

Programmable Attenuator

RCDAT-8G-120H

50Ω 0 – 120 dB, 0.05 dB step 200 to 8000 MHz

The Big Deal

- Wide attenuation range, 0-120 dB
- Supports U-NII bands 5-8 (5.925 to 7.125 GHz)
- Fine attenuation resolution, 0.05 dB
- Automation via Ethernet & USB
- Compact size, 2.5 x 3.0 x 0.85"



Software Package

Generic photo used for illustration purposes only

Case Style: MS1897

Included Accessories

Model No.	Description	Qty.
MUSB-CBL-3+	3.3 ft. USB cable	1

RoHS Compliant

See our web site for RoHS Compliance methodologies and qualifications

Applications

- Wi-Fi 6E MIMO development
- LTE / 5G / IoT / Bluetooth / Zigbee
- Cellular handover testing
- C-band radar / satcom testing
- Automated signal sweeping / fading

Product Overview

Mini-Circuits' RCDAT-8G-120H is a general purpose, single channel programmable attenuator suitable for a wide range of signal level control applications from 200 MHz to 8 GHz. The Attenuator provides 0 to 120 dB attenuation in 0.05 dB steps. Its unique design maintains linear attenuation change per dB, even at the highest attenuation settings.

The attenuator is housed in a compact and rugged package with SMA female connectors on the bi-directional input and output RF ports, a standard Ethernet port (RJ45) and a USB type Mini-B power and control port.

The attenuator can be controlled via USB or Ethernet (supporting HTTP, Telnet and SSH network protocols). Full software support is provided and can be downloaded from our website any time at <http://www.minicircuits.com/softwaredownload/patt.html>. The package includes our user-friendly GUI application for Windows® and a full API with programming instructions for Windows® and Linux® environments (both 32-bit and 64-bit systems).

Key Features

Feature	Advantages
USB & Ethernet control	USB HID and Ethernet (HTTP / Telnet / SSH) interfaces provide easy compatibility with a wide range of software setups and programming environments. The device draws all power requirements through the USB port.
Programmable attenuation sweep and Hop sequences	The RCDAT-8G-120H can be programmed with a timed sequence of attenuation settings, to run without any additional external control.
120 dB attenuation range.	The RCDAT-8G-120H provides high-accuracy attenuation up to 120 dB in 0.05 dB steps, allowing the user precise level control over a broad attenuation and frequency range.
High linearity	Typical input IP3 of +51 dBm up to 8000 MHz.

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Electrical Specifications ¹ at +25°C

Parameter	Frequency range	Conditions	Min.	Typ.	Max.	Units
Attenuation range	200 - 8000 MHz	0.05 dB step	0	-	105	dB
		0.10 dB step	105		120	
Attenuation setting accuracy ^{2, 3}	200 - 8000 MHz	@ 0.05 - 30 dB	-	±0.60	±(0.8+4.0% of nominal value)	dB
		@ 30.05 - 60 dB	-	±0.90	±(1.4+1.5% of nominal value)	
		@ 60.05 - 90 dB	-	±1.70	±(0.3+3.5% of nominal value)	
		@ 90.05 - 110 dB	-	±2.70	±(-3.5+8.0% of nominal value)	
	200 - 6000 MHz	@ 110.10 - 120 dB	-	±4.00	±6.5	
6000 - 8000 MHz	-		±3.30	±6.0		
Insertion Loss	200 - 2000 MHz	@ 0 dB	-	5.5	7.0	dB
	2000 - 4000 MHz		-	7.4	9.0	
	4000 - 6000 MHz		-	9.3	11.3	
	6000 - 7200 MHz		-	11	14	
	7200 - 8000 MHz		-	12.5	14.5	
Isolation In-Out	200 - 8000 MHz	Note 4	-	125	-	dB
Input operating power ⁵ (RF In and RF Out ports)	200 - 8000 MHz	@ 0 - 120 dB	-	-	+23	dBm
IP3 Input ⁶	200 - 8000 MHz	@ 0 dB setting (P _{IN} =+5 dBm)	-	+51	-	dBm
VSWR	200 - 6000 MHz	@ 0 - 120 dB	-	1.30	-	:1
	6000 - 8000 MHz	@ 0 - 120 dB	-	1.50	-	
Min Dwell Time ⁷	200 - 8000 MHz	High speed mode	-	600	-	µsec
Attenuation Transition Time ⁸	200 - 8000 MHz	to ±0.25 dB of final value	-	1	-	µsec
Supply Voltage	-	via USB port	4.75	5	5.25	V
USB current draw	-	-	-	210	330	mA
Ethernet Communication	Protocol	TCP / IP, HTTP, Telnet, SSH, DHCP, UDP (limited)				
	Max Data Rate	100 Mbps (100 Base-T Full Duplex)				
USB Communication	Protocol	HID (Human Interface Device) - High Speed				
	Min Communication Time ⁹	400 µs Typ (full transmit/receive cycle)				

¹ Attenuator RF ports are interchangeable, and support simultaneous, bidirectional signal transmission, however the specifications are guaranteed for the RF in and RF out as noted on the label. There may be minor changes in performance when injecting signals to the RF Out port.

² See pages 5-7 for performance data.

³ Max setting accuracy defined as ±[absolute error+% of attenuation setting] for example when setting the attenuator to 115 dB attenuation the maximum error at 5500 MHz will be: ±(-16+0.19x115)= ±(-16+21.85)= ± 5.85 dB

⁴ Isolation is defined as max attenuation plus insertion loss; this is the path loss through the attenuator when initially powered up. After a brief delay (-0.5 sec typically) the attenuator will revert to a user defined "power-up" state (either max attenuation or a pre-set value).

⁵ Total operating input power from both RF In and RF Out out ports. Compression level not noted as it exceeds max safe operating power level.

⁶ IP3 tested with 1 MHz span between signals.

⁷ Minimum Dwell Time is the time the RCDAT will take to respond to a command to change attenuation states without communication delays. In PC control add communication delays (on the order of msec for USB) to get actual response time.

⁸ Attenuation Transition Time is specified as the time between starting to change the attenuation state and settling on the requested attenuation state.

⁹ USB min communication time is based on the polling interval of the USB HID protocol(125 µs polling interval, 64 bytes per packet), medium CPU load and no other high speed USB devices using the USB bus.

Connections

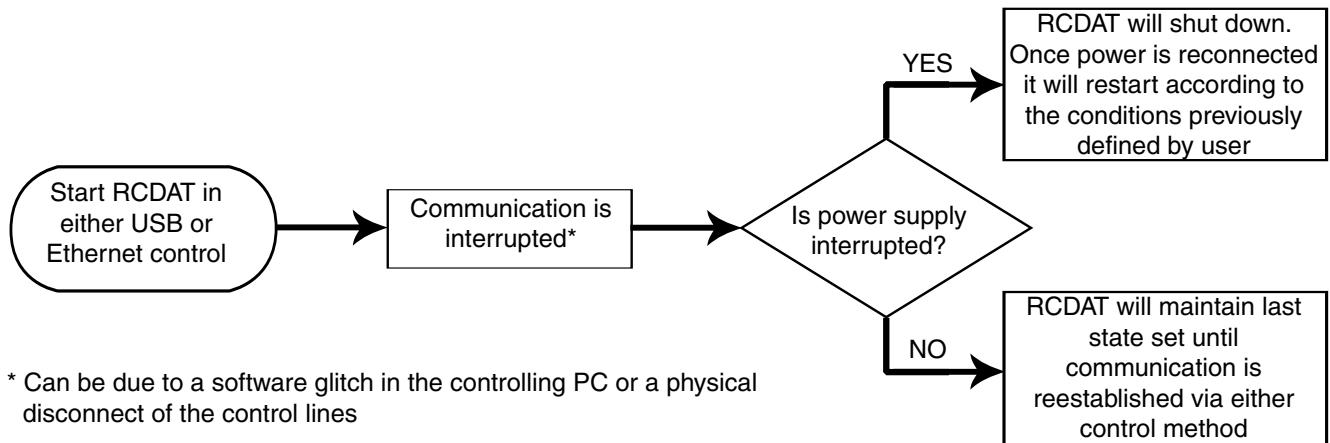
RF In	(SMA female)
RF Out	(SMA female)
USB	(USB type Mini-B female)
Network (Ethernet/LAN)	(RJ45 socket)

Absolute Maximum Ratings

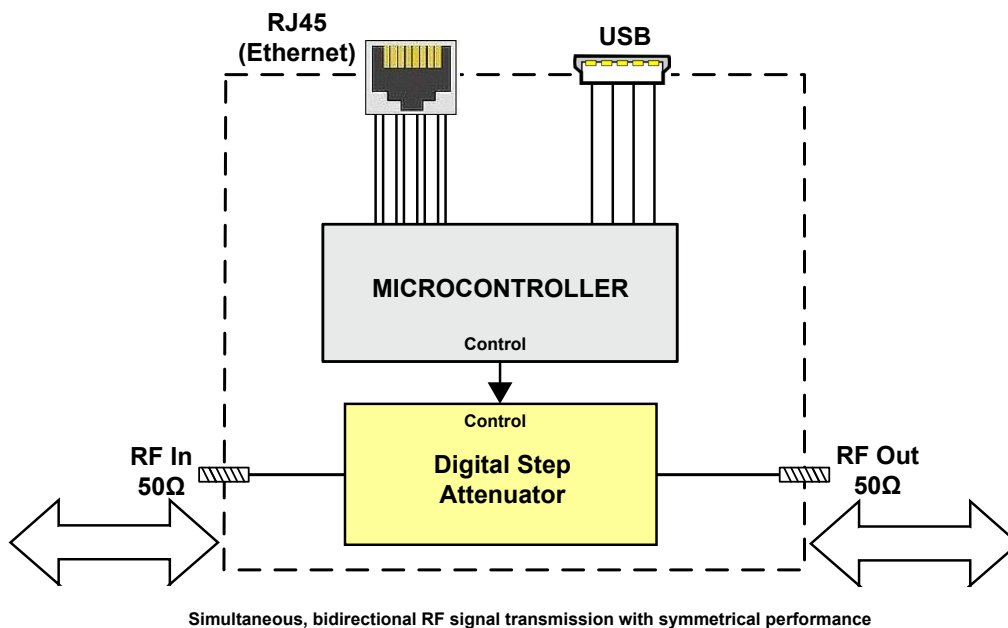
Operating Temperature	0°C to 50°C
Storage Temperature	-20°C to 85°C
V _{USB} Max.	6V
DC voltage at RF port	25V
Total RF power for RF In & RF Out	+26 dBm

Permanent damage may occur if any of these limits are exceeded. Operating in the range between operating power limits and absolute maximum ratings for extended periods of time may result in reduced life and reliability.

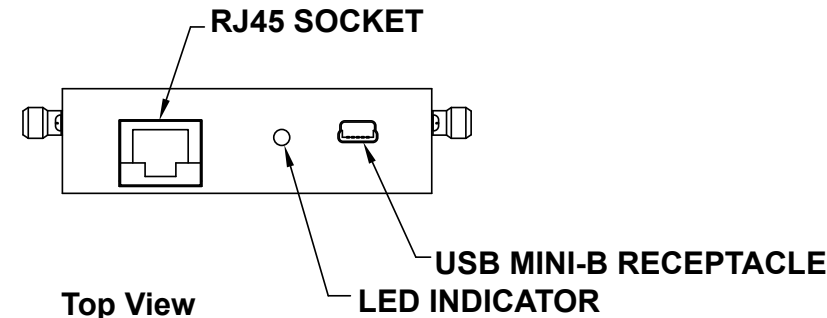
RCDAT response to communication interrupt



Block Diagram

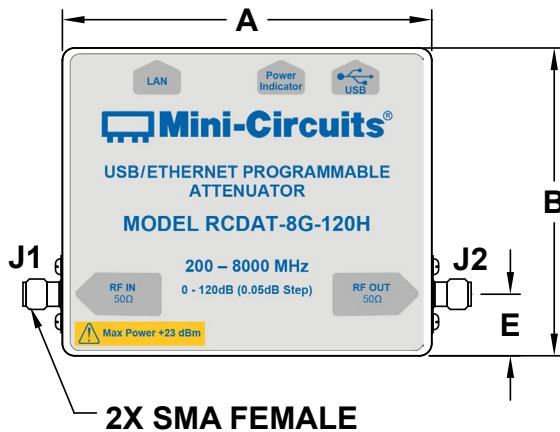


Outline Drawing (MS1897)

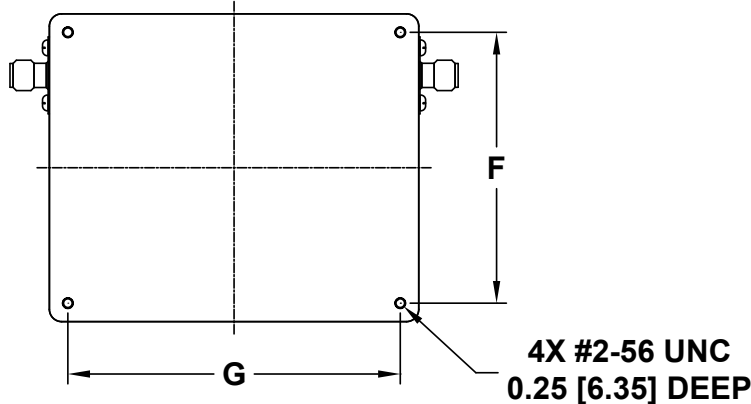


Connections

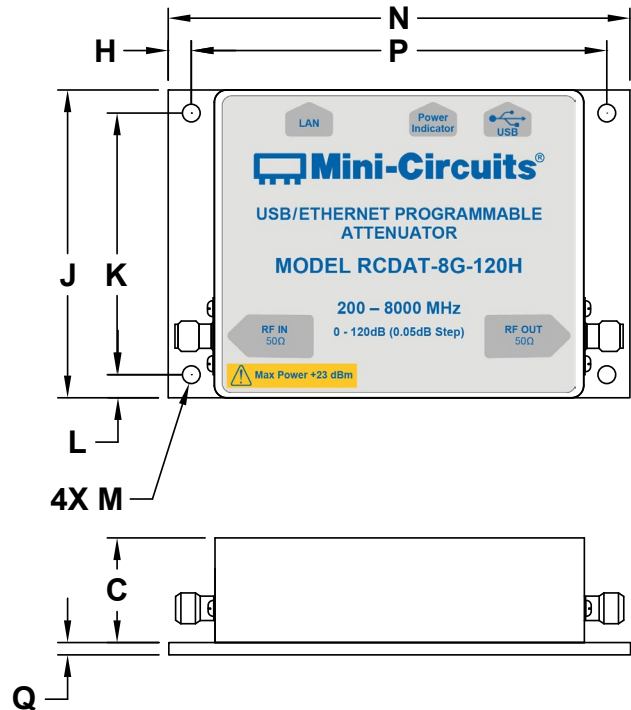
RF IN	(SMA female)
RF OUT	(SMA female)
USB	(USB type Mini-B female)
Network (Ethernet/LAN)	(RJ45 socket)



Bottom View



Bracket Option



Instruction for mounting bracket:

1. Tool required: Phillips head screwdriver
2. Mount the bracket over threaded holes on the bottom side with the fasteners provided with the bracket.

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	WT. GRAMS
3.00	2.50	0.85	0.28	0.50	2.200	2.700	0.188	2.50	2.125	0.188	0.144	3.75	3.375	0.100	200
76.2	63.5	21.3	7.1	12.7	55.88	68.58	4.76	63.5	53.98	4.76	3.66	95.3	85.72	2.54	

Tolerances: inch 2PL. ±0.03 3PL. ±0.015
mm 1PL. ±0.8 2PL. ±0.38

Typical Performance Data @ +25°C

FREQ. (MHz)	I. Loss (dB)	Attenuation relative to I. Loss (dB)												
		@ Attenuation setting (dB)												
		0.25	5	10	20	40	60	80	90	100	105	110	115	120
200	4.00	0.29	5.07	10.14	20.28	40.40	59.58	79.42	89.45	99.34	103.79	107.88	112.24	116.13
300	4.08	0.29	5.05	10.11	20.30	40.32	59.64	79.25	89.27	98.84	103.32	107.38	111.75	115.65
400	4.20	0.29	5.02	10.07	20.27	40.21	59.60	79.03	89.05	98.42	102.86	106.96	111.35	115.22
500	4.33	0.28	4.98	10.01	20.24	40.11	59.48	78.83	88.86	98.17	102.59	106.70	111.13	115.03
750	4.71	0.27	4.88	9.89	20.12	39.93	59.22	78.63	88.71	98.23	102.88	106.98	111.40	115.49
1000	4.99	0.27	4.84	9.87	20.08	39.88	59.36	78.90	89.01	98.72	103.62	107.72	112.12	116.52
1250	5.15	0.27	4.89	9.96	20.14	39.97	59.61	79.24	89.38	99.19	103.90	108.01	112.55	116.88
1500	5.28	0.27	4.95	10.08	20.24	40.12	59.67	79.36	89.50	99.38	104.34	108.48	113.01	117.43
1750	5.49	0.27	4.98	10.14	20.29	40.21	59.86	79.59	89.75	99.69	104.78	108.94	113.49	117.84
2000	5.81	0.26	4.98	10.16	20.28	40.24	60.05	79.83	90.00	99.98	105.01	109.18	113.81	118.36
2250	5.97	0.26	4.99	10.19	20.29	40.28	60.07	79.89	90.08	100.10	105.33	109.50	114.15	118.74
2500	6.07	0.26	5.02	10.24	20.33	40.34	60.19	80.06	90.28	100.32	105.60	109.80	114.51	119.18
2750	6.24	0.27	5.04	10.26	20.35	40.39	60.33	80.25	90.50	100.57	105.84	110.04	114.76	119.28
3000	6.48	0.27	5.05	10.24	20.36	40.43	60.33	80.30	90.60	100.70	106.12	110.30	115.18	119.79
3250	6.72	0.27	5.09	10.23	20.39	40.50	60.42	80.44	90.79	100.94	106.31	110.68	115.48	120.16
3500	6.93	0.28	5.17	10.25	20.47	40.63	60.52	80.59	91.01	101.19	106.63	111.05	115.87	120.61
3750	7.12	0.29	5.26	10.30	20.58	40.80	60.59	80.71	91.17	101.37	106.92	111.27	116.29	121.26
4000	7.35	0.30	5.32	10.33	20.65	40.93	60.69	80.86	91.37	101.64	107.14	111.52	116.59	121.64
4250	7.66	0.31	5.31	10.30	20.64	40.97	60.66	80.88	91.45	101.76	107.26	111.72	116.99	121.93
4500	8.03	0.32	5.25	10.22	20.57	40.95	60.64	80.91	91.53	101.85	107.39	111.76	117.26	122.42
4750	8.39	0.32	5.19	10.16	20.52	40.95	60.58	80.92	91.61	101.93	107.41	112.02	117.45	122.26
5000	8.68	0.31	5.17	10.13	20.53	40.99	60.58	80.97	91.68	102.02	107.58	112.15	117.54	122.84
5250	8.91	0.32	5.20	10.17	20.59	41.10	60.73	81.15	91.86	102.20	107.80	112.48	117.75	123.22
5500	9.12	0.32	5.23	10.24	20.68	41.23	60.88	81.34	92.02	102.34	107.91	112.54	117.85	123.31
5750	9.37	0.33	5.27	10.30	20.73	41.36	61.01	81.48	92.10	102.47	108.09	112.72	118.20	123.73
6000	9.73	0.35	5.28	10.34	20.72	41.42	61.16	81.63	92.14	102.51	108.26	112.63	118.10	123.21
6250	10.27	0.36	5.25	10.30	20.59	41.32	61.12	81.56	91.98	102.32	107.98	112.35	117.83	123.05
6500	10.98	0.36	5.13	10.17	20.34	41.03	60.88	81.30	91.58	102.00	107.66	112.11	117.11	122.47
6750	11.75	0.35	5.00	10.01	20.10	40.66	60.54	80.94	91.16	101.65	107.07	111.58	116.64	121.60
7000	12.34	0.34	4.93	9.96	20.04	40.39	60.29	80.61	90.74	101.23	106.88	110.95	116.29	120.90
7200	12.57	0.33	4.96	10.04	20.21	40.34	60.28	80.53	90.64	101.08	106.54	110.67	116.11	121.06
7400	12.64	0.33	5.04	10.19	20.52	40.39	60.35	80.48	90.60	101.09	106.46	110.87	116.17	120.90
7600	12.63	0.33	5.14	10.33	20.85	40.46	60.45	80.48	90.59	101.06	106.38	110.63	115.86	120.40
7800	12.67	0.33	5.21	10.39	21.09	40.43	60.42	80.31	90.42	100.66	105.79	109.96	115.22	119.31
8000	12.85	0.34	5.24	10.34	21.18	40.25	60.21	79.94	90.01	99.92	104.94	109.09	113.85	117.98

FREQ. (MHz)	I. Loss (dB)	Attenuation relative to I. Loss Fine resolution (0.05 dB)														
		@ Attenuation setting (dB)														
		7.40	7.45	7.50	7.55	7.60	67.40	67.45	67.50	67.55	67.60	100.40	100.45	100.50	100.55	100.60
200	4.00	7.60	7.65	7.69	7.74	7.79	66.93	66.98	67.04	67.09	67.13	99.72	99.78	99.82	99.86	99.92
300	4.08	7.57	7.62	7.66	7.71	7.77	66.99	67.04	67.10	67.15	67.19	99.23	99.27	99.31	99.37	99.43
400	4.20	7.53	7.58	7.62	7.67	7.72	66.96	67.01	67.07	67.11	67.16	98.80	98.86	98.96	98.94	99.00
500	4.33	7.48	7.54	7.57	7.63	7.68	66.84	66.88	66.94	66.99	67.03	98.57	98.61	98.67	98.73	98.77
750	4.71	7.38	7.43	7.46	7.52	7.58	66.59	66.63	66.68	66.73	66.78	98.63	98.69	98.82	98.77	98.83
1000	4.99	7.37	7.42	7.45	7.51	7.56	66.74	66.79	66.83	66.88	66.94	99.15	99.19	99.13	99.28	99.34
1250	5.15	7.45	7.50	7.53	7.59	7.65	67.01	67.06	67.09	67.15	67.20	99.61	99.66	99.37	99.74	99.80
1500	5.28	7.55	7.60	7.63	7.68	7.74	67.08	67.14	67.15	67.21	67.27	99.81	99.84	99.80	99.94	99.99
1750	5.49	7.59	7.64	7.66	7.72	7.78	67.29	67.35	67.36	67.42	67.48	100.10	100.14	100.18	100.23	100.30
2000	5.81	7.60	7.65	7.67	7.72	7.78	67.50	67.55	67.56	67.62	67.68	100.40	100.47	100.37	100.54	100.58
2250	5.97	7.63	7.69	7.69	7.75	7.81	67.53	67.59	67.60	67.66	67.72	100.53	100.58	100.67	100.68	100.73
2500	6.07	7.68	7.74	7.74	7.80	7.86	67.67	67.73	67.74	67.80	67.86	100.75	100.81	100.90	100.91	100.93
2750	6.24	7.70	7.75	7.75	7.81	7.87	67.83	67.88	67.90	67.96	68.02	101.00	101.07	101.12	101.15	101.21
3000	6.48	7.65	7.71	7.71	7.77	7.83	67.86	67.91	67.93	67.99	68.05	101.17	101.21	101.34	101.27	101.35
3250	6.72	7.59	7.64	7.66	7.71	7.77	67.98	68.03	68.05	68.11	68.17	101.36	101.43	101.57	101.52	101.60
3500	6.93	7.54	7.60	7.62	7.68	7.73	68.11	68.17	68.19	68.24	68.30	101.62	101.70	101.83	101.77	101.82
3750	7.12	7.53	7.58	7.62	7.67	7.73	68.23	68.28	68.30	68.36	68.42	101.85	101.94	102.10	101.98	102.05
4000	7.35	7.54	7.59	7.62	7.68	7.74	68.38	68.44	68.45	68.51	68.57	102.08	102.16	102.33	102.23	102.31
4250	7.66	7.53	7.59	7.61	7.67	7.73	68.41	68.47	68.47	68.54	68.60	102.22	102.28	102.44	102.36	102.45
4500	8.03	7.51	7.57	7.56	7.63	7.69	68.46	68.52	68.50	68.57	68.64	102.33	102.40	102.61	102.46	102.55
4750	8.39	7.49	7.55	7.52	7.59	7.66	68.48	68.55	68.51	68.58	68.66	102.46	102.50	102.63	102.55	102.66
5000	8.68	7.49	7.57	7.51	7.58	7.66	68.54	68.61	68.55	68.63	68.71	102.53	102.62	102.76	102.69	102.75
5250	8.91	7.54	7.62	7.54	7.62	7.70	68.73	68.81	68.73	68.82	68.90	102.75	102.82	103.00	102.85	102.93
5500	9.12	7.61	7.69	7.59	7.68	7.76	68.92	69.00	68.91	69.00	69.08	102.93	103.01	103.12	103.02	103.10
5750	9.37	7.68	7.76	7.64	7.73	7.82	69.08	69.16	69.06	69.14	69.23	103.05	103.09	103.26	103.15	103.20
6000	9.73	7.72	7.81	7.68	7.77	7.86	69.24	69.32	69.22	69.30	69.39	103.07	103.16	103.30	103.15	103.28
6250	10.27	7.71	7.79	7.65	7.75	7.84	69.21	69.29	69.19	69.27	69.36	102.93	102.94	103.06	102.96	103.03
6500	10.98	7.62	7.70	7.56	7.65	7.74	68.99	69.07	68.97	69.06	69.14	102.55	102.65	102.73	102.68	102.78
6750	11.75	7.52	7.60	7.46	7.55	7.63	68.66	68.74	68.66	68.74	68.82	102.17	102.26	102.32	102.23	102.33
7000	12.34	7.50	7.58	7.45	7.53	7.61	68.43	68.50	68.42	68.50	68.58	101.79	101.85	101.96	101.82	101.97
7200	12.57	7.58	7.65	7.52	7.60	7.68	68.41	68.48	68.41	68.48	68.56	101.63	101.68	101.76	101.66	101.76
7400	12.64	7.69	7.76	7.64	7.72	7.79	68.46	68.53	68.45	68.53	68.61	101.63	101.73	101.88	101.75	101.84
7600	12.63	7.78	7.86	7.72	7.81	7.89	68.53	68.60	68.51	68.59	68.66	101.62	101.71	101.76	101.67	101.81
7800	12.67	7.80	7.88	7.74	7.82	7.91	68.44	68.52	68.41	68.49	68.57	101.15	101.26	101.36	101.31	101.42
8000	12.85	7.73	7.81	7.65	7.74	7.83	68.15	68.23	68.11	68.19	68.28	100.53	100.60	100.66	100.58	100.70



