                 | 26.5 - 40       | 14   | 17   | —    |       |

\*K Connector is a trademark of Anritsu.  
Custom sizes available, consult factory.

### ABSOLUTE MAXIMUM RATINGS

| Parameter              | Ratings          |
|------------------------|------------------|
| Operating Temperature  | -55°C to +85°C   |
| Storage Temperature    | -55°C to +85°C   |
| Power Handling at 25°C | 53 W at 2 GHz    |
|                        | 17 W at 18 GHz   |
|                        | 15 W at 26.5 GHz |
|                        | 11W at 40 GHz    |
| Coupling Nut Torque    | 1.09 N-M         |

Permanent damage may occur if any of these limits are exceeded.

#### Product Guarantee\*

Mini-Circuits\* will repair or replace your test cable at its option if the connector attachment fails within six months of shipment. This guarantee excludes cable or connector interface damage from misuse or abuse.





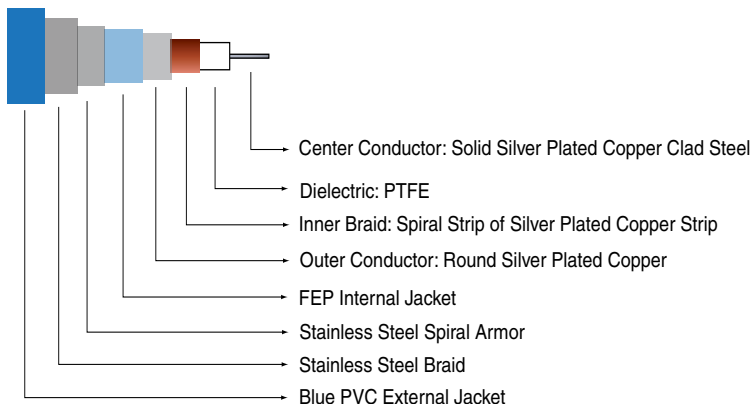
# Armored Test Cable

## KBL-2FT-LOW+

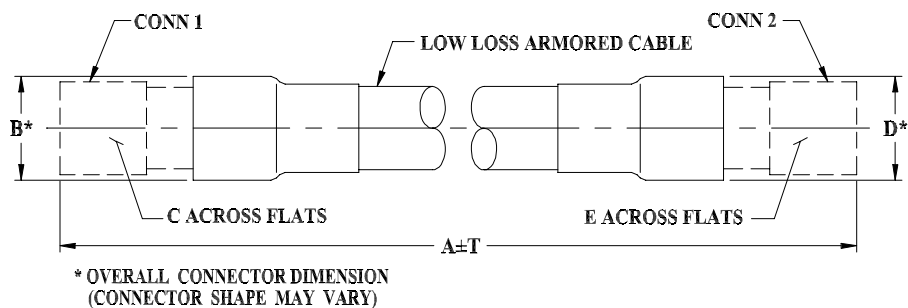
Mini-Circuits

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### CABLE CONSTRUCTION



### OUTLINE DRAWING



### OUTLINE DIMENSIONS (Inch/mm)

| A    |        | B     | C    | D     | E    | T       |          | wt    |
|------|--------|-------|------|-------|------|---------|----------|-------|
| Feet | Meters | .40   | .312 | .40   | .312 | Inch    | mm       | grams |
| 2.00 | 0.61   | 10.16 | 7.92 | 10.16 | 7.92 | +.50/-0 | +12.7/-0 | 91    |





