

BEST CONTACTS FOR YOUR SUCCESS



**Telegärtner**

KARL GÄRTNER GMBH

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NETWORKING COMPONENTS

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COAXIAL CONNECTORS

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CABLE ASSEMBLIES

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PRECISION TURNED PARTS

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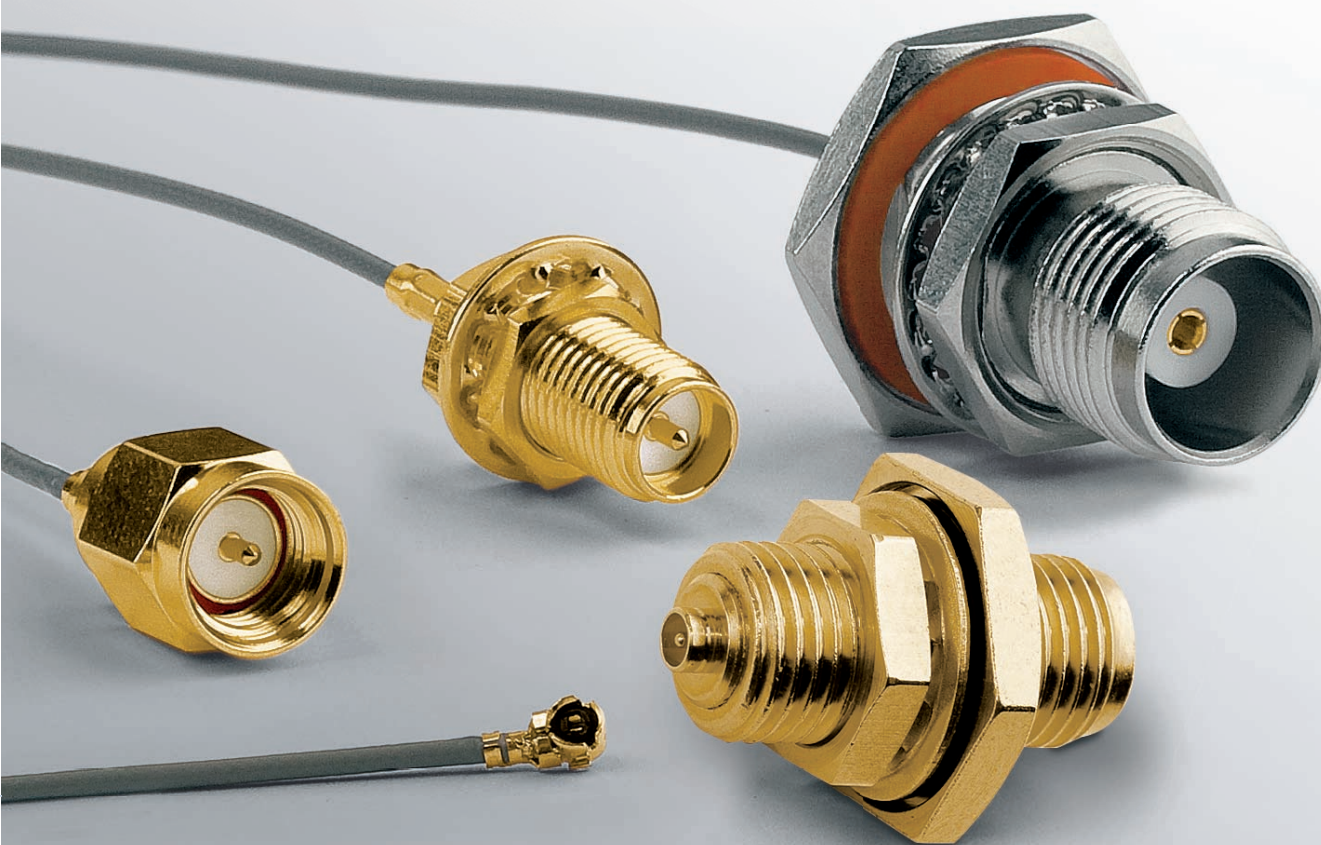
PLASTIC INJECTION MOULD PARTS

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INDUSTRIAL ELECTRONICS

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**Minimum Size.  
Maximum Reliability.**



Coax

**UMTC**

RF Cable Assemblies

# UMTC (Ultra Miniature Telecommunications Connector) Cable Assemblies

Telegartner now also offers special cable assemblies featuring miniaturised UMTC-series coaxial connectors. These connectors are compatible with the U.FL, MHF (I-PEX) connector series, as well as with other comparable connector types. The range includes cable assemblies terminated at both ends with a UMTC angle jack, or alternatively with one of the ends terminated with connector from the SMA-, R-SMA-, TNC-, and R-TNC series.

The coaxial cable used has an overall diameter of 1.13 mm, and 50  $\Omega$  impedance. The assemblies are suitable for frequencies up to 6 GHz.

