VEROTRONIC TECHNOLOGIES
RF Cable Assemblies

VERO ULTRA

High performance ultra-low loss phase stable coax cable

Features

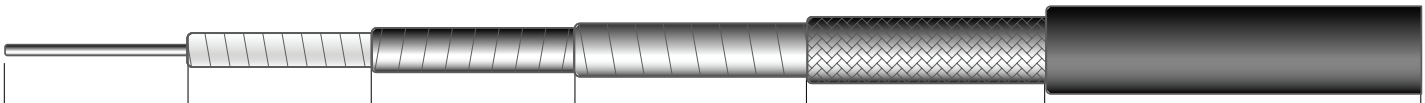
- Excellent mechanical and temperature phase stability
- Excellent amplitude stability
- Ultra-low loss
- Light weight

Typical Applications

- Phased array radar
- Maritime system
- Airborne platform
- System interconnection

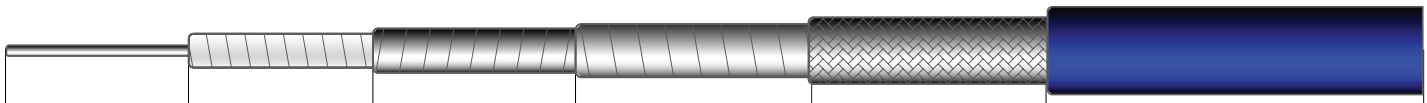
Cable Structure

VU18, VU26, VU40



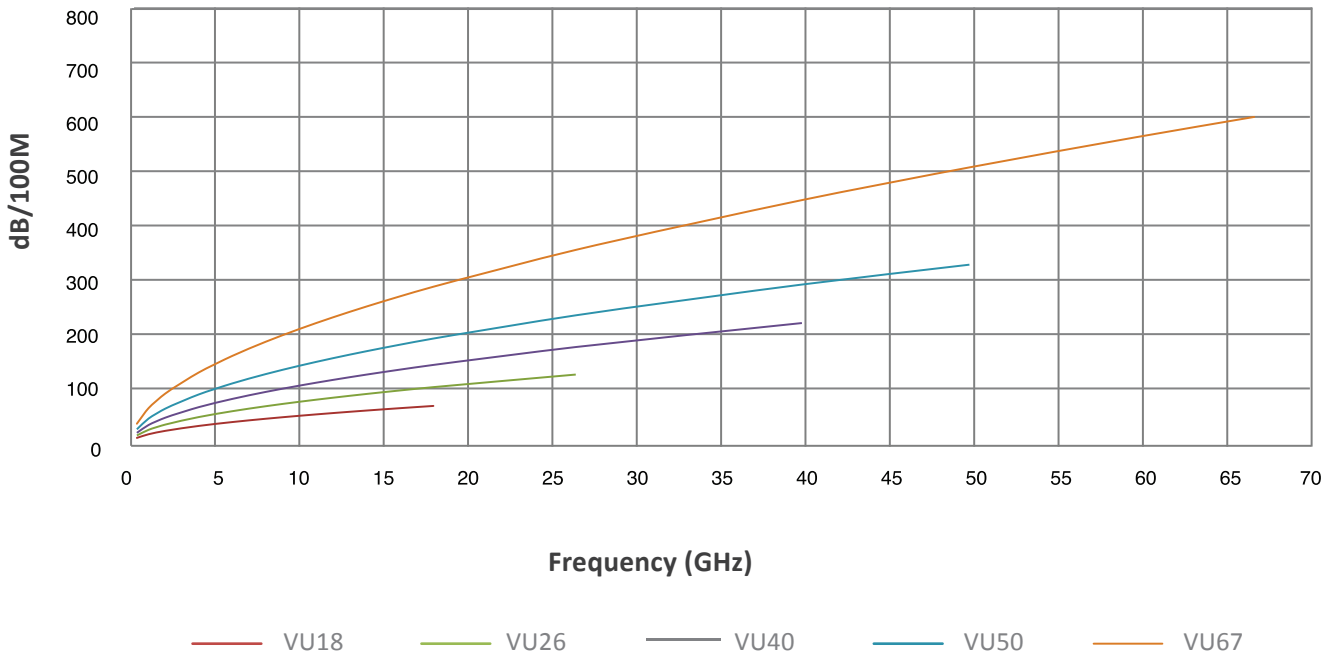
CenterConductor	Dielectric	Outer Conductor	Inner Tape	Outer Shield	Jacket
Silver Plated Copper	LD PTFE	Silver Plated Copper Foil	LD PTFE	Silver PlatedCopper	Gray FEP

VU50 & VU67

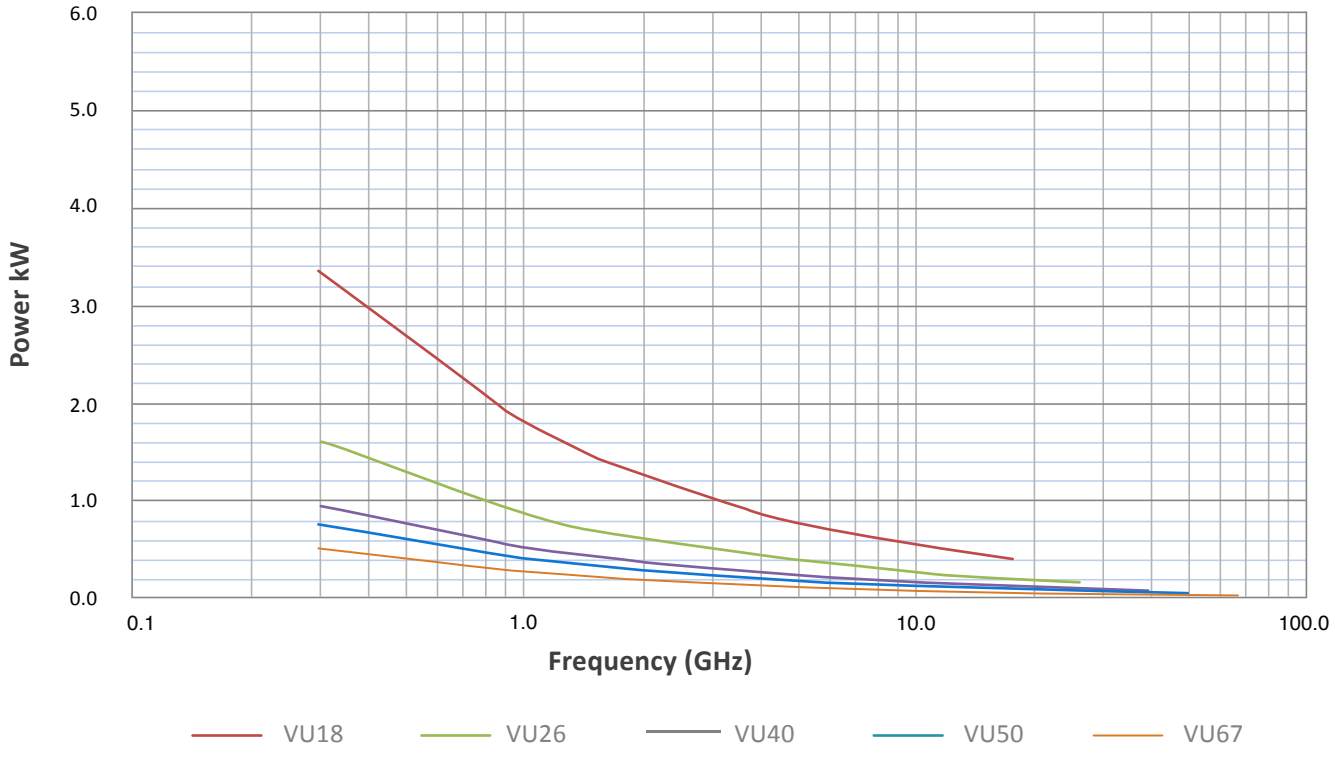


Center Conductor	Dielectric	Outer Conductor	Inner Tape	Outer Shield	Jacket
Silver Plated Copper	LD PTFE	Silver Plated Copper Foil	PTFE	Silver Plated Copper	Blue FEP