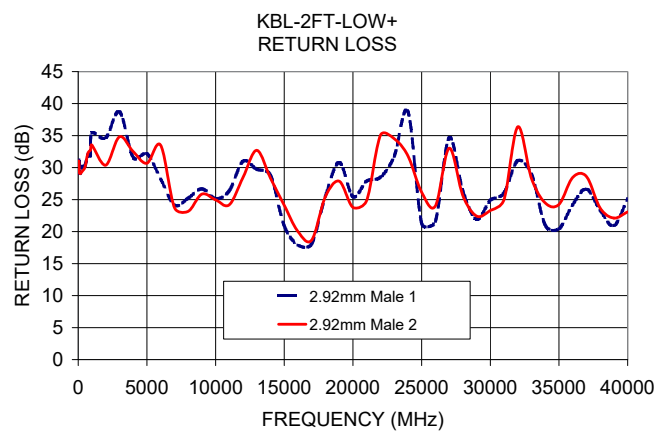
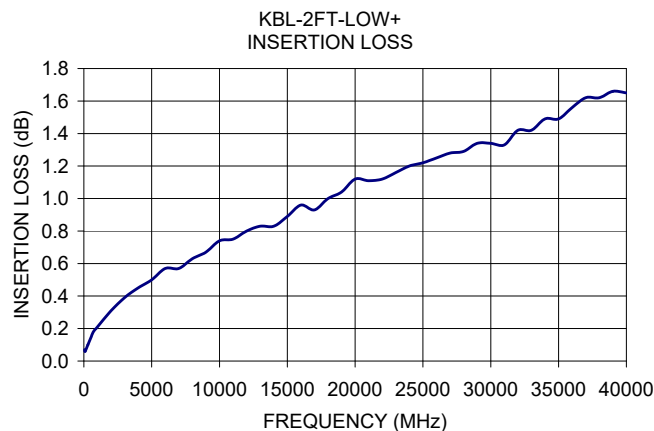
# Armored Test Cable

## KBL-2FT-LOW+

50Ω 2FT DC to 40 GHz Low Loss 2.92mm-Male

### TYPICAL PERFORMANCE DATA

| Frequency (MHz) | Insertion Loss (dB) | Return Loss (dB) |               |
|-----------------|---------------------|------------------|---------------|
|                 |                     | 2.92mm-Male 1    | 2.92mm-Male 2 |
| 50              | 0.07                | 31.2             | 31.1          |
| 2000            | 0.31                | 34.7             | 30.4          |
| 4000            | 0.45                | 31.6             | 32.5          |
| 6000            | 0.57                | 28.2             | 33.5          |
| 10000           | 0.74                | 25.2             | 25.0          |
| 15000           | 0.89                | 20.9             | 24.1          |
| 18000           | 1.00                | 25.6             | 25.5          |
| 20000           | 1.12                | 25.5             | 23.8          |
| 26000           | 1.25                | 21.6             | 24.0          |
| 28000           | 1.29                | 26.4             | 25.6          |
| 30000           | 1.34                | 24.9             | 23.3          |
| 32000           | 1.42                | 31.1             | 36.4          |
| 36000           | 1.56                | 24.2             | 28.5          |
| 38000           | 1.62                | 23.3             | 23.7          |
| 40000           | 1.65                | 25.2             | 23.1          |



#### NOTES

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard. Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)



