

## CT714 LANforge-Attenuator with 4 Attenuator Channels: .005 GHz - 6 GHz

The CT714 RF Attenuator is used to attenuate (decrease) the RF signal between wireless devices. A summary of the technical specifications is below:

Max RF Power:	+28 dBm
Impedance:	50 $\Omega$
Frequency Range:	0.005 GHz – 6.0 GHz
Attenuation Range:	0 – 95 dB
Attenuation Steps:	0.5 dB increments

The CT714 may 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 CT714 is a test tool and should be used in an RF enclosure to prevent un-intended RF interference with other equipment.

The CT714 has no moving parts and will fit into a small travel bag or briefcase for easy portability.

The CT714 includes 8 SMA-Male to SMA-Male semi-rigid RF cables, and a USB Cable for both management and power supply.

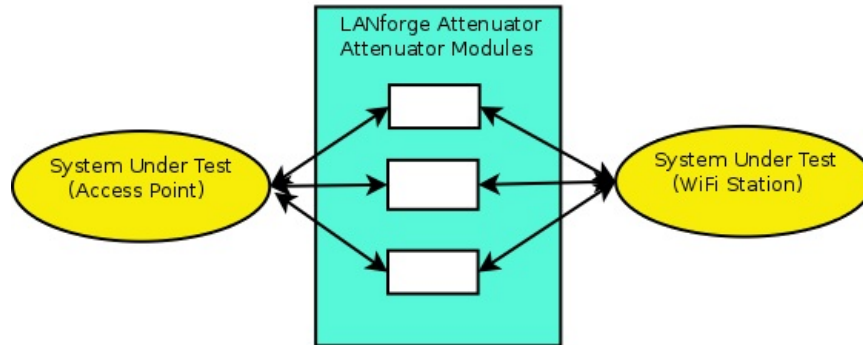


NOTE: This product may have a different hardware configuration than the system pictured above.  
Refer to your official quote for details.

## Example Network Diagram



### LANforge RF Attenuator.



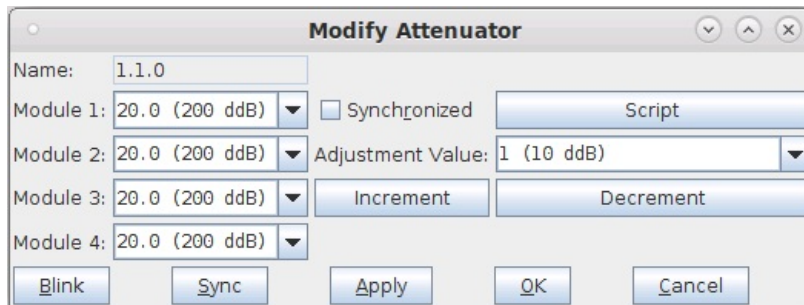
The LANforge attenuator sits between two RF systems, often a WiFi AP on one side and WiFi Station on the other. The attenuator and WiFi stations are connected by shielded SMA-Male cables. Adjust the attenuation as desired either with the LANforge GUI or direct access over serial.

