
Appendix B6

Manufacturing Test

MANUFACTURING TEST

1. MANUFACTURING TEST PROGRAM

The manufacturing test program (MFGTST.EXE) verifies the various modes and functions for the correct operation of the CL-GD546X. Primary features include: write/read/compare tests of all video register groups, write/read/compare tests of all video RAM, display patterns for visual verification of all primary video modes, and 2D/3D drawing engine verification. Also included is a complete set of miscellaneous video tests designed to verify proper operation of the CL-GD546X. All RAM and register tests are self-checking to the extent that values are read and compared to expected values. When a difference is detected, an error message is generated and a complete test report is available at the end of a test session.

1.1 Operating Instructions

MFGTST.EXE detects device type and automatically configures itself to run all valid tests for the CL-GD546X video device that is installed in the system. In cases where a particular test is device-specific, the program senses and records it.

MFGTST.EXE is easy to install and operate. The [Tab] key allows the user to jump between the three different windows on the MFGTST display: Test Groups, Test Cases, and Test Log. The arrow keys highlight the users selections and controls the cursor within the MFGTST windows.

To obtain additional help concerning a function in MFGTST.EXE, press the [F1] key. Help in the MFGTST dialog boxes is available by tabbing to the Help option and pressing [Enter].

To exit to the DOS prompt, simultaneously press the [Alt] and [X] keys or tab to the diamond in the upper-left-hand corner of the MFGTST display and press [Enter].

When a triangle is displayed in the lower-right-hand corner of the Test Cases window, there are more listed test cases for a specific group. Use the arrow keys to move to the last test case name. To view the remainder of the tests listed, continue using the down arrow key.

1.2 Installing and Starting MFGTST.EXE

To start and install the MFGTST.EXE, follow the procedures below:

- 1) Run the INSTALL.EXE program.
- 2) To create a custom initialization file (MFGTST.INI) when first starting MFGTST.EXE, refer to [Section 1.2.1](#). This provides the correct command line extensions and cancels the next two steps.
- 3) To start MFGTST.EXE, at the MFGTEST directory type

```
mfgtst  
and press [ENTER].
```

Note that to redirect MFGTEST to a serial terminal setup for ANSI/VT100 emulation, type

```
mfgtst /com:1:19200:n:8:1
```

This sets MFGTST.EXE to load and direct output to COM1 at 19200 baud, no parity, 8 data bits, and 1 stop bit.

- 4) A dialog box inquires whether to “Save the Program Configuration (MFGTST.INI)?” To create the initialization file, MFGTST.INI, choose OK. If an initialization file is unnecessary, choose Cancel. To customize your .INI file, simultaneously press [Alt] and [X] and go back to the DOS prompt. Then reference [Section 1.2.1](#) to obtain the correct command line extensions for customization.

For effective and efficient use of MFGTST.EXE, read [Section 1.3](#) before running any tests.

1.2.1 Command Line Options

MFGTST.EXE creates an initialization file (MFGTST.INI). Add command line options to customize or change the initialization file. Use the following procedure to have MFGTST.EXE custom-build an .INI file

- 1) To create or change the MFGTST.INI when starting the MFGTST program, at the MFGTEST directory, type
`mfgtst command`
 where `command` is a command line option selected from [Table B6-1](#).
 For example, to run in quiet mode, type
`mfgtst /q`
 at the MFGTST directory.

Table B6-1. MFGTST.EXE Command Line Options

Command	Function
/v	Verbose mode
/a	OEM auto
/c	Continue
/f	Log file
/m	OEM Menu mode
/q	Quiet mode
/e	Engineering mode
/vga	Output to VGA device.
/mda	Output to MDA (monochrome) adapter.
/com	Output to COM port. This one has several parameters.
/tl:<n>	Set number of output terminal lines to <n>. The default is 25 lines.
/ll:<n>	Set number of log window (menu mode) lines to <n>. The default is 6 lines.
/fu:<fl>	Set User Configuration File to <fl> and read in at start-up.

- 2) MFGTST.EXE prompts a dialog box to save the program configuration. Press OK to have MFGTST.EXE automatically create the new MFGTST.INI file.