# 40GHz Low Loss Cable

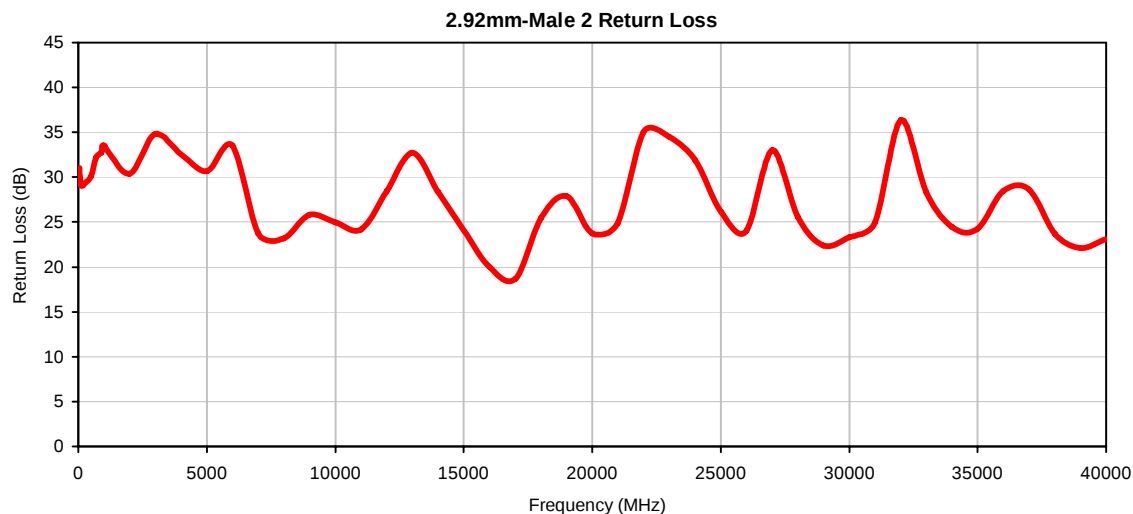
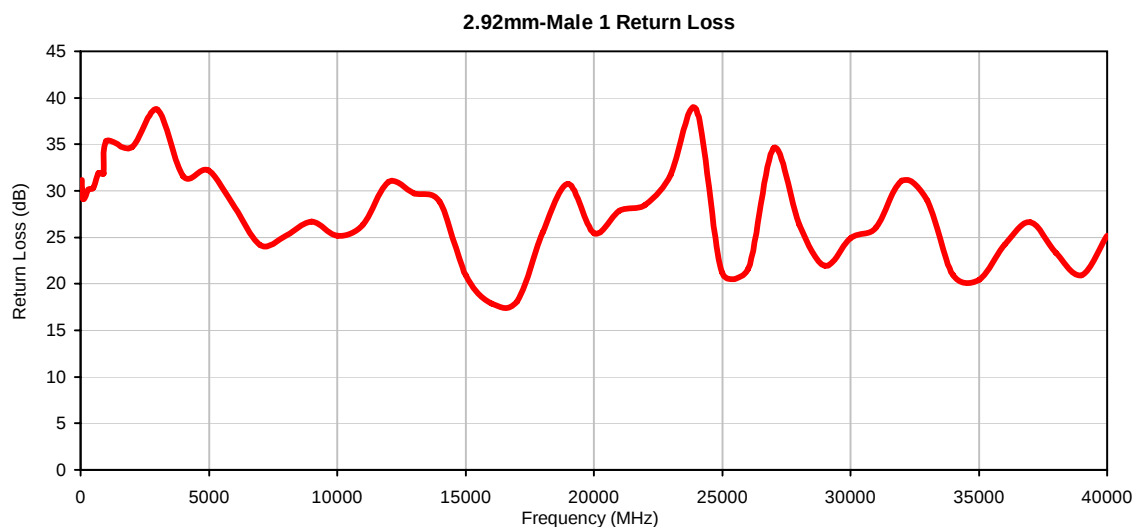
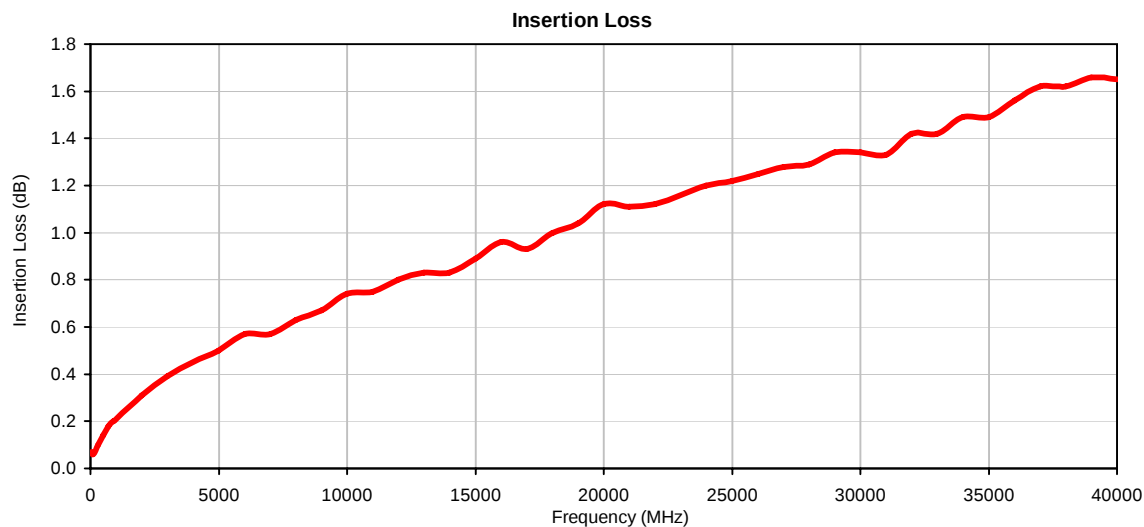
# KBL-2FT-LOW+

