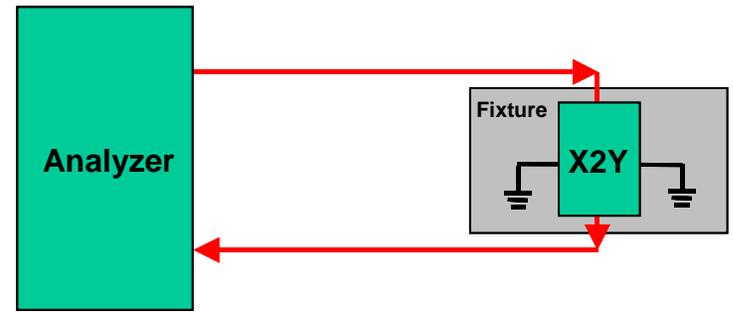
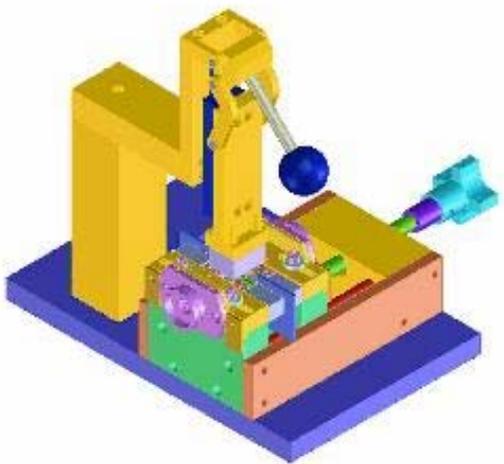
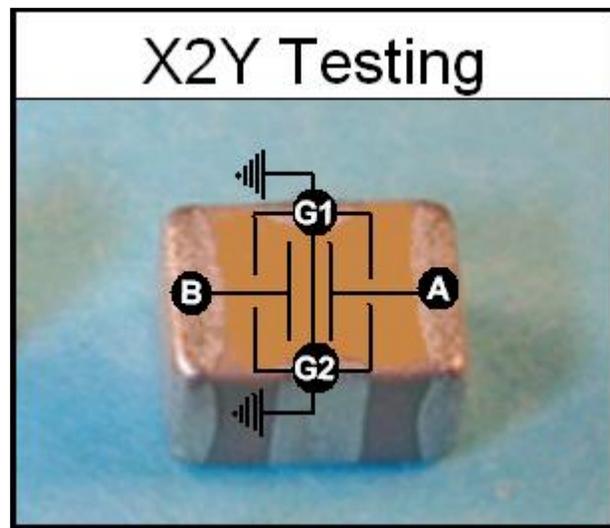


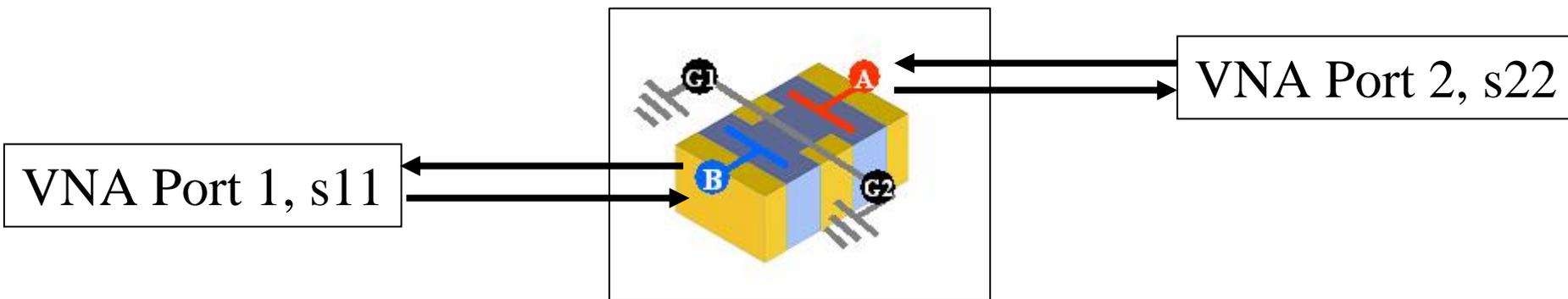
# X2Y<sup>®</sup> Component Testing Balance of Two Internal Y Capacitors

## Test Results #TR 1001, v2.0

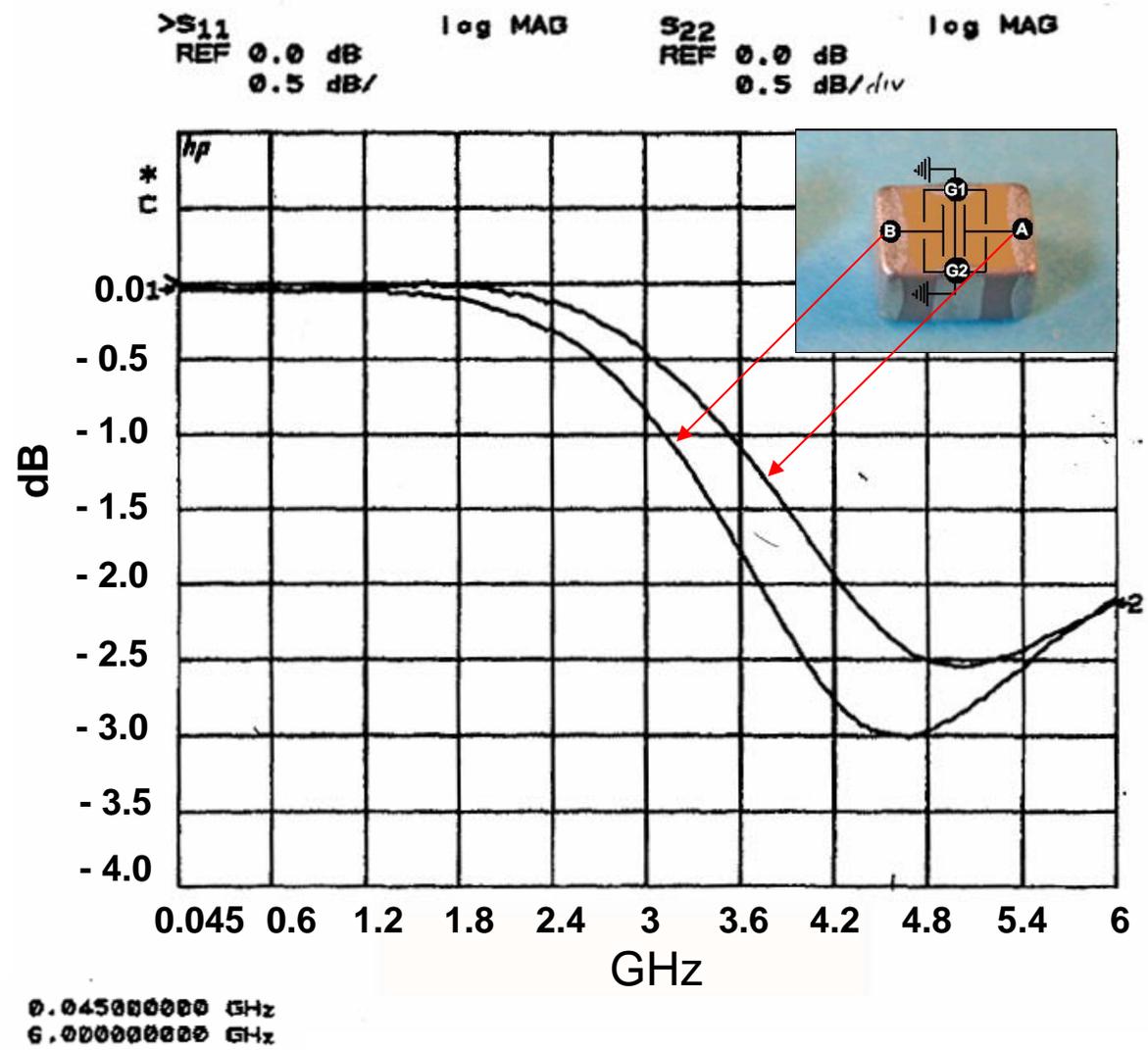
DISCLAIMER: Information and suggestions furnished in this document by X2Y Attenuators, LLC are believed to be reliable and accurate. X2Y Attenuators, LLC assumes no responsibility for its use, nor for any infringements of patents or other rights of third parties which may result from its' use. X2Y<sup>®</sup> is a registered trademark. All other brand or product names mentioned in this document are trademark or registered trademarks of their respective holders. This document is subject to change without notice. Copyright © X2Y Attenuators, LLC all rights reserved. Performance results reported in this and other published or copyrighted material, can only be achieved with patented X2Y<sup>®</sup> components sourced from X2Y<sup>®</sup> licensed manufacturers or their authorized distribution channels.



