

INCH-POUND

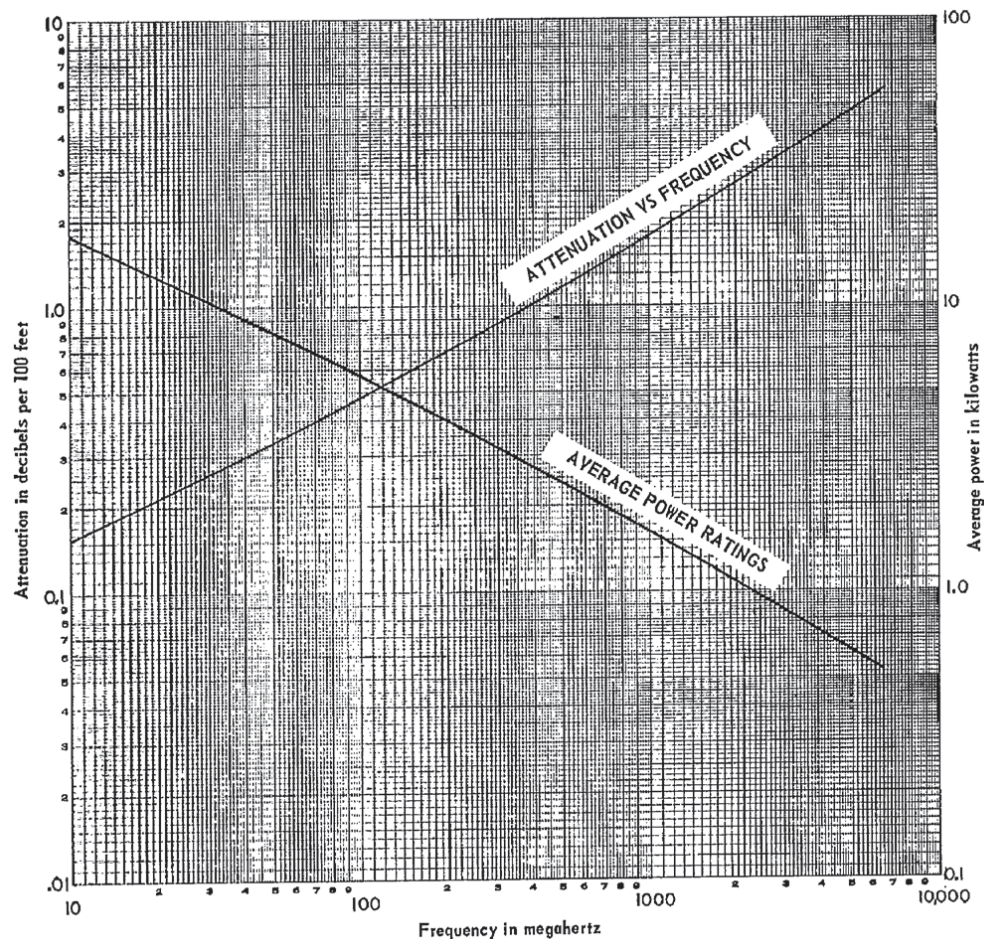
MIL-DTL-22931/11B
21 August 2013
SUPERSEDING
MIL-C-22931/11A
20 January 1972

