

## **Bandwidth Measurement Fluke 80K40 HV Probe**

### **Introduction**

This is the results of a test to determine the bandwidth of a Fluke 80K40 HV Probe.

### **Test 1**

The Probe was connected to a Fluke 87 III meter. A Fluke 5101B calibrator was used as the signal source.

<b>Frequency</b>	<b>Meter reading mV</b>	<b>Comments</b>
DC	100.1	
50Hz	100.5	
60Hz	100	Unstable reading
100Hz	98.6	
200Hz	90.6	
400Hz	68.7	
800Hz	35.8	
1KHz	28.0	
100KHz	7.3	

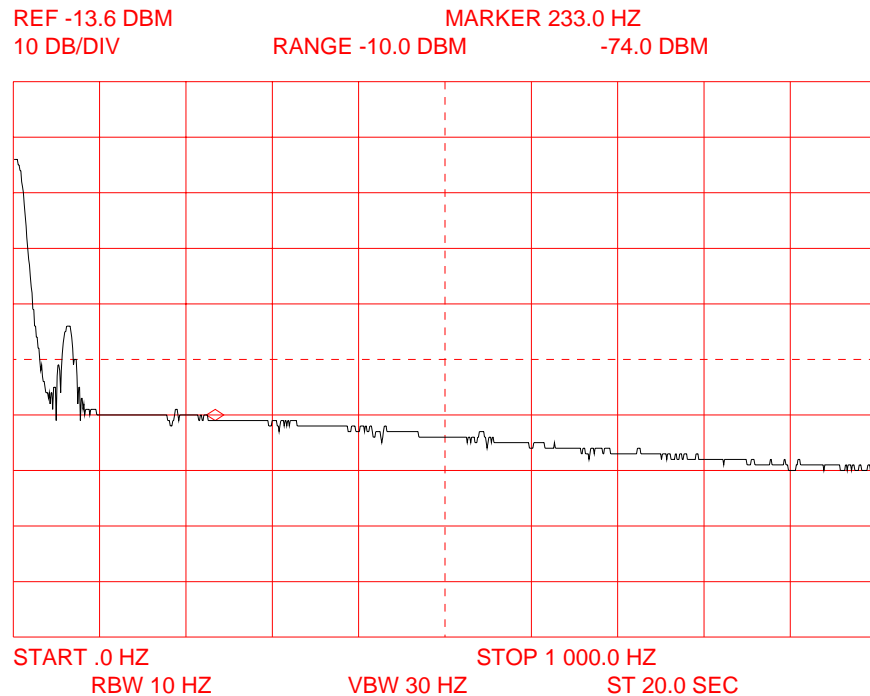
### **Test Method 2**

A HP3585A spectrum analyzer was used.

This Spectrum analyzer has a built in tracking generator.

A 'scope probe was added to the 1M input to provide a 10M input for the Fluke HV probe.

The 'scope probe was measured to provide a -14db signal.



The Marker shows the signal at 223Hz to  $-74\text{dBm}$ . This is consistent with  $-14\text{dB}$  measured with the 'scope probe plus an additional  $60\text{dB}$  coming from the fluke probe ( $\times 1000$ ).

Note that there is an additional  $10\text{dB}$  of attenuation at  $1\text{kHz}$ .

### Check

Meter reading at  $1\text{kHz} = 20 \text{ Log } (28/100) = -11 \text{ dB}$

The two methods agree.

### Additional Comment

Placing a grounded object, the probe ground lead or a hand near the red part of the probe, changed the frequency response of the probe.

### Conclusion.

I would not recommend using the Fluke 80K40 above line frequency.

John Barnes, December 29, 2005