

## CT704b LANforge-Attenuator with 4 Attenuator Modules: 0.3Ghz to 6Ghz

The CT704b RF Attenuator is used to attenuate (decrease) the RF signal between wireless devices. The CT704b uses 4 of the 4205A - 95.5 modules from API Technologies. A summary of the technical specifications is below:

Max RF Power:	+23 dBm
Impedance:	50 $\Omega$
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: $\pm 1$ dB, 16+ dB: $\pm 1.5$ dB or 4%

The CT704b 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 CT704b is a test tool and should be used in an RF enclosure to prevent un-intended RF interference with other equipment.

The CT704b has no moving parts and will fit into a small travel bag or briefcase for easy portability.

The CT704b includes 8 SMA-Male to SMA-Male semi-rigid RF cables, USB Cable, and external power supply (brick).

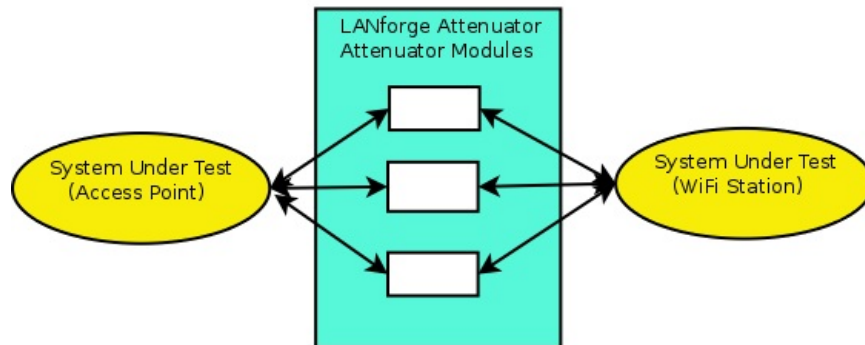


NOTE: This product may have a different hardware configuration than the system pictured above.  
Refer to your official quote for details.

## Example Network Diagram



### 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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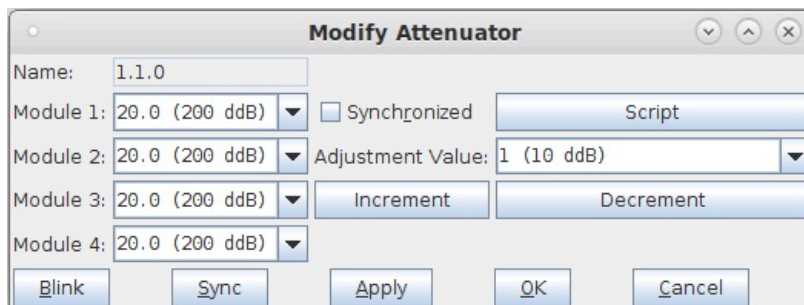
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### Quick Start Guide

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 screenshot shows a window titled "Modify Attenuator" with standard window controls (minimize, maximize, close) in the top right corner. The window contains the following fields and controls:

- Name:** A text input field containing "1.1.0".
- Module 1:** A dropdown menu showing "20.0 (200 ddB)".
- Module 2:** A dropdown menu showing "20.0 (200 ddB)".
- Module 3:** A dropdown menu showing "20.0 (200 ddB)".
- Module 4:** A dropdown menu showing "20.0 (200 ddB)".
- Synchronized:** An unchecked checkbox.
- Adjustment Value:** A dropdown menu showing "1 (10 ddB)".
- Buttons:** "Script", "Increment", "Decrement", "Blink", "Sync", "Apply", "OK", and "Cancel".

### LANforge Attenuator Rate vs Range Test

**Rate vs Range Test**

**Settings** | Advanced Configuration | Report Configuration

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: UDP | TCP

Direction: DUT Transmit | DUT Receive

Attenuator: 1.1.0 | 0..+50..950

**Start** | ☐ Another Iteration | ☐ Pause | **Cancel**

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## 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 4 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:

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List Price: \$6,995    List Price with 1 Year support (17%): \$8,184

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## 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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Last modified: Wed Jun 11 17:34:00 PDT 2025