## Typical Performance Data

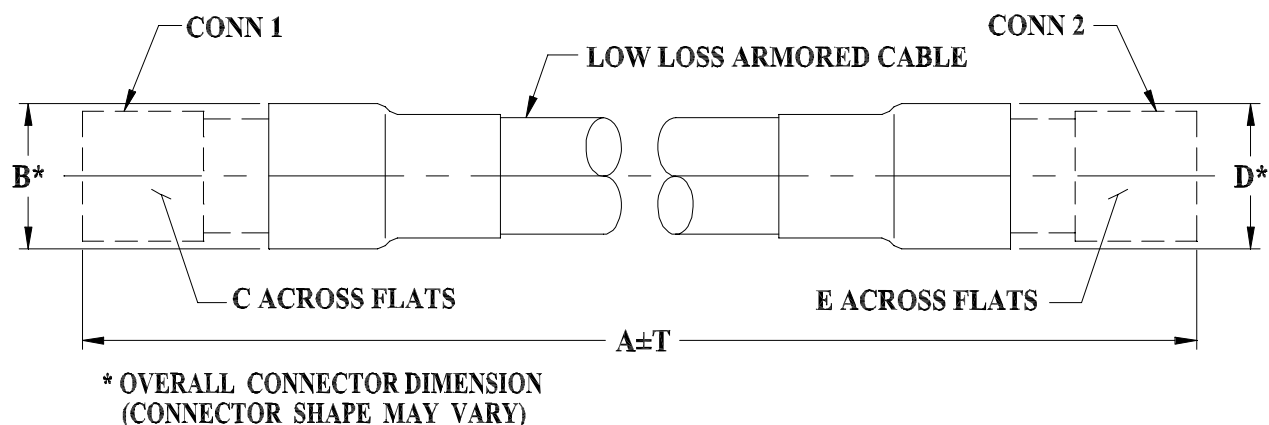
| FREQUENCY<br>(MHz) | INSERTION<br>LOSS<br>(dB) | 2.92mm MALE 1<br>RETURN LOSS<br>(dB) | 2.92mm MALE 2<br>RETURN LOSS<br>(dB) |
|--------------------|---------------------------|--------------------------------------|--------------------------------------|
| 50.0               | 0.07                      | 31.2                                 | 31.1                                 |
| 100.0              | 0.06                      | 29.1                                 | 29.1                                 |
| 300.0              | 0.10                      | 30.2                                 | 29.4                                 |
| 500.0              | 0.14                      | 30.3                                 | 30.1                                 |
| 700.0              | 0.18                      | 32.0                                 | 32.2                                 |
| 900.0              | 0.20                      | 31.9                                 | 32.8                                 |
| 1000.0             | 0.21                      | 35.4                                 | 33.5                                 |
| 2000.0             | 0.31                      | 34.7                                 | 30.4                                 |
| 3000.0             | 0.39                      | 38.7                                 | 34.8                                 |
| 4000.0             | 0.45                      | 31.6                                 | 32.5                                 |
| 5000.0             | 0.50                      | 32.2                                 | 30.7                                 |
| 6000.0             | 0.57                      | 28.2                                 | 33.5                                 |
| 7000.0             | 0.57                      | 24.2                                 | 23.8                                 |
| 8000.0             | 0.63                      | 25.2                                 | 23.2                                 |
| 9000.0             | 0.67                      | 26.7                                 | 25.9                                 |
| 10000.0            | 0.74                      | 25.2                                 | 25.0                                 |
| 11000.0            | 0.75                      | 26.4                                 | 24.2                                 |
| 12000.0            | 0.80                      | 31.0                                 | 28.5                                 |
| 13000.0            | 0.83                      | 29.7                                 | 32.7                                 |
| 14000.0            | 0.83                      | 28.8                                 | 28.4                                 |
| 15000.0            | 0.89                      | 20.9                                 | 24.1                                 |
| 16000.0            | 0.96                      | 17.9                                 | 20.0                                 |
| 17000.0            | 0.93                      | 18.1                                 | 18.7                                 |
| 18000.0            | 1.00                      | 25.6                                 | 25.5                                 |
| 19000.0            | 1.04                      | 30.8                                 | 27.9                                 |
| 20000.0            | 1.12                      | 25.5                                 | 23.8                                 |
| 21000.0            | 1.11                      | 27.9                                 | 24.9                                 |
| 22000.0            | 1.12                      | 28.5                                 | 35.1                                 |
| 23000.0            | 1.16                      | 31.8                                 | 34.5                                 |
| 24000.0            | 1.20                      | 38.8                                 | 31.9                                 |
| 25000.0            | 1.22                      | 21.3                                 | 26.2                                 |
| 26000.0            | 1.25                      | 21.6                                 | 24.0                                 |
| 27000.0            | 1.28                      | 34.6                                 | 33.0                                 |
| 28000.0            | 1.29                      | 26.4                                 | 25.6                                 |
| 29000.0            | 1.34                      | 22.0                                 | 22.4                                 |
| 30000.0            | 1.34                      | 24.9                                 | 23.3                                 |
| 31000.0            | 1.33                      | 26.1                                 | 25.0                                 |
| 32000.0            | 1.42                      | 31.1                                 | 36.4                                 |
| 33000.0            | 1.42                      | 29.0                                 | 28.3                                 |
| 34000.0            | 1.49                      | 21.0                                 | 24.5                                 |
| 35000.0            | 1.49                      | 20.4                                 | 24.2                                 |
| 36000.0            | 1.56                      | 24.2                                 | 28.5                                 |
| 37000.0            | 1.62                      | 26.7                                 | 28.6                                 |
| 38000.0            | 1.62                      | 23.3                                 | 23.7                                 |
| 39000.0            | 1.66                      | 20.9                                 | 22.1                                 |
| 40000.0            | 1.65                      | 25.2                                 | 23.1                                 |



