

# **WiMedia™ Alliance**

## **Compliance & Interoperability Policy**

**Release April, 2007**



## NOTICE

The WiMedia Alliance (WiMedia) disclaims any and all warranties, whether expressed or implied, including (without limitation) any implied warranties of merchantability or fitness for a particular purpose. WiMedia reserves the right to make changes to the document without further notice.

## DISCLAIMER

This document and any translations are restricted to distribution and use within the WiMedia membership, and any commentary and other documents created that interpret or are used in the implementation of the Final Deliverable may be prepared, copied, published and distributed, in whole or in part, within the WiMedia membership, provided that the copyright notice and this disclaimer are reprinted in full and conspicuously placed on all such documents. No Member shall alter, revise or otherwise change this document. WiMedia may, on behalf of the Alliance, make changes in order to adapt the content in connection with collaborating with other organizations. The limited permissions granted above are provided to Members only while they are in good standing with WiMedia, and shall cease upon the withdrawal or termination of membership.

This document and the information contained herein is provided on an "AS IS" and on an "ALL FAULTS" basis, and WiMedia DISCLAIMS ANY AND ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY THAT THE FINAL DELIVERABLE AND/OR THE USE OR IMPLEMENTATION THEREOF WILL NOT INFRINGE ANY INTELLECTUAL PROPERTY OR OTHER RIGHTS OF ANY THIRD PARTY, OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR TITLE. Members of WiMedia are under an obligation to disclose any known Essential Patent Claims in the Final Deliverable. Several general and specific disclosures were made in connection with the Final Deliverable, and such general disclosures are available upon request. WiMedia makes no representations on the validity or scope of any Essential Patent Claims or other rights that might be claimed by a Member, nor the extent to which a Member is willing to license any such Essential Patent Claims. WiMedia has not made any separate investigation of any Essential Patent Claims that may be contained in this Final Deliverable.

Licensing obligations relating to Essential Patent Claims contained within this Final Deliverable are governed by the Intellectual Property Rights (IPR) Policy attached to Promoter, Contributor or Adopter Member Agreements. The Final Deliverable contains a forward looking condition that if WiMedia adopts certain other Final Deliverable(s), then the implementation of such other Final Deliverable(s) may be "Required" as set forth in the IPR Policy, and would require that a Member implement the future Final Deliverable(s) in or to be Fully Compliant with this Final Deliverable.

**WiMedia is, and shall at all times, be the sole entity that may authorize the use of certification marks, trademarks, or other special designations to indicate compliance with the Final Deliverable.**

# 0 Document Information

## 0.1 Table of Contents

<b>0</b>	<b>DOCUMENT INFORMATION .....</b>	<b>3</b>
0.1	TABLE OF CONTENTS.....	3
0.2	STATUS .....	4
0.3	TERMINOLOGY AND DOCUMENT CONVENTIONS .....	4
0.4	REVISION HISTORY .....	5
0.5	DOCUMENT CHANGE PROCESS.....	6
<b>1</b>	<b>OBJECTIVE.....</b>	<b>7</b>
<b>2</b>	<b>DEFINITIONS .....</b>	<b>7</b>
<b>3</b>	<b>INTRODUCTION.....</b>	<b>9</b>
<b>4</b>	<b>CRB DUTIES AND OPERATION.....</b>	<b>10</b>
4.1	RESPONSIBILITIES.....	11
4.2	CRB MEMBERSHIP .....	11
4.3	CRB VOTING.....	12
<b>5</b>	<b>IMPLEMENTATION TEST REQUIREMENTS .....</b>	<b>13</b>
<b>6</b>	<b>REGISTRATION AND CERTIFICATION PROCESS .....</b>	<b>15</b>
6.1	APPROVAL PROCESS.....	15
6.1.1	<i>Application for Registration or Certification .....</i>	<i>16</i>
6.1.2	<i>Test Evaluation.....</i>	<i>17</i>
6.1.3	<i>Verification of Original Manufacturer.....</i>	<i>18</i>
6.1.4	<i>Membership Standing.....</i>	<i>18</i>
6.1.5	<i>Registration of PHYs .....</i>	<i>18</i>
6.1.6	<i>Certification and Trademarks Agreement Check .....</i>	<i>19</i>
6.1.7	<i>Ensure WiMedia Registered PHY was used.....</i>	<i>19</i>
6.1.8	<i>Certification Requests .....</i>	<i>19</i>
6.1.9	<i>Member notification of specific failure(s) .....</i>	<i>20</i>
6.1.10	<i>Use of Exceptions.....</i>	<i>20</i>
6.1.11	<i>Appeals of Test Results.....</i>	<i>20</i>
6.1.12	<i>Summary of Document Flow.....</i>	<i>21</i>
6.2	TEST METHODS .....	23

1	6.2.1	<b>WiMedia Certification Workshops</b>	23
2	6.2.2	<b>Independent Test Labs</b>	24
3	6.2.3	<b>Reference Units</b>	25
4	6.3	INTEGRATOR'S LIST	25
5	6.4	REVIEW OF TEST RESULTS	26
6	6.5	CERTIFICATION PERIOD, EXPIRATION, AND RETEST	26
7	6.6	REBRANDING ARRANGEMENTS	27
8	<b>7</b>	<b>EXCEPTION POLICY</b>	<b>27</b>
9	7.1	CRB REQUESTS TO TSC	28
10	7.2	CRB ANALYSIS OF NON CONFORMANCE TO TECHNICAL SPECIFICATIONS	28
11	7.2.1	<i>Proposed Exception Impacts end-user experience</i>	29
12	7.2.2	<i>No Impact to end-user experience</i>	29
13	<b>8</b>	<b>EXTENSIONS</b>	<b>30</b>
14	<b>9</b>	<b>CIP IMPLEMENTATION AND ENFORCEMENT</b>	<b>30</b>
15	9.1	MEMBER BELIEF OF NON-COMPLIANCE	31
16	9.2	WIMEDIA BELIEF OF NON-COMPLIANCE	32
17	9.3	CONDUCT AN INVESTIGATION	32
18	9.4	TESTING FOR ASSERTED NON-COMPLIANCE	32
19	9.5	NOTICE OF NON-COMPLIANCE AND APPEAL	32
20	9.6	NON-COMPLIANCE REMEDY	33
21	9.7	MEMBER COOPERATION FOR INVESTIGATIONS	33
22	9.8	CONFIDENTIALITY OF INVESTIGATIONS	33
23	<b>10</b>	<b>FEE STRUCTURE</b>	<b>33</b>

24

## 25 0.2 Status

26 This document specifies the Compliance & Interoperability Policy (CIP) for the WiMedia  
 27 Alliance (WiMedia). This document and any translations are restricted to distribution and use  
 28 within the WiMedia membership.

## 29 0.3 Terminology and Document Conventions

30 The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT",  
 31 "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY" and  
 32 "OPTIONAL" in this document are to be interpreted as described in:

33 IETF RFC 2119, S. Bradner, March 1997 (<http://www.rfc-archive.org/getrfc.php?rfc=2119>)

## 0.4 Revision History

The last named individual(s) in this history is currently responsible for this document.