### Quick Start Guide

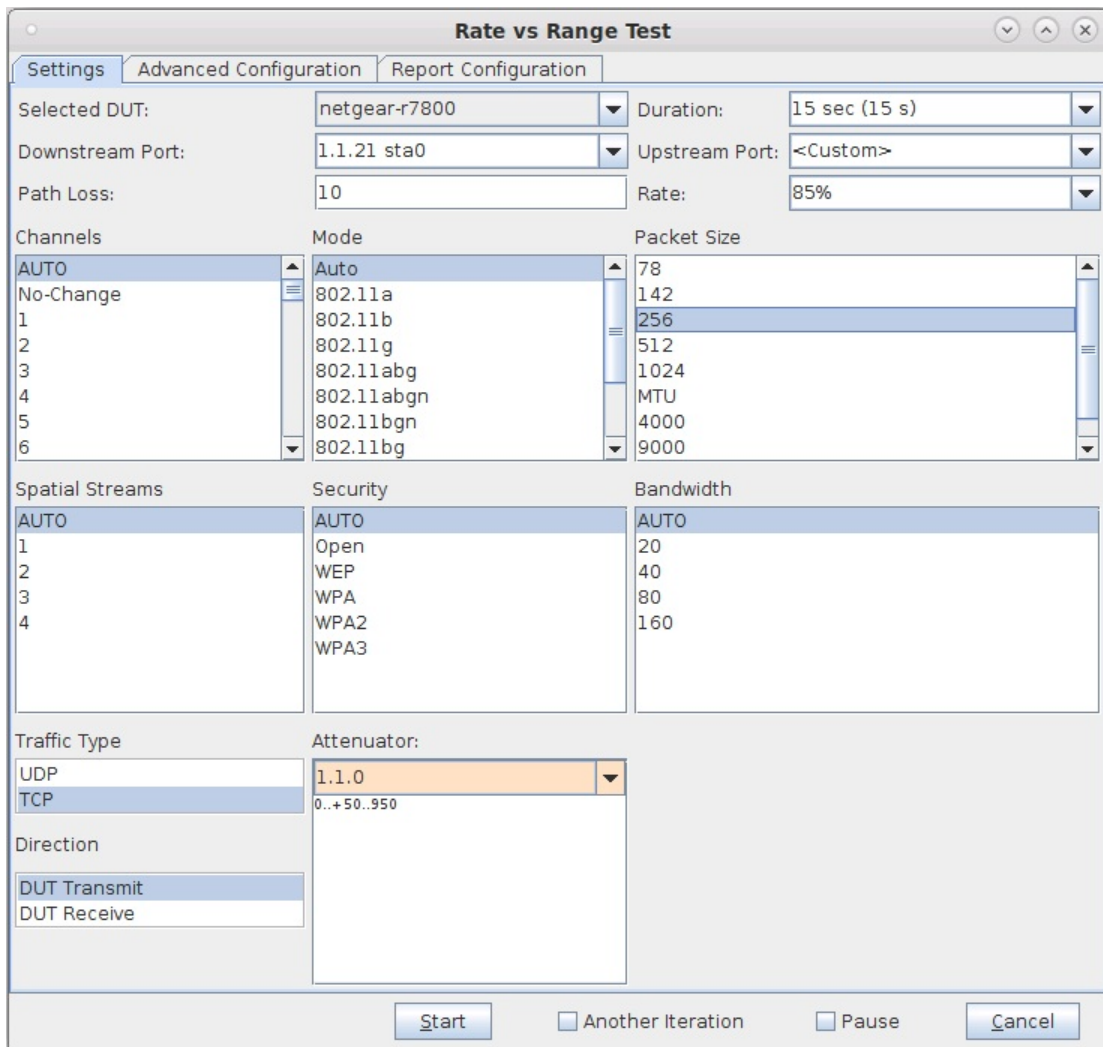
1. Connect the CT714 to a Linux system running LANforge with the included USB cable. The USB cable allows control of the CT714. The USB cable also provides power so no other power cable is required.
2. Connect the attenuator pairs: One side to one system and the other side to another system or antennas.
3. Open a LANforge GUI and connect to the Linux system with the CT714.
4. In the Attenuator tab, you should see the CT714 device. Modify it to set attenuation values manually and/or configure a script to change attenuations automatically.
5. One useful feature for the CT714 is the Rate vs Range test in Chamber View. The second screenshot below shows the possible options this feature gives. For more information, please see [Testing Rate vs Range throughput for a WiFi Device](#).

## LANforge-Attenuator Related Images

### LANforge Attenuator Configuration Screen



### LANforge Attenuator Rate vs Range Test



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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 0.005 Ghz to 6 Ghz.
2. USB-Serial console (115200 8 N 1) for scripting and automated control.
3. Weight: 1.6 lbs or .714 kg.
4. Dimensions: 7 x 3.5 x 1 inches Metric: 180 x 90 x 25 mm.
5. Operating Temperature: 0 ~ 60°C.
6. Operating Humidity: 10 ~ 90%.

7. Certification: RoHS.

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 (dB):	<b>Frequency</b>	<b>Typical</b>		<b>Max</b>
	<b>5 Mhz</b>	4.2		5.0
	<b>2400 Mhz</b>	6.3		6.5
	<b>6000 Mhz</b>	10.9		13.0
Attenuation Accuracy (dB):	<b>Frequency</b>	<b>Conditions</b>	<b>Typical</b>	<b>Max</b>
	<b>5 - 2000 Mhz</b>	0.25 - 20	$\pm 0.25$	$\pm(5.5\%$ of Atten. + 0.25)
		20.25 - 60	$\pm 0.50$	$\pm(2.0\%$ of Atten. + 0.90)
		60.25 - 90	$\pm 0.75$	$\pm(3.5\%$ of Atten. + 0.70)
	<b>2000 - 4000 Mhz</b>	0.25 - 20	$\pm 0.20$	$\pm(5.5\%$ of Atten. + 0.25)
		20.25 - 60	$\pm 0.30$	$\pm(2.0\%$ of Atten. + 0.70)
		60.25 - 90	$\pm 0.40$	$\pm(3.0\%$ of Atten. + 0.90)
	<b>4000 - 6000 Mhz</b>	0.25 - 20	$\pm 0.15$	$\pm(6.5\%$ of Atten. + 0.15)
		20.25 - 60	$\pm 0.35$	$\pm(3.5\%$ of Atten. + 0.45)
		60.25 - 90	$\pm 0.65$	$\pm(3.5\%$ of Atten. + 0.90)

## 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.