Extending Category 5e Limits (UL Report and EMC)

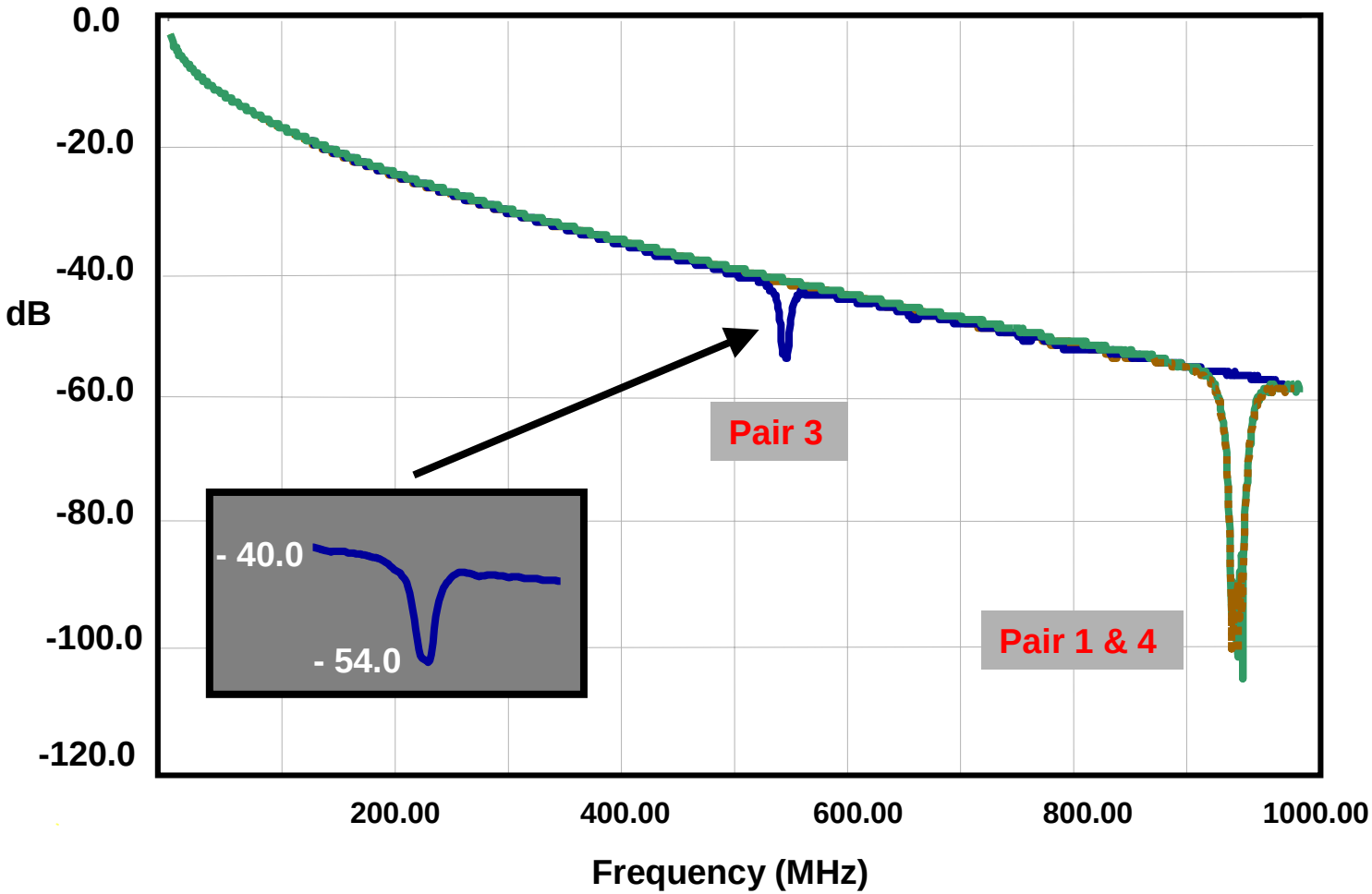
Terry Cobb

Avaya

Presentation

- Attenuation
- UL Report
- Differential to Common Mode
- Radiated Emissions
- Conclusion

Attenuation
(Presented in July)



Underwriters Laboratories Inc.®

MELVILLE – September 4, 2003

Avaya Laboratories
1300 E. Lookout Dr.
Richardson, TX 75082

Our Reference: E98256

Subject: Category 5e Cable testing to ANSI/TIA/EIA-568-B.2.