DETAIL SPECIFICATION SHEET

CABLES, RADIO FREQUENCY,
SEMIRIGID, COAXIAL, SEMI-AIR-DIELECTRIC,
.875 TO 1.005 INCHES OUTSIDE DIAMETER, 50 OHMS

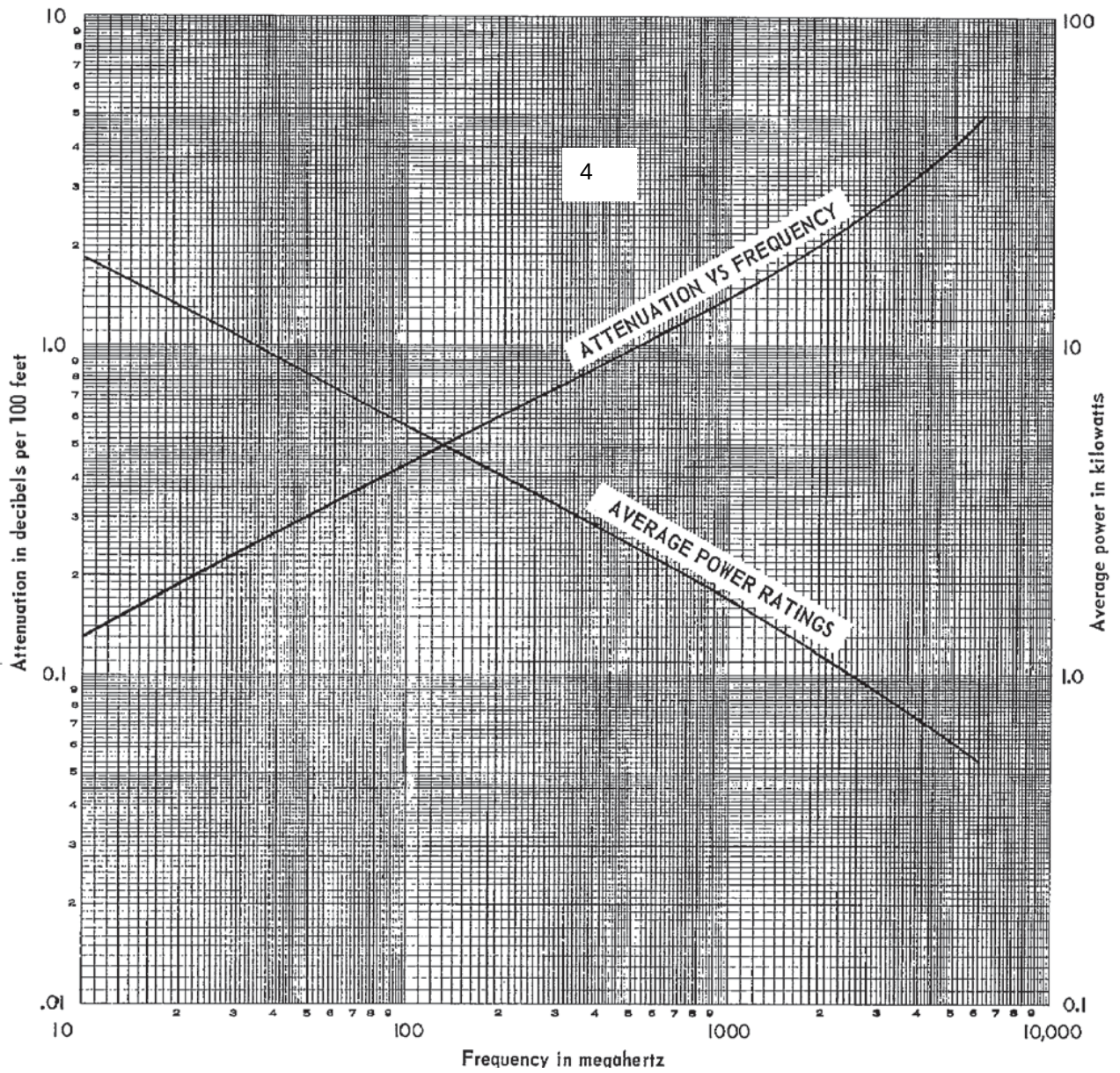
This specification is approved for use by all Departments
and Agencies of the Department of Defense.

The requirements for acquiring the product described herein
shall consist of this specification sheet and MIL-DTL-22931.