Typical Performance Data @ 0°C

FREQ. (MHz)	I. Loss (dB)	Attenuation relative to I. Loss (dB)													
		@ Attenuation setting (dB)													
		0.25	5	10	20	40	60	80	90	100	105	110	115	120	
200	3.94	0.29	5.08	10.12	20.34	40.49	59.36	79.28	89.38	99.31	104.12	108.25	112.61	116.49	
300	3.99	0.29	5.08	10.12	20.37	40.43	59.51	79.20	89.28	98.91	103.65	107.73	112.14	115.98	
400	4.10	0.28	5.05	10.08	20.35	40.32	59.47	78.98	89.06	98.47	103.20	107.30	111.72	115.52	
500	4.24	0.28	5.01	10.03	20.31	40.22	59.29	78.71	88.81	98.16	102.92	107.04	111.42	115.41	
750	4.60	0.27	4.90	9.90	20.18	40.03	59.12	78.61	88.75	98.30	103.22	107.36	111.82	116.01	
1000	4.88	0.26	4.85	9.87	20.13	39.97	59.37	79.00	89.15	98.93	103.94	108.10	112.67	116.78	
1250	5.04	0.26	4.88	9.96	20.19	40.05	59.40	79.11	89.28	99.14	104.25	108.41	112.92	117.18	
1500	5.16	0.26	4.95	10.06	20.29	40.19	59.66	79.44	89.64	99.57	104.68	108.84	113.49	117.78	
1750	5.37	0.26	4.98	10.12	20.34	40.28	59.92	79.73	89.96	99.94	105.09	109.30	113.98	118.33	
2000	5.69	0.26	4.99	10.14	20.35	40.31	60.00	79.85	90.11	100.14	105.34	109.52	114.15	118.79	
2250	5.86	0.26	5.00	10.18	20.36	40.36	60.19	80.09	90.37	100.46	105.68	109.89	114.59	119.07	
2500	5.94	0.26	5.03	10.22	20.39	40.42	60.30	80.25	90.55	100.67	105.92	110.20	114.88	119.61	
2750	6.11	0.26	5.05	10.25	20.42	40.48	60.43	80.44	90.77	100.90	106.21	110.53	115.17	119.81	
3000	6.34	0.26	5.07	10.25	20.43	40.53	60.53	80.59	90.95	101.11	106.45	110.81	115.62	120.30	
3250	6.57	0.27	5.11	10.25	20.46	40.61	60.61	80.72	91.13	101.35	106.73	111.07	115.93	120.43	
3500	6.77	0.27	5.19	10.28	20.55	40.75	60.74	80.90	91.36	101.61	107.02	111.45	116.46	121.25	
3750	6.96	0.29	5.29	10.32	20.66	40.92	60.87	81.08	91.59	101.91	107.34	111.69	116.74	121.49	
4000	7.20	0.30	5.34	10.34	20.73	41.04	60.93	81.19	91.77	102.10	107.53	111.99	117.07	122.07	
4250	7.51	0.31	5.32	10.30	20.71	41.06	60.85	81.17	91.82	102.19	107.58	112.09	117.33	122.53	
4500	7.88	0.31	5.27	10.22	20.64	41.03	60.87	81.24	91.94	102.35	107.79	112.30	117.76	122.82	
4750	8.21	0.31	5.22	10.16	20.60	41.02	60.78	81.20	91.94	102.38	107.78	112.40	117.70	122.91	
5000	8.48	0.31	5.20	10.13	20.61	41.05	60.80	81.27	92.05	102.49	107.89	112.50	117.89	123.61	
5250	8.70	0.31	5.21	10.16	20.67	41.13	60.93	81.44	92.21	102.66	108.11	112.81	118.40	123.68	
5500	8.91	0.32	5.25	10.22	20.75	41.25	61.08	81.61	92.37	102.81	108.25	112.89	118.50	124.09	
5750	9.14	0.33	5.28	10.30	20.81	41.37	61.27	81.82	92.52	102.95	108.47	113.13	118.70	124.03	
6000	9.50	0.34	5.31	10.36	20.81	41.43	61.40	81.95	92.52	102.96	108.52	113.10	118.76	124.43	
6250	10.01	0.35	5.28	10.33	20.68	41.32	61.31	81.85	92.30	102.78	108.29	112.62	117.96	123.31	
6500	10.74	0.36	5.17	10.19	20.42	41.03	61.07	81.59	91.96	102.49	107.99	112.41	117.71	123.31	
6750	11.52	0.35	5.02	10.02	20.15	40.62	60.70	81.17	91.42	101.97	107.53	111.96	117.09	122.20	
7000	12.13	0.33	4.94	9.95	20.07	40.33	60.41	80.80	91.00	101.61	107.10	111.49	116.53	121.78	
7200	12.38	0.32	4.97	10.02	20.22	40.25	60.41	80.73	90.91	101.53	106.82	111.13	116.36	121.44	
7400	12.45	0.32	5.05	10.16	20.52	40.29	60.47	80.67	90.81	101.44	106.71	111.04	116.06	121.36	
7600	12.43	0.32	5.15	10.30	20.86	40.35	60.56	80.65	90.81	101.43	106.61	111.08	116.62	121.76	
7800	12.46	0.32	5.21	10.36	21.11	40.32	60.52	80.46	90.61	101.03	106.06	110.43	115.55	120.07	
8000	12.62	0.33	5.24	10.32	21.19	40.13	60.33	80.10	90.21	100.32	105.29	109.34	114.20	118.46	

FREQ. (MHz)	I. Loss (dB)	Attenuation relative to I. Loss Fine resolution (0.05 dB)														
		@ Attenuation setting (dB)														
		7.40	7.45	7.50	7.55	7.60	67.40	67.45	67.50	67.55	67.60	100.40	100.45	100.50	100.55	100.60
200	3.94	7.58	7.64	7.67	7.72	7.77	66.76	66.81	66.87	66.91	66.96	99.74	99.78	99.84	99.86	99.92
300	3.99	7.58	7.63	7.66	7.71	7.77	66.92	66.97	67.02	67.06	67.11	99.32	99.36	99.43	99.45	99.50
400	4.10	7.54	7.60	7.62	7.68	7.73	66.89	66.93	66.98	67.03	67.08	98.87	98.93	98.98	99.02	99.06
500	4.24	7.50	7.55	7.57	7.63	7.69	66.70	66.75	66.80	66.85	66.90	98.58	98.64	98.69	98.73	98.77
750	4.60	7.40	7.45	7.47	7.53	7.59	66.54	66.59	66.63	66.68	66.74	98.72	98.77	98.82	98.87	98.92
1000	4.88	7.38	7.44	7.45	7.51	7.57	66.82	66.87	66.89	66.95	67.01	99.35	99.39	99.44	99.50	99.54
1250	5.04	7.46	7.51	7.53	7.59	7.65	66.86	66.91	66.92	66.98	67.04	99.59	99.65	99.68	99.73	99.77
1500	5.16	7.55	7.61	7.62	7.68	7.74	67.14	67.20	67.20	67.26	67.33	100.02	100.08	100.10	100.14	100.20
1750	5.37	7.60	7.65	7.66	7.72	7.78	67.41	67.47	67.47	67.53	67.60	100.39	100.44	100.46	100.52	100.57
2000	5.69	7.61	7.67	7.66	7.72	7.79	67.51	67.57	67.55	67.62	67.69	100.58	100.63	100.67	100.69	100.79
2250	5.86	7.64	7.70	7.68	7.75	7.81	67.71	67.78	67.77	67.83	67.90	100.87	100.95	100.95	101.00	101.06
2500	5.94	7.69	7.75	7.73	7.79	7.86	67.84	67.91	67.90	67.96	68.03	101.10	101.16	101.19	101.22	101.28
2750	6.11	7.71	7.77	7.75	7.81	7.87	68.00	68.06	68.05	68.12	68.18	101.37	101.43	101.43	101.48	101.54
3000	6.34	7.67	7.73	7.72	7.78	7.84	68.12	68.18	68.18	68.24	68.30	101.59	101.64	101.66	101.70	101.77
3250	6.57	7.62	7.67	7.67	7.73	7.79	68.23	68.29	68.29	68.35	68.41	101.81	101.88	101.88	101.94	102.01
3500	6.77	7.57	7.63	7.64	7.70	7.76	68.39	68.46	68.45	68.52	68.58	102.10	102.18	102.16	102.21	102.32
3750	6.96	7.56	7.62	7.64	7.70	7.76	68.57	68.63	68.62	68.69	68.75	102.37	102.45	102.44	102.50	102.56
4000	7.20	7.56	7.62	7.64	7.70	7.76	68.69	68.75	68.74	68.81	68.87	102.61	102.67	102.64	102.71	102.79
4250	7.51	7.55	7.61	7.61	7.68	7.74	68.67	68.74	68.71	68.78	68.85	102.68	102.76	102.79	102.82	102.87
4500	7.88	7.52	7.58	7.56	7.63	7.70	68.75	68.83	68.78	68.85	68.93	102.87	102.90	102.90	102.97	103.02
4750	8.21	7.50	7.57	7.52	7.60	7.67	68.73	68.80	68.74	68.82	68.89	102.91	102.99	102.94	103.01	103.09
5000	8.48	7.50	7.58	7.50	7.59	7.67	68.81	68.90	68.80	68.89	68.97	103.06	103.11	103.09	103.15	103.25
5250	8.70	7.55	7.63	7.53	7.61	7.70	68.99	69.08	68.97	69.05	69.14	103.21	103.33	103.26	103.36	103.43
5500	8.91	7.61	7.70	7.57	7.66	7.75	69.16	69.26	69.12	69.22	69.31	103.39	103.51	103.36	103.49	103.56
5750	9.14	7.68	7.77	7.63	7.72	7.82	69.37	69.46	69.32	69.41	69.51	103.58	103.66	103.53	103.58	103.72
6000	9.50	7.74	7.83	7.67	7.77	7.87	69.52	69.61	69.46	69.56	69.65	103.57	103.70	103.57	103.70	103.77
6250	10.01	7.73	7.82	7.65	7.75	7.85	69.43	69.52	69.38	69.48	69.57	103.38	103.43	103.31	103.42	103.51
6500	10.74	7.64	7.73	7.56	7.66	7.75	69.19	69.28	69.16	69.24	69.33	103.06	103.19	103.02	103.12	103.23
6750	11.52	7.53	7.62	7.45	7.54	7.63	68.83	68.91	68.80	68.88	68.97	102.65	102.67	102.54	102.73	102.71
7000	12.13	7.50	7.58	7.43	7.51	7.60	68.53	68.61	68.50	68.59	68.67	102.14	102.28	102.19	102.30	102.34
7200	12.38	7.57	7.65	7.50	7.58	7.66	68.53	68.60	68.49	68.57	68.65	102.11	102.21	102.06	102.14	102.22
7400	12.45	7.68	7.76	7.61	7.69	7.78	68.56	68.63	68.53	68.61	68.69	101.96	102.05	102.02	102.03	102.14
7600	12.43	7.78	7.86	7.70	7.79	7.88	68.61	68.68	68.57	68.65	68.73	102.02	102.11	102.04	102.08	102.18
7800	12.46	7.81	7.89	7.72	7.81	7.90	68.51	68.59	68.46	68.55	68.64	101.64	101.71	101.60	101.66	101.67
8000	12.62	7.73	7.82	7.64	7.73	7.83	68.24	68.32	68.17	68.26	68.35	100.90	101.02	100.92	100.95	101.05



Typical Performance Data @ +50°C

FREQ. (MHz)	I. Loss (dB)	Attenuation relative to I. Loss (dB)												
		@ Attenuation setting (dB)												
		0.25	5	10	20	40	60	80	90	100	105	110	115	120
200	4.09	0.28	5.03	10.12	20.21	40.28	58.99	78.75	88.74	98.58	103.35	107.36	111.73	115.64
300	4.18	0.28	5.01	10.08	20.21	40.19	59.11	78.64	88.62	98.14	102.86	106.91	111.23	115.08
400	4.31	0.27	4.98	10.03	20.18	40.07	59.06	78.40	88.38	97.72	102.38	106.46	110.81	114.69
500	4.45	0.27	4.94	9.98	20.15	39.97	58.87	78.14	88.14	97.41	102.13	106.19	110.57	114.41
750	4.83	0.26	4.85	9.86	20.03	39.79	58.70	78.04	88.09	97.57	102.38	106.49	110.87	115.01
1000	5.12	0.26	4.82	9.84	20.00	39.75	58.96	78.44	88.52	98.19	103.11	107.23	111.67	115.77
1250	5.28	0.26	4.87	9.93	20.07	39.85	59.01	78.57	88.67	98.44	103.40	107.50	111.97	116.33
1500	5.41	0.26	4.94	10.06	20.17	40.01	59.30	78.92	89.04	98.88	103.89	107.96	112.52	116.84
1750	5.62	0.25	4.97	10.12	20.21	40.10	59.58	79.23	89.37	99.25	104.35	108.45	112.99	117.32
2000	5.92	0.25	4.96	10.14	20.20	40.13	59.66	79.36	89.50	99.43	104.57	108.74	113.31	117.85
2250	6.08	0.25	4.97	10.17	20.20	40.17	59.85	79.60	89.76	99.74	104.88	109.06	113.57	118.19
2500	6.19	0.25	4.99	10.22	20.23	40.22	59.96	79.77	89.95	99.94	105.16	109.36	114.00	118.67
2750	6.37	0.25	5.01	10.23	20.25	40.26	60.08	79.93	90.14	100.18	105.39	109.67	114.24	118.97
3000	6.61	0.25	5.02	10.22	20.26	40.29	60.15	80.06	90.31	100.40	105.63	109.89	114.57	119.26
3250	6.85	0.26	5.06	10.20	20.29	40.36	60.21	80.17	90.48	100.61	105.87	110.16	114.93	119.97
3500	7.05	0.26	5.14	10.21	20.38	40.49	60.33	80.33	90.71	100.86	106.11	110.44	115.37	120.28
3750	7.25	0.28	5.23	10.25	20.48	40.65	60.45	80.50	90.94	101.11	106.38	110.81	115.71	120.65
4000	7.49	0.29	5.28	10.28	20.55	40.78	60.53	80.63	91.12	101.34	106.63	111.05	116.12	120.96
4250	7.80	0.30	5.27	10.25	20.53	40.83	60.47	80.62	91.17	101.42	106.74	111.22	116.40	121.55
4500	8.18	0.30	5.21	10.17	20.47	40.82	60.52	80.73	91.32	101.57	106.87	111.31	116.64	121.41
4750	8.54	0.30	5.15	10.11	20.41	40.82	60.44	80.71	91.35	101.65	106.93	111.42	116.72	122.06
5000	8.84	0.30	5.13	10.09	20.42	40.88	60.48	80.80	91.49	101.76	107.13	111.61	117.05	122.40
5250	9.07	0.30	5.15	10.12	20.48	41.00	60.66	81.02	91.70	101.99	107.34	111.94	117.22	122.60
5500	9.29	0.31	5.19	10.19	20.57	41.15	60.82	81.22	91.88	102.16	107.56	112.22	117.59	122.69
5750	9.54	0.32	5.23	10.26	20.62	41.29	61.01	81.42	92.04	102.34	107.78	112.30	117.68	123.31
6000	9.92	0.33	5.24	10.30	20.61	41.35	61.14	81.54	92.05	102.36	107.74	112.34	117.64	122.94
6250	10.46	0.34	5.20	10.25	20.48	41.26	61.06	81.44	91.84	102.09	107.55	112.02	117.24	122.33
6500	11.19	0.34	5.09	10.11	20.23	40.98	60.81	81.17	91.43	101.83	107.27	111.66	116.78	122.15
6750	11.95	0.33	4.95	9.96	20.00	40.64	60.49	80.81	90.98	101.39	106.65	111.01	116.20	120.99
7000	12.54	0.32	4.90	9.93	19.97	40.40	60.25	80.51	90.62	101.10	106.36	110.66	115.77	120.54
7200	12.78	0.31	4.93	10.01	20.15	40.36	60.27	80.45	90.54	100.83	105.83	109.99	114.81	119.17
7400	12.85	0.31	5.02	10.16	20.46	40.42	60.37	80.46	90.56	101.00	106.19	110.43	115.61	120.21
7600	12.85	0.32	5.12	10.29	20.80	40.48	60.45	80.44	90.49	100.87	105.88	110.37	115.47	119.91
7800	12.91	0.32	5.18	10.34	21.04	40.46	60.44	80.30	90.36	100.47	105.41	109.69	114.57	118.84
8000	13.10	0.32	5.21	10.29	21.11	40.27	60.23	79.93	89.93	99.81	104.60	108.66	113.51	117.54

FREQ. (MHz)	I. Loss (dB)	Attenuation relative to I. Loss Fine resolution (0.05 dB)														
		@ Attenuation setting (dB)														
		7.40	7.45	7.50	7.55	7.60	67.40	67.45	67.50	67.55	67.60	100.40	100.45	100.50	100.55	100.60
200	4.09	7.58	7.63	7.68	7.73	7.78	66.30	66.34	66.41	66.45	66.49	98.97	99.02	99.08	99.12	99.16
300	4.18	7.55	7.60	7.64	7.69	7.74	66.42	66.46	66.54	66.58	66.62	98.55	98.58	98.65	98.70	98.73
400	4.31	7.50	7.55	7.59	7.64	7.69	66.37	66.41	66.48	66.52	66.57	98.10	98.13	98.20	98.27	98.30
500	4.45	7.45	7.50	7.54	7.59	7.64	66.18	66.22	66.29	66.33	66.38	97.81	97.84	97.91	97.97	98.01
750	4.83	7.34	7.39	7.43	7.49	7.54	66.02	66.06	66.12	66.17	66.22	97.95	98.01	98.05	98.11	98.15
1000	5.12	7.33	7.38	7.42	7.48	7.53	66.30	66.35	66.39	66.45	66.50	98.60	98.65	98.70	98.75	98.80
1250	5.28	7.42	7.47	7.51	7.56	7.61	66.36	66.41	66.45	66.50	66.56	98.85	98.91	98.95	99.00	99.05
1500	5.41	7.52	7.57	7.61	7.66	7.71	66.67	66.72	66.75	66.81	66.86	99.28	99.31	99.37	99.42	99.49
1750	5.62	7.56	7.61	7.65	7.70	7.75	66.96	67.02	67.04	67.10	67.15	99.67	99.72	99.75	99.81	99.87
2000	5.92	7.57	7.62	7.65	7.70	7.76	67.06	67.11	67.13	67.19	67.25	99.84	99.91	99.94	99.98	100.06
2250	6.08	7.61	7.66	7.68	7.73	7.79	67.26	67.31	67.34	67.40	67.45	100.15	100.21	100.24	100.30	100.35
2500	6.19	7.66	7.71	7.72	7.78	7.83	67.40	67.45	67.48	67.53	67.59	100.37	100.41	100.46	100.51	100.55
2750	6.37	7.67	7.72	7.73	7.79	7.84	67.54	67.59	67.62	67.67	67.73	100.59	100.67	100.71	100.76	100.81
3000	6.61	7.62	7.68	7.69	7.74	7.80	67.63	67.68	67.72	67.77	67.83	100.81	100.88	100.90	100.97	101.04
3250	6.85	7.55	7.60	7.63	7.68	7.74	67.71	67.77	67.80	67.86	67.91	101.03	101.08	101.12	101.18	101.22
3500	7.05	7.50	7.55	7.59	7.64	7.69	67.86	67.91	67.95	68.00	68.06	101.31	101.33	101.39	101.42	101.51
3750	7.25	7.49	7.54	7.58	7.63	7.69	68.03	68.09	68.12	68.17	68.23	101.56	101.62	101.65	101.71	101.75
4000	7.49	7.49	7.55	7.59	7.64	7.70	68.16	68.22	68.25	68.30	68.36	101.80	101.85	101.87	101.93	101.99
4250	7.80	7.49	7.54	7.57	7.63	7.69	68.17	68.23	68.24	68.30	68.36	101.85	101.95	101.95	102.02	102.07
4500	8.18	7.46	7.52	7.53	7.59	7.66	68.29	68.35	68.35	68.42	68.47	102.04	102.11	102.14	102.20	102.28
4750	8.54	7.45	7.51	7.50	7.56	7.63	68.29	68.36	68.34	68.41	68.48	102.14	102.17	102.23	102.26	102.32
5000	8.84	7.46	7.53	7.49	7.56	7.63	68.40	68.47	68.43	68.50	68.58	102.30	102.36	102.35	102.42	102.49
5250	9.07	7.51	7.58	7.52	7.59	7.67	68.63	68.70	68.65	68.72	68.80	102.55	102.57	102.57	102.66	102.73
5500	9.29	7.58	7.66	7.57	7.65	7.74	68.83	68.91	68.84	68.92	69.00	102.70	102.81	102.70	102.83	102.89
5750	9.54	7.64	7.73	7.63	7.71	7.80	69.05	69.13	69.05	69.13	69.22	102.86	102.92	102.88	102.96	103.12
6000	9.92	7.69	7.77	7.66	7.75	7.83	69.20	69.28	69.20	69.28	69.36	102.88	102.97	102.87	103.02	103.08
6250	10.46	7.67	7.76	7.64	7.72	7.81	69.13	69.21	69.13	69.21	69.29	102.67	102.74	102.66	102.80	102.86
6500	11.19	7.59	7.67	7.55	7.63	7.72	68.91	68.98	68.92	69.00	69.07	102.42	102.46	102.38	102.47	102.60
6750	11.95	7.49	7.57	7.45	7.53	7.61	68.60	68.68	68.62	68.69	68.77	101.90	102.00	101.88	102.03	102.12
7000	12.54	7.48	7.55	7.44	7.52	7.59	68.39	68.45	68.40	68.47	68.54	101.61	101.67	101.54	101.66	101.84
7200	12.78	7.69	7.77	7.66	7.75	7.83	69.20	69.28	69.20	69.28	69.36	102.88	102.97	102.87	103.02	103.08
7400	12.85	7.67	7.76	7.64	7.72	7.81	69.13	69.21	69.13	69.21	69.29	102.67	102.74	102.66	102.80	102.86
7600	12.85	7.59	7.67	7.55	7.63	7.72	68.91	68.98	68.92	69.00	69.07	102.42	102.46	102.38	102.47	102.60
7800	12.91	7.49	7.57	7.45	7.53	7.61	68.60	68.68	68.62	68.69	68.77	101.90	102.00	101.88	102.03	102.12
8000	13.10	7.48	7.55	7.44	7.52	7.59	68.39	68.45	68.40	68.47	68.54	101.61	101.67	101.54	101.66	101.84