The MFGTEST.INI dialog box is always available to create a new initialization file. This is achieved by simultaneously pressing [Alt] and [F] and then pressing [S] to save the current configuration. The command line options for loading MFGTST.EXE are saved in the .INI file. All command line options override the corresponding settings in the initialization file (MFGTST.INI).

1.3 Using the MFGTEST Program

To run a single test in a Test Group once, tab the cursor to the Test Cases window and use the arrow keys to scroll up and down the list. When the selection to run the test is made, press [Enter]. A 'p:' in front of the Test Group name signifies that the test has passed. An 'F!' in front of the Test Group name signifies that the test has failed. A 'c!' in front of the Test Group name indicates the test did not run.

To select or deselect several test groups and test cases, press the space bar. A symbol appears to the left of the selected groups and cases. Tab between the Test Groups and Test Cases and use the arrow keys to scroll up and down the list. Simultaneously pressing [Alt] and [M] marks all tests in a group that will run (symbols appear next to all marked tests). To unmark all tests in a group, simultaneously press [Alt] and [U].

To run several test cases for a test group, mark the appropriate tests and tab the cursor to the Test Groups window. Press [Enter] on the name of the test group. All selected tests in that group are then run.

To run all selected test cases in all marked test groups, press [Alt] and [R].

1.3.1 Using the Special Keystrokes

To easily navigate around the three windows in the MFGTEST display, refer to table [Table B6-2](#). Keystrokes marked with an asterisk (*) in the Description column prompts additional text windows as described in [Table B6-2](#).

Table B6-2. MFGTST.EXE Keystrokes

Keystroke	Description
F1	Help *
F2	Run test controls dialog box *
Alt + F	File operations *
Alt + R	Run all marked tests
Alt + X	Exit program
Alt + V	Video modes dialog
Alt + M	Mark all test cases in a group
Alt + U	Unmark all test cases in a group

Using the [F1] Keystroke

When you press [F1], the Help Topic dialog box appears displaying the following options:

- (A)bout
- (K)eystrokes
- (T)est: ...
- (R)esults:...

To get to the option text box, either tab to the option and press [Enter], or press the highlighted letter of the option. The '(A)bout' option displays the Cirrus Logic copyright and version information for MFGTST.EXE. The '(K)eystrokes' option displays the keystroke information found in [Table B6-2](#). The '(T)est:..' option is available depending on the test currently highlighted. When it is available, it provides additional information about that test. The '(R)esults:..' option is available depending on the test currently highlighted. When it is available, it provides additional information about the results of that test.

Using the [F2] Keystroke

Press [F2] to bring up a dialog box of test control options to control looping through various tests. Note, not all test controls are fully implemented. To implement the test controls, click on or tab to one of the following options and press [Enter].

- [Options for Run All Marked Tests]
- [General Options for Run Each Test]
- [Specific Options for Run Each Test]
- [Run All Marked Tests]

[Options for Run All Marked Tests] controls duration and the amount of loop times in the tests. [General Options for Run Each Test] controls the duration for repeating the test and for what video modes and random speed. [Specific Options for Run Each Test] cannot be selected as it is not yet implemented. [Run All Marked Tests] runs all selected tests in all selected groups.

Using the [Alt]+[F] Keystrokes

After simultaneously pressing the [Alt] + [F] keys, the File Operations menu appears and displays the following options:

- (S)ave Configuration
- (U)ser File...
- (L)og File...
- E(x)it Program

To use the above options, tab to the option and press [Enter] or press the highlighted letter of the option. '(S)ave Configuration' saves a new MFGTST.INI file with the current options. If no MFGTST.INI file is found, this option automatically pops up at boot-up. '(U)ser File' prompts a dialog box that allows loading and saving the User Options File by file name. '(U)ser Options Files' currently acknowledges the selected tests and groups and provides additional information about running tests/options. '(L)og File' prompts a dialog box to create log files. Press the Log File Help button for additional information. 'E(x)it Program' quits MFGTST.EXE.

