

Near Field Probe Set

EM5030

EM5030LF

EM5030E



Shenzhen Zhiyong Electronics Co., Ltd


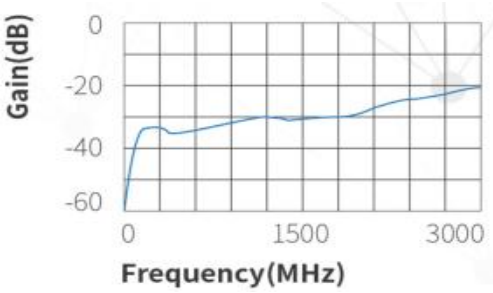

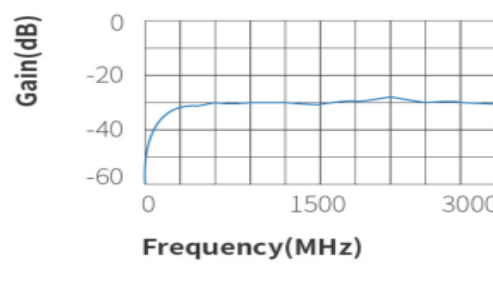
1. Summary

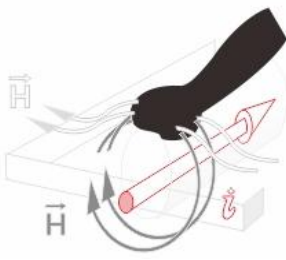
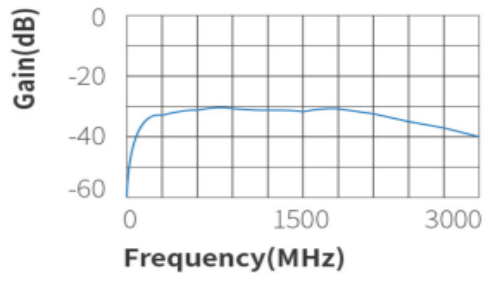
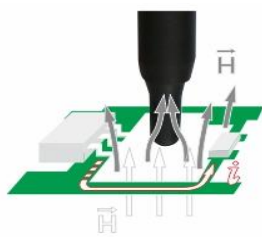
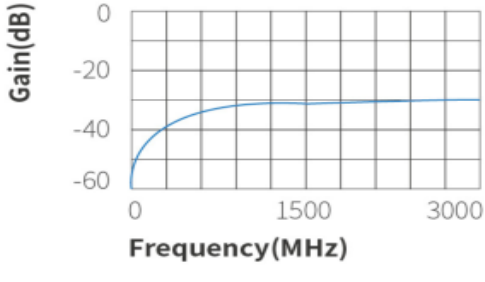

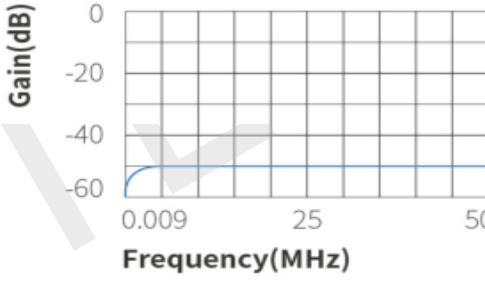

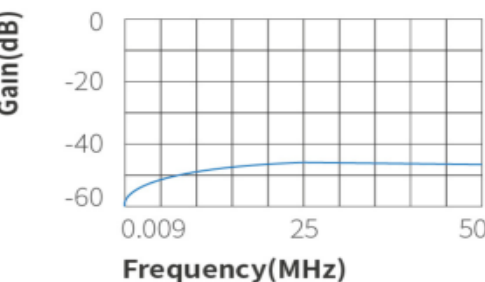
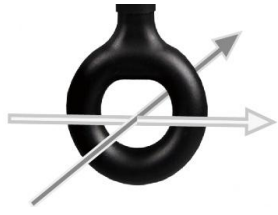
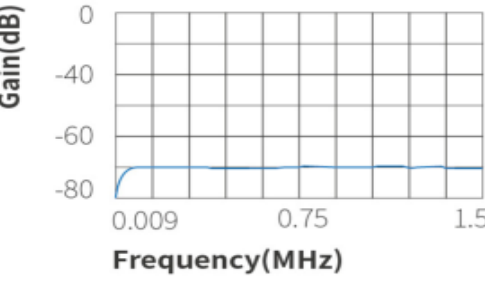
EM5030/EM5030LF series probe set contains 7 probes specially designed for testing magnetic field. These probes are used to locating the interference source in EMI pre-compliance debug and can effectively shield the interference from electric field. The frequency range of EM5030 is 30MHz~3GHz, with 4 types of probe head shapes. The frequency range of EM5030LF is 9kHz~50MHz, with 3 types of probe head shapes.

