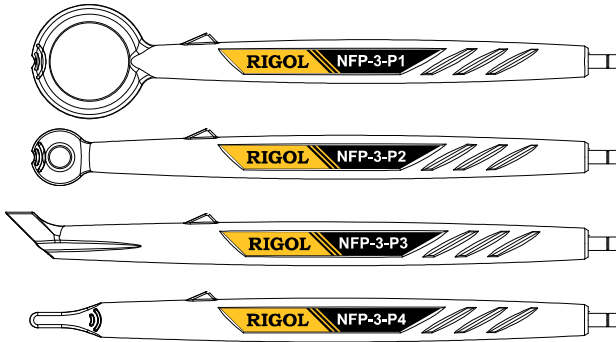




NFP-3 Near Field Probe

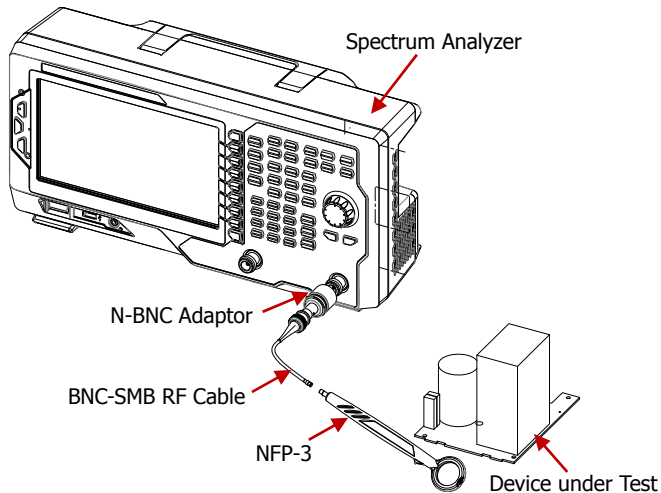
Product Overview

NFP-3 is used with **RIGOL** DSA series spectrum analyzer for the EMI tests of electronic products. It can be used to test the magnetic field strength and magnetic field coupling channels on the surface of the electronic components as well as the magnetic field environment near the electronic module so as to quickly locate the interference source. NFP-3 includes four models (NFP-3-P1, NFP-3-P2, NFP-3-P3 and NFP-3-P4).



Measurement Connections

The connection mode of NFP-3 and spectrum analyzer is as shown in the figure below.



- **Connect the spectrum analyzer**

Connect the SMB (M) terminal of NFP-3 and the BNC (F) terminal of the N-BNC adaptor respectively via the BNC-SMB RF cable; connect the N (M) terminal of the N-BNC adaptor to the RF input terminal of the spectrum analyzer.

- **Connect the device under test**

NFP-3 is used to perform short-distance noncontact measurement on the device under test. Pay attention to the direction of the probe during measuring.

Typical Applications

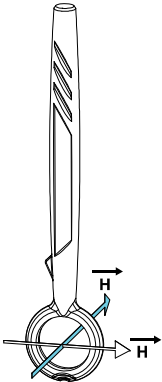
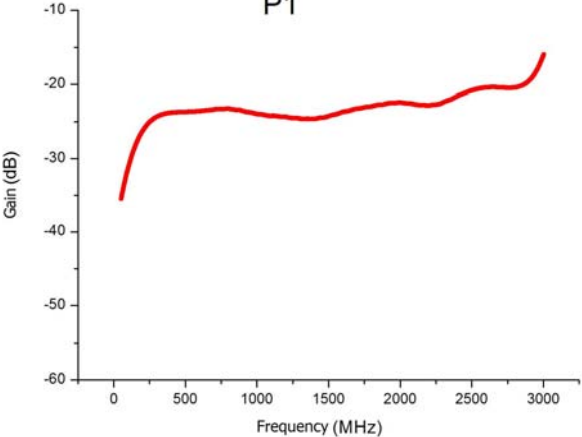
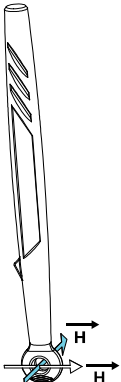
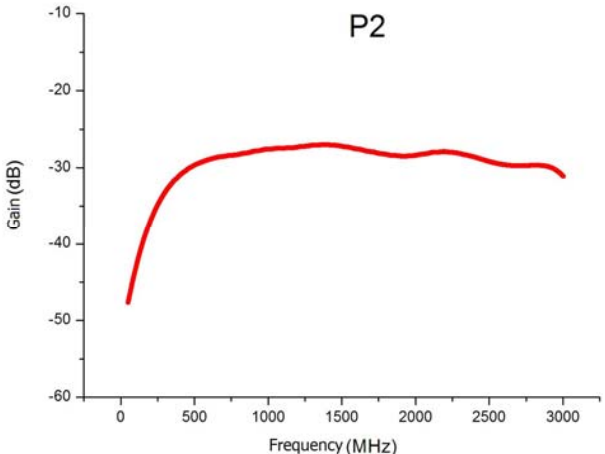
- Locate the EMI radiation interference source.
- Determine the frequency and relative strength of the spectral component of the interference source.

