

ACATS Modification List for ACATS 3.1

Version 3.1M

June 30, 2016

What is this?

This is the ACATS modification list for ACATS 3.1. This document includes test corrections, test removals, and new tests for ACATS 3.1. ACATS 3.1 is the current test suite for the version of Ada that became current with the approval and publication of Amendment 1 by ISO as ISO/IEC 8652:1995/AMD 1:2007 (often known as "Ada 2005").

ACATS Modification List version 2.6D for ACATS 2.6 is the current list for that test suite. ACATS 2.6 should be used for testing Ada 95 implementations, and will continue to be maintained as necessary for the foreseeable future.

ACATS Modification List version 4.0M is the current list for ACATS 4.0. ACATS 4.0 should be used for testing the third edition of Ada, ISO/IEC 8652:2012 (usually known as "Ada 2012").

Changes from the last list:

Tests B38003D, B455002, and B83F02C had incorrect error tags repaired.

Tests B3A1001 and B3A1002 had Pack6 split so that the possible error sets do not intersect.

Test C52101A was corrected to not have a comment in the form of an ERROR: tag. These should not appear in C-Tests.

Tests B62001C and B62001D were changed to make the second error optional, as the first error is illegal syntax and thus has to be detected.

The Pass/Fail criteria for test B740003 was updated so that the test tools don't pick up an error marker.

“Note” was replaced by “Optional Error” in test B95007B.

The error marker for the second error in test BD4003A was moved so that it was on the incorrect construct.

Test CXB3023 was corrected to have missing N/A => ERROR markers added.

A number of tests changed status on April 1st, this list reflects those changes.

New tests posted between April 1, 2016 and June 30, 2016 will become required for conformity assessments on January 1, 2017. New tests posted between January 1, 2016 and March 31, 2016 will become required for conformity assessments on October 1, 2016. New tests posted between October 1, 2015 and December 31, 2015 will become required for conformity assessments on July 1, 2016. New tests inserted between October 1, 2013 and September 30, 2015 are now required for conformity assessments. All other tests previously inserted into ACATS 3.0 are part of ACATS 3.1 and are required for conformity assessment. The effective dates of tests are marked in the lists.

Questions about this document? Contact the ACAA Technical Agent at agent@ada-auth.org.

Ada 2012 compatibility:

This test suite is designed for Ada 2005. ACATS 4.0 should be used to test Ada 2012 implementations. There are a significant number of tests in ACATS 3.1 that are incompatible with the requirements of Ada 2012.

Notice:

The ACAA has created and maintains the Ada Conformity Assessment Test Suite for the purpose of conformity assessments conducted in accordance with the International Standard ISO/IEC 18009 - Ada: Conformity assessment of a language processor. This test suite should not be used to make claims of conformance unless used in accordance with ISO/IEC 18009 and any applicable ACAA procedures.

List explanation:

Test numbers given are for the basic test. Categories are “Withdrawn” (the test should not be processed for Ada conformity assessments); “Allowed Modification” (either the original test or the modified one should be processed for Ada conformity assessments); “Modified” (the modified test must be processed for Ada conformity assessments); “Pending New” (the test does not need to be processed for Ada conformity assessments, but will be added in the future); “New” (the test is processed for Ada conformity assessments).

ACATS version labels are provided with all new and modified tests. Use this label to retrieve the test from the ACATS VCS. See “How to get new and modified tests”.

In citations, line numbers are given relative to the start of a test file in the format of '@<line#,line#,...>'; if a test program comprises more than one file, then the particular file will be indicated by "fn", where "n" is the test-program name's file-designator numeral. E.g., "B38103E : @f1-31, ... " denotes test file b38103e1.ada. In cases where there are two or more rationales for different errors in a test program, these different rationales with their respective line citations are listed on separate lines. References to the Ada standards are given in the format:

<section|chapter>.<clause>[.<subclause>]:<paragraph>

These references are to the consolidated Ada standard as available at <http://www.adaic.org/resources/add-contentstandards/05rm/html/RM-TOC.html>.