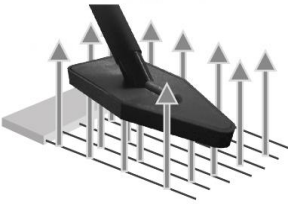
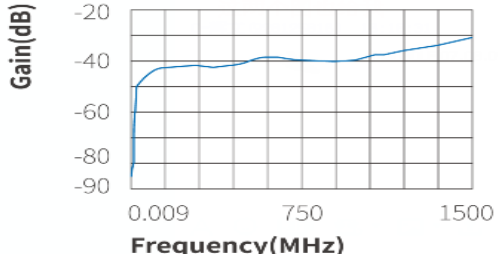
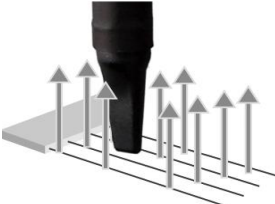
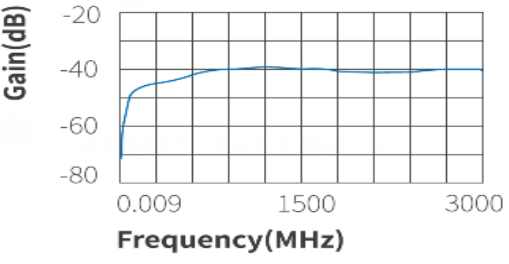
EM5030E series probe set contains two probes specially designed for testing electric field, with frequency range from 30MHz to 3GHz. They are mainly used for locating the electric field interference source, and the rest of the probe body is shielding design.

The probe is directly connected to the spectrometer or oscilloscope with 50Ω BNC cable. When the radiation or the conduct interference of the product surpass the standard, users can use the near field probe to search for the certain component or circuit generating the interference of certain frequency by testing the coupling channel between the module and the signal shifting speed, RF voltage of the evaluating system. When the interference signal is relatively weak, users can improve the system sensitivity with the EM5020A(20dB attenuation) or EM5020B(30dB attenuation) preamplifier.

2. Specification

Module	Description	Characteristics
 <p>EM5030-1</p>	<ul style="list-style-type: none"> ◆ H probe for detecting H field 10 cm around ◆ Mainly used to track the emission leakage of a device or cable ◆ Frequency range:30MHz to 3GHz ◆ Resolution :25mm 	
 <p>EM5030-2</p>	<ul style="list-style-type: none"> ◆ H probe for detecting H field 3 cm around ◆ Frequency range:30MHz to 3GHz ◆ Resolution :10mm 	

