



# Release Notes

## Polaris 802.11n Test Suite P-5.2.3

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## About these Release Notes

These release notes contain valuable information regarding the specified product(s). This document provides a list of new features and known anomalies regarding the specific code release. This release note should be used only for specified products and should always be used in conjunction with the formal documentation provided with that product.

### ***New Features in version 5.2.3***

The following features are added/changed to this release of the Polaris Networks Wi-Fi 802.11n Certification Test Suite:

- ECN #138: The Cisco ACS Express RADIUS Server Version 5.0.0.19, Tessco Part number CSACS-5.0-EXP-K9, has replaced the Meetinghouse MDC Aegis RADIUS Server.
- ECN #139: In test 5.2.6 fragmentation on the Marvell 11n station changed to 430 bytes.
- ECN #141: The Devicescape Gateway GW-7001-NF AP replaced by the Ralink RT2800PDAP2 AP running SW version 1.1.3.0.
- ECN #150: In test 5.2.45, removed the Marvell AP from the test. Only the Broadcom AP is used.
- ECN #151: Upgrading Cisco 11n AP (1250) with new firmware of version 12.4(10b)JDA.
- ECN #152: For test 5.2.41, the Broadcom AP is unable to receive non-GF packets when in GF mode. The Ralink AP can receive non-GF packets when in GF mode and has replaced the Broadcom AP in this test.
- ECN #155:
  - Add in tests 4.2.39 and 5.2.46 to prevent TKIP from being used with HT rates (for data collection only).
  - Modified 4.2.23 and 5.2.30. Set 11n test bed devices to legacy mode. Set all streams to the same data rate.
  - Add Intel 4965AGNMM2WB as alternative to 4965AGN as the latter is no longer available
  - Change 5.2.41 AP from Broadcom to Ralink (ECN 152).

## Product covered by Release notes

This release note pertains to the following specific products:

- 1 Polaris 802.11n Test Suite P-5.2.3
- 2 Azimuth WSC version v5.5.0 or higher (installed as part of Azimuth DIRECTOR-II p-5.5.0 or higher)

## Important Notes on Upgrading Software

1. Ensure that the Azimuth WSC software is upgraded to version 5.5.0.6 or higher by installing the Azimuth Director-II software version 5.5.0 or higher

2. The upgradation of the Omnipack WSC has to be done by first uninstalling the old WSC version and then installing the WSC from the Director-II software (version 5.5.0.6 or higher) by following steps given in the 'Installing WSC Software' section in the Polaris 802.11n Test Suite Users Guide (AN\_11n\_Cert\_App.pdf).

## Important Notes about Polaris 802.11n Test Suite

Polaris 802.11n Test Suite automates the entire Wi-Fi Alliance 802.11n Draft 2.0 v1.5.1 Test Plan. This includes twenty-four new 11n-specific test cases as well as nearly one hundred WPA2/WMM test. RIFS and Disallow TKIP with HT Rates test cases are also part of this release now in addition to the WPA2/WMM test cases.

Ensure that the screen resolution of the system that has Marvell and Ralink test bed stations are set to 1024x768. This is necessary for the automation macros to work correctly. The Marvell and Ralink GUI configuration macros will not work with any other screen setting.

## Validation of Tests

Polaris is unable to find a DUT that passes the following test cases:

1. APUT Test 4.2.11: This test fails as an EAPOL packet is detected. The expected behavior is that no EAPOL packet should be observed. The test script has been validated for proper execution of the test plan. Polaris continues to look into this test case.

## Issues Resolved in this release

Exception ID	Anomaly / Fix Description
1	<p><b>Anomaly :</b> For Test 4.2.26 'Basic Association in 802.11n Environment', the protection check in step 7 used to fail with the following error; "Unexpectedly APUT is not using protection (RTS/CTS or CTS-to-Self)".</p> <p><b>Fix:</b> Protection check removed as checking of Operation Mode field of the HT information element is sufficient as per the test plan.</p>
2	<p><b>Anomaly:</b> Install relay option doesn't work from CD image.</p> <p><b>Fix:</b> Install relay option works from CD image.</p>