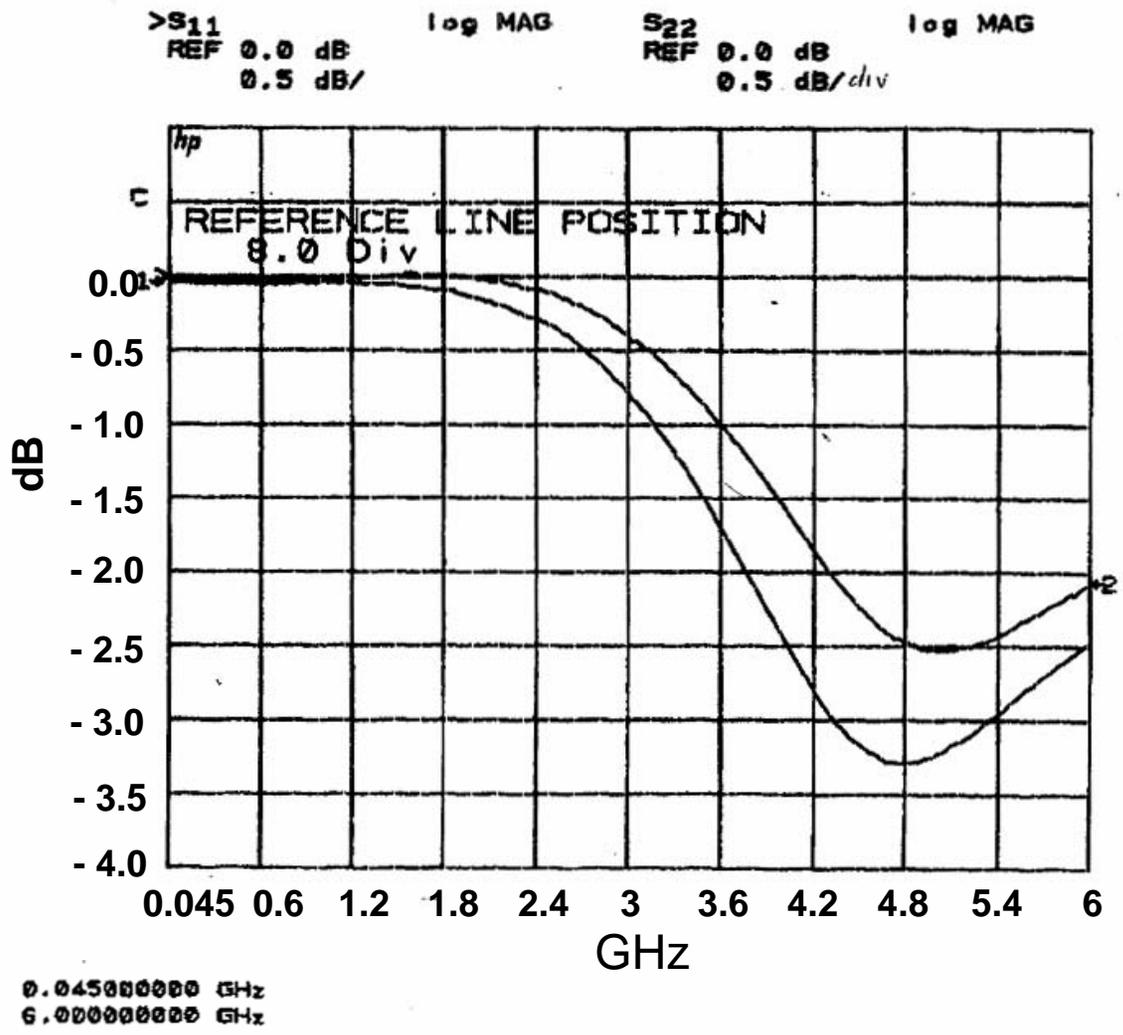
- The X2Y is a “balanced” device with two nominally equal halves separated by a shield. To measure the difference of each capacitor can be done in two ways:
  - ✓ **A Static capacitance measurement with a meter.** The capacitance tolerance of the two internal Y capacitors measured to ground is typically 1-3%. when measured to ground with a meter.