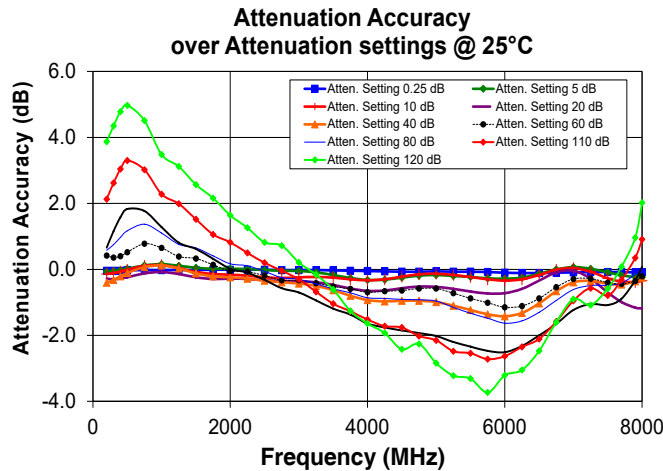
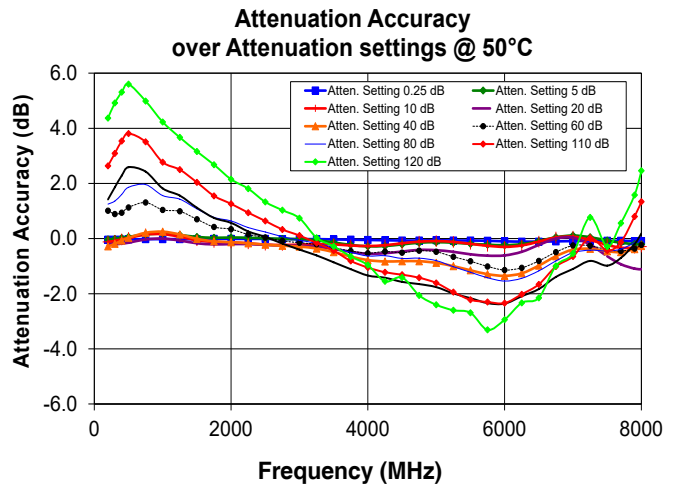
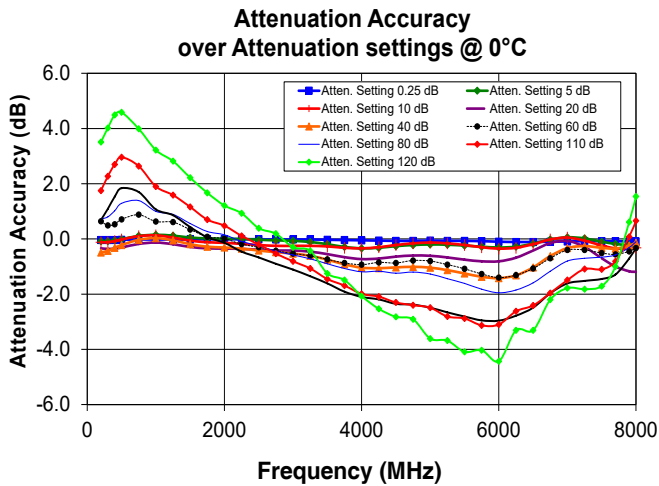
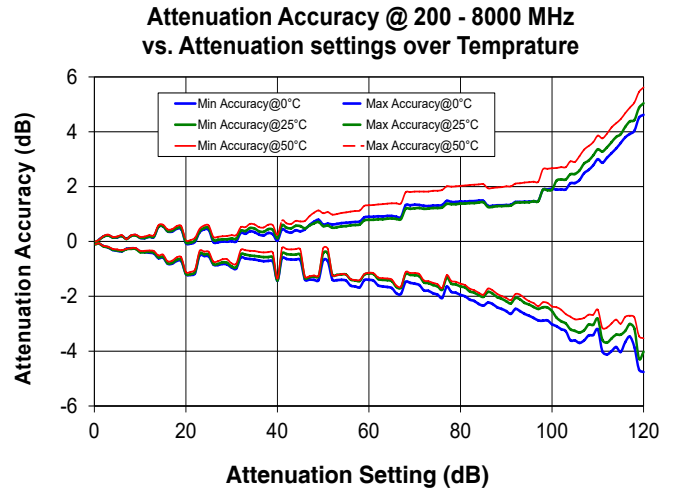
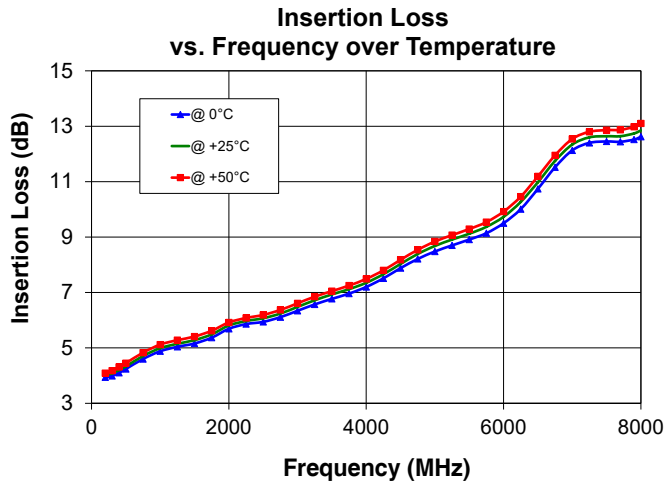
Typical Performance Data @ +25°C

FREQ. (MHz)	VSWR In (:1)													
	@ Attenuation setting (dB)													
	0	0.25	5	10	20	40	60	80	90	100	105	110	115	120
200	1.68	1.66	1.45	1.18	1.31	1.11	1.08	1.07	1.16	1.10	1.08	1.10	1.10	1.08
300	1.54	1.52	1.39	1.14	1.29	1.08	1.04	1.03	1.14	1.07	1.05	1.07	1.07	1.05
400	1.42	1.41	1.34	1.11	1.29	1.07	1.03	1.01	1.14	1.07	1.03	1.07	1.07	1.03
500	1.31	1.31	1.30	1.10	1.28	1.07	1.03	1.00	1.14	1.07	1.03	1.07	1.07	1.03
750	1.11	1.12	1.24	1.06	1.27	1.08	1.05	1.03	1.14	1.07	1.05	1.07	1.07	1.05
1000	1.24	1.24	1.26	1.05	1.26	1.08	1.06	1.05	1.13	1.07	1.07	1.07	1.07	1.07
1250	1.39	1.39	1.31	1.06	1.25	1.07	1.08	1.06	1.12	1.07	1.08	1.07	1.07	1.08
1500	1.39	1.39	1.30	1.05	1.23	1.07	1.09	1.08	1.11	1.06	1.10	1.06	1.06	1.10
1750	1.26	1.26	1.24	1.04	1.21	1.07	1.10	1.08	1.10	1.06	1.11	1.06	1.06	1.11
2000	1.11	1.12	1.19	1.04	1.20	1.06	1.10	1.09	1.10	1.06	1.11	1.06	1.06	1.11
2250	1.10	1.12	1.18	1.03	1.19	1.05	1.10	1.08	1.09	1.05	1.10	1.05	1.05	1.10
2500	1.18	1.18	1.20	1.03	1.18	1.04	1.09	1.08	1.08	1.04	1.10	1.04	1.04	1.10
2750	1.21	1.21	1.20	1.03	1.17	1.03	1.10	1.08	1.08	1.03	1.10	1.03	1.03	1.10
3000	1.22	1.21	1.19	1.03	1.15	1.03	1.10	1.08	1.07	1.03	1.10	1.03	1.03	1.10
3250	1.25	1.24	1.18	1.03	1.14	1.03	1.10	1.09	1.07	1.04	1.11	1.04	1.04	1.11
3500	1.30	1.28	1.17	1.01	1.12	1.03	1.12	1.11	1.07	1.05	1.12	1.05	1.05	1.12
3750	1.31	1.28	1.14	1.02	1.10	1.05	1.13	1.13	1.08	1.06	1.13	1.06	1.06	1.13
4000	1.26	1.24	1.09	1.07	1.08	1.06	1.15	1.15	1.09	1.07	1.16	1.07	1.07	1.16
4250	1.23	1.21	1.05	1.13	1.07	1.08	1.18	1.18	1.10	1.09	1.18	1.09	1.09	1.18
4500	1.25	1.23	1.07	1.19	1.07	1.11	1.20	1.20	1.12	1.11	1.21	1.11	1.11	1.21
4750	1.29	1.27	1.10	1.22	1.08	1.13	1.23	1.23	1.14	1.13	1.23	1.13	1.13	1.23
5000	1.28	1.26	1.11	1.23	1.08	1.15	1.26	1.26	1.16	1.16	1.26	1.16	1.16	1.26
5250	1.21	1.19	1.08	1.23	1.08	1.18	1.29	1.29	1.19	1.19	1.29	1.19	1.19	1.29
5500	1.09	1.07	1.07	1.23	1.09	1.20	1.32	1.32	1.21	1.22	1.32	1.22	1.22	1.32
5750	1.05	1.06	1.13	1.24	1.10	1.24	1.34	1.35	1.24	1.25	1.35	1.25	1.25	1.35
6000	1.19	1.20	1.22	1.28	1.14	1.27	1.37	1.37	1.26	1.28	1.38	1.28	1.28	1.38
6250	1.38	1.40	1.34	1.36	1.19	1.31	1.40	1.39	1.28	1.32	1.40	1.32	1.32	1.40
6500	1.62	1.62	1.47	1.46	1.24	1.36	1.42	1.41	1.30	1.35	1.43	1.35	1.35	1.43
6750	1.81	1.80	1.57	1.55	1.29	1.40	1.45	1.43	1.31	1.39	1.45	1.39	1.39	1.45
7000	1.85	1.82	1.59	1.59	1.33	1.44	1.47	1.44	1.32	1.42	1.47	1.42	1.42	1.47
7200	1.74	1.71	1.54	1.57	1.35	1.46	1.48	1.44	1.33	1.44	1.49	1.44	1.44	1.49
7400	1.54	1.52	1.45	1.52	1.36	1.48	1.49	1.44	1.32	1.46	1.49	1.46	1.46	1.49
7600	1.32	1.30	1.33	1.44	1.37	1.48	1.49	1.43	1.32	1.48	1.49	1.48	1.48	1.50
7800	1.14	1.13	1.24	1.37	1.38	1.48	1.49	1.41	1.31	1.49	1.49	1.49	1.49	1.49
8000	1.11	1.12	1.19	1.31	1.39	1.47	1.47	1.38	1.30	1.49	1.47	1.49	1.49	1.48

FREQ. (MHz)	VSWR Out (:1)													
	@ Attenuation setting (dB)													
	0	0.25	5	10	20	40	60	80	90	100	105	110	115	120
200	1.68	1.66	1.39	1.27	1.13	1.23	1.10	1.10	1.08	1.10	1.10	1.08	1.08	1.08
300	1.53	1.51	1.30	1.22	1.09	1.21	1.07	1.08	1.05	1.08	1.08	1.05	1.05	1.05
400	1.41	1.39	1.24	1.20	1.07	1.21	1.06	1.07	1.03	1.07	1.07	1.03	1.03	1.03
500	1.28	1.27	1.19	1.18	1.06	1.21	1.06	1.07	1.03	1.07	1.07	1.02	1.02	1.02
750	1.04	1.03	1.14	1.16	1.05	1.20	1.05	1.07	1.03	1.07	1.07	1.03	1.03	1.03
1000	1.23	1.22	1.22	1.21	1.07	1.19	1.05	1.07	1.04	1.07	1.07	1.04	1.04	1.04
1250	1.39	1.39	1.30	1.26	1.08	1.17	1.05	1.07	1.05	1.07	1.07	1.05	1.05	1.05
1500	1.43	1.43	1.34	1.28	1.08	1.16	1.05	1.06	1.06	1.06	1.06	1.06	1.06	1.06
1750	1.41	1.40	1.35	1.28	1.07	1.14	1.05	1.06	1.06	1.06	1.06	1.06	1.06	1.07
2000	1.42	1.41	1.37	1.28	1.05	1.13	1.04	1.05	1.06	1.05	1.05	1.06	1.06	1.06
2250	1.47	1.46	1.40	1.28	1.04	1.11	1.03	1.04	1.06	1.04	1.04	1.06	1.06	1.06
2500	1.53	1.51	1.42	1.28	1.04	1.10	1.03	1.03	1.06	1.03	1.03	1.06	1.06	1.06
2750	1.52	1.50	1.42	1.27	1.07	1.09	1.04	1.02	1.06	1.02	1.02	1.07	1.07	1.07
3000	1.43	1.42	1.38	1.24	1.08	1.08	1.04	1.02	1.07	1.02	1.03	1.07	1.07	1.07
3250	1.30	1.29	1.32	1.21	1.10	1.08	1.05	1.03	1.07	1.03	1.03	1.07	1.07	1.07
3500	1.16	1.16	1.26	1.16	1.11	1.07	1.05	1.03	1.07	1.03	1.03	1.07	1.07	1.07
3750	1.08	1.09	1.20	1.13	1.11	1.06	1.05	1.03	1.07	1.03	1.03	1.07	1.07	1.07
4000	1.10	1.11	1.15	1.11	1.11	1.06	1.05	1.03	1.07	1.03	1.03	1.07	1.07	1.07
4250	1.12	1.12	1.12	1.08	1.10	1.04	1.05	1.03	1.07	1.03	1.03	1.07	1.07	1.07
4500	1.09	1.10	1.10	1.05	1.08	1.05	1.04	1.03	1.07	1.02	1.03	1.06	1.06	1.06
4750	1.10	1.11	1.12	1.07	1.05	1.07	1.04	1.02	1.06	1.03	1.02	1.06	1.06	1.06
5000	1.16	1.17	1.18	1.11	1.03	1.09	1.04	1.04	1.06	1.04	1.03	1.06	1.06	1.06
5250	1.20	1.21	1.22	1.15	1.02	1.12	1.04	1.05	1.06	1.05	1.05	1.06	1.06	1.06
5500	1.19	1.20	1.21	1.16	1.04	1.12	1.05	1.07	1.07	1.07	1.07	1.08	1.08	1.08
5750	1.16	1.17	1.17	1.12	1.03	1.13	1.08	1.11	1.10	1.11	1.11	1.10	1.10	1.10
6000	1.16	1.17	1.17	1.10	1.08	1.13	1.11	1.15	1.13	1.15	1.15	1.13	1.13	1.13
6250	1.29	1.30	1.30	1.16	1.17	1.13	1.15	1.19	1.17	1.19	1.19	1.18	1.18	1.18
6500	1.52	1.53	1.49	1.28	1.27	1.16	1.20	1.24	1.23	1.24	1.24	1.23	1.23	1.23
6750	1.75	1.76	1.67	1.40	1.37	1.18	1.24	1.29	1.28	1.29	1.29	1.28	1.28	1.28
7000	1.87	1.87	1.77	1.49	1.45	1.21	1.31	1.35	1.35	1.36	1.35	1.35	1.35	1.35
7200	1.80	1.79	1.72	1.48	1.46	1.22	1.35	1.40	1.40	1.40	1.39	1.40	1.40	1.40
7400	1.61	1.61	1.57	1.43	1.45	1.22	1.39	1.44	1.46	1.44	1.43	1.45	1.45	1.45
7600	1.36	1.35	1.35	1.33	1.43	1.22	1.45	1.48	1.51	1.48	1.47	1.51	1.51	1.51
7800	1.12	1.12	1.10	1.24	1.41	1.22	1.48	1.51	1.56	1.51	1.50	1.56	1.56	1.56
8000	1.12	1.13	1.09	1.22	1.44	1.24	1.52	1.53	1.61	1.54	1.53	1.60	1.61	1.61

Typical Performance Curves *

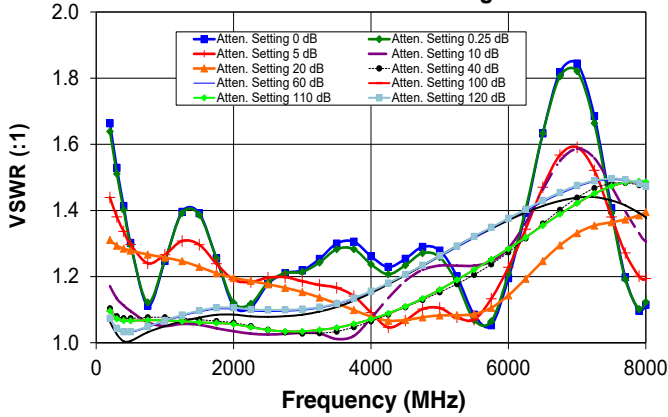
*at +25°C unless noted otherwise



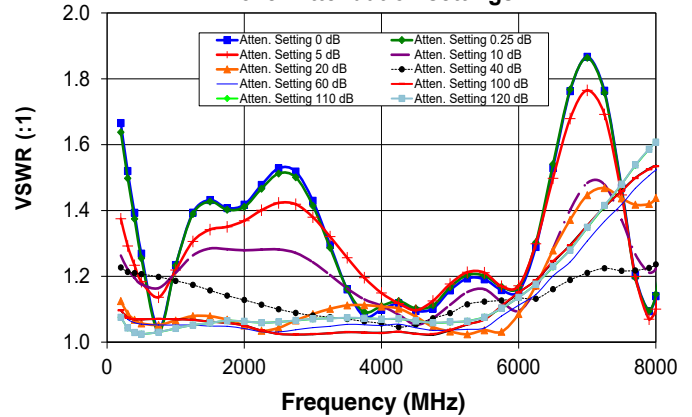
Typical Performance Curves (Continued) *

*at +25°C unless noted otherwise

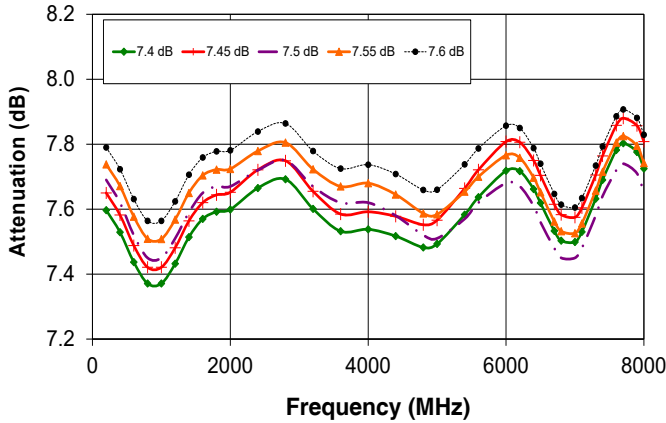
Input VSWR over Attenuation settings



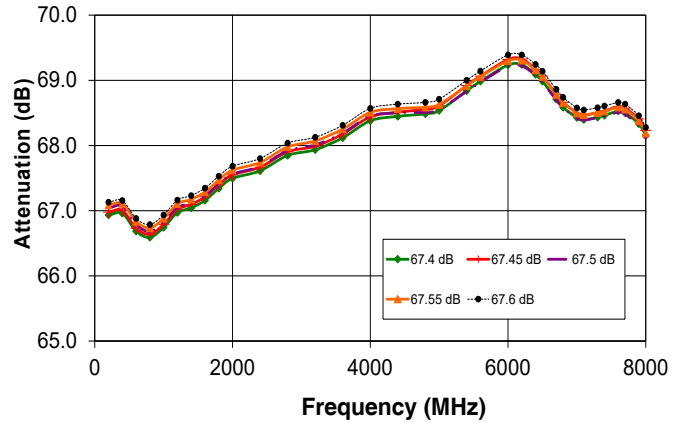
Output VSWR over Attenuation settings



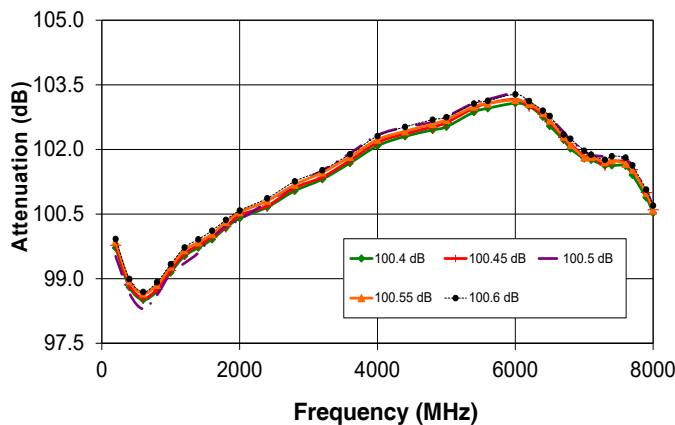
**Attenuation relative to I.Loss
Fine resolution around Atten. 7.5 dB**



**Attenuation relative to I.Loss
Fine resolution around Atten. 67.5 dB**

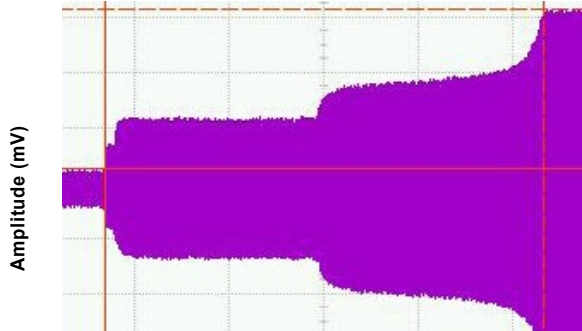


**Attenuation relative to I.Loss
Fine resolution around Atten. 100.5 dB**



Typical Transition times @ +25°C

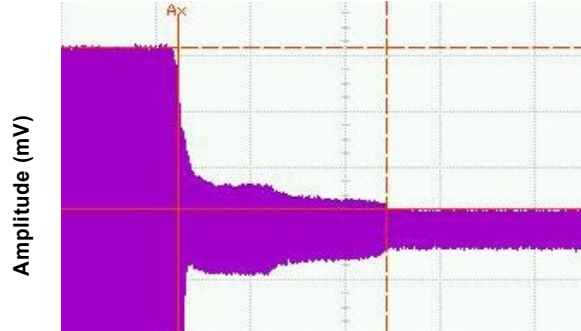
Transition 20 dB to 0 dB,
tested using Oscilloscope



Time (ns)

Rise time at transition 20 to 0 dB:
 Δt : 927.3 ns ; ΔV : 144.8 mV
 Scale 200 ns/dev ; 50 mV/dev

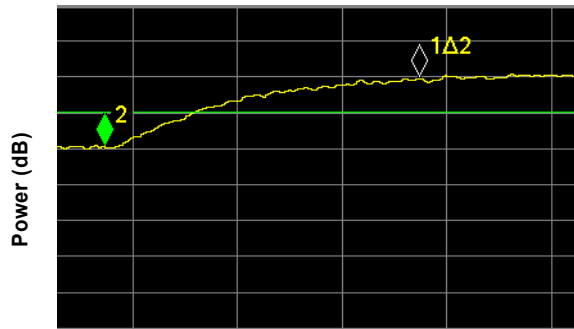
Transition 0 dB to 20 dB,
tested using Oscilloscope



Time (ns)

Fall time at transition 0 to 20 dB:
 Δt : 440.4 ns ; ΔV : 144.8 mV
 Scale 200 ns/dev ; 50 mV/dev

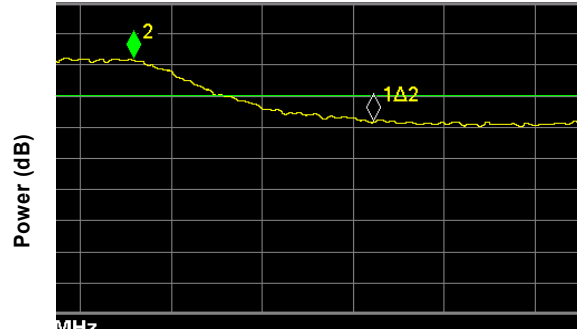
Transition 20.2 dB to 20 dB,
tested using Spectrum Analyzer



Time (μ s)

Fall time at transition 20.2 to 20 dB:
 Δt : 6.02 μ s ; ΔP : 0.19 dB
 Scale 2 μ s/dev ; 0.1 dB/dev

Transition 20 dB to 20.2 dB,
tested using Spectrum Analyzer



Time (μ s)

Fall time at transition 20 to 20.2 dB:
 Δt : 5.28 μ s ; ΔP : 0.20 dB
 Scale 2 μ s/dev ; 0.1 dB/dev

Note: All transition time tests performed with input signal of 501 MHz, 0 dBm.

Software & Documentation Download:

- Mini-Circuits' full software and support package including user guide, Windows GUI, DLL files, programming manual and examples can be downloaded free of charge from <http://www.minicircuits.com/softwaredownload/patt.html>
- Please contact testsolutions@minicircuits.com for support

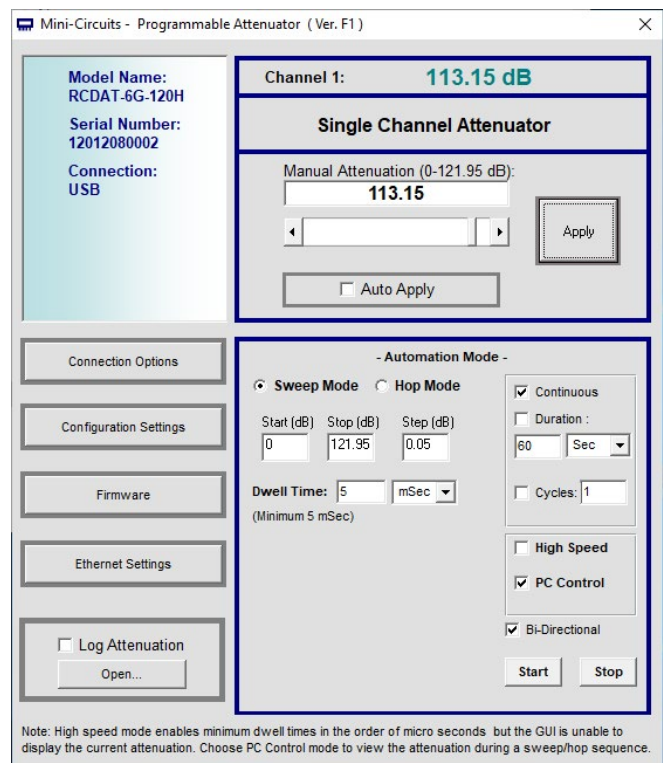
Minimum System Requirements

Parameter	Requirements	
Interface	USB HID or HTTP Get/Post or Telnet protocols or SSH protocols	
System requirements	GUI:	Windows 32 & 64 bit systems from Windows 98 up to Windows 10
	USB API (ActiveX & .Net)	Windows 32 & 64 bit systems with ActiveX or .Net support from Windows 98 up to Windows 10
	USB direct programming support	Linux, Windows systems from Windows 98 up to Windows 10
	HTTP, Telnet or SSH	Any computer with a network port and Ethernet-TCP/IP (HTTP, Telnet or SSH protocols) support
Hardware	Pentium® II or higher, RAM 256 MB	

Graphical User Interface (GUI) for Windows

Key Features:

- Manual attenuation setting
- Sweep and Hop attenuation sequences directed from the PC, or entire sequence loaded into RCDAT.
- Attenuator address configuration and Firmware upgrade
- Attenuation at power up may be set to selected attenuation level or last attenuation state recorded.
- USB, HTTP, Telnet or SSH control of RCDAT
- Setting Ethernet configuration including SSH login and password



Application Programming Interface (API)

Programming manual: https://www.minicircuits.com/softwaredownload/Prog_Manual-6-Programmable_Attenuator.pdf

Windows Support:


- API DLL files exposing the full switch functionality
 - ActiveX COM DLL file for creation of 32-bit programs
 - .Net library DLL file for creation of 32 / 64-bit programs
- Supported by most common programming environments (refer to application note [AN-49-001](#) for summary of tested environments)

Linux Support:

- Full attenuator control in a Linux environment is achieved by way of USB interrupt commands.