1.4 Listing the Manufacturing Tests

This section lists and gives a brief description of the manufacturing tests and test groups for the CL-GD546X family of VisualMedia accelerators. If no initialization file (MFGTST.INI) exists and you are running in Menu mode, the MFGTST.EXE utility creates a default.

The following is a list of all tests that can currently be run with MFGTST.EXE.

BLTMFG.bltx102416	Mem.obwr16
BLTMFG.bltx64024	Mem.wr16
BLTMFG.bltx80016	Mem.wr8
HOST_1OP.HOST_1OP	Mem.ob1321
KRETCH.KRETCH	Mem.ob1322
O2STPMPM.O2STPMPM	Mem.ob1323
O2STSCMP.O2STSCMP	Mem.i32
O3STSCMP.O3STSCMP	Mem.ob116
O3STSCPM.O3STSCPM	Mem.i16
OFSTPCPM.OFSTPCPM	Mem.i8
OFSTSMPM.OFSTSMPM	Mem.obd321
OFSTSPMM.OFSTSPMM	Mem.obd322
ROP256.ROP256	Mem.obd323
SIL82_5.SIL82_5	Mem.d32
SR42120.SR42120	Mem.obd16
SRAMTST.SRAMTST	Mem.d16
SSMFG.SS_16BPP	Mem.d8
SSMFG.SS_CLUT8	Mem.fast8i
SSMFG.SS_YUV42	Mem.fast16i
VidMode.Mode0x5c	Mem.fast32i
VidMode.Mode0x5e	Mem.fast8d
VidMode.Mode0x5f	Mem.fast16d
VidMode.Mode0x60	Mem.fast32d
VidMode.Mode0x64	Mem.walk08
VidMode.Mode0x65	Mem.walk18
VidMode.Mode0x6d	Mem.addtest
VidMode.Mode0x71	Pulse
VidMode.Mode0x72	Ramdac18.Rdfast
VidMode.Mode0x73	Ramdac18.Rdwr
VidMode.Mode0x74	Ramdac18.Rdi
VidMode.Mode0x75	Ramdac18.Rdd
VidMode.Mode0x76	Ramdac18.Rdc13
VidMode.Mode0x78	Ramdac18.Rdc5C
VidMode.Mode0x79	Ramdac18.Rdc5F
VidMode.Mode0x7a	Ramdac18.Rdc60
ModelInfo	Ramdac24.Rdfast
Modes	Ramdac24.Rdwr
Mem.obwr321	Ramdac24.Rdi
Mem.obwr322	Ramdac24.Rdd
Mem.obwr323	Ramdac24.Rdc13
Mem.wr32	Ramdac24.Rdc5C

Ramdac24.Rdc5F
Ramdac24.Rdc60
WriteMode.wm2rm1
DisplayTest.vgacc
DisplayTest.cbars
Siggen.Mode5FR
Siggen.Mode64R
Siggen.Mode71R
Siggen.Mode76R
Siggen.Mode5Fw8R
Siggen.Mode5F
Siggen.Mode64
Siggen.Mode71
Siggen.Mode76
Siggen.Mode5Fw8
LinTest0.LinTest1
LinTest0.LinTest2
LinTest0.LinTest3
LinTest0.LinTest4
LinTest0.LinTest5
LinTest0.LinTest6
LinTest0.LinTest7
LinTest0.LinTest8
LinTest0.LinTest9
LinTest0.LinTest10
LinTest0.LinTest11
LinTest0.LinTest12
LinTest0.LinTest13
LinTest0.LinTest14
LinTest0.LinTest15
LinTest0.LinTest16
LinTest0.LinTest17
LinTest0.LinTest18
LinTest0.LinTest19
LinTest0.LinTest20
LinTest0.LinTest21
LinTest0.LinTest22
LinTest0.LinTest23
LinTest0.LinTest24
LinTest0.LinTest25
LinTest0.LinTest26
LinTest0.LinTest27
LinTest0.LinTest28
LinTest0.LinTest29
LinTest0.LinTest30
LinTest0.LinTest31
LinTest0.LinTest32
LinTest0.LinTest33
LinTest0.LinTest34