Main list:

==== Core Language =====

Name	Category	Version label	(effective date; old version label)
B38003D	[Allowed Modification]	New VCS Label: A3_1A	Org VCS Label: A3_1 Required after 2016-10-01
		Corrected error tags @70,76,82,88	so “optional” and “error” are on the same line, as required by the test standards.
B38105A	[Withdrawn]	Org VCS Label: A3_1B	Replaced by tests B3A1007 and B3A1A05 (and existing tests B3A1A01 and B3A1A02).
C390012	[New]	VCS Label: A3_1J	Check the operation of Ada.Tags.Generic_Dispatching_Constructor.

C391003 [New] VCS Label: A3_1F
[VCS Label A3_1E] Check that a type extension can be declared in a more nested scope than its parent type, and that overridden subprograms of that extension can be dispatched to.
[VCS Label A3_1F] Eliminated an overlong line.

B393005 [Modified] VCS Label: A3_1B
Declaration @114 is illegal because it inherits an abstract function that is not overridden, as described in AI05-0097-1.

B393011 [New] VCS Label: A3_1E
Check that an abstract routine of an abstract partial view overridden by a non-abstract routine in the private part requires overriding when it is inherited if the private part is not visible where it is inherited.

C3A0030 [Pending New] New VCS Label: A3_1L
Required after 2016-10-01
Check that an access discriminant is only null excluding if it includes a null exclusion.

B3A1001 [Allowed Modification] New VCS Label: A3_1M Org VCS Label: A3_1
Required after 2016-10-01
[VCS Label A3_1B] Type UT1 @78 is supposed to be tagged incomplete, else it's the same as type U1.
[VCS Label A3_1M] Split Pack6 so possible error sets don't intersect; fixed overlong lines.

B3A1002 [Allowed Modification] New VCS Label: A3_1M Org VCS Label: A3_1
Required after 2016-10-01
[VCS Label A3_1B] Type UT1 @77 is supposed to be tagged incomplete, else it's the same as type U1.
[VCS Label A3_1M] Split Pack6 so possible error sets don't intersect; fixed overlong lines.

C3A1003 [New] VCS Label: A3_1E
Check that a dereference of an access-to-tagged-incomplete type can be passed as a parameter.

C3A1004 [New] VCS Label: A3_1E
Check that a parameter of a tagged incomplete type can be passed as a parameter.

B3A1007 [New] VCS Label: A3_1B
Check that constraints and exclusions aren't allowed on an incomplete type in access type and subtype declarations.

B3A1008 [New] VCS Label: A3_1F
[VCS Label A3_1E] Check that a dereference of an access-to-incomplete type cannot be used as a prefix.
[VCS Label A3_1F] Eliminated overlong lines.

B3A1009 [New] VCS Label: A3_1F
[VCS Label A3_1E] Check that a dereference of an access-to-incomplete view cannot be used as a prefix. Check that a parameter of an incomplete view cannot be used as a prefix.
[VCS Label A3_1F] Eliminated overlong lines.

B3A1A05 [New] VCS Label: A3_1B
Check that generic formal objects cannot be declared with an incomplete view.

C3A2004 [New] VCS Label: A3_1D
Check that the type of the prefix of 'Access is used to resolve the expected type of the use of the attribute.

B3A2017 [New] VCS Label: A3_1F
[VCS Label A3_1D] Check P'Access is not allowed in a generic body if P is declared in the generic (including in the parent of a child or in a formal package) and the access type is a formal type or outside of the generic.
[VCS Label A3_1F] Eliminated overlong lines.

B431006 [New] VCS Label: A3_1D
Check that if a variant part is not nested in an unselected variant, the value of the governing discriminant of a variant in a record aggregate cannot be non-static.

B43102A [Withdrawn] VCS Label: A3_1D
Replaced by B431006.

B455002 [Allowed Modification] New VCS Label: A3_1M Org VCS Label: A3_1
Required after 2016-10-01
Corrected casing of error tags and fixed overlong lines.

C480001 [Pending New] New VCS Label: A3_1L
Required after 2016-10-01
Check that an initialized allocator for a class-wide type does an accessibility check on the tag of the initializing object.

B480002 [New] VCS Label: A3_1F
[VCS Label A3_1E] Check that an initialized allocator for an access type with a class-wide designated type does not create an object whose type is more local than the access type.
[VCS Label A3_1F] Eliminate overlong lines and tab characters.

