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# **ZIGBEE ALLIANCE CERTIFICATION POLICY**

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# 111 1 INTRODUCTION

112 This document defines policies related to ZigBee Certified, the certification and testing program of the Zigbee®  
113 Alliance. It describes:

- 114 • The Zigbee Certified Program
- 115 • Types of certification
- 116 • Levels of certification
- 117 • Certification Programs
- 118 • Testing programs and authorized test service providers
- 119 • Golden Units and processes for selection and revision
- 120 • Certification by similarity and guidelines for retesting

## 121 1.1 Scope and Purpose

122 This document defines the Certification Programs supported by Zigbee Alliance. This includes the process and  
123 rules for the entire life cycle of a program including specification validation, testing, grace period, etc. It is not  
124 the intent of this document to define the organizational entities responsible for managing any part of this  
125 process, except those required to be visible outside the Zigbee Alliance, such as the authority to certify and  
126 resolve conflict.

## 127 1.2 Structure of this Document

128 This document first defines processes and rules that are common to many programs. Even in the common  
129 process there are levels and dependencies. After the common Sections, this document then defines each active  
130 program (legacy and current), in terms of requirements and additions to the common process.

## 131 1.3 References

132 This document refers to several other documents related to details of the certification policy.

- 133 13-0625 Technical Structure, Process and Procedures
- 134 08-0123 Test Event Rules of Engagement
- 135 05-3739 Zigbee Certified Logo and Trademark Policy
- 136 08-5185 Qualification and Validation of Test Service Providers
- 137 11-5456 Master Cluster List

## 138 1.4 Abbreviations and Terminology

139 *Table 1 – Abbreviations and Terminology*

<b>Certification Program</b>	A well-defined process, that approves interpretation, validates conformance and interoperability to a set of specifications, and when successfully completed, allows the certification authority to issue a certificate
<b>Certified Product</b>	A Product that has been certified under the Product Certification Program
<b>Compliant Platform</b>	A Platform that has been certified under the Compliant Platform Certification Program
<b>Compliant Platform Certification Program</b>	A Certification Program that validates a Platform for purposes of certification
<b>DUT</b>	Device Under Test

<b>Golden Unit</b>	A Compliant Platform or Certified Product chosen to be used as part of a Program to test interoperability.
<b>GU</b>	Golden Unit
<b>MAC</b>	Media Access Control
<b>ODM</b>	Original Design Manufacturer
<b>OEM</b>	Original Equipment Manufacturer
<b>PHY</b>	Physical Layer
<b>PICS</b>	Protocol Implementation Conformity Statement (list of supported functions)
<b>Platform</b>	An implementation of a Stack
<b>Product</b>	An implementation of a Standard
<b>Product Certification Program</b>	A Certification Program validating a Product for purposes of certification
<b>Program</b>	See Certification Program
<b>RF</b>	Radio Frequency
<b>SKU</b>	Stock Keeping Unit (unique model identifier)
<b>Stack</b>	An approved set of base specifications upon which a Standard is built (e.g. Zigbee PRO, RF4CE, etc.).
<b>Standard</b>	A approved set (or vertical Stack) of specifications, built upon a Stack, defining interoperable behavior, on which interoperable applications can be built (e.g. ZSE, Zigbee 3.0, ZRC, etc.).
<b>Test Event</b>	Organized event to test and validate specification implementations
<b>Test Harness</b>	Test harness that is developed by an authorized test service provider for use in executing testing and approved by Zigbee Alliance
<b>Zigbee Product</b>	Product
<b>Zigbee Standard</b>	Standard

140

## 141 2 ZIGBEE CERTIFIED PROGRAM

142 This Section describes the general process and rules that are common for all Certification Programs.

### 143 2.1 Description

144 Zigbee Certified is the overall program which enables certification of Products and Compliant Platforms that  
 145 conform to Zigbee Alliance Standards. The program defines various types of certifications and related policies  
 146 including requirements for certification and testing programs and leverages the expertise of hundreds of  
 147 engineers and business people to ensure only quality Products earn Zigbee Certified Product status.

148 Zigbee Certified generally follows international Standards for the definition and operation of a Certification  
 149 Program. In particular, Zigbee Certified is designed as a Type 1b Certification Program as defined in ISO/IEC  
 150 Guide 67: 2004. Type 1b systems consist of several types of activities:

- 151 • Determination of Product characteristics: This is achieved through testing of submitted
- 152 samples performed by independent authorized test service providers,
- 153 • Evaluation: This is achieved by formally evaluating the results of testing,
- 154 • Decision: This is the stage that controls granting, maintaining and extending suspending or
- 155 withdrawing certification, and
- 156 • Licensing: Licensing refers to granting, suspending, or withdrawing the rights to use
- 157 certificates or marks such as logos.

## 158 2.2 Testing Versus Certification

159 The Zigbee Certified program maintains a strict distinction between testing and certification. Testing is the  
160 process verifying conformance to Zigbee Standards. Certification is granting official recognition that a Product  
161 conforms to a Zigbee Standards and that a Product manufacturer conforms to all the relevant policies of the  
162 Zigbee Certified program.

163 Only Zigbee Alliance may grant certification.

## 164 2.3 Zigbee Responsibilities

165 The Test and Certification Oversight Committee (TCOC) of the Zigbee Board of Directors shall be responsible  
166 for development of policies related to certification (including this document) and working with the Zigbee  
167 Certification Advisory working group and other technical working groups on certification related issues. The  
168 TCOC is made up of volunteers from members of the Zigbee Board of Directors.

## 169 2.4 Director of Zigbee Certified

170 The Director of Zigbee Certified shall be named by Alliance management and will be responsible for a variety  
171 of functions related to administering the Zigbee certified program including processing of certification  
172 applications, issuing of certificates, consulting with the TCOC on certification and testing policy matters, and  
173 interpreting certification policies on a day-to-day basis.

174 In accordance with ISO/IEC Guide 65, the Director of Zigbee Certified has decision making authority in regard  
175 to granting certifications and other related tasks.

## 176 2.5 Expert Review Panel

177 The Expert Review Panel is a team of volunteers from member companies nominated by the Certification  
178 Advisory working group and approved by the TCOC. The Panel provides expert technical advice to the Zigbee  
179 Certified program. The function of the Panel is defined in document 08-5185 “Qualification and Validation of  
180 Test Service Providers”. An up-to-date list of the current Panel members is maintained at the front of the  
181 Certification Advisory working group meeting minutes document.

182 Aside from their role in validation of test service providers, the Expert Review Panel may be called on from  
183 time to time to provide other expert advice in regard to other matters such as review of test plans, review of  
184 interoperability concerns discovered in the field or to assist the Director of Zigbee Certified in resolution of  
185 disputes.

## 186 2.6 Appeals

187 The Zigbee Alliance has a procedure for the resolution of issues regarding the granting of certification.

188 Certification applicants may appeal a decision regarding certification if they believe this certification policy was  
189 applied in error. The basis of the appeal shall be (1) a specific concern about the misapplication of the policy, or  
190 (2) an error on the part of an authorized test service provider or the Director of Zigbee Certified.