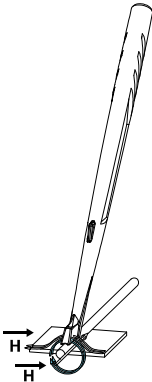
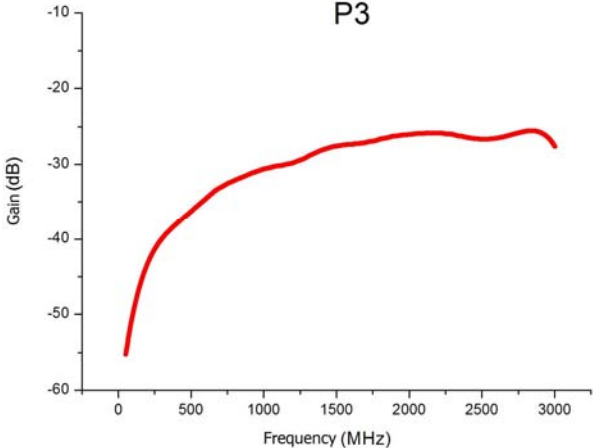
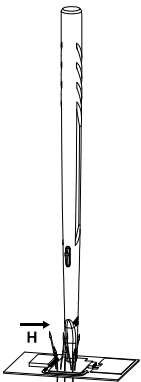
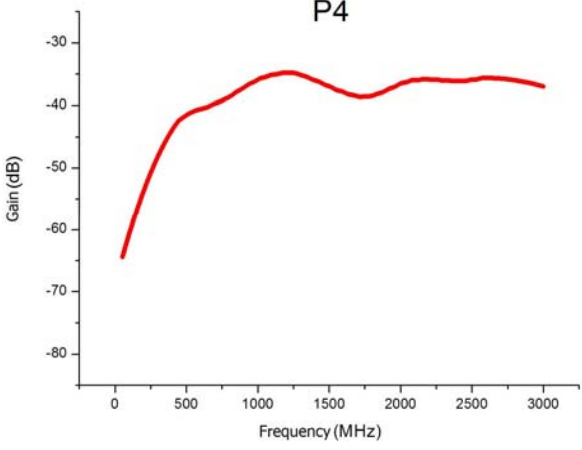
Performance Specifications

Frequency	
Frequency Range	30 MHz to 3 GHz

Terminal Type	
Terminal Type	SMB (M)
Adaptor	N (M)-BNC (F)
RF Cable	BNC (M)-SMB (F), 1000 mm
Terminal and Adaptor Impedance	50 Ω

General Specifications	
Dimensions	260 mm \times 190 mm \times 30 mm (with package)
Weight	0.425 kg (with package)
Operating Temperature	0 $^{\circ}$ C to 50 $^{\circ}$ C
Storage Temperature	-20 $^{\circ}$ C to 70 $^{\circ}$ C

