

CT703b LANforge-Attenuator with 3 Attenuator Modules: 0.3Ghz to 6Ghz

The CT703b RF Attenuator is used to attenuate (decrease) the RF signal between wireless devices. The CT703b uses 3 of the 4205A - 95.5 modules from API Technologies. A summary of the technical specifications is below:

Max RF Power:	+23 dBm
Impedance:	50 Ω
Frequency Range:	0.3 GHz – 6.0 GHz
Attenuation Range:	0 – 95.5 dB
Attenuation Steps:	0.5 dB increments
Insertion Loss:	8 dB nominal, 10 dB max
Attenuation Accuracy:	1-15 dB: ± 1 dB, 16+ dB: ± 1.5 dB or 4%

The CT703b may be controlled by the two knobs on the faceplate and may also be controlled through software access over the USB-Serial port. The included LANforge software suite supports automated scripting as well as manual configuration of the attenuator modules.

The CT703b is a test tool and should be used in an RF enclosure to prevent un-intended RF interference with other equipment.

The CT703b has no moving parts and will fit into a small travel bag or briefcase for easy portability.

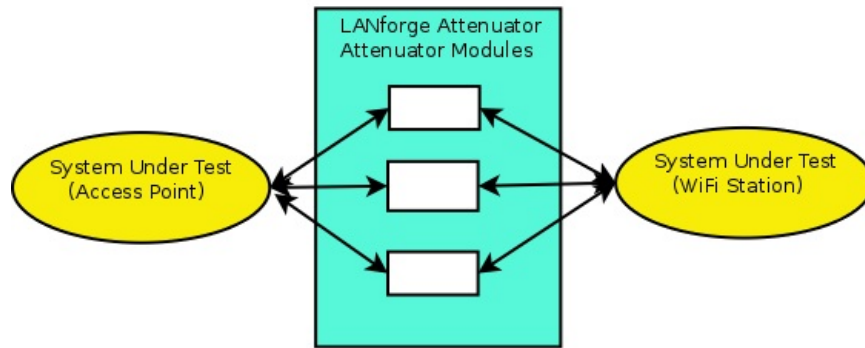
The CT703b includes 6 SMA-Male to SMA-Male semi-rigid RF cables, USB Cable, and external power supply (brick).



NOTE: This product may have a different hardware configuration than the system pictured above.
Refer to your official quote for details.



LANforge RF Attenuator.



The LANforge attenuator sits between two RF systems, often a WiFi AP on one side and WiFi Station on the other. The attenuator and WiFi stations are connected by shielded SMA-Male cables. Adjust the attenuation as desired using either the attenuator knobs or use software to adjust the values over the USB-Serial connection.

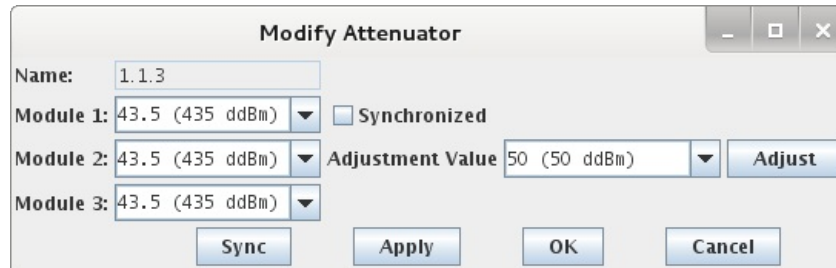
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Quick Start Guide

1. Connect 9v 1A DC Power brick.
2. Optionally: Connect USB cord to Linux PC for managing through LANforge or other program.
3. Connect the Attenuator pairs: Top SMA connector to one system, bottom to the other.
4. Adjust menu with top knob to 'All' or individual modules and use bottom knob to adjust attenuation settings.