Ordering Information

Model	Description
RCDAT-8G-120H	USB/Ethernet Programmable Attenuator

Included Accessories	Part No.	Description
	MUSB-CBL-3+	3.3 ft (1.0 m) USB Cable: USB type A(Male) to USB type Mini-B(Male)

Optional Accessories	Description
USB-AC/DC-5 ^{9, 10}	AC/DC 5V _{DC} Power Adapter with US, EU, IL, UK, AUS, and China power plugs
MUSB-CBL-3+ (spare)	3.3 ft (1.0 m) USB Cable: USB type A(Male) to USB type Mini-B(Male)
MUSB-CBL-7+	6.6 ft (2.0 m) USB Cable: USB type A(Male) to USB type Mini-B(Male)
CBL-RJ45-MM-5+	5 ft (1.5 m) Ethernet cable: RJ45(Male) to RJ45(Male) Cat 5E cable
BKT-66-02+	Bracket Kit

⁹ The USB-AC/DC-5 may be used to provide the 5V_{DC} power input via USB port if operating the RCDAT with Ethernet control. Not required if using USB control.

¹⁰ Power plugs for other countries are also available, Plugs for other countries are also available, if you need a power plug for a country not listed please contact testsolutions@minicircuits.com

Additional Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



Programmable Attenuator

RCDAT-8G-120H

Typical Performance Data @ 0°C

Freq. (MHz)	Attenuation relative to Insertion Loss (dB)												
	0.25 dB	5 dB	10 dB	20 dB	40 dB	60 dB	80 dB	90 dB	100 dB	105 dB	110 dB	115 dB	120 dB
100	0.28	5.03	10.05	20.17	40.25	58.87	78.85	88.94	98.98	103.84	107.94	112.34	116.36
200	0.29	5.08	10.12	20.34	40.49	59.36	79.28	89.38	99.31	104.12	108.25	112.61	116.49
300	0.29	5.08	10.12	20.36	40.43	59.51	79.20	89.28	98.91	103.65	107.73	112.14	115.98
400	0.28	5.05	10.08	20.35	40.32	59.47	78.98	89.06	98.47	103.20	107.30	111.72	115.51
500	0.28	5.01	10.02	20.31	40.22	59.29	78.71	88.81	98.16	102.92	107.04	111.42	115.41
600	0.27	4.96	9.97	20.26	40.13	59.14	78.57	88.69	98.09	102.92	107.05	111.47	115.49
700	0.27	4.92	9.92	20.20	40.06	59.11	78.57	88.71	98.21	103.10	107.24	111.68	115.75
800	0.26	4.88	9.89	20.16	40.01	59.15	78.66	88.81	98.41	103.36	107.46	111.99	116.20
900	0.26	4.85	9.87	20.13	39.98	59.25	78.82	88.97	98.67	103.64	107.83	112.30	116.40
1000	0.26	4.85	9.87	20.13	39.97	59.37	79.00	89.15	98.93	103.94	108.10	112.67	116.78
1100	0.26	4.85	9.89	20.14	39.99	59.43	79.09	89.26	99.08	104.13	108.29	112.82	116.94
1200	0.26	4.87	9.93	20.17	40.03	59.42	79.11	89.30	99.14	104.22	108.37	112.90	117.16
1300	0.26	4.89	9.98	20.21	40.08	59.43	79.15	89.34	99.21	104.32	108.48	113.01	117.33
1400	0.26	4.92	10.02	20.25	40.13	59.53	79.27	89.47	99.38	104.48	108.63	113.25	117.41
1500	0.26	4.95	10.06	20.29	40.19	59.66	79.44	89.64	99.57	104.68	108.84	113.49	117.78
1600	0.26	4.96	10.09	20.32	40.24	59.79	79.58	89.79	99.75	104.90	109.06	113.69	118.08
1700	0.26	4.97	10.11	20.34	40.27	59.89	79.69	89.92	99.89	105.04	109.22	113.88	118.18
1800	0.26	4.98	10.13	20.35	40.29	59.94	79.76	89.99	99.98	105.15	109.34	114.04	118.46
1900	0.26	4.98	10.14	20.35	40.30	59.95	79.79	90.03	100.05	105.25	109.45	114.07	118.53
2000	0.26	4.99	10.14	20.35	40.31	59.99	79.85	90.11	100.14	105.34	109.52	114.15	118.79
2200	0.26	4.99	10.17	20.36	40.35	60.15	80.05	90.32	100.40	105.62	109.84	114.53	118.96
2400	0.26	5.01	10.20	20.38	40.40	60.25	80.19	90.49	100.57	105.83	110.08	114.79	119.36
2600	0.26	5.03	10.24	20.41	40.45	60.34	80.31	90.62	100.74	105.97	110.27	115.00	119.66
2800	0.26	5.05	10.25	20.42	40.49	60.46	80.47	90.81	100.94	106.28	110.57	115.29	119.95
3000	0.26	5.07	10.25	20.42	40.53	60.53	80.58	90.95	101.11	106.45	110.81	115.62	120.30
3200	0.26	5.10	10.24	20.45	40.59	60.57	80.67	91.07	101.28	106.62	111.00	115.81	120.51
3400	0.27	5.16	10.26	20.51	40.69	60.71	80.85	91.29	101.52	106.89	111.33	116.19	121.20
3600	0.28	5.23	10.29	20.60	40.82	60.75	80.93	91.41	101.70	107.09	111.47	116.49	121.49
3800	0.29	5.30	10.33	20.68	40.95	60.90	81.12	91.64	101.97	107.39	111.79	116.99	121.72
4000	0.30	5.34	10.34	20.73	41.04	60.93	81.19	91.77	102.10	107.53	111.99	117.07	122.07
4200	0.31	5.33	10.31	20.72	41.06	60.88	81.18	91.82	102.19	107.58	112.02	117.33	122.56
4400	0.31	5.29	10.25	20.67	41.04	60.87	81.22	91.89	102.27	107.67	112.25	117.52	122.46
4600	0.31	5.24	10.19	20.62	41.02	60.86	81.25	91.97	102.36	107.81	112.28	117.54	122.63
4800	0.31	5.21	10.14	20.60	41.01	60.78	81.20	91.97	102.40	107.82	112.42	117.78	123.05
5000	0.31	5.20	10.13	20.61	41.04	60.80	81.27	92.05	102.49	107.89	112.49	117.89	123.61
5200	0.31	5.21	10.15	20.65	41.11	60.92	81.43	92.19	102.63	108.10	112.75	118.19	123.91
5400	0.31	5.23	10.19	20.71	41.20	61.03	81.55	92.32	102.73	108.30	112.77	118.40	123.78
5600	0.32	5.26	10.25	20.78	41.30	61.12	81.67	92.39	102.84	108.29	112.98	118.46	124.00
5800	0.33	5.29	10.31	20.82	41.39	61.29	81.84	92.52	102.95	108.49	113.12	118.89	124.29
6000	0.34	5.31	10.35	20.81	41.42	61.40	81.95	92.52	102.96	108.52	113.10	118.76	124.43
6200	0.35	5.29	10.34	20.72	41.35	61.34	81.88	92.36	102.83	108.39	112.72	118.10	123.76
6300	0.36	5.27	10.31	20.64	41.28	61.27	81.80	92.23	102.71	108.24	112.64	118.01	123.28
6400	0.36	5.22	10.26	20.53	41.16	61.18	81.70	92.10	102.60	108.13	112.50	117.90	123.55
6500	0.36	5.17	10.19	20.42	41.03	61.07	81.59	91.96	102.49	107.99	112.41	117.71	123.31
6600	0.36	5.11	10.12	20.30	40.87	60.93	81.43	91.74	102.27	107.66	112.07	117.17	122.56
6700	0.35	5.04	10.05	20.19	40.70	60.79	81.25	91.54	102.05	107.59	112.05	117.23	122.32
6800	0.34	4.99	9.99	20.11	40.55	60.63	81.08	91.34	101.91	107.35	111.82	116.96	122.39
6900	0.34	4.96	9.96	20.07	40.42	60.49	80.92	91.15	101.74	107.14	111.66	116.81	122.21
7000	0.33	4.94	9.95	20.07	40.33	60.40	80.80	91.00	101.61	107.10	111.49	116.53	121.78
7100	0.32	4.94	9.97	20.12	40.27	60.38	80.75	90.97	101.49	106.95	111.22	116.54	121.21
7200	0.32	4.97	10.02	20.22	40.25	60.41	80.73	90.91	101.53	106.82	111.13	116.36	121.44
7300	0.32	5.00	10.09	20.36	40.26	60.44	80.70	90.86	101.50	106.81	111.21	116.32	121.94
7400	0.32	5.05	10.16	20.52	40.29	60.47	80.67	90.81	101.44	106.71	111.04	116.06	121.36
7500	0.32	5.10	10.24	20.70	40.32	60.51	80.66	90.82	101.45	106.70	111.10	116.58	121.71
7600	0.32	5.15	10.30	20.86	40.35	60.56	80.65	90.81	101.43	106.61	111.08	116.62	121.76
7700	0.32	5.18	10.34	21.00	40.35	60.56	80.58	90.73	101.29	106.40	110.81	116.19	121.00
7800	0.32	5.21	10.36	21.11	40.32	60.52	80.46	90.61	101.03	106.06	110.43	115.55	120.07
7900	0.32	5.23	10.35	21.17	40.24	60.45	80.31	90.42	100.71	105.70	109.92	115.07	119.39
8000	0.33	5.24	10.32	21.19	40.13	60.33	80.10	90.21	100.32	105.29	109.34	114.20	118.46

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Programmable Attenuator

RCDAT-8G-120H

Typical Performance Data @ 0°C

Freq. (MHz)	Attenuation relative to Insertion Loss @ Fine resolution (0.05 dB)									
	7.4 dB	7.45 dB	7.5 dB	7.55 dB	7.6 dB	67.4 dB	67.45	67.5 dB	67.55	67.6 dB
100	7.53	7.59	7.61	7.66	7.72	66.28	66.33	66.38	66.42	66.47
200	7.58	7.64	7.67	7.72	7.77	66.76	66.81	66.86	66.91	66.96
300	7.58	7.63	7.66	7.71	7.77	66.92	66.97	67.02	67.06	67.11
400	7.54	7.60	7.62	7.68	7.73	66.89	66.93	66.98	67.03	67.08
500	7.50	7.55	7.57	7.63	7.69	66.70	66.75	66.80	66.85	66.90
600	7.45	7.51	7.52	7.58	7.64	66.56	66.61	66.65	66.71	66.76
700	7.41	7.47	7.48	7.54	7.60	66.54	66.59	66.62	66.68	66.73
800	7.38	7.44	7.45	7.51	7.57	66.58	66.63	66.66	66.72	66.77
900	7.37	7.43	7.44	7.50	7.56	66.69	66.74	66.77	66.83	66.88
1000	7.38	7.44	7.45	7.51	7.57	66.82	66.87	66.89	66.95	67.01
1100	7.41	7.46	7.47	7.53	7.59	66.88	66.93	66.95	67.01	67.07
1200	7.44	7.50	7.51	7.57	7.63	66.88	66.93	66.94	67.00	67.06
1300	7.48	7.54	7.55	7.61	7.67	66.90	66.95	66.96	67.02	67.08
1400	7.52	7.57	7.59	7.65	7.71	67.00	67.05	67.06	67.12	67.18
1500	7.55	7.61	7.62	7.68	7.74	67.14	67.20	67.20	67.26	67.33
1600	7.58	7.63	7.64	7.70	7.76	67.27	67.33	67.33	67.39	67.46
1700	7.59	7.65	7.66	7.72	7.78	67.38	67.44	67.43	67.50	67.56
1800	7.60	7.65	7.66	7.72	7.78	67.44	67.50	67.49	67.56	67.62
1900	7.60	7.66	7.66	7.72	7.78	67.46	67.52	67.51	67.57	67.64
2000	7.61	7.67	7.66	7.72	7.79	67.51	67.57	67.55	67.62	67.69
2200	7.63	7.69	7.68	7.74	7.80	67.67	67.74	67.73	67.79	67.86
2400	7.67	7.73	7.71	7.78	7.84	67.79	67.85	67.84	67.91	67.97
2600	7.70	7.76	7.74	7.81	7.87	67.89	67.95	67.95	68.01	68.08
2800	7.70	7.76	7.74	7.81	7.87	68.03	68.09	68.08	68.15	68.21
3000	7.67	7.73	7.72	7.78	7.84	68.12	68.18	68.18	68.24	68.30
3200	7.63	7.68	7.68	7.74	7.80	68.19	68.25	68.24	68.30	68.37
3400	7.59	7.64	7.65	7.71	7.77	68.35	68.41	68.41	68.47	68.53
3600	7.56	7.62	7.64	7.70	7.75	68.42	68.48	68.48	68.54	68.61
3800	7.56	7.62	7.64	7.70	7.76	68.61	68.68	68.66	68.73	68.80
4000	7.56	7.62	7.64	7.70	7.76	68.69	68.75	68.74	68.81	68.87
4200	7.55	7.62	7.62	7.68	7.75	68.69	68.76	68.73	68.80	68.87
4400	7.53	7.59	7.58	7.65	7.72	68.72	68.79	68.76	68.83	68.90
4600	7.51	7.58	7.54	7.61	7.69	68.78	68.85	68.79	68.87	68.95
4800	7.50	7.57	7.51	7.59	7.66	68.74	68.82	68.75	68.83	68.91
5000	7.50	7.58	7.50	7.59	7.67	68.81	68.90	68.80	68.89	68.97
5200	7.54	7.62	7.52	7.61	7.69	68.97	69.06	68.95	69.04	69.12
5400	7.58	7.67	7.55	7.64	7.73	69.10	69.19	69.07	69.16	69.25
5600	7.64	7.73	7.59	7.69	7.78	69.21	69.30	69.17	69.26	69.36
5800	7.70	7.79	7.64	7.74	7.83	69.39	69.48	69.34	69.43	69.53
6000	7.74	7.83	7.67	7.77	7.87	69.52	69.61	69.46	69.56	69.65
6200	7.74	7.83	7.66	7.76	7.86	69.46	69.55	69.41	69.50	69.59
6300	7.72	7.81	7.64	7.74	7.84	69.39	69.48	69.35	69.44	69.53
6400	7.68	7.78	7.61	7.70	7.80	69.30	69.39	69.26	69.35	69.44
6500	7.64	7.73	7.56	7.66	7.75	69.19	69.28	69.16	69.24	69.33
6600	7.60	7.69	7.52	7.61	7.70	69.06	69.14	69.03	69.11	69.20
6700	7.55	7.64	7.47	7.56	7.65	68.92	69.00	68.88	68.97	69.06
6800	7.52	7.60	7.44	7.53	7.62	68.76	68.84	68.73	68.81	68.90
6900	7.50	7.58	7.42	7.51	7.60	68.62	68.69	68.59	68.67	68.75
7000	7.50	7.58	7.43	7.51	7.60	68.53	68.61	68.50	68.59	68.67
7100	7.53	7.61	7.45	7.54	7.62	68.51	68.59	68.48	68.56	68.64
7200	7.57	7.65	7.50	7.58	7.66	68.53	68.60	68.49	68.57	68.65
7300	7.62	7.70	7.55	7.64	7.72	68.54	68.62	68.51	68.59	68.67
7400	7.68	7.76	7.61	7.69	7.78	68.56	68.63	68.53	68.61	68.69
7500	7.74	7.82	7.67	7.75	7.84	68.58	68.66	68.55	68.63	68.71
7600	7.78	7.86	7.70	7.79	7.88	68.61	68.68	68.57	68.65	68.73
7700	7.81	7.89	7.72	7.81	7.90	68.58	68.66	68.54	68.62	68.71
7800	7.81	7.89	7.72	7.81	7.90	68.51	68.59	68.46	68.55	68.64
7900	7.78	7.87	7.69	7.78	7.88	68.40	68.48	68.35	68.43	68.52
8000	7.73	7.82	7.64	7.73	7.83	68.24	68.32	68.17	68.26	68.35

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Programmable Attenuator

RCDAT-8G-120H

Typical Performance Data @ 0°C

Freq. (MHz)	Attenuation relative to Insertion Loss @ Fine resolution (0.05 dB)				
	100.4	100.45	100.5	100.55	100.6
100	99.40	99.45	99.50	99.53	99.59
200	99.74	99.78	99.83	99.86	99.92
300	99.32	99.36	99.43	99.45	99.50
400	98.87	98.93	98.98	99.02	99.06
500	98.58	98.64	98.69	98.73	98.77
600	98.52	98.56	98.63	98.67	98.72
700	98.63	98.68	98.74	98.79	98.83
800	98.83	98.89	98.94	98.98	99.04
900	99.10	99.15	99.18	99.24	99.28
1000	99.35	99.39	99.44	99.50	99.54
1100	99.51	99.57	99.60	99.65	99.70
1200	99.58	99.64	99.66	99.71	99.75
1300	99.66	99.72	99.75	99.79	99.84
1400	99.82	99.88	99.91	99.93	100.00
1500	100.02	100.08	100.10	100.14	100.20
1600	100.19	100.24	100.27	100.31	100.37
1700	100.33	100.39	100.41	100.45	100.51
1800	100.44	100.49	100.50	100.56	100.63
1900	100.50	100.55	100.57	100.62	100.69
2000	100.58	100.63	100.67	100.69	100.79
2200	100.82	100.91	100.90	100.95	101.02
2400	101.03	101.07	101.10	101.13	101.20
2600	101.19	101.24	101.26	101.30	101.37
2800	101.41	101.48	101.47	101.53	101.61
3000	101.59	101.64	101.66	101.70	101.77
3200	101.75	101.79	101.81	101.88	101.94
3400	102.01	102.08	102.07	102.13	102.20
3600	102.15	102.23	102.24	102.29	102.37
3800	102.44	102.50	102.51	102.58	102.61
4000	102.61	102.67	102.64	102.71	102.79
4200	102.67	102.74	102.78	102.80	102.87
4400	102.81	102.87	102.86	102.93	103.02
4600	102.90	103.00	102.95	103.04	103.08
4800	102.94	102.98	102.98	103.03	103.12
5000	103.06	103.11	103.09	103.15	103.25
5200	103.21	103.31	103.22	103.32	103.41
5400	103.32	103.43	103.35	103.41	103.46
5600	103.43	103.52	103.46	103.51	103.60
5800	103.60	103.70	103.54	103.62	103.74
6000	103.57	103.70	103.57	103.70	103.77
6200	103.43	103.50	103.37	103.49	103.58
6300	103.30	103.35	103.25	103.36	103.47
6400	103.18	103.27	103.17	103.23	103.34
6500	103.06	103.19	103.02	103.12	103.23
6600	102.87	103.00	102.84	102.94	103.03
6700	102.75	102.76	102.61	102.75	102.85
6800	102.55	102.63	102.46	102.62	102.64
6900	102.30	102.43	102.31	102.42	102.47
7000	102.14	102.28	102.19	102.30	102.34
7100	102.05	102.21	102.12	102.25	102.24
7200	102.11	102.21	102.06	102.14	102.22
7300	102.04	102.15	102.07	102.13	102.19
7400	101.96	102.05	102.02	102.03	102.14
7500	102.06	102.11	102.06	102.10	102.22
7600	102.02	102.11	102.04	102.08	102.18
7700	101.90	102.00	101.85	101.93	101.94
7800	101.64	101.71	101.60	101.66	101.67
7900	101.32	101.40	101.30	101.34	101.42
8000	100.90	101.02	100.92	100.95	101.05

Freq. (MHz)	I. Loss (dB)
100	4.22
200	3.94
300	3.99
400	4.10
500	4.24
600	4.38
700	4.53
800	4.66
900	4.78
1000	4.88
1100	4.95
1200	5.01
1300	5.06
1400	5.10
1500	5.16
1600	5.23
1700	5.31
1800	5.43
1900	5.56
2000	5.69
2200	5.84
2400	5.90
2600	6.00
2800	6.15
3000	6.34
3200	6.52
3400	6.69
3600	6.84
3800	7.00
4000	7.20
4200	7.44
4400	7.73
4600	8.01
4800	8.27
5000	8.48
5200	8.66
5400	8.83
5600	9.00
5800	9.21
6000	9.50
6200	9.90
6300	10.15
6400	10.44
6500	10.74
6600	11.06
6700	11.38
6800	11.67
6900	11.93
7000	12.13
7100	12.28
7200	12.38
7300	12.43
7400	12.45
7500	12.45
7600	12.43
7700	12.44
7800	12.46
7900	12.52
8000	12.62