Rev.	Date	Editor	Comments
1.0	2006-08-16	Jarvis Tou / Roberto Aiello, Staccato Communications <a href="mailto:j@staccatocommunications.com">j@staccatocommunications.com</a> <a href="mailto:r@staccatocommunications.com">r@staccatocommunications.com</a>	Approved by WiMedia BoD for release.
Dec 06	2006-12-02	Tom Siep	Removal of Waiver process
Dec 06	2006-12-05	Tom Siep	Removed reference to waiver process, including flowchart. Also removed parentheses from item 3 of Clause 5 since text in parentheses are by definition informative.
Jan 07	2007-01-02	Tom Siep	First pass in adding Exceptions to CIP; collateral cleanup
Feb 07	2007-02-02	Tom Siep	R1, update after preliminary review (changes from r0 not yet accepted) <ul style="list-style-type: none"> <li>➤ Certified product term needs to be referenced and language tightened up</li> <li>➤ Cleanup of flowchart</li> <li>➤ CRB makes recommendation of time period, rather than dictating</li> <li>➤ Email votes need to conform to California law</li> <li>➤ Make sure language is harmonized with TCS documentation</li> </ul>
Feb 07	2007-02-20	Tom Siep	Editorial cleanup
Mar 07	2007-03-03	Tom Siep	Updates from CRB discussions CRP → WCRP; WCEP; CI → WCI ; Removal of WiNet reference; Replaced Fig 1
Mar 07	2007-03-24	Tom Siep	CRB review
Mar 07	2007-03-28	Tom Siep	CRB review and cleanup

## **0.5 Document Change Process**

From time to time changes to the CIP will be necessary to reflect the current operation of the WiMedia community or to reflect a new process or role within WiMedia. The Certification Review Board (CRB) of WiMedia has primary responsibility for documenting the WiMedia CIP. Once approved by the WiMedia Board of Directors, this document supersedes any previous documents describing the WiMedia CIP.

The WiMedia CIP contains the official WiMedia policies for Certification and Registration and is changed only with the consent of the WiMedia Board of Directors. CRB procedures are derived from this document and is expanded in a separate document, available in the Member's area of the WiMedia website. If there are any discrepancies between this CIP and the CRB procedures document, the CIP prevails.

This CIP is approved by the WiMedia Board of Directors (BoD), and is subject in all respects to the terms and conditions of the WiMedia IPR Policy, the applicable Member's Agreement, and the Bylaws of WiMedia. The CRB administers and enforces the CIP program under the direction of the WiMedia BoD.

# 1 Objective

This Compliance and Interoperability Policy (CIP) document states the rules, guidelines, and policies WiMedia Alliance (WiMedia) members must follow to certify their commercial products. This CIP intends to ensure *WiMedia Certified Implementations (WCI)* are compliant to an approved *Final Deliverable* specification (hereafter known as *Specification*) and interoperable with other *WiMedia Certified Implementations*.

## 2 Definitions

**Application Form:** required for submission into the WiMedia Compliance and Interoperability process. All relevant information about the member and their implementation undergoing registration or certification is required.

**Compliance:** adherence of a *WiMedia Certified Implementation* to the relevant specifications, as measured by successfully passing the tests specified by WiMedia.

**Certification Review Board (CRB):** comprised of WiMedia members elected by the WiMedia Board of Directors (BoD). The CRB reports to the BoD. The CRB is responsible for administering this CIP, for compliance and interoperability. Its duties are described in this document.

**Certification Workshop:** a WiMedia hosted and staffed event for compliance and interoperability testing. This may be held in conjunction with other industry events.

**Exceptions:** specifications that describe temporary changes to other WiMedia specifications, which are distinguished from the other types of specifications in that they are only valid for a specific period of time.

**Extension:** features or facilities added to a *WiMedia Certified Implementation* that are not included in the WiMedia specifications and do not adversely affect WiMedia functionality.

**Final Deliverable:** one or more Approved Draft Deliverable(s) which the BoD has approved complete and final. This is as defined in the WiMedia Intellectual Property Rights Policy.

**Independent Test Lab (ITL):** WiMedia qualified third-party laboratory utilized for compliance and interoperability testing.

**Interoperability:** ability to successfully communicate with counterpart *WiMedia Certified Implementations* from other manufacturers.

**Integrator's List:** collective term for the official record of *WiMedia Certified Implementations* which have successfully passed WiMedia compliance and interoperability testing. There are three listings derived from the Integrator's List; *Registered PHY (Integrator's PHY List)*, *Certified Radio Platform (Integrator's WCRP List)*, and *Certified End-Products (WiMedia Certified End-Product List)*.

1 **Integrator's PHY List:** This list is available to all WiMedia Alliance members; a listing of all  
2 implementations that conform to the WiMedia PHY specification.

3 **Integrator's WiMedia Certified Radio Platform List:** This list is available to all WiMedia  
4 Alliance members; a subset of the information, as determined by the CRB, may be publicly  
5 available on the WiMedia website.

6 **MAC:** WiMedia Medium Access Control specification.

7 **ODM:** Original Design Manufacturer, a company who typically designs a *Certified End-Product*  
8 to be branded and be sold in retail by an *OEM* customer.

9 **OEM:** Original Equipment Manufacturer, a company who uses designs and/or components  
10 created by an ODM and brands them for sale in retail under their own labels or names.

11 **PICS:** Protocol Implementation Conformance Statement. The part of a Final Deliverable which  
12 is filled in and submitted by a member at the time of application for Certification which declares  
13 the conformance of that implementation to mandatory features and supported optional features.

14 **PHY:** WiMedia physical layer specification.

15 **Rebranded Implementation:** a WiMedia *Certified Radio Platform* or WiMedia *Certified End-*  
16 *Product* that is identical to a currently certified implementation and re-labeled and marketed/sold  
17 by another member or brand name. Rebranding may be done by an *OEM*, a distributor, or any  
18 sales/marketing channel, provided they are members in good standing of WiMedia Alliance.

19 **Reference Units:** designated *WiMedia Certified Implementations* used as WiMedia benchmarks  
20 for interoperability testing.

21 **Upper Layer Protocol (ULP):** a protocol stack that sits above the WiMedia *Certified Radio*  
22 *Platform*. Example *ULPs* include WiMedia Networking, Certified Wireless USB, and Bluetooth  
23 technology.

24 **WiMedia Certificate:** WiMedia document issued to a member that confirms a particular  
25 implementation is in the *Integrator's List*.

26 **WiMedia Certified End-Product:** An implementation has passed the *required PHY, MAC, and*  
27 *Upper Layer Protocol* tests and is intended for retail or commercial resale and availability in  
28 volume as a stand-alone product. A *Certified End-Product* must conform to a *Final Deliverable*.

29 **WiMedia Certified End-Product List:** The publicly available record of end-products (WCEPs)  
30 which have successfully passed WiMedia compliance and interoperability testing.

