

## TCOM®-600 Low Loss Low Passive Intermod Coax

### Ideal for...

- -155 dBc Intermodulation Distortion
- Low Loss UHF/Microwave Interconnect
- Wireless Base Station Interconnect
- Flexible for Easy Routing



• **TCOM®** standard is a UV Resistant Polyethylene jacketed cable designed for 20-year service outdoor use. The bending and handling characteristics are significantly better than air-dielectric and corrugated hard-line cables.

**TCOM®-FR** is a non-halogen (non-toxic), low smoke, fire retardant cable designed for in-building runs that can be routed anywhere except air handling plenums. TCOM-FR has a UL/NEC & CSA rating of ‘CMR’ and ‘FT4’ respectively.

**TCOM®-PUR** has a polyurethane outer jacket designed for multiple bending/flexing cycles in rugged tactical applications.

**Flexibility** and bendability are hallmarks of the TCOM-600 cable design. The flexible outer conductor enables the tightest bend radius available for any cable of similar size and performance.

**Low Loss** is another hallmark feature of TCOM-600. Size for size LMR has the lowest loss of any flexible cable and comparable loss to semirigid hard-line cables.

**Passive Intermod** is lower than -155 dBc exceed the performance levels for most wireless applications..

**RF Shielding** is 60 dB greater than typical single shielded coax (40 dB). The multi-ply bonded foil outer conductor

is rated conservatively at > 100 dB (i.e. >200 dB between two adjacent cables).

**Weatherability:** TCOM-600 cables designed for outdoor exposure incorporate the best materials for UV resistance and have life expectancy in excess of 20 years.

**Connectors:** A wide variety of connectors are available for TCOM-600 cable, including all common interface types, reverse polarity, and a choice of solder or non-solder center pins. Most LMR connectors employ crimp outer attachment using standard hex crimp sizes.

**Cable Assemblies:** All TCOM-600 cable types are available as pre-terminated cable assemblies. Refer to the section on FlexTech for further details.

Part Description				
Part Number	Application	Jacket	Color	Stock Code
TCOM-600	Outdoor	PE	Black	55005
TCOM-600-FR	Indoor-Riser CMR	FRPE	Black	55018
TCOM-600-PUR	Indoor/Outdoor	PUR	Black	55006

Construction Specifications			
Description	Material	In.	(mm)
Inner Conductor	Solid BCCAI	0.176	(4.47)
Dielectric	Foam PE	0.455	(11.56)
Outer Conductor	SPC Strip Braid	0.465	(11.81)
Overall Braid	TC Braid over Al tape	0.500	(12.70)
Jacket	(see table above)	0.590	(14.99)

**Mechanical Specifications**

Performance Property	Units	US	(metric)
Bend Radius: installation	in. (mm)	1.50	(38.1)
Bend Radius: repeated	in. (mm)	6.0	(152.4)
Bending Moment	ft-lb (N-m)	2.75	(3.73)
Weight	lb/ft (kg/m)	0.160	(0.24)
Tensile Strength	lb (kg)	350	(158.9)
Flat Plate Crush	lb/in. (kg/mm)	60	(1.07)