VEROUltra Attenuation



VEROUltra Average Power

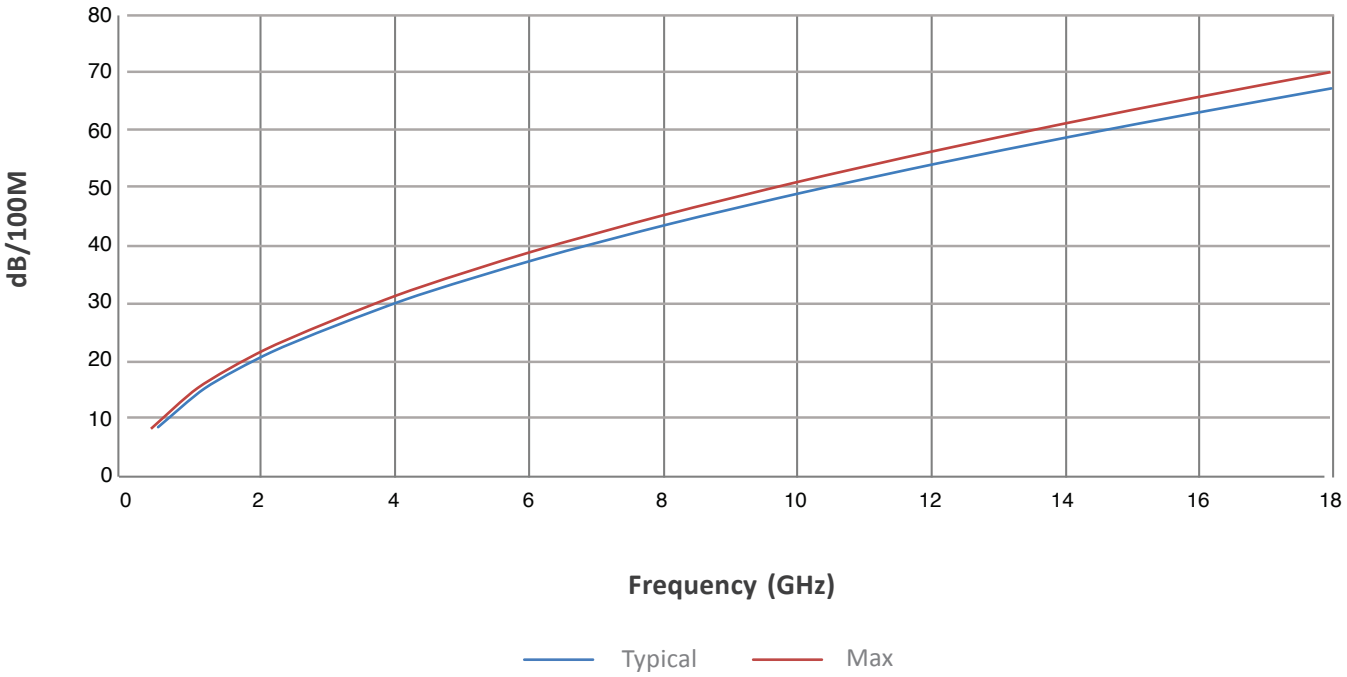


VERO ULTRA

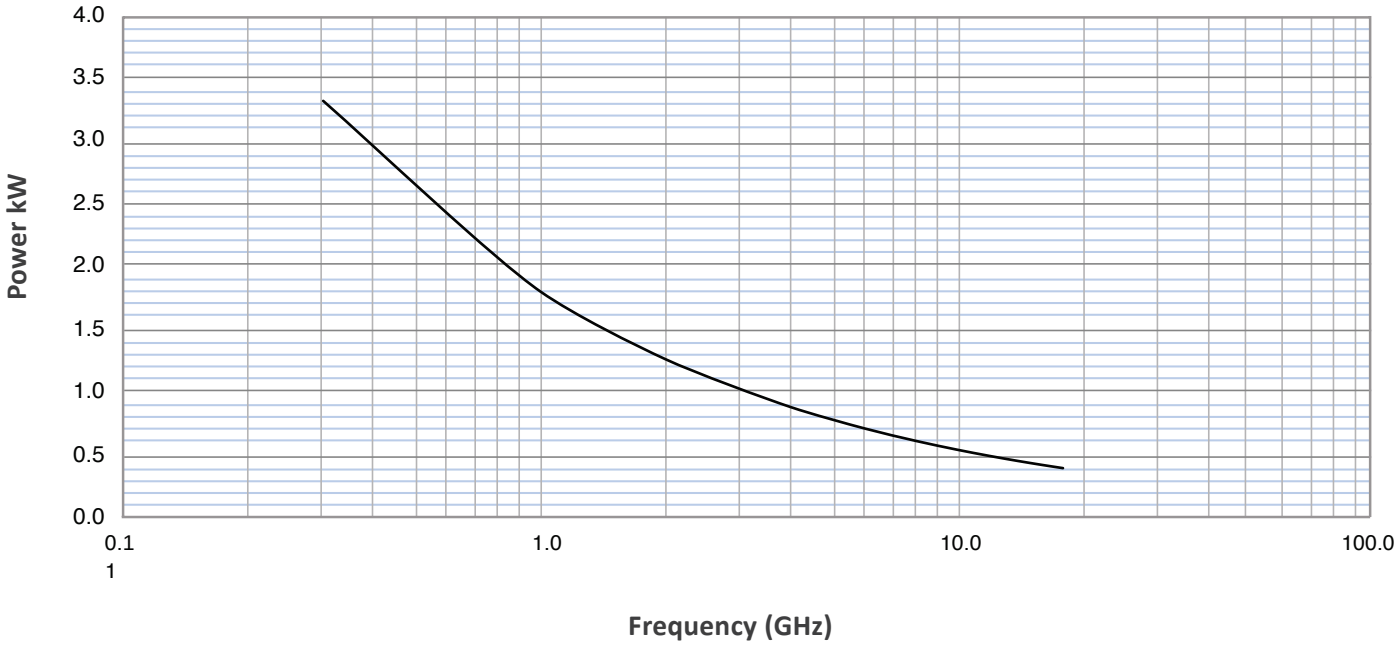
Specifications

Cable	VU18	VU26	VU40	VU50	VU67
Center Conductor (mm)	2.3	1.45	1.02	0.72	0.51
Overall Diameter (mm)	7.80	5.30	3.80	3.60	2.60
Nominal Weight (g/m)	131	63	32	34	20
Min. Static Bend Radius (mm)	35	27	18	14	11
Temperature Range (°C)	-55/165	-55/165	-55/165	-55/165	-55/165
Maximum Frequency (GHz)	18	26.5	40	50	67
Typical VSWR	1.25:1	1.27:1	1.25:1	1.30:1	1.35:1
Maximum VSWR	1.30:1	1.33:1	1.30:1	1.35:1	1.40:1
Typical Insertion Loss (dB/100m)	67.13	125.20	220.51	328.50	601.89
Max. Insertion Loss (dB/100m)	70.49	131.46	231.53	344.93	631.99
Impedance (Nominal) (Ohms)	50	50	50	50	50
Typical Amplitude Stability (dB)	0.05	0.05	0.05	0.05	0.05
Max. Amplitude Stability (dB)	0.08	0.08	0.08	0.08	0.10
Typical Phase Stability (Degree)	5	5	8	5	10
Max. Phase Stability (Degree)	8	8	10	8	15
Dielectric Constant (Nominal)	1.44	1.48	1.47	1.81	1.78
Velocity of Propagration (Nominal)(%)	83	83	82	74	74
Time Delay (Nominal) (ns/cm)	0.0401	0.0401	0.0406	0.045	0.045