### 191 2.6.1 Appeals Process

192 The process for appeals shall be:



- 193 • Applicant shall send an appeal request to certification@zigbee.org. The request shall  
194 document the issue, the specific basis of the appeal and the corrective action requested.  
195
- 196 • Acknowledgement of receipt of the appeal by either the Director of Zigbee Certified or the  
197 President and Chief Executive Officer of Zigbee Alliance shall be provided.  
198
- 199 • The Director of Zigbee Certified and the President and Chief Executive Officer of Zigbee  
200 Alliance shall consider the appeal.  
201
- 202 • A preliminary decision shall be made either to have Zigbee Alliance take corrective action or  
203 to reject the appeal.  
204
- 205 • If corrective action by Zigbee Alliance is to be taken, the Director of Zigbee Certified or the  
206 President and Chief Executive Officer of Zigbee Alliance shall implement the corrective  
207 action.  
208
- 209 • If the appeal is proposed for rejection, the appeal shall be forwarded to the Appeals  
210 Committee for consideration.  
211
- 212 • A report on the status of the appeal shall be given to the applicant.  
213
- 214 • The Appeals Committee shall consider the appeal.  
215
- 216 • A decision shall be made either to have Zigbee Alliance take corrective action or to reject the  
217 appeal.  
218
- 219 • If corrective action by Zigbee Alliance is to be taken, the Director of Zigbee Certified or the  
220 President and Chief Executive Officer of the Zigbee Alliance shall implement the corrective  
221 action.  
222
- 223 • If the appeal is rejected, the specific basis for rejection shall be documented.  
224
- 225 • A report on the final disposition of the appeal shall be given to the applicant by either the  
226 Director of Zigbee Certified or the President and Chief Executive Officer of Zigbee Alliance.

227 All parties shall treat any information related to an appeal as confidential information during the process.

## 228 2.6.2 Appeals Committee

229 The Zigbee Alliance shall have a committee to address appeals. The Appeals Committee shall consist of the  
230 Chief Executive Officer of the Alliance, the chairperson of the TCOC and a representative of each authorized  
231 test service provider. The Chief Executive Officer of the Alliance shall act as chairperson of the Appeals  
232 Committee.

233 In order to insure the impartiality of the appeals process, any member of the Committee who may have any  
234 conflict of interest with the party making the appeal shall disclose the conflict. The member will not be allowed  
235 to vote or participate in Committee activities regarding the appeal. Conflicts of interest are defined as, at a  
236 minimum, a financial or competitive relationship with the appealing party. The Committee members themselves  
237 shall decide if other issues are conflicts of interest.

## 238 2.7 Levels of Certification

239 The Zigbee Alliance offers two levels of Standards compliance –Compliant Platform and Certified Product.

### 240 2.7.1 Compliant Platform

241 The Zigbee Compliant Platform program defines a rigorous evaluation and certification process for a Platform  
242 before it can be certified as a Compliant Platform and engineered into a Product. Each Platform is comprised of

243 a radio and a microprocessor with storage running Zigbee firmware. The Platform is tested for compliance to a  
244 set of Zigbee specifications (See Section 6 (Certification Programs)).

245 This program ensures the supply chain has a solid foundation for Products destined for personal or commercial  
246 use. Successfully completing this testing allows the member to have its Platform recognized by the Alliance as a  
247 Compliant Platform.

## 248 2.7.2 Certified Product

249 A Certified Product program defines the testing requirements and a process to validate a Product's conformance  
250 to a Standard (See Section 6 (Certification Programs)). The Product must be fully compliant to the Standard(s)  
251 and successfully execute all mandatory and implemented optional commands. Successful certification allows  
252 the Product to be recognized by the Alliance as a Certified Product and use a Certified Product logo. A  
253 Compliant Platform is a fundamental building block of a Certified Product. With few exceptions (defined in this  
254 document), the use of a certified Compliant Platform is a mandatory prerequisite to assessment as a Certified  
255 Product.

## 256 2.8 Requirements for Certification

257 Certification may be awarded based on a Product's successful completion of the process defined in a Certified  
258 program (See Section 6 (Certification Programs)).

### 259 2.8.1 Membership

260 To submit a Product for certification or compliance testing and to be granted certification, a company must be a  
261 member in good standing of the Zigbee Alliance. The Alliance has several different types of membership which  
262 are documented on its web site: <http://www.zigbee.org>.

### 263 2.8.2 Conformance to Standard

264 Conformance is verified by testing performed by an authorized test service provider and demonstrated by a test  
265 report documenting successful completion of the entire test plan including all test cases for mandatory features  
266 and test cases for any implemented optional features as identified by the PICS. The test service providers shall  
267 report any information relevant regarding the Product's conformance to a Standard in the test report.

### 268 2.8.3 Documentation of Product

269 The Zigbee Alliance shall require information sufficient to identify a Product before granting certification  
270 including:

- 271 1) Declaration of Conformity (DoC or DOC):
  - 272 a) Version numbers of Product hardware, software, and firmware
  - 273 b) For a Product, a Stock Keeping Unit (SKU) and/or Universal Product Code
  - 274 c) For a Product, the Compliant Platform upon which the Product is based
  - 275 d) Signature of a representative of the Product manufacturer
  - 276 e) Signature of a representative of the authorized test service provider performing Product testing
  - 277
- 278 2) Protocol Implementation Conformance Statements (PICS):
  - 279 a) including mandatory and optional features supported by the Product
  - 280
- 281 3) Non-declaratory information that is also requested:
  - 282 a) Product description
  - 283 b) Product photo

## 284 2.9 Process for Certification

285 The certification process begins after the manufacturer completes development of the Product to be certified.

286 **Testing:** Testing for conformance to a Standard is performed by Alliance authorized test service  
287 providers using test plans developed by the Alliance. The Alliance maintains a list of authorized test  
288 service providers on its web site at <http://www.zigbee.org>. Each test service provider has a process for  
289 Product submission and will provide details on how to submit Products. All test service providers will  
290 require submission of a Declaration of Conformity and a Protocol Implementation Conformance  
291 Statement for the submitted Product. In order to successfully pass test plans, a Product must pass all  
292 mandatory test cases and any optional test cases that are applicable to the Product based on the  
293 functionality it supports. In addition to the explicit functionality being checked by the test cases, the  
294 submitted Product must not exhibit any behavior which is contrary to the behavior detailed in the  
295 underlying specifications, in order to be considered to have passed a test plan.

296  
297 **Reporting:** Test service providers will submit test results directly to the Alliance.

298  
299 **Application:** The Alliance grants certifications based on an application. The application is web based  
300 and is available in the Member's Area of <http://www.zigbee.org> and consists of the information  
301 described in Section 2.8.3 above.

302  
303 **Processing:** The Alliance staff processes applications under the direction of the Director of Zigbee  
304 Certified. Applications are processed for completeness to all requirements as described in Alliance  
305 policies including:

- 306 • Submission of all required documentation
- 307 • Membership in the Alliance
- 308 • Completion of testing
- 309 • Payment of applicable fees

310  
311 **Certification:** Only Zigbee Alliance may grant certification and a Product is only certified when the  
312 Alliance issues certification. The Alliance will issue certificates as evidence of successful certification.