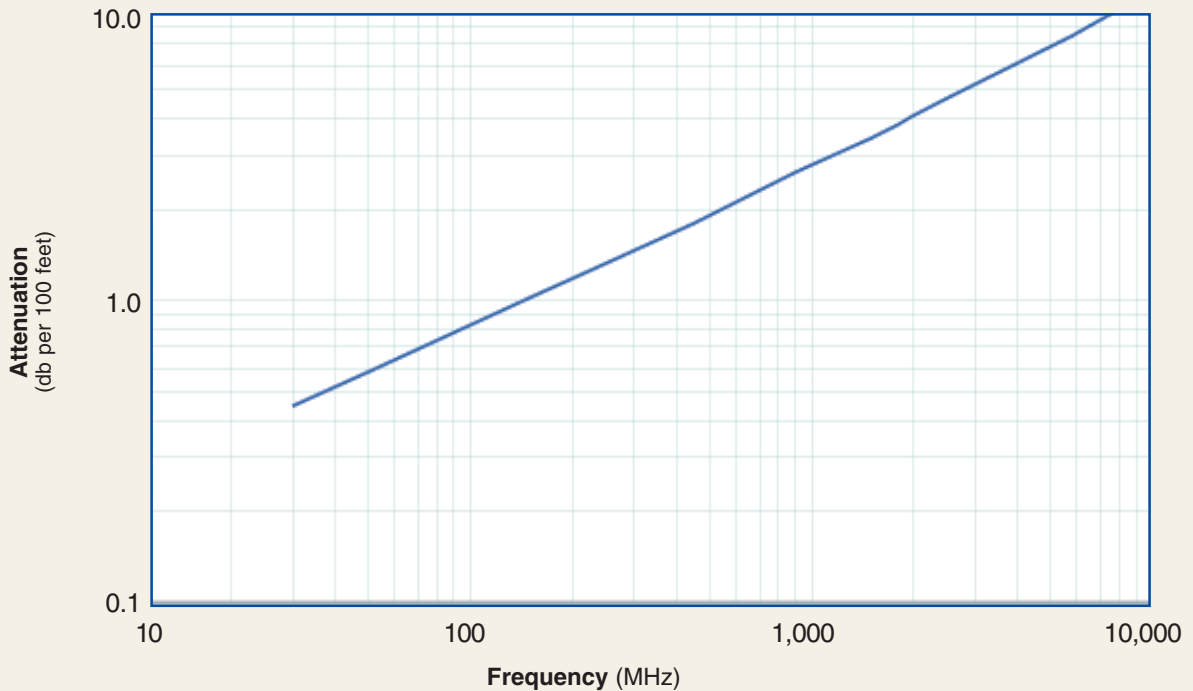
**Environmental Specifications**

Performance Property	°F	°C
Installation Temperature Range	-40/+185	-40/+85
Storage Temperature Range	-94/+185	-70/+85
Operating Temperature Range	-40/+185	-40/+85

**Electrical Specifications**

Performance Property	Units	US	(metric)
Cutoff Frequency	GHz		10.3
Velocity of Propagation	%		87
Dielectric Constant	NA		1.32
Time Delay	nS/ft (nS/m)	1.17	(3.83)
Impedance	ohms		50
Capacitance	pF/ft (pF/m)	23.4	(76.6)
Inductance	uH/ft (uH/m)	0.058	(0.19)
Shielding Effectiveness	dB		>100
<b>DC Resistance</b>			
Inner Conductor	ohms/1000ft (/km)	0.53	(1.74)
Outer Conductor	ohms/1000ft (/km)	1.52	(5.0)
Voltage Withstand	Volts DC		4000
Jacket Spark	Volts RMS		8000
Peak Power	kW		40
Passive Intermod	dBc		-155

**Attenuation vs. Frequency (typical)**



Frequency (MHz)	30	50	150	220	450	900	1500	1800	2000	2500	5800	10,000
<b>Attenuation dB/100 ft</b>	0.4	0.6	1.0	1.2	1.8	2.6	3.5	3.9	4.1	4.6	7.6	10.6
<b>Attenuation dB/100 m</b>	1.5	1.9	3.3	4.1	6.0	8.6	11.4	12.7	13.4	15.2	24.9	34.7
<b>Avg. Power kW</b>	5.20	4.01	2.28	1.86	1.28	0.88	0.66	0.60	0.56	0.50	0.30	0.22

**Calculate Attenuation =**  
 $(0.080075) \cdot \sqrt{\text{FMHz}} + (0.000256) \cdot \text{FMHz}$  (interactive calculator available at <http://www.timesmicrowave/telecom>)

**Attenuation:**  
 VSWR=1.0 ; Ambient = +25°C (77°F)

**Power:**  
 VSWR=1.0; Ambient = +40°C; Inner Conductor = 100°C (212°F); Sea Level; dry air; atmospheric pressure; no solar loading

