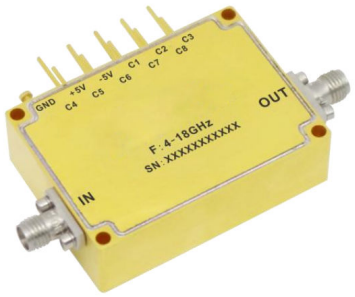
Absorptive Digital Control Attenuator 4-18GHz

Features

- Wide Band Operation 4-18GHz
- 0.25dB LSB Steps to 64dB
- Single Positive Control Line Per Bit
- Customization available upon reques



Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Parameters	Min	Typ.	Max	Min	Typ.	Max	Units
Frequency Range		4-12			12-18		GHz
Attenuation Range			64			64	dB
Attenuation Flatness (Referenced to Insertion Loss)		±1.0	±3.0		±3.0	±6.0	dB
Control Bits			8				Bit
Control Step size		0.25			0.25		dB
Insertion Loss		5.5	7.0		7.0	8.0	dB
Insertion Loss Temperature Coefficient		0.01			0.01		dB/ °C
Input VSWR (All Atten. States)		1.6	2.0		1.6	2.0	: 1
Output VSWR (All Atten. States)		1.6	2.0		1.6	2.0	: 1
Input 0.1 dB Compression Point (P0.1dB)		25			25		dBm
Input IP3		43			43		dBm
Weight			2.12				ounces
Impedance			50				Ω
Bias Current (+5V/-5V)			140 / 140				mA
Input / Output Connectors			SMA - Female				
Finish			Gold Plated				
Material			Aluminum				
Sealing			Hermetically Sealed (Laser Sealed)				

Absolute Maximum Ratings

Biasing	+5V±10%/-5V±10%
TTL Control Voltage	0~0.8V/2~5V
RF Input Power	+27dBm

Environmental Specifications

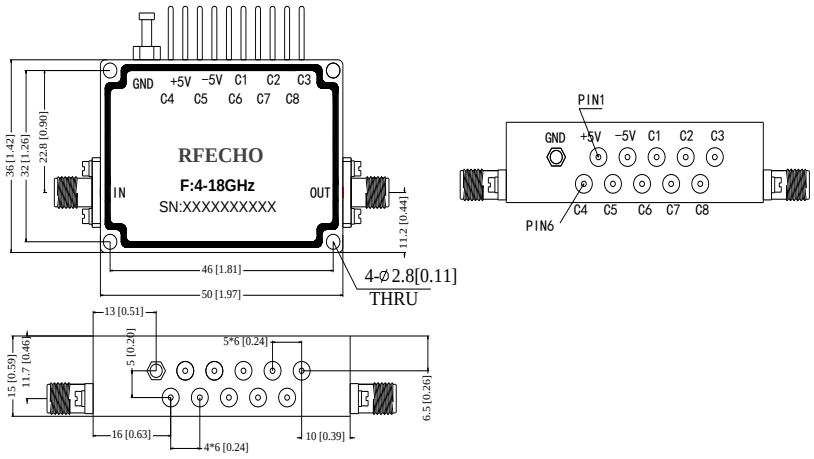
Operational Temperature	-40ºC~+85ºC
Storage Temperature	-50ºC~+105ºC
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35ºc, 95%RH at 40ºc
Shock	20G for 11msec half sine wave,3 axis both directions

Ordering Information

Part No.	Description
DBDA0804001800C	4-18GHz Digital Control Attenuator

Outline Drawing:

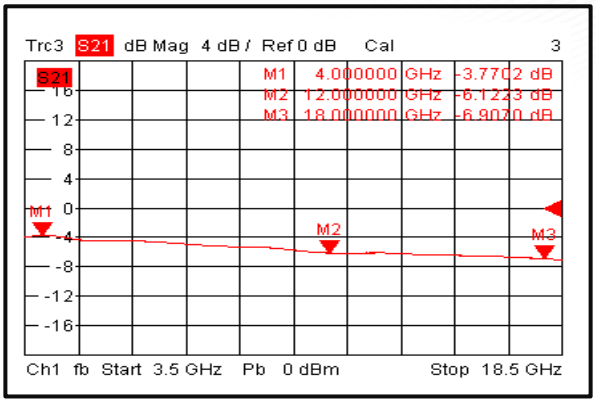
All Dimensions in mm (inches)