## Issues Resolved in Previous release 5.2.1

Exception ID	Anomaly / Fix Description
1	<p><b>Anomaly:</b> For Test 5.3.2.B SI2 - Passive Scan (2GHz) incorrect SSID was being passed</p> <p><b>Fix:</b> The correct SSID is being used for the test now</p>
2	<p><b>Anomaly:</b> For Test 4.2.26.1 'Basic Association (2GHz)' script was unable to properly parse capture for HT information element</p> <p><b>Fix:</b> Modified the script to ensure that HT information is not being looked up for legacy station</p>
3	<p><b>Anomaly:</b> For Test 4.2.28 'MIMO Power Save, the log file does not show where the test fails with the ping rate</p> <p><b>Fix:</b> Added relevant log files to indicate step by step execution of the test cases and cause of failure, if any.</p>
4	<p><b>Anomaly:</b> For Test 4.2.26.1 'Basic Association (2GHz)'   4.2.26.2 'Basic Association (5GHz)', Different HT Capabilities were required for test automation to succeed</p> <p><b>Fix:</b> Added two different GUI optional features 'MCS32' and 'HT Duplicate' instead of the combined selection.</p>
5	<p><b>Anomaly:</b> For Test 4.2.21 'Differentiation - Two 11n Stations' - Unable to run the test</p> <p><b>Fix:</b> Copy policy files (Registry-default.pol and Registry-wmm-s3-step6.pol) into the chariot console. These files are located in the 'data' directory on the PC with AzCert 11n Software installed.</p> <p>From the "data/tests/wifi/wmm/tools" directory, copy these files to the following location on the machine with the Chariot console installed "C:/Program Files/IxChariot/Scripts/ AzCert". If any of the sub-directories do not exist, create them.</p> <p>11n script can not copy policy files(*.pol) into the Chariot console machine at the location "C:/WINDOWS/system32/GroupPolicy/Machine", ensure that this directory on the Chariot Console machine has "Write" permissions enabled.</p>
6	<p><b>Anomaly:</b> For Test 4.2.34 'Short GI Operation' - Passing 36h as the channel causing the script to fail</p> <p><b>Fix:</b> Modified the source code to use the correct numerical value for the test.</p>
7	<p><b>Anomaly:</b> For Test 4.2.34 the script was incorrectly checking Greenfield for ShortGI test</p> <p><b>Fix:</b> Modified the source code to remove the incorrect validation of Greenfield.</p>
8	<p><b>Anomaly:</b> The non participating stations sometimes interfere with the running tests.</p> <p><b>Fix:</b> Added new fields in the GUI to disable the non-participating test bed stations. If the test script fails or gets interrupted the test bed stations will remain disabled. The user has to manually re-enable all the stations before starting any test again.</p>
9	<p><b>Anomaly:</b> The API for ap_set_radio_mode included only N20 and N40a parameters leading to lack of options in executing various test cases using automation libraries.</p> <p><b>Fix:</b> Modified source code to use the proper 11N mode parameters like N_2.4, N_5.0_40. This should enable better automation solution.</p>
10	<p><b>Anomaly:</b> The 11n script cannot run with Chariot Console Server set to local.</p> <p><b>Fix:</b> Modified source code to use local Chariot Console server correctly.</p>
11	<p><b>Anomaly:</b> For test 5.2.5: Mixed 11b/g – OPEN test, Marvell AP is wrongly configured for 11g instead of 11b mode.</p> <p><b>Fix Description:</b> Added new macro and modified source code to configure the test bed Marvell client for B-mode properly. Note that the PC/laptop with the Marvell station installed must be configured for a screen resolution of 1024 x 768.</p>

12	<p><b>Anomaly:</b> For test 5.2.13 'Pure Throughput - WPA2 with Fragmentation', the Broadcom 11N AP not set to B-only mode.</p> <p><b>Fix Description:</b> Modified Broadcom AP automation library to configure legacy radio modes properly.</p>
13	<p><b>Anomaly:</b> While using Meeting House Radius server the Aegis Server Service is stopped but not restarted for EAP-PEAP1 tests(ex:5.2.24.8-ExS8) resulting in test failures.</p> <p><b>Fix Description:</b> Modified source code to restart Meetinghouse RADIUS server process i.e., Aegis Service properly.</p>
14	<p><b>Anomaly:</b> IBSS test cases were using wrong parameters for Ralink test bed station: both FRAG and RTS should be OFF for the Ralink STA.</p> <p><b>Fix Description:</b> Modified 'IBSSB3'(5.3.3.B) and 'IBSSB3'(5.3.4.B) test entries to use right RTS and FRAG threshold value as OFF.</p>
15	<p><b>Anomaly:</b> For 5.2.38: "A-MSDU Aggregation" test Marvell AP is not configured channel bandwidth properly.</p> <p><b>Fix Description:</b> Modified Marvell AP library source code to configure the Channel Bandwidth properly.</p>