UMTC cable assemblies are used to connect to PCBs, where space for such connections is of a premium (e.g. in equipment GSM-, GPS-, or W-LAN modules).

## Application Examples

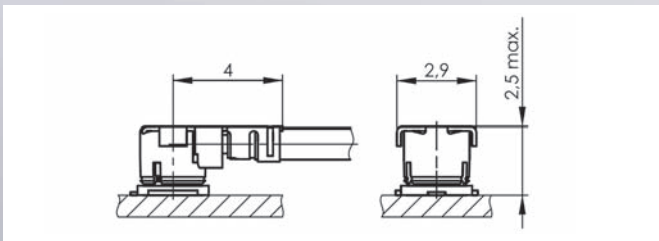
- W-LAN modules
- GSM modules
- GPS
- Bluetooth
- RF Measurement Equipment
- Antenna Pigtails

## Advantages

Extremely small size

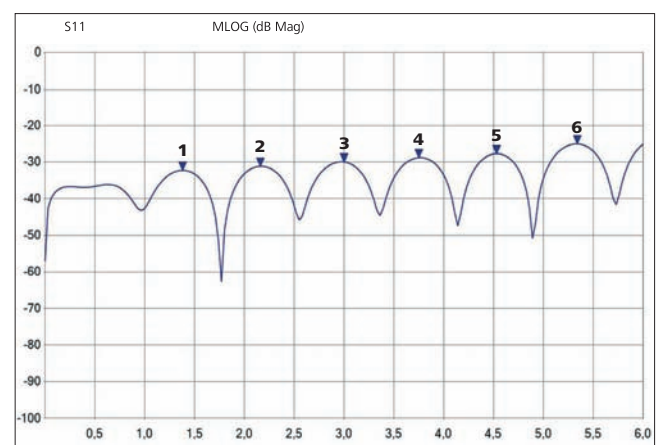


Low mating height 2.5 mm above PCB

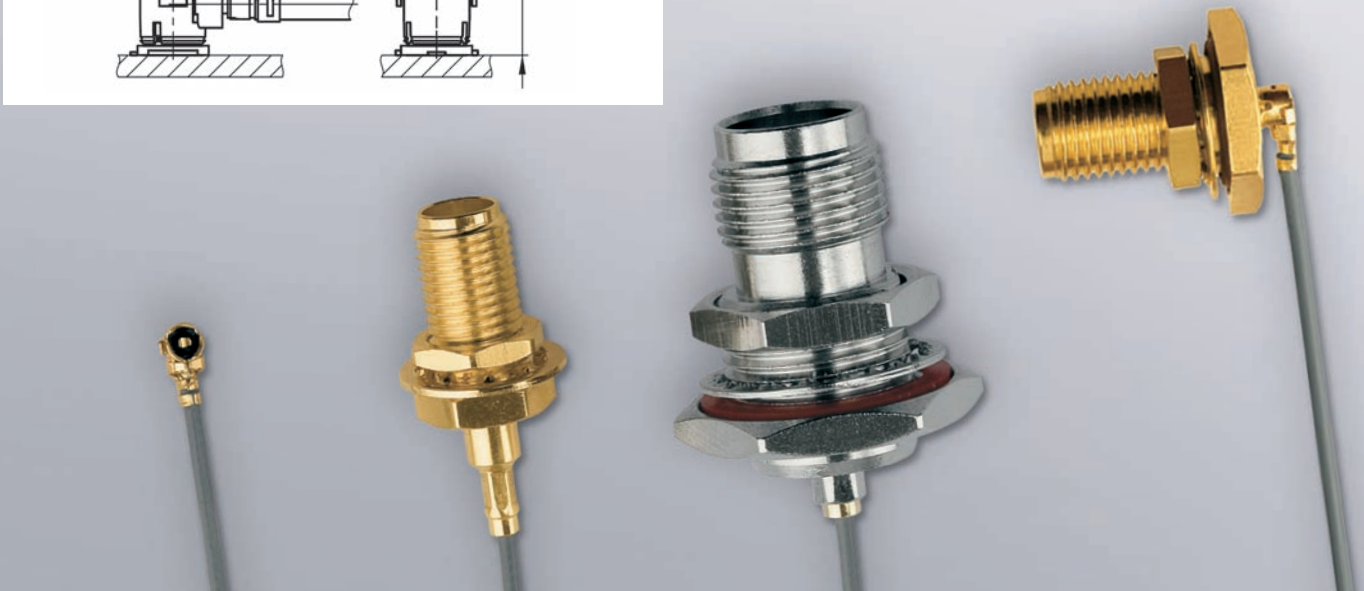


## Return Loss Graph

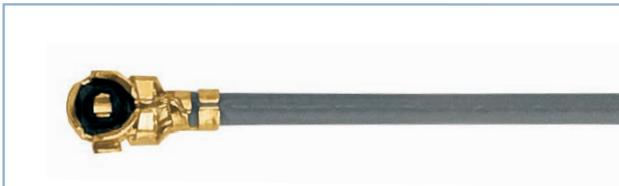
Measurement for complete cable assembly



marker	stimulus	limit	value	margin	mem
1	1.380 GHz		-32.270 dB		
2	2.160 GHz		-31.154 dB		
3	3.000 GHz		-30.005 dB		
4	3.750 GHz		-28.822 dB		
5	4.530 GHz		-27.745 dB		
6	5.340 GHz		-25.038 dB		