  - ✓ **Use a microwave test fixture to measure the performance difference.** A vector network analyzer can be used to make a comparison of the s11 and s22 (S-Parameter) measurements. The following data shows 7 randomly chosen 0805 size capacitors measured for balance.



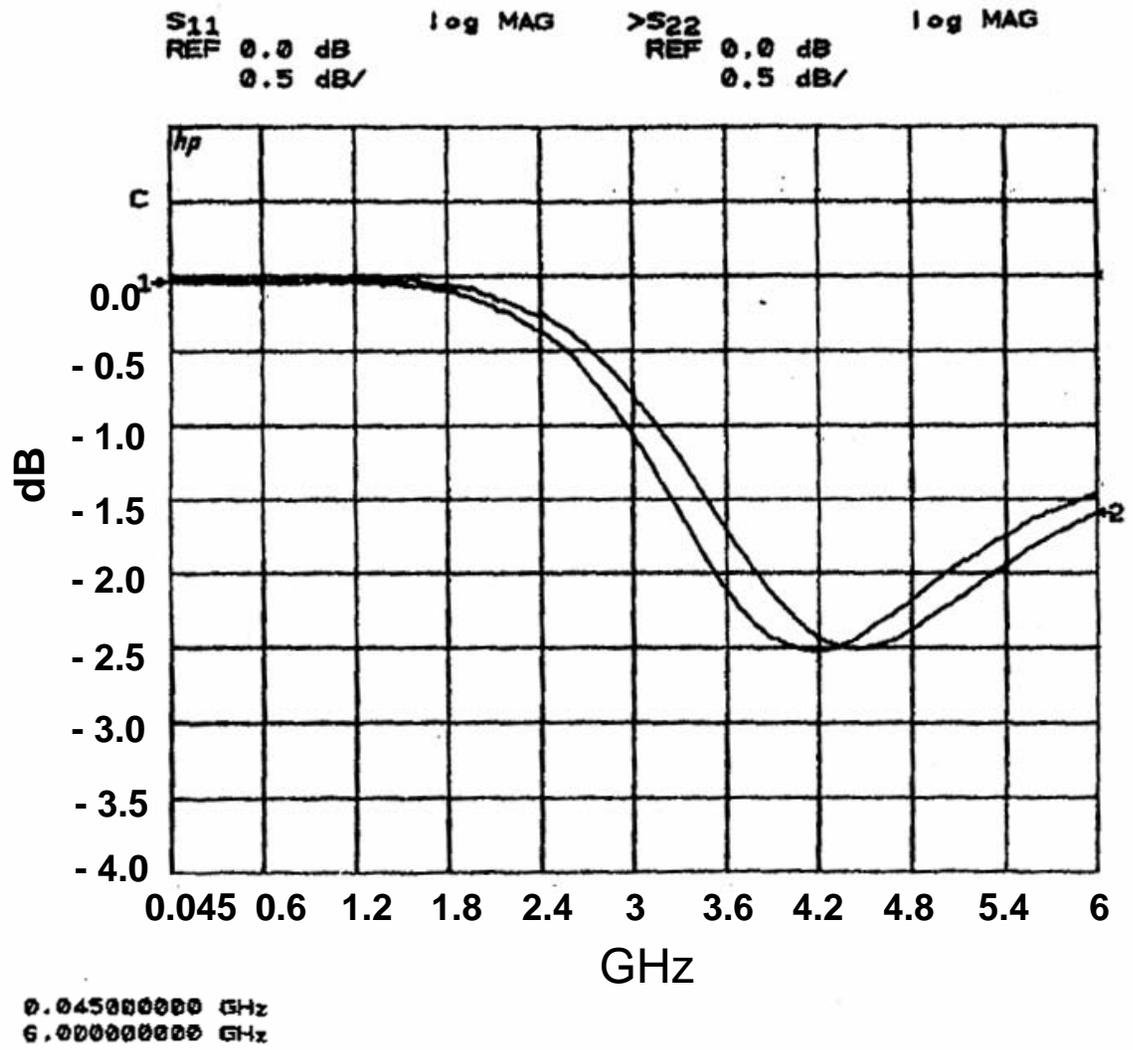
# Part #1, 0805 68nf, Y Cap Balance



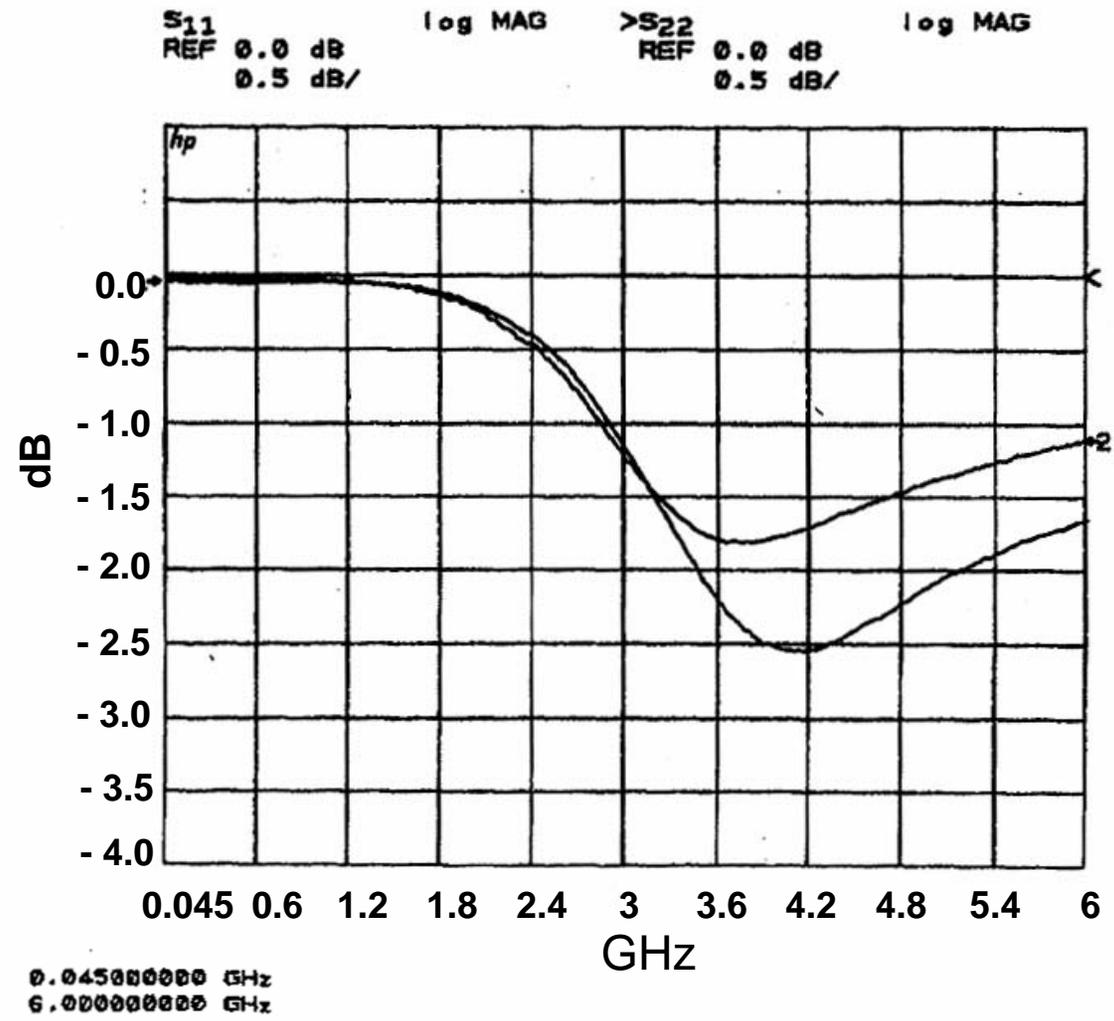