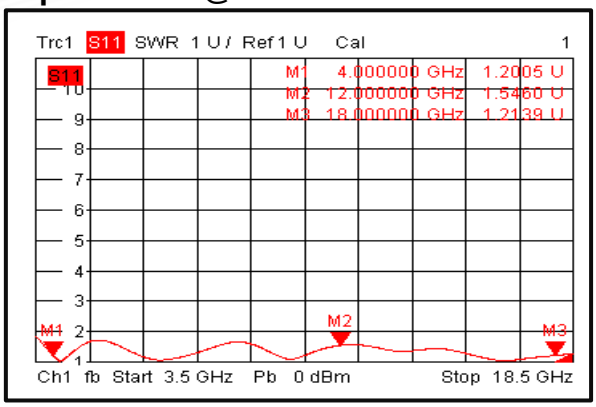
Truth Table

Control Voltage Input								Attenuation state
C8	C7	C6	C5	C4	C3	C2	C1	
1	1	1	1	1	1	1	1	Reference IL
1	1	1	1	1	1	1	0	0.25dB
1	1	1	1	1	1	0	1	0.5dB
1	1	1	1	1	0	1	1	1dB
1	1	1	1	0	1	1	1	2dB
1	1	1	0	1	1	1	1	4dB
1	1	0	1	1	1	1	1	8dB
1	0	1	1	1	1	1	1	16dB
0	1	1	1	1	1	1	1	32dB
0	0	0	0	0	0	0	0	64dB