B480003 [New] VCS Label: A3_1F
[VCS Label A3_1E] Check that an uninitialized allocator for an access type with a class-wide designated type does not create an object whose type is more local than the access type.
[VCS Label A3_1F] Eliminate overlong lines and tab characters.

B480003 [Allowed Modification] New VCS Label: A3_1L Org VCS Label: A3_1F
Required after 2016-07-01
[VCS Label A3_1L] Corrected test objective and test description; the test code is unmodified.

C52101A [Allowed Modification] New VCS Label: A3_1M Org VCS Label: A3_1
Required after 2016-10-01
Corrected comment @49 not to have the form of an error tag.

B540002 [New] VCS Label: A3_1B
Check that case statement coverage rules are enforced for modular types.

C540002 [New] VCS Label: A3_1B
Check that the selecting_expression of a case statement can be resolved using the requirement that it be any discrete type.

C540002 [Modified] VCS Label: A3_1F
Eliminated overlong lines.

C620001 [New] VCS Label: A3_1B
Check that elementary types are passed by-copy.

B62001C [Allowed Modification] New VCS Label: A3_1M Org VCS Label: A3_1
Required after 2016-10-01
Changed error @35 to be optional, as the syntax error @33 is required (and the comment that only one error need be detected is bogus).

B62001D [Allowed Modification] New VCS Label: A3_1M Org VCS Label: A3_1
Required after 2016-10-01
Changed error @41 to be optional, as the syntax error @33 is required (and the comment that only one error need be detected is bogus).

C62003A [Withdrawn] Org VCS Label: A3_1B
Replaced by test C620001.

B640001 [New] VCS Label: A3_1F
[VCS Label A3_1D] Check that abstract nondispatching operations do not participate in resolution.
[VCS Label A3_1F] Eliminate overlong lines and tab characters.

C640002 [New] VCS Label: A3_1F
[VCS Label A3_1D] Check that an abstract nondispatching operator provides a way to eliminate an unwanted predefined operator.
[VCS Label A3_1F] Eliminate overlong lines.

C660001 [New] VCS Label: A3_1B
Check that a matching "/"=" is defined for an explicitly declared "=" operator with a result of Boolean.

B730008 [New] VCS Label: A3_1A
Check that a tagged partial view and its completion must have the same set of interfaces.

B730009 [New] VCS Label: A3_1F
[VCS Label A3_1A] Check that a tagged partial view can be synchronized if and only if the completion is a synchronized type.
[VCS Label A3_1F] Completion of Priv12 @131 violates 7.3(10.1/3).

B730010 [New] VCS Label: A3_1F
Check 7.3(10.1/3).

B740003 [Allowed Modification] New VCS Label: A3_1M Org VCS Label: A3_1
Required after 2016-10-01
Modified criteria @75 so that it doesn't look like an error tag to the grading tools; also fixed an overlong line.

B750A01 [Modified] VCS Label: A3_1J
The qualification @129 should be for Lim_Ext, not Lim_Rec.

B750A02 [Modified] VCS Label: A3_1J
The qualification @131 should be for Lim_Ext, not Lim_Rec.

B750A04 [New] VCS Label: A3_1J
Check that only legal expressions are allowed in the qualified expression of an allocator for a limited object.

B750A06 [New] VCS Label: A3_1J
Check that only legal expressions are allowed in the expression

of a simple return statement for a function that returns a limited type.