LinTest0.LinTest35
LinTest0.LinTest36
LinTest0.LinTest37
LinTest0.LinTest38
LinTest0.LinTest39
LinTest0.LinTest40
LinTest0.LinTest41
LinTest0.LinTest42
LinTest0.LinTest43
LinTest0.LinTest44
LinTest0.LinTest45
LinTest0.LinTest46
LinTest0.LinTest47
LinTest0.LinTest48
LinTest0.LinTest49
LinTest0.LinTest50
LinTest0.LinTest51
LinTest0.LinTest52
LinTest0.LinTest53
LinTest0.LinTest54
LinTest0.LinTest55
LinTest0.LinTest56
LinTest0.LinTest57
LinTest0.LinTest58
LinTest0.LinTest59
LinTest0.LinTest60
LinTest0.LinTest61
LinTest0.LinTest62
LinTest0.LinTest63
LinTest0.LinTest64
LinTest0.LinTest65
LinTest0.LinTest66
LinTest0.LinTest67
LinTest0.LinTest68
LinTest0.LinTest69
LinTest0.LinTest70
LinTest0.LinTest71
LinTest0.LinTest72
LinTest0.LinTest73
LinTest0.LinTest74
LinTest0.LinTest75
LinTest0.LinTest76
LinTest0.LinTest77
LinTest0.LinTest78
LinTest0.LinTest79
LinTest0.LinTest80
LinTest0.LinTest81
LinTest0.LinTest82
LinTest0.LinTest83

LinTest0.LinTest84
LinTest0.LinTest85
LinTest0.LinTest86
LinTest0.LinTest87
LinTest0.LinTest88
LinTest0.LinTest89
LinTest0.LinTest90
LinTest0.LinTest91
LinTest0.LinTest92

LinTest0.LinTest93
LinTest0.LinTest94
LinTest0.LinTest95
LinTest0.LinTest96
LinTest0.LinTest97
LinTest0.LinTest98
LinTest0.LinTest99
LinTest0.LinTest100

1.4.1 Manufacturing Test Groups

The manufacturing tests listed in the previous section can be divided into eight categories. These tests can vary. Refer to the CL-GD546X BIOS and Utilities Release Kit for up-to-date information.

- Blitter tests
- Display tests
- Memory tests
- RAMDAC tests
- Linear memory tests
- BIOS tests
- 2D Tests
- 3D Tests

1.4.1.1 Blitter Tests

In these tests the BitBLT engine renders to the screen. The resulting screen is CRC'ed to verify correctness.

Table B6-3. Blitter Tests

Test Name	Description
BLTMFG.bltx102416	BitBLT ext testing at 1024×16 bpp
BLTMFG.bltx64024	BitBLT ext testing at 640×24 bpp
BLTMFG.bltx80016	BitBLT ext testing at 800×16 bpp
HOST_10P.HOST_10P	Test host supplied data
KRETCH.KRETCH	Stretch tests
O2STPMPM.O2STPMPM	2 OP OP1 monochrome OP2 monochrome pattern test
O2STSCMP.O2STSCMP	2 OP monochrome pattern test
O3STSCMP.O3STSCMP	3 OP monochrome pattern test
O3STSCPM.O3STSCPM	3 OP OP1 color OP2 monochrome
OFSTPCPM.OFSTPCPM	Color pattern
OFSTSMPM.OFSTSMPM	Monochrome pattern
OFSTSPMM.OFSTSPMM	Color/monochrome pattern test
ROP256.ROP256	256 ROP test
SIL82_5.SIL82_5	Simple stretch test
SR42120.SR42120	Complicated stretch test
SRAMTST.SRAMTST	BitBLT SRAM tests
SSMFG.SS_16BPP	Stretch test at 16 bpp
SSMFG.SS_CLUT8	Stretch test at 8 bpp
SSMFG.SS_YUV42	Stretch test at 422

1.4.1.2 Display Tests

The display tests listed in [Table B6-4](#) produce a test pattern that is specified by the mode. The test patterns visually verify that the pins are correctly connected to the VGA connector. Note that the last two digits of each test is the mode number for that test.