313 A test service provider may occasionally submit non-compliant results to the Director of Zigbee Certified for  
314 him/her to make a decision on the issue of certification.

## 315 2.10 Certificates

316 The Zigbee Alliance shall provide a certificate which will serve as evidence that a particular Product is Zigbee  
317 Certified.

## 318 2.11 Logo Usage

319 The Zigbee Alliance owns the trademarks and logos that may be used to identify various Products that are  
320 Zigbee Certified.

321 Use of any Zigbee Alliance trademarks and logos, including for labelling Products as certified by Zigbee  
322 Alliance is limited to Zigbee members and is subject to the Zigbee Alliance Trademark and Logo Usage  
323 Guidelines and Terms available at [www.zigbee.org](http://www.zigbee.org).

## 324 2.12 Length of Certification

325 Once a Product is certified, it remains certified for the lifetime of the Product unless Zigbee Alliance revokes the  
326 certification or the Product is modified.

327 Modifications include any changes to the Product. However, not all modifications will require retesting of a  
328 Product in order to be certified. The Alliance maintains guidelines about modifications that require retesting and  
329 will determine whether retesting is required for any particular modification.

330 For complete information, refer to Section 3.6 (Certification by Similarity).

## 331 2.13 Revocation of Certification

332 The Zigbee Alliance may also revoke certification or participation in the certification process if one or more of  
333 the following occurs:

- 334 • A Product is found to be hazardous as defined in ISO Guide 27-1983.  
335
- 336 • The manufacturer has made any material misstatement of fact, or omission of fact, to the  
337 Alliance or its authorized test service providers.  
338
- 339 • The manufacturer fails to follow all Alliance certification requirements.  
340
- 341 • The manufacturer fails to use Zigbee Alliance trademarks and logos in accordance with the  
342 Zigbee Alliance Trademark and Logo Usage Guidelines and Terms available at  
343 [www.zigbee.org](http://www.zigbee.org). Examples of failure to use in accordance with the Zigbee Alliance  
344 Trademark and Logo Usage Guidelines and Terms include (but are not limited to)  
345 misapplying logos/icons, and using logos with Products that have not been certified.  
346
- 347 • The manufacturer has engaged in any form of misconduct which compromises the integrity of  
348 Zigbee Alliance or the Zigbee Certified program.  
349
- 350 • The manufacturer leaves Zigbee Alliance and continues using logos, trademarks or any other  
351 Zigbee Alliance branding.  
352
- 353 • The member is in violation of the member agreement, other agreement with Zigbee Alliance,  
354 or a Zigbee Alliance policy or procedure.

355 Prior to revoking any certification, the Alliance shall notify the manufacturer with details and steps needed to  
356 resolve issues and take corrective action. After revocation, and the manufacturer made corrective action and  
357 successfully resolve all issues, the Alliance may, at its discretion, restore the certification or issue a new  
358 certification.

359 Corrective action shall follow ISO Guide 27-1983 “Guidelines for corrective action to be taken by a certification  
360 body in the event of misuse of its mark of conformity”.

## 361 2.14 Testing and Certification Fees

362 There are two fees associated with the Zigbee Certified program: testing and certification.

363 Testing fees are set by the individual authorized test service providers.

364 Certification fees are set by Zigbee Alliance and vary based on the type of membership in the Alliance. The  
365 current fee schedule is available at <http://www.zigbee.org> or by contacting the Alliance.

# 366 3 TESTING

367 This Section defines the process for testing that is common to Certification Programs and the final development  
368 of Certification Programs. Testing for conformance to Zigbee Standard or Stack is performed by Alliance  
369 authorized test service providers using test plans developed by the Alliance.

## 370 3.1 Test Plans

371 The test plan must, at a minimum, cover all PICS related items. This must be confirmed by means of a PICS-to-  
372 Test-Case mapping. The test plan will undergo standard approval as part of the process detailed in Policies &  
373 Procedures (document 13-0625) before formal release. In order to be finalized, and approved, a test plan must  
374 undergo validation at a Specification Validation Event (SVE). More details regarding the SVE can be found in

375 document 08-123 Test Event Rules of Engagement. Features that are certifiable are listed in document 11-5456  
376 Master Cluster List.

377 The Zigbee Alliance will maintain the list of current test plans, associated PICS, any errata on the Zigbee  
378 Alliance website.

## 379 3.2 Authorized Test Service Providers

380 The Zigbee Alliance authorizes independent test service providers to administer the testing associated with the  
381 Zigbee Certified program. The process for selecting and qualifying test service providers is maintained in  
382 document 08-5185.

383 The current list of authorized test service providers is maintained at the Alliance web site:  
384 <http://www.zigbee.org>.

## 385 3.3 Test Harness

386 A Test Harness is an automated test tool that is designed to execute a defined test procedure and deliver  
387 Pass/Fail decision based on the observed behavior of a Device Under Test based on well-defined criteria. Test  
388 harnesses could be in use in the various Zigbee Certified test programs.

### 389 3.3.1 Zigbee Alliance Test Harness

390 The Zigbee Alliance may have a Test Harness developed for use in one or more of its Certification Programs  
391 defined in this document. Where the Alliance has its own Test Harness, this harness shall be the one official  
392 Test Harness used by all authorized test service providers in the execution of testing activities for the given  
393 Certification Program.

394 Maintenance of a Zigbee Alliance Test Harness and associated test scripts is managed, updated and validated  
395 through existing Zigbee Alliance processes (supported by member efforts).

### 396 3.3.2 Test House Test Harness

397 Where there is no applicable Zigbee Alliance Test Harness available for a given Certification Program,  
398 Authorized Test Service Providers may (at their own discretion) create Test Harnesses (or other test tools) for  
399 the execution of the testing procedures associated with the given program. The Zigbee Alliance shall have  
400 access to these Authorized Test Service Provider developed testing tool(s) for the sole purpose of auditing the  
401 service provider's conformance to the test validation procedures (See document 08-5185).

## 402 3.4 Requirements for Testing

### 403 3.4.1 Compliant Platform Testing

404 The guidelines for Compliant Platform testing are as follows:

- 405 • Platforms submitted for testing must be built on compliant IEEE 802.15.4 PHY/MAC layers,  
406 Compliance to IEEE 802.15.4 shall be determined by successful completion of the testing requirements  
407 described on document 14-0332 (Zigbee IEEE 802.15.4 Level Test Specification) at one of the Zigbee  
408 authorized test service providers,
- 409 • Manufacturers must provide any technical support structure required to assist in the implementation of  
410 their Product into the test environment,
- 411 • The test is non-destructive and will be applied using the functionalities given by the specific Platform  
412 tested, and
- 413 • Test service providers can provide more information.

