









Military/Tactical Field Deployable **Antenna Feeder Cable Properties**

	TCOM-	TCOM-	TCOM-	QEAM-	QEAM-	QEAM-	LLSB-400	LLSB-600	LLSB-900	LLSB-1200	
	400-UF	600-UF	600-FS	400	500	810	M17/223-00001	M17/225-00001	M17/226-00001	M17/227-00001	
Loss (dB/100ft) @30 MHz	0.7	0.4	0.5	1.0	0.64	0.38	0.8	0.5	0.3	0.2	
50 MHz	0.9	0.5	0.6	1.3	0.83	0.50	1.0	0.6	0.4	0.3	
150 MHz	1.5	1.0	1.1	2.3	1.45	0.87	1.8	1.1	0.8	0.6	
450 MHz	2.7	1.7	2.0	4.1	2.53	1.53	3.2	2.0	1.4	1.0	
900 MHz	3.9	2.5	2.9	5.8	3.62	2.20	4.6	2.9	2.0	1.5	
1800 MHz	5.7	3.7	4.3	8.3	5.19	3.19	6.7	4.3	2.9	2.2	
2500 MHz	6.8	4.4	5.2	9.9	6.17	3.81	8.0	5.2	3.5	2.7	
6000 MHz	11.0	7.4	8.8	15.6	9.86	6.20	13.0	8.7	5.9	-	
10000 MHz	14.8	10.2	12.0	20.5	13.04	-	-	-	-	-	
16000 MHz	19.6	-	-	26.4	-	-	-	-	-	-	
18000 MHz	-	-	-	28.1	-	-	-	-	-	-	
K1	0.12229	0.07555	0.08888	0.18950	0.11644	0.06926	0.14387	0.08888	0.06091	0.04396	
К2	0.00026	0.00026	0.00031	0.00015	0.00014	0.00014	0.00031	0.00031	0.00019	0.00019	
		Loss at other Fr	requencies = [K	1x√F]+	[K2 x F] F = F	requency in M	Hz				
CW Power(kW) @ 30 MHz	3.0	6.0	5.0	4.0	6.0	14.0	3.0	6.0	9.0	13.0	
50 MHz	2.6	4.2	3.6	2.8	4.9	11.2	2.6	4.2	6.9	9.7	
150 MHz	1.5	2.4	2.0	1.6	2.8	6.4	1.5	2.4	3.9	5.5	
450 MHz	0.8	1.3	1.1	0.9	1.6	3.6	0.8	1.3	2.2	3.1	
900 MHz	0.58	0.93	0.8	0.7	1.1	2.5	0.6	0.9	1.5	2.1	
1800 MHz	0.40	0.63	0.53	0.5	0.8	1.7	0.4	0.6	1.0	1.4	
2500 MHz	0.33	0.52	0.44	0.4	0.7	1.4	0.3	0.5	0.9	1.2	
6000 MHz	0.20	0.31	0.26	0.2	0.4	0.9	0.2	0.3	0.5	-	
10000 MHz	0.15	0.23	0.19	0.2	0.3	_	_	-	-	_	
16000 MHz	0.11	-	-	0.1	-	-	_	_	-	-	
18000 MHz	-	-	-	0.1	-	-	-	-	-	-	
Passive Intermod (dBc)	>-150			>-150			>-120				
									•		
Impedance (ohms)		50			50			1	0		
Capacitance (pF/ft)	23.9	23.4	23.4	26.4	25.4	24.7	23.9	23.4	23.4	23.1	
Velocity of Propagation (%)	85	87	87	76	80	82	84	85	87	87	
Dielectric Constant	1.38	1.32	1.32	1.73	1.56	1.49	1.42	1.38	1.32	1.32	
DC Voltage (kV)	2.5	4	4	2	3	5	3	4	5	6	
Outer Diameter (inches)	0.405	0.590	0.590	0.470	0.500	0.810	0.405	0.590	0.870	1.20	
Jacket Material	PUR	PUR	PUR	PUR	PUR	PUR	XLPE	XLPE	XLPE	XLPE	
	TOR	TOR	TOR	TOR	TOR	TOR					
		-40° to +90°			-40° to +90°			-40° to +85°			
Operating Temp Range (°C)		-40° to +90°			-40° to +90°		and the second	-40	0 +03		
	4	-40° to +90°	6	5	-40° to +90°	8	4	1		11	
Bend Radius (in)		1	6	5	5	8	4	6	9	11 15	
Bend Radius (in) Bending Moment (ft/lb)	0.5	6 9	9	1	5 1.3	6	1.75	6 2.75	9 9	15	
Bend Radius (in)		6			5			6	9		
Bend Radius (in) Bending Moment (ft/lb)	0.5	6 9	9	1	5 1.3	6	1.75	6 2.75 0.131	9 9	15	

