Sun Digital Systems Inc.

_____

Powerline Communications—PLC

Network Software Test Tool: Test1MAC.exe

Sun Digital Systems offers Ethernet PLC modem hardware test bench training with software support including the Test1MAC.exe program.

Test1MAC.exe is a MS Windows® compatible command line test program run in a DOS box to interrogate and determine the status of Qualcomm PLC integrated circuits.

- Hardware response tests are initiated by executing Test1MAC.exe.

- Only the device MAC address is discovered and used for the test.

- Prior knowledge of the MAC address is unnecessary.

- PLC devices imbedded in an appliance may not have an Internet Protocol (IP) address .

- Test1MAC will examine the network, test and report each MAC address found

- A test report log file lists each PLC MAC address, date and time of test

- The last node added to the network is the target of the test.

- The first, second, third and so on nodes are tested in sequence as each node is added to the network up to a maximum of 64 nodes.

Function

1. Discovers each PLC MAC address on the network

2. Determines the device part number and FW revision of PLC nodes

3. Interrogates each node any number of times

4. User can repeat node tests any number of times, default is 4.

5. Creates a text log file recording the results of each test

Applications

Automatic Powerline Communication test bench program

May be used for network installation and verification

Features

Self contained, self extracting program install s select Qualcomm Toolkit

Determines the PC Network Interface Card accessing the PLC network

Testes the last PLC node installed in the network

Benefits

Faster installation and more accurate than Toolkit program alone

Repeating network tests is easy and efficient

```
===DOS Box ========    Demonstration of Test1MAC Program   ============

D:\Test1MACrc5>Test1MAC_demo.exe

Test1MAC_demo (Requires valid license file.)  Revision 5.0, July 5, 2017

Copyright 2017 by Sun Digital Systems, Inc. All Rights Reserved

Successful decryption of license file. License expires on 2017-12-22_23:59:59

RESPONSE FROM ALL PLC NODES FOUND IN SYSTEM:....

HOST 00:B0:52:64:10:56 Local Node FOUND

        QCA6410 MAC-QCA6410-1.1.1.1191-02-20130920-FINAL

.... 00:B0:52:00:AC:DD Remote Node FOUND

        QCA7005 MAC-QCA7000-1.1.0.727-02-20130826-FINAL

TEST OF 00:B0:52:00:AC:DD STARTING at 2017-12-21_14:22:06

Test   ...... passed = 1.

Repeat ...... passed = 2.

Repeat ...... passed = 3.

Repeat ...... passed = 4.

Test of 00:B0:52:00:AC:DD COMPLETED AND PASSED.

ALL 4 SUBTESTS PASSED.

D:\Test1MACrc5>Test1MAC_demo.exe 6

Test1MAC_demo (Requires valid license file.)  Revision 5.0, July 5, 2017

Copyright 2017 by Sun Digital Systems, Inc. All Rights Reserved

The test will repeat 6 times.

Type Control-C to stop.

Successful decryption of license file. License expires on 2017-12-22_23:59:59

RESPONSE FROM ALL PLC NODES FOUND IN SYSTEM:....

HOST 00:B0:52:64:10:56 Local Node FOUND

        QCA6410 MAC-QCA6410-1.1.1.1191-02-20130920-FINAL

.... 00:B0:52:00:AC:DD Remote Node FOUND

        QCA7005 MAC-QCA7000-1.1.0.727-02-20130826-FINAL

.... 00:B0:52:00:00:24 Remote Node FOUND

        QCA7005 MAC-QCA7000-1.1.0.727-02-20130826-FINAL

TEST OF 00:B0:52:00:00:24 STARTING at 2017-12-21_14:22:39

Test   ...... passed = 1.

Repeat ...... passed = 2.

Repeat ...... passed = 3.

Repeat ...... passed = 4.

Repeat ...... passed = 5.

Repeat ...... passed = 6.

Test of 00:B0:52:00:00:24 COMPLETED AND PASSED.

ALL 6 SUBTESTS PASSED.

D:\Test1MACrc5>
```

due to expense considerations so testing those products must rely on tests at the MAC address level.   The Toolkit was written and designed to interrogate Qualcomm PLC ICs.