414

### 415 3.4.2 Certified Product Testing

416 The guidelines for Certified Product testing are:

- 417 • A Product submitted for testing must be built on a certified Compliant Platform,
- 418 • Manufacturers must provide any technical support structure required to assist in the implementation of  
419 their Product into the test environment,
- 420 • The test is non-destructive and will be applied using the functionalities given by the Product tested,
- 421 • Test service providers can provide more information, and
- 422 • For the purposes of testing test (security) certificates are to be used.

### 423 3.4.3 Testing Samples

424 Manufacturer applying for certification must leave at least one sample of the Device Under Test (DUT), if  
425 required by the test service provider to satisfy ISO17025. These samples will be used for traceability and  
426 reference in case of future contention of results or when deemed necessary. A sample consists of:

- 427 • Exact hardware that the device will be certified on,
- 428 • Same firmware as the one the DUT passed the certification testing on, and
- 429 • Any software/tools pertaining to the device and its certification necessary to reproduce the test plan  
430 testing.

431 In the case where the test service provider in question already has the hardware configuration (from previous  
432 certification or otherwise), and if the test service provider has the tools (both hardware and software) needed to  
433 flash new firmware onto the devices, a manufacturer may simply send the test service provider a copy of the  
434 new firmware as the sample for the DUT.

## 435 3.5 Reporting of Test Results

436 Authorized test service provider shall report results of successful tests directly to Zigbee Alliance. Unsuccessful  
437 test results are not reported to the Alliance unless an application for certification has been made and the Alliance  
438 requests reporting of test results.

439 The test reports shall conform to reporting as defined by ISO/IEC 17025:2005 Section 5.10 and at a minimum  
440 shall include:

- 441 • Test Information: Location and dates of testing, any tracking or other information necessary to  
442 trace results such as test project numbers, responsible testing engineer,  
443
- 444 • Tested Device: Company, address, contact information, Product name, hardware and software  
445 Product versions, serial number, Zigbee device type, and other information necessary to  
446 identify the device,  
447
- 448 • Type of Test: Compliant Platform, or Certified Product,  
449
- 450 • Standards: Name and version information,  
451
- 452 • Test Plan: documentation of Test Plan and version numbers used or a list of test cases if a  
453 complete test plan is not used,  
454
- 455 • Test Equipment: Documentation of any equipment used in the test including Test Harness,  
456 script, sniffers, GUs, and other information necessary to identify the testing equipment  
457 including version information,  
458
- 459 • Test Results: List of individual tests conducted with individual test results,

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- Test Results Summary: Overall Pass / Fail,
- Test Results Observations: Observations outside the scope of the test cases, and
- Signatures: Test engineer, any reviewer or quality engineers.

### 466 3.6 Certification by Similarity

467 The Zigbee Alliance offers a Certification by Similarity program. The program allows a Product that is derived  
468 from a previously tested and certified Product to be considered for certification based on its similarity to the  
469 tested certified Product depending on the differences between the two. The purpose of the program is to speed  
470 time-to-market and to minimize costs.

471 For complete information on this process See Section 7 (Certification by Similarity).

### 472 3.7 Testing Events

473 A Zigbee Alliance Test Event is defined in document 08-0123 Test Event Rules of Engagement.

### 474 3.8 Features Not Previously Certified

475 A feature that has not been previously tested during an official specification Test Event cannot be certified. A  
476 feature is defined as an attribute of an implementation such as support for a particular cluster in a Zigbee  
477 Alliance Standard. A feature becomes validated (and therefore testable and certifiable) only when the following  
478 condition(s) are satisfied:

479 Three separate implementations of the feature must be tested against three separate implementations of the  
480 complementary side of that feature (e.g. server against client) through Zigbee Alliance:

- 481 • One of the implementations, but no more than one, may be a Test Harness from an authorized test  
482 service provider.
- 483 • A “separate implementation” is defined as an implementation developed independently from other  
484 implementations by a different member of Zigbee Alliance.
- 485 • When a test case is testing the handling of illegal or non-standard behaviour the requirement to test  
486 against three implementations is relaxed and testing against a single implementation (Test Harness or  
487 Golden Unit) that exhibits the non-standard behaviour is acceptable. Otherwise the requirement is to  
488 test against three implementations.
- 489 • The testing described above will be subject to the same rules and requirements as Specification  
490 Validation Events, defined in document 08-0123 Test Event Rules of Engagement.
- 491 • Once all testing is complete, the specifications for which the testing has been done shall be updated to  
492 reflect the change.
- 493 • In order for a device using a previously non-certifiable feature to become certified, all requirements for  
494 certification must be met including successful completion of the entire test plan as described in this  
495 policy.
- 496 • If three separate implementations are not available for testing, the feature cannot be validated. A device  
497 implementing that feature may not be certified and the manufacturer has a choice to either:
  - 498 • Wait for the other implementations to become available
  - 499 • Certify the rest of the Product and identify the non-certifiable feature(s) as Manufacturer Specific  
500 (i.e., cluster ID, profile ID , command ID, or other Zigbee Alliance approved method)
  - 501
  - 502

503

## 504 4 GOLDEN UNIT

505 A Golden Unit (GU) is a Compliant Platform or a Certified Product that is designated as reference instantiation  
506 of the specification(s) it implements. A GU is a specific combination of hardware, software, firmware and/or  
507 errata including revision numbers for each. GUs represent an important infrastructure for Zigbee Certification  
508 Programs.

509 GUs are used to test against Platforms and Products during the testing leading towards certification.  
510 Specifically, they are used for:

- 511 • Evaluating the expected behavior of the device under test (DUT)
- 512 • Testing the DUT for interoperability and conformance to the test specification

513 When the specification is silent or ambiguous, the behavior of the GUs will be used as the reference for  
514 evaluating the expected behavior of the device under test.

515 GU providers are Zigbee Alliance members and are likely to have been actively involved in creation of the  
516 relevant specification and have been actively participating in the interoperability testing series in vendor-neutral  
517 environments. This represents a significant commitment by the GU manufacturers.

### 518 4.1 Golden Unit Selection

519 For each release of a specification, the following procedure will be used to establish GUs for that release.

520 The Zigbee Alliance will announce a specification release interoperability testing series associated with the  
521 development of a new standard specification or the revision of an existing one. This interoperability testing  
522 series will constitute the GU selection round. During the development process for new (or revised)  
523 specifications there are three phases of testing:

- 524 Phase 1. Proof of Concept & Interoperability Test Events – These events are held while the test  
525 plan is being developed and implemented to proof concepts being considered for  
526 inclusion in the specification and to begin testing and validation of early  
527 implementations.
- 528 Phase 2. Gating Test Events – These events mark the end of the Proof of Concept &  
529 Interoperability Test Events. Participation at all prior Gating Test Events is required to  
530 continue participating in subsequent Gating Test Events. A variety of Gating Test  
531 Events may be scheduled.
- 532 Phase 3. Specification Validation Event(s) (SVEs) – This is the final Gating Test Event where  
533 participants must test all mandatory features. Attendance at each Gating Test Event is  
534 required to participate in the SVE. Participation in a SVE implies a desire to become a  
535 Golden Unit.