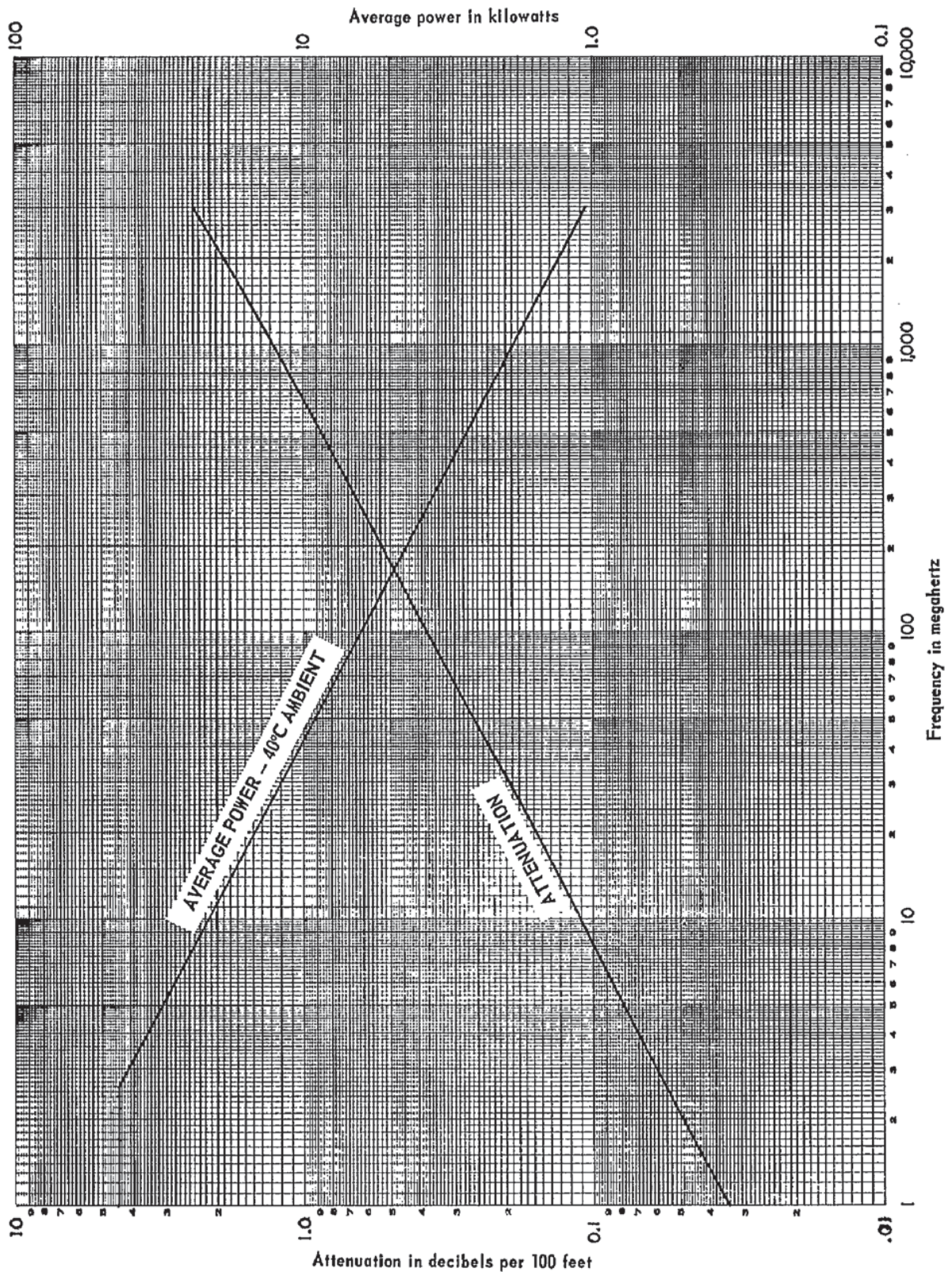
Power rating based upon a 40°C ambient with a 45°C rise in center conductor temperature.

FIGURE 1. Attenuation and power rating curves for -001 and -002.