Gentlemen,

We have completed the Category 5e performance testing on a cable sample submitted from Avaya Inc. The purpose of this test is to provide an independent verification of this cable sample for IEEE 802.3 10GBASE-T Study Group. The cable was tested in accordance to the Category 5e requirements and methods as stated in the following documents:

1) TIA/EIA 568B.2 the ANSI/TIA/EIA Transmission Performance Specifications for 4 Pair 100 Ohm Cabling dated June 20, 2002
2) Standard Test Method for Electrical Performance Properties of Insulations and Jackets for Telecommunications Wire and Cable, ASTM D4566-98

It should be understood that these results apply only to the particular samples submitted from Avaya Inc. for testing. The test results indicated in this report are not intended to imply Listing, Verification or other Recognition of any product material.

In no event shall Underwriters Laboratories Inc. be responsible to any one for whatever use or non-use is made of the information contained in this Report and in no event shall Underwriters Laboratories Inc., its employees, or its agents incur any obligation of liability for damages, including but not limited to, consequential damages, arising out of or in connection with the use, or inability to use, the information contained in this Report.

This letter and the attached data complete this assignment. If you have any questions regarding the enclosed Report, or if we can be of any further assistance, please feel free to contact me at any time.

Very truly yours,

Robert Bellassai, RCDD (Ext. 22871)
Staff Engineer
Conformity Assessment Services

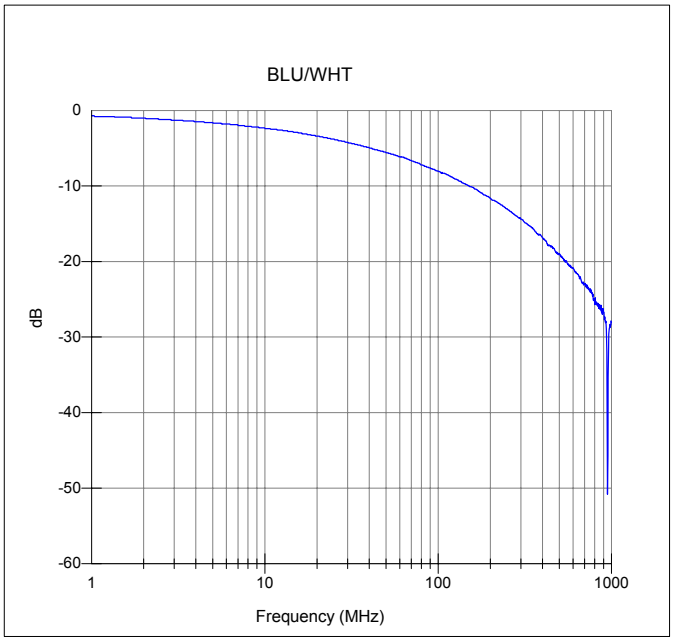
Reviewed by:

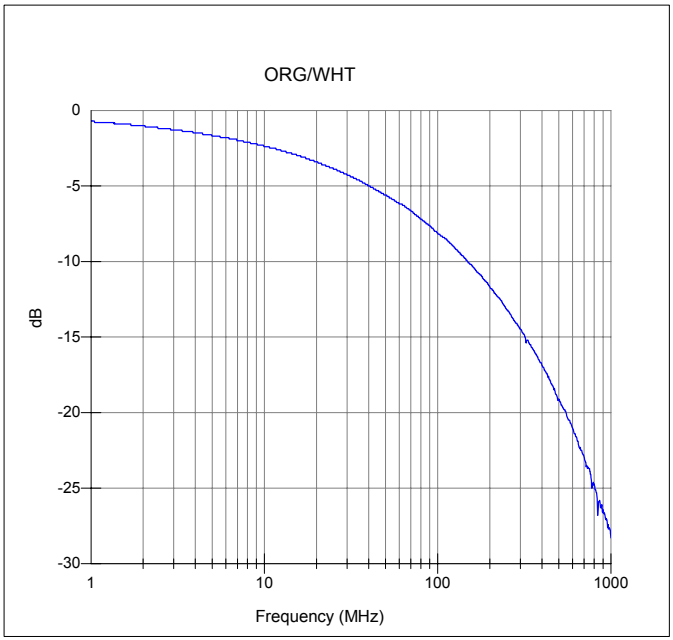
Brett Milau (Ext. 22592)
Engineering Group Leader
Conformity Assessment Services

