



Technical Note 006

Testing Guidelines for Modular Plug Terminated Link Class D to Class II Twisted Pair Copper

Text in *blue Italics* is derived from the standards

1. Applicability

The following applies to testing of balanced twisted-pair copper **Modular Plug Terminated Links (MPTL)** Class D to Class II cable assembly installations seeking performance conformance to AS/NZS 11801.1 and/or IEC 61935-1.

2. Background

Customers with an installed MPTL, comprising cable or cordage with a socket at one end and a plug at the other end, that requires conformance to AS/NZS 11801.x, shall use

- IEC 61935-1 Clause 5 Field Test Requirements, with
- appropriate infrastructure to connect to the test equipment.

Customer requirements that exceed the performance conformance requirements of the above standards may also exist within the project documentation.

This Technical Note provides guidance for conducting the testing of MPTL cabling for establishing installation performance conformance by VTI Services to meet its NATA reporting obligations against AS/NZS 11801.1 and/or IEC 61935-1.

3. Definitions

Modular Plug Terminated Link is an installed cable assembly comprising cable and/or cordage with a socket at the distributor end and a plug termination at the non-distributor end. The MPTL may contain a consolidation point (CP) or a service connection point (SCP) but not both in the same link.

4. Testers

IEC 61935-1 Clauses 5 and 6 specify test methods and accuracy levels for hand-held testers to measure cabling parameters identified in AS/NZS 11801.1. These same requirements apply to MPTL testing.

5. Test Configuration

For MPTL, all tests shall be to the **MPTL Test Limits** for the link Category/Class.

Permanent Link and Channel test limits are unacceptable for MPTL conformance testing.



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6. Adaptors

Approved test equipment adaptor/head and test lead shall be used for all tests.

- The adaptor at the distributor end shall be a permanent link test head and test lead.
- The adaptor at the plug end shall be a patch cord test adaptor/head.
- Performance Level of the tester adaptors and test lead shall be all the same as the MPTL under test.
- Irrespective of the category of the product installed, the MPTL patch cord test adaptor shall meet the Class (Category) of the test limit set on the tester.

CHANNEL ADAPTORS CANNOT BE USED FOR TESTING MPTL, because:-

1. Channel testing does not include the interface connectors of the channel.
2. Channel adaptors are programmed to ignore the performance of the plug that is inserted into them in accordance with the AS/NZS 11801.1 test planes for a channel.
3. The performance of the first and last connectors has a significant influence on the performance of the MPTL.

7. Test Procedure

MPTL with socket one end and plug at the other end

Test equipment

- An approved tester with PL adaptor one end and patch cord test head at the plug end.
- Ensure the testers and test heads are within the calibration period.

Test method

1. At the socket end, connect the PL test lead.
2. At the plug end of the MPTL, connect the plug to the patch cord test head.
3. Set the tester to the appropriate permanent link performance test limit.
4. Test the MPTL as a 2-connector permanent link, or
5. Test the MPTL as a 3-connector permanent link when a consolidation point or service connection point is part of the MPTL.
6. Save/record all test results with unique cable identification for conformance analysis and evaluation.

8. Notes

- 8.1. AS 11801.6 Generic Cabling – Distributed Building Services, applies to Wireless Access Points (WAP).
- 8.2. AS 11801.6 specifies Category 6_A cabling, connectors and plugs as a minimum for both Type A and Type B distribution cabling.
- 8.3. Applications that use 2.5G and 5G transmission require Category 6_A cabling (not Cat 6).
- 8.4. In some testers, AS/NZS 11801.1 MPTL test limits are contained within Test Limits/Regions/Aus-NZ.

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