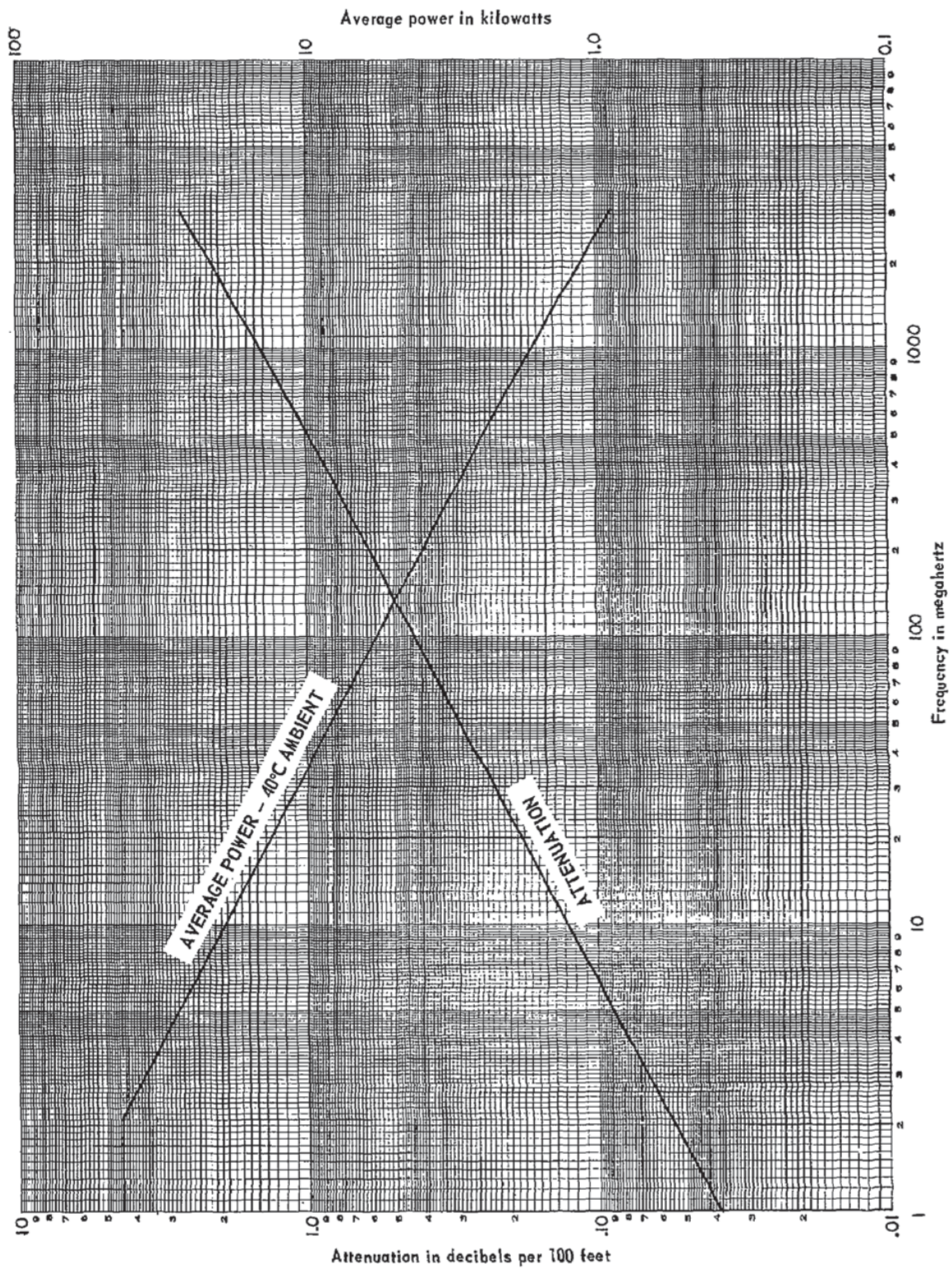
Power rating based upon a 40°C ambient with a 45°C rise in center conductor temperature.

FIGURE 2. Attenuation and power rating curves for -003 and -004.