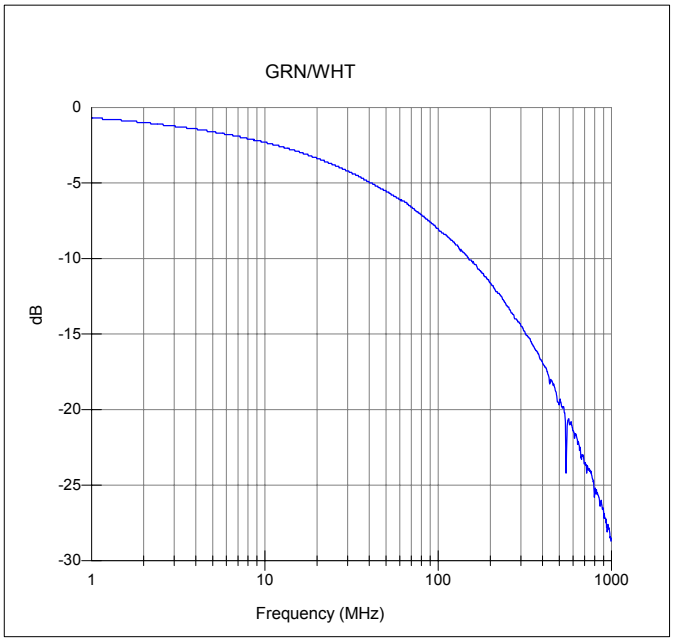
Underwriters Laboratories Inc.®

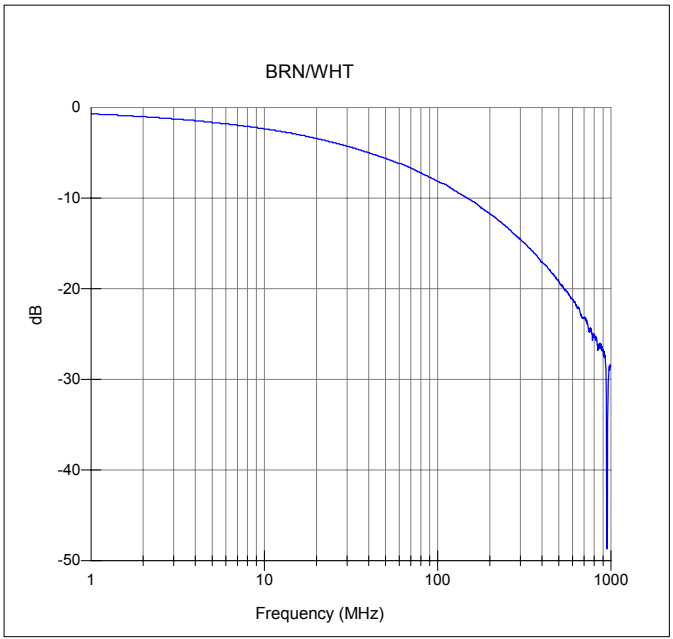
Insertion Loss Near

Cable Type	04 Pair	**Engineer**	BELLASSAI
Project Number	Attenuation_TEST	**Test Description**	1 GIG Insertion Loss measurement
File Number	1GIG	**Test Started**	9/4/2003 10:48:30 AM
Manufacturer	Attenuation	**Length**	40 m
Pre-Test Comments	1 GIG Attenuation test		
Technician	Andy	**Test Status:**	Complies