31 **WiMedia Certified Implementation (WCI):** The collective term for a device that has been  
32 accepted by the CRB as conforming to the WiMedia specifications corresponding to the PICS of  
33 the Final Deliverable declared for that device. It may be a Registered PHY, a *WiMedia CRP* or a  
34 *WiMedia Certified End-Product*.

35 **WiMedia Certified Radio Platform (WCRP):** an implementation that has passed the required  
36 WiMedia media access control and physical layer tests. A *WCRP* must conform to a *Final*  
37 *Deliverable*.



**WiMedia Registered PHY:** WiMedia PHY implementation that has passed the required PHY tests. A *Registered PHY* must conform to a *Final Deliverable*.

### 3 Introduction

The WiMedia specifications define a distributed Medium Access Control (*MAC*) sublayer, an Ultra-wideband (UWB) radio Physical layer (*PHY*), and Upper Layer Protocols (*ULPs*). To complement those specifications and to enable measurement of compliance to specifications and interoperability between real implementations, WiMedia has instituted this CIP. Its purpose is to provide the rules, guidelines, and policies WiMedia members must follow to certify their commercial implementations or to register *PHY* implementations.

This CIP defines the compliance, interoperability, registration, and certification required by all commercially available WiMedia *implementations* (e.g., hardware, software, systems, and combinations thereof). This CIP applies to *PHY*, *WiMedia Certified Radio Platform (WCRP)*, and *WiMedia Certified End-Product* implementations intended for commercial use: conversely, the policies specified in the CIP are not intended for qualifying prototype or demonstration units. Compliance signifies adherence to the WiMedia specifications. Interoperability is demonstrated by application-to-application communication and operation with a defined set of counterpart *Products* from multiple members.

Once an implementation has successfully passed its compliance and interoperability testing, it is a candidate to become a

- Registered PHY
- WiMedia Certified Radio Platform (WCRP)
- WiMedia Certified End-Product.

*WCRPs* or *WiMedia Certified End-Products* may go on to additional industry certifications for Upper Layer Protocols (*ULPs*) such as Certified Wireless-USB, Bluetooth® technology, or other programs. Non-WiMedia *ULPs* are outside the scope of this document. The process of transitioning from a candidate to a *WiMedia Certified Implementation (WCI)* is covered in Sections 5 and 6.

A *WiMedia Certificate* is a document issued to a member that confirms a particular implementation is in the *Integrator's List*. It includes a physical description of the *WCI*, significant parameters as submitted by the manufacturer, the list of optional supported features, the list of tests related to the optional features an implementation has successfully passed, including which *ULP* it supports (e.g. Certified Wireless USB, WiMedia Networking, or Bluetooth technology), and the date of certification.

A *Registered PHY* is added to the *Integrator's PHY List* with records detailing the results of all tests, including those related to mandatory features, and those related to optional features, as supported by the implementation. A *Registered PHY* is for WiMedia internal and member use only; registration provides a “shopping list” for member companies.

The *WCRP* test spec is a *Final Deliverable*, and it includes both PHY and MAC related test specs. A *WCRP* is added to the *Integrator's List* and is issued a *WiMedia Certificate* detailing the results of all tests, including those related to mandatory features, and those related to optional features, as supported by the implementation.

Other end-products may be defined by WiMedia in the future; those products will be covered by this CIP. For example, using WiMedia Networking as an *ULP*, this would result in a Certified WiMedia Networking end-product by passing the MAC, PHY, and WiMedia Networking tests. A *WiMedia Certified End-Product* is included in the *Integrator's List* and is issued a *WiMedia Certificate* with the results of all tests, including those related to mandatory and optional features supported by the implementation.

Compliance to specifications and interoperability across multiple member's WCIs form the basis for certifying a *WCI*. A *WiMedia Certified End-Product* includes an *Upper Layer Protocol (ULP)* specified by WiMedia, such as WiMedia Networking. In addition, a *WiMedia CRP* may gain additional certifications with non-WiMedia *ULPs* such as Certified Wireless USB or Bluetooth® technology.

All members who offer WiMedia implementations for commercial or retail sale must comply with this CIP. Failure to comply may result in one or more of the following:

- (a) WiMedia declaring the implementation in question did not meet all the requirements of the CIP.
- (b) WiMedia declaring the implementation in question does not conform to a *Final Deliverable* as defined in the WiMedia IPR Policy
- (c) WiMedia revoking a member's rights to use WiMedia's name, logos, and trademarks.
- (d) WiMedia revoking or terminating a member's membership in WiMedia.

Implementations must pass compliance and interoperability tests, and have a signed and valid WiMedia Certification & Trademark Agreement, to be deemed *Certified*. This process is described in the following sections. Upon certification or registration, these *WiMedia Certified Implementations (WCI)* are added to the appropriate WiMedia *Integrator's List* (see [section 6.3](#) for more detail). A *WCRP* or *Certified End-Product* is eligible to use the WiMedia logo, consistent with the WiMedia Logo Policy. A *Registered PHY* is not eligible to use the WiMedia logo.

If a commercially available implementation claiming to be a *WCI* is determined to have any significant differences to the actual *WCI* submitted for approval, the CRB may determine the member's implementation is not in *Compliance*.

## 4 CRB Duties and Operation

The CRB is comprised of 7 WiMedia members as elected by the WiMedia Board of Directors (BoD). The CRB reports to the BoD. The CRB is responsible for administering and enforcing the Compliance and Interoperability Policy (CIP). The CRB has the sole and final authority to determine whether a *WCI* complies with the CIP. The CRB, at its discretion and only under

mutual Non-Disclosure Agreements (NDA), may consult with or request expert testimonial from test personnel, members, technical experts, and/or consultants on test results. In addition, the CRB shall consult with the TSC in matters pertaining to Exceptions (see [section 7](#)).

## 4.1 Responsibilities

The CRB has the following responsibilities:

- administer the CIP and its Registration/Certification Process
- organize *Certification Workshops*
- manage *Integrator's List* and website listings
- issue *WiMedia Certificates*
- act as WiMedia authority on registration and certification according to this CIP
- accredit *Independent Test Laboratories*
- select reference units
- make regular status reports to the BoD
- inform the membership of relevant decisions from the CRB
- perform investigations of non-compliance, including providing notice of non-compliance
- other duties as described in the CIP or assigned by the BoD

## 4.2 CRB Membership

The BoD elects the CRB member companies. Members with such CRB appointments shall not use this designation as a marketing or PR tool for differentiation; news of such appointments shall only be released publicly by WiMedia. Prior to filling any new or vacant position, a call for nomination will be made to all WiMedia Contributor and Promoter members of not less than 30 days from start of term; this includes 20 days to receive nominations and 10 days for the BoD to complete selection and notify members companies. Self-nomination is permitted. Incumbents may re-apply for their seat if they wish to continue after a term has expired. The BoD shall make appointments from those nominated according to the announcement of vacancy or cancel the vacancy within 10 days of the end of the call for nomination. The nominees shall present their qualifications for BoD consideration.