# Part #2, 0805 68nf, Y Cap Balance



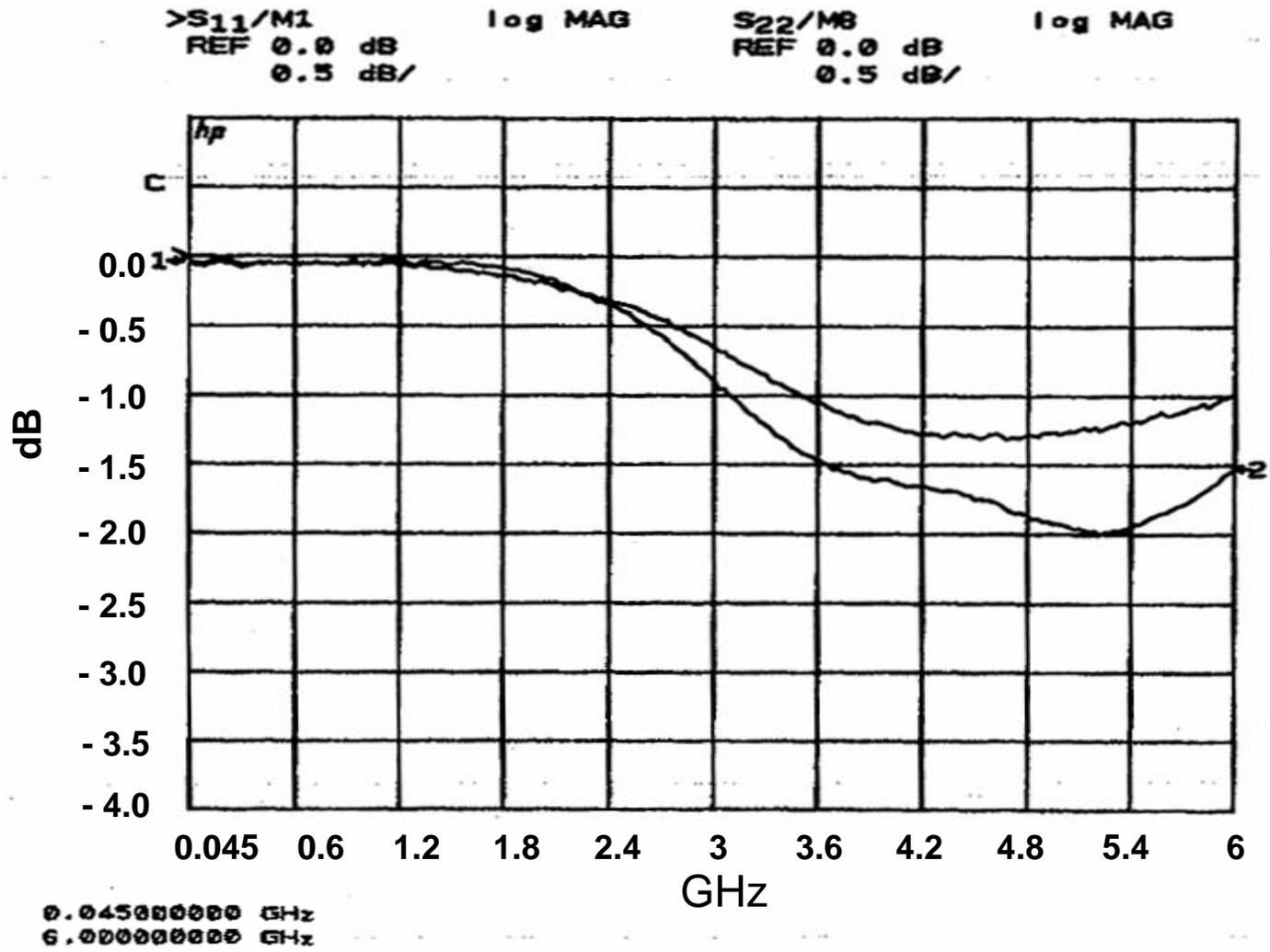
# Part #3, 0805 68nf, Y Cap Balance



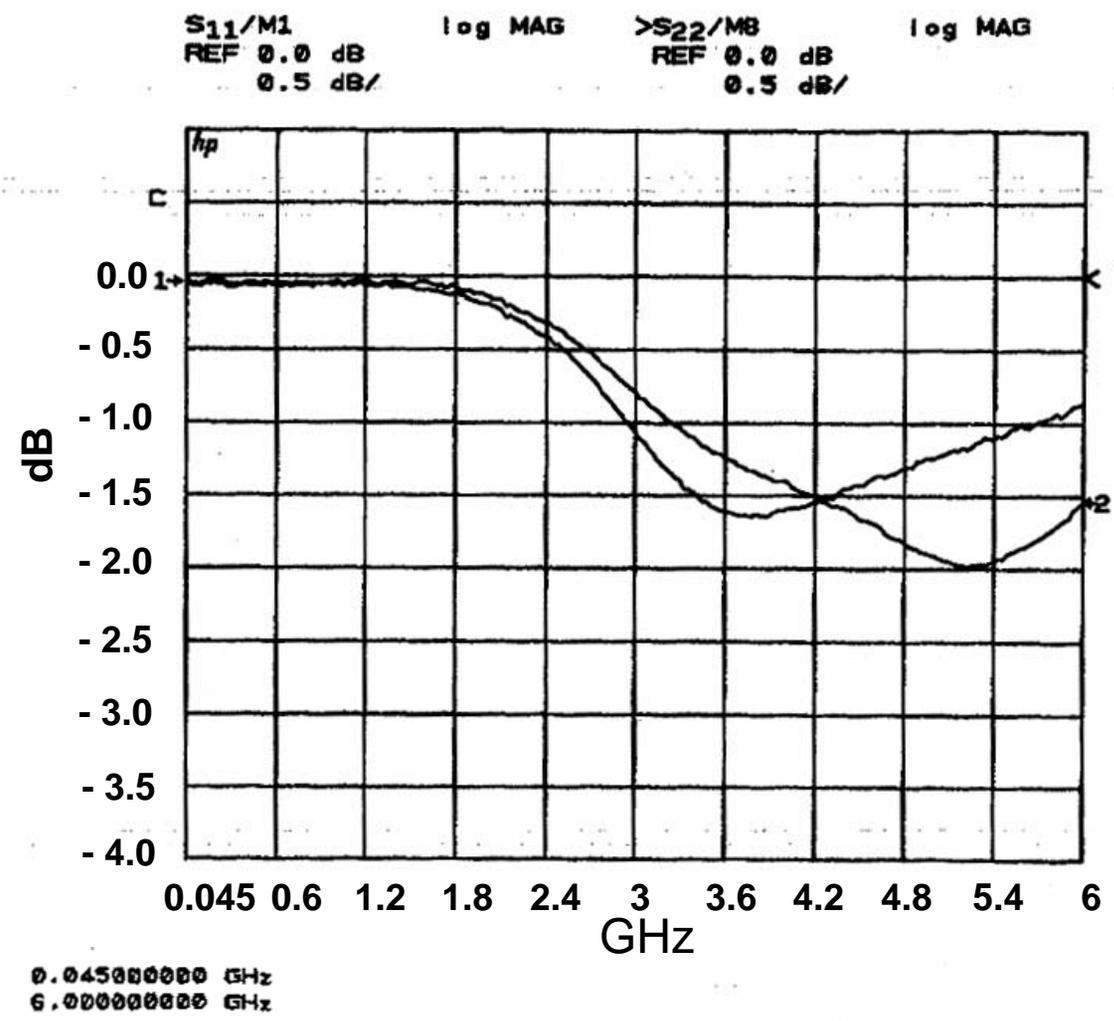