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RCDAT-8G-120H

Typical Performance Data @ 0°C

Freq. (MHz)	Input VSWR (:1)												
	0.25 dB	5 dB	10 dB	20 dB	40 dB	60 dB	80 dB	90 dB	100 dB	105 dB	110 dB	115 dB	120 dB
100	2.05	1.64	1.33	1.40	1.24	1.20	1.20	1.26	1.23	1.20	1.23	1.23	1.20
200	1.64	1.42	1.17	1.30	1.11	1.07	1.06	1.16	1.10	1.07	1.10	1.10	1.07
300	1.50	1.35	1.12	1.28	1.08	1.04	1.02	1.14	1.07	1.04	1.07	1.07	1.04
400	1.39	1.30	1.09	1.26	1.07	1.03	1.01	1.13	1.06	1.03	1.06	1.06	1.03
500	1.29	1.27	1.08	1.26	1.07	1.03	1.01	1.13	1.06	1.04	1.06	1.06	1.04
600	1.19	1.24	1.07	1.26	1.07	1.04	1.02	1.13	1.06	1.04	1.06	1.06	1.04
700	1.12	1.23	1.06	1.25	1.07	1.05	1.03	1.13	1.06	1.05	1.06	1.06	1.05
800	1.11	1.23	1.05	1.25	1.07	1.05	1.04	1.13	1.06	1.06	1.06	1.06	1.06
900	1.16	1.24	1.05	1.25	1.07	1.06	1.04	1.12	1.06	1.06	1.06	1.06	1.06
1000	1.24	1.27	1.05	1.25	1.07	1.07	1.05	1.12	1.06	1.07	1.06	1.06	1.07
1100	1.31	1.29	1.05	1.25	1.07	1.07	1.05	1.12	1.06	1.07	1.06	1.06	1.07
1200	1.37	1.31	1.06	1.24	1.07	1.08	1.06	1.12	1.06	1.08	1.06	1.06	1.08
1300	1.40	1.32	1.06	1.24	1.07	1.08	1.06	1.11	1.06	1.08	1.06	1.06	1.08
1400	1.41	1.32	1.06	1.24	1.07	1.09	1.07	1.11	1.06	1.09	1.06	1.06	1.09
1500	1.40	1.32	1.06	1.23	1.07	1.09	1.07	1.11	1.06	1.09	1.06	1.06	1.09
1600	1.36	1.30	1.05	1.22	1.07	1.09	1.08	1.11	1.06	1.10	1.06	1.06	1.10
1700	1.30	1.27	1.05	1.22	1.07	1.10	1.08	1.10	1.06	1.10	1.06	1.06	1.10
1800	1.24	1.25	1.05	1.21	1.07	1.10	1.08	1.10	1.06	1.10	1.06	1.06	1.10
1900	1.18	1.22	1.04	1.20	1.07	1.10	1.09	1.10	1.06	1.11	1.06	1.07	1.11
2000	1.13	1.20	1.04	1.20	1.07	1.10	1.09	1.10	1.07	1.11	1.07	1.07	1.11
2200	1.10	1.18	1.03	1.18	1.06	1.11	1.09	1.10	1.06	1.11	1.06	1.06	1.11
2400	1.14	1.17	1.03	1.17	1.05	1.11	1.09	1.08	1.05	1.11	1.05	1.05	1.11
2600	1.18	1.17	1.03	1.15	1.04	1.11	1.09	1.07	1.04	1.11	1.04	1.04	1.11
2800	1.19	1.17	1.04	1.14	1.03	1.11	1.09	1.07	1.04	1.11	1.04	1.04	1.11
3000	1.20	1.16	1.04	1.13	1.03	1.11	1.10	1.07	1.04	1.11	1.04	1.04	1.11
3200	1.21	1.14	1.04	1.12	1.03	1.12	1.11	1.07	1.04	1.12	1.04	1.04	1.12
3400	1.25	1.14	1.03	1.10	1.04	1.13	1.12	1.07	1.05	1.13	1.05	1.05	1.13
3600	1.27	1.13	1.02	1.09	1.04	1.13	1.13	1.07	1.05	1.14	1.05	1.05	1.14
3800	1.26	1.11	1.04	1.08	1.06	1.15	1.14	1.07	1.06	1.15	1.06	1.06	1.15
4000	1.24	1.08	1.09	1.07	1.07	1.16	1.16	1.08	1.07	1.16	1.07	1.07	1.16
4200	1.22	1.05	1.13	1.06	1.08	1.18	1.18	1.09	1.09	1.18	1.09	1.09	1.18
4400	1.23	1.06	1.17	1.05	1.10	1.19	1.19	1.10	1.10	1.20	1.10	1.10	1.20
4600	1.25	1.07	1.19	1.06	1.11	1.21	1.21	1.11	1.11	1.21	1.11	1.11	1.21
4800	1.26	1.08	1.20	1.06	1.11	1.22	1.22	1.13	1.12	1.22	1.12	1.12	1.22
5000	1.24	1.08	1.21	1.06	1.13	1.23	1.24	1.15	1.14	1.24	1.14	1.14	1.24
5200	1.20	1.06	1.21	1.06	1.15	1.26	1.26	1.17	1.16	1.26	1.16	1.16	1.26
5400	1.13	1.05	1.21	1.07	1.17	1.28	1.29	1.19	1.19	1.28	1.19	1.19	1.28
5600	1.06	1.06	1.21	1.07	1.19	1.30	1.31	1.21	1.21	1.31	1.21	1.21	1.31
5800	1.06	1.13	1.24	1.10	1.23	1.34	1.35	1.25	1.25	1.34	1.25	1.25	1.34
6000	1.17	1.21	1.28	1.13	1.27	1.37	1.38	1.27	1.28	1.37	1.28	1.28	1.38
6200	1.33	1.31	1.34	1.18	1.31	1.40	1.41	1.30	1.32	1.41	1.32	1.32	1.41
6300	1.42	1.36	1.39	1.21	1.34	1.42	1.42	1.32	1.34	1.43	1.34	1.34	1.43
6400	1.54	1.43	1.44	1.24	1.37	1.44	1.44	1.33	1.37	1.45	1.37	1.37	1.45
6500	1.64	1.48	1.48	1.26	1.38	1.45	1.45	1.34	1.38	1.46	1.38	1.38	1.46
6600	1.73	1.54	1.53	1.28	1.41	1.47	1.46	1.35	1.40	1.47	1.40	1.40	1.47
6700	1.82	1.58	1.57	1.31	1.43	1.48	1.47	1.36	1.42	1.49	1.42	1.42	1.49
6800	1.87	1.62	1.60	1.33	1.45	1.49	1.47	1.36	1.43	1.50	1.43	1.43	1.50
6900	1.90	1.64	1.62	1.35	1.47	1.51	1.48	1.37	1.45	1.51	1.45	1.45	1.51
7000	1.89	1.64	1.63	1.37	1.49	1.51	1.48	1.37	1.47	1.52	1.47	1.47	1.52
7100	1.84	1.62	1.63	1.38	1.50	1.52	1.48	1.37	1.48	1.52	1.48	1.48	1.52
7200	1.77	1.59	1.62	1.39	1.51	1.53	1.48	1.37	1.49	1.53	1.49	1.49	1.53
7300	1.67	1.54	1.59	1.40	1.52	1.53	1.48	1.37	1.50	1.53	1.50	1.50	1.53
7400	1.56	1.48	1.56	1.40	1.53	1.53	1.47	1.36	1.51	1.54	1.51	1.51	1.53
7500	1.43	1.41	1.51	1.40	1.53	1.53	1.47	1.36	1.52	1.53	1.52	1.52	1.53
7600	1.31	1.35	1.47	1.41	1.53	1.53	1.46	1.35	1.52	1.53	1.52	1.52	1.53
7700	1.21	1.29	1.43	1.41	1.53	1.52	1.44	1.34	1.52	1.52	1.52	1.52	1.52
7800	1.13	1.25	1.38	1.41	1.52	1.51	1.43	1.33	1.52	1.51	1.52	1.52	1.51
7900	1.11	1.22	1.35	1.42	1.51	1.50	1.41	1.32	1.51	1.50	1.51	1.51	1.50
8000	1.14	1.21	1.32	1.42	1.49	1.48	1.39	1.31	1.50	1.48	1.50	1.50	1.48

Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions collectively, "Standard Terms". Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCStore/terms.jsp



Programmable Attenuator

RCDAT-8G-120H

Typical Performance Data @ 0°C

Freq. (MHz)	Output VSWR (:1)												
	0.25 dB	5 dB	10 dB	20 dB	40 dB	60 dB	80 dB	90 dB	100 dB	105 dB	110 dB	115 dB	120 dB
100	2.06	1.65	1.38	1.35	1.28	1.21	1.21	1.24	1.23	1.22	1.22	1.22	1.21
200	1.64	1.39	1.21	1.22	1.16	1.09	1.08	1.12	1.10	1.09	1.09	1.09	1.08
300	1.49	1.31	1.16	1.18	1.14	1.05	1.04	1.09	1.07	1.06	1.06	1.06	1.04
400	1.38	1.26	1.13	1.16	1.13	1.04	1.03	1.08	1.06	1.05	1.04	1.04	1.03
500	1.27	1.22	1.12	1.16	1.13	1.04	1.04	1.08	1.06	1.05	1.04	1.04	1.03
600	1.17	1.20	1.11	1.16	1.13	1.05	1.04	1.08	1.07	1.06	1.04	1.04	1.03
700	1.08	1.18	1.10	1.16	1.13	1.05	1.05	1.08	1.06	1.06	1.05	1.05	1.04
800	1.08	1.19	1.10	1.16	1.12	1.05	1.05	1.08	1.06	1.06	1.05	1.05	1.04
900	1.15	1.22	1.11	1.16	1.12	1.05	1.05	1.08	1.06	1.06	1.05	1.05	1.05
1000	1.23	1.25	1.12	1.16	1.12	1.06	1.06	1.08	1.06	1.07	1.05	1.05	1.05
1100	1.30	1.28	1.13	1.16	1.12	1.06	1.06	1.08	1.06	1.07	1.05	1.05	1.06
1200	1.36	1.30	1.14	1.16	1.12	1.06	1.06	1.08	1.06	1.07	1.06	1.06	1.06
1300	1.40	1.32	1.15	1.16	1.11	1.07	1.06	1.08	1.06	1.07	1.06	1.06	1.07
1400	1.41	1.32	1.15	1.16	1.11	1.07	1.07	1.08	1.06	1.08	1.06	1.06	1.07
1500	1.40	1.32	1.15	1.15	1.11	1.07	1.07	1.08	1.06	1.08	1.06	1.06	1.08
1600	1.38	1.31	1.15	1.15	1.10	1.07	1.07	1.08	1.06	1.08	1.06	1.06	1.08
1700	1.34	1.30	1.15	1.14	1.10	1.07	1.07	1.09	1.06	1.08	1.06	1.06	1.08
1800	1.30	1.28	1.14	1.14	1.10	1.07	1.07	1.09	1.06	1.08	1.06	1.06	1.09
1900	1.27	1.27	1.14	1.13	1.09	1.08	1.07	1.09	1.06	1.08	1.07	1.07	1.09
2000	1.24	1.26	1.14	1.12	1.09	1.08	1.07	1.09	1.06	1.08	1.07	1.07	1.09
2200	1.24	1.26	1.13	1.11	1.08	1.07	1.07	1.08	1.05	1.08	1.06	1.06	1.09
2400	1.28	1.26	1.13	1.10	1.07	1.07	1.06	1.07	1.04	1.07	1.06	1.06	1.09
2600	1.31	1.27	1.14	1.10	1.06	1.07	1.06	1.07	1.03	1.07	1.05	1.05	1.09
2800	1.31	1.27	1.13	1.11	1.05	1.08	1.06	1.07	1.03	1.07	1.05	1.05	1.09
3000	1.29	1.25	1.13	1.11	1.05	1.08	1.06	1.07	1.03	1.07	1.05	1.05	1.09
3200	1.26	1.23	1.12	1.11	1.05	1.08	1.07	1.07	1.04	1.08	1.06	1.06	1.10
3400	1.23	1.21	1.10	1.11	1.05	1.09	1.08	1.07	1.04	1.08	1.06	1.06	1.10
3600	1.21	1.19	1.08	1.10	1.05	1.10	1.08	1.07	1.05	1.09	1.07	1.07	1.11
3800	1.19	1.16	1.08	1.10	1.05	1.10	1.09	1.08	1.05	1.09	1.07	1.07	1.11
4000	1.18	1.12	1.10	1.09	1.06	1.11	1.10	1.08	1.05	1.10	1.07	1.07	1.12
4200	1.18	1.09	1.11	1.08	1.06	1.12	1.11	1.08	1.06	1.11	1.08	1.08	1.13
4400	1.18	1.09	1.11	1.07	1.07	1.12	1.11	1.09	1.07	1.12	1.09	1.09	1.14
4600	1.19	1.10	1.12	1.07	1.08	1.13	1.12	1.10	1.07	1.12	1.09	1.09	1.14
4800	1.20	1.11	1.13	1.06	1.09	1.14	1.13	1.10	1.08	1.13	1.10	1.10	1.15
5000	1.21	1.13	1.16	1.05	1.11	1.14	1.14	1.11	1.09	1.14	1.11	1.11	1.16
5200	1.20	1.14	1.18	1.05	1.13	1.15	1.15	1.12	1.10	1.15	1.11	1.11	1.16
5400	1.18	1.13	1.20	1.06	1.15	1.16	1.18	1.13	1.12	1.18	1.12	1.13	1.18
5600	1.12	1.13	1.18	1.05	1.16	1.18	1.20	1.15	1.15	1.20	1.15	1.15	1.20
5800	1.11	1.15	1.18	1.07	1.18	1.22	1.24	1.18	1.19	1.24	1.18	1.18	1.23
6000	1.17	1.20	1.20	1.12	1.20	1.25	1.28	1.21	1.22	1.27	1.22	1.22	1.27
6200	1.31	1.30	1.26	1.18	1.23	1.29	1.31	1.24	1.26	1.31	1.25	1.25	1.30
6300	1.39	1.36	1.30	1.20	1.24	1.30	1.32	1.26	1.28	1.32	1.27	1.27	1.32
6400	1.49	1.42	1.35	1.24	1.26	1.32	1.34	1.27	1.30	1.34	1.29	1.29	1.34
6500	1.59	1.49	1.39	1.26	1.27	1.33	1.35	1.28	1.31	1.36	1.31	1.31	1.35
6600	1.69	1.55	1.44	1.29	1.29	1.35	1.36	1.30	1.33	1.37	1.33	1.33	1.37
6700	1.78	1.60	1.48	1.32	1.31	1.36	1.38	1.31	1.35	1.39	1.35	1.35	1.38
6800	1.84	1.64	1.52	1.35	1.32	1.38	1.39	1.32	1.37	1.41	1.36	1.37	1.40
6900	1.88	1.67	1.55	1.37	1.34	1.40	1.41	1.34	1.39	1.42	1.39	1.39	1.42
7000	1.88	1.68	1.57	1.39	1.36	1.41	1.42	1.35	1.41	1.44	1.41	1.41	1.44
7100	1.85	1.67	1.57	1.40	1.37	1.43	1.43	1.36	1.43	1.45	1.43	1.43	1.45
7200	1.79	1.64	1.56	1.41	1.38	1.44	1.44	1.37	1.44	1.47	1.45	1.44	1.47
7300	1.70	1.59	1.54	1.42	1.38	1.45	1.45	1.38	1.46	1.48	1.46	1.46	1.48
7400	1.59	1.53	1.50	1.41	1.38	1.46	1.45	1.39	1.47	1.49	1.48	1.48	1.49
7500	1.47	1.45	1.46	1.41	1.39	1.47	1.46	1.40	1.49	1.50	1.49	1.49	1.50
7600	1.35	1.37	1.41	1.41	1.39	1.48	1.46	1.41	1.50	1.51	1.51	1.51	1.52
7700	1.24	1.29	1.37	1.41	1.39	1.49	1.46	1.41	1.51	1.51	1.52	1.52	1.52
7800	1.14	1.20	1.32	1.41	1.38	1.49	1.46	1.42	1.51	1.51	1.53	1.53	1.53
7900	1.11	1.15	1.29	1.41	1.38	1.49	1.45	1.42	1.52	1.51	1.54	1.54	1.53
8000	1.12	1.15	1.27	1.42	1.37	1.49	1.45	1.42	1.52	1.50	1.54	1.54	1.53

Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions collectively, "Standard Terms". Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCStore/terms.jsp



Programmable Attenuator

RCDAT-8G-120H

Typical Performance Data @ 25°C

Freq. (MHz)	Attenuation relative to Insertion Loss (dB)												
	0.25 dB	5 dB	10 dB	20 dB	40 dB	60 dB	80 dB	90 dB	100 dB	105 dB	110 dB	115 dB	120 dB
100	0.29	5.02	10.07	20.13	40.18	59.19	79.08	89.10	99.09	103.51	107.60	111.96	115.94
200	0.29	5.07	10.14	20.28	40.40	59.58	79.42	89.45	99.34	103.79	107.87	112.24	116.13
300	0.29	5.05	10.11	20.30	40.32	59.64	79.25	89.26	98.84	103.32	107.38	111.74	115.65
400	0.29	5.02	10.07	20.27	40.21	59.60	79.03	89.05	98.42	102.85	106.96	111.35	115.22
500	0.28	4.98	10.01	20.24	40.11	59.48	78.83	88.86	98.17	102.59	106.70	111.13	115.03
600	0.28	4.94	9.96	20.19	40.02	59.32	78.67	88.73	98.11	102.58	106.67	111.11	115.01
700	0.28	4.90	9.91	20.14	39.96	59.24	78.62	88.71	98.17	102.78	106.86	111.27	115.30
800	0.27	4.87	9.88	20.10	39.91	59.22	78.66	88.75	98.32	103.01	107.13	111.53	115.69
900	0.27	4.85	9.86	20.08	39.88	59.26	78.75	88.85	98.50	103.32	107.42	111.87	116.10
1000	0.27	4.84	9.87	20.08	39.88	59.35	78.90	89.01	98.72	103.62	107.72	112.12	116.52
1100	0.27	4.85	9.89	20.09	39.90	59.47	79.06	89.18	98.94	103.79	107.90	112.33	116.65
1200	0.27	4.87	9.94	20.12	39.94	59.57	79.19	89.32	99.11	103.87	107.97	112.48	116.78
1300	0.26	4.90	9.98	20.16	40.00	59.62	79.26	89.39	99.24	103.96	108.09	112.63	116.96
1400	0.26	4.93	10.03	20.20	40.06	59.63	79.30	89.44	99.32	104.13	108.26	112.84	117.15
1500	0.27	4.95	10.08	20.24	40.12	59.67	79.35	89.50	99.38	104.34	108.48	113.01	117.43
1600	0.26	4.97	10.11	20.27	40.17	59.74	79.44	89.59	99.48	104.54	108.70	113.26	117.66
1700	0.26	4.98	10.13	20.28	40.19	59.82	79.54	89.70	99.62	104.72	108.86	113.41	117.79
1800	0.26	4.98	10.14	20.29	40.21	59.91	79.65	89.80	99.76	104.83	109.02	113.57	117.91
1900	0.26	4.98	10.15	20.29	40.23	59.99	79.76	89.91	99.89	104.91	109.06	113.68	118.13
2000	0.26	4.98	10.16	20.28	40.24	60.05	79.83	90.00	99.98	105.01	109.18	113.80	118.36
2200	0.26	4.99	10.18	20.28	40.26	60.07	79.88	90.07	100.09	105.31	109.47	113.99	118.57
2400	0.26	5.01	10.22	20.31	40.32	60.14	79.99	90.20	100.24	105.50	109.67	114.28	118.94
2600	0.26	5.03	10.25	20.34	40.37	60.26	80.15	90.39	100.43	105.66	109.88	114.62	119.21
2800	0.27	5.04	10.26	20.35	40.40	60.34	80.27	90.54	100.63	105.90	110.13	114.91	119.41
3000	0.27	5.05	10.24	20.36	40.43	60.33	80.30	90.60	100.70	106.12	110.30	115.18	119.79
3200	0.27	5.08	10.23	20.38	40.48	60.39	80.40	90.74	100.88	106.27	110.60	115.36	120.19
3400	0.27	5.14	10.24	20.43	40.57	60.49	80.54	90.91	101.10	106.55	110.89	115.87	120.62
3600	0.28	5.21	10.27	20.52	40.69	60.52	80.60	91.03	101.24	106.73	111.05	115.91	121.02
3800	0.29	5.28	10.31	20.60	40.83	60.63	80.75	91.23	101.43	106.97	111.29	116.40	121.25
4000	0.30	5.32	10.33	20.65	40.93	60.69	80.86	91.37	101.64	107.14	111.52	116.59	121.64
4200	0.31	5.32	10.31	20.65	40.97	60.68	80.89	91.45	101.76	107.25	111.71	116.88	121.74
4400	0.31	5.28	10.25	20.60	40.96	60.65	80.91	91.51	101.82	107.33	111.77	116.93	122.20
4600	0.32	5.22	10.19	20.55	40.94	60.62	80.92	91.57	101.91	107.43	111.90	117.25	122.29
4800	0.32	5.18	10.14	20.52	40.95	60.58	80.92	91.62	101.94	107.42	112.01	117.47	122.32
5000	0.31	5.17	10.13	20.53	40.99	60.58	80.96	91.68	102.02	107.58	112.15	117.54	122.84
5200	0.32	5.19	10.16	20.58	41.07	60.66	81.08	91.79	102.13	107.78	112.38	117.72	122.98
5400	0.32	5.22	10.21	20.65	41.18	60.81	81.26	91.94	102.33	107.90	112.54	117.88	123.75
5600	0.33	5.25	10.26	20.70	41.29	60.93	81.40	92.04	102.39	107.98	112.57	118.13	123.87
5800	0.34	5.27	10.31	20.74	41.38	61.09	81.55	92.17	102.53	108.15	112.68	118.14	123.94
6000	0.35	5.28	10.34	20.72	41.42	61.15	81.63	92.14	102.51	108.26	112.63	118.10	123.21
6200	0.36	5.26	10.32	20.63	41.36	61.15	81.61	92.04	102.42	108.04	112.45	117.90	123.18
6300	0.36	5.23	10.28	20.55	41.28	61.09	81.54	91.92	102.24	107.87	112.21	117.66	123.04
6400	0.36	5.19	10.23	20.45	41.17	60.99	81.43	91.76	102.19	107.79	112.13	117.32	122.89
6500	0.36	5.13	10.17	20.34	41.03	60.88	81.30	91.57	102.00	107.66	112.11	117.11	122.47
6600	0.36	5.08	10.10	20.23	40.88	60.73	81.14	91.40	101.79	107.44	111.87	116.97	122.04
6700	0.35	5.02	10.03	20.13	40.73	60.59	80.98	91.21	101.67	107.19	111.55	116.85	121.66
6800	0.35	4.97	9.98	20.06	40.59	60.46	80.82	91.05	101.52	106.99	111.42	116.61	121.54
6900	0.34	4.94	9.96	20.03	40.48	60.36	80.70	90.86	101.34	106.93	111.18	116.40	121.66
7000	0.34	4.93	9.96	20.04	40.39	60.29	80.61	90.74	101.23	106.88	110.95	116.29	120.90
7100	0.33	4.94	9.99	20.11	40.35	60.26	80.56	90.69	101.19	106.70	110.89	116.05	121.32
7200	0.33	4.96	10.04	20.21	40.34	60.28	80.53	90.64	101.08	106.54	110.67	116.10	121.06
7300	0.33	4.99	10.11	20.35	40.36	60.31	80.50	90.63	101.07	106.48	110.66	115.82	121.03
7400	0.32	5.04	10.19	20.52	40.39	60.35	80.48	90.60	101.09	106.46	110.87	116.17	120.90
7500	0.33	5.09	10.27	20.70	40.43	60.40	80.48	90.57	101.08	106.54	110.79	116.09	120.58
7600	0.33	5.14	10.32	20.85	40.46	60.45	80.48	90.59	101.06	106.38	110.63	115.86	120.40
7700	0.33	5.18	10.37	20.99	40.46	60.44	80.41	90.53	100.89	106.12	110.32	115.62	119.92
7800	0.33	5.21	10.39	21.09	40.43	60.42	80.31	90.42	100.66	105.79	109.96	115.22	119.31
7900	0.34	5.23	10.38	21.16	40.36	60.35	80.15	90.24	100.33	105.42	109.65	114.67	119.04
8000	0.34	5.24	10.34	21.18	40.25	60.21	79.94	90.01	99.92	104.93	109.09	113.85	117.98

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Programmable Attenuator

RCDAT-8G-120H

Typical Performance Data @ 25°C

Freq. (MHz)	Attenuation relative to Insertion Loss @ Fine resolution (0.05 dB)									
	7.4 dB	7.45 dB	7.5 dB	7.55 dB	7.6 dB	67.4 dB	67.45	67.5 dB	67.55	67.6 dB
100	7.61	7.69	7.75	7.80	7.85	66.69	66.74	66.78	66.83	67.09
200	7.65	7.74	7.79	7.84	7.90	67.09	67.13	67.18	67.22	67.45
300	7.62	7.71	7.77	7.82	7.87	67.15	67.19	67.24	67.28	67.29
400	7.58	7.67	7.72	7.78	7.83	67.11	67.16	67.20	67.25	67.08
500	7.54	7.63	7.68	7.73	7.78	66.99	67.03	67.08	67.13	66.88
600	7.49	7.58	7.63	7.68	7.74	66.84	66.88	66.93	66.97	66.71
700	7.45	7.54	7.59	7.65	7.70	66.75	66.80	66.85	66.89	66.65
800	7.42	7.51	7.56	7.62	7.67	66.74	66.79	66.83	66.88	66.67
900	7.41	7.50	7.56	7.61	7.66	66.78	66.83	66.88	66.93	66.75
1000	7.42	7.51	7.56	7.62	7.67	66.88	66.94	66.98	67.04	66.89
1100	7.44	7.53	7.59	7.64	7.69	67.00	67.06	67.11	67.16	67.03
1200	7.48	7.57	7.62	7.68	7.73	67.11	67.16	67.21	67.27	67.15
1300	7.52	7.61	7.67	7.72	7.77	67.15	67.21	67.26	67.32	67.21
1400	7.56	7.65	7.71	7.76	7.81	67.17	67.23	67.29	67.34	67.23
1500	7.60	7.68	7.74	7.79	7.84	67.21	67.27	67.33	67.38	67.26
1600	7.62	7.70	7.76	7.81	7.86	67.29	67.35	67.40	67.46	67.33
1700	7.64	7.72	7.77	7.83	7.88	67.37	67.44	67.49	67.55	67.41
1800	7.64	7.72	7.78	7.83	7.89	67.47	67.53	67.59	67.64	67.49
1900	7.65	7.72	7.78	7.84	7.89	67.56	67.62	67.68	67.74	67.58
2000	7.65	7.72	7.78	7.84	7.89	67.62	67.68	67.74	67.80	67.63
2200	7.68	7.74	7.80	7.86	7.91	67.66	67.72	67.77	67.83	67.64
2400	7.72	7.78	7.84	7.90	7.95	67.74	67.80	67.86	67.92	67.71
2600	7.75	7.81	7.87	7.93	7.98	67.88	67.94	67.99	68.05	67.84
2800	7.75	7.81	7.86	7.92	7.98	67.98	68.04	68.09	68.15	67.93
3000	7.71	7.77	7.83	7.88	7.94	67.99	68.05	68.10	68.16	67.92
3200	7.66	7.72	7.78	7.84	7.89	68.07	68.13	68.18	68.24	68.00
3400	7.61	7.69	7.74	7.80	7.85	68.20	68.26	68.31	68.37	68.11
3600	7.59	7.67	7.73	7.78	7.83	68.25	68.31	68.37	68.43	68.16
3800	7.59	7.68	7.73	7.79	7.84	68.40	68.46	68.52	68.58	68.30
4000	7.59	7.68	7.74	7.79	7.85	68.51	68.57	68.63	68.69	68.39
4200	7.59	7.67	7.73	7.79	7.85	68.55	68.61	68.67	68.73	68.42
4400	7.58	7.65	7.71	7.77	7.83	68.57	68.63	68.70	68.77	68.43
4600	7.56	7.61	7.68	7.74	7.81	68.58	68.65	68.72	68.79	68.44
4800	7.55	7.59	7.66	7.73	7.80	68.59	68.66	68.73	68.81	68.43
5000	7.57	7.58	7.66	7.74	7.81	68.63	68.71	68.78	68.86	68.47
5200	7.61	7.61	7.69	7.77	7.85	68.75	68.83	68.91	68.99	68.57
5400	7.66	7.65	7.74	7.82	7.90	68.92	69.00	69.09	69.17	68.71
5600	7.72	7.70	7.79	7.87	7.96	69.06	69.14	69.23	69.32	68.82
5800	7.77	7.74	7.83	7.92	8.01	69.22	69.31	69.39	69.49	68.94
6000	7.81	7.77	7.86	7.95	8.04	69.30	69.39	69.47	69.56	68.95
6200	7.81	7.76	7.85	7.94	8.03	69.31	69.39	69.48	69.56	68.89
6300	7.78	7.73	7.82	7.92	8.00	69.25	69.33	69.42	69.50	68.79
6400	7.75	7.70	7.79	7.88	7.96	69.16	69.24	69.32	69.41	68.65
6500	7.70	7.65	7.74	7.83	7.91	69.06	69.14	69.21	69.30	68.50
6600	7.66	7.61	7.69	7.78	7.86	68.92	69.00	69.07	69.16	68.31
6700	7.62	7.56	7.65	7.73	7.81	68.78	68.86	68.94	69.02	68.12
6800	7.58	7.53	7.61	7.70	7.78	68.66	68.74	68.82	68.89	67.95
6900	7.57	7.52	7.60	7.68	7.76	68.56	68.64	68.71	68.79	67.82
7000	7.58	7.53	7.61	7.68	7.76	68.50	68.58	68.65	68.73	67.71
7100	7.60	7.56	7.63	7.71	7.79	68.47	68.55	68.62	68.70	67.64
7200	7.65	7.60	7.68	7.76	7.83	68.48	68.56	68.63	68.71	67.62
7300	7.71	7.66	7.73	7.81	7.89	68.50	68.58	68.65	68.73	67.61
7400	7.76	7.72	7.79	7.87	7.94	68.53	68.61	68.68	68.76	67.61
7500	7.82	7.77	7.85	7.93	8.00	68.56	68.63	68.70	68.79	67.63
7600	7.86	7.81	7.89	7.96	8.04	68.59	68.66	68.74	68.82	67.66
7700	7.88	7.83	7.91	7.99	8.07	68.56	68.63	68.71	68.79	67.63
7800	7.88	7.82	7.91	7.99	8.07	68.49	68.57	68.65	68.73	67.59
7900	7.86	7.80	7.88	7.97	8.05	68.38	68.46	68.54	68.62	67.50
8000	7.81	7.74	7.83	7.92	8.00	68.19	68.28	68.36	68.44	67.36