Each member company will serve for a two-year term. Terms will be staggered to start in June of each year. New vacancies on the committee are filled as two-year seat as announced in the call for nomination. Approximately half of the CRB seats are to be reconsidered each year.

Each member company appointed is represented by an individual representative serving on the CRB. A represented member company has the ability to replace or substitute the representative with BoD approval, but it is expected that the same representative serve the full term if possible to help in the continuity and consistency of the CRB. In case of short term substitution (e.g. due

to vacations, meeting schedule conflicts, etc.), the member company representative can designate an alternate representative, with approval of the remaining CRB members, to participate in meetings.

The BoD appoints a Chair for the CRB. The Chair shall serve an annual term. The Chair can be re-elected. The Chair is responsible to appoint a vice-Chair, who would be responsible for performing Chair leadership duties in the absence of the Chair. The Chair is responsible to ensure the minutes are recorded for all meetings. It is recommended for the chair to appoint a Secretary for this purpose. The Chair or Vice-Chair may also act as the secretary. All officers are appointed from the CRB membership.

The BoD has the authority to replace any member company at any time. The removal of a member company shall be strictly limited to situations in which the member company is neglecting their duties. Removal of a member company is seen as a serious situation and should be taken only in circumstances after other actions have failed to remedy the situation.

### 4.3 CRB Voting

Each CRB member company may cast one vote in decisions by the CRB. Each member company's vote can be made only by that company's designated CRB representative. The CRB follows the same rules for quorum and voting as defined for membership meetings. These rules are specified in the bylaws for WiMedia Alliance, Inc. under ARTICLE 4, SECTIONS 6 (Quorum) and 7 (Voting).

In keeping with the spirit of openness and cooperation, the CRB will endeavor to make decisions by consensus, and will resort to voting only to break a deadlock, but will be vigilant in making decisions in a timely fashion. CRB members shall make all decisions impartially. CRB members shall not participate in votes which exclusively involve their implementations, and shall notify the Chair of potential conflicts of interest with respect to any vote.

Each member company represented in the CRB may cast a single vote within the CRB. A quorum for a CRB meeting requires 50% participation of the CRB member companies. A meeting without a quorum may continue if 2/3 of those member companies in attendance decide to do so. In such a case no binding decisions can be made in that meeting.

A member company vote cast is considered valid under the following criteria:

- “Yes”
- “No”
- “Abstain”

Votes may be taken either at meetings that have achieved quorum (including teleconferences that have been properly notified to the CRB member companies) or by letter ballots conducted by email. A valid vote shall meet the following requirements:

- At least 2/3 of eligible voting companies must cast a vote in teleconferences and face to face meetings; all members must cast votes in letter ballots.
- Voters must be given a minimum of 7 calendar days to cast their vote in letter ballots.

1 Simple majority is required for a vote to pass, with no less than 3 “yes” votes.

## 2 **5 Implementation Test Requirements**

3 In order to be a *WiMedia Certified Implementation*, the following conditions must be met:

- 4 1. The applicant must be a current WiMedia Member, at any level of membership, at the  
5 time the application is made and must be a member of WiMedia at all times during the  
6 compliance and interoperability testing process. The applicant must also remain a  
7 member in order for its implementation(s) to remain *Certified*.
- 8 2. The implementation shall be submitted for WiMedia compliance and interoperability  
9 testing in accordance with the official WiMedia Compliance and Interoperability Test  
10 Specs approved by the WiMedia Board of Directors and administered by the CRB.
- 11 3. The implementation shall be shown to have successfully passed all required compliance  
12 and interoperability tests according to the WiMedia *Final Deliverable*, as performed by  
13 WiMedia or its subcontractors or agents and as may be established and in effect at the  
14 time of submission.
- 15 4. The implementation must be intended for commercial use and sale, and be intended for  
16 volume production.

17 Each type of WiMedia implementation requires specific testing before it is added to the  
18 *Integrator's List*. Table 1 below summarizes the testing required for each implementation under  
19 test. Members are encouraged to pre-test their implementations in their own labs prior to  
20 submitting them for WiMedia testing at a ***Certification Workshop*** or ***Independent Test Lab***.  
21 Implementations must be tested in the final production configuration as they would be offered  
22 for sale, including all other components required by the *CI*, in order to be certified.

23

Implementation Under Test	Type	Prerequisite	Test Document
<b><i>PHY</i></b>	<i>WiMedia Registered PHY</i>	WiMedia member	PHY test spec (part of WiMedia CRP Compliance and Interoperability Test Spec)
<b><i>MAC and PHY</i></b>	<i>WiMedia Certified Radio Platform</i>	WiMedia member Uses WiMedia Registered PHY Signed and valid WiMedia Certification &	Platform test spec (part of WiMedia CRP Compliance and Interoperability Test Spec)

		Trademark Agreement	
<b>End-Product</b>	<i>WiMedia Certified End-Product</i>	WiMedia member Uses <i>WiMedia Certified Radio Platform</i> Signed and valid WiMedia Certification & Trademark Agreement	ULP Compliance and Interoperability Test Specs (e.g. WiMedia Networking)

*Table 1: Compliance & registration/certification requirements matrix*

Table 2 below compares the differences between *Registered PHY*, *WCRP*, and *Certified End-Product*.

	<b>Registered PHY</b>	<b>WCRP</b>	<b>Certified End-Product</b>
Implementation	PHY	PHY and MAC	PHY, MAC and ULP
Subject to WiMedia IPR Policy <sup>1</sup>	No	Yes	Yes
WiMedia Certificate	No	Yes	Yes
Integrator's List	Integrator's PHY List (internal WiMedia only)	WiMedia Certified Radio Platform List	WiMedia Certified End-Product List

*Table 2: Implementation type comparison*

<sup>1</sup> This row in the table is for convenience for the reader. IPR policies are defined in the WiMedia Members Agreement document, which is the governing document.

## 6 Registration and Certification Process

Results of *Certification Workshop* or *Independent Test Lab* activity for this CIP are WiMedia confidential.

### 6.1 Approval Process

The process the CRB uses to grant Certification is illustrated in Figure 1. Sub-sections 6.1.1 through 6.1.8 give the specifics of each stage of the process. Notification documents noted in the flowchart include:

- Test Failure
- Test Equivalency Failure
- Equivalent Implementation Issue
- Membership Issue
- PHY Registration Issue
- License Issue
- WCRP Issue
- Registration
- Certification
- Logo Rights

The form and format of these notifications to the applying member are documented in the CRP Procedures document.

Figure 2 shows the point at which various documents are created and the custody of those documents during the stages of the Certification process.