538 Upon completion of the three phase testing series, implementations which have successfully completed the  
539 series will be eligible for certification provided that all testing requirements have been met at the final SVE.

540 Participation in the Specification Validation Event does not guarantee being selected as a GU. Implementations  
541 become GUs after completing certification and the Director of Zigbee Certified confirms in writing the GU  
542 candidate provider's conformance to Section 4.2 Manufacturer Commitments as a Golden Unit Provider.

543 The Director of Zigbee Certified shall select the GU candidates. The selection will be made from  
544 implementations that participated in the SVE with preference given to those that tested against the most  
545 implementations.

546 An additional requirement in becoming a GU provider is that the test service provider provides the GU test logs  
547 to Zigbee Alliance which will post them to the document server. The Director of Zigbee Certified will work  
548 with the manufacturer in making the test log files anonymous.



549 During the GU selection process, GU candidates will be notified by the Director of Zigbee Certified with  
550 regards to any outstanding items required regarding their implementation in order to finalize its certification and  
551 complete its selection as a GU. GU candidate providers will be provided with a timeframe by which all  
552 outstanding items must be completed by in order for their GU candidacy to remain valid. The timeframe for  
553 outstanding item completion will be the same for all GU candidates.

554 Upon the conclusion of the timeframe allowed for completion of outstanding items, the Director of Zigbee  
555 Certified will make final GU selections from those candidates that successfully completed all outstanding items.  
556 If there is an insufficient number of candidates within the prescribed timeframe, the Director of Zigbee Certified  
557 may extend the timeframe, which extension shall be applicable to all GU candidates. For purposes of  
558 determining an appropriate number of candidates, the Director of Zigbee Certified will make such determination  
559 based on the guidelines set forth in this policy.

560 Once the timeframe has expired (including any extensions), provided there are a sufficient number of GUs  
561 selected, the Director of Zigbee Certified will provide written notice to GU candidates that the GU selection  
562 process is closed. Any GU candidate who failed to complete its outstanding items by the date of the notice will  
563 not be eligible for selection as a GU. The Zigbee Alliance member that proposed such failed GU candidate is  
564 eligible to participate in future specification revisions in accordance with the terms and conditions in this policy.

565 GUs must be established and provided to the test service providers before a Certification Program can be open  
566 to the Zigbee Alliance general membership. The approved test service providers will then be in a position to  
567 commence testing of additional implementations as part of the certification process. A test program may not  
568 begin until GUs have been selected and provided to the test service providers.

## 569 4.2 Manufacturer Commitments as a Golden Unit Provider

### 570 4.2.1 Requirements for Compliant Platforms Golden Units

571 Manufacturers of GUs used for Compliant Platform testing shall:

- 572 • Implement all mandatory and optional functions;
- 573
- 574 • Act as a Zigbee Coordinator, Router and End Device;
- 575
- 576 • Support all device operations (*e.g.*, Zigbee Trust Centers, Network Managers, etc.);
- 577
- 578 • Allow for negative testing (*i.e.*, be able to produce stimulus that is incorrect, or in error, with
- 579 respect to the Platform specification) as required by the test specification;
- 580
- 581 • Provide a clearly documented interface, including descriptive operational documentation,
- 582 which enables the running of all test cases and the test specification;
- 583
- 584 • Maintain Compliant Platform status for that device, so long as the specification to which that
- 585 device applies to is in effect, See Section 4.3;
- 586
- 587 • Provide technical support to the Zigbee authorized test service providers for its ongoing use as
- 588 a GU;
- 589
- 590 • Provide to each Zigbee authorized test service provider, free of charge, as many units as
- 591 specified by the Director of Zigbee Certified . The Zigbee authorized test service providers
- 592 may unpack, power on and test (*e.g.*, smoke test) each of the units prior to confirming to the
- 593 Director of Zigbee Certified that the units have been delivered; and
- 594
- 595 • Make available additional GUs (to Zigbee authorized test service providers) for the purposes
- 596 of breakage replacement (free of charge) and for additional purchase.

597 **Written Confirmation of the Director of Zigbee Certified Required to Become GU** – Implementations  
598 become GUs only after the Director of Zigbee Certified confirms in writing to the applicable manufacturer that  
599 such implementation has completed certification, has successfully completed all the items in Sections 4.1 and

600 4.2 and is a GU. No GU applicant may publicize, represent, reference, state or otherwise claim to have a GU or  
601 be the manufacturer of a GU except with respect to the specific GU implementation for which the Director of  
602 Zigbee Certified has delivered a written confirmation as set forth above.

## 603 4.3 Updating Golden Units

### 604 4.3.1 Conditions for Updating Platform Golden Units

605 Updating of the GUs shall be determined by the Director of Zigbee Certified. Circumstances warranting  
606 updating a GU include:

- 607 • Approval of Change Control Board comments (CCB) that affect the behavior of the GUs
- 608 • Revision to the specification, test specifications or PICS document that affect the behavior of  
609 the GUs
- 610 • Errors or bugs are found in the GU
- 611 • A GUs is not available anymore (discontinued, etc.)

### 612 4.3.2 Process of Updating Platform Golden Units

613 If an update is deemed necessary, Zigbee Alliance shall send an official note to the GU manufacturer as well as  
614 test service providers detailing the following:

- 615 • Reasons for the need to update
- 616 • Timeline to update
- 617 • All supporting information/documentation to update (example: new specification revision,  
618 CCB references, specific bugs to fix, etc.)

619 Once the manufacturer implements the needed changes, the new revision(s) of the GUs need to be revalidated.  
620 Revalidation of a Golden Unit requires successful testing completion according to the retest requirements for  
621 Compliant Platform as described in Section 7 (Certification by Similarity). To the end of revalidating Golden  
622 Units, there are two possibilities:

- 623 • Set a Test Event for the manufacturers and test service providers to attend and verify the  
624 changes. This Test Event shall be only open to those GU manufacturers and the test service  
625 providers. At least one test service provider shall attend that event.
- 626 • Send the new revision(s) of the GUs to all test service providers who will then test them  
627 internally and submit the results to Zigbee Alliance.  
628

629 If the result of the testing is considered a pass the new revisions will then be officially accepted as the new GUs  
630 and the official list of GUs pertaining to that specification must be modified to reflect the changes.

631 The manufacturers shall then send the new GUs to all test service providers (in case of a firmware upgrade,  
632 sending the revised firmware would be sufficient as long as test service providers have the tools to upgrade the  
633 firmware on their units). At that point, the new GUs shall replace the old ones in official testing at the test  
634 service providers.

635 Note that in case that new hardware is needed, the number of GUs to be sent to test service providers shall be  
636 determined by the Director of Zigbee Certified.

637 If a GU manufacturer cannot update their units within the timeline specified by the Director of Zigbee Certified,  
638 the Director of Zigbee Certified can then decide to make a new request for a GU to replace that specific  
639 Platform/device.

640 Any Golden Unit going through the revalidation process, shall be removed from the active rosters of Golden  
641 Units until the revalidation process is successfully completed and all necessary updates (HW and/or SW) have  
642 been completed at all test service providers and shall not be used in the testing of units for the applicable  
643 Standard.