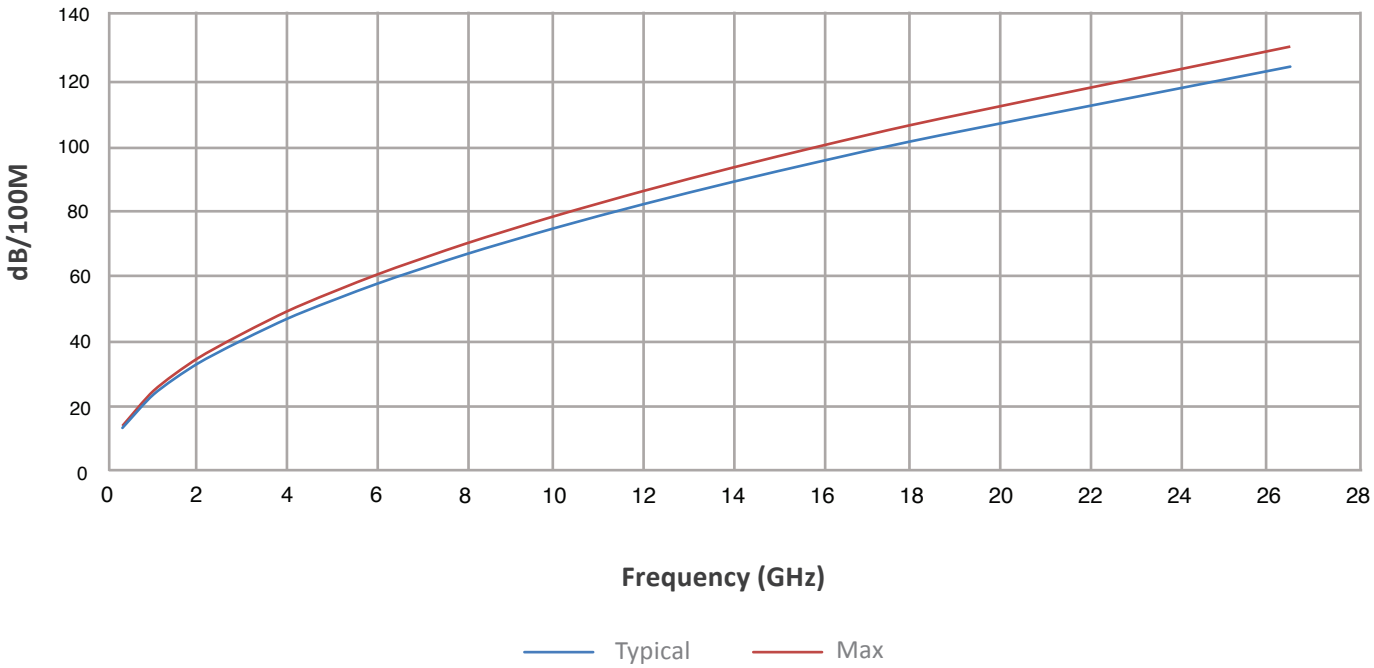
VU18 Attenuation



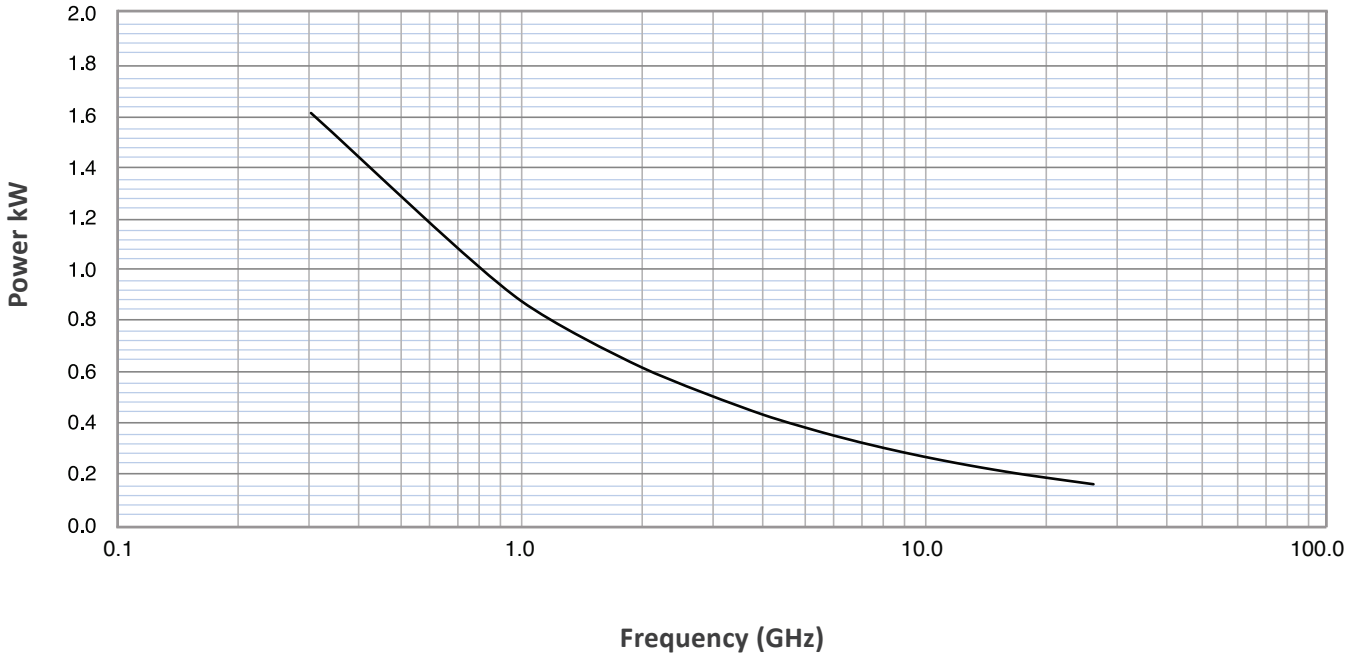
VU18 Average Power



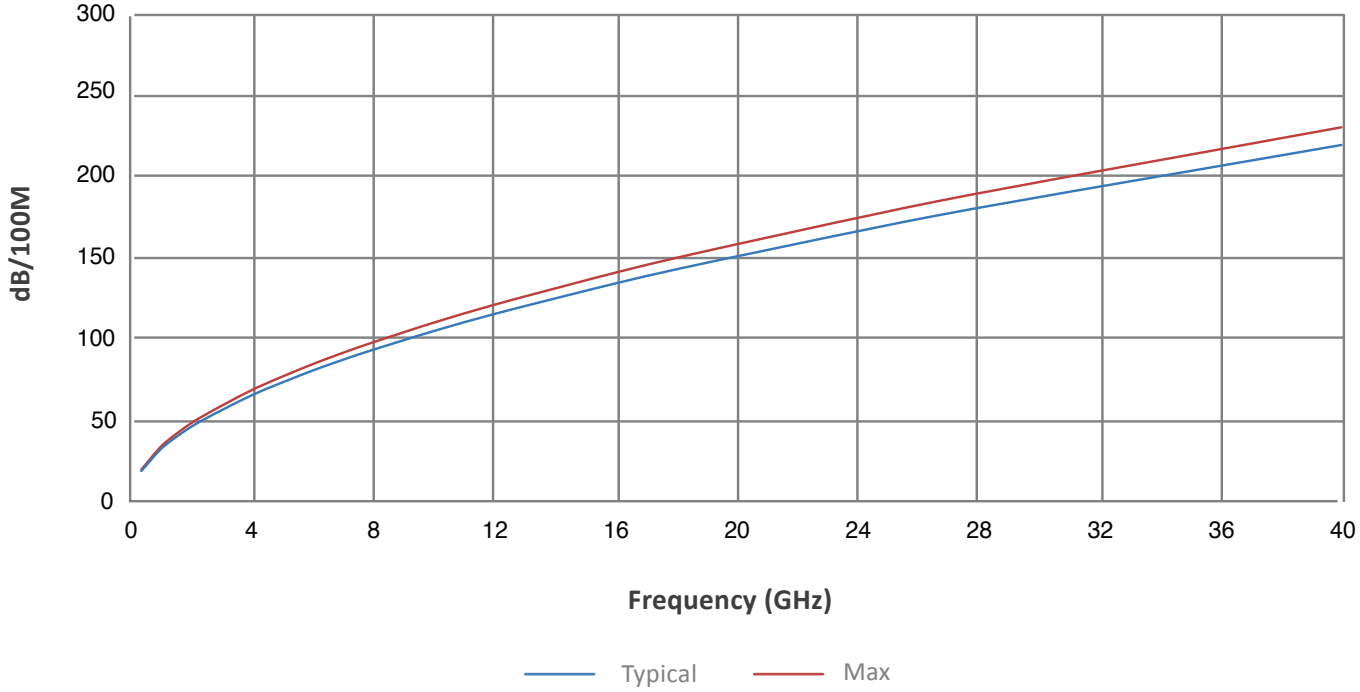
VU26 Attenuation



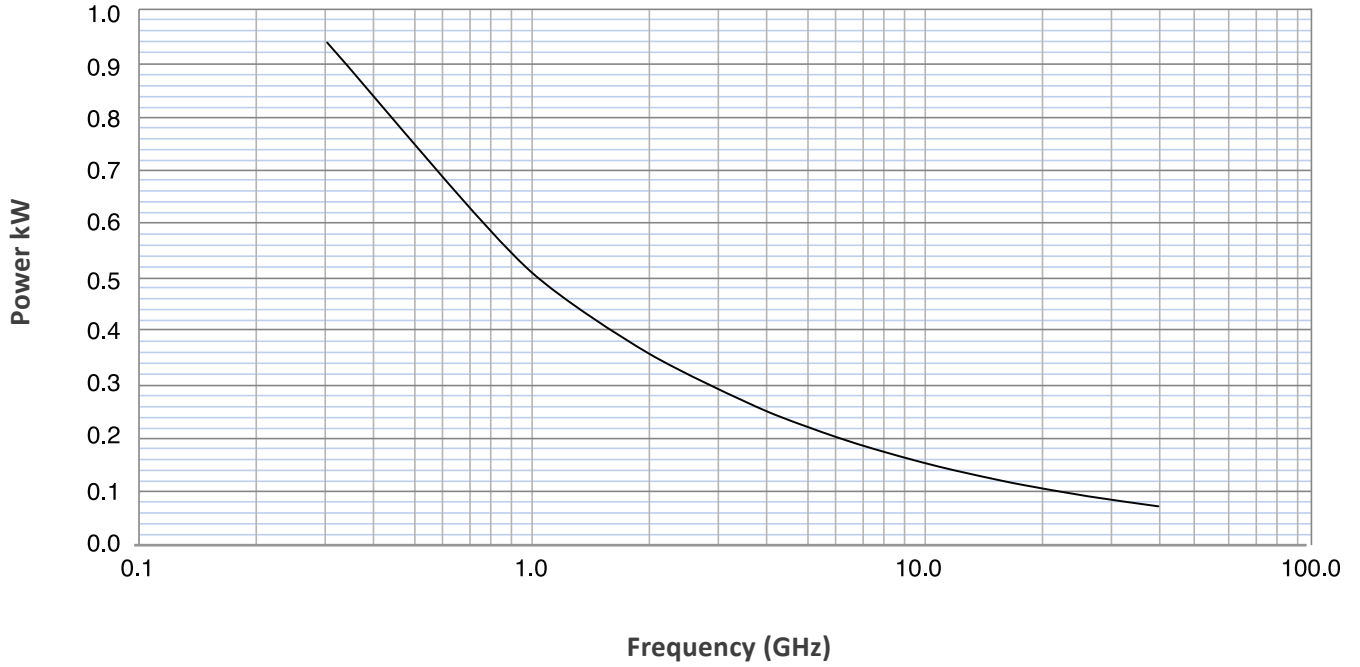
VU26 Average Power



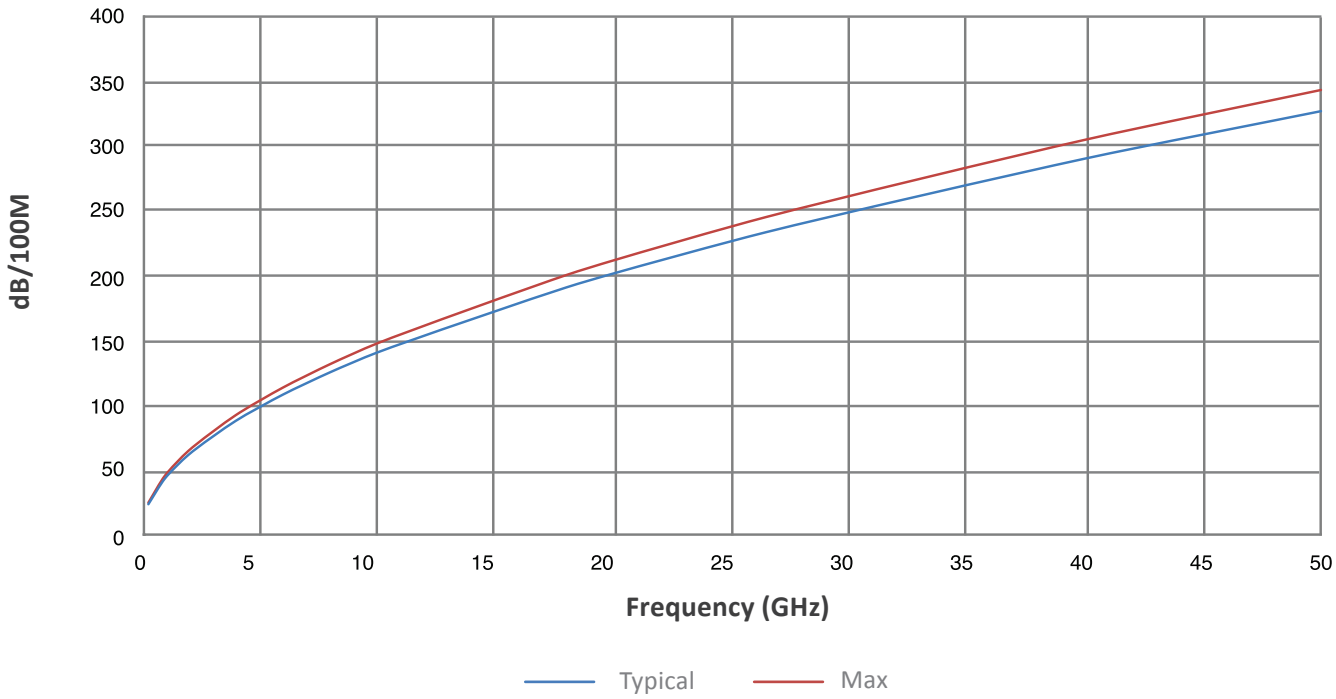
VU40 Attenuation



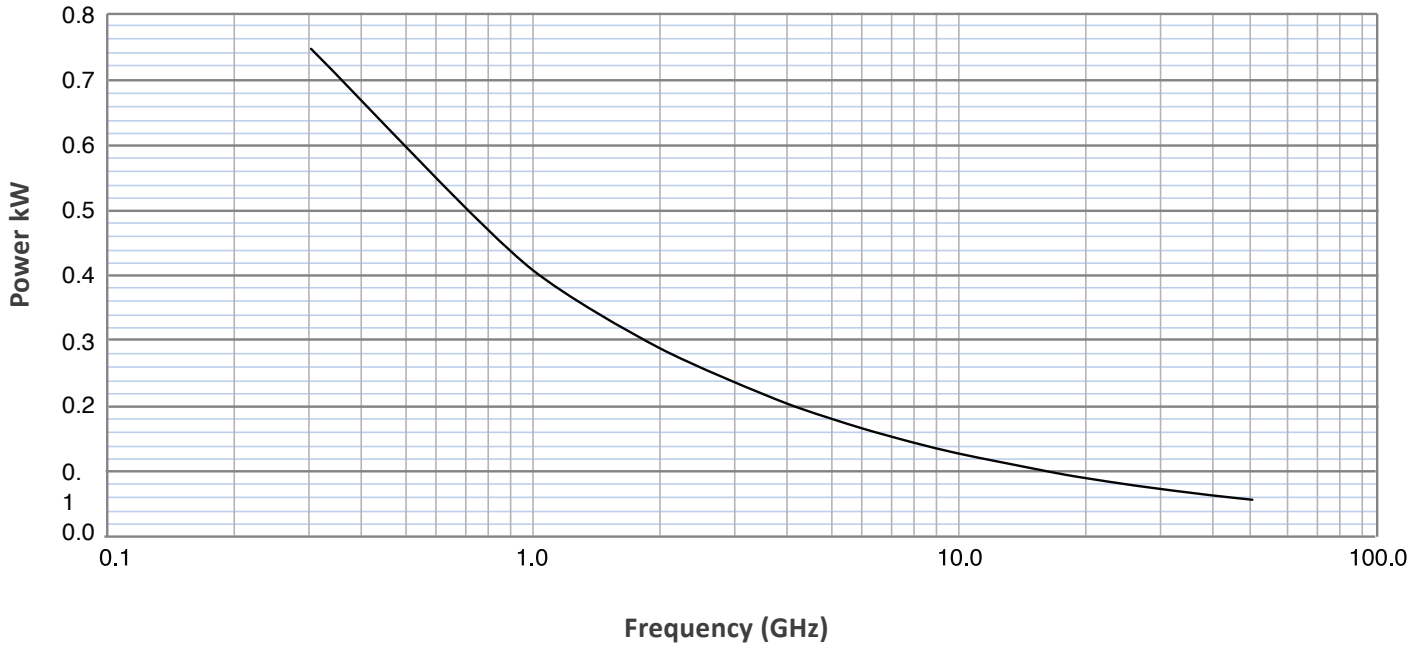
VU40 Average Power



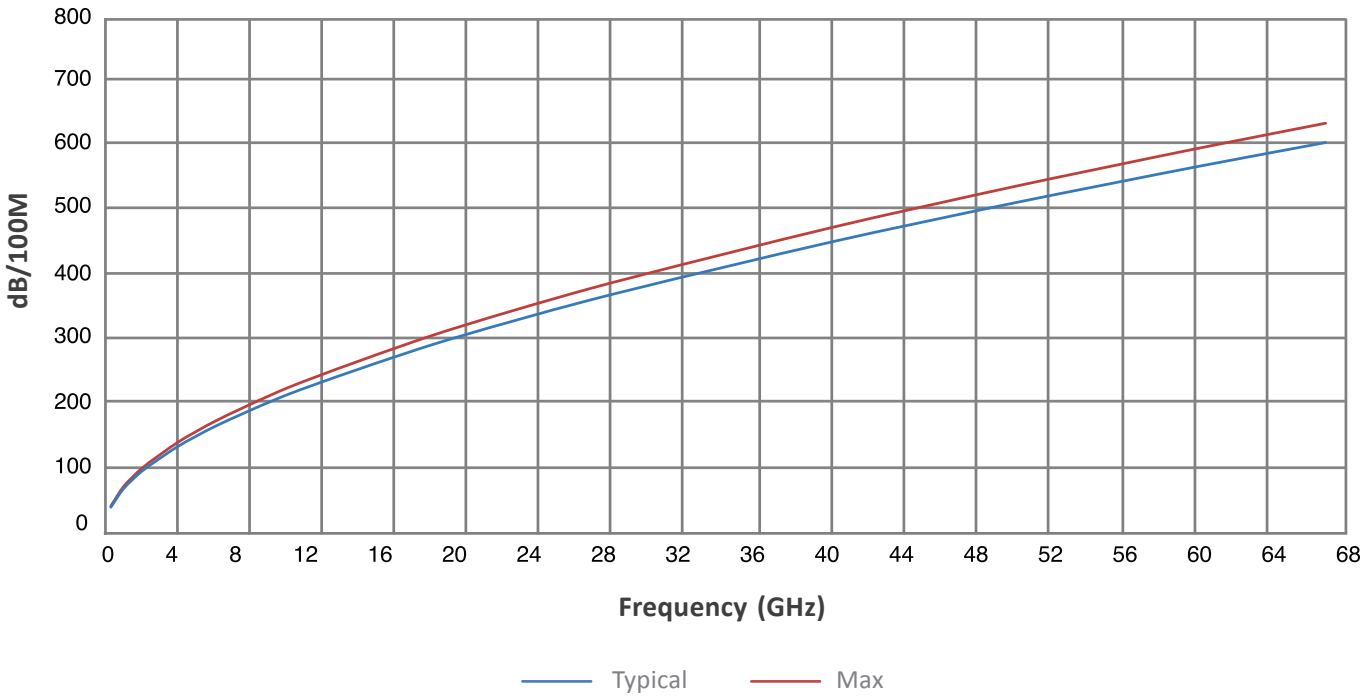
VU50 Attenuation



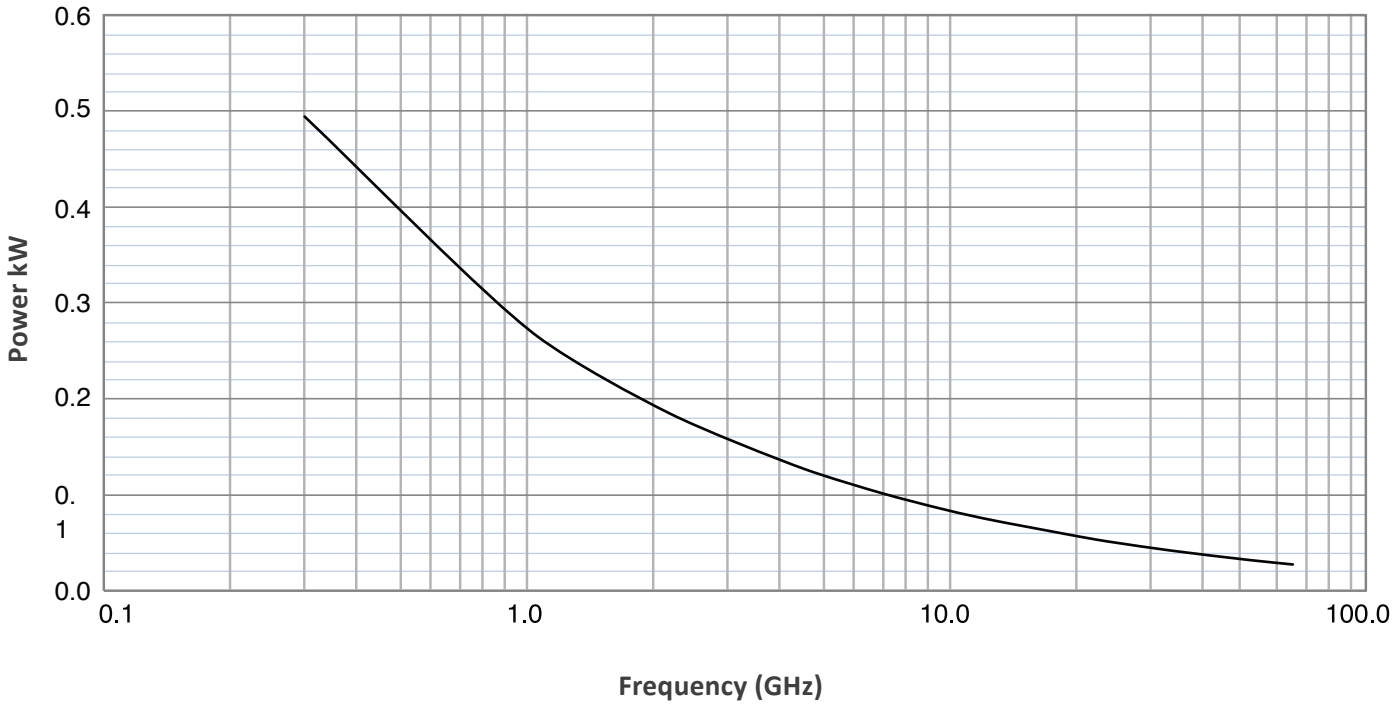
VU50 Average Power



VU67 Attenuation



VU67 Average Power



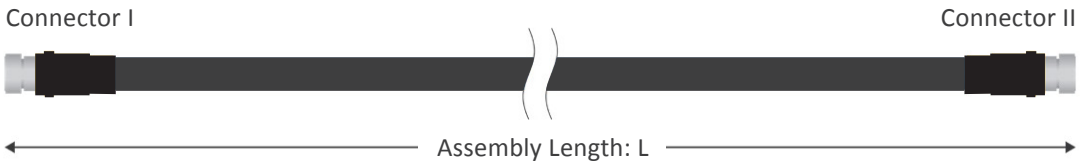
Attenuat on (Typical @25˚C & VSWR = 1:1)
& Power (VSWR = 1:1; 40˚C; Sea Level)

Frequency (MHz)	VU18		VU26		VU40		VU50		VU67	
	Attenuation (dB/100m)	Average Power (kW)	Attenuation (dB/100m)	Average Power (kW)	Attenuation (dB/100m)	Average Power (kW)	Attenuation (dB/100m)	Average Power (kW)	Attenuation (dB/100m)	Average Power (kW)
300	8.00	3.341	12.49	1.608	17.34	0.940	23.87	0.75	34.21	0.500
1000	14.76	1.812	22.69	0.875	31.91	0.511	43.79	0.409	63.11	0.271