## Issues Resolved in the Prior Release (v 5.2.0)

Exception ID	Anomaly / Fix Description
1	<p><b>Anomaly:</b> WiFi-11n: A script problem that occurs when running ASD, prevents running any test.</p> <p><b>Fix:</b> The relevant files corresponding to the following two modules were modified:</p> <ul style="list-style-type: none"> <li>- To stop and uninstall the Cisco SSC service if it is running initially for any normal station/WSC but not for any ASD device.</li> <li>- Ensures that <i>stm_disable_others</i> is not called for ASD device</li> </ul>
2	<p><b>Anomaly:</b> WiFi-11n: 4.2.4 Configuration #A2 - Throughput (APUT) - Unable to run test because Devicescape supplicant is turned off.</p> <p><b>Fix:</b> The relevant files have been modified to stop the <i>Devicescape</i> supplicant service, if it is running.</p>
3	<p><b>Anomaly:</b> 4.2.26.1 'Basic Association (2GHz)', you are using the same name <i>all-pkt.apc</i> for multiple steps.</p> <p><b>Fix:</b> The relevant files have been modified to save multiple capture files under different names, in those cases where multiple files are being created by the test.</p>
4	<p><b>Anomaly:</b> WiFi-11n - Test 4.2.18.2 Using Wrong Supplicant: Using Cisco SSC, but should be using Microsoft ZeroConfig.</p> <p><b>Fix:</b> The relevant files have been modified to ensure that a <i>wireless zero config</i>, that has been corrupted by a Cisco SSC process, is resolved, and the Cisco SSC process is killed. Also modified <i>xeapA15</i> (4.2.18.2) test entry to use the <i>ZeroConfig</i> supplicant, instead of the Cisco Supplicant.</p>
5	<p><b>Anomaly:</b> WiFi-11n: 4.2.3 'Pure Throughput - Honoring NAV and PLCP', using the wrong pass/fail criteria for 2.4GHz.</p> <p><b>Fix:</b> Modified <i>sec3config</i> (4.2.3) test entry to use the correct pass/fail criteria for 2.4GHz.</p>
6	<p><b>Anomaly:</b> WiFi-11n: 5.2.33 'TxOP Limit' - Using the wrong pass/fail percentage for T2.</p> <p><b>Fix:</b> Modified '<i>wmmTxOp</i>'(5.2.33) test entry to use RTP1 value as 177% instead of 117%.</p>
7	<p><b>Anomaly:</b> WiFi-11n: 5.2.36 'Receive 1 and 2 Spatial Streams' (STAUT) - Incorrectly detecting pass/fail criteria.</p> <p><b>Fix:</b> Modified relevant functions to use <i>sgi</i> value from the ethereal decode field '<i>wlan.11n_flags.fullgi</i>' if it exists. Also modified relevant log messages.</p>