The Test1MAC.exe test program is based and functionally dependent on the Qualcomm PLC "Toolkit" developed in Ocala Florida. The Toolkit was written by Charles Maier beginning in 2006. The Toolkit is available from Qualcomm under legal agreements and also available on line from a publicly accessible web at GetHub.org.   Test1MAC.exe uses PLC Toolkit programs to report status and firmware revision level. software programs located on the   the tool kit source can be compiled by anyone and used to test Qualcomm PLC chips.   in an open source, SDS has extensive experience testing Qualcomm devices. Test1MAC enables testing at the MAC address level.

```
===DOS Box ===== Test1MAC Log File ============

00:B0:52:00:AC:DD PASSED 2017-08-20_13:08:44

00:B0:52:64:10:56 PASSED 2017-08-20_13:09:03

00:B0:52:00:AC:DD PASSED 2017-12-18_20:44:55

00:B0:52:00:AC:DD PASSED 2017-12-18_20:45:09

00:B0:52:00:AC:DD PASSED 2017-12-18_20:48:42

00:B0:52:00:00:24 PASSED 2017-12-18_20:55:33

00:B0:52:00:AC:DD PASSED 2017-12-21_14:17:59

00:B0:52:00:AC:DD PASSED 2017-12-21_14:19:12

00:B0:52:00:AC:DD PASSED 2017-12-21_14:20:00


00:B0:52:00:00:24 FAILED 2017-12-21_14:20:51


00:B0:52:00:AC:DD PASSED 2017-12-21_14:20:53

00:B0:52:00:AC:DD PASSED 2017-12-21_14:22:06

00:B0:52:00:00:24 PASSED 2017-12-21_14:22:39
```

```
===DOS Box ========= Test1MAC.exe  Result  ===========

D:\Test1MACrc5>Test1MAC_demo 7

Test1MAC_demo (Requires valid license file.)  Revision 5.1, July 27, 2017

Copyright 2017 by Sun Digital Systems, Inc. All Rights Reserved

The test will repeat 7 times.

Type Control-C to stop.

Successful decryption of license file. License expires on 2017-08-28_23:59:59

RESPONSE FROM ALL PLC NODES FOUND IN SYSTEM:....

HOST 18:A6:F7:28:DA:2A Local Node FOUND

          QCA6410 MAC-QCA6410-1.1.0.846-02-20121116-FINAL

.... 00:B0:52:64:10:56 Remote Node FOUND

          QCA6410 MAC-QCA6410-1.1.1.1191-02-20130920-FINAL

.... 00:B0:52:01:0A:20 Remote Node FOUND

          QCA7420 MAC-QCA7420-1.1.1.1187-00-20130522-FINAL

.... 00:B0:52:00:AC:DD Remote Node FOUND

          QCA7000 MAC-QCA7000-1.1.0.727-02-20130826-FINAL

TEST OF 00:B0:52:00:AC:DD STARTING at 2017-07-28_12:18:48

Test   ...... passed = 1.

Repeat ...... passed = 2.

Repeat ...... passed = 3.

Repeat ...... passed = 4.

Repeat ...... passed = 5.

Repeat ...... passed = 6.

Repeat ...... passed = 7.

Test of 00:B0:52:00:AC:DD COMPLETED AND PASSED.

ALL 7 SUBTESTS PASSED.

D:\Test1MACrc5>
```

The default number of interrogations is four (4) but the user may repeat the test any number of time by specify a number on the command line.   The example above repeated the test seven (7) on the PLC device with MAC address 00:B0:52:00:AC:DD. The demonstration version is a full feature form of the program Test1MAC_demo.exe and is free for evaluation for 30 days. The purchased version of Test1MAC.exe is perpetual and requires no license file or subscription fee.

More accurate and reliable test results over original toolkit programs and installation is easy with automatic environment setup.

Purchased version does not require a license file or subscription but is restricted to use by the purchasing organization. Test1MAC may be installed on multiple PCs.