2000	21.07	1.269	32.66	0.615	45.45	0.359	62.18	0.288	90.11	0.190
4000	30.18	0.886	46.58	0.431	64.93	0.251	88.45	0.202	129.13	0.132
6000	37.32	0.716	57.40	0.350	80.13	0.203	108.82	0.165	159.75	0.107
8000	43.44	0.615	66.64	0.302	93.13	0.175	126.12	0.142	186.01	0.092
10000	48.92	0.547	74.85	0.268	104.70	0.156	141.47	0.127	209.50	0.082
12000	53.93	0.469	82.34	0.244	115.28	0.141	155.44	0.115	231.01	0.074
14000	58.59	0.456	89.27	0.225	125.09	0.130	168.35	0.106	251.03	0.068
16000	62.98	0.425	95.78	0.210	134.30	0.121	180.43	0.099	269.86	0.063
18000	67.13	0.398	101.92	0.197	143.02	0.114	191.82	0.093	287.72	0.059
26500			125.20	0.160	176.12	0.093	234.80	0.076	355.86	0.048
40000					220.51	0.074	291.75	0.061	448.00	0.038
50000							328.50	0.055	508.53	0.034
60000									564.65	0.030
67000									601.89	0.028

Calculate Attenuation = K1*√FMHz + K2*FMHz

	VU18	VU26	VU40	VU50	VU67
K1	0.4563799	0.7156867	0.9915499	1.3707349	1.9500000
K2	0.0003280	0.0003280	0.0005549	0.0004400	0.0014500

Selecting The Suitable Cable:
Part Number Construction



Cable Type-Length Conn (I)Conn (II) - N

VU18-01000 NNM NNM-N

1 2 3 4 5

1

Cable Type	Cable Code
VEROULTRA Operating@Max 18GHz	VU18

2

Length Requirement	Length Code
1000mm	01000

3

Connector (I)	Connector Code
N Type (Male)	NNM

4

Connector (II)	Connector Code
N Type (Male)	NNM

5

With Armor	No Armor
Not Applicable	N

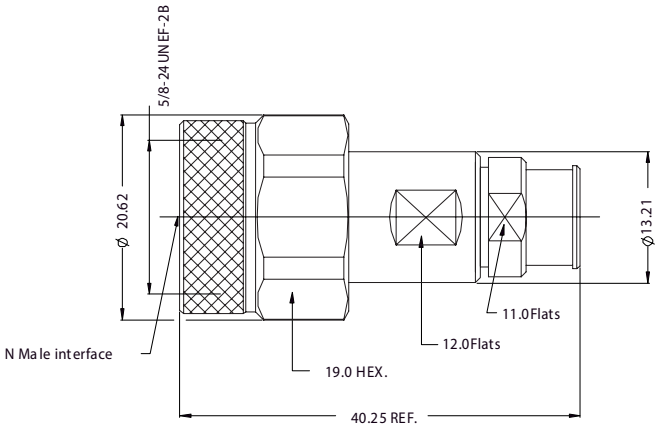
Criteria for Connector Selection

Connector Type	Mate	Connector Code			Max Operating Frequency (GHz)	VU18	VU26	VU40	VU50	VU67
7/16	M	7	16	M	7.5					
N Type	M	N	N	M	10.0					
					18.0	●	●		●	
N Type	F	N	N	F	18.0	●	●			
SC	M	C	S	M	10.0					
N RA	M	A	N	M	18.0		●			
TNC	M	T	N	M	18.0		●			
SMA RA	M	A	S	M	18.0	●	●			
SMA	F	S	M	F	18.0	●	●			
SMA	M	S	M	M	18.0	●				
					26.5		●	●	●	●
3.5mm	M	D	M	M	26.5		●	●	●	●
3.5mm	F	D	M	F	26.5		●			
2.92mm	M	K	M	M	40.0			●	●	●
2.92mm RA	M	R	K	M	40.0				●	
2.92mm	F	K	M	F	40.0				●	
2.4mm	M	L	M	M	50.0			●	●	●
2.4mm	F	L	M	F	50.0			●	●	●
1.85mm	M	V	M	M	67.0					●
1.85mm	F	V	M	F	67.0					●