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Programmable Attenuator

RCDAT-8G-120H

Typical Performance Data @ 25°C

Freq. (MHz)	Attenuation relative to Insertion Loss @ Fine resolution (0.05 dB)				
	100.4	100.45	100.5	100.55	100.6
100	99.67	99.74	99.76	99.91	99.95
200	99.92	99.98	100.02	100.13	100.18
300	99.43	99.47	99.52	99.63	99.68
400	99.00	99.04	99.09	99.20	99.25
500	98.77	98.82	98.86	98.98	99.02
600	98.69	98.74	98.79	98.90	98.96
700	98.76	98.81	98.87	98.96	99.03
800	98.92	98.96	98.99	99.11	99.16
900	99.10	99.14	99.18	99.29	99.36
1000	99.34	99.38	99.44	99.54	99.60
1100	99.54	99.61	99.64	99.74	99.81
1200	99.72	99.78	99.82	99.92	99.98
1300	99.84	99.89	99.94	100.04	100.08
1400	99.91	99.96	100.02	100.10	100.16
1500	99.99	100.05	100.10	100.19	100.23
1600	100.12	100.15	100.21	100.30	100.35
1700	100.23	100.28	100.33	100.43	100.48
1800	100.37	100.41	100.48	100.57	100.62
1900	100.49	100.56	100.62	100.70	100.75
2000	100.58	100.65	100.70	100.79	100.84
2200	100.71	100.76	100.82	100.88	100.96
2400	100.87	100.92	100.95	101.04	101.10
2600	101.07	101.11	101.19	101.26	101.34
2800	101.26	101.32	101.36	101.44	101.51
3000	101.35	101.42	101.46	101.54	101.62
3200	101.52	101.57	101.63	101.71	101.78
3400	101.73	101.79	101.87	101.94	102.00
3600	101.89	101.94	101.96	102.09	102.16
3800	102.11	102.17	102.21	102.32	102.38
4000	102.31	102.34	102.42	102.53	102.59
4200	102.45	102.52	102.53	102.64	102.73
4400	102.52	102.57	102.62	102.74	102.78
4600	102.59	102.63	102.73	102.82	102.91
4800	102.69	102.75	102.78	102.92	102.99
5000	102.75	102.83	102.88	103.01	103.05
5200	102.88	102.95	103.02	103.07	103.20
5400	103.06	103.10	103.22	103.28	103.35
5600	103.13	103.25	103.32	103.40	103.45
5800	103.27	103.36	103.45	103.51	103.62
6000	103.28	103.35	103.42	103.52	103.57
6200	103.12	103.22	103.28	103.38	103.47
6300	102.99	103.13	103.22	103.22	103.35
6400	102.90	103.01	103.08	103.22	103.29
6500	102.78	102.81	102.94	103.02	103.10
6600	102.55	102.62	102.76	102.83	102.87
6700	102.35	102.42	102.53	102.66	102.70
6800	102.25	102.27	102.41	102.49	102.54
6900	102.06	102.15	102.27	102.31	102.37
7000	101.97	102.06	102.12	102.22	102.28
7100	101.88	101.99	102.01	102.19	102.25
7200	101.76	101.83	101.93	102.03	102.12
7300	101.76	101.80	101.93	102.06	102.12
7400	101.84	101.83	101.95	102.11	102.16
7500	101.82	101.86	101.94	102.09	102.18
7600	101.81	101.84	101.95	102.03	102.14
7700	101.63	101.69	101.76	101.80	101.91
7800	101.42	101.50	101.55	101.61	101.70
7900	101.07	101.15	101.23	101.33	101.38
8000	100.70	100.76	100.85	100.92	100.96

Freq. (MHz)	I. Loss (dB)
100	4.26
200	4.00
300	4.08
400	4.20
500	4.33
600	4.49
700	4.63
800	4.77
900	4.89
1000	4.99
1100	5.07
1200	5.13
1300	5.18
1400	5.22
1500	5.28
1600	5.35
1700	5.44
1800	5.55
1900	5.68
2000	5.81
2200	5.96
2400	6.02
2600	6.13
2800	6.28
3000	6.48
3200	6.68
3400	6.85
3600	7.00
3800	7.16
4000	7.35
4200	7.59
4400	7.88
4600	8.18
4800	8.45
5000	8.68
5200	8.86
5400	9.04
5600	9.21
5800	9.43
6000	9.73
6200	10.14
6300	10.39
6400	10.68
6500	10.98
6600	11.30
6700	11.61
6800	11.90
6900	12.14
7000	12.34
7100	12.48
7200	12.57
7300	12.62
7400	12.64
7500	12.64
7600	12.63
7700	12.64
7800	12.67
7900	12.74
8000	12.85

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Programmable Attenuator

RCDAT-8G-120H

Typical Performance Data @ 25°C

Freq. (MHz)	Input VSWR (:1)												
	0.25 dB	5 dB	10 dB	20 dB	40 dB	60 dB	80 dB	90 dB	100 dB	105 dB	110 dB	115 dB	120 dB
100	2.06	1.66	1.33	1.41	1.23	1.20	1.19	1.26	1.22	1.20	1.22	1.22	1.20
200	1.66	1.45	1.18	1.31	1.11	1.08	1.07	1.16	1.10	1.08	1.10	1.10	1.08
300	1.52	1.39	1.14	1.29	1.08	1.04	1.03	1.14	1.07	1.05	1.07	1.07	1.05
400	1.41	1.34	1.11	1.29	1.07	1.03	1.01	1.14	1.07	1.03	1.07	1.07	1.03
500	1.31	1.30	1.10	1.28	1.07	1.03	1.00	1.14	1.07	1.03	1.07	1.07	1.03
600	1.21	1.27	1.08	1.27	1.07	1.04	1.02	1.14	1.07	1.04	1.07	1.07	1.04
700	1.14	1.25	1.07	1.27	1.08	1.04	1.03	1.14	1.07	1.04	1.07	1.07	1.04
800	1.12	1.24	1.06	1.27	1.08	1.05	1.04	1.14	1.07	1.05	1.07	1.07	1.05
900	1.17	1.25	1.05	1.26	1.08	1.06	1.04	1.14	1.07	1.06	1.07	1.07	1.06
1000	1.24	1.26	1.05	1.26	1.08	1.06	1.05	1.13	1.07	1.07	1.07	1.07	1.07
1100	1.31	1.28	1.05	1.25	1.08	1.07	1.06	1.13	1.07	1.07	1.07	1.07	1.07
1200	1.37	1.30	1.06	1.25	1.08	1.08	1.06	1.13	1.07	1.08	1.07	1.07	1.08
1300	1.40	1.31	1.06	1.24	1.07	1.08	1.07	1.12	1.06	1.09	1.06	1.07	1.09
1400	1.41	1.31	1.06	1.24	1.07	1.09	1.07	1.12	1.06	1.09	1.06	1.06	1.09
1500	1.39	1.30	1.05	1.23	1.07	1.09	1.08	1.11	1.06	1.10	1.06	1.06	1.10
1600	1.35	1.28	1.05	1.22	1.07	1.10	1.08	1.11	1.06	1.10	1.06	1.06	1.10
1700	1.29	1.25	1.05	1.21	1.07	1.10	1.08	1.11	1.06	1.10	1.06	1.06	1.10
1800	1.23	1.23	1.04	1.21	1.07	1.10	1.09	1.10	1.06	1.11	1.06	1.06	1.11
1900	1.17	1.21	1.04	1.20	1.06	1.10	1.09	1.10	1.06	1.11	1.06	1.06	1.11
2000	1.12	1.19	1.04	1.20	1.06	1.10	1.09	1.10	1.06	1.11	1.06	1.06	1.11
2200	1.11	1.18	1.03	1.19	1.05	1.10	1.08	1.09	1.05	1.10	1.05	1.05	1.10
2400	1.16	1.19	1.03	1.18	1.04	1.09	1.08	1.09	1.04	1.10	1.04	1.04	1.10
2600	1.20	1.20	1.03	1.17	1.04	1.09	1.08	1.08	1.04	1.10	1.04	1.04	1.10
2800	1.21	1.20	1.03	1.16	1.03	1.10	1.08	1.08	1.03	1.10	1.03	1.03	1.10
3000	1.21	1.19	1.03	1.15	1.03	1.10	1.08	1.07	1.03	1.10	1.03	1.03	1.10
3200	1.23	1.18	1.03	1.14	1.03	1.10	1.09	1.07	1.04	1.11	1.04	1.04	1.11
3400	1.27	1.17	1.02	1.13	1.03	1.11	1.10	1.07	1.04	1.11	1.04	1.04	1.11
3600	1.29	1.16	1.00	1.11	1.04	1.12	1.11	1.08	1.05	1.12	1.05	1.05	1.12
3800	1.28	1.13	1.03	1.10	1.05	1.14	1.13	1.08	1.06	1.14	1.06	1.06	1.14
4000	1.24	1.09	1.07	1.08	1.06	1.15	1.15	1.09	1.07	1.16	1.07	1.07	1.16
4200	1.21	1.05	1.12	1.07	1.08	1.17	1.17	1.10	1.08	1.17	1.08	1.08	1.18
4400	1.22	1.05	1.17	1.07	1.10	1.19	1.19	1.11	1.10	1.19	1.10	1.10	1.19
4600	1.25	1.08	1.20	1.07	1.11	1.21	1.21	1.13	1.12	1.22	1.12	1.12	1.22
4800	1.27	1.10	1.22	1.08	1.13	1.24	1.24	1.14	1.14	1.24	1.14	1.14	1.24
5000	1.26	1.11	1.23	1.08	1.15	1.26	1.26	1.16	1.16	1.26	1.16	1.16	1.26
5200	1.21	1.08	1.23	1.08	1.17	1.28	1.29	1.18	1.18	1.29	1.18	1.18	1.29
5400	1.12	1.07	1.23	1.08	1.19	1.30	1.31	1.20	1.21	1.31	1.21	1.21	1.31
5600	1.04	1.09	1.24	1.09	1.22	1.33	1.33	1.22	1.23	1.33	1.23	1.23	1.33
5800	1.09	1.15	1.25	1.11	1.24	1.35	1.35	1.24	1.26	1.35	1.26	1.26	1.35
6000	1.20	1.22	1.28	1.14	1.27	1.37	1.37	1.26	1.28	1.38	1.28	1.28	1.38
6200	1.35	1.31	1.34	1.18	1.31	1.39	1.39	1.28	1.31	1.40	1.31	1.31	1.40
6300	1.44	1.36	1.38	1.20	1.32	1.40	1.40	1.29	1.33	1.41	1.32	1.32	1.41
6400	1.53	1.41	1.42	1.22	1.34	1.41	1.41	1.29	1.34	1.42	1.34	1.34	1.42
6500	1.62	1.47	1.46	1.24	1.36	1.42	1.41	1.30	1.35	1.43	1.35	1.35	1.43
6600	1.71	1.51	1.50	1.26	1.38	1.43	1.42	1.31	1.37	1.44	1.37	1.37	1.44
6700	1.77	1.55	1.53	1.28	1.39	1.44	1.43	1.31	1.38	1.45	1.38	1.38	1.45
6800	1.82	1.58	1.56	1.30	1.41	1.45	1.43	1.32	1.39	1.46	1.39	1.39	1.46
6900	1.84	1.59	1.58	1.32	1.42	1.46	1.44	1.32	1.41	1.47	1.41	1.41	1.47
7000	1.82	1.59	1.59	1.33	1.44	1.47	1.44	1.32	1.42	1.47	1.42	1.42	1.47
7100	1.78	1.57	1.58	1.34	1.45	1.48	1.44	1.32	1.43	1.48	1.43	1.43	1.48
7200	1.71	1.54	1.57	1.35	1.46	1.48	1.44	1.33	1.44	1.49	1.44	1.44	1.49
7300	1.62	1.50	1.55	1.36	1.47	1.49	1.44	1.33	1.45	1.49	1.46	1.46	1.49
7400	1.52	1.45	1.52	1.36	1.48	1.49	1.44	1.32	1.46	1.49	1.46	1.46	1.49
7500	1.41	1.39	1.48	1.36	1.48	1.49	1.43	1.32	1.47	1.50	1.47	1.47	1.50
7600	1.30	1.33	1.44	1.37	1.48	1.49	1.43	1.32	1.48	1.49	1.48	1.48	1.50
7700	1.21	1.28	1.41	1.37	1.48	1.49	1.42	1.31	1.48	1.49	1.48	1.48	1.49
7800	1.13	1.24	1.37	1.38	1.48	1.49	1.41	1.31	1.49	1.49	1.49	1.49	1.49
7900	1.10	1.21	1.34	1.38	1.48	1.48	1.40	1.30	1.49	1.48	1.49	1.49	1.48
8000	1.12	1.19	1.31	1.39	1.47	1.47	1.38	1.30	1.49	1.47	1.49	1.49	1.48

Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions collectively, "Standard Terms". Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCStore/terms.jsp



Programmable Attenuator

RCDAT-8G-120H

Typical Performance Data @ 25°C

Freq. (MHz)	Output VSWR (:1)												
	0.25 dB	5 dB	10 dB	20 dB	40 dB	60 dB	80 dB	90 dB	100 dB	105 dB	110 dB	115 dB	120 dB
100	2.06	1.67	1.38	1.35	1.27	1.21	1.20	1.23	1.22	1.21	1.21	1.21	1.20
200	1.66	1.42	1.22	1.23	1.16	1.09	1.08	1.12	1.10	1.09	1.09	1.09	1.08
300	1.52	1.35	1.18	1.20	1.14	1.06	1.05	1.09	1.07	1.06	1.06	1.06	1.05
400	1.40	1.30	1.15	1.18	1.14	1.05	1.04	1.09	1.07	1.05	1.05	1.05	1.03
500	1.29	1.25	1.13	1.17	1.13	1.04	1.04	1.08	1.07	1.05	1.05	1.05	1.03
600	1.18	1.21	1.12	1.17	1.13	1.04	1.04	1.08	1.07	1.05	1.05	1.05	1.03
700	1.09	1.19	1.11	1.16	1.13	1.05	1.05	1.08	1.07	1.06	1.05	1.05	1.04
800	1.08	1.20	1.11	1.16	1.13	1.05	1.05	1.09	1.07	1.06	1.05	1.05	1.04
900	1.15	1.21	1.11	1.16	1.13	1.05	1.06	1.09	1.07	1.06	1.05	1.05	1.05
1000	1.23	1.24	1.12	1.16	1.13	1.06	1.06	1.09	1.07	1.07	1.05	1.05	1.05
1100	1.31	1.27	1.13	1.17	1.12	1.06	1.06	1.09	1.07	1.07	1.06	1.06	1.06
1200	1.37	1.30	1.14	1.17	1.12	1.07	1.06	1.09	1.07	1.07	1.06	1.06	1.07
1300	1.40	1.31	1.15	1.17	1.12	1.07	1.07	1.09	1.07	1.08	1.06	1.06	1.07
1400	1.41	1.32	1.15	1.16	1.12	1.07	1.07	1.09	1.06	1.08	1.06	1.06	1.07
1500	1.41	1.32	1.16	1.16	1.11	1.07	1.07	1.09	1.06	1.08	1.06	1.06	1.08
1600	1.38	1.31	1.15	1.15	1.11	1.07	1.07	1.09	1.06	1.08	1.06	1.06	1.08
1700	1.34	1.30	1.15	1.15	1.10	1.07	1.07	1.09	1.06	1.08	1.06	1.06	1.08
1800	1.30	1.28	1.15	1.14	1.10	1.08	1.07	1.08	1.06	1.08	1.06	1.06	1.09
1900	1.27	1.27	1.14	1.13	1.10	1.07	1.07	1.08	1.06	1.08	1.06	1.06	1.09
2000	1.24	1.27	1.14	1.13	1.09	1.07	1.07	1.08	1.05	1.08	1.06	1.06	1.09
2200	1.25	1.27	1.14	1.11	1.08	1.07	1.06	1.08	1.04	1.07	1.05	1.05	1.08
2400	1.29	1.28	1.14	1.11	1.07	1.06	1.05	1.07	1.04	1.07	1.05	1.05	1.08
2600	1.32	1.29	1.14	1.11	1.06	1.06	1.05	1.07	1.03	1.06	1.05	1.05	1.08
2800	1.32	1.29	1.13	1.12	1.06	1.07	1.05	1.07	1.03	1.06	1.05	1.05	1.08
3000	1.30	1.27	1.13	1.12	1.05	1.07	1.05	1.07	1.03	1.06	1.05	1.05	1.09
3200	1.27	1.25	1.11	1.12	1.05	1.08	1.06	1.07	1.03	1.07	1.05	1.05	1.09
3400	1.24	1.22	1.09	1.12	1.05	1.08	1.07	1.07	1.04	1.07	1.06	1.06	1.09
3600	1.21	1.19	1.07	1.11	1.05	1.09	1.07	1.08	1.04	1.08	1.06	1.06	1.10
3800	1.19	1.16	1.08	1.10	1.06	1.10	1.08	1.08	1.05	1.08	1.07	1.07	1.11
4000	1.18	1.12	1.09	1.09	1.06	1.10	1.09	1.08	1.05	1.09	1.07	1.07	1.11
4200	1.17	1.08	1.11	1.08	1.07	1.11	1.10	1.09	1.06	1.10	1.08	1.08	1.12
4400	1.17	1.07	1.12	1.08	1.08	1.12	1.11	1.09	1.06	1.11	1.08	1.08	1.13
4600	1.18	1.09	1.13	1.07	1.09	1.13	1.12	1.10	1.07	1.12	1.09	1.09	1.14
4800	1.21	1.12	1.15	1.07	1.10	1.14	1.14	1.11	1.09	1.14	1.10	1.10	1.15
5000	1.22	1.14	1.18	1.06	1.12	1.15	1.15	1.11	1.10	1.15	1.11	1.11	1.16
5200	1.20	1.14	1.19	1.05	1.14	1.16	1.17	1.12	1.12	1.17	1.12	1.13	1.18
5400	1.16	1.13	1.20	1.06	1.16	1.18	1.19	1.14	1.14	1.19	1.14	1.14	1.19
5600	1.11	1.14	1.20	1.06	1.17	1.19	1.21	1.15	1.16	1.21	1.16	1.16	1.21
5800	1.12	1.16	1.19	1.07	1.19	1.22	1.24	1.17	1.19	1.24	1.19	1.18	1.24
6000	1.19	1.20	1.19	1.11	1.21	1.24	1.27	1.20	1.22	1.27	1.21	1.21	1.26
6200	1.31	1.29	1.24	1.16	1.23	1.27	1.29	1.23	1.25	1.30	1.24	1.24	1.29
6300	1.39	1.35	1.28	1.20	1.24	1.29	1.31	1.24	1.27	1.31	1.26	1.26	1.31
6400	1.49	1.41	1.33	1.23	1.25	1.31	1.32	1.25	1.29	1.33	1.28	1.28	1.32
6500	1.59	1.47	1.38	1.26	1.27	1.32	1.34	1.27	1.30	1.34	1.30	1.30	1.34
6600	1.68	1.54	1.43	1.29	1.28	1.34	1.35	1.28	1.32	1.36	1.31	1.31	1.36
6700	1.76	1.59	1.47	1.32	1.30	1.35	1.36	1.30	1.34	1.37	1.33	1.33	1.37
6800	1.82	1.63	1.51	1.34	1.31	1.37	1.38	1.31	1.36	1.39	1.35	1.35	1.39
6900	1.84	1.65	1.53	1.36	1.32	1.39	1.39	1.32	1.38	1.41	1.37	1.37	1.41
7000	1.84	1.66	1.55	1.38	1.34	1.40	1.40	1.34	1.39	1.42	1.39	1.39	1.42
7100	1.80	1.64	1.55	1.39	1.34	1.41	1.41	1.35	1.41	1.43	1.41	1.41	1.44
7200	1.74	1.61	1.54	1.40	1.35	1.43	1.42	1.36	1.42	1.45	1.42	1.42	1.45
7300	1.66	1.56	1.51	1.40	1.36	1.44	1.43	1.37	1.44	1.46	1.44	1.44	1.46
7400	1.55	1.50	1.48	1.40	1.36	1.45	1.44	1.38	1.45	1.47	1.46	1.46	1.48
7500	1.44	1.42	1.44	1.39	1.36	1.46	1.44	1.39	1.47	1.48	1.47	1.48	1.49
7600	1.33	1.34	1.39	1.39	1.36	1.47	1.45	1.40	1.48	1.49	1.49	1.49	1.50
7700	1.21	1.26	1.35	1.39	1.36	1.48	1.45	1.40	1.49	1.49	1.50	1.50	1.51
7800	1.13	1.17	1.31	1.39	1.36	1.49	1.45	1.41	1.50	1.50	1.51	1.52	1.52
7900	1.10	1.14	1.28	1.40	1.36	1.49	1.45	1.41	1.50	1.50	1.52	1.53	1.52
8000	1.12	1.14	1.27	1.41	1.37	1.49	1.44	1.42	1.51	1.50	1.53	1.53	1.53

Notes

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- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions collectively, "Standard Terms"; Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCStore/terms.jsp