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Insertion Loss Far

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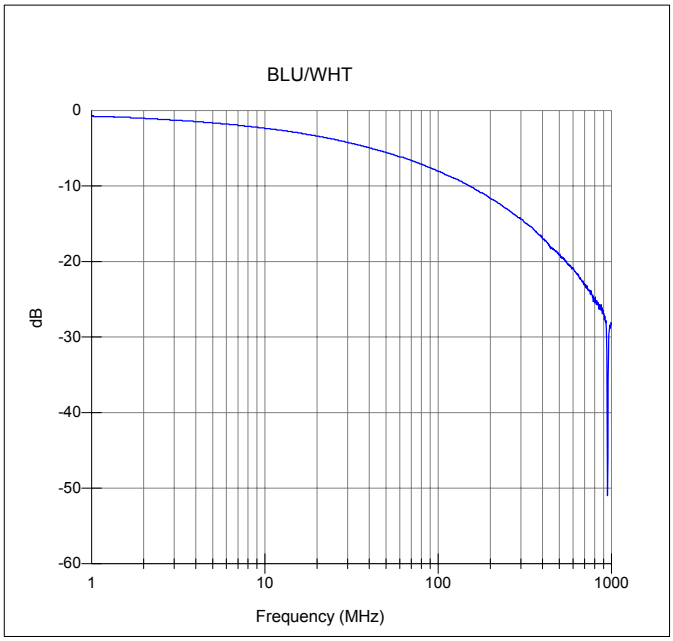