## UMTC Connector Characteristics



### Mechanical Characteristics

Durability (mating cycles)	< 30
Disengagement force	> 0,15 N
Material: Spring contacts	phosphor bronze
Material: Outer conductor	phosphor bronze
Material: Insulator	PBT
Finish: inner conductor	Au
Finish: outer conductor	Au

### Environmental

Operating temperature	-30 °C / +100 °C
RoHS compliant	

### Electrical Characteristics

Contact resistance inner conductor	< 20 mOhm
Contact resistance outer conductor	< 10 mOhm
Insulation resistance	> 500 M Ohm
Impedance	50 Ohm
Return Loss	> 17 dB / 6 GHz
Working voltage	200 Veff / 50 Hz
Frequency range up to	6 GHz

## Cable Characteristics



### Mechanical Characteristics

Construction	Material	Dimensions
Inner conductor	copper, silver plated	Ø 0,24 mm
Dielectric	FEP	Ø 0,68 mm
Outer conductor	copper, silver plated	Ø 0,93 mm
jacket	FEP, grey	Ø 1,13 mm

### Environmental

Operating temperature	-40 °C / +150 °C
RoHS compliant	

### Electrical Characteristics

Contact resistance inner conductor	< 20 mOhm
Insulation resistance	> 500 M Ohm
Impedance	50 Ohm
Capacitance at 1 kHz	nom. 96 pF/m
Return loss at 2,0 GHz	2,80 dB/m
Return loss at 2,4 GHz	3,10 dB/m
Return loss at 3,0 GHz	3,50 dB/m
Return loss at 4,0 GHz	4,00 dB/m
Return loss at 5,0 GHz	4,60 dB/m
Return loss at 6,0 GHz	5,10 dB/m
Working voltage	< 250 Veff / 50 Hz
Velocity ratio	nom. 69%
Frequency range up to	6 GHz

## Simple connection of the UMTC cable plug to a bulkhead adaptor



You get your personal UMTC cable here:


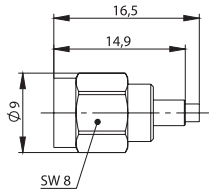

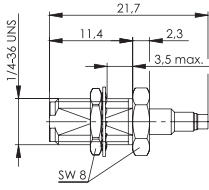

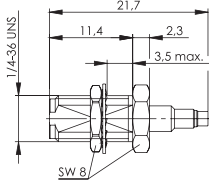

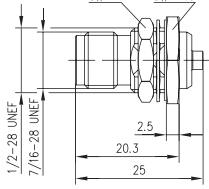

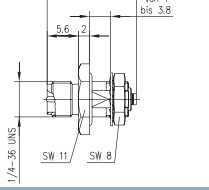

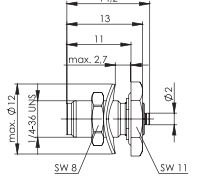


Create your coaxial cable assembly online.

**COAX**  
Configurator



## Connectors for UMTC Cable Assemblies

		<b>Description</b> SMA Straight Plug	<b>Remarks</b> Au-plated	<b>Cable Group</b> G43 (0.24/0.68)
		<b>Description</b> SMA Bulkhead Jack	<b>Remarks</b> Au-plated, without panel sealing, Mount. Dim. Z36	<b>Cable Group</b> G43 (0.24/0.68)
		<b>Description</b> R-SMA Bulkhead Jack	<b>Remarks</b> Au-plated, without panel sealing, Mount. Dim. Z36	<b>Cable Group</b> G43 (0.24/0.68)
		<b>Description</b> TNC Bulkhead Jack	<b>Remarks</b> Ni-plated, with panel sealing, Mount. Dim. Z04	<b>Cable Group</b> G43 (0.24/0.68)
		<b>Description</b> Bulkhead Adaptor R-SMA to UMTC, f-m  <b>Order no.:</b> J01155R0061	<b>Remarks</b> Au-plated, with panel sealing	<b>Mount. Dim.</b> Z36
		<b>Description</b> Bulkhead Adaptor SMA to UMTC, f-m  <b>Order no.:</b> J01155A0101	<b>Remarks</b> Au-plated, with panel sealing, barrier sealed	<b>Mount. Dim.</b> Z27

\*others on request

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Your distributor: