

9 October 1979

MILITARY SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, COAXIAL, 0.034 INCH DIAMETER,
SEMIRIGID, 50 OHMS, M17/154-00001 and M17/154-00002

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

The complete requirements for procuring the cables described herein shall consist of this document and the latest issue of Specification MIL-C-17.

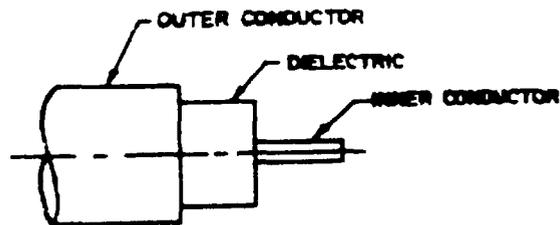


FIGURE 1. Configuration.

TABLE I. Description.

Part number	Inner conductor	Dielectric core	Outer conductor	Weight, pounds, per 1,000 feet (maximum)
M17/154-00001	Solid, silver-coated, copper clad steel diameter .008 inch \pm .0005	Type F-1 diameter .026 inch \pm .001	Seamless copper tubing, diameter .034 \pm .001	2.6
M17/154-00002	Same as above	Same as above	Seamless copper tubing tin-plated per MIL-T-10727, Type I, .0003 to .0005 inch thick, diameter .034 inch \pm .002, $-$.001	2.8

MIL-C-17/154

Engineering information:

Continuous working voltage: 750 Vrms, maximum.
Operating frequency: 20 GHz, maximum.
Velocity of propagation: 69.5 percent, nominal.
Power rating: See figure 2.
Operating temperature range: -40°C to +100°C.
Inner conductor properties:
DC resistance (maximum at 20°C): 41.9 ohms per 100 feet.
Elongation: 10 percent minimum for class 40 A wire.
1.0 percent minimum for class 40 HS wire.
Tensile strength: 50 klbf/inch² minimum for class 40 A wire.
110 klbf/inch² minimum for class 40 HS wire.
Engineering notes: This cable useful in critical RF performance applications.
This cable manufactured in 20-foot lengths.

REQUIREMENTS:

Dimensions, configuration, and descriptions: See figure 1 and table 1.

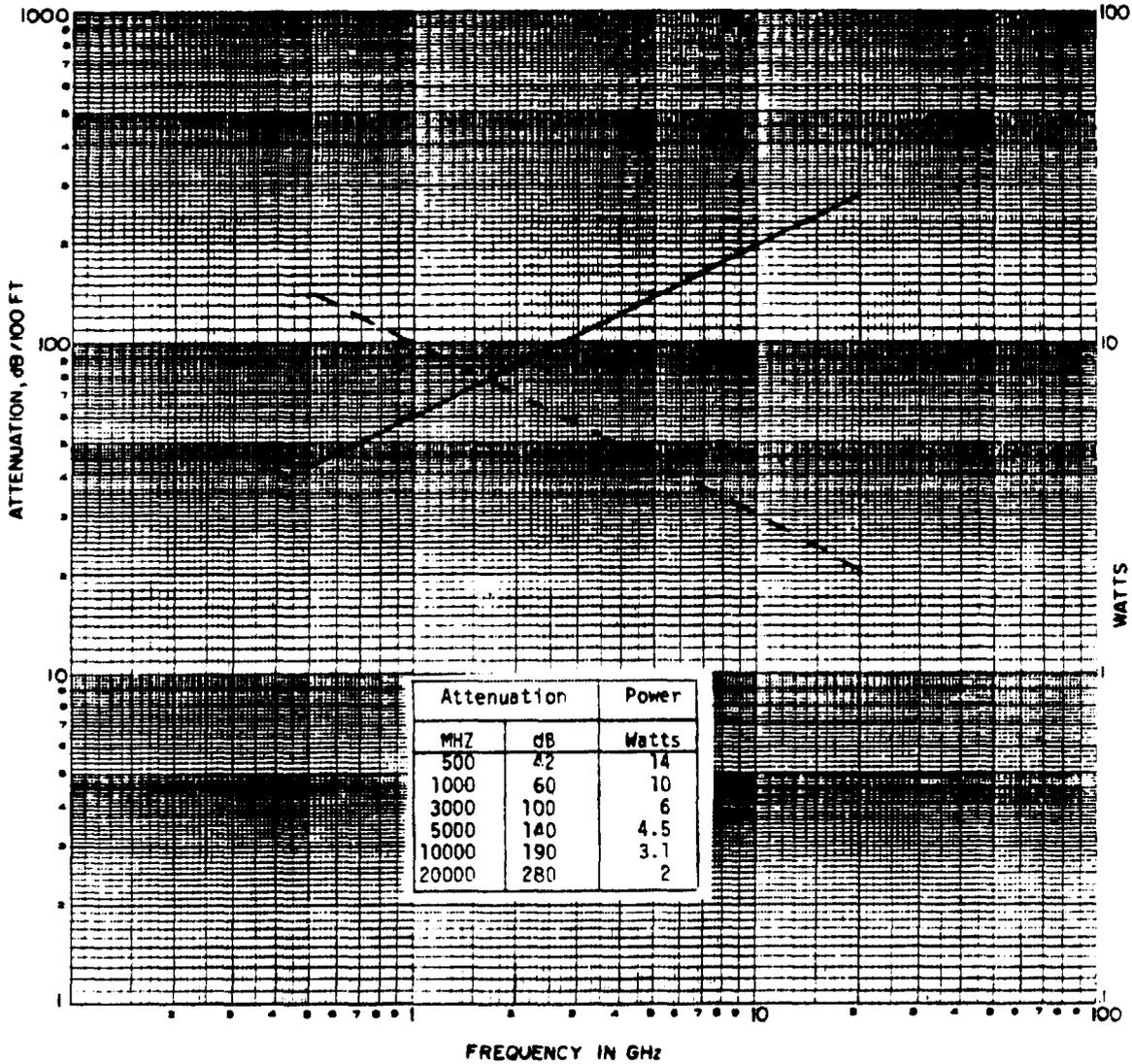
Environmental and mechanical:

Eccentricity: 8.5 percent, maximum.
Adhesion of conductors:
Inner conductor to core: .5 pounds minimum, 3.5 pounds maximum.
Aging stability: Not applicable.
Stress crack resistance: Not applicable.
Outer conductor integrity: +100° ±5°C.
Cold bend: Not applicable.
Dimensional stability: +100° ±5°C.
Core to jacket: .015 inch, maximum.
Contamination: Not applicable.
Bendability: Mandrel diameter: .25 inch, maximum.
Flammability: Not applicable.
Weight: See table 1.

Electrical:

Test frequency: 500 MHz to 20 GHz.
Spark test: Not applicable.
Voltage withstanding: 2,000 Vrms.
Insulation resistance: Not applicable.
Corona extinction voltage: 750 Vrms, minimum.
Characteristic impedance: 50.0 ohms ±3.0.
Attenuation: See figure 2.
Structural return loss: See figure 3.
Capacitance: 32 pF per foot, maximum.
Capacitance stability: Not applicable.
Capacitance unbalance: Not applicable.
Transmission unbalance: Not applicable.
Phase stability: Not applicable.
Mechanically induced noise voltage: Not applicable.
Time delay: Not applicable.

Part number: See table 1.



MAXIMUM ATTENUATION — (Test requirements shall be as noted as line indicated on graph).
 MAXIMUM POWER - - -
 AT 25°C SEA LEVEL

FIGURE 2. Power rating and attenuation.

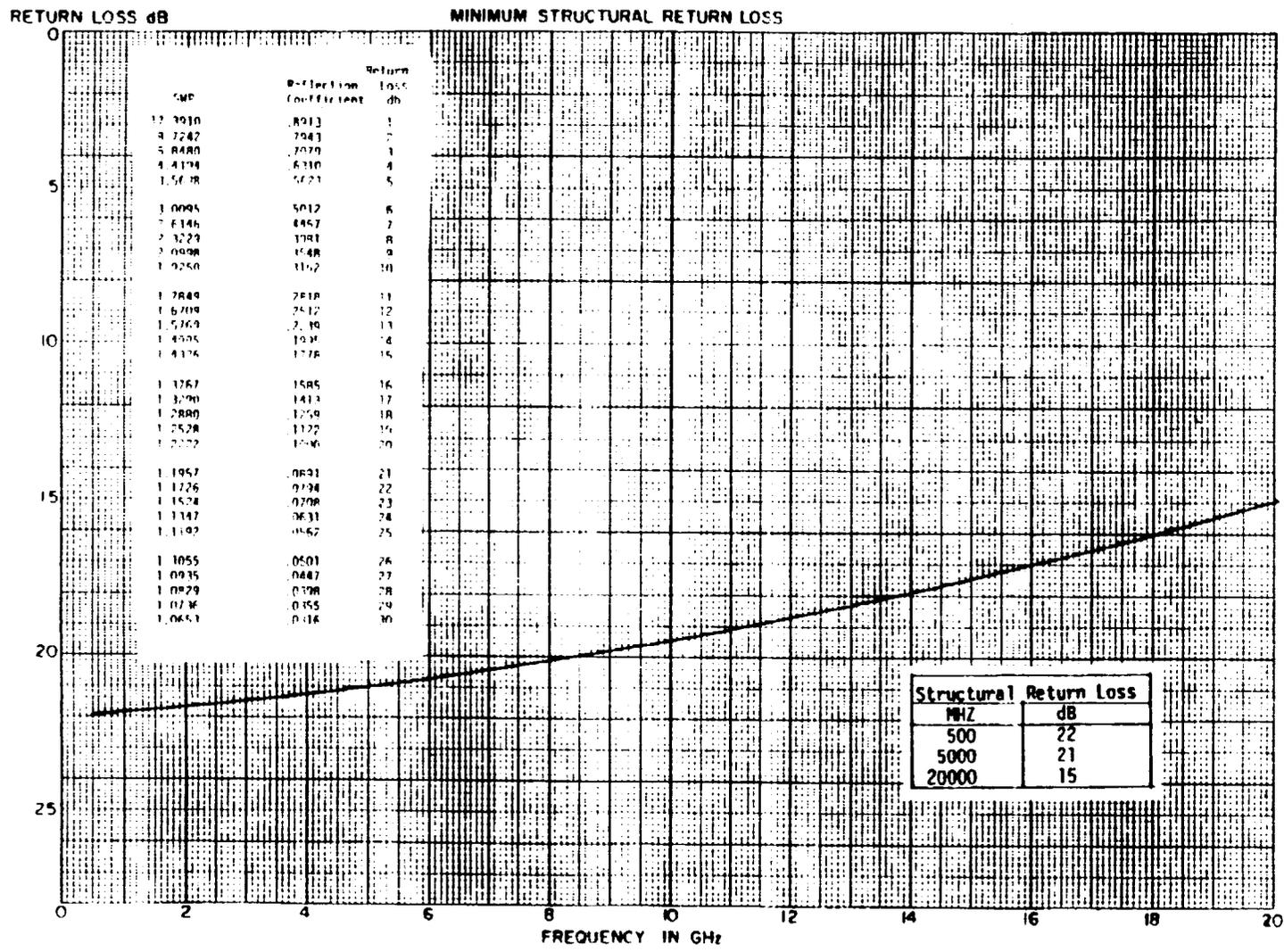


FIGURE 3. Structural return loss.

Custodians:

Army - CR
Navy - EC
Air Force - 85

Review activities:

Army - MI, AR
Navy - SH
Air Force - 11, 17, 99
DLA - ES

User activities:

Army - ME, AT,
Navy - AS, OS, MC
Air Force - 19

Preparing activity:

Army - CR

Agent:

DLA - ES

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