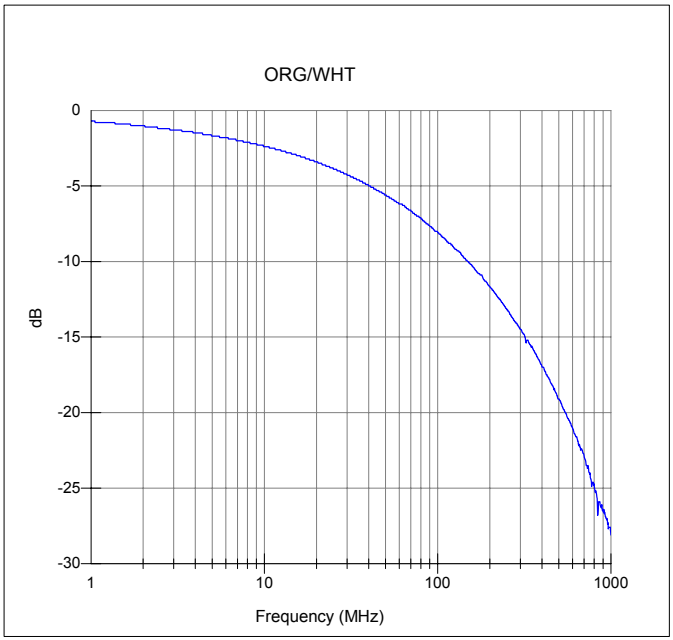
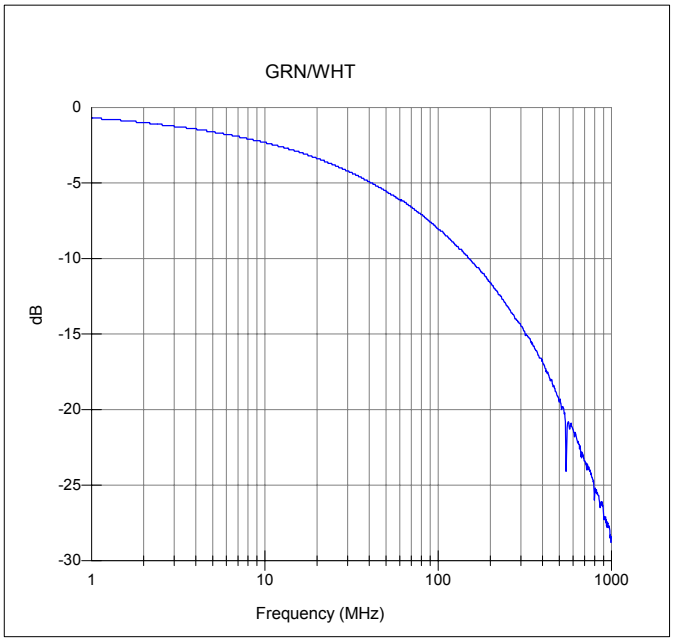
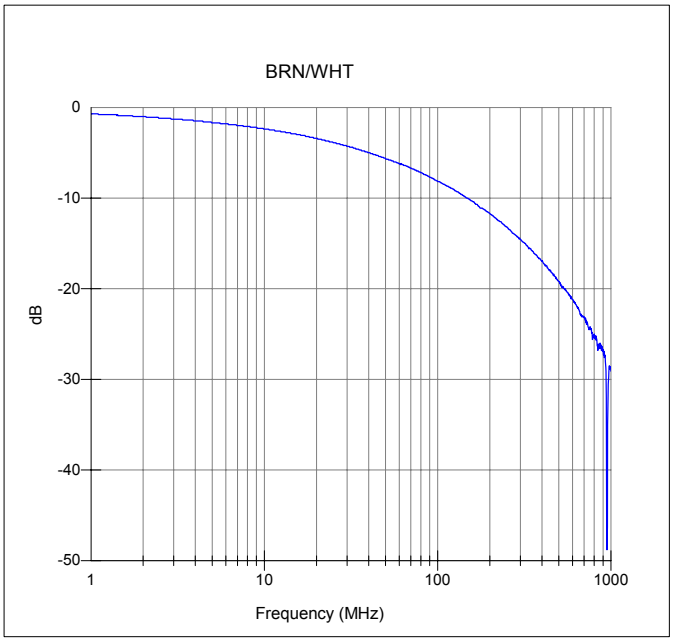
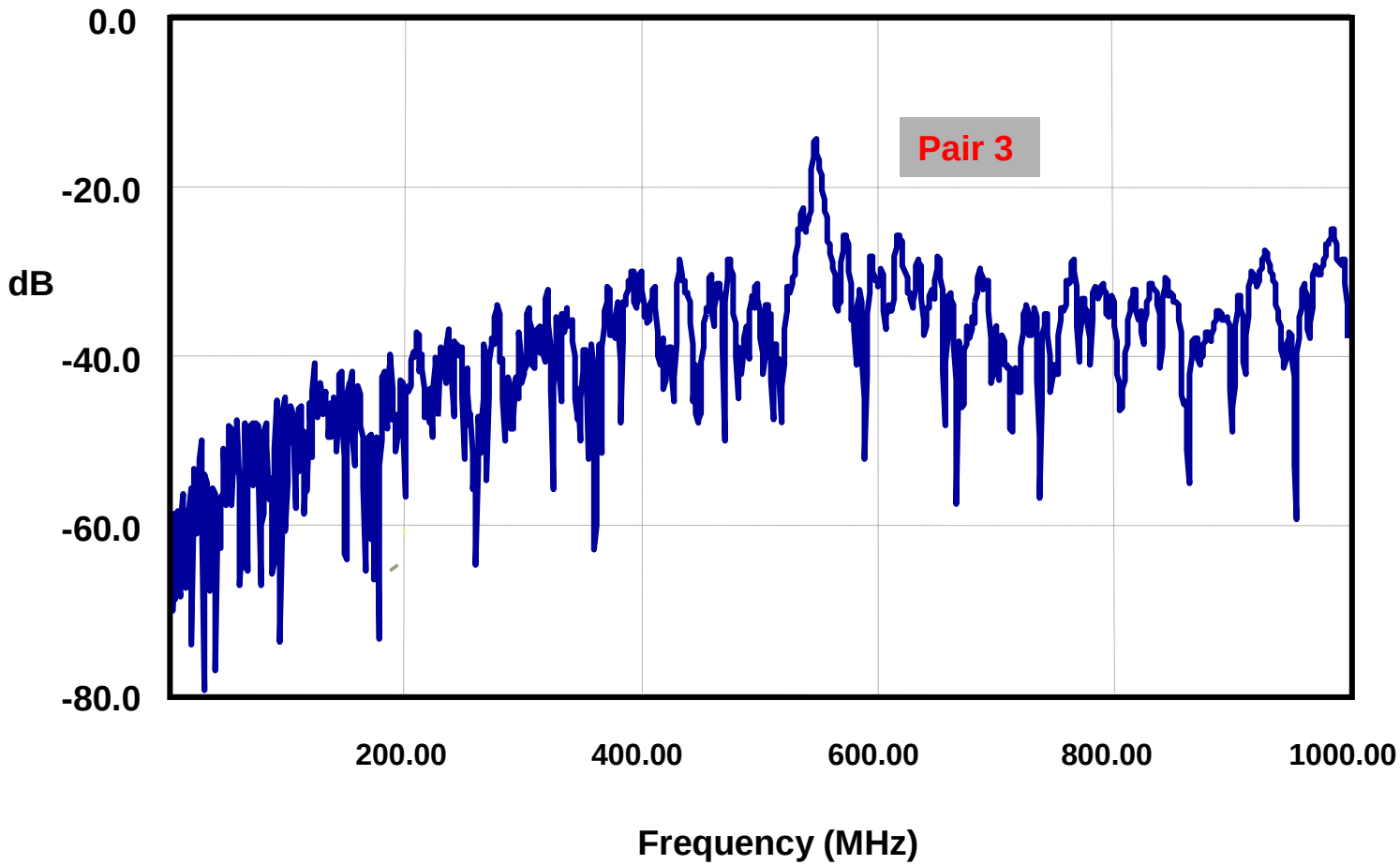