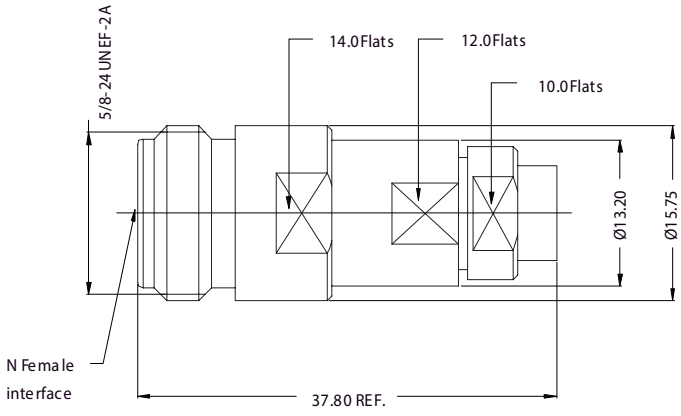
Available Standard Connectors

VU18

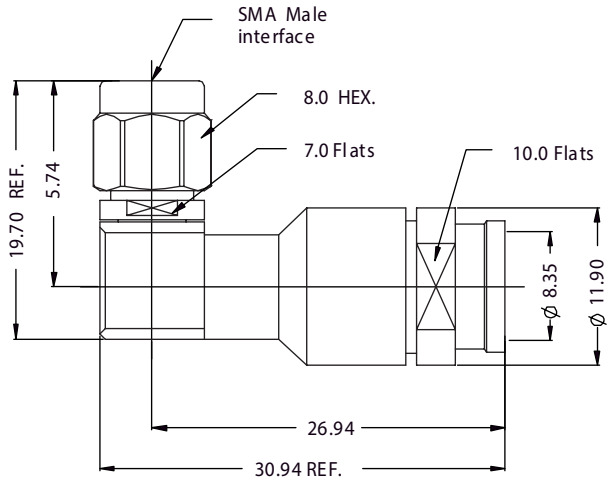
Type	N Male	Code	NNM



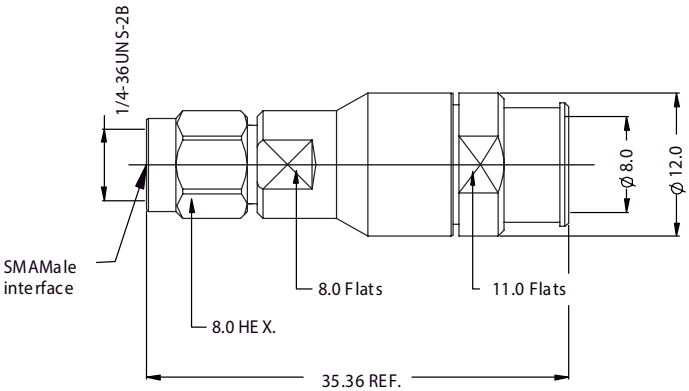
Type	N Female	Code	NNF



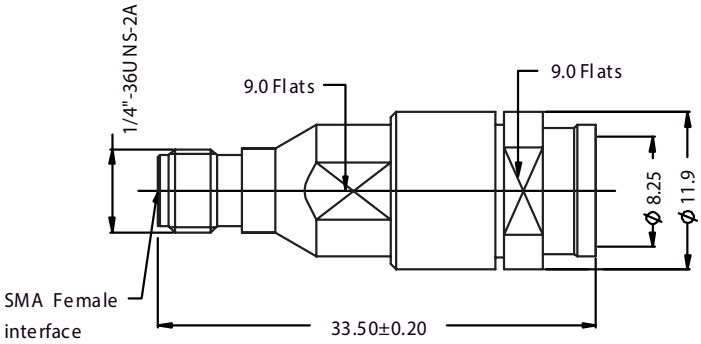
Type	SMA RA	Code	ASM



Type	SMA Male	Code	SMM



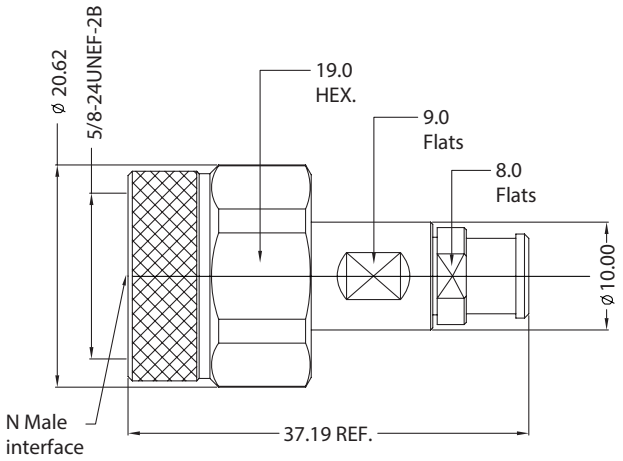
Type	SMA Female	Code	SMF



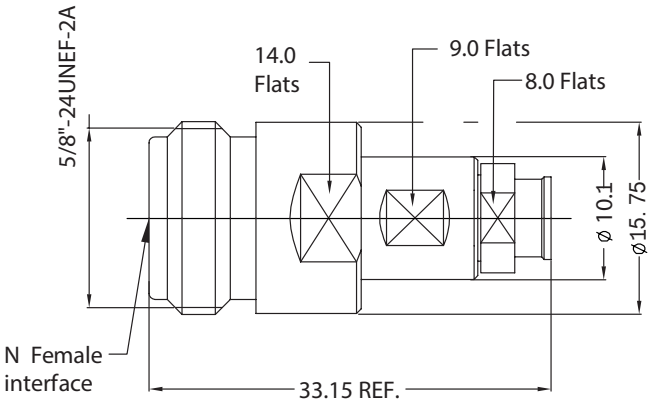
Available Standard Connectors

VU26

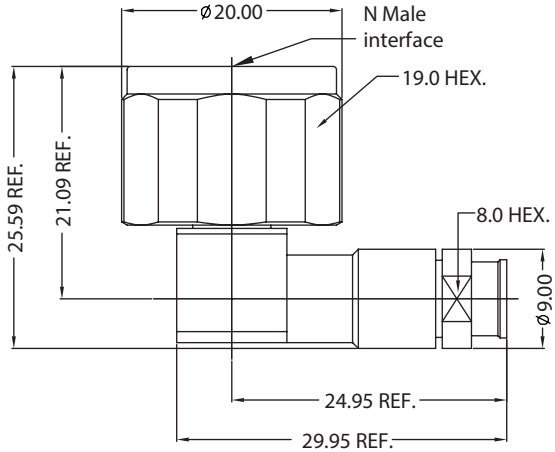
Type	N Male	Code	NNM



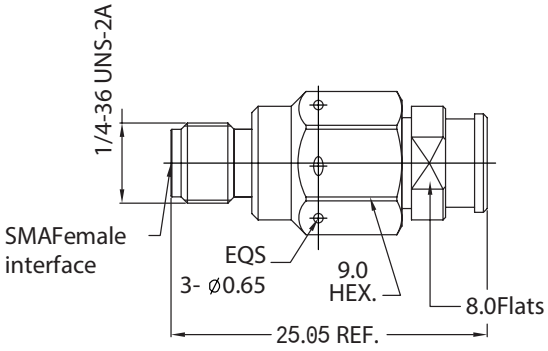
Type	N Female	Code	NNF



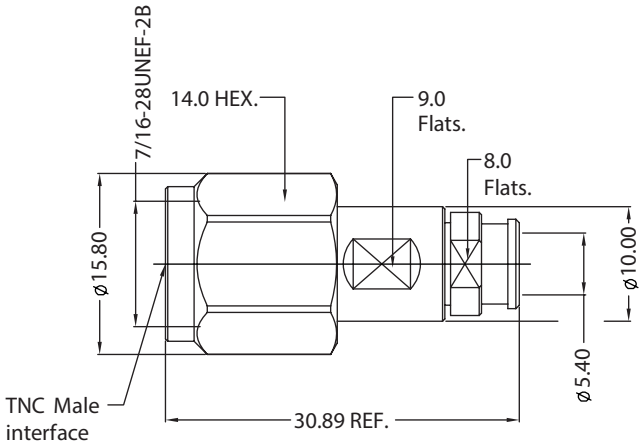
Type	N RA	Code	ANM



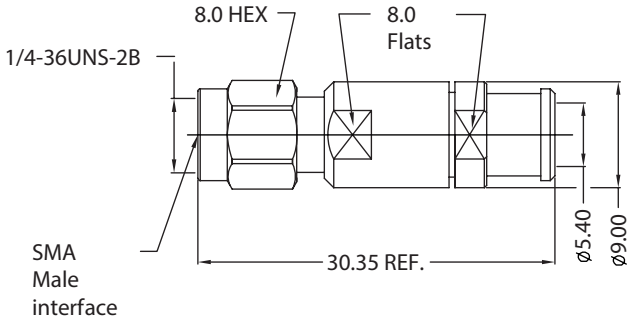
Type	SMA Female	Code	SMF



Type	TNC Male	Code	TNM



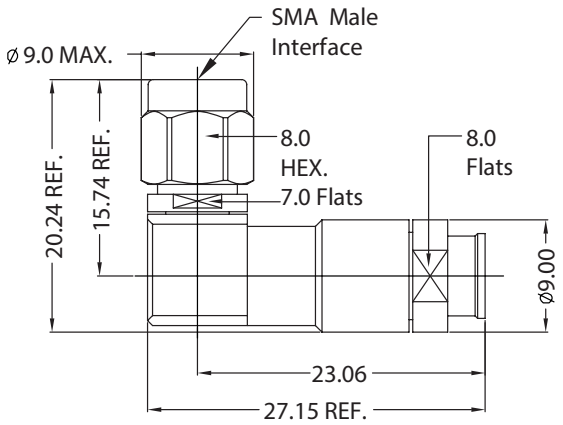
Type	SMA Male	Code	SMM



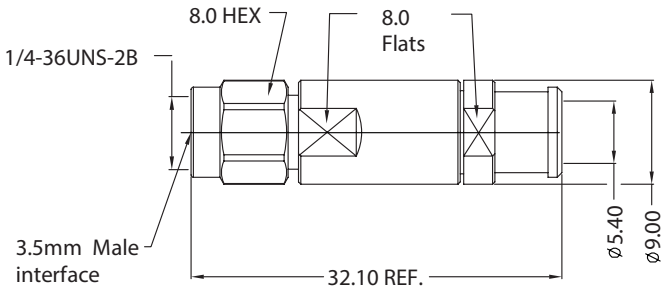
Available Standard Connectors