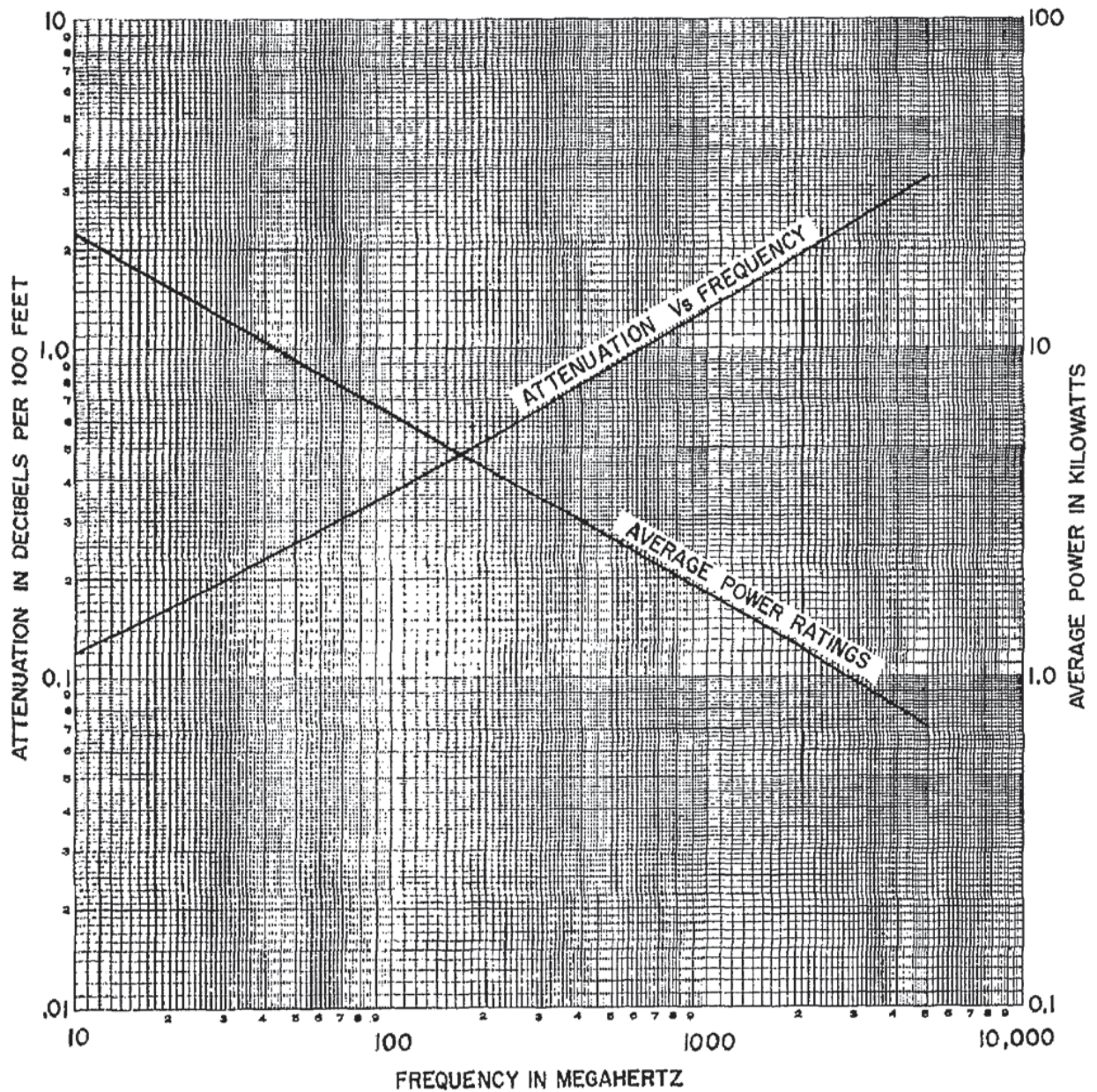
Power rating based upon a 40°C ambient with a 45°C rise in center conductor temperature.

FIGURE 3. Attenuation and power rating curves for -005 and -006.



Power rating based upon a 40°C ambient with a 45°C rise in center conductor temperature.

FIGURE 4. Attenuation and power rating curves for -007.



Power rating based upon a 40°C ambient with a 45°C rise in center conductor temperature.

Power ratings based on:
 VSWR 1.0
 Ambient temperature 40°C
 Inner conductor temperature 80°C

FIGURE 5. Attenuation and power rating curves for -008 and -009.

REQUIREMENTS:

Operating temperature range: -55 to +80°C.

Inner conductor: See table I.

Dielectrics:

Cable core and insulating layer: See table I.

Outer conductor: See table I.

Jacket: See table I.

Voltage withstand: 3,400 volts rms (minimum) at 60 Hz, or 6,000 volts dc.

Insulation defects, spark: See table I.

Attenuation: See table I.

Velocity: See table I.

Capacitance: See table I.

Impedance: 50 ± 1 ohms.