8	<p><b>Anomaly:</b> WiFi-11n: 4.2.27 <i>Receive 1 and 2 Spatial Streams</i>, test incorrectly checking HT IE for supported MCS.</p> <p><b>Fix:</b> Modified relevant files to support MCS 0-15 also for 2.4GHz.</p>
9	<p><b>Anomaly:</b> In 4.2.37 APUT test, the test is not adhering to the test Plan.</p> <p><b>Fix:</b> Modified apConcrrt (4.2.37) test entry to use correct station as 'Intel 11n' instead of 'Broadcom 11n'. Also modified code to use the correct channel.</p>
10	<p><b>Anomaly:</b> Incorrect failure of 5.2.35.1-STAUT Basic Assoc - STAUT Ping Replies step.</p> <p><b>Fix:</b> Modified relevant files to fail the ping status only if the ping failure percentage is more than 10%.</p>
11	<p><b>Anomaly:</b> Not able to run 4.2.33 - Greenfield test against Cisco 11n AP as DUT.</p> <p><b>Fix:</b> Modified relevant files to show the proper log instead of a stack trace if the particular wireless param is not implemented.</p>
12	<p><b>Anomaly:</b> Provide an option of only running failed/skipped test cases from 11n test GUI.</p> <p><b>Fix:</b> Added new button 'Failed/Skipped' to select the Failed/Skipped tests in last run.</p>
13	<p><b>Anomaly:</b> AzCert doesn't provide selection of OmniPeek PC.</p> <p><b>Fix:</b> Modified GUI source file to use the label as <i>Wireless Sniffer Information</i> instead of 'WLA Information'</p>
14	<p><b>Anomaly:</b> Please change the name of the APPs help file from <i>Azcert 802.11n Test</i> to <i>Azcert 802.11n Test Suite Users Guide</i>.</p> <p><b>Fix:</b> Modified GUI source file to display the help file name as <i>AzCert 802.11n Test Suite Users Guide</i>.</p>
15	<p><b>Anomaly:</b> Marvell TopDog confuses script when using "Select Available" tests.</p> <p><b>Fix:</b> Modified GUI source file not to select as a <i>Test-bed station</i>, if it is already selected as <i>Wireless Sniffer</i>.</p>
16	<p><b>Anomaly:</b> In APUT(4.2.14.2) Test it is trying to access Microsoft RADIUS Server while the Testbed STA's security is set to Open/None.</p> <p><b>Fix:</b> Modified relevant files so that no RADIUS server is accessed, when the security is open/none.</p>
17	<p><b>Anomaly:</b> 4.2.31 - Overlapping BSS shows some error messages in the results tab and stack traces in the results.csv file, that are misleading.</p> <p><b>Fix:</b> Modified relevant files to set <i>errmsg</i> variable properly to resolve this issue.</p>
18	<p><b>Anomaly:</b> Traffic duration for throughput tests deviate from the Test Plan sec_2.1.2 where it states <i>unless otherwise specified, default parameters were used. The throughput test will run for 1.5 minutes</i>.</p> <p><b>Fix:</b> Modified relevant files to use chariot traffic duration from the GUI entry value instead of hard coded value of 90.</p>
19	<p><b>Anomaly:</b> When APUT power port # is empty, it doesn't work properly.</p> <p><b>Fix:</b> Modified relevant source code to work properly when the AP port # is empty.</p>
20	<p><b>Anomaly:</b> IBSS-Rejoin test fails with an error</p> <p><b>Fix:</b> A pop-up dialog has been included in the test case that will seek inputs if the station needs to be automatically configured.</p>
21	<p><b>Anomaly:</b> OOB verification test(5.2.1.4) test checks the incorrect basic rate set</p> <p><b>Fix:</b> Modified the relevant source code to set the basic rates correctly.</p>
22	<p><b>Anomaly:</b> Test 5.2.37.2(A-MPDU) aggregation with WPA2-PSK fails with an error</p> <p><b>Fix:</b> Modified the relevant source code to use the correct MPDU settings.</p>
23	<p><b>Anomaly:</b> 5.2.18 test deviates from the Test Plan</p> <p><b>Fix:</b> Modified the relevant source code to implement the test case correctly.</p>
24	<p><b>Anomaly:</b> 5.2.17 test deviates from the Test Plan</p> <p><b>Fix:</b> Modified the relevant source code to implement the test case correctly.</p>
25	<p><b>Anomaly:</b> 5.2.9 test deviates from the Test Plan</p> <p><b>Fix:</b> Modified the relevant source code to implement the test case correctly.</p>

26	<p><b>Anomaly:</b> 5.3.2.B SI2 - Passive Scan (2GHz) was Setting the ASD and test bed STA incorrectly to no security rather than WEP</p> <p><b>Fix:</b> Modified the relevant source code to allow an optional feature to select WEP Encryption in the "Device Under Test" GUI tab to use the security instead of open security in the test.</p>
27	<p><b>Anomaly:</b> 4.2.34 'Short GI Operation' test script was Passing 36h as the channel</p> <p><b>Fix:</b> Modified the relevant source code to set the correct channel.</p>

## Polaris 802.11n Test Suite Anomalies

Identified Polaris 802.11n Test Suite anomalies, with appropriate resolutions or work-arounds are listed in the following table.

Issue	Description	Workaround
1.	Atheros 11n Test Bed AP requires extra initial setup.	See the 'Testbed AP Setup' section of the Polaris 11n User's Guide for detailed instructions on how to setup the Atheros 11n AP for automation.
2.	<p>Omnipeek Capture PC must be initially setup through <i>Setup Wizard</i>.</p> <p>The Setup Wizard 'Validation' code for Omnipeek contains initialization code to setup the Omnipeek Capture PC.</p>	When setting up the Omnipeek Capture PC for the first time, use 'Setup Wizard' to validate the Omnipeek Capture PC. During Validation, Setup Wizard will automatically configure the Omnipeek PC to prepare it for automation.
3.	<p>Broadcom 11n Test Bed Station connectivity goes up and down.</p> <p>You may observe the Broadcom STA only stays connected for 10 seconds at a time, then continues to disconnect / reconnect, but cannot maintain a connection.</p>	This behavior may be caused by the Broadcom Wireless Utility interfering with the station configuration. Open the Broadcom Wireless Utility from the System Tray, and uncheck the 'Let this tool manage your wireless networks' box.
4.	<p>ZeroConfig authentication fails with PEAPv0 in Test ExS15.</p> <p>The ZeroConfig supplicant uses the currently logged in user's 'Username' and 'Password' to authenticate with the RADIUS server when using PEAPv0 authentication.</p>	Ensure that the 'console' user with a password of 'azimuth' is configured on Windows 2003 IAS for RADIUS authentication to succeed. Check the Windows 2003 Server Event Log for more details on diagnosing PEAPv0 authentication failures.
5.	Ralink Test bed station does not support enabling SGI and Greenfield at the same time	There is no known workaround. However, this limitation does not impact the ability to use Ralink as test bed station
6.	User may experience intermittent problems while configuring APC power settings	Ensure that SNMP Access Control under "Network->SNMP" has the "Access" flag set to "Enabled". Also, the Access Control Community name of "private" must be configured for "write+?" access.
7.	11n Features of the APs cannot be modified and configured by Director-II Test bed manager	There is no known workaround and this will be fixed in future releases.
8.	11n Test case 5.2.35.1 Basic Association may fail	Ensure that the SSID in the wpa2-psk.conf file must be changed to "ssid=wifi" from