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Feeder cables for military field deployable antennas need to be rugged enough to withstand the rigors of repeated reeling, while still providing good electrical performance and resistance to a variety of harsh environments. While corrugated copper cables and other cables designed for fixed installations are frequently used for these applications, they do not provide reliable long term performance. Times Microwave Systems manufactures several families of cables that provide superior flexing, while still providing excellent electrical performance.

- the requirements of the application.
- **TCOM**[®] The TCOM cable series has a foam dielectric and a silver plated copper strip braid outer conductor. This allows these cables to withstand several thousand reelings on a diameter at least 20 times the cable diameter. The FlexStrand versions, with a stranded center conductor, have a lower bending moment and a longer bend life. A wide variety of connector types is available. TCom cables are available either as assemblies or as bulk cable.
- connectors complying with the requirements of MIL-C-39012 are available with a variety of interface types.

Our proven track record in providing cables for both military and commercial field deployable antenna systems includes the military's MSE (Mobile Subscriber Equipment) program, various missile launching platforms and other mission critical systems for ground based military communications and control. The products in this brochure are the most common used for field deployable antenna feeders. They represent only a small portion of our total product line. Our sales engineers can help you select or design the best product for your application.

Chart Notes:

- 1) power based on 1:1 vswr, sea level and +40°C ambient
- 2) power values are approximations, generally conservative
- and based on the cable's heat transfer properties
- 3) PUR = polyurethane
- XLPE = cross-linked polyethylene
- 4) All standard connector interface types available

OFAM[™] The ultimate cable design for field deployable applications is the OEAM (Quick Erecting Antenna Mast) cable. This cable series is designed specifically for use in demanding, mission critical applications, where reeling and unreeling are required over a wide temperature range. Its performance has been proven on systems such as the Hawk and Patriot Missile. The use of a taped PTFE dielectric results in exceptionally low bending moment and long bend life (typically more than 10,000 bends, depending upon radius, etc.). In the larger sizes, use of a composite center conductor further improves bend properties. Based on our MilTech aerospace cable assemblies, these assemblies are fully weather sealed and constructed in accordance with the requirements of MIL-T-81490. Heavy duty stainless steel connectors provide long term corrosion resistance and ruggedness. Qeam cables are sold only as finished assemblies, tested over the required frequency band and fitted with hoisting grips or otherwise customized to

LLSB[™] The LLSB cable series is the most cost effective choice for field deployable applications. Although primarily recommended for fixed interconnects and other non-flexing applications, LLSB cables may be suitable for less demanding retractable antenna feeder applications. When LLSB cables are reeled on a diameter at least 20 times their cable diameter, they will withstand several hundred reelings — an order of magnitude more than is typical for corrugated copper cable. LLSB cables are much easier to terminate and have loss similar to comparable sized corrugated copper cables. LLSB cables may be purchased either as bulk cable to be terminated by the user or as finished assemblies to meet required specifications. LLSB cables are qualified under Military Specification MIL-C-17 and





Our Mission

TIMES MICROWAVE SYSTEMS designs and manufactures high performance RF transmission lines. These products consist of flexible coaxial cable, connectors, accessories and cable assemblies.

We are committed to understanding the needs and requirements of our customers and providing highly engineered, cost effective products. TIMES MICROWAVE SYSTEMS is dedicated to *total* customer satisfaction and superior results for our shareholders in all we do.



TIMES MICROWAVE SYSTEMS - THE COAX LEADER

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