Voltage standing wave ratio: See table I.

Mandrel size for cold bend, bending and temperature cycling tests: See table I.

Minimum bending radius: 10 inches (254.0 mm).

Part or Identifying Number (PIN): M22931/11- (dash number from table I).

TABLE I. Dash numbers and characteristics. 1/, 2/

Requirement	Dash number								
	001	002	003	004	005	006	007	008	009
Inner conductor	Copper wire or tubing	do.	Copper wire	do.	Copper tube	do.	do.	Copper covered	do.
Overall diameter	0.300(7.62)		0.317(7.90)		0.358(9.09)			aluminum wire.350	
(±0.003)								(8.89)	
Dielectrics									
Cable core	Polystyrene		Polyethylene		Polyethylene			Polyethylene	
Insulating layer	Polystyrene		Not applicable		Not applicable			Not applicable	
Outer conductor	Aluminum tubing, smooth, seamless	do.	Aluminum tubing, smooth, seamless	do.	Copper tube, corrugated	do.	Aluminum tube, corrugated	Copper tube, corrugated	do.
Inside diameter (nominal)	0.758(19.25)		0.833(21.16)		0.795(20.19)		0.795(20.19)	0.830(21.08)	
Outside diameter	0.875(22.23)		0.953 ± .003 (24.21) (.08)		1.005 ± .010 (25.53) (.25)		1.005 ± .010 (25.53) (.25)	0.980 ± .010 (24.89 ± .25)	
Jacket	Not applicable	Polyethylene	Polyethylene	Not applicable	Not applicable	Polyethylene	do.	Polyethylene	Not applicable
Diameter		0.980(24.89) + .020 (.51) - .010 (.25)	1.093(27.76) + .037 (.94) - .017 (.43)			1.115 ± .030 (28.32) (.76)		1.065 ± .020 (27.05) (.51)	
Minimum wall thickness		0.049 (1.24)	0.049 (1.24)			0.045(1.14)		0.050(1.27)	
Insulation defect, spark	Not applicable	Applicable	Applicable	Not applicable	Not applicable	Applicable		Applicable	Not applicable
Attenuation (dB/100 ft max)		do.		do.		do.			do.
30 MHz	0.27		0.29		0.21		0.25	0.21	
400 MHz	1.04		1.03		0.9		0.95	0.9	
3,000 MHz	3.4		3.3		2.5		2.97	2.5	
Velocity (percent), nominal	90		85.5		91.6			94	
Capacitance (pF/ft)	22.5		24		32.2			21.0	
VSWR		do.		do.		do.			do.
Initial (max)									
500-2,000 MHz	1.15		1.15		1.15			1.15	
2,000-5,000 MHz	1.15		1.15		1.30			1.30	
After temperature cycling									
500-2,000 MHz	1.20		1.20		1.15			1.15	
2,000-5,000 MHz	1.20		1.20		1.30			1.30	
After bending									
500-2,000 MHz	1.20		1.20		1.25			1.25	
2,000-5,000 MHz	1.20		1.20		1.40			1.40	
Mandrel size radius	17.5(444.5)		10(254.0)		10(254.0)			10(254.0)	

1/ Dimensions are in inches.

2/ Metric equivalents are given for information only.

MIL-DTL-22931/11B

Cross reference information: See table II.

TABLE II: Cross reference information.

PIN	RG number	Former classification	
		Class	Type
M22931/11-001	RG-197/U		
M22931-11/002	RG-232/U		
M22931/11-003	RG-254/U	N	I
M22931/11-004	RG-255/U		
M22931/11-005	RG-269A/U	N	II
M22931/11-006	RG-318/U		
M22931/11-007	None	None	None
M22931/11-008	None	None	None
M22931/11-009	None	None	None

Attenuation and power rating: See figures 1-5.

Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Referenced documents. This document references MIL-DTL-22931.

CONCLUDING MATERIAL

Custodians:

Army – CR
Navy – EC
Air Force – 85
DLA-CC

Preparing activity:

DLA-CC

Review activities:

Army – AR, AT, CR4, MI
Navy – AS, MC, OS
Air Force – 19

(Project 6145-2013-003)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.