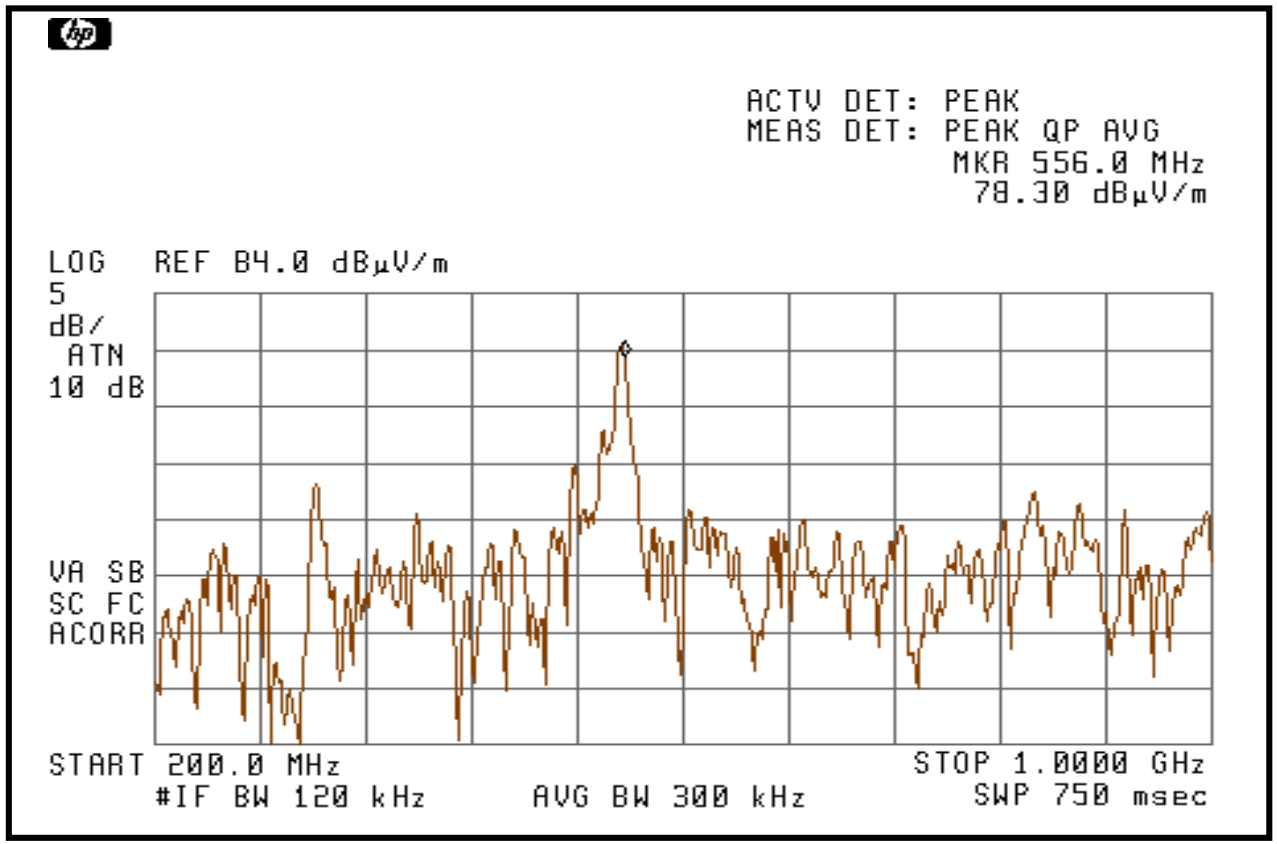




Differential to Common Mode
(Presented in July)