## 644 5 MODIFICATIONS AND REVISIONS

645 This Section described the process and requirements for certification when a Product has already been certified.

### 646 5.1 Modification of Products

647 Certification is awarded to particular version of a Product. Any modification to that Product will result in a new  
648 version and that version may not claim certification without going through the Zigbee Certified program.

649 The new version of the Product may not require testing in order to be certified. Changes that affect conformance  
650 to the Standard (hardware, firmware or software changes) will usually require testing. The Alliance maintains  
651 requirements for testing of changes to Products. For complete information, See Section 7 (Certification by  
652 Similarity).

653 The original version of the Product retains certification for the life of the Product, unless revoked by action of  
654 the Alliance.

### 655 5.2 Revisions to Specifications

656 In the interests of continuous improvement in the quality of the compliance program, Zigbee Alliance may, from  
657 time to time, change the compliance testing procedures through a change to a test plan. Because a Product's  
658 certification is good for the life of the Product, there will be no requirements for manufacturers to go through  
659 certification again. However, Zigbee Alliance encourages manufacturers to resubmit their devices to test service  
660 providers for verification of compliance to those changes.

661 The Zigbee Alliance will maintain records sufficient to identify the version of a test plan under which certified  
662 Products were tested.

#### 663 5.2.1 Grace Period for Testing

664 When a test plan or specification is revised, Zigbee Alliance will declare a grace period during which  
665 manufacturers in their development cycles can still certify to an old test plan and specification. However, after  
666 the grace period is over, all devices going through certification must be tested against latest test plan and  
667 specification.

668 The work group creating the Standard will recommend a grace period for revisions affecting Products to be  
669 approved by the appropriate Technical Sub-Committee, the Marketing work group and the Board Stratcom  
670 when the specification has reached 1.0 status. This grace period will be based on the amount of changes  
671 introduced by the new specification and the current state of deployment of devices based on the previous version  
672 of the specification or similar considerations. The default grace period if the work group does not recommend a  
673 change is 6 months.

#### 674 5.2.2 Major Revisions Affecting Interoperability

675 In exceptional circumstances, Zigbee Alliance reserves the right to mandate resubmission of Compliant  
676 Platforms for testing against a revised Compliant Platform test plan. This may occur, for instance, where a  
677 serious deficiency in the test plan or process is uncovered, leading to Platform interoperability issues. In the  
678 event that the Alliance mandates such resubmission and the manufacturer fails to successfully complete such  
679 testing within the time specified by the Director of Zigbee Certified, the Alliance may move to revoke  
680 certification of the Compliant Platform.

681

682

683

## 684 6 CERTIFICATION PROGRAMS

685 This Section describes existing Certification Programs, in terms of requirements and additions to the common  
 686 process. Except where noted, each Product or Compliant Platform Certification Program uses the common rules  
 687 and process described in the previous Sections. When there is a choice of options (i.e. Golden Units or no  
 688 Golden Units), or dependencies (e.g. Platform vs. Product) then this is described here.

### 689 6.1 Zigbee PRO Stack

690 The Zigbee PRO Stack may be used under a number of Standards. Each Standard specifies the Stack revisions  
 691 that it requires, or at least the minimum required.

#### 692 6.1.1 Zigbee PRO Compliant Platform Certification Program

693 The Platform implementation SHALL conform to these Stack specifications as appropriate to the declared  
 694 PICS:

- 695 • 802.15.4 2011 or later as required by the Zigbee PRO specification
- 696 • Zigbee PRO specification
- 697 • Zigbee Green Power Proxy Basic and all other Zigbee Green Power components remain as optional  
 698 features of the Zigbee PRO specification.
  - 699 ○ Any Platform which implements any of the Zigbee Green Power features (including Proxy  
 700 Basic) will be subject to ALL applicable testing.
  - 701 ○ Upon successful completion of the certification process, Platforms implementing any Zigbee  
 702 Green Power feature will be identified as such in the Compliant Platform listing on the  
 703 Alliance's public website.

704  
 705 The program SHALL be defined by the following Sections, and specific Sections that pertain to a Compliant  
 706 Platform (not a Product):

- 707 1) Section 2 Zigbee Certified Program
- 708 2) Section 3 Testing
  - 709 a. Including Section 3.3.2 Test House Test Harness, but not 3.3.1 Zigbee Alliance Test Harness
- 710 3) Section 4 Golden Unit
- 711 4) Section 5.2 Revisions to Specifications
  - 712 a. The grace period SHALL be recommended by the work group as part of the 1.0 approval.

#### 713 6.1.2 Legacy Profile Product Certification Program

714 A legacy Profile Standard is built upon the Zigbee PRO Stack. A Product implementation SHALL be built upon  
 715 a Zigbee PRO Compliant Platform and conform to the Zigbee PRO Stack specification revision as required by  
 716 the Profile Standard:

717 The Product implementation SHALL conform to these Standard specifications as appropriate to the declared  
 718 PICS:

- 719 • Zigbee Cluster Library
- 720 • A legacy Profile Standard, such as ZHA, ZSE, ZLL, ZBA, etc.

721 The program SHALL be defined by the following Sections that pertain to a Certified Product (not a Platform):

- 722 1) Section 2 Zigbee Certified Program
- 723 2) Section 3 Testing
  - 724 a. Including Section 3.3.2 Test House Test Harness, but not 3.3.1 Zigbee Alliance Test Harness
- 725 3) Section 4 Golden Unit
- 726 4) Section 5.2 Revisions to Specifications
  - 727 a. The grace period SHALL be recommended by the work group as part of the 1.0 approval.

728 *Note: After the grace period following the release of Zigbee 3.0 Standard, there will only be a Legacy Profile*  
729 *Product Certification Program for Zigbee Smart Energy (ZSE).*

### 730 6.1.3 Zigbee 3.0 Product Certification Program

731 The Zigbee 3.0 Standard is built upon the Zigbee PRO Stack. A Product implementation SHALL be built upon a  
732 Zigbee PRO Compliant Platform and conform to the Zigbee PRO Stack revision as required by the Zigbee 3.0  
733 Standard:

734 The Product implementation SHALL conform to these Standard specifications as appropriate to the declared  
735 PICS:

- 736 • Application Architecture
  - 737 • Base Device Behavior specification
  - 738 • Green Power specification requirements for a Zigbee Router (Green Power Basic Proxy)
- 739 a. Zigbee Green Power Proxy Basic is a mandatory feature for all Zigbee 3.0 routing capable  
740 devices. However,
- 741 i. If the Zigbee 3.0 routing capable Product was built using a Zigbee Pro Compliant  
742 Platform which implements (and was properly certified for) the Zigbee Green Power  
743 Proxy Basic feature and it has not been modified, the Zigbee 3 Product will only be  
744 subject to a SINGLE Zigbee Green Power Proxy Basic test case as follows:
    - 745 1. Test Case 5.3.1.4 if the Compliant Platform used was certified before  
746 August 1, 2017
    - 747 2. Test Case 5.4.1.23 if the Compliant Platform used was certified on or after  
748 August 1, 2017
  - 749 ii. If the Zigbee 3 routing capable Product was built on a Zigbee PRO Compliant  
750 Platforms which DOES NOT implement the Zigbee Green Power Proxy Basic  
751 feature or HAS NOT been properly certified for it (or it has been modified), then the  
752 Product is subject to ALL applicable Zigbee Green Power Proxy Basic test cases.
- 753 • Zigbee Cluster Library
  - 754 • One or more application device specifications

755 The program SHALL be defined by the following Sections that pertain to a Certified Product (not a Platform):

- 756 5) Section 2 Zigbee Certified Program
- 757 6) Section 3 Testing
  - 758 a. Including Section 3.3.1 Zigbee Alliance Test Harness, but not 3.3.2 Test House Test Harness
- 759 7) Section 5.2 Revisions to Specifications
  - 760 a. The grace period SHALL be recommended by the work group as part of the 1.0 approval.