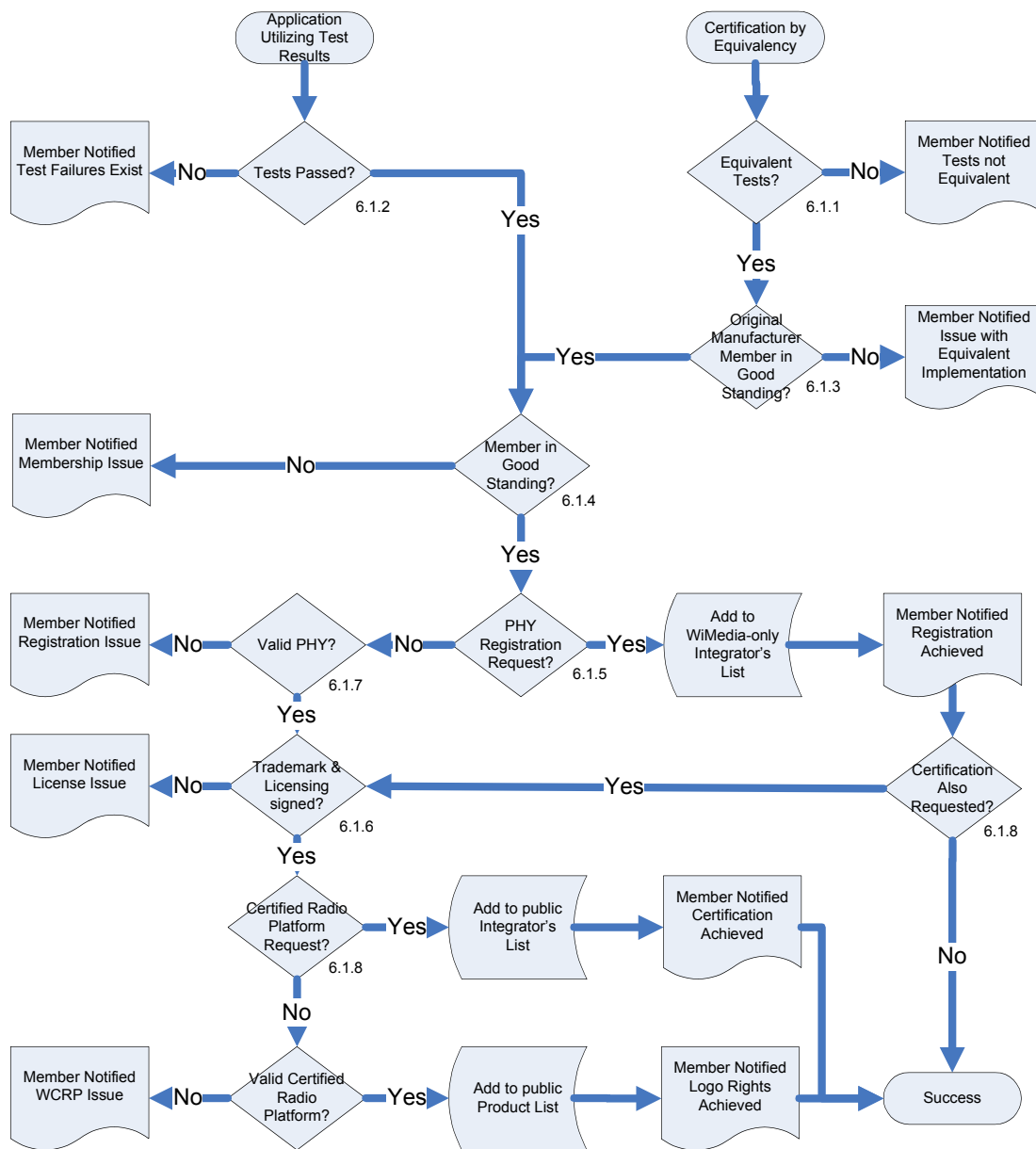


Figure 1 Registration and Certification Flowchart

### 6.1.1 Application for Registration or Certification

Implementations can proceed through the CRB approvals process in two ways:

1. After completing a test event or receiving test results from an ITL
2. Certification by declaration of equivalency



The method to address the first case is primarily a technical evaluations of test results. The second case is primarily an administrative verification of documentation referenced in the member's application.

#### **Application Utilizing Test Results**

When a member company successfully completes a test event it may elect to submit an application to the CRB for Registration or Certification. Upon receipt of the application, the CRB will request a summarized test report from the WiMedia test archives. The CRB will then verify that all tests corresponding to the entries in the PICS submitted by the applicant have been passed.

Upon this verification, the CRB will proceed to verify member's status (see [6.1.4](#))

#### **Reconsideration of Application**

When a member company believes it has been failed in qualification testing in error, it may apply to the CRB for reconsideration. If the CRB agrees there were errors in the tests or testing process, it shall reconsider the application and grant Registration / Certification if it determines that the overall test results provide sufficient evidence that the implementation meets the requirements of the test specification. If the CRB determines that the errors in the tests or test process preclude such a judgment, it may require retesting of the implementation.

#### **Certification by Equivalency**

If a member company seeks *Certification* on the basis of being equivalent to a currently approved implementation, a Certification by Equivalency may be submitted to the CRB. If the CRB accepts that the design is equivalent to a previously-certified design, it shall grant such a request, subject to the applicant satisfying the other criteria cited in section 6.1.4 and two additional criteria:

1. The verification of the validity of the equivalent unit and the normal checks for membership status and trademark agreements of the equivalent unit's manufacturer.
2. The tests performed on the previously CI are valid and complete for current certification requirements.

Specific criteria for the determination of equivalency are detailed in the CRB Procedures document.

### **6.1.2 Test Evaluation**

In the cases where the implementation is being judged on the basis of testing, the results of the tests will be considered by the CRB to verify that all relevant tests have been passed. Application by test results and application utilizing exceptions are two separate classes that have different procedures.

For Certification or Registration that relies solely on test results, the CRB reviews a summary of the test results and verifies that all tests have been completed successfully.

For certification utilizing Exceptions, the CRB shall consider the test results taking into account required behavior of a device as governed by PICS indications in conjunction with relevant

specifications including exceptions requested by the submitter. Requested exceptions must not be expired as of the date the request for certification was submitted.

After the test evaluation, the actions of the CRB are identical for the two classes of test evaluation.

#### **Tests Passed**

If the CRB determines that the implementation applying for *Registration* or *Certification* on the basis of test results and has passed all relevant tests, the approvals process continues with normal administrative checks.

#### **Tests Failed**

If the test record shows that the implementation did not pass all required tests, the CRB shall notify the member company that the application has been denied. The member may elect to pursue the establishment of an Exception at that time. However, it is not required to have the CRB deny an application to initiate the Exception process. See section 7.

### **6.1.3 Verification of Original Manufacturer**

Implementations that are granted Registration or Certification via a statement of equivalency should have the referenced implementation fully compliant to the then-current CIP and test specifications. In the case where the referenced implementation has been qualified under a previous test suite or CIP, the CRB shall rule on the equivalency of that version. If the CRB determines the referenced documents are not sufficiently similar, the application for *Registration* / *Certification* by equivalence shall be denied.

The membership of the referenced unit originator must be valid and the trademarks agreement must have been signed and still in force.