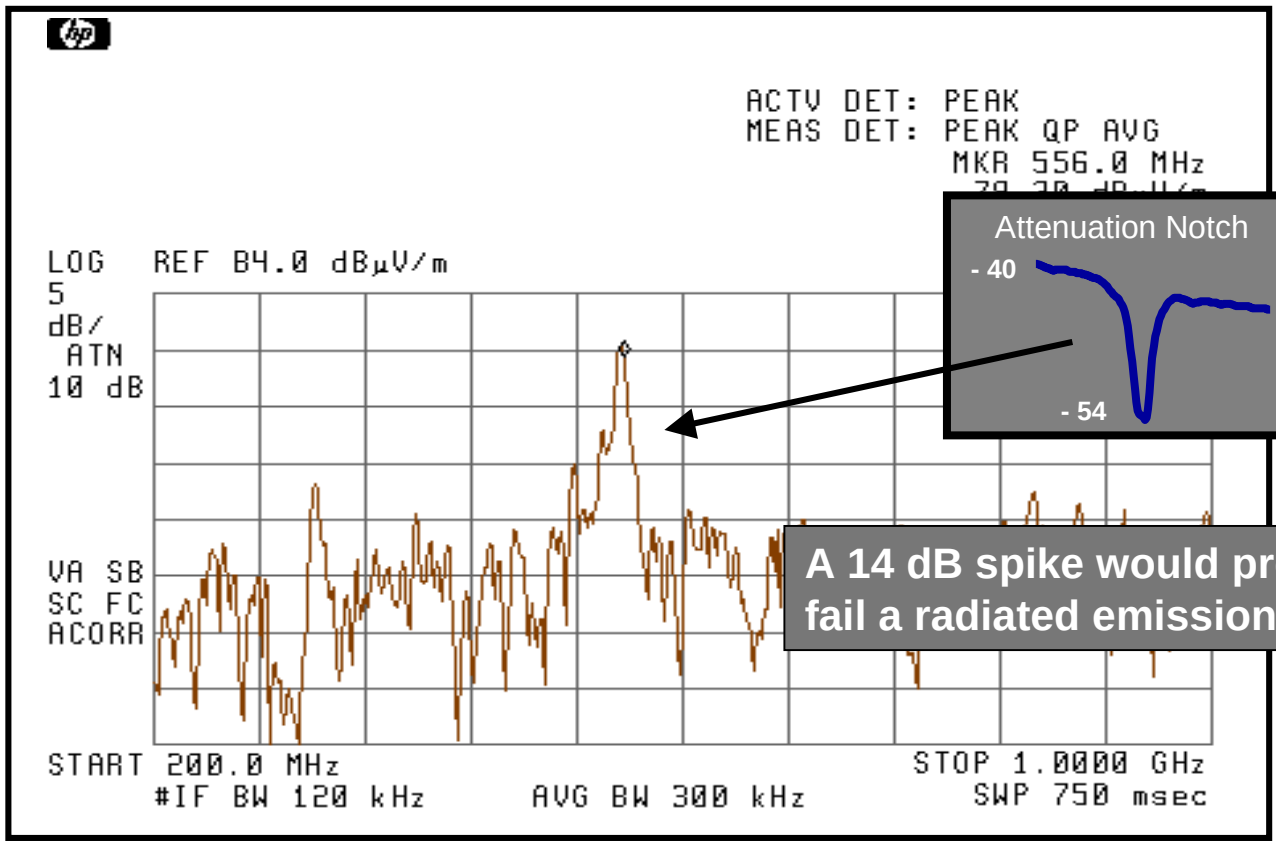


Radiated Emissions



Measured in a lab

Radiated Emissions



Conclusion

- **Some of the installed base of Category 5e (or Category 5) will not meet an extended frequency limit.**
- **Some of the installed base of Category 5e (or Category 5) will not meet a FCC/CISPR Radiated Emissions requirement.**