Reichle & De-Massari AG
Binzstrasse 31
CH-8622 Wetzikon
Switzerland

Att.: Matthias Gerber

Your Ref.	Your Date	Our Ref.	Our Date
		3987OL	2000.09.22

Subject: Electrical Performance Testing of Reichle & De-Massari Category 6 Connecting Hardware (3P project No. 100278)

3P has carried out electrical performance testing of Reichle & De-Massari Category 6 connecting hardware according to Category 6 requirements for transmission parameters specified in draft 2nd edition proposals for ISO/IEC 11801 and CENELEC EN 50173, draft IEC 60603-7-4 and draft ANSI/TIA/EIA-568-B.2-1. Testing has included both unscreened and screened connection modules and plugs supplied for the testing by Reichle & De-Massari. Three unscreened and three screened connection modules have been applied for the testing, i.e. in each case one for return loss and for attenuation, one for NEXT and one for FEXT measurements.

Measurements were carried out using the test plugs supplied by Reichle & De-Massari.

The tested connection modules have the following identifications:

Unscreened connection module:	RdM identification R302373 IBM identification P/N 11K9665
Screened connection module:	RdM identification R302372 IBM identification P/N 11K9667

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All pair combinations and pairs have been measured for all transmission parameters. Summarised results of the testing are available from 3P together with recordings of transmission parameters in the full specified frequency range from 1 MHz to 250 MHz. However, to give a fast overview the present letter concludes the overall result of the testing only.

The following result of the measurements was obtained:

1. The attenuation requirements were passed for all four pairs. The positive result applies for both the unscreened and screened connection module.

2. The return loss requirements were passed for all four pairs. The positive result applies for both the unscreened and screened connection module.

3. The NEXT requirements were passed for all six pair combinations both for the uncreened and the screened connection module. The plug performance data for the testing plugs used for NEXT measurements were measured by Reichle & De-Massari, and specified below. It was noted by 3P, that the plug performance as measured by R&M was complying with the test plug requirements in draft IEC 60603-7-4 and draft ANSI/TIA/EIA-568-B.2-1 except for the pair combination 45-78 of the unscreened plug.

   Plug performance Data / DE-EMBEDDED NEXT PERFORMANCE (dB):

Pairs	**45-36**	**36-12**	**36-78**	**45-12**	**45-78**	**78-12**
Specified	36,4-37,6dB	46-50dB	46-50dB	>57/65dB	>57/65dB	>60dB
Unscreened	36,88dB	45,69dB	47,23dB	67,74dB	59,37dB	59,80dB
Screened	36,86dB	47,09dB	48,26dB	68,95dB	69,97dB	67,99dB

4. The FEXT requirements for both the unscreened and screened moduled passed requirents for all pair combinations. The plug performance for the plugs used for FEXT have not been verified.

5. Backward compatibility to Category 5e have additionally been confirmed (for selected pair combinations of NEXT) during measurements of the Jacks with plugs qualified for Category 5e connecting hardware measurements. The measured combinations showed compliance to the Category 5e requirements when measured with worst case Category 5e qualified measuring plugs.

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3P concludes that the performance of the R&M connecting hardware, comprising of R&M Jack and R&M Plug, both unscreened and screened versions comply with requirements for all transmission parameters of Category 6, specified in draft 2nd edition proposals for ISO/IEC 11801 and CENELEC EN 50173, draft IEC 60603-7-4 and draft ANSI/TIA EIA-568-B.2-1.

Yours Sincerely
3P Third Party Testing

Ole Lambertsen