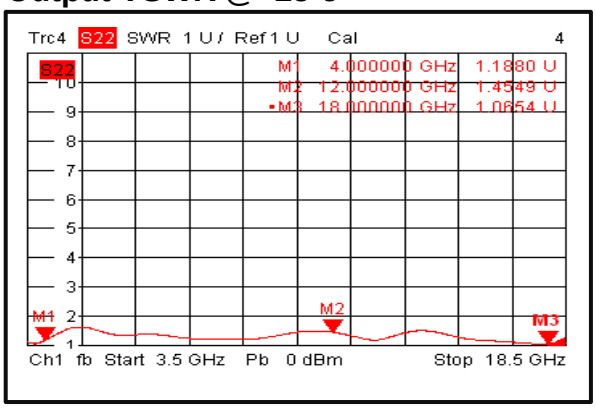
Insertion Loss @+25℃



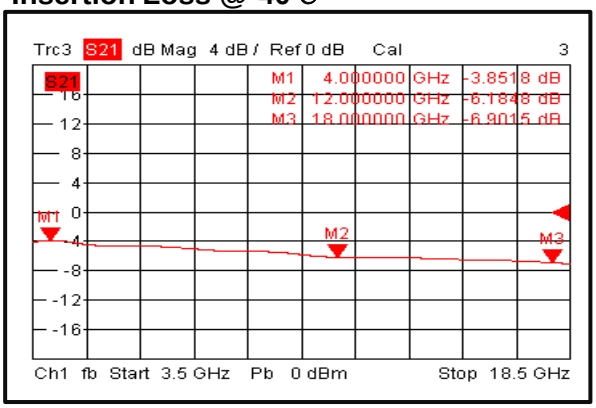
Input VSWR @+25℃



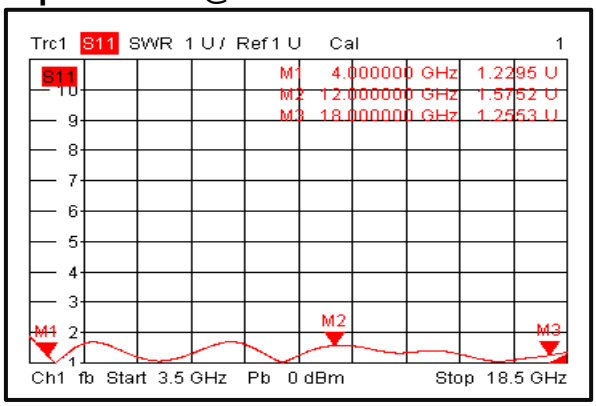
Output VSWR @+25℃



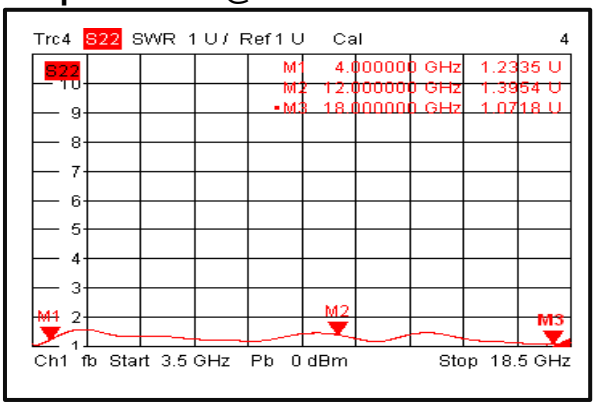
Insertion Loss @-40℃



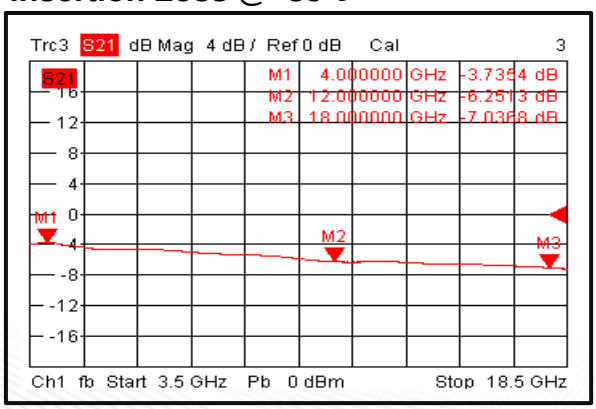
Input VSWR @-40℃



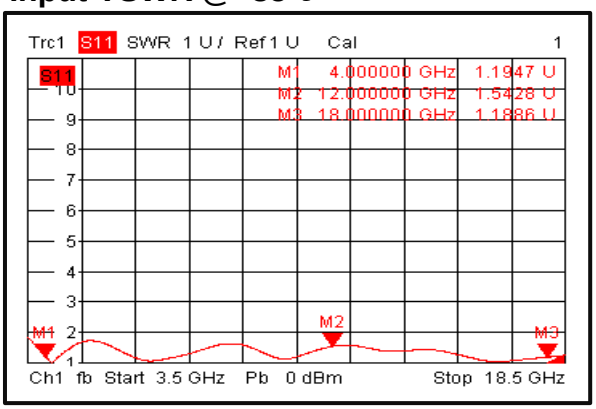
Output VSWR @-40℃



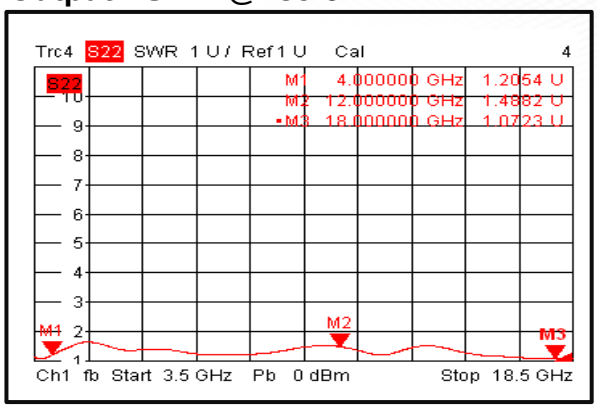
Insertion Loss @+85℃



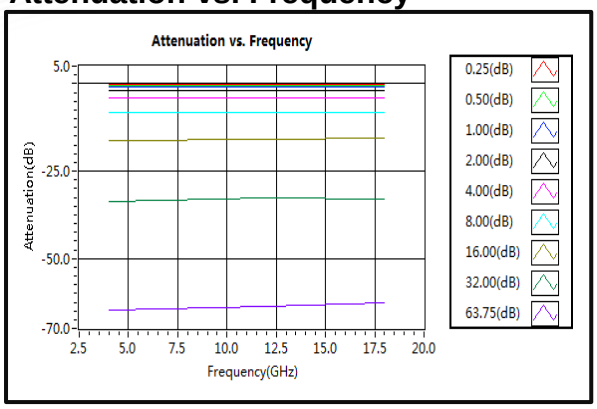
Input VSWR @+85℃



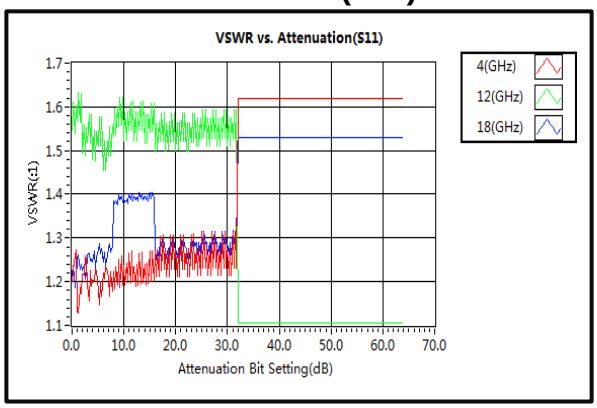