VU26

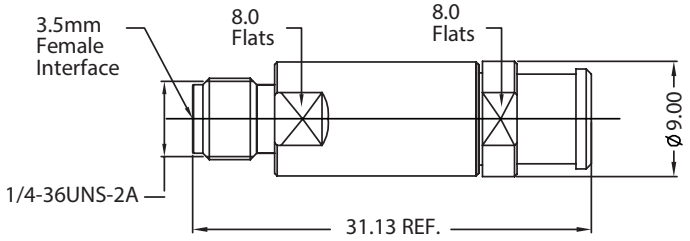
Type	SMA Male RA	Code	ASM



Type	3.5mm Male	Code	DMM

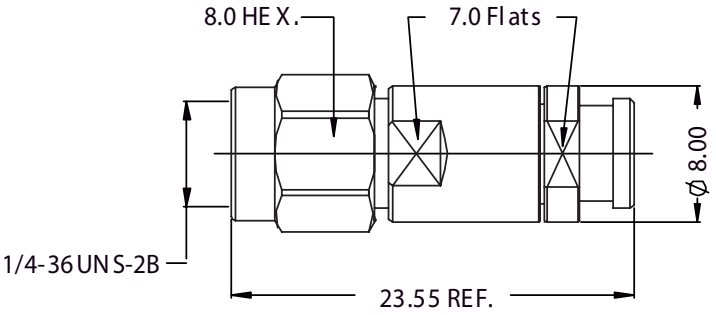


Type	3.5mm Female	Code	DMF

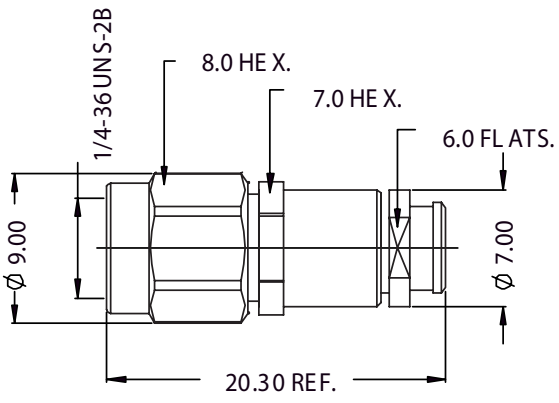


VU40

Type	SMA Male	Code	SMM



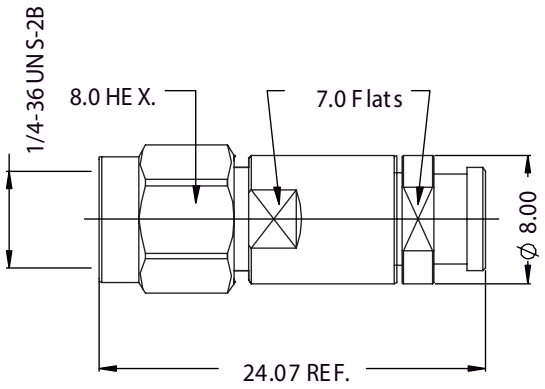
Type	2.92mm Male	Code	KMM



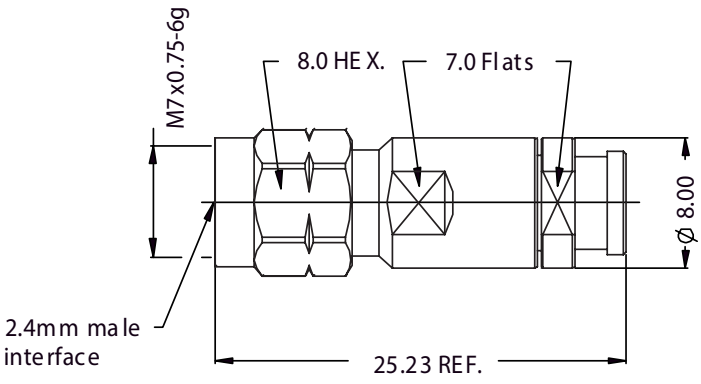
Available Standard Connectors

VU40

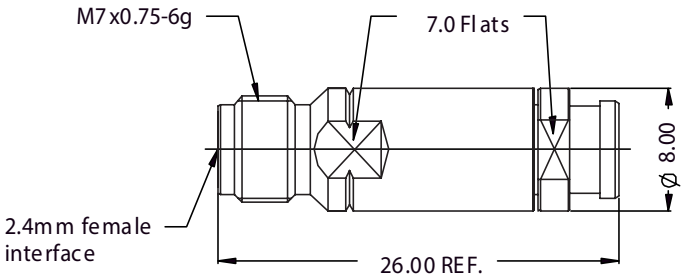
Type	3.5mm Male	Code	DMM



Type	2.4mm Male	Code	LMM

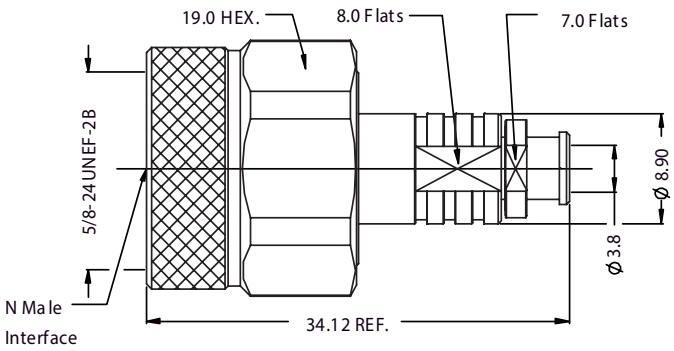


Type	2.4mm Female	Code	LMF

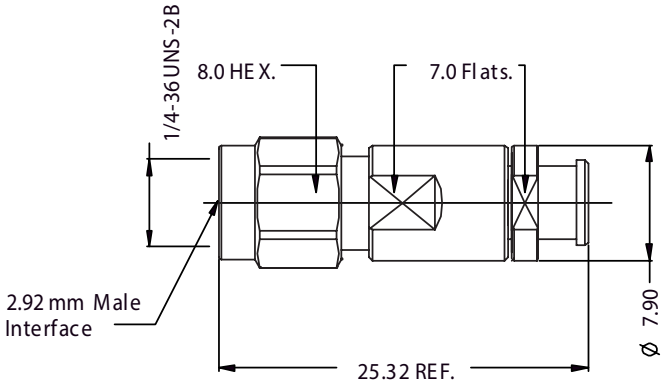


VU50

Type	N Male	Code	NNM



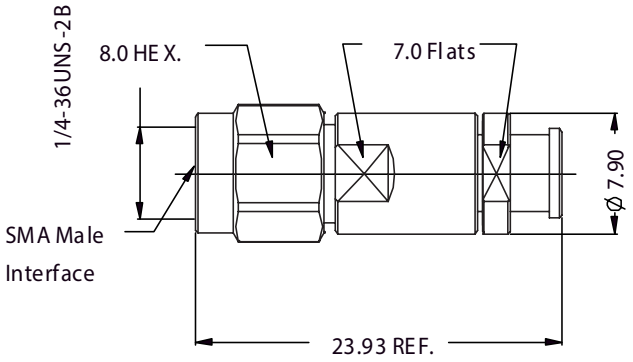
Type	2.92mm Male	Code	KMM



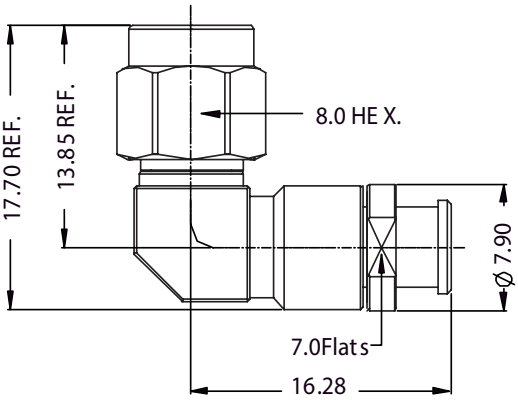
Available Standard Connectors

VU50

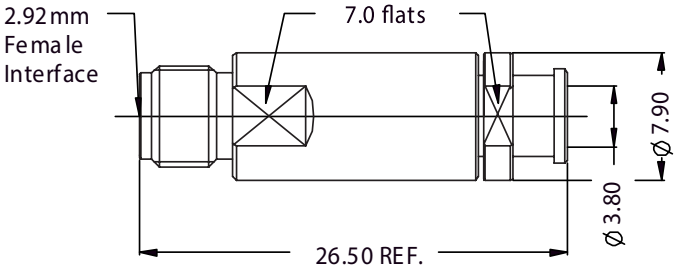
Type	SMA Male	Code	SMM