- C760015 [New] VCS Label: A3_1F
[VCS Label A3_1E] Check that a controlled type can be declared within a subprogram.
[VCS Label A3_1F] Eliminated overlong lines.
- C760015 [Allowed Modification] New VCS Label: A3_1L Org VCS Label: A3_1F
Required after 2016-07-01
[VCS Label A3_1L] Corrected one of the potential results for Subtest2(4) to be "Iafcf", not "IafcF".
- B831004 [New] VCS Label: A3_1G
Check that overriding indicators are properly enforced for types derived from a generic formal type. (Nested generic specification cases.)
- B83F02C [Allowed Modification] New VCS Label: A3_1M Org VCS Label: A3_1
Required after 2016-10-01
Updated many optional error markers to match ACATS standards.
- B840002 [New] VCS Label: A3_1G
Check a package use clause cannot denote a limited view or a non-package.
- C920001 [New] VCS Label: A3_1B
Check activation (and non-activation) of tasks declared as (part of) return objects in extended return statements.
- B95007B [Allowed Modification] New VCS Label: A3_1M Org VCS Label: A3_1
Required after 2016-10-01
Fixed error markers @62,66,70 to match ACATS standards.
- BA12017 [New] VCS Label: A3_1F
[VCS Label A3_1D] Check that a limited with clause is not allowed on a descendant of the named package.
[VCS Label A3_1F] Eliminated overlong line.
- BA15003 [New] VCS Label: A3_1D
Check that a library unit pragma must apply to a library unit.
- CB30001 [New] VCS Label: A3_1C
Check that the optional message parameter is supported in a raise statement, and that the message can be retrieved with Exception_Message.
- BB42001 [Pending New] New VCS Label: A3_1L
Required after 2016-10-01
Check that the arguments of a pragma Assert have to have the correct types.
- CB42001 [Pending New] New VCS Label: A3_1L
Required after 2016-10-01
Check the usual operation of pragma Assert, including the optional message.
- BB42002 [Pending New] New VCS Label: A3_1L
Required after 2016-10-01
Check that the arguments of a pragma Assert cannot be reordered even if named notation is used.

CB42002 [Pending New] New VCS Label: A3_1L
Required after 2016-10-01
Check that if the assertion policy is Ignore, none of the expressions of a pragma Assert are evaluated and no exception is raised by the pragma.

BB42003 [Pending New] New VCS Label: A3_1L
Required after 2016-10-01
Check that a pragma Assertion_Policy is illegal if the policy is not recognized.

CB42003 [Pending New] New VCS Label: A3_1L
Required after 2016-10-01
Check that procedure Ada.Assertions.Assert evaluates its arguments and raises Assertion_Error regardless of the assertion policy.

CC30003 [Modified] VCS Label: A3_1F
Eliminated overlong lines.

CC30004 [New] VCS Label: A3_1F
[VCS Label A3_1B] Check that if a generic actual type is elementary, it is passed by copy within an instance.
[VCS Label A3_1F] Eliminated overlong lines and tab characters.

CC3017C [Withdrawn] Org VCS Label: A3_1B
Replaced by test CC30004.

BC60001 [New] VCS Label: A3_1D
Test rules associated with formal subprogram defaults of null.

CC60001 [New] VCS Label: A3_1H
Check that calls on a formal abstract subprogram are dispatching.

BC60002 [New] VCS Label: A3_1H
Test rules associated with the controlling type of a formal abstract subprogram.

BC60004 [New] VCS Label: A3_1H
Check that a call on a formal abstract subprogram must be dispatching.

CD30008 [Pending New] New VCS Label: A3_1K
Required after 2016-07-01
Renaming of previous test CD33001 (there is no subclause 13.3.3). The test is unchanged other than renaming the units involved and fixing an overlong line.

CD30009 [Pending New] New VCS Label: A3_1K
Required after 2016-07-01
Renaming of previous test CD33002 (there is no subclause 13.3.3). The test is unchanged other than renaming the units involved and fixing an overlong line.

CD33001 [Withdrawn] VCS Label: A3_1K
Renamed to CD30008, as there is no subclause 13.3.3.

CD33002 [Withdrawn] VCS Label: A3_1K
Renamed to CD30009, as there is no subclause 13.3.3.

BD4003A [Allowed Modification] New VCS Label: A3_1M Org VCS Label: A3_1

Required after 2016-10-01

Moved error marker from @66 to @67 so it is on the incorrect construct.