## Typical Performance Curves



### Outline Dimensions



#### MA1628 SERIES

2.92mm K-MALE (CONN-1)

2.92mm K-MALE (CONN-2)

| CASE<br>STYLE # | A    |        | B              | C              | D              | E              | T        |          | WEIGHT<br>GRAMS |
|-----------------|------|--------|----------------|----------------|----------------|----------------|----------|----------|-----------------|
|                 | FEET | METERS |                |                |                |                | INCH     | MM       |                 |
| MA1628-1.5      | 1.50 | .46    | .40<br>(10.16) | .312<br>(7.92) | .40<br>(10.16) | .312<br>(7.92) | +.50/-0  | +12.7/-0 | 75              |
| MA1628-2        | 2.00 | .61    |                |                |                |                | +.50/-0  | +12.7/-0 | 91              |
| MA1628-3.28     | 3.28 | 1.00   |                |                |                |                | +.79/-0  | +20.0/-0 | 130             |
| MA1628-4        | 4.00 | 1.22   |                |                |                |                | +.96/-0  | +24.4/-0 | 152             |
| MA1628-6.56     | 6.56 | 2.00   |                |                |                |                | +1.57/-0 | +40.0/-0 | 231             |

Unless otherwise specified dimensions are in inches (mm).

Tolerances: 2Pl.  $\pm .03$ ; 3Pl.  $\pm .015$

#### Note:

1. Low Loss Armored Flexible Cable.



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

| Specification         | Test/Inspection Condition                                                                                         | Reference/Spec                         |
|-----------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Operating Temperature | -55° to 85°C<br>Ambient Environment                                                                               | Individual Model Data Sheet            |
| Storage Temperature   | -55° to 85° C<br>Ambient Environment                                                                              | Individual Model Data Sheet            |
| Thermal Shock         | -55° to 100° C, 100 cycles                                                                                        | MIL-STD-202, Method 107, Condition A-3 |
| Mechanical Flexing    | 20,000 cycles<br>During each cycle, cable flexed from 90° through 0° to -90°<br>and back with a Radii of 3 inches | - - -                                  |