Model	Description																
<p data-bbox="101 209 202 233">NFP-3-P1</p>  <p>The diagram shows a long, thin probe with a circular coil at the tip. A blue arrow labeled 'H' points to the right, indicating the direction of the magnetic field. A red arrow labeled 'H' points to the right, indicating the direction of the magnetic field.</p>	<p data-bbox="309 209 1004 277">Near field probe for magnetic field measurements. The test range is within 10 cm. It is used to locate the leakage field.</p> <p data-bbox="580 336 617 360">P1</p>  <p>The graph shows Gain (dB) on the y-axis (ranging from -60 to -10) and Frequency (MHz) on the x-axis (ranging from 0 to 3000). The gain starts at approximately -35 dB at 0 MHz, rises to about -25 dB by 500 MHz, and then remains relatively stable between -25 dB and -20 dB up to 3000 MHz.</p> <table border="1"><caption>Approximate data for P1 graph</caption><thead><tr><th>Frequency (MHz)</th><th>Gain (dB)</th></tr></thead><tbody><tr><td>0</td><td>-35</td></tr><tr><td>500</td><td>-25</td></tr><tr><td>1000</td><td>-25</td></tr><tr><td>1500</td><td>-25</td></tr><tr><td>2000</td><td>-23</td></tr><tr><td>2500</td><td>-21</td></tr><tr><td>3000</td><td>-18</td></tr></tbody></table>	Frequency (MHz)	Gain (dB)	0	-35	500	-25	1000	-25	1500	-25	2000	-23	2500	-21	3000	-18
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2000	-23																
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<p data-bbox="101 815 202 839">NFP-3-P2</p>  <p>The diagram shows a long, thin probe with a circular coil at the tip. A blue arrow labeled 'H' points to the right, indicating the direction of the magnetic field. A red arrow labeled 'H' points to the right, indicating the direction of the magnetic field.</p>	<p data-bbox="309 815 1004 884">Near field probe for magnetic field measurements. The test range is within 3 cm. It is used to accurately test the leakage field.</p> <p data-bbox="667 943 704 967">P2</p>  <p>The graph shows Gain (dB) on the y-axis (ranging from -60 to -10) and Frequency (MHz) on the x-axis (ranging from 0 to 3000). The gain starts at approximately -48 dB at 0 MHz, rises to about -30 dB by 500 MHz, and then remains relatively stable between -28 dB and -32 dB up to 3000 MHz.</p> <table border="1"><caption>Approximate data for P2 graph</caption><thead><tr><th>Frequency (MHz)</th><th>Gain (dB)</th></tr></thead><tbody><tr><td>0</td><td>-48</td></tr><tr><td>500</td><td>-30</td></tr><tr><td>1000</td><td>-28</td></tr><tr><td>1500</td><td>-28</td></tr><tr><td>2000</td><td>-30</td></tr><tr><td>2500</td><td>-30</td></tr><tr><td>3000</td><td>-32</td></tr></tbody></table>	Frequency (MHz)	Gain (dB)	0	-48	500	-30	1000	-28	1500	-28	2000	-30	2500	-30	3000	-32
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Model	Description																
<p data-bbox="118 209 221 233">NFP-3-P3</p>  <p>The diagram shows a long, thin probe with a circular loop at the tip. Two horizontal arrows labeled 'H' indicate the magnetic field direction. The probe is shown in a vertical orientation, with the loop positioned to measure the magnetic field around a component on a PCB.</p>	<p data-bbox="328 204 1028 293">Near field probe for magnetic field measurements. The resolution is about 5 mm. It is used to test the electromagnetic leakage of the cables.</p>  <p>The graph shows the gain in dB versus frequency in MHz for model P3. The gain starts at approximately -55 dB at 0 MHz and rises to a plateau of about -25 dB between 1500 MHz and 3000 MHz.</p> <table border="1" data-bbox="339 325 936 775"> <caption>Gain vs Frequency (MHz) for P3</caption> <thead> <tr> <th>Frequency (MHz)</th> <th>Gain (dB)</th> </tr> </thead> <tbody> <tr><td>0</td><td>-55</td></tr> <tr><td>500</td><td>-40</td></tr> <tr><td>1000</td><td>-32</td></tr> <tr><td>1500</td><td>-28</td></tr> <tr><td>2000</td><td>-26</td></tr> <tr><td>2500</td><td>-27</td></tr> <tr><td>3000</td><td>-28</td></tr> </tbody> </table>	Frequency (MHz)	Gain (dB)	0	-55	500	-40	1000	-32	1500	-28	2000	-26	2500	-27	3000	-28
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<p data-bbox="118 805 221 829">NFP-3-P4</p>  <p>The diagram shows a long, thin probe with a small loop at the tip. A horizontal arrow labeled 'H' indicates the magnetic field direction. The probe is shown in a vertical orientation, with the loop positioned to measure the magnetic field in the vertical direction on a PCB.</p>	<p data-bbox="328 801 1028 922">Near field probe for magnetic field measurements. The resolution is about 2 mm. It can test the magnetic field in the vertical direction and the electromagnetic field generated by the PCB wiring.</p>  <p>The graph shows the gain in dB versus frequency in MHz for model P4. The gain starts at approximately -65 dB at 0 MHz and rises to a plateau of about -35 dB between 1000 MHz and 3000 MHz.</p> <table border="1" data-bbox="339 963 925 1414"> <caption>Gain vs Frequency (MHz) for P4</caption> <thead> <tr> <th>Frequency (MHz)</th> <th>Gain (dB)</th> </tr> </thead> <tbody> <tr><td>0</td><td>-65</td></tr> <tr><td>500</td><td>-45</td></tr> <tr><td>1000</td><td>-38</td></tr> <tr><td>1500</td><td>-35</td></tr> <tr><td>2000</td><td>-36</td></tr> <tr><td>2500</td><td>-35</td></tr> <tr><td>3000</td><td>-36</td></tr> </tbody> </table>	Frequency (MHz)	Gain (dB)	0	-65	500	-45	1000	-38	1500	-35	2000	-36	2500	-35	3000	-36
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