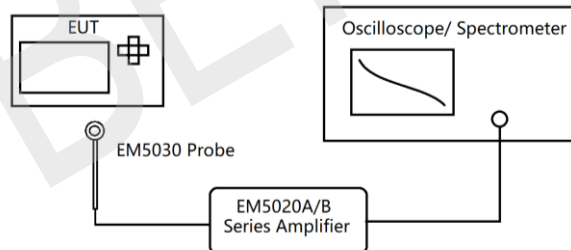
 <p>EM5030-3</p>	<ul style="list-style-type: none"> ◆ H probe mainly used to detect the emission leakage of a wire. ◆ Frequency range: 30MHz to 2GHz ◆ Resolution : 5mm 	 <p>Gain(dB) vs Frequency(MHz)</p>
 <p>EM5030-4</p>	<ul style="list-style-type: none"> ◆ H probe can be used to detect the vertical H field. ◆ Mainly used to track the emission leakage of the circuits on a PCB. ◆ Frequency range: 30MHz to 3GHz ◆ Resolution : 2mm 	 <p>Gain(dB) vs Frequency(MHz)</p>
 <p>EM5030LF-5</p>	<ul style="list-style-type: none"> ◆ H probe can be used to check the H field within 10cm range ◆ Mainly used for LW conduct debug testing ◆ Frequency Range: 1MHz to 50MHz ◆ Resolution rate: around 25mm 	 <p>Gain(dB) vs Frequency(MHz)</p>
 <p>EM5030LF-6</p>	<ul style="list-style-type: none"> ◆ H probe can be used to check the H field within 3cm range ◆ Mainly used for low frequency debug testing ◆ Frequency Range: 1MHz to 50MHz ◆ Resolution rate: around 10mm 	 <p>Gain(dB) vs Frequency(MHz)</p>
 <p>EM5030LF-7</p>	<ul style="list-style-type: none"> ◆ H probe can be used to check the H field within 10cm range ◆ Mainly used for LW conduct debug testing ◆ Frequency Range: 9kHz to 1MHz ◆ Resolution rate: around 25mm 	 <p>Gain(dB) vs Frequency(MHz)</p>

 <p>EM5030E-8</p>	<ul style="list-style-type: none"> ◆ E probe used to test the surface electric field. Covering zone 2*5cm ◆ Used for bus structure or large component zone ◆ Frequency Range: 30MHz to 1.5GHz 	 <p>Gain(dB) vs Frequency(MHz)</p>
 <p>EM5030E-9</p>	<ul style="list-style-type: none"> ◆ E probe used for the testing of electric field generated on the surface single cable surface. ◆ Frequency range: 30MHz to 3GHz 	 <p>Gain(dB) vs Frequency(MHz)</p>

3. Application

- ◆ Tracking the EMI radio interference sources
- ◆ Tracking the EMI conduct interference sources
- ◆ H field detection

Application Diagram:

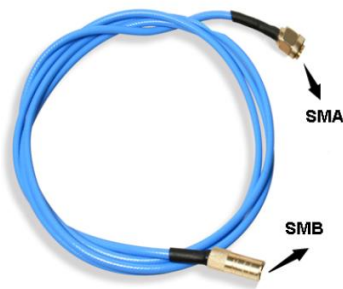


4. Products Description

Probes



Accessories



Standard Output Cable: 1m



Standard Adapter: SMA female to N male

5. Packing List

Packing List			
	EM5030	EM5030LF	EM5030E
H probe EM5030-1	1	—	—
H probe EM5030-2	1	—	—
H probe EM5030-3	1	—	—
H probe EM5030-4	1	—	—
H probe EM5030LF-5	—	1	—
H probe EM5030LF-6	—	1	—
H probe EM5030LF-7	—	1	—
H probe EM5030E-8	—	—	1
H probe EM5030E-9	—	—	1
SMB-SMA connecting cable	1	1	1
SMA (female) to N (male)	1	1	1
Instruction Manual	1	1	1
Warranty Card	1	1	1
Test Report	1	1	1

Preamplifier

EM5020A (20dB, 9kHz-3GHz)

EM5020B (30dB, 9kHz-3GHz)



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1. Summary

EM5020A/B preamplifier can be used with EM5030 near field probe to amplify the small signal from probe. The frequency range of EM5020A/B is 9kHz - 3GHz with a fixed gain of 20dB (EM5020A) / 30dB (EM5020B). It can greatly improve the sensitivity of system testing. The EM5020A/B can be powered by a standard USB power adapter (Standard Accessories) which is very easy to obtained, and it also can be very conveniently powered by the USB port of the spectrum analyzer or receiver. It can help the engineer to debug the electromagnetic disturbance source quickly and accurately with the EM5030 of CYBERTEK.