Table B6-4. Display Pattern Tests

Test Name	Description
DisplayTest.vgacc	Test screens in limited modes
DisplayTest.cbars	Color bars in packed pixel
VidMode.Mode0x5c	Test pattern in mode 5c
VidMode.Mode0x5e	Test pattern in mode 5e
VidMode.Mode0x5f	Test pattern in mode 5f
VidMode.Mode0x60	Test pattern in mode 60
VidMode.Mode0x64	Test pattern in mode 64
VidMode.Mode0x65	Test pattern in mode 65
VidMode.Mode0x6d	Test pattern in mode 6d
VidMode.Mode0x71	Test pattern in mode 71
VidMode.Mode0x72	Test pattern in mode 72
VidMode.Mode0x73	Test pattern in mode 73
VidMode.Mode0x74	Test pattern in mode 74
VidMode.Mode0x75	Test pattern in mode 75
VidMode.Mode0x76	Test pattern in mode 76
VidMode.Mode0x78	Test pattern in mode 78
VidMode.Mode0x79	Test pattern in mode 79
VidMode.Mode0x7a	Test pattern in mode 7a

The manufacturing tests listed in [Table B6-5](#) verify the functionality of the display path.

Table B6-5. Display Path Tests

Test Name	Description
Signature Generator Test	Checks the display pipe line for 6-bit DAC, 8-bit DAC, 16 bpp, 24 bpp, and 32 bpp with pseudo random data and known data.
Siggen.Mode5FR	Mode 5f with random data
Siggen.Mode64R	Mode 64 with random data
Siggen.Mode71R	Mode 71 with random data
Siggen.Mode76R	Mode 76 with random data
Siggen.Mode5Fw8R	Mode 5f with 8-bit DAC random data
Siggen.Mode5F	Mode 5f with known data
Siggen.Mode64	Mode 64 with known data
Siggen.Mode71	Mode 71 with known data
Siggen.Mode76	Mode 76 with known data
Siggen.Mode5Fw8	Mode 5f with 8-bit DAC and known data

1.4.1.3 Memory Tests

The tests listed in [Table B6-6](#) are VGA memory and pattern tests.

Table B6-6. VGA Memory Tests

Test Name	Description
VGA Memory Tests	
Mem.obwr321	Test video memory to non-aligned boundaries (first byte)
Mem.obwr322	Test video memory to non-aligned boundaries (second byte)
Mem.obwr323	Test video memory to non-aligned boundaries (third byte)
Mem.wr32	Test video memory on aligned boundaries
Mem.obwr16	Uses reb stosb; rep scasb
Mem.wr16	Memory test
Mem.wr8	Non aligned memory test
Mem.ob321	Pattern test at different boundaries dword size
Mem.ob322	Pattern test with word size and different boundaries
Mem.ob323	Pattern test odd boundaries with dword size
Mem.i32	Pattern test
Mem.ob316	Pattern
Mem.i16	Word pattern test
Mem.i8	Byte pattern test
Mem.obd321	Reverse boundary test with dword size
Mem.obd322	Reverse boundary test with word size
Mem.obd323	Reverse boundary test with dword size
Mem.d32	Reverse dword pattern test
Mem.obd16	Reverse pattern test with boundaries
Mem.d16	Reverse word pattern test
Mem.d8	Reverse byte pattern test
WriteMode.wm2rm1	Cycle through each memory page for each color [7:0] using Graphics Write mode 2, Real mode 1
Pattern Tests	
Mem.fast8i	Test as bytes forward
Mem.fast16i	Test as words forward
Mem.fast32i	Test as dwords forward

Table B6-6. VGA Memory Tests *(cont.)*

Test Name	Description
Mem.fast8d	Test as bytes backwards
Mem.fast16d	Test as words backwards
Mem.fast32d	Test as dwords backwards
Mem.walk08	Walking 1s test
Mem.walk18	Walking 1s backwards
Mem.addtest	Write address as data (Alias test)
Pulse	Use System clock 1 to get Video mode timing

1.4.1.4 RAMDAC Tests

The RAMDAC tests listed in [Table B6-7](#) assume an 18-bit DAC.