Output VSWR @+85℃



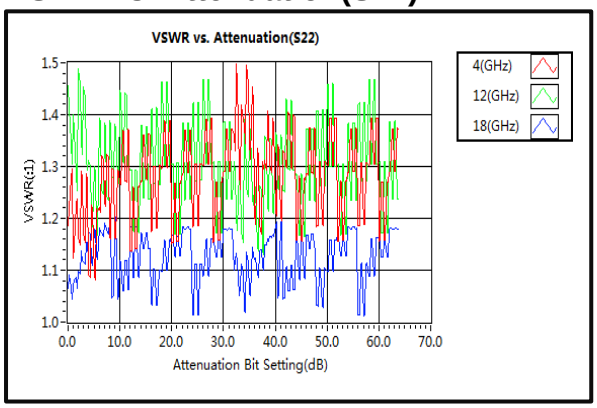
Attenuation vs. Frequency



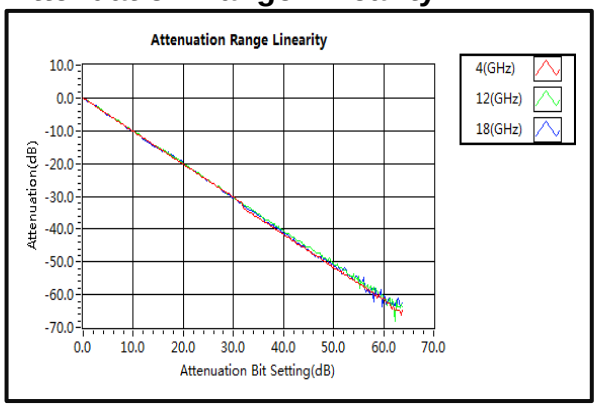
VSWR vs. Attenuation(S11)



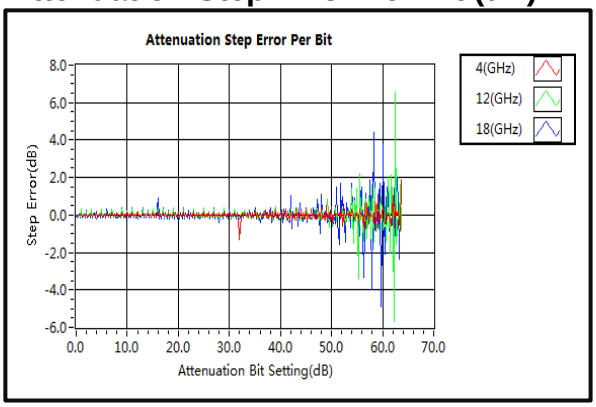
VSWR vs. Attenuation(S22)



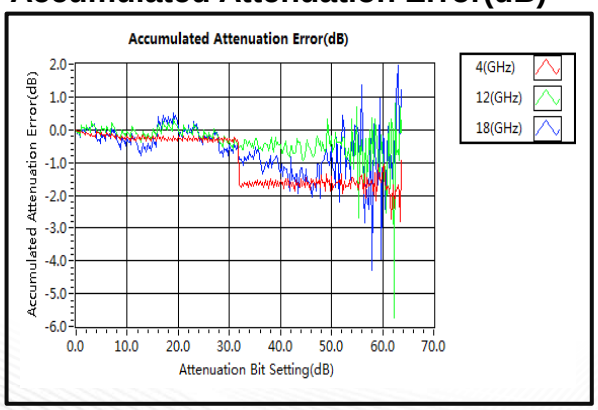
Attenuation Range Linearity



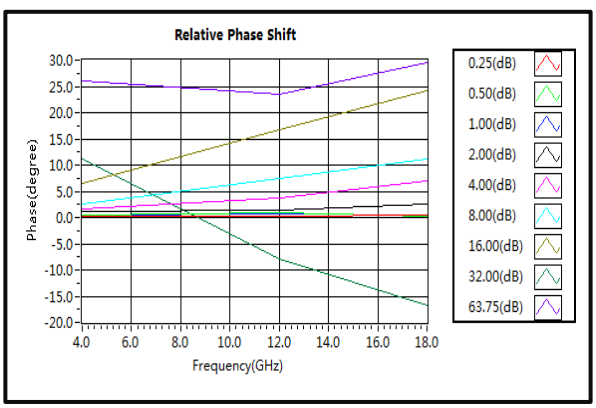
Attenuation Step Error Per Bit (dB)



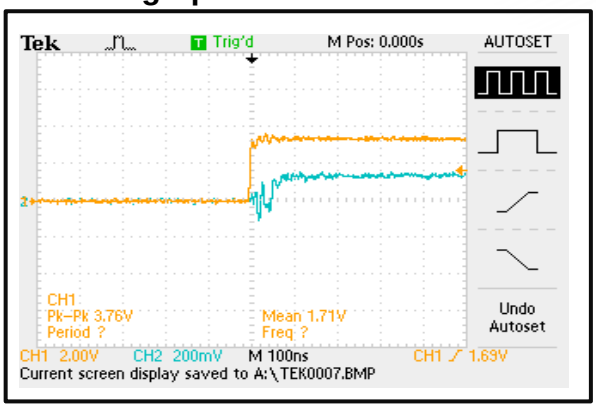
Accumulated Attenuation Error(dB)



Relative Phase Shift



Switching Speed



Switching Speed