- BDD2004 [New] VCS Label: A3_1A
Check that subprograms specified for stream attributes meet the requirements for such subprograms. This version corrects the location of 'Class @230, 235, 240.
- BDD2004 [Modified] VCS Label: A3_1F
[VCS Label A3_1C] Error @232 is legal by AI12-0121-1.
[VCS Label A3_1F] Eliminated overlong lines.
- CXA4037 [New] VCS Label: A3_1G
Check Ada.Strings.Fixed.Find-Token against rule from 2001 Corrigendum.
- CXA5016 [New] VCS Label: A3_1F
[VCS Label A3_1D] Check operation of attribute Machine_Rounding.
[VCS Label A3_1F] Eliminated overlong lines.
- CXAA021 [New] VCS Label: A3_1D
Check file operations of Text_IO.Bounded_IO.
- CXAA022 [New] VCS Label: A3_1D
Check file operations of Text_IO.Unbounded_IO.
- CXAB002 [New] VCS Label: A3_1D
Check file operations of Wide_Text_IO.Wide_Bounded_IO.
- CXAB003 [New] VCS Label: A3_1D
Check file operations of Wide_Wide_Text_IO.Wide_Wide_Bounded_IO.
- CXAB004 [New] VCS Label: A3_1D
Check file operations of Wide_Text_IO.Wide_Unbounded_IO.
- CXAB005 [New] VCS Label: A3_1D
Check file operations of Wide_Wide_Text_IO.Wide_Wide_Unbounded_IO.
- CXAC008 [New] VCS Label: A3_1J
[VCS Label A3_1D] Check that Stream_IO files opened with mode Out_File are not truncated by Close or Reset.
[VCS Label A3_1E] Corrected required file size in subtest 8, and various failure messages.
[VCS Label A3_1F] Eliminated overlong lines.
[VCS Label A3_1J] Corrected a failure message.
- CXAG001 [New] VCS Label: A3_1F
Check that Ada.Directories can be used to create and delete directories.
- CXAH001 [New] VCS Label: A3_1F
[VCS Label A3_1E] Test that package Environment_Variables can be used to read environment variables.
[VCS Label A3_1F] Added missing Applicability Criteria.
- CXAH002 [New] VCS Label: A3_1F
[VCS Label A3_1E] Test that package Environment_Variables can be used to modify environment variables.
[VCS Label A3_1F] Added missing Applicability Criteria.

CXAI001 [New] VCS Label: A3_1A
Check the functionality defined in package Ada.Containers.Vectors.

CXAI002 [New] VCS Label: A3_1A
Check the functionality defined in package
Ada.Containers.Doubly_Linked_Lists.

CXAI003 [New] VCS Label: A3_1A
Check the functionality defined in package
Ada.Containers.Hashed_Maps.

CXAI004 [New] VCS Label: A3_1A
Check the functionality defined in package
Ada.Containers.Ordered_Maps.

CXAI005 [New] VCS Label: A3_1A
Check the functionality defined in package
Ada.Containers.Hashed_Sets.

CXAI006 [New] VCS Label: A3_1A
Check the functionality defined in package
Ada.Containers.Ordered_Sets.

FXAIA00 [New] VCS Label: A3_1A
Foundation containing types and values to be used to check the
functionality of the indefinite containers.

CXAIA01 [New] VCS Label: A3_1A
Check the functionality defined in package
Ada.Containers.Indefinite_Vectors.

CXAIA02 [New] VCS Label: A3_1A
Check the functionality defined in package
Ada.Containers.Indefinite_Doubly_Linked_Lists.

CXAIA03 [New] VCS Label: A3_1A
Check the functionality defined in package
Ada.Containers.Indefinite_Hashed_Maps.

CXAIA04 [New] VCS Label: A3_1A
Check the functionality defined in package
Ada.Containers.Indefinite_Ordered_Maps.

CXAIA05 [New] VCS Label: A3_1A
Check the functionality defined in package
Ada.Containers.Indefinite_Hashed_Sets.

CXAIA06 [New] VCS Label: A3_1A
Check the functionality defined in package
Ada.Containers.Indefinite_Ordered_Sets.

CXB3017 [New] VCS Label: A3_1B
Check that pragma Export can be used on subprograms and objects.

CXB3023 [Pending New] New VCS Label: A3_1M
Required after 2017-01-01
[VCS Label A3_1K] Check that a value of an unchecked union type
(defined with pragma Unchecked_Union) can be passed to a C
function.
[VCS Label A3_1M] Added missing N/A => ERROR markers.

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Annex C
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[None.]

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Annex D
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[None.]

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Annex E
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[None.]

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Annex F
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[None.]