2. Specification

Model	EM5020A	EM5020B
Frequency range	9kHz - 3GHz	
Gain (typically)	20dB	30dB
Flatness	±3dB	
Gain	(Figure1)	(Figure2)
Max linear output power	10dBm	
Noise figure@2GHz	3dB	4dB
Max input power	13dBm	15dBm
Supply voltage	DC12V	
Input/output interface	SMA female	
Size	72mm*52mm*18mm	

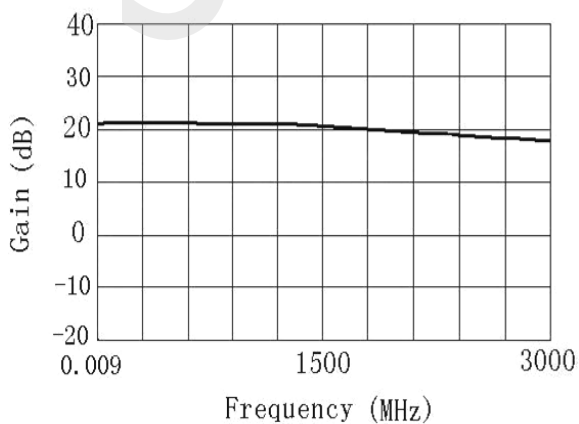


Figure1: Gain VS Frequency (EM5020A)

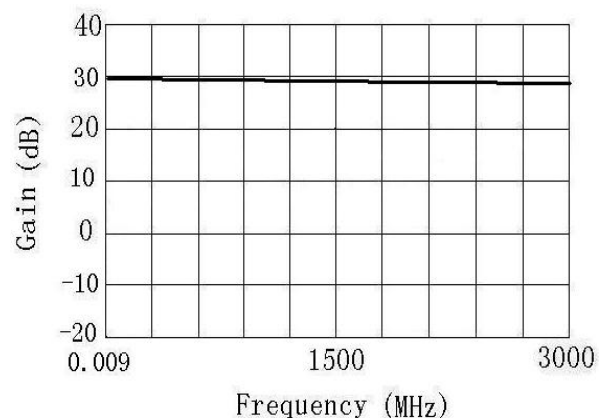
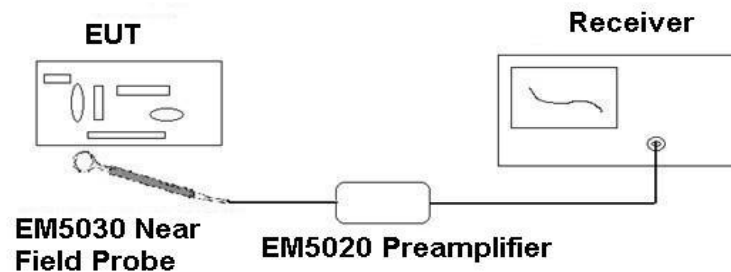


Figure 2: Gain VS Frequency (EM5020B)

3. Application

- ✧ Amplify the small signal
- ✧ EMI disturbance source debug



4. Products and accessories

- ✧ Products description



- ✧ Standard accessories



5. Using Steps

- Connect the output interface of the preamplifier to receiver or spectrum analyzer
- Connect preamplifier power supply
- Connect input signal (Please be sure that the input signal power doesn't exceed the max input power of the amplifier)

6. Caution

- ✧ Connect the preamplifier before plug power cable in.
- ✧ Do not connect the preamplifier if you do not know the max level of the signal. Max Input power of the EM5020A is 13dBm, EM5020A is 15dBm. It may be damaged if the input level exceed the Max Input power.
- ✧ Before connecting the EM5030 to EM5020, please make sure there is no strong electromagnetic field around the probe.

6. Packing list

Packing list	
Name	Quantity
Preamplifier	1
USB 5V adapter(CK-605)	1
Adapter: SMA(male)to N(male)	1
12V Booster from 5V (CK-615)	1
Instruction manual	1
Warranty card	1
Test report	1

CYBERTEK

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