Table B6-7. RAMDAC Tests Using an 18-Bit DAC

Test Name	Description
Ramdac18.Rdfast	Uses rep outsb (speed check)
Ramdac18.Rdwr	Alias test
Ramdac18.Rdi	Forward tests and then check next
Ramdac18.Rdd	Backward tests and then check next
Ramdac18.Rdc13	Comprehensive test in mode 13
Ramdac18.Rdc5C	Comprehensive test in mode 5C
Ramdac18.Rdc5F	Comprehensive test in mode 5F
Ramdac18.Rdc60	Comprehensive test in mode 60

The RAMDAC tests listed in [Table B6-8](#) assume a 24-bit DAC.

Table B6-8. RAMDAC Tests Using a 24-Bit DAC

Test Name	Description
Ramdac24.Rdfast	Uses rep outsb <speed check>
Ramdac24.Rdwr	Alias test
Ramdac24.Rdi	Forward tests and then check next
Ramdac24.Rdd	Backward tests and then check next
Ramdac24.Rdc13	Comprehensive test in mode 13
Ramdac24.Rdc5C	Comprehensive test in mode 5C
Ramdac24.Rdc5F	Comprehensive test in mode 5F
Ramdac24.Rdc60	Comprehensive test in mode 60

1.4.1.5 Linear Memory Tests

The linear memory tests are tests that can be run at various sizes, forwards, backwards, and through various PCI memory apertures. The four linear memory tests are as follows:

- Test 1 — Alias test and partial walking 1s test.
- Test 2 — Alias test and partial walking 1s test (opposite pattern of Test 1).
- Test 3 — 28 pattern tests where each location is written with each pattern then verified.
- Test 4 — Random data test.

Test 1

```

Test Case 1/Write AP = 0 Read Ap=<0,1,2,3,A0000p>
<each Test case reads from different Aperture LinTest1 Read AP=0, Lintest2
Read AP=1, etc.>
LinTest0.LinTest1
LinTest0.LinTest2
LinTest0.LinTest3
LinTest0.LinTest4
LinTest0.LinTest5

Test Case 1/Write AP = 1 Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest6
LinTest0.LinTest7
LinTest0.LinTest8
LinTest0.LinTest9
LinTest0.LinTest10

Test Case 1/Write AP = 2 Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest11
LinTest0.LinTest12
LinTest0.LinTest13
LinTest0.LinTest14
LinTest0.LinTest15

Test Case 1/Write AP = 3 Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest16
LinTest0.LinTest17
LinTest0.LinTest18
LinTest0.LinTest19
LinTest0.LinTest20

Test Case 1/Write AP = A0000p Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest21
LinTest0.LinTest22
LinTest0.LinTest23
LinTest0.LinTest24
LinTest0.LinTest25

```

Test 2

Test Case 2/Write AP = 0 Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest26
LinTest0.LinTest27
LinTest0.LinTest28
LinTest0.LinTest29
LinTest0.LinTest30

Test Case 2/Write AP = 1 Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest31
LinTest0.LinTest32
LinTest0.LinTest33
LinTest0.LinTest34
LinTest0.LinTest35

Test Case 2/Write AP = 2 Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest36
LinTest0.LinTest37
LinTest0.LinTest38
LinTest0.LinTest39
LinTest0.LinTest40

Test Case 2/Write AP = 3 Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest41
LinTest0.LinTest42
LinTest0.LinTest43
LinTest0.LinTest44
LinTest0.LinTest45

Test Case 2/Write AP = A0000p Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest46
LinTest0.LinTest47
LinTest0.LinTest48
LinTest0.LinTest49
LinTest0.LinTest50

Test 3

Test Case 3/Write AP = 0 Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest51
LinTest0.LinTest52
LinTest0.LinTest53
LinTest0.LinTest54
LinTest0.LinTest55

Test Case 3/Write AP = 1 Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest56
LinTest0.LinTest57
LinTest0.LinTest58
LinTest0.LinTest59
LinTest0.LinTest60

