



**Model: AE-E000-40D**

Description:	Digital Controlled PIN Attenuator	
Operating Frequency:	3 – 9 GHz	
Phase-Invariant Frequency Region (<±10 Deg):	4.95 – 5.2 GHz	
Insertion Loss (0dB Attn. Ref.):	2.4 dB Max	
Attenuation Range:	0 – 40 dB Nominal Min	
Attenuation Flatness:	1.1 dB Peak-Peak	up to 10 dB
	1.3 dB Peak-Peak	up to 20 dB
	1.9 dB Peak-Peak	up to 30 dB
	2.8 dB Peak-Peak	up to 40 dB
Control Function:	8 Bit Positive Binary TTL (LSB=0.25 dB, MSB=32dB)	
Transfer Function Accuracy:	0 – 0.8 dB	±50% Max
	> 0.8 – 10 dB	±0.40 dB Max
	>10 - 30 dB	±0.50 dB Max
	> 30 - 40 dB	±0.90 dB Max
VSWR (all settings):	1.7:1 Max	
Settling Time (“±1dB of Target Setting”):	500 ns Max, (5µs<PW<0.1s)	
Power Handling:	Operating	+20 dBm CW/Peak Max
	Survival	+30 dBm CW/AVG Max
Connectors (RF):	SMA (f), Removable	
Connector (Supply & Controls):	15-Pin D-Type Male	
Temperature Coefficient (over -20°C to +75°C):	±0.025dB/°C Max	
Power Supply (internally regulated):	+12 to +15vdc @ 60mA Max	
Impedance:	50 Ohms Nominal	
Quality:	Best-Commercial-Grade	

**Environmental Ratings:**

Temperature:	{Operating: -40°C to +85°C} & {Storage: -50°C to +100°C}
Humidity:	MIL-STD-202F, Method 103B, Cond. B (96 hours at 95% R.H.)
Shock:	MIL-STD-202F, Method 213B, Cond. B (75G, 6mSec)
Vibration:	MIL-STD-202F, Method 204D, Cond. B (.06” double amplitude, or 15G)
Altitude:	MIL-STD-202F, Method 105C, Cond. B (50,000 Feet)
Temp. Shock:	MIL-STD-202F, Method 107D, Cond. A (5 cycles)

**Available Options:**

(Units with listed options here may be subject to some specification tradeoffs from the standard, consult factory)

■ RF Connectors

- B1** [ J1 SMA (male) ]
- B2** [ All SMA (male) ]

■ Transfer Functions

- F3** [ Inverse Logic (“00...00” = Max Attenuation) ]

■ Control Function Resolution

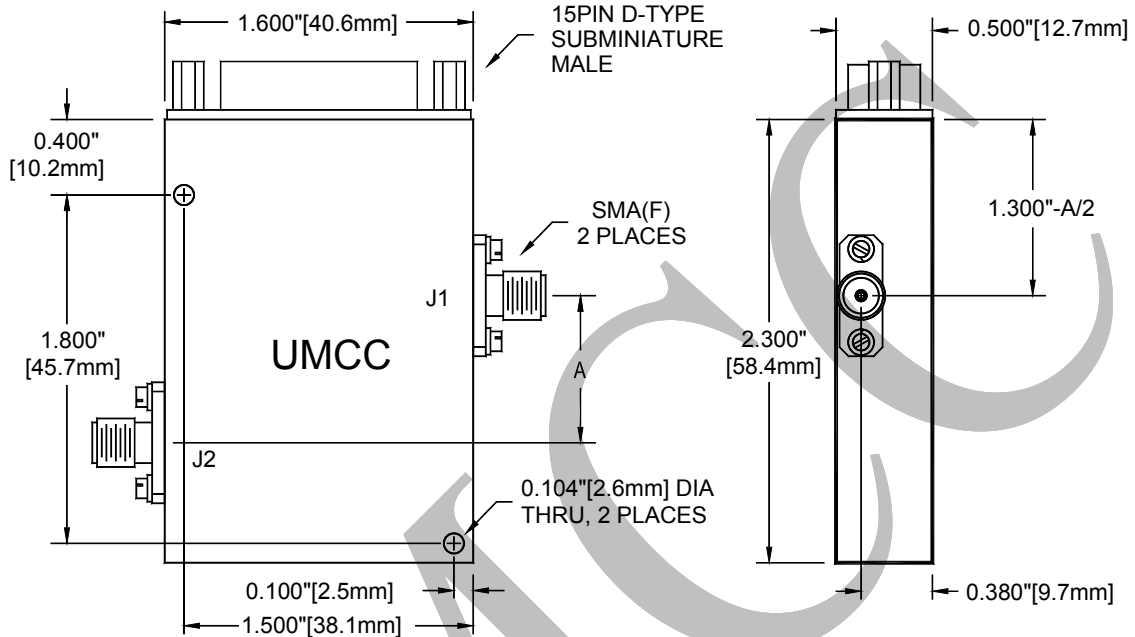
- E1** [ LSB = 1/8 dB <> 9-Bits <> “fractional steps” ]
- R1** [ LSB = 0.1 dB <> 9-Bits <> “decimal steps” ]
- E2** [ LSB = 1/16 dB <> 10-Bits <> “fractional steps” ]
- R2** [ LSB = 0.05 dB <> 10-Bits <> “decimal steps” ]
- E3** [ LSB = 1/32 dB <> 11-Bits <> “fractional steps” ]
- E4** [ LSB = 1/64 dB <> 12-Bits <> “fractional steps” ]



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**Outline**

( "A" = 0.435" [11.0mm] )



Weight	Tolerances
2.4 oz [68 g]	±0.015" [±0.38mm]

**Pin-Out Function**

PIN	Function
1	N/C
2	N/C
3	N/C
4	N/C
5	0.25 dB
6	0.5 dB
7	1.0 dB
8	2.0 dB
9	4.0 dB
10	8.0 dB
11	16.0 dB
12	32.0 dB
13	+Vdc
14	N/C
15	GND (Chassis & Digital)