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Annex G
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CXG2001 [Modified] VCS Label: A3_1B
Formula for Model_Mantissa was replaced in Ada 2005 (and really in the Corrigendum), but was never updated in this test. This only affects machines with decimal floating point.

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Annex H
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[None.]

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Support
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IMPDEF [Modified] VCS Label: A3_1K
[VCS Label A3_1B] Added constants for the external names for the imported and exported routines in test CXB3017. The change is only needed for that test, it has no effect on any other test.
[VCS Label A3_1E] Added constants for the names of environment variables used by tests CXAH001 and CXAH002. Also removed obsolete .AW file constants (these are not used as test source has been provided in UTF-8 format since the release of ACATS 3.0). The change is only needed for those tests, it has no effect on any other tests.
[VCS Label A3_1F] Added a constant and function used by test CXAG001. The change is only needed for that test, it has no effect on any other tests.
[VCS Label A3_1K] Added constants for the external name for the imported routine in test CXB3023. The change is only needed for that test, it has no effect on any other test.

How to get new and modified tests:

The official home of the ACATS test suite is the ACAA web site. It also can be accessed at www.ada-auth.org.

The complete set of official new and modified tests are available in the Mod_3_1M.Zip and Tar files on the ACAA web site.

Individual new and modified tests can be retrieved from the ACATS VCS. Simply navigate to the appropriate directory (folder), and select the test you want. Select the revision you want (usually the most

recent) and it will be retrieved for you. Tests are stored in directories that correspond to the test's prefix. For instance, the test CD92001.A will be found in the CD directory. You can also browse the differences between versions of a test. [In case of a conflict, the files in the ACATS VCS should be considered the 'official' versions.]

If you cannot get the files from the official site or you cannot get the files in a format appropriate for your processor, please contact your ACAL.

The baseline ACATS 3.1 is available in various formats on the ACAA web site.

Summary lists:

Withdrawn Tests

(Refer to the main list for details)

B38105A
B43102A
C62003A
CC3017C
CD33001
CD33002

Allowed Modification Tests

(Refer to the main list for details)

B38003D	2016-10-01	
B3A1001	2016-10-01	[VCS Label A3_1M]
B3A1002	2016-10-01	[VCS Label A3_1M]
B455002	2016-10-01	
B480003	2016-07-01	[VCS Label A3_1L]
B62001C	2016-10-01	
B62001D	2016-10-01	
B740003	2016-10-01	
B83F02C	2016-10-01	
B95007B	2016-10-01	
BD4003A	2016-10-01	
C52101A	2016-10-01	
C760015	2016-07-01	[VCS Label A3_1L]

Modified Tests

(Refer to the main list for details)

B393005
B3A1001 [VCS A3_1B]
B3A1002 [VCS A3_1B]
B750A01
B750A02
BDD2004
C540002
CC30003
CXG2001

IMPDEF [VCS A3_1K]

New Tests

(Refer to the main list for details)

B393011
B3A1007
B3A1008
B3A1009
B3A1A05
B3A2017
B431006
B480002
B480003 [VCS Label A3_1F]
B540002
B640001
B730008
B730009
B730010
B750A04
B750A06
B831004
B840002
BA12017
BA15003
BC60001
BC60002
BC60004
BDD2004
C390012
C391003
C3A1003
C3A1004
C3A2004
C480001
C540001
C620001
C640002
C660001
C760015 [VCS Label A3_1E]
C920001
CB30001
CC30004 [VCS Label A3_1F]
CC60001
CXA4037
CXA5016
CXAA021
CXAA022
CXAB002
CXAB003
CXAB004
CXAB005
CXAC008
CXAG001
CXAH001
CXAH002

CXAI001
CXAI002
CXAI003
CXAI004
CXAI005
CXAI006
CXAIA01
CXAIA02
CXAIA03
CXAIA04
CXAIA05
CXAIA06
CXB3017
FXAIA00

Pending New Tests

(Refer to the main list for details)

BB42001	2016-10-01
BB42002	2016-10-01
BB42003	2016-10-01
C3A0030	2016-10-01
CB42001	2016-10-01
CB42002	2016-10-01
CB42003	2016-10-01
CD30008	2016-07-01
CD30009	2016-07-01
CXB3023	2017-01-01