### 761 6.2 Green Power Device Stack

762 The Green Power Device Stack supports a single Green Power Device Standard. There is no Complaint  
763 Platform Program.

#### 764 6.2.1 Green Power Device Product Certification Program

765 The Product implementation SHALL conform to these Standard specifications as appropriate to the declared  
766 PICS:

- 767 • 802.15.4 2011 or later as required by the Green Power specification
- 768 • Green Power specification requirements for a Green Power Device

769 The program SHALL be defined by the following Sections that pertain to a Certified Product (not a Platform):

- 770 8) Section 2 Zigbee Certified Program

- 771 9) Section 3 Testing  
772 a. Including Section 3.3.1 Zigbee Alliance Test Harness, but not 3.3.2 Test House Test Harness  
773 10) Section 5.2 Revisions to Specifications  
774 a. The grace period SHALL be recommended by the work group as part of the 1.0 approval.

## 775 6.3 RF4CE Stack

776 The RF4CE Stack supports a single Remote Control Standard.

### 777 6.3.1 RF4CE Compliant Platform Program

778 The Platform implementation SHALL conform to these Stack specifications as appropriate to the declared  
779 PICS:

- 780 • 802.15.4 2006 or later as specified by RF4CE specification  
781 • RF4CE specification

### 782 6.3.2 Remote Control Product Certification Program

783 The Remote Control Standard is built upon the RF4CE Stack. A Product implementation SHALL be built upon  
784 a Zigbee RF4CE Compliant Platform and conform to the RF4CE Standard revision as required by the Remote  
785 Control Standard.

786 The Product implementation SHALL conform to the Standard specifications as appropriate to the declared  
787 PICS:

- 788 • ZRC specification

789 The program SHALL be defined by the following Sections that pertain to a Certified Product (not a Platform):

- 790 11) Section 2 Zigbee Certified Program  
791 12) Section 3 Testing  
792 a. Including Section 3.3.2 Test House Test Harness, but not 3.3.1 Zigbee Alliance Test Harness  
793 13) Section 4 Golden Unit  
794 14) Section 5.2 Revisions to Specifications  
795 a. The grace period SHALL be recommended by the work group as part of 1.0 approval.

796

## 797 7 CERTIFICATION BY SIMILARITY

798 The Zigbee Alliance offers a Certification by Similarity program to member companies. The Certification by  
799 Similarity (CbS) program allows a Zigbee Product that is derived from a previously tested and certified Zigbee  
800 Product to be granted certification based on its similarity to a previously tested certified Product. The purpose  
801 of the CbS program is to speed time-to-market and to minimize certification costs. It is not intended to  
802 eliminate the requirement that a Product actually passes Zigbee compliance tests.

### 803 7.1 Policy

804 The only authority to grant Certification by Similarity to a Product is Zigbee Alliance. No test service provider  
805 or any other entity is authorized to grant or pursue Certification by Similarity requests on behalf of Zigbee  
806 Alliance.

807 The new Product must be derived from and be substantially similar to a Zigbee certified Product that has  
808 successfully undergone full and complete compliance testing. CbS addresses changes such as color, enclosures,  
809 language, etc. that do not affect the conformance of the Product to Zigbee Standards. The new Product cannot be  
810 compared to another Product that itself has been granted Certification by Similarity without additional testing  
811 having been performed. More details on the guidelines that govern the CbS, and thus the need (or lack of) for  
812 testing, can be found in [Section 8.6](#) of this document.

813 If the original certified Product on which the Certification by Similarity is based is older than three years, then  
814 complete testing is required of the new Product.

815 CbS does not waive or change the requirement for certifiers of Products to be members of the Alliance, to  
816 follow the Zigbee Alliance Trademark and Logo Usage Guidelines and Terms, or to comply with any policies of  
817 Zigbee Alliance.

### 818 7.2 Certification by Similarity Guidelines

819 When Products are very similar, testing of one Product may allow the other similar Products to be added to the  
820 Integrators List (Approved List) without re-testing. Furthermore, some changes to certain Products may be  
821 deemed harmless to the existing certification for that specific Product, in which case the newer revision will  
822 automatically be certified by similarity.

823 The decision on whether or not a Product will qualify for Certification by Similarity (CbS) will be the  
824 responsibility of Zigbee's Certification body according to the procedure highlighted above. The ultimate  
825 responsibility for making sure that all Product variations and models are certified (whether through actual  
826 certification and/or via CbS), ultimately lies with each manufacturer.

827 Audits by Zigbee Alliance that reveal discrepancies between shipping Product and samples tested may be cause  
828 for required re-test, revocation of certification, and/or legal action. Only Zigbee Alliance members have the  
829 right to use the Zigbee Alliance trademarks and logo, and such usage is subject to the Zigbee Alliance  
830 Trademark and Logo Usage Guidelines and Terms.

### 831 7.3 Certification by Similarity Guidelines Procedure

832 15) An applicant (Product developer) submits a Testing Exemption Request Form (found below) at  
833 certification@zigbee.org in lieu of testing.

834 16) When applicable, Zigbee Alliance will obtain specification sheets/drawings of both the originally  
835 certified and new Products.

836 17) A review of the Testing Exemption Request Form and specification sheets/drawings will be performed  
837 by the Director of Zigbee Certified. One or more of the authorized test service providers and/or other  
838 experts (e.g. Zigbee Alliance Expert Review Panel) may be consulted by Zigbee Alliance, keeping in  
839 mind the confidential sensitivities that come with an unreleased Product.

840 18) The Zigbee Alliance will issue its assessment to the applicant within one (1) calendar week. One of  
841 two outcomes is possible:

- 842 19) Certification by Similarity is granted. The applicant must complete a standard application for  
843 certification in the [www.zigbee.org](http://www.zigbee.org) Member's Area and the Alliance will process the application as  
844 any other certification.  
845 20) Certification by Similarity is denied. The Product is required to go through testing at one of the  
846 authorized test service providers.

847 When testing is required the Product developer will follow standard procedures for testing and certification.

## 848 7.4 Guidelines for "Retest"

849 The guidelines for retests can be found in Section 8.6 of this document.

850 If you think retest is not required, your company can submit a Testing Exemption Request Form (provided  
851 below) for consideration by Zigbee Alliance.