### **6.1.4 Membership Standing**

Once it is determined that an implementation has passed the required test set, the CRB shall verify that the member company has signed all necessary membership agreements and is current in membership fees.

If the CRB determines that necessary member documents are not in place, the CRB shall deny approval and the process halts for that implementation. The member is then notified and remedial action by the member can restart the process.

### **6.1.5 Registration of PHYs**

If the application is for PHY Registration and all the previous criteria have been met, then the implementation is eligible for inclusion in the PHY integrator's list. Timing for inclusion on the list is dependent on the instructions given by the member in the implementation application.

The use of the implementation as a Registered PHY for Certification purposes requires listing in the Integrator's PHY List.

1 The list is internal to WiMedia and is not available to non-WiMedia-members. See section 6.2  
2 for details.

3 An implementation may apply for a Certification at the same time Registration is requested. In  
4 that case the procedure resumes the process with determination of Certification type request,  
5 specified in section 6.1.8.

#### 6 6.1.6 Certification and Trademarks Agreement Check

7 Once it is determined that an implementation seeking Certification has passed the required test  
8 set, the CRB shall verify that the member company has signed all necessary Trademark and  
9 Logo Agreements.

10 If the CRB determines that necessary member documents are not in place, the CRB shall deny  
11 approval and the process halts for that implementation. The member is then notified and  
12 remedial action by the member can restart the process.

13 The presence of the correct member documentation allows the continuation of the application  
14 process.

#### 15 6.1.7 Ensure WiMedia Registered PHY was used

16 All valid WiMedia CIs shall use a Registered PHY. The CRB shall verify the implementation  
17 being considered uses a Registered PHY. Failure to use a Registered PHY requires the CRB to  
18 decline Certification and notify the member of the Registration issue.

19 If a valid Registered PHY was used in the implementation to be certified it is eligible for  
20 Certification if it meets all other criteria. The expiry of the Certification shall be the same date  
21 as the PHY used in the implementation.

#### 22 6.1.8 Certification Requests

23 An implementation using a Registered PHY may apply for being either a WiMedia Certified  
24 Radio Platform or a WiMedia Certified End-Product.

##### 25 **WiMedia Certified Radio Platform**

26 If the application was for a WiMedia Certified Radio Platform and all the previous criteria have  
27 been met including the presence of a Registered PHY, then the implementation is eligible of  
28 inclusion in the *WCRP* Integrator's list. The date of inclusion is dependent on the instructions  
29 given by the member in the implementation application.

30 As indicated by the flowchart, it is possible to obtain both a PHY registration and designation as  
31 a *WiMedia Certified Radio Platform* with the same application, provided all relevant tests have  
32 been passed.

##### 33 **WiMedia Certified End-Product**

34 If the application was for a *WiMedia Certified End-Product* and all the previous criteria have  
35 been met including the presence of a *Registered PHY*, then the implementation is eligible of  
36 inclusion in the *WiMedia Certified End-Product* list. The date of posting is dependent on the

instructions given by the member in the implementation application. The product is required to be listed before commercial sale can begin.

As indicated by the flowchart in figure 2, it is possible to obtain both a PHY registration and designation as a *WiMedia Certified End-Product* with the same application, provided all relevant tests have been passed.

#### 6.1.9 Member notification of specific failure(s)

The CRB is responsible for informing the member that the application for the implementation they submitted for Certification has one or more failures or faults. Specifics of the failures shall be supplied with the notice.

The CRB shall not solicit nor suggest possible Exceptions. Members who wish to propose Exceptions do that on their own initiative. It is not necessary to have failed a test in a qualification event to propose an Exception: it may be done proactively to clarify requirements.

#### 6.1.10 Use of Exceptions

In the event of a failure or set of failures of an implementation passing required tests, a member may seek relief from requirements via the Exception process.

Execution of the process is dependent upon member request. In addition to instances where there are documented failures, any member can submit an Exception to be considered by the CRB prior to testing.

All exceptions are considered independent of particular implementations which may have failed testing.

The first determination the CRB must make when considering an Exception request is if the granting the request would require a change to one or more WiMedia specifications or is an issue concerning testing or test procedures.

#### 6.1.11 Appeals of Test Results

If the preliminary determination of the CRB is that the appeal indicates a fault in the tests or testing procedures, the CRB shall refer the question to the TSC for their technical judgment.

##### **Test or Testing Error**

No Exception is required if the TSC determines that either the tests were not a valid reflection of the intent of the WiMedia specifications or tests were not carried out correctly. It is the responsibility of the TSC to update test specifications and PICS to bring the Registration / Certification support information into alignment with WiMedia specifications.

##### **Technical Violation Confirmed**

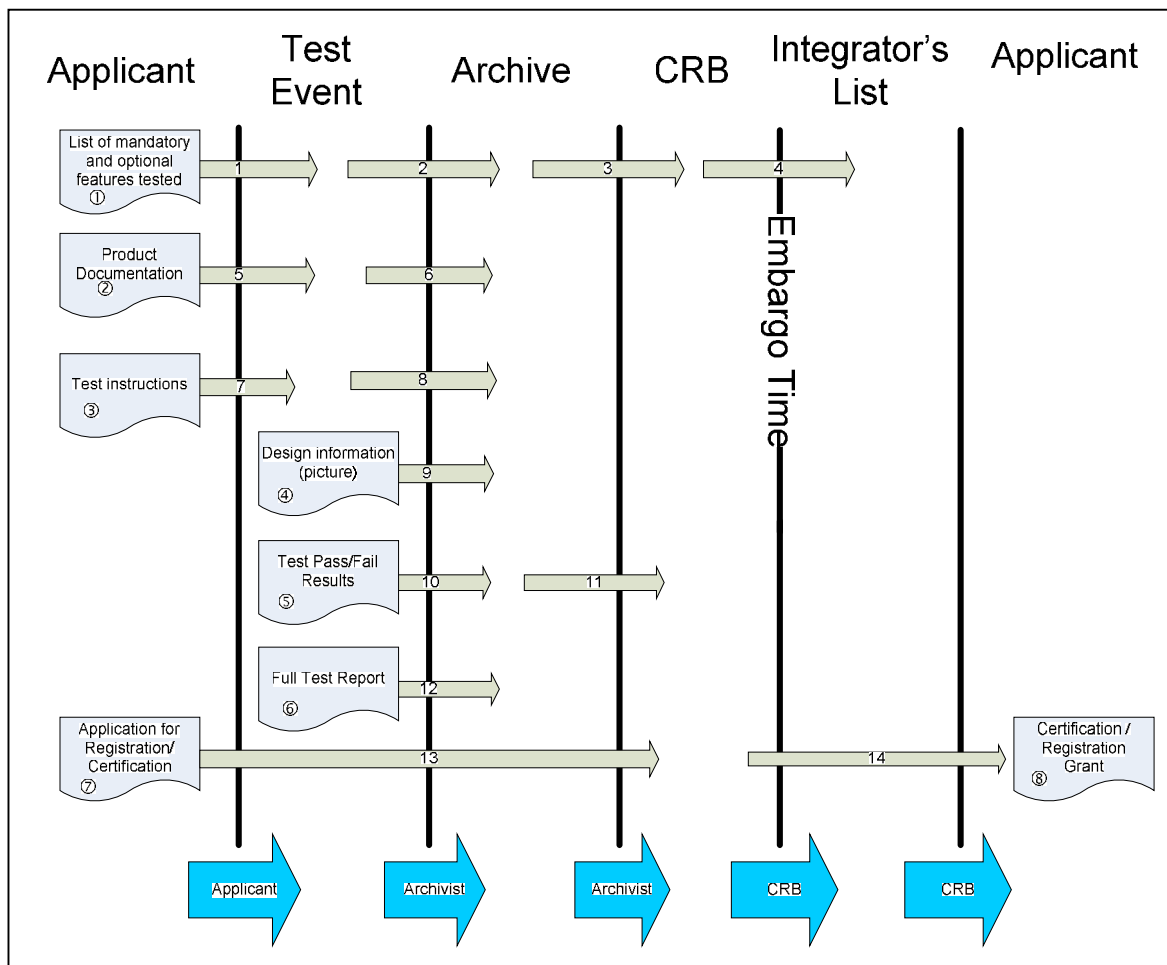
If the TSC concludes that the tests are consistent with the intent of WiMedia specifications and they were executed correctly, the CRB shall deny the application as a non conformance to technical specifications. If the TSC identifies the issue as a test problem, the CRB may ignore