LANforge-Attenuator Related Images

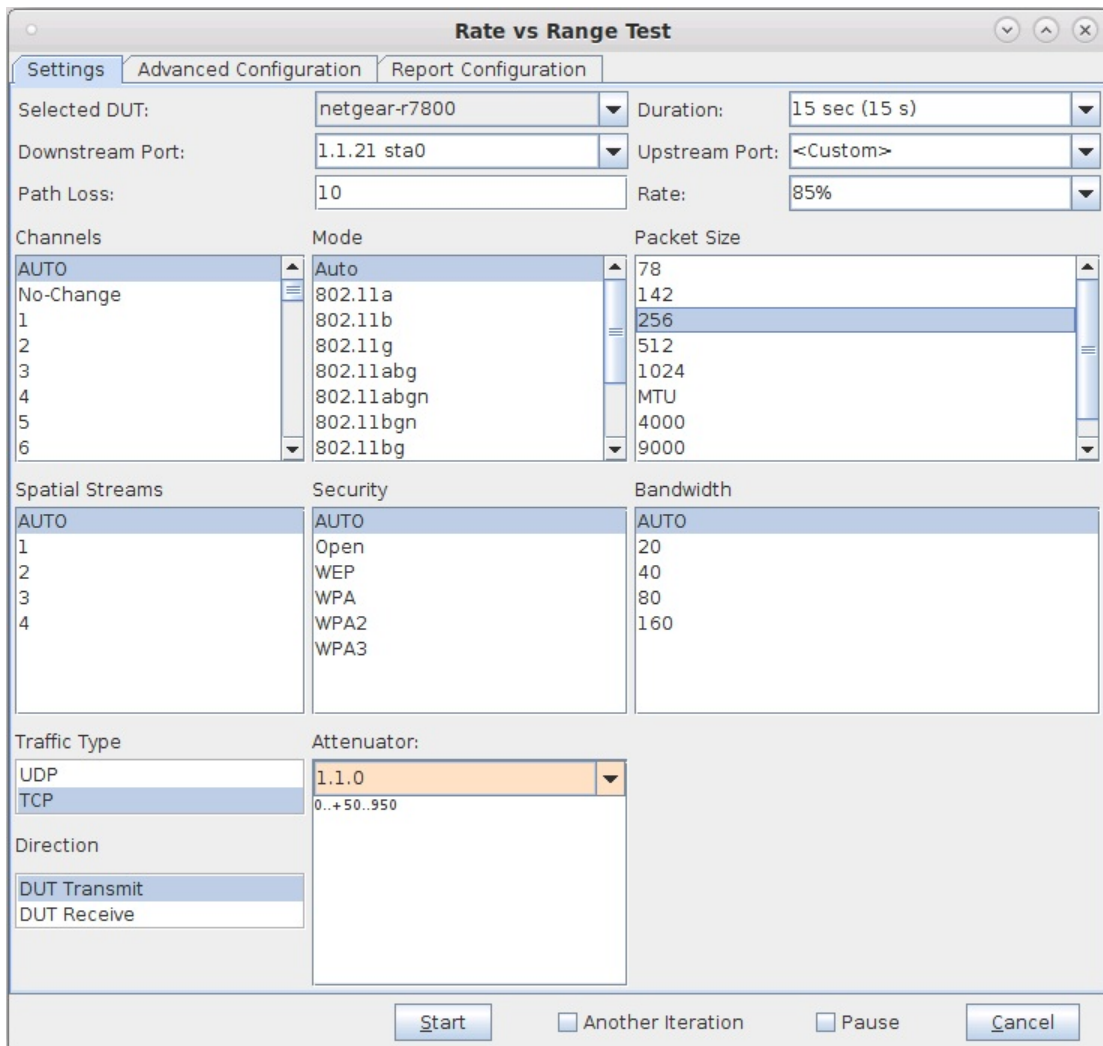
LANforge Attenuator Configuration Screen



The 'Modify Attenuator' dialog box is used to configure the attenuator settings. It includes fields for Name, Module 1, Module 2, and Module 3, each with a dropdown menu showing '43.5 (435 ddBm)'. There is a 'Synchronized' checkbox and an 'Adjustment Value' field set to '50 (50 ddBm)' with an 'Adjust' button. At the bottom are 'Sync', 'Apply', 'OK', and 'Cancel' buttons.