# TCOM-600

## Low Loss Low Passive Intermod Coax



### 600 Connectors

Interface	Description	Part Number	Stock Code	VSWR** Freq. (GHz)	Coupling Nut	Inner Contact Attach	Outer Contact Attach	Finish* Body /Pin	Length in (mm)	Width in (mm)	Weight lb (g)
7-16 DIN Female	Straight Jack	TC-600-716-FC	3190-375	<1.25:1 (2.5)	NA	Solder	Clamp	S/S	1.1 (28)	1.00 (25.4)	0.249 (112.9)
7-16 DIN Male	Straight Plug	EZ-600-716-MH	3190-503	<1.25:1 (2.5)	Hex	Spring Finger	Crimp	S/S	2.0 (51)	1.30 (33.0)	0.254 (115.2)
	Straight Plug	TC-600-716-MC	3190-502	<1.25:1 (2.5)	Hex	Solder	Clamp	S/S	2.0 (51)	1.30 (33.0)	0.347 (157.4)
	Right Angle	TC-600-716M-RA	3190-395	<1.35:1 (2.5)	Hex	Solder	Crimp	S/S	1.4 (36)	1.40 (35.6)	0.354 (160.8)
7/8 EIA	Flange	TC-600-78EIA	3190-321	<1.25:1 (2.5)	NA	Solder	Clamp	S/S	2.3 (58)	2.60 (66.0)	0.873 (396.0)
NFemale	Bulkhead Jack	EZ-600-NF-BH	3190-616	<1.25:1 (2.5)	NA	Spring Finger	Crimp	S/G	2.4 (61)	0.88 (22.4)	0.195 (88.5)
	Bulkhead Jack	TC-600-NF-BH	3190-589	<1.25:1 (2.5)	NA	Solder	Crimp	S/G	2.4 (61)	0.88 (22.4)	0.195 (88.5)
	Bulkhead Jack	TC-600-NFC-BH	3190-466	<1.25:1 (2.5)	NA	Solder	Clamp	S/G	2.2 (56)	0.94 (23.9)	0.214 (97.1)
N Male	Straight Plug	EZ-600-NMH-D	3190-1268	<1.25:1 (8.0)	Hex/Knurl	Spring Finger	Crimp	A/G	2.1 (53)	0.92 (23.4)	0.164 (74.4)
	Straight Plug	EZ-600-NMC	3190-355	<1.25:1 (2.5)	Hex	Spring Finger	Clamp	S/G	2.1 (53)	0.92 (23.4)	0.202 (91.6)
	Straight Plug	EZ-600-NMC-2	3190-1387	<1.25:1 (6.0)	Hex/Knurl	Spring Finger	Clamp	A/G	2.1 (53)	0.92 (23.4)	0.202 (91.6)
	Straight Plug	TC-600-NMC	3190-357	<1.25:1 (2.5)	Hex	Solder	Clamp	S/G	2.1 (53)	0.92 (23.4)	0.208 (93.4)
	Right Angle	TC-600-NMC-RA	3190-233	<1.35:1 (2.5)	Hex	Solder	Clamp	S/G	2.1 (53)	0.92 (23.4)	0.280 (127.0)
Right Angle	TC-600-NMH-RA	3190-785	<1.35:1 (6)	Hex	Solder	Crimp	S/G	2.1 (53)	0.92 (23.4)	0.185 (83.9)	
TNC Male	Straight Plug	EZ-600-TM	3190-418	<1.25:1 (2.5)	Knurl	Spring Finger	Crimp	S/G	1.7 (43)	0.59 (15.0)	0.112 (50.8)
UHF Male	Straight Plug	EZ-600-UM	3190-615	<1.25:1 (2.5)	Knurl	Spring Finger	Crimp	S/G	1.7 (43)	0.88 (22.4)	0.164 (74.4)
	Straight Plug	TC-600-UMC	3190-213	<1.25:1 (2.5)	Knurl	Solder	Clamp	S/G	1.7 (43)	0.88 (22.4)	0.198 (89.8)

\* Finish metals: N=Nickel, S=Silver, G=Gold, SS=Stainless Steel, A=Alballoy \*\*VSWR spec based on 3 foot cable with a connector pair



## Accessories

Type	Part Number	Stock Code	Description
Ground Kit	GK-S600TT	GK-S600TT	Standard Grounding Kit (each)
Hoisting Grip	HG-600T	HG-600T	Split/Laced Type (each)
Cold Shrink	CS-A600T	CS-A600T	Cable to Antenna Junction (each)
Cold Shrink	CS-60120T	CS-60120T	LMR-600 to -1200 Junction (each)
Cold Shrink	CS-60170T	CS-60170T	LMR-600 to -1700 Junction (each)
Standard Entry Port Cushion	SC-600T-3	SC-600T-3	Three Cables (each)
Standard Entry Panels			Full Range of Port Styles/Combinations Available
Hanger Blocks	CB-600T	CB-600T	Dual Cable Support Block (kit of 10)
Hanger Block Supporting Hardware			Complete Range of Supporting Hardware & Adapters Available



## Install Tools

Type	Part Number	Stock Code	Description
Crimp Tool	HX-4	3190-200	Crimp Handle
Crimp Dies	Y1720	3190-203	Standard .610" Hex
Deburr Tool	DBT-U	3190-406	Removes center conductor rough edges
Wrench	WR600	3190-1435	15/16" Box Wrench (2 required for EZ-600-NMC-2)