Issue	Description	Workaround
		'ssid=11n_Atheros'. Also ensure that the 'passphrase', 'wpa' and 'wpa_pairwise' fields are correct as well.
9.	Setup Wizard Fails with an error message "Discovery command returned unexpected error"	This occurs when the Azimuth DIRECTOR-II console is re-started. After the Close the Setup Wizard GUI and re-start it after the console is running again.
10.	The DHCP server IP address and reservations therein are not validated	There is no workaround. Ensure that the DHCP server is configured correctly with the proper settings for reservations.
11.	When running WPA2 and/or WMM scripts, the results table will show multiple entries for the same test cases. Further, all the test steps for a particular test may not be shown sequentially in the results table	It is recommended that the Results table to cleared using the 'Clear' button before running tests if the test parameters or test selection has changed.
12.	Using the "Disable non-participating Test bed stations" may leave the test bed stations disabled. The auto discovery will not show the disabled test bed stations	If the test is interrupted or fails with an error after the test bed stations have been disabled, the stations will remain disabled. This will cause the test script to skip the test cased when the test bed stations need to participate. Users have to manually enables each test bed station prior to running any test.
13.	In the APUT tests (4.2.1, 4.2.2 and 4.2.4) the supplicant used is Juniper rather than Marvell supplicant.	There is no known workaround. This bug will be fixed in future releases
14.	There is an error message within the Setupwizard test validation or while running the test that indicates "IxChariot API initialization failed"	The Ixia Chariot endpoint should have a valid license. If the Chariot endpoint is not being used locally, it should be uninstalled.
15.	Errors are observed for the test cases that involve automating the Marvell station card.	For configuring wireless parameters on the Marvell test bed station, Marvell's Client Card Configuration GUI utility is programmed using macros. For these macros to work, the screen resolution of the machine (containing Marvell Station) should be 1024x768 pixels. Otherwise these configuration using macros will not work properly.
16.	If the Chariot Console license on the local machine expires, the following error message will be displayed at the end of the test run or while importing the "Azimuth-Sdk" package.  IxChariot API initialization failed, rc = 108 Error was detected at Fri Sep 5 09:07:56 2008 Error was detected by the Console. The return code was 1. CHR0315: The license operation failed because a valid license could not be found. The reason	If the Chariot is being used locally, obtain a valid license. If a remote Chariot console is being used, uninstall the unused Chariot Console from the local machine.



Issue	Description	Workaround
	code was 1. Unable to find a license for this product. Verify that you have a valid license or contact Ixia's Technical Support for assistance.	
17.	Test 4.2.1 (STA1 HT Capabilities Channel Width) sub-test case fails due to HT Capabilities IE (contains SGI 40 and MCS 32) missing in Association Request from the Test-bed Station.	Un-check the SGI 40 and MCS 32 optional feature in the Test GUI (under Device Under Test) tab to make this test pass.
18.	Test 4.2.26.1 (HT Capabilities) sub-test case fails due to HT Capabilities IE (contains 40Mhz Bandwidth and MCS 32) missing in Association Request from the Test-bed Station.	Un-check the Greenfield, 40Mhz Bandwidth, MCS 32 & HT duplicate optional features from the GUI to make this step pass.
19.	Studio Reports are not generated correctly	Copy over Polaris 11n php files from \data\tests\Wifi\php folder (Polaris11n.compare.php, Polaris11n.report.php and Polaris11n.search.php) to the Studio Server machine in directory ~\WWW\Studio\TestReporter\test-specific