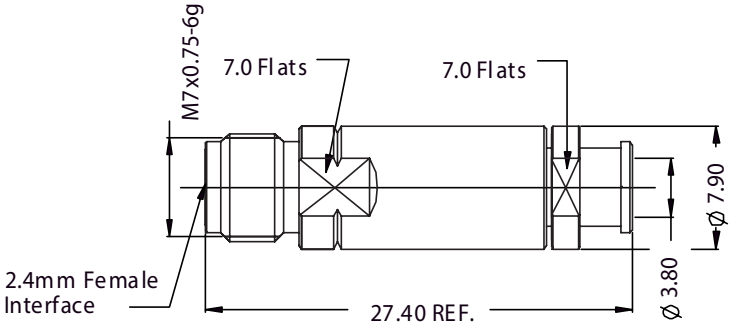
Type	2.92mm RA	Code	RKM



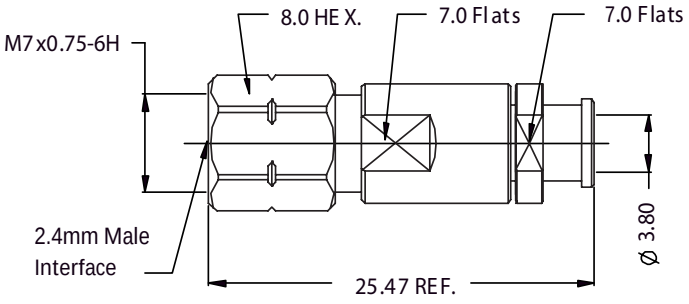
Type	2.92mm Female	Code	KMF



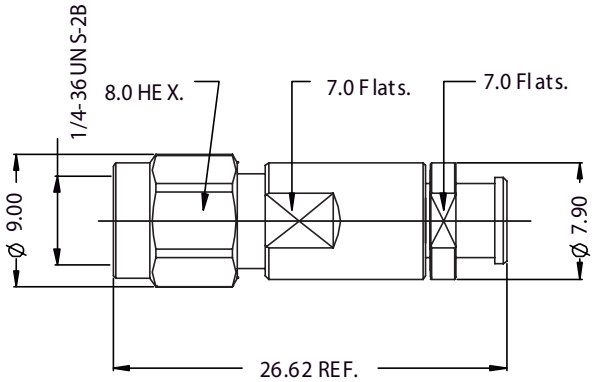
Type	2.4mm Female	Code	LMF



Type	2.4mm Male	Code	LMM



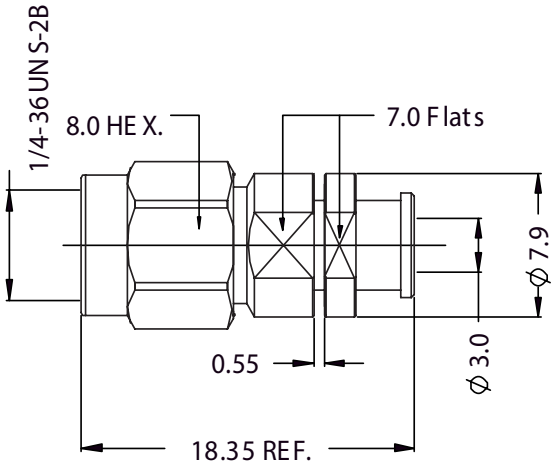
Type	3.5mm Male	Code	DMM



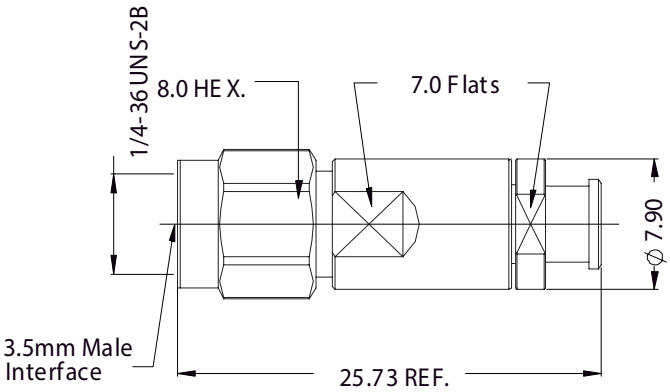
Available Standard Connectors

VU67

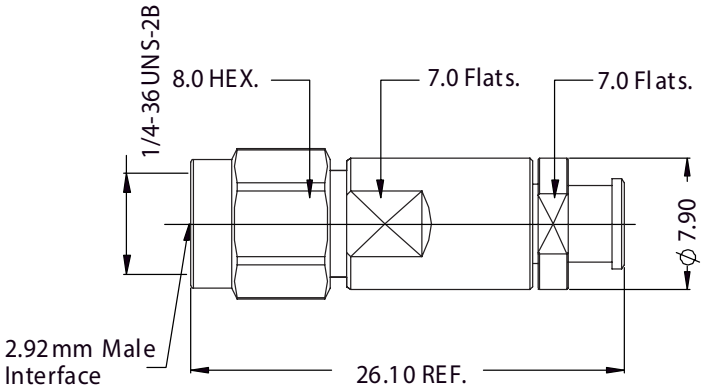
Type	SMA Male	Code	SMM



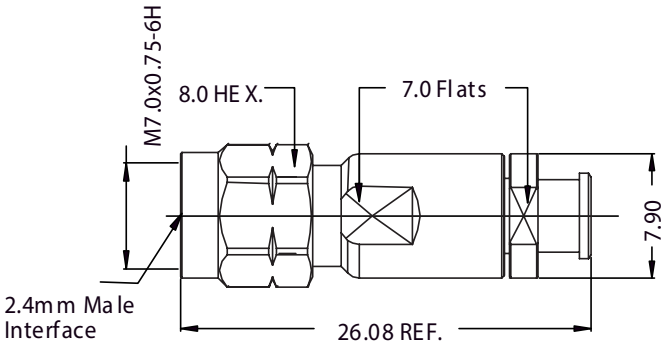
Type	3.5mm Male	Code	DMM



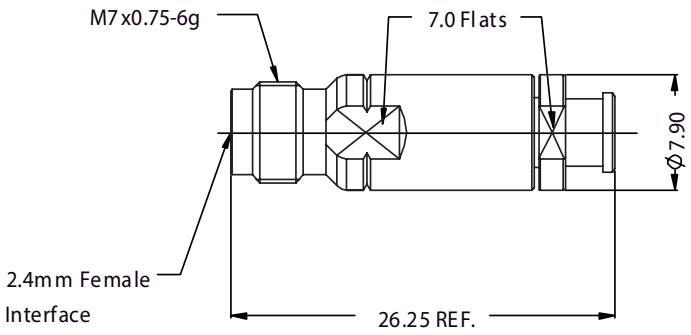
Type	2.92mm Male	Code	KMM



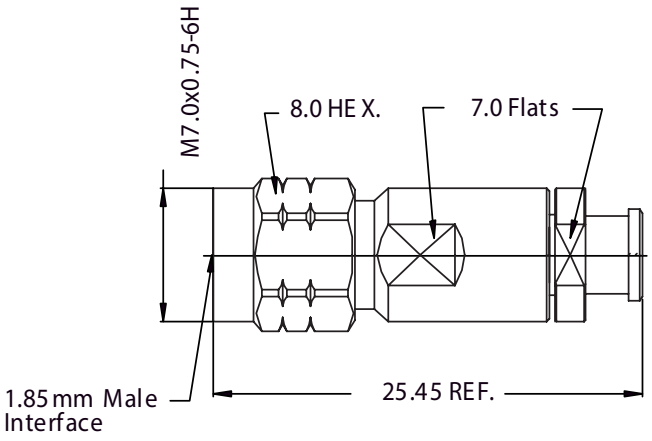
Type	2.4mm Male	Code	LMM



Type	2.4mm Female	Code	LMF



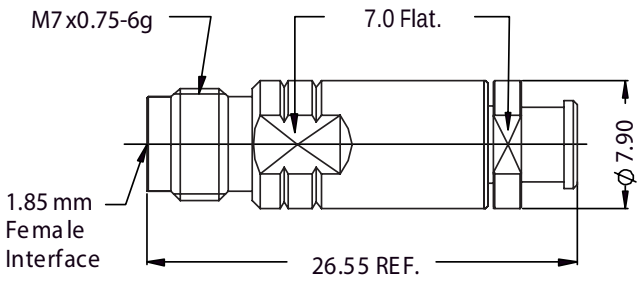
Type	1.85mm Male	Code	VMM



Available Standard Connectors

VU67

Type	1.85mm Female	Code	VMF



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