test failures that occurred as a direct result of the identified problem when determining if an implementation passed testing.

### 6.1.12 Summary of Document Flow

Figure 3 illustrates the generation and disposition of documents that are part of the Registration and Certification system for WiMedia. The general flow is indicated by the heading row, which shows the information coming from the applicant going through the testing event, archive, CRB, Integrator's List, and finally back to the applicant. The vertical bars between columns are transitions, which require the action by the entity indicated by the large arrows on the bottom of the figure.

Not all documents in the process are represented in Figure 2. Documents produced as a result of unusual conditions, such as the failure to have current membership in WiMedia, are not shown in the figure. In addition, all documents produced by the CRB are archived. The figure also does not show document flow when Exceptions are being considered



The following documents are shown in Figure 2:

- ① List of mandatory and optional features tested, which corresponds to the Protocol Implementation Conformance Statement from the PHY and MAC specs
- ② Product documentation that describes the implementation, including versions of the component parts
- ③ Test instructions describe how the implementation can be made to perform the necessary functions to enable the required testing
- ④ Design information captured at the test event is a high quality digital image, taken by a WiMedia or ITL staff member
- ⑤ Test results are a summary of each test performed and the results gathered. It is a high-level pass/fail for each test the implementation attempts
- ⑥ A full test report, including details of the testing sessions, is archived and available to the CRB only if a Registration or Certification is called into question
- ⑦ Members may elect to submit an application for Registration and/or Certification after test events.
- ⑧ Registration and/or Certification Grant is issued by the CRB when they deem the implementation has passed all relevant tests and other criteria listed in this CIP have been met

Specific transitions are described in the following list:

1. The applicant submits a list of mandatory and optional features to be tested at a given event at least one week before the event is to take place. In cases where Registration / Certification is performed by an ITL, the one week advanced submission time may be waived.
2. After the test event the mandatory/optional list is archived and a Registration/Certification folder is established for the implementation.
3. When the member applies for a Registration and/or Certification the archivist supplies the list of mandatory / optional features to be reviewed.
4. When the CRB approves the member's application, the list is made a part of the Integrator's List information after any embargo time specified by the member's application.
5. Product documentation that describes the implementation, including versions of the component parts is submitted by the member at the time the member arrives at the testing event or ITL.
6. Product documentation is archived after the event and is available to the CRB only if the CRB requires it when reviewing an issue relating to the implementation being Registered and/or Certified. The information is added to the Registration/Certification folder established for the implementation.

7. Instructions which describe steps necessary to cause the implementation under test to perform required functions is to be submitted at the time the member arrives at the testing event or ITL.
8. Operational instructions are archived after the event and added to the Registration/Certification archive folder established for the implementation.
9. A high-quality digital image of the implementation is archived after the event and is available to the CRB only if the CRB requires it when reviewing an issue relating to the implementation being Registered and/or Certified.
10. The summary of the test results are archived.
11. The summary of the test results are passed to the CRB upon application by the member for Registration and/or Certification.
12. Details of the testing of the implementation is archived after the event and is available to the CRB only if the CRB requires it when reviewing an issue relating to the implementation being Registered and/or Certified.
13. Members may apply to the CRB for Registration and/or Certification after the test event is complete. The application is archived.
14. The information in the application is made part of the Integrator's List data if the implementation meets all the requirements for Registration/Certification.

## 6.2 Test Methods

A member who wishes to obtain *Registration* or *Certification* for its WiMedia-based implementations has the following options:

- 1) participate in WiMedia sponsored *Certification Workshops*
- 2) participate in WiMedia sponsored *Certification Workshops* which may be hosted by other industry organizations (e.g. USB-IF) that have been given authority to provide *Registration* or *Certification* (e.g. WiMedia and Certified Wireless USB) during the same event.
- 3) utilize an *Independent Test Lab (ITL)*.

The CRB shall approve of the test equipment and reference units to be used at WiMedia *Certification Workshops* and *ITLs*. Members participating in *Certification Workshops* or utilizing an *ITL* shall sign the WiMedia Compliance and Interoperability Rules of Engagement, a confidentiality agreement which guarantees they will not disclose any results without written approval of WiMedia.

### 6.2.1 WiMedia Certification Workshops

WiMedia will sponsor *Certification Workshops* from time-to-time, as determined by the CRB. These are events for compliance and interoperability testing; they may be hosted in conjunction with other industry events.

Members are expected to bring their *implementations* for compliance and interoperability testing at these events. Test equipment will be made available by or through WiMedia. Members will be expected to send qualified personnel to run the tests in conjunction with trained WiMedia personnel. Trained WiMedia representatives shall produce the test report. Training of such WiMedia representatives shall be determined by the CRB.

The *Certification Workshops* are intended to be used for the purpose of conducting interoperability and compliance tests. Vendors are expected to bring implementations that were pre-tested before coming to the event. The event is not intended for development purposes. Conditions permitting, time may be allotted for debug of interoperability problems discovered during the *Certification Workshop*.

WiMedia will notify its members at least thirty (30) days before the event. Members are expected to confirm their participation at least one week before the event. WiMedia will notify the participants on the expected test plan for the event according to the number of participants.

WiMedia will define the targets of each *Certification Workshop* (e.g. *PHY* testing, *WCRP* testing) and will publish the test conditions expected to be carried during the event (e.g. test document version, test list, test equipment, reference units) at least thirty (30) days before the event.

