



N2882A 75Ω to 50Ω Adapter

User's Guide



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Contents

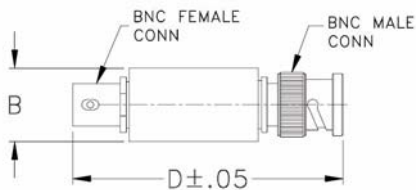
Introduction	3
Dimensions	3
Characteristics and Specifications	4
Using the Adapter	5
Plots	6

N2882A Adapter

The N2882A is a 75Ω BNC to 50Ω BNC adapter that allows you to connect a 75Ω video signal to the 50Ω input of an oscilloscope without aberrations and reflections. The N2882A presents up to 8 GHz of bandwidth with flat frequency response and low return loss.

Dimensions

Weight	40 g
Width (B - see diagram below)	13.72 mm (0.54 inches)
Length (D - see diagram below)	65.79 mm (2.59 inches)



Characteristics and Specifications

Characteristics and specifications for the N2882A adapter are shown below. The adapter / oscilloscope should be warmed up for at least 20 minutes before any testing and the environmental conditions should not exceed the adapter's specified limits. These characteristics are all typical.

Electrical Characteristics

Frequency ¹	DC to 8 GHz Bandwidth (-3 dB)
VSWR	DC-100 MHz: 1.06 100-1000 MHz: 1.22 1000-2000 MHz: 1.4
Attenuation	DC: 5.7 ± 0.1 dB Attenuation Flatness: 5.7 ± 0.4 dB
RF Input Power	0.25 W

¹Ensure proper BNC mating. An unconnected mating finger on the male side of either BNC connection will cause a minor resonance around 4 GHz.

Mechanical Characteristics

75 Ω	Female BNC
50 Ω	Male BNC

Environmental Specifications

Temperature	Operating: -55 °C to +100 °C Nonoperating: -55 °C to +100 °C
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Using the N2882A Adapter

The N2882A Adapter connects directly into a 50Ω terminating instrument. If your oscilloscope has multiple input impedance options (for example, 50Ω and $1M\Omega$), set the input channel that will be used with the N2882A Adapter to 50Ω .

The next step is to adjust the attenuation settings on your oscilloscope so the waveform is properly displayed when the adapter is in use. This process varies depending on whether you are using an Infiniium oscilloscope or an InfiniiVision oscilloscope.

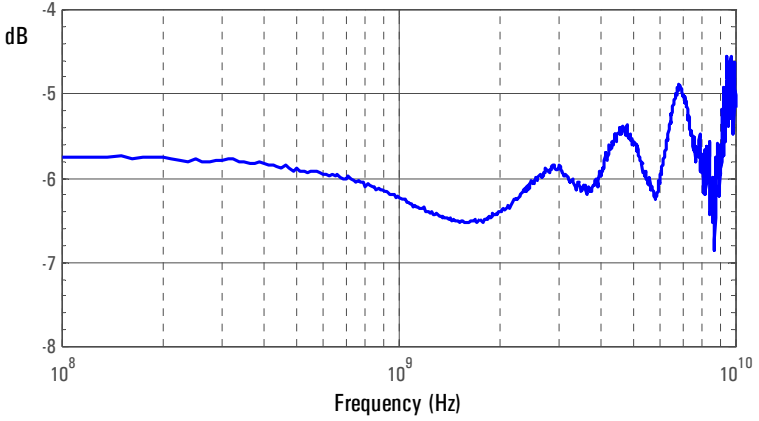
Changing the Attenuation on an Infiniium Series Oscilloscope

Navigate to Setup > Probes in the menu bar at the top of the display. In the Probes Setup dialog box, click on the Configure Probing System ... button. This will cause a drop-down menu to appear. Select User Defined Probe from this menu. You will then see a field to enter your attenuation. You can enter the attenuation in either decibels (5.7 dB) or as a ratio (1.947:1).

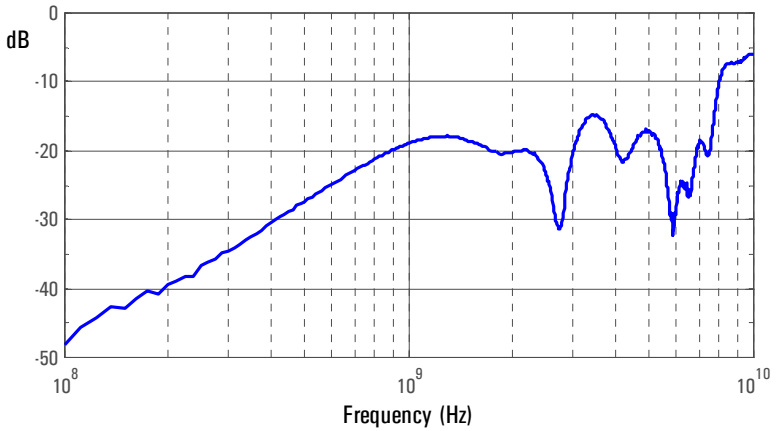
Changing the Attenuation on an InfiniiVision Series Oscilloscope

Press the channel button on the front panel that corresponds to the input channel you are going to use with the adapter. Then press the Probes softkey. In the next menu, repeatedly press the 2nd softkey from the left until decibels is checked (this softkey lets you set the attenuation). Turn the Entry knob (the knob with the circling arrow) on the front panel until the softkey reads 5.7 dB.

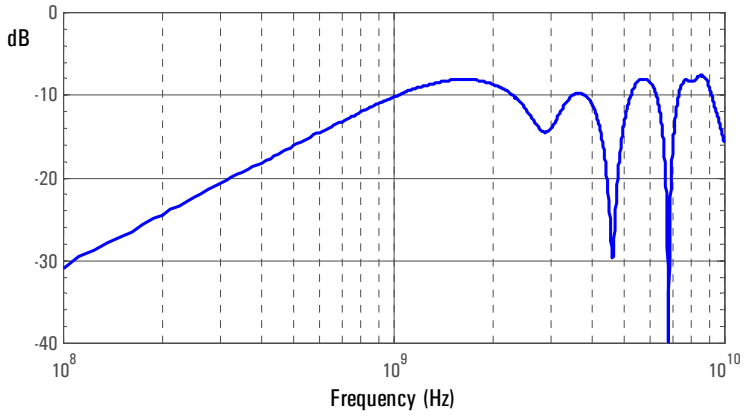
Plots



Plot of insertion loss (S21)



Plot of return loss on 50Ω end (S22)



Plot of return loss on 75 Ω end (S11)



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