# Part #4, 0805 68nf, Y Cap Balance



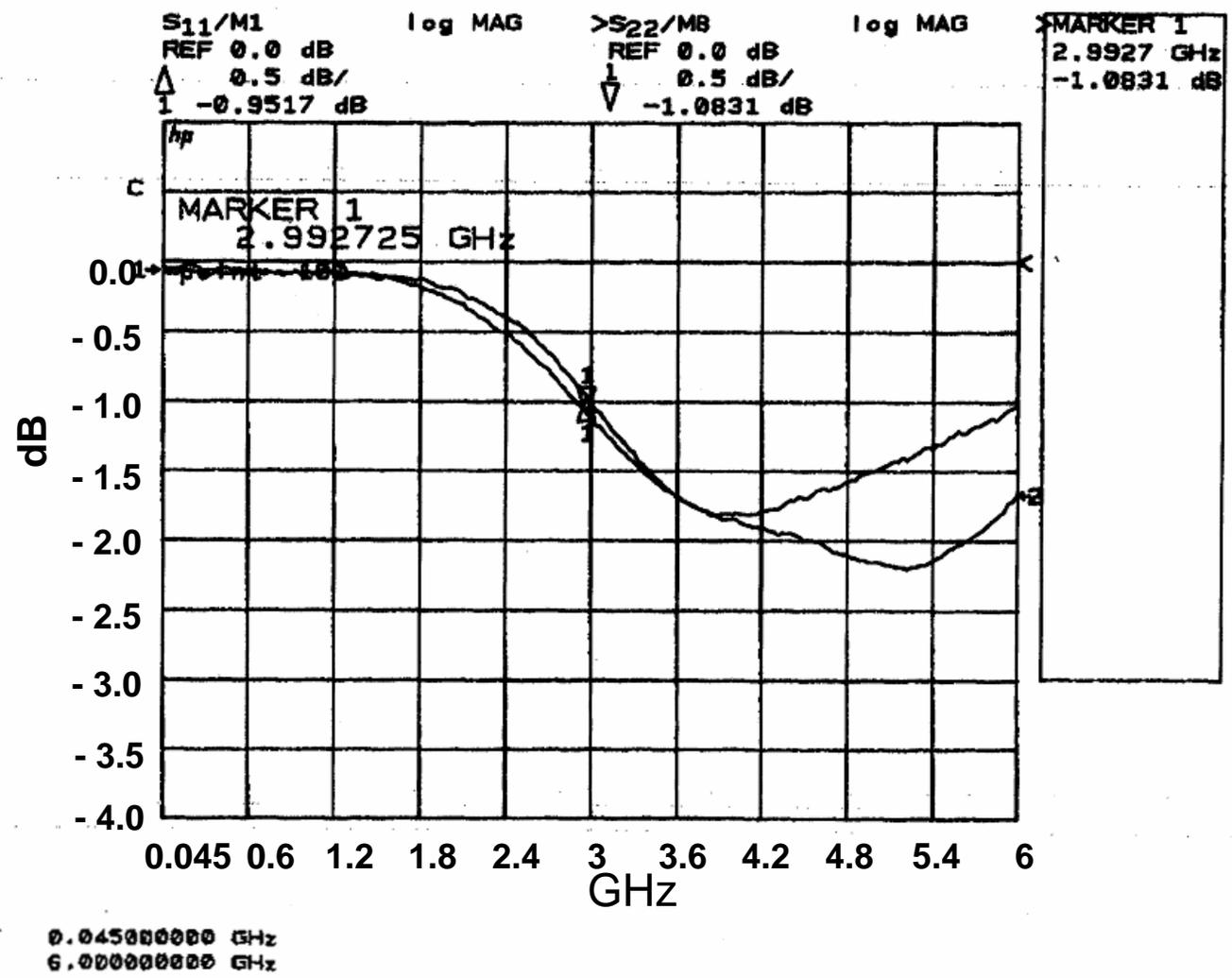
# Part #5, 0805 10nf, Y Cap Balance



# Part #6, 0805 10nf, Y Cap Balance



# Part #7, 0805 10nf, Y Cap Balance



Direct inquiries and questions about Test Reports, Application Notes, or X2Y<sup>®</sup> products, please contact:



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