Name:	1.1.3	
Module 1:	43.5 (435 ddBm)	☐ Synchronized
Module 2:	43.5 (435 ddBm)	Adjustment Value: 50 (50 ddBm) [Adjust]
Module 3:	43.5 (435 ddBm)	

LANforge Attenuator Rate vs Range Test



The 'Rate vs Range Test' dialog box is used to configure the test parameters. It has three tabs: 'Settings', 'Advanced Configuration', and 'Report Configuration'. The 'Settings' tab is active, showing fields for Selected DUT (netgear-r7800), Duration (15 sec (15 s)), Downstream Port (1.1.21 sta0), Upstream Port (<Custom>), Path Loss (10), and Rate (85%). Below these are three columns: Channels, Mode, and Packet Size. The 'Channels' column has a dropdown for 'No-Change' and a list for '1' through '6'. The 'Mode' column has a dropdown for 'Auto' and a list for '802.11a' through '802.11bg'. The 'Packet Size' column has a dropdown for '78' and a list for '142' through '9000'. Below these are three columns: Spatial Streams, Security, and Bandwidth. The 'Spatial Streams' column has a dropdown for 'AUTO' and a list for '1' through '4'. The 'Security' column has a dropdown for 'AUTO' and a list for 'Open', 'WEP', 'WPA', 'WPA2', and 'WPA3'. The 'Bandwidth' column has a dropdown for 'AUTO' and a list for '20', '40', '80', and '160'. At the bottom are 'Traffic Type' (UDP, TCP), 'Direction' (DUT Transmit, DUT Receive), and 'Attenuator' (1.1.0, 0..+50..-950). At the bottom right are 'Start', 'Another Iteration', 'Pause', and 'Cancel' buttons.

Selected DUT:	netgear-r7800	Duration:	15 sec (15 s)
Downstream Port:	1.1.21 sta0	Upstream Port:	<Custom>
Path Loss:	10	Rate:	85%
Channels	Mode	Packet Size	
AUTO	Auto	78	
No-Change	802.11a	142	
1	802.11b	256	
2	802.11g	512	
3	802.11abg	1024	
4	802.11abgn	MTU	
5	802.11bgn	4000	
6	802.11bg	9000	
Spatial Streams	Security	Bandwidth	
AUTO	AUTO	AUTO	
1	Open	20	
2	WEP	40	
3	WPA	80	
4	WPA2	160	
	WPA3		
Traffic Type	Attenuator:		
UDP	1.1.0		
TCP	0..+50..-950		
Direction			
DUT Transmit			
DUT Receive			

Software Features

1. Using Rate vs Range, an AP can be tested how well it can transmit packets at different signal levels for transit and receive.
2. Emulate mesh node distance.
3. Test device roaming between APs.
4. Test how well the AP can receive packets with different MCS at different RF Signal levels.

Hardware Specification

1. RF Attenuator with 0.3Ghz to 6 Ghz.
2. Includes 3 4205A - 95.5 RF Attenuation modules from API Tech.
3. Controlled by Arduino-Mega micro-controller and custom electronics boards.
4. USB-Serial console (115200 8 N 1) for scripting and automated control.
5. 2 rotating knobs for manual adjustment.
6. LCD Screen for display of current settings.
7. High-Quality aluminum chassis with extruded body and 2.4mm thick faceplates.
8. Internal RF connectors are highly shielded semi-rigid SMA cables.
9. +9v 1AMP external power supply (brick). May also be powered from 500ma USB port.
10. Weight: 3 lbs or 1.4 kg.
11. Dimensions: 9 x 9.5 x 3 inches Metric: 240 x 230 x 80 mm.
12. Operating Temperature: 0 ~ 40°C.
13. Operating Humidity: 10 ~ 90%.
14. Certification: RoHS.

4205A - 95.5 module specifications:

Max RF Power:	+23 dBm
Impedance:	50 Ω
Frequency Range:	0.3 GHz – 6.0 GHz
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List Price: \$5,495 List Price with 1 Year support (17%): \$6,429

Additional Products

For a more complete WiFi testing setup, you may wish to consider the CT711 RF Noise generator, CT712 RADAR Simulator, CT523 and CT525 series WiFi traffic generators.

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