## 852 7.5 Testing Exemption Request Form

853 Companies must submit a Testing Exemption Request Form to [certification@zigbee.org](mailto:certification@zigbee.org) for their  
854 Product/Platform/HW to be considered to be exempt from a spot check or full testing.

855 The form can be found in Section 8 (Testing Exemption Request Form).

## 856 7.6 Retest Requirements for Compliant Platform Certification

### 857 7.6.1 Retest not required

858 I/O additions on the dev board

### 859 7.6.2 Full retest required

860 Bug fixes that substantively affect the Platform functionality require a full retest.

### 861 7.6.3 Spot check required

862 A spot check tests specific areas affected plus random spot check of other areas against Golden Units.

- 863 • Porting of the Stack (with no changes) to a new hardware
- 864 • Bug fixes that do not substantively affect the functionality
- 865 • Update to the Stack (including non-Zigbee related code update)
- 866 • Microcontroller change (with the PHY/MAC staying the same)
- 867 • Addition of a new feature/module to the Zigbee firmware

### 868 7.6.4 IEEE 802.15.4 retesting required

869 See Retest requirements for 802.15.4 compliant radios

## 870 7.7 Retest Requirements for Certified Products

### 871 7.7.1 Retest not required

- 872 • Product packaging changes (color, shape, etc.)
- 873 • Changes in interface that do not affect Zigbee or Radio functionality (color display v/s B&W, push  
874 button light switch v/s paddle switch, etc.)



- 875       • HW configuration changes that do not affect ZB (changing location of a read switch, change of  
876       metrology, change of button location, etc)

### 877   7.7.2 Full retest required

- 878       • Addition/exposure of a new feature and/or cluster to the Zigbee firmware  
879       • HW, SW or FW changes for the device(s) that the Stack and app are running on (with the exception of  
880       those items called out above in Retest not required)  
881       • Layout change of the module used

### 882   7.7.3 Spot check required

883   Note: Considering that the level of effort and price to certify Products are relatively small, it would be cheaper  
884   and faster to retest fully if needed than deal with the procedures and maintenance of spot check requests and  
885   upkeep.

### 886   7.7.4 IEEE 802.15.4 retesting required

887   See 7.8 Retest Requirements for 802.15.4 Compliant Radios

888   Note: The exact nature of the IEEE 802.15.4 retesting needs to be defined. As part of regulatory Radio testing,  
889   Products have to be supplied with a number of test modes. It is intended that the IEEE 802.15.4 retesting would  
890   only use these existing test modes (to reduce the development burden on the Product manufacturer)

## 891   7.8   Retest Requirements for 802.15.4 Compliant Radios

### 892   7.8.1 Full retest required

- 893       • Change in Radio IC  
894       • Changes in SW, FW affecting Radio functionality  
895       • Changes requiring retest by regulatory authorities

### 896   7.8.2 Spot check required

- 897       • Change/Addition of a PA (All Tx tests shall be run, Rx tests shall be spot checked)  
898       • Change/Addition of LNA (All Rx tests shall be run, Tx tests shall be spot checked)  
899       • Change of all other components connected externally to the Radio IC  
900       • Change in RF/EMI/EMR enclosures  
901       • Change in packaging affecting RF/EMI/EMR characteristics  
902       • Change in board layout

### 903   7.8.3 Retest not required

904   Change in I/O interface to the board

### 905   7.8.4 Spot check rules (Firmware/Platform)

- 906       • Full retest of functionality that has been changed or where bugs were fixed  
907       • Full coverage of the all the other areas through spot check (one test case per function)  
908       • In case of any failure on the spot check areas, the Product is considered as a fail and a full retest is  
909       needed

## 910 7.8.5 Spot check rules (PHY)

- 911 • Full test (all test cases) of the first and last channel in the band
- 912 (Channel 11 and 26 for 2.4GHz)
- 913 • Spot check for the rest of the channels (2 channels per test case)
- 914 • In case of any failure during the spot check, the Product is considered as a fail and a full retest is
- 915 needed

## 916 8 CERTIFICATION TRANSFER PROGRAM

917 The Zigbee Alliance certification transfer program supports the use of a previously Certified Product from a  
918 Participant or Promoter member company as part of a new Product (from a member or a non-member company)  
919 and the certification of this new Product by leveraging the Certification by Similarity principles (described in  
920 this policy). Participation in the Zigbee Alliance certification transfer program is subject to the terms and  
921 conditions of the Zigbee Alliance Certification Transfer Program Agreement.

### 922 8.1 Certification Transfer Program details

923 The Zigbee Alliance certification transfer program supports the embedding of a previously Certified Product  
924 (from a Participant or Promoter member company) into a new Product enclosure from any member or non-  
925 member company. The previously Certified Product SHALL not be changed from its certified configuration  
926 (read: no hardware nor software changes).

927 The originally Certified Product implementation SHALL conform to the Standard specifications as appropriate  
928 to the declared PICS:

- 929 • Zigbee 3.0 Specification & requirements as defined in Section [6.1.3](#)
- 930 • Zigbee Smart Energy Specification & requirements as defined in Section [6.1.2](#)
- 931 • Green Power end devices as defined in Section 6.2.1.

932 The program SHALL be defined by the following Sections that pertain to a Certified Product (NOT a Platform):

- 933 21) Section 2 Zigbee Certified Program
- 934 22) Section [7 Certification by Similarity](#) Testing

935

936 Products certified under this program SHALL conform with all additional requirements below:

- 937 • Certifying Product SHALL seek certification under the same program, device type and device  
938 capabilities as the originally Certified Product.
  - 939 ○ Availability of certification is subject to the same timelines and grace period as the original  
940 programs.
- 941 • Certifying companies shall submit a Certification Transfer Application via the Alliance web tool, agree  
942 to the Zigbee Alliance Certification Transfer Program Agreement and remit all appropriate fees as  
943 designated by the Zigbee Alliance Board of Directors.

944

## 9 TESTING EXEMPTION REQUEST FORM

Product Developer Information	
Company Name:	
Contact Name: (First, Last)	
Contact Email:	
Work Phone:	
Original Certified Product Information	
Product Name	
Software Revision:	
Hardware Revision:	
Zigbee Certificate ID	
Product Submitted for Testing Exemption	
Product Name	
Zigbee Specification(s) Rev.#(s) and any Errata at Time of Request	
Software Revision:	
Hardware Revision:	
<p>Note: Revision number is the number used to distinguish this specific build of the Product from a subsequent or prior one.</p>	



Has the Zigbee Component Enclosure Changed? (Structural, Material or Density)	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
If YES, Please Explain:	
Does the change expose new functionality?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
If YES, Please Explain:	
Has the firmware changed?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
If YES, Please Explain:	

Has the Product driver changed (if applicable)?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
If YES, Please Explain:	

945

946

947 Signature: \_\_\_\_\_

948

949 Name (Print): \_\_\_\_\_

950

951 Date: \_\_\_\_\_

952

953

954