## 6.2.2 Independent Test Labs

WiMedia will also utilize *Independent Test Laboratories (ITL)* for compliance and interoperability testing, augmenting the *Certification Workshop* activities. Contact information for WiMedia qualified *ITLs* will be available online, as they become available.

*ITL* facilities must be qualified by WiMedia and will be expected to sign the WiMedia Independent Test Lab Agreement. Exact methods for qualification shall be specified and will include *ITL* demonstration of its testing ability, and *ITL* facility assessment. Such qualification is valid for 3 years. In order to become an *ITL*, the facility must:

1. be a WiMedia member
2. meet the requirements as specified by the WiMedia ITL Qualification Requirements
3. have no other issues that may become known that would preclude accreditation

Once the *ITL* is qualified, it shall be listed by WiMedia publicly on its website and in appropriate marketing collaterals. The *ITL* qualification does not in any way guarantee the validity of each and every test result. WiMedia and the CRB cannot be held liable for any claims against a recognized *ITL*.

There will be several different types of testing that *ITLs* can be qualified for. Early examples are WiMedia *PHY* testing and WiMedia *CRP* testing. *ITLs* will be individually qualified to do each type of testing. *ITLs* will not be required to perform all types of WiMedia testing.

The CRB shall determine the number of qualified *ITLs* to help ensure a good business environment. The CRB shall select *ITLs* so as to provide global testing coverage for its membership. The WiMedia *ITL* selection may be influenced by the *ITLs* capabilities to also test



standard applications (e.g. WUSB, WiMedia Networking, Bluetooth technology) utilizing the WiMedia Certified Radio Platform.

*ITLs* must follow the WiMedia Compliance & Interoperability Test Specs and procedures using approved test equipment. *ITLs* are responsible for obtaining the necessary test equipment. The CRB will conduct periodic audits of *ITLs* to ensure that WiMedia ITL Qualification Requirements are being met.

### 6.2.3 Reference Units

Some *Registered PHY* and *Certified Products* may be designated as *Reference Units* and are expected to be used as WiMedia benchmarks for interoperability. The *implementations* designated as *Reference Units* will change and the number of *Reference Units* may vary over time. Only *Certified Products* and *Registered PHYs* may earn this designation. Members with such *Reference Units* shall not use this designation as a marketing tool for differentiation.

*Reference Units* will be selected by the CRB based on their certification test results and they may undergo substantially more testing than what is required for *Registration* or *Certification*. This additional testing will be determined by the CRB. *Reference Units* will be made available at *Certification Workshops*. In addition, members with such *Registered PHYs* or *Certified Products* must openly offer them for sale worldwide to *Independent Test Labs* and other WiMedia companies for internal testing at fair and reasonable prices and terms.

## 6.3 Integrator's List

The *Integrator's List* is the official record of implementations which have successfully passed WiMedia compliance and interoperability testing. There are three listings derived from the Integrator's List; *Registered PHY (Integrator's PHY List)*, *WCRP (Integrator's WiMedia Certified Radio Platform List)*, and *WiMedia Certified End-Products (WiMedia Certified End-Product List)*. The phrase "*Integrator's List*" is used as the collective term for these lists in this document.

The Integrator's PHY List is a confidential record of *Registered PHY* implementations, maintained and administered by the CRB. The list is comprised of specific implementations that have met the criteria established by the CIP and are *Registered PHYs*. The purpose of *Registered PHYs* in the *Integrator's List* is to provide a "shopping list" for interested members.

The *Integrator's List* includes copies of the *WiMedia Certificates* for each *WCI*.

The purpose of the Certified End-Products List is to be a publicly-available listing of all currently Certified End-Products. The specifics of the contents of each of the lists is determined by the CRB and specified in their procedures document.

WiMedia members can view the entire *Integrator's List*. This list is a WiMedia proprietary document and is confidential to WiMedia member companies. The *Integrator's List* itself cannot be used for any public marketing purposes.

1 *The Integrator's PHY List* website shall not be publicly viewable to those who are not WiMedia  
2 members or employees of WiMedia Alliance. This website list shall include a subset of the  
3 information contained in the application, to be determined by the CRB.

4 Website listings of *WCI* that are not commercially available at the time of listing and where  
5 permission has not been explicitly given by the member shall not be made viewable as to not  
6 pre-empt any announcement or launch plans by the member company. The member company  
7 must give express permission in writing to the CRB to allow public disclosure of the website  
8 listing and must also notify the CRB in writing when the *WCI* is commercially available for  
9 volume sale and delivery. There may also be some information in the records of the  
10 qualification process that manufacturers will want to keep as proprietary. WiMedia can use the  
11 website list in other media and formats for marketing purposes.

12 There is no restriction on members publicly announcing that their *Certified Products* are in the  
13 *Integrator's List*. Such announcement must be consistent with WiMedia guidelines.

## 14 **6.4 Review of Test Results**

15 The results from compliance and interoperation testing shall be reviewed by the CRB or a  
16 designee of the CRB. A pass/fail outcome shall be determined by the designee of the CRB,  
17 based on the test report and a recommendation is extended to the CRB. The designee may or  
18 may not be a member of the CRB. Such a designee must be without conflict of interest to the  
19 implementations being reviewed. This outcome should be given in no more than 1 week from  
20 completion of testing when utilizing *ITLs* or 2 weeks from completion of testing when utilizing  
21 *Certification Workshops*. CRB will make the final determination of pass or fail for each  
22 application.

## 23 **6.5 Certification Period, Expiration, and Retest**

24 In order to maintain the integrity of *Registered PHYs* and *Certified Products*, there is an  
25 expiration on all *PHY Registrations* and *Product Certifications* issued. This expiration policy is  
26 intended to address incremental releases to *MAC*, *PHY*, or *ULP* (e.g. WiMedia Networking)  
27 compliance and interoperability test specifications. *Registered PHYs* and *Certified Products*  
28 shipping may also cause unforeseen interoperability difficulties which were not initially taken  
29 into account in the test specs; this is a mechanism to address these issues.

30 Prior to expiration, members with *Registered PHYs* and *Certified Products* should verify what  
31 means are required to maintain compliance. To maintain *Registration* or *Certification*:

- 32 1) The implementation owner must be a WiMedia member. If the implementation owner's  
33 membership is terminated, the *Certified Product* loses its *Certified* status, or the  
34 *Registered PHY* loses its *Registered* status, at time of termination.
- 35 2) *Registered PHYs* and *Certified Products* have a registration or certification period of two  
36 (2) years, from the *Registration* or *Certification* date, unless an Exception is used to  
37 enable Certification. In the latter case, the Certification expires when the earliest  
38 Exception expires.

- 3) If the *Registered PHY* or *Certified Product* is still available for sale, re-*Registration* or re-*Certification* by the member is required prior to expiration. Otherwise the implementation may be subject to retesting.
- 4) Reminder notices will not be issued. *Registered PHY* and *Certified Product* owners are responsible to track re-certification dates for their implementations.
- 5) If retesting **is** required due to material changes in the specifications, the implementation will need to be tested again before expiration to the most current