Programmable Attenuator

RCDAT-8G-120H

Typical Performance Data @ 50°C

Freq. (MHz)	Attenuation relative to Insertion Loss (dB)												
	0.25 dB	5 dB	10 dB	20 dB	40 dB	60 dB	80 dB	90 dB	100 dB	105 dB	110 dB	115 dB	120 dB
100	0.28	4.99	10.07	20.06	40.07	58.52	78.32	88.30	98.25	103.06	107.11	111.41	115.36
200	0.28	5.03	10.12	20.21	40.28	58.99	78.75	88.74	98.58	103.35	107.36	111.73	115.63
300	0.28	5.01	10.08	20.21	40.19	59.11	78.64	88.62	98.14	102.86	106.91	111.23	115.08
400	0.27	4.98	10.03	20.18	40.07	59.06	78.40	88.38	97.72	102.38	106.46	110.81	114.69
500	0.27	4.94	9.98	20.15	39.97	58.87	78.14	88.14	97.41	102.13	106.19	110.57	114.40
600	0.27	4.90	9.92	20.10	39.88	58.72	77.99	88.01	97.35	102.12	106.21	110.58	114.48
700	0.26	4.86	9.87	20.05	39.82	58.69	78.00	88.05	97.48	102.25	106.40	110.78	114.84
800	0.26	4.83	9.84	20.02	39.77	58.73	78.10	88.16	97.68	102.52	106.64	111.00	115.14
900	0.26	4.82	9.83	20.00	39.75	58.84	78.26	88.33	97.93	102.82	106.91	111.38	115.48
1000	0.26	4.82	9.84	20.00	39.75	58.96	78.44	88.51	98.18	103.11	107.23	111.67	115.77
1100	0.25	4.83	9.86	20.02	39.78	59.03	78.54	88.63	98.37	103.30	107.42	111.93	116.05
1200	0.25	4.86	9.91	20.05	39.82	59.03	78.57	88.67	98.42	103.37	107.51	111.93	116.28
1300	0.25	4.89	9.96	20.09	39.88	59.05	78.62	88.74	98.51	103.49	107.60	112.15	116.32
1400	0.25	4.92	10.01	20.14	39.95	59.16	78.75	88.87	98.68	103.70	107.78	112.29	116.57
1500	0.25	4.94	10.06	20.17	40.01	59.30	78.92	89.04	98.88	103.89	107.96	112.52	116.84
1600	0.25	4.96	10.09	20.20	40.06	59.43	79.07	89.18	99.06	104.07	108.19	112.72	117.07
1700	0.25	4.97	10.11	20.21	40.09	59.54	79.19	89.33	99.21	104.28	108.38	112.89	117.28
1800	0.25	4.97	10.13	20.21	40.11	59.60	79.26	89.40	99.30	104.37	108.51	113.05	117.45
1900	0.25	4.96	10.14	20.21	40.12	59.61	79.30	89.43	99.37	104.44	108.63	113.18	117.72
2000	0.25	4.96	10.14	20.20	40.13	59.66	79.36	89.50	99.43	104.57	108.74	113.31	117.85
2200	0.25	4.96	10.16	20.20	40.16	59.81	79.55	89.70	99.68	104.84	108.99	113.57	118.24
2400	0.25	4.98	10.20	20.22	40.20	59.92	79.70	89.86	99.86	105.03	109.23	113.83	118.40
2600	0.25	4.99	10.23	20.24	40.24	60.00	79.82	90.01	100.01	105.25	109.46	114.21	118.75
2800	0.25	5.01	10.23	20.25	40.27	60.10	79.97	90.18	100.24	105.46	109.76	114.27	119.10
3000	0.25	5.02	10.22	20.26	40.29	60.15	80.06	90.31	100.40	105.63	109.89	114.57	119.26
3200	0.26	5.05	10.20	20.28	40.34	60.18	80.13	90.42	100.56	105.80	110.08	114.87	119.73
3400	0.26	5.10	10.20	20.34	40.43	60.29	80.28	90.64	100.78	106.05	110.43	115.27	120.08
3600	0.27	5.18	10.23	20.42	40.55	60.33	80.36	90.76	100.93	106.19	110.60	115.53	120.31
3800	0.28	5.24	10.26	20.50	40.68	60.49	80.55	91.00	101.19	106.44	110.89	115.86	120.87
4000	0.29	5.28	10.27	20.55	40.78	60.53	80.63	91.12	101.34	106.63	111.05	116.12	120.96
4200	0.30	5.28	10.26	20.54	40.83	60.50	80.63	91.18	101.43	106.67	111.16	116.35	121.30
4400	0.30	5.24	10.20	20.50	40.83	60.50	80.69	91.26	101.54	106.83	111.27	116.55	121.50
4600	0.30	5.18	10.15	20.44	40.82	60.51	80.74	91.38	101.63	106.92	111.44	116.56	121.58
4800	0.30	5.15	10.10	20.41	40.83	60.46	80.73	91.39	101.68	106.99	111.48	117.00	121.99
5000	0.30	5.13	10.09	20.42	40.88	60.48	80.80	91.49	101.76	107.13	111.61	117.05	122.40
5200	0.30	5.15	10.11	20.47	40.97	60.63	80.99	91.66	101.96	107.29	111.87	117.33	122.51
5400	0.31	5.17	10.16	20.53	41.09	60.76	81.14	91.82	102.10	107.44	112.04	117.66	123.17
5600	0.31	5.21	10.22	20.59	41.21	60.87	81.27	91.90	102.18	107.65	112.29	117.61	123.15
5800	0.32	5.23	10.27	20.63	41.31	61.03	81.44	92.02	102.33	107.79	112.32	117.87	123.50
6000	0.33	5.24	10.30	20.61	41.35	61.14	81.54	92.05	102.36	107.74	112.34	117.64	122.94
6200	0.34	5.22	10.27	20.52	41.29	61.10	81.48	91.90	102.15	107.57	112.06	117.13	122.32
6300	0.34	5.19	10.23	20.44	41.22	61.02	81.40	91.76	102.04	107.50	111.94	117.23	122.30
6400	0.35	5.14	10.18	20.34	41.11	60.92	81.29	91.60	101.93	107.44	111.87	117.05	122.46
6500	0.34	5.09	10.11	20.23	40.98	60.81	81.17	91.43	101.83	107.27	111.66	116.78	122.15
6600	0.34	5.03	10.05	20.13	40.84	60.70	81.04	91.24	101.63	106.98	111.32	116.45	121.12
6700	0.34	4.98	9.99	20.03	40.70	60.58	80.90	91.11	101.47	106.76	111.11	116.21	120.46
6800	0.33	4.93	9.94	19.97	40.57	60.44	80.74	90.91	101.33	106.63	110.94	116.08	121.32
6900	0.33	4.90	9.92	19.95	40.47	60.32	80.60	90.73	101.20	106.47	110.80	115.85	120.91
7000	0.32	4.89	9.93	19.97	40.40	60.25	80.51	90.62	101.10	106.36	110.65	115.77	120.54
7100	0.32	4.91	9.96	20.04	40.36	60.25	80.48	90.58	100.99	106.16	110.38	115.27	120.01
7200	0.31	4.93	10.01	20.15	40.36	60.27	80.45	90.54	100.83	105.82	109.99	114.81	119.17
7300	0.31	4.97	10.08	20.30	40.38	60.31	80.45	90.54	100.91	106.02	110.13	115.18	119.83
7400	0.31	5.02	10.16	20.46	40.42	60.37	80.46	90.56	101.00	106.19	110.43	115.61	120.21
7500	0.31	5.07	10.23	20.64	40.46	60.40	80.45	90.51	100.98	106.06	110.43	115.64	120.29
7600	0.32	5.12	10.29	20.80	40.48	60.45	80.44	90.49	100.87	105.88	110.37	115.47	119.91
7700	0.32	5.15	10.33	20.93	40.49	60.45	80.38	90.44	100.70	105.65	110.13	115.06	119.44
7800	0.32	5.18	10.34	21.04	40.46	60.44	80.30	90.36	100.47	105.41	109.69	114.57	118.84
7900	0.32	5.20	10.33	21.09	40.38	60.36	80.14	90.18	100.20	105.15	109.20	114.19	118.42
8000	0.32	5.21	10.29	21.11	40.27	60.23	79.93	89.93	99.81	104.60	108.66	113.51	117.54

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Programmable Attenuator

RCDAT-8G-120H

Typical Performance Data @ 50°C

Freq. (MHz)	Attenuation relative to Insertion Loss @ Fine resolution (0.05 dB)									
	7.4 dB	7.45 dB	7.5 dB	7.55 dB	7.6 dB	67.4 dB	67.45	67.5 dB	67.55	67.6 dB
100	7.60	7.69	7.74	7.79	7.84	65.98	66.02	66.07	66.11	66.35
200	7.63	7.73	7.78	7.83	7.88	66.45	66.49	66.54	66.58	66.80
300	7.60	7.69	7.74	7.79	7.84	66.58	66.62	66.66	66.70	66.71
400	7.55	7.64	7.69	7.74	7.79	66.52	66.57	66.61	66.65	66.48
500	7.50	7.59	7.64	7.69	7.74	66.33	66.38	66.42	66.46	66.22
600	7.45	7.54	7.60	7.64	7.69	66.19	66.23	66.28	66.32	66.06
700	7.41	7.50	7.56	7.61	7.65	66.16	66.21	66.25	66.29	66.06
800	7.38	7.48	7.53	7.58	7.63	66.20	66.25	66.30	66.34	66.14
900	7.37	7.47	7.52	7.57	7.62	66.32	66.37	66.41	66.46	66.29
1000	7.38	7.48	7.53	7.58	7.63	66.45	66.50	66.55	66.59	66.46
1100	7.41	7.50	7.55	7.60	7.65	66.52	66.57	66.62	66.67	66.55
1200	7.44	7.54	7.59	7.64	7.69	66.52	66.57	66.62	66.67	66.57
1300	7.49	7.58	7.64	7.69	7.73	66.55	66.60	66.65	66.70	66.60
1400	7.53	7.63	7.68	7.73	7.77	66.65	66.71	66.76	66.81	66.72
1500	7.57	7.66	7.71	7.76	7.81	66.81	66.86	66.92	66.97	66.86
1600	7.59	7.68	7.73	7.78	7.83	66.94	67.00	67.05	67.11	66.99
1700	7.61	7.70	7.75	7.80	7.85	67.06	67.11	67.17	67.22	67.09
1800	7.61	7.70	7.75	7.80	7.85	67.12	67.18	67.23	67.28	67.14
1900	7.62	7.70	7.76	7.81	7.86	67.14	67.20	67.25	67.30	67.14
2000	7.62	7.70	7.76	7.81	7.86	67.19	67.25	67.30	67.35	67.18
2200	7.65	7.72	7.78	7.83	7.88	67.36	67.41	67.47	67.52	67.33
2400	7.69	7.76	7.82	7.87	7.92	67.48	67.54	67.59	67.64	67.44
2600	7.72	7.79	7.84	7.90	7.95	67.58	67.64	67.69	67.74	67.52
2800	7.72	7.78	7.84	7.89	7.94	67.70	67.75	67.81	67.86	67.64
3000	7.68	7.74	7.80	7.85	7.90	67.77	67.83	67.88	67.93	67.70
3200	7.62	7.69	7.75	7.80	7.85	67.82	67.87	67.93	67.98	67.74
3400	7.57	7.65	7.71	7.76	7.81	67.96	68.01	68.06	68.11	67.88
3600	7.54	7.63	7.69	7.74	7.79	68.03	68.09	68.14	68.19	67.94
3800	7.54	7.64	7.69	7.74	7.79	68.22	68.28	68.33	68.39	68.12
4000	7.55	7.64	7.70	7.75	7.80	68.30	68.36	68.41	68.47	68.19
4200	7.55	7.64	7.69	7.75	7.80	68.32	68.38	68.44	68.49	68.19
4400	7.53	7.61	7.67	7.73	7.79	68.38	68.44	68.50	68.56	68.25
4600	7.52	7.58	7.64	7.71	7.77	68.44	68.50	68.57	68.63	68.29
4800	7.51	7.56	7.62	7.69	7.76	68.44	68.51	68.57	68.64	68.28
5000	7.53	7.56	7.63	7.70	7.77	68.50	68.58	68.65	68.72	68.33
5200	7.57	7.59	7.66	7.74	7.81	68.69	68.77	68.85	68.92	68.50
5400	7.63	7.63	7.71	7.79	7.86	68.85	68.93	69.00	69.08	68.62
5600	7.69	7.68	7.76	7.84	7.92	68.98	69.06	69.15	69.22	68.72
5800	7.74	7.73	7.81	7.89	7.97	69.15	69.24	69.32	69.40	68.84
6000	7.77	7.75	7.83	7.92	8.00	69.28	69.36	69.45	69.52	68.90
6200	7.77	7.74	7.82	7.91	7.99	69.24	69.32	69.41	69.48	68.77
6300	7.75	7.71	7.80	7.88	7.97	69.18	69.26	69.34	69.42	68.67
6400	7.71	7.68	7.76	7.85	7.93	69.10	69.18	69.25	69.33	68.54
6500	7.67	7.63	7.72	7.80	7.88	69.00	69.07	69.15	69.22	68.39
6600	7.62	7.59	7.67	7.75	7.83	68.89	68.96	69.04	69.11	68.23
6700	7.58	7.55	7.63	7.71	7.78	68.77	68.85	68.92	69.00	68.06
6800	7.56	7.52	7.60	7.68	7.75	68.65	68.72	68.79	68.87	67.88
6900	7.54	7.51	7.59	7.66	7.73	68.54	68.61	68.68	68.75	67.72
7000	7.55	7.52	7.59	7.67	7.74	68.47	68.54	68.61	68.68	67.62
7100	7.58	7.55	7.62	7.70	7.76	68.47	68.54	68.61	68.68	67.58
7200	7.62	7.59	7.66	7.74	7.81	68.49	68.57	68.64	68.71	67.58
7300	7.68	7.65	7.72	7.79	7.86	68.52	68.59	68.66	68.73	67.57
7400	7.73	7.70	7.78	7.85	7.92	68.58	68.65	68.71	68.78	67.60
7500	7.78	7.75	7.82	7.90	7.97	68.58	68.66	68.73	68.80	67.61
7600	7.82	7.78	7.86	7.93	8.01	68.61	68.69	68.76	68.83	67.64
7700	7.84	7.80	7.88	7.95	8.03	68.59	68.67	68.74	68.81	67.62
7800	7.84	7.79	7.87	7.95	8.02	68.54	68.62	68.70	68.77	67.59
7900	7.81	7.76	7.84	7.92	8.00	68.42	68.50	68.58	68.65	67.50
8000	7.76	7.71	7.79	7.87	7.95	68.25	68.33	68.41	68.48	67.37

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Programmable Attenuator

RCDAT-8G-120H

Typical Performance Data @ 50°C

Freq. (MHz)	Attenuation relative to Insertion Loss @ Fine resolution (0.05 dB)				
	100.4	100.45	100.5	100.55	100.6
100	98.83	98.88	98.91	99.05	99.09
200	99.16	99.22	99.25	99.38	99.41
300	98.73	98.79	98.82	98.94	98.99
400	98.30	98.35	98.39	98.51	98.55
500	98.01	98.07	98.09	98.22	98.27
600	97.94	98.00	98.05	98.15	98.21
700	98.07	98.11	98.17	98.27	98.33
800	98.27	98.33	98.37	98.49	98.52
900	98.54	98.59	98.64	98.74	98.78
1000	98.80	98.84	98.89	99.00	99.06
1100	98.97	99.00	99.05	99.15	99.21
1200	99.05	99.07	99.13	99.22	99.28
1300	99.11	99.17	99.22	99.32	99.37
1400	99.29	99.33	99.39	99.48	99.54
1500	99.49	99.52	99.58	99.66	99.73
1600	99.66	99.71	99.76	99.84	99.90
1700	99.82	99.86	99.91	100.01	100.05
1800	99.90	99.96	100.00	100.11	100.17
1900	99.96	100.01	100.07	100.14	100.22
2000	100.06	100.11	100.16	100.25	100.29
2200	100.29	100.34	100.39	100.47	100.55
2400	100.46	100.53	100.58	100.65	100.72
2600	100.65	100.71	100.75	100.84	100.89
2800	100.86	100.91	100.97	101.05	101.12
3000	101.04	101.06	101.15	101.21	101.27
3200	101.16	101.23	101.27	101.36	101.41
3400	101.41	101.47	101.53	101.62	101.68
3600	101.56	101.61	101.67	101.77	101.82
3800	101.82	101.94	101.92	102.05	102.11
4000	101.99	102.05	102.11	102.23	102.29
4200	102.08	102.13	102.20	102.27	102.35
4400	102.21	102.28	102.34	102.45	102.49
4600	102.33	102.36	102.45	102.55	102.60
4800	102.34	102.44	102.50	102.62	102.67
5000	102.49	102.58	102.64	102.72	102.82
5200	102.69	102.76	102.84	102.94	103.02
5400	102.81	102.92	103.02	103.09	103.16
5600	102.92	103.05	103.10	103.17	103.29
5800	103.09	103.17	103.26	103.36	103.36
6000	103.08	103.16	103.23	103.35	103.39
6200	102.90	102.98	103.05	103.16	103.30
6300	102.80	102.91	102.96	103.09	103.15
6400	102.71	102.80	102.86	102.96	103.01
6500	102.60	102.62	102.68	102.80	102.89
6600	102.30	102.37	102.45	102.59	102.63
6700	102.17	102.24	102.34	102.43	102.52
6800	102.03	102.09	102.14	102.22	102.37
6900	101.86	101.93	101.99	102.13	102.24
7000	101.84	101.79	101.87	102.07	102.16
7100	101.71	101.77	101.79	101.96	102.00
7200	101.55	101.64	101.73	101.78	101.89
7300	101.63	101.66	101.79	101.86	101.95
7400	101.69	101.76	101.87	101.95	102.02
7500	101.68	101.78	101.83	101.94	101.99
7600	101.57	101.70	101.79	101.86	101.93
7700	101.41	101.50	101.64	101.68	101.76
7800	101.22	101.28	101.45	101.45	101.55
7900	100.90	100.96	101.11	101.17	101.22
8000	100.48	100.61	100.67	100.77	100.84

Freq. (MHz)	I. Loss (dB)
100	4.33
200	4.09
300	4.18
400	4.31
500	4.45
600	4.61
700	4.76
800	4.90
900	5.02
1000	5.12
1100	5.20
1200	5.26
1300	5.31
1400	5.35
1500	5.41
1600	5.48
1700	5.57
1800	5.68
1900	5.81
2000	5.92
2200	6.06
2400	6.14
2600	6.25
2800	6.41
3000	6.61
3200	6.80
3400	6.97
3600	7.13
3800	7.29
4000	7.49
4200	7.73
4400	8.03
4600	8.33
4800	8.60
5000	8.84
5200	9.03
5400	9.20
5600	9.38
5800	9.61
6000	9.92
6200	10.33
6300	10.59
6400	10.89
6500	11.19
6600	11.51
6700	11.82
6800	12.10
6900	12.35
7000	12.54
7100	12.68
7200	12.78
7300	12.83
7400	12.85
7500	12.86
7600	12.85
7700	12.87
7800	12.91
7900	12.98
8000	13.10

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Programmable Attenuator

RCDAT-8G-120H

Typical Performance Data @ 50°C

Freq. (MHz)	Input VSWR (:1)												
	0.25 dB	5 dB	10 dB	20 dB	40 dB	60 dB	80 dB	90 dB	100 dB	105 dB	110 dB	115 dB	120 dB
100	2.07	1.69	1.34	1.42	1.23	1.20	1.19	1.25	1.21	1.20	1.21	1.21	1.20
200	1.68	1.48	1.19	1.33	1.11	1.08	1.07	1.15	1.10	1.08	1.10	1.10	1.08
300	1.55	1.42	1.15	1.31	1.08	1.05	1.03	1.14	1.07	1.05	1.07	1.07	1.05
400	1.43	1.37	1.13	1.30	1.08	1.03	1.01	1.14	1.07	1.04	1.07	1.07	1.04
500	1.32	1.33	1.11	1.30	1.08	1.03	1.01	1.14	1.07	1.03	1.07	1.07	1.03
600	1.22	1.29	1.09	1.29	1.08	1.03	1.01	1.14	1.07	1.04	1.07	1.07	1.04
700	1.15	1.26	1.08	1.28	1.08	1.04	1.02	1.14	1.07	1.04	1.07	1.07	1.04
800	1.13	1.25	1.06	1.28	1.08	1.04	1.03	1.14	1.07	1.05	1.07	1.07	1.05
900	1.18	1.25	1.05	1.27	1.08	1.05	1.04	1.14	1.07	1.05	1.07	1.07	1.05
1000	1.25	1.27	1.05	1.27	1.08	1.06	1.04	1.14	1.07	1.06	1.07	1.07	1.06
1100	1.32	1.29	1.05	1.27	1.08	1.07	1.05	1.14	1.07	1.07	1.07	1.07	1.07
1200	1.38	1.30	1.05	1.26	1.08	1.07	1.06	1.14	1.07	1.07	1.07	1.07	1.08
1300	1.41	1.31	1.06	1.26	1.08	1.08	1.06	1.13	1.07	1.08	1.07	1.07	1.08
1400	1.42	1.31	1.06	1.25	1.08	1.08	1.07	1.13	1.07	1.09	1.07	1.07	1.09
1500	1.40	1.30	1.06	1.24	1.08	1.09	1.07	1.13	1.07	1.09	1.07	1.07	1.09
1600	1.35	1.28	1.05	1.23	1.07	1.09	1.08	1.12	1.07	1.10	1.07	1.07	1.10
1700	1.29	1.25	1.05	1.23	1.07	1.10	1.08	1.12	1.07	1.10	1.07	1.07	1.10
1800	1.23	1.23	1.05	1.22	1.07	1.10	1.09	1.11	1.07	1.11	1.07	1.07	1.11
1900	1.17	1.21	1.05	1.21	1.07	1.10	1.09	1.11	1.07	1.11	1.07	1.07	1.11
2000	1.12	1.19	1.05	1.21	1.07	1.10	1.09	1.11	1.06	1.11	1.06	1.06	1.11
2200	1.12	1.19	1.04	1.20	1.06	1.10	1.08	1.10	1.06	1.10	1.06	1.06	1.11
2400	1.17	1.20	1.04	1.19	1.05	1.10	1.08	1.09	1.05	1.10	1.05	1.05	1.10
2600	1.21	1.21	1.04	1.19	1.04	1.10	1.08	1.09	1.04	1.11	1.04	1.04	1.11
2800	1.22	1.21	1.04	1.17	1.04	1.10	1.09	1.08	1.04	1.11	1.04	1.04	1.11
3000	1.22	1.20	1.03	1.16	1.03	1.11	1.09	1.08	1.04	1.11	1.04	1.04	1.11
3200	1.23	1.19	1.03	1.15	1.03	1.11	1.10	1.07	1.04	1.12	1.04	1.04	1.12
3400	1.26	1.18	1.02	1.13	1.03	1.12	1.11	1.07	1.04	1.12	1.04	1.04	1.12
3600	1.29	1.17	1.01	1.11	1.04	1.12	1.12	1.07	1.05	1.13	1.05	1.05	1.13
3800	1.29	1.15	1.04	1.09	1.05	1.14	1.13	1.07	1.05	1.14	1.05	1.05	1.14
4000	1.25	1.11	1.08	1.08	1.06	1.15	1.14	1.08	1.06	1.15	1.06	1.06	1.15
4200	1.22	1.07	1.12	1.06	1.07	1.16	1.16	1.09	1.08	1.17	1.08	1.08	1.17
4400	1.21	1.06	1.16	1.06	1.09	1.18	1.18	1.10	1.09	1.19	1.09	1.09	1.19
4600	1.24	1.08	1.19	1.06	1.10	1.20	1.20	1.11	1.11	1.20	1.11	1.11	1.20
4800	1.26	1.10	1.21	1.07	1.12	1.22	1.22	1.13	1.12	1.22	1.12	1.12	1.23
5000	1.25	1.10	1.22	1.07	1.14	1.25	1.25	1.15	1.15	1.25	1.15	1.15	1.25
5200	1.20	1.08	1.22	1.07	1.16	1.27	1.27	1.17	1.17	1.28	1.17	1.17	1.28
5400	1.13	1.06	1.22	1.08	1.18	1.30	1.30	1.20	1.20	1.30	1.20	1.20	1.30
5600	1.04	1.08	1.23	1.09	1.21	1.32	1.33	1.22	1.23	1.33	1.23	1.23	1.33
5800	1.07	1.14	1.25	1.11	1.24	1.35	1.35	1.24	1.26	1.36	1.26	1.26	1.36
6000	1.20	1.22	1.28	1.14	1.27	1.37	1.37	1.26	1.28	1.38	1.28	1.28	1.38
6200	1.36	1.32	1.35	1.19	1.31	1.40	1.40	1.28	1.32	1.41	1.32	1.32	1.41
6300	1.44	1.37	1.38	1.20	1.32	1.41	1.40	1.29	1.33	1.42	1.33	1.33	1.42
6400	1.54	1.43	1.43	1.24	1.35	1.43	1.42	1.30	1.35	1.44	1.35	1.35	1.44
6500	1.64	1.48	1.48	1.26	1.37	1.44	1.42	1.31	1.36	1.44	1.36	1.36	1.44
6600	1.72	1.53	1.52	1.28	1.39	1.45	1.43	1.31	1.38	1.45	1.38	1.38	1.45
6700	1.79	1.57	1.55	1.30	1.40	1.46	1.44	1.32	1.39	1.46	1.39	1.39	1.46
6800	1.83	1.59	1.58	1.32	1.42	1.47	1.44	1.32	1.41	1.47	1.41	1.41	1.47
6900	1.84	1.61	1.60	1.34	1.44	1.47	1.44	1.33	1.42	1.48	1.42	1.42	1.48
7000	1.82	1.60	1.60	1.36	1.45	1.48	1.45	1.33	1.43	1.49	1.43	1.43	1.49
7100	1.77	1.58	1.60	1.37	1.46	1.49	1.44	1.33	1.44	1.49	1.44	1.44	1.49
7200	1.69	1.54	1.58	1.38	1.47	1.49	1.44	1.33	1.45	1.49	1.45	1.45	1.49
7300	1.60	1.50	1.55	1.38	1.48	1.49	1.44	1.33	1.46	1.50	1.46	1.46	1.50
7400	1.49	1.44	1.51	1.38	1.49	1.49	1.43	1.32	1.47	1.50	1.47	1.47	1.50
7500	1.37	1.37	1.47	1.38	1.49	1.49	1.42	1.32	1.47	1.49	1.47	1.47	1.49
7600	1.27	1.32	1.43	1.39	1.49	1.49	1.42	1.31	1.48	1.49	1.48	1.48	1.49
7700	1.17	1.26	1.39	1.39	1.48	1.48	1.40	1.31	1.48	1.48	1.48	1.48	1.48
7800	1.12	1.22	1.35	1.39	1.48	1.47	1.39	1.30	1.48	1.47	1.48	1.48	1.47
7900	1.11	1.20	1.32	1.39	1.47	1.46	1.37	1.29	1.47	1.46	1.47	1.47	1.46
8000	1.14	1.19	1.29	1.40	1.46	1.45	1.36	1.29	1.47	1.45	1.47	1.47	1.45