Test Case 3/Write AP = 2 Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest61
LinTest0.LinTest62
LinTest0.LinTest63
LinTest0.LinTest64
LinTest0.LinTest65

Test Case 3/Write AP = 3 Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest66
LinTest0.LinTest67
LinTest0.LinTest68
LinTest0.LinTest69
LinTest0.LinTest70

Test Case 3/Write AP = A0000p Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest71
LinTest0.LinTest72
LinTest0.LinTest73
LinTest0.LinTest74
LinTest0.LinTest75

Test 4

Test Case 4/Write AP = 0 Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest76
LinTest0.LinTest77
LinTest0.LinTest78
LinTest0.LinTest79
LinTest0.LinTest80

Test Case 4/Write AP = 1 Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest81
LinTest0.LinTest82
LinTest0.LinTest83
LinTest0.LinTest84
LinTest0.LinTest85

Test Case 4/Write AP = 2 Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest86
LinTest0.LinTest87
LinTest0.LinTest88
LinTest0.LinTest89
LinTest0.LinTest90

Test Case 4/Write AP = 3 Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest91
LinTest0.LinTest92
LinTest0.LinTest93
LinTest0.LinTest94
LinTest0.LinTest95

Test Case 4/Write AP = A0000p Read Ap=<0,1,2,3,A0000p>
LinTest0.LinTest96
LinTest0.LinTest97
LinTest0.LinTest98
LinTest0.LinTest99
LinTest0.LinTest100

1.4.1.6 BIOS Tests

The BIOS tests listed in [Table B6-9](#) verify that the BIOS of the CL-GD546X is functioning correctly.

Table B6-9. BIOS Tests

Test Name	Description
ModelInfo	Returns all of the modes supported in the BIOS with current memory configuration.
BIOS0	Quick BIOS Checks

1.4.1.7 2D Tests

The tests listed below verify the functionality of the CL-GD546X 2D graphics engine.

Table B6-10. 2D Tests

Test Name	Description
Chroma20	Chroma key 24 bpp
Chroma23	Chroma key 24 bpp
Chroma39	Chroma key 8 bpp
Chroma40	Chroma key 32 bpp
Colrep16	Auto foreground and background color replication 16 bpp
Colrep24	Auto foreground and background color replication 24 bpp
Colrep32	Auto foreground and background color replication 32 bpp
Colrep8	Auto foreground and background color replication 8 bpp
Igchrom1	5:6:5 to 5:6:5 chroma key extends greater than 128
Igchrom3	8:8:8 to 8:8:8 chroma key extends greater than 128
Igchrom5	a:8:8:8 to 8:8:8 chroma key extends greater than 128

1.4.1.8 3D Tests

The tests listed below verify the functionality of the CL-GD546X 3D graphics engine.

Table B6-11. 3D Tests

Test Name	Description
geg00xaa	Coprocessor indirect generic z-buffer test
geg00xah	Coprocessor direct generic z-buffer test
abh00hbe	Coprocessor direct alpha blending
abh01hbg	Coprocessor direct alpha blending
abh00hbc	Coprocessor direct alpha blending
plh00hac	Coprocessor direct patterns
lih00hcc	Coprocessor direct lighting
lih02hca	Coprocessor direct lighting
dlh00hda	Coprocessor direct dithering
dlh00hdc	Coprocessor direct dithering
dlh00hdd	Coprocessor direct dithering
dah00hef	Coprocessor direct dashed lines
cc100xda	Coprocessor direct color compare logic
cc1011aa	Coprocessor direct color compare logic
dm100xcc	Coprocessor direct destination mask logic
dm101xcc	Coprocessor direct destination mask logic
sbh001da	Coprocessor direct saturate to bounds
sb1001ca	Coprocessor direct saturate to bounds
tmg04gaa	Coprocessor direct texture mapping

1.5 Manufacturing Test Updates

MFGTST.EXE is updated regularly. As more products are added to the CL-GD546X family of VisualMedia accelerators, more tests are added to the manufacturing test software. These tests support new functions and features of current and future products. Contact Cirrus Logic for up-to-date manufacturing test software and documentation.