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Programmable Attenuator

RCDAT-8G-120H

Typical Performance Data @ 50°C

Freq. (MHz)	Output VSWR (:1)												
	0.25 dB	5 dB	10 dB	20 dB	40 dB	60 dB	80 dB	90 dB	100 dB	105 dB	110 dB	115 dB	120 dB
100	2.08	1.70	1.39	1.36	1.27	1.20	1.20	1.23	1.22	1.21	1.21	1.21	1.20
200	1.68	1.45	1.23	1.24	1.16	1.09	1.08	1.12	1.10	1.09	1.09	1.09	1.08
300	1.54	1.38	1.19	1.21	1.15	1.06	1.05	1.10	1.08	1.06	1.06	1.06	1.05
400	1.42	1.33	1.17	1.19	1.14	1.05	1.04	1.09	1.07	1.05	1.05	1.05	1.03
500	1.30	1.27	1.15	1.18	1.14	1.04	1.04	1.09	1.07	1.05	1.05	1.05	1.03
600	1.19	1.23	1.13	1.17	1.14	1.04	1.04	1.09	1.07	1.05	1.05	1.05	1.03
700	1.10	1.20	1.12	1.17	1.14	1.05	1.05	1.09	1.07	1.06	1.05	1.05	1.04
800	1.09	1.20	1.11	1.17	1.14	1.05	1.05	1.09	1.07	1.06	1.05	1.05	1.04
900	1.16	1.21	1.12	1.17	1.13	1.05	1.05	1.09	1.07	1.06	1.05	1.05	1.05
1000	1.24	1.24	1.12	1.17	1.13	1.06	1.06	1.09	1.07	1.07	1.06	1.06	1.05
1100	1.31	1.27	1.13	1.17	1.13	1.06	1.06	1.09	1.07	1.07	1.06	1.06	1.06
1200	1.37	1.30	1.14	1.17	1.13	1.06	1.06	1.09	1.07	1.07	1.06	1.06	1.06
1300	1.41	1.31	1.15	1.17	1.13	1.07	1.07	1.09	1.07	1.08	1.06	1.06	1.07
1400	1.43	1.32	1.16	1.17	1.12	1.07	1.07	1.09	1.07	1.08	1.06	1.06	1.07
1500	1.42	1.32	1.16	1.17	1.12	1.07	1.07	1.09	1.07	1.08	1.06	1.06	1.08
1600	1.39	1.31	1.16	1.16	1.11	1.07	1.07	1.09	1.07	1.08	1.07	1.07	1.08
1700	1.35	1.30	1.16	1.15	1.11	1.07	1.07	1.09	1.06	1.08	1.07	1.07	1.09
1800	1.30	1.29	1.16	1.15	1.11	1.07	1.07	1.09	1.06	1.08	1.07	1.07	1.09
1900	1.27	1.28	1.15	1.14	1.10	1.07	1.07	1.09	1.06	1.08	1.07	1.07	1.09
2000	1.25	1.28	1.15	1.13	1.10	1.07	1.07	1.09	1.06	1.08	1.06	1.06	1.09
2200	1.26	1.28	1.15	1.12	1.09	1.07	1.06	1.08	1.05	1.07	1.06	1.06	1.08
2400	1.31	1.30	1.15	1.12	1.08	1.06	1.05	1.08	1.04	1.06	1.05	1.05	1.08
2600	1.34	1.31	1.15	1.13	1.07	1.07	1.05	1.07	1.03	1.06	1.05	1.05	1.08
2800	1.34	1.31	1.15	1.13	1.07	1.07	1.05	1.07	1.03	1.06	1.05	1.05	1.09
3000	1.31	1.28	1.13	1.13	1.06	1.07	1.05	1.07	1.03	1.06	1.05	1.05	1.09
3200	1.27	1.25	1.12	1.12	1.06	1.08	1.06	1.07	1.03	1.07	1.05	1.05	1.09
3400	1.23	1.22	1.09	1.11	1.06	1.08	1.06	1.07	1.03	1.07	1.05	1.05	1.09
3600	1.20	1.19	1.07	1.11	1.06	1.09	1.07	1.07	1.03	1.08	1.06	1.06	1.10
3800	1.19	1.16	1.08	1.10	1.06	1.09	1.08	1.07	1.04	1.08	1.06	1.06	1.10
4000	1.18	1.12	1.09	1.09	1.06	1.10	1.08	1.07	1.04	1.09	1.07	1.07	1.11
4200	1.17	1.08	1.11	1.08	1.06	1.11	1.09	1.08	1.05	1.10	1.07	1.07	1.12
4400	1.16	1.07	1.12	1.07	1.07	1.12	1.10	1.08	1.06	1.11	1.08	1.08	1.13
4600	1.17	1.08	1.13	1.07	1.08	1.12	1.12	1.09	1.07	1.12	1.09	1.09	1.14
4800	1.19	1.11	1.15	1.06	1.10	1.13	1.13	1.10	1.08	1.13	1.10	1.10	1.15
5000	1.21	1.13	1.17	1.05	1.11	1.14	1.14	1.11	1.09	1.14	1.11	1.11	1.16
5200	1.20	1.13	1.18	1.05	1.13	1.16	1.16	1.12	1.11	1.16	1.12	1.12	1.17
5400	1.16	1.12	1.19	1.05	1.15	1.17	1.19	1.14	1.13	1.19	1.14	1.14	1.19
5600	1.10	1.13	1.19	1.05	1.17	1.20	1.21	1.15	1.16	1.21	1.16	1.16	1.21
5800	1.11	1.15	1.18	1.08	1.18	1.22	1.24	1.18	1.19	1.24	1.19	1.19	1.24
6000	1.19	1.20	1.20	1.11	1.20	1.25	1.26	1.20	1.22	1.27	1.21	1.21	1.26
6200	1.31	1.29	1.25	1.17	1.22	1.28	1.29	1.23	1.25	1.30	1.25	1.25	1.29
6300	1.40	1.35	1.29	1.20	1.23	1.29	1.31	1.24	1.27	1.31	1.26	1.26	1.31
6400	1.50	1.41	1.34	1.23	1.25	1.31	1.32	1.26	1.29	1.33	1.28	1.28	1.33
6500	1.59	1.48	1.38	1.26	1.26	1.32	1.34	1.27	1.30	1.35	1.30	1.30	1.34
6600	1.68	1.53	1.43	1.29	1.28	1.34	1.35	1.28	1.32	1.36	1.32	1.32	1.36
6700	1.76	1.59	1.47	1.32	1.29	1.35	1.36	1.29	1.34	1.38	1.33	1.34	1.37
6800	1.81	1.62	1.51	1.34	1.31	1.37	1.37	1.30	1.36	1.39	1.35	1.35	1.39
6900	1.83	1.65	1.53	1.37	1.32	1.38	1.39	1.32	1.37	1.41	1.37	1.37	1.40
7000	1.83	1.65	1.54	1.38	1.34	1.40	1.40	1.33	1.39	1.42	1.39	1.39	1.42
7100	1.79	1.63	1.54	1.40	1.35	1.41	1.40	1.34	1.40	1.43	1.40	1.40	1.43
7200	1.72	1.60	1.53	1.40	1.35	1.42	1.41	1.35	1.42	1.44	1.42	1.42	1.45
7300	1.64	1.55	1.51	1.41	1.36	1.43	1.42	1.36	1.43	1.45	1.44	1.44	1.46
7400	1.53	1.49	1.47	1.41	1.36	1.44	1.43	1.37	1.45	1.46	1.46	1.45	1.47
7500	1.42	1.41	1.43	1.40	1.36	1.45	1.43	1.38	1.46	1.47	1.47	1.47	1.48
7600	1.31	1.33	1.39	1.40	1.36	1.46	1.44	1.39	1.47	1.48	1.49	1.49	1.49
7700	1.20	1.25	1.34	1.40	1.36	1.47	1.44	1.39	1.48	1.48	1.50	1.50	1.50
7800	1.12	1.17	1.30	1.40	1.36	1.47	1.43	1.40	1.49	1.48	1.51	1.51	1.50
7900	1.10	1.13	1.27	1.40	1.36	1.47	1.43	1.40	1.49	1.48	1.51	1.51	1.51
8000	1.13	1.14	1.26	1.41	1.36	1.47	1.43	1.41	1.49	1.48	1.52	1.52	1.51

Notes

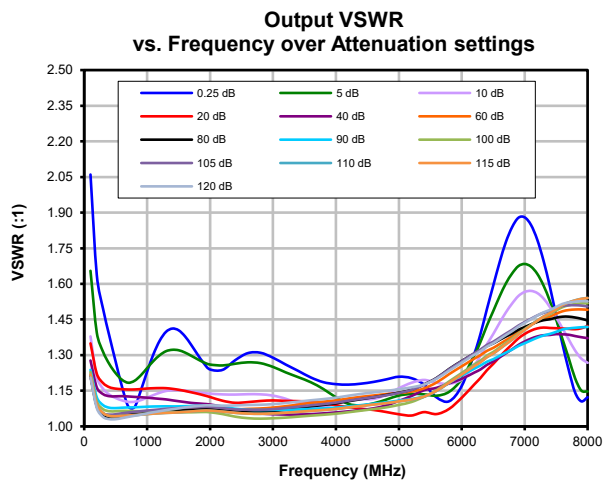
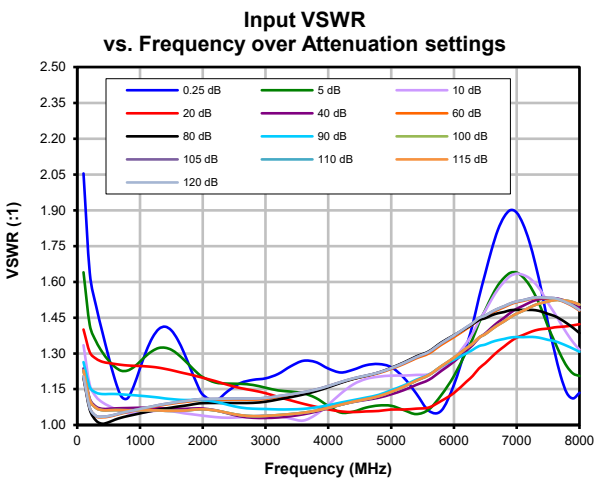
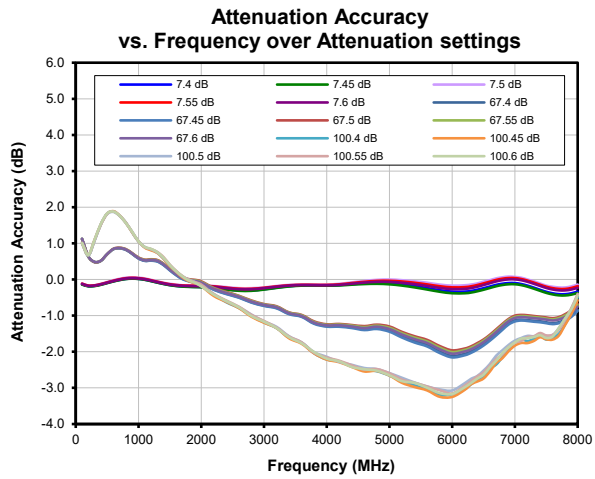
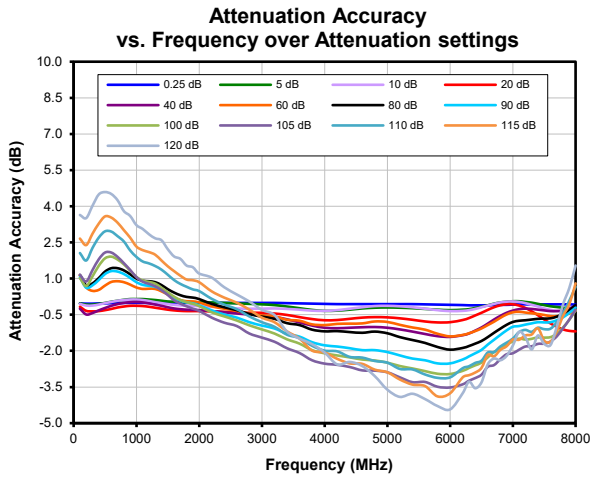
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
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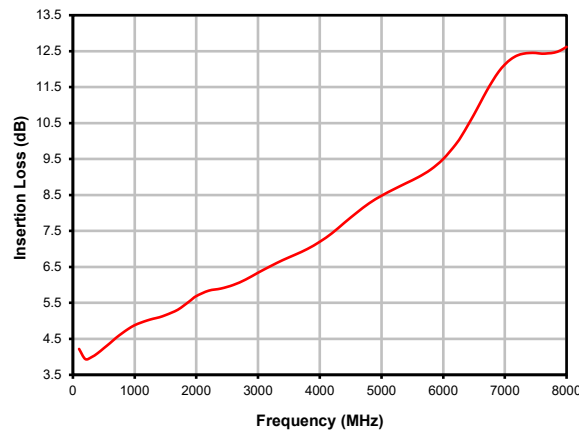
Programmable Attenuator

RCDAT-8G-120H

Typical Performance Curves @ 0°C



Insertion Loss



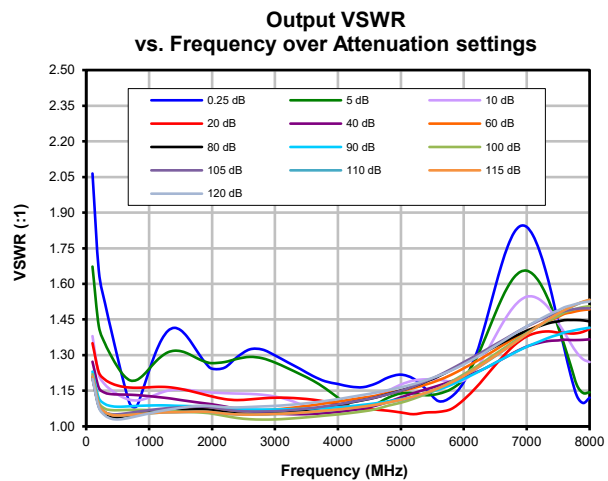
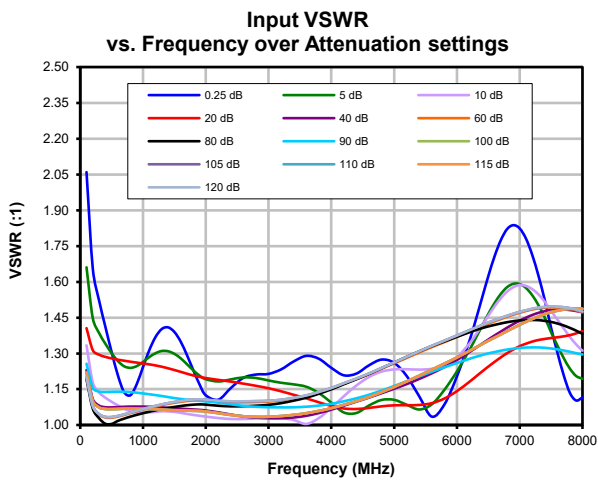
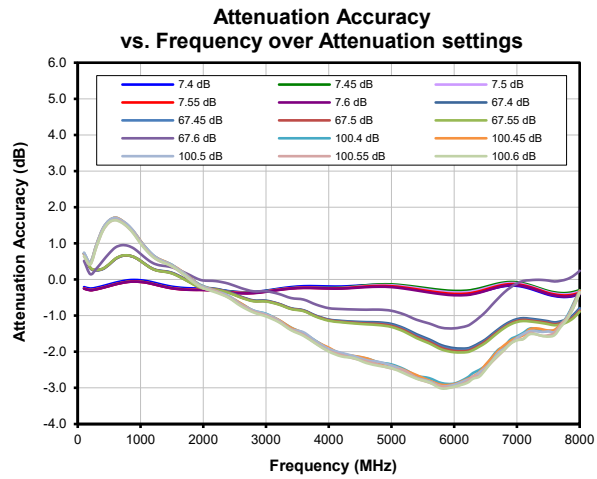
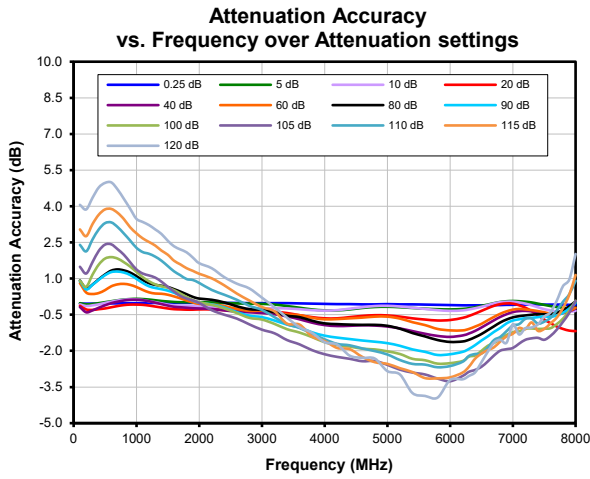
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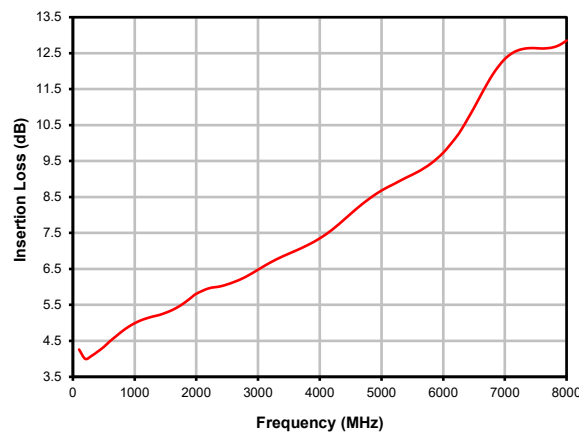
Programmable Attenuator

RCDAT-8G-120H

Typical Performance Curves @ 25°C



Insertion Loss



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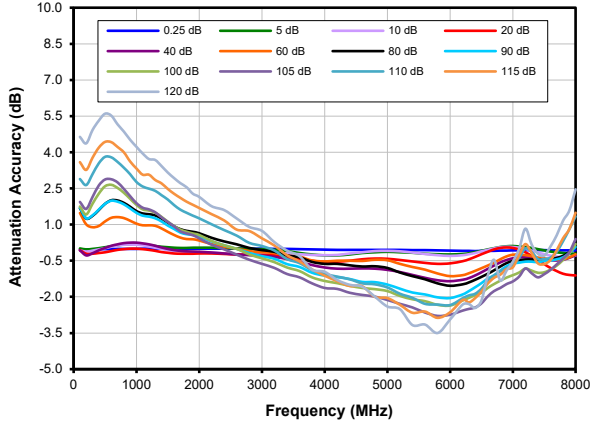


Programmable Attenuator

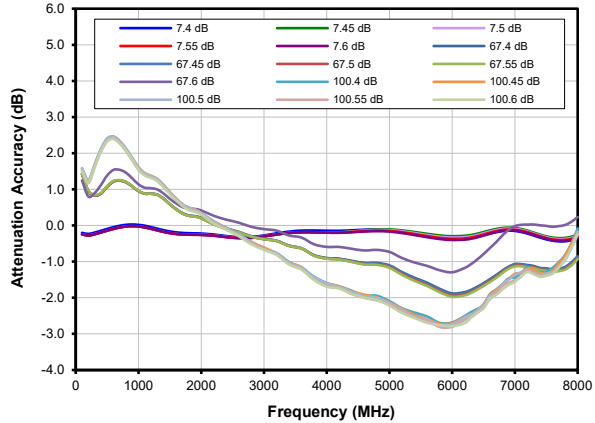
RCDAT-8G-120H

Typical Performance Curves @ 50°C

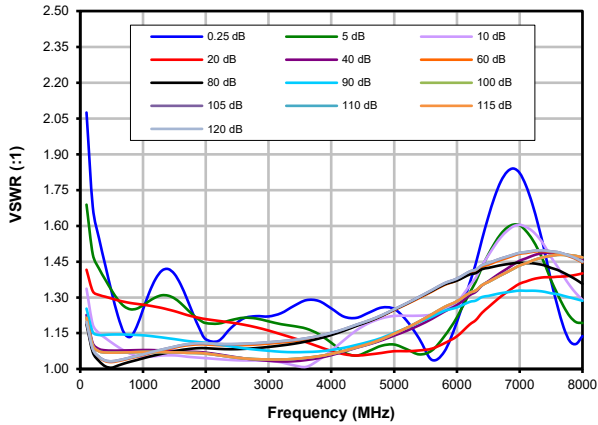
Attenuation Accuracy vs. Frequency over Attenuation settings



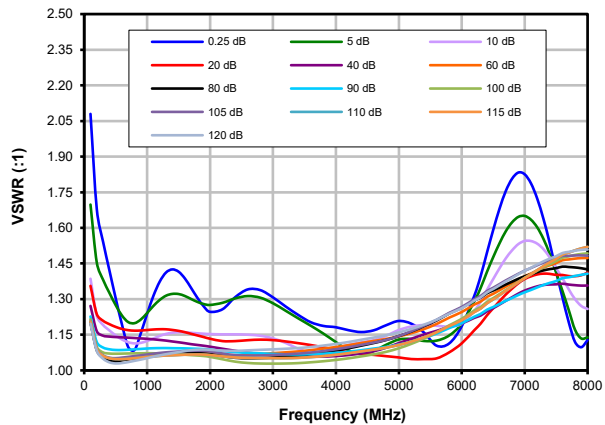
Attenuation Accuracy vs. Frequency over Attenuation settings



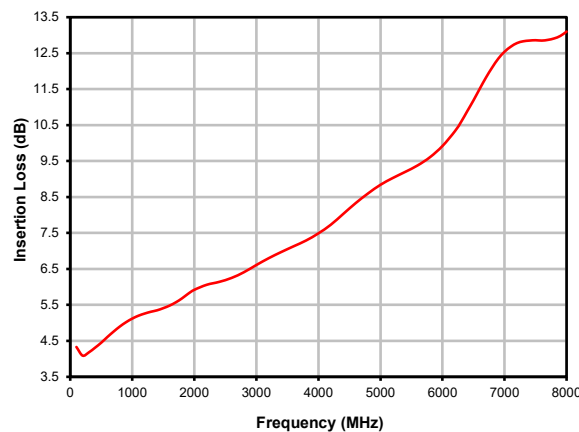
Input VSWR vs. Frequency over Attenuation settings



Output VSWR vs. Frequency over Attenuation settings



Insertion Loss



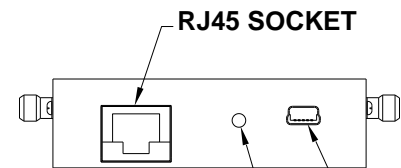
Notes

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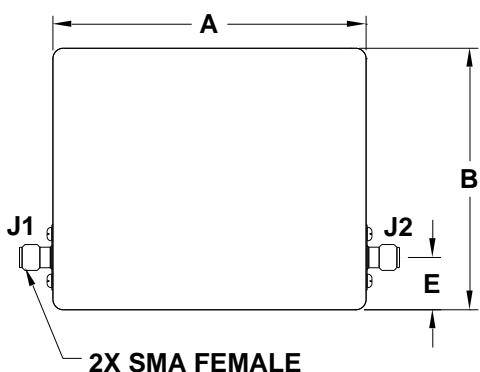


Outline Dimensions

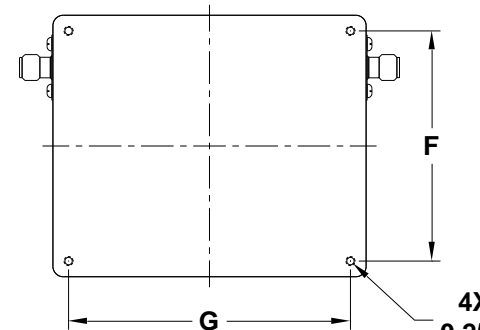
MS1897



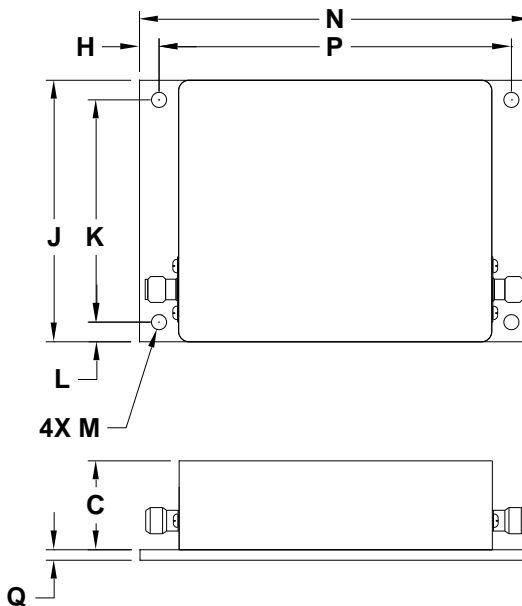
Top View



Bottom View



Bracket Option



Instruction for mounting bracket:

1. Tool required: Phillips head screwdriver
2. Mount the bracket over threaded holes on the bottom side with the fasteners provided with the bracket.

CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	WT. GRAMS
MS1897	3.00 (76.2)	2.50 (63.5)	.85 (21.6)	.28 (7.1)	.50 (12.7)	2.200 (55.88)	2.700 (68.58)	.188 (4.76)	2.50 (63.5)	2.125 (53.98)	.188 (4.76)	.144 (3.66)	3.75 (95.3)	3.375 (85.72)	.100 (2.54)	200

Dimensions are in inches (mm). Tolerances: 2PL. +/- .03; 3PL. +/- .015

Notes:

1. Case material: Nickel Plated Aluminum.



ISO 9001 ISO 14001 CERTIFIED



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS



Environmental Specifications **ENV55T1**

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-0° to 50° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-20° to 85° C Ambient Environment	Individual Model Data Sheet
Operating and Storage Humidity	5% to 85% RH (non-condensing)	Ambient
Bench Handling Test	Bench Top Tip 45° & Drop	MIL-PRF-28800F
Transit Drop Test	Free Fall Drop, 20 cm (7.9 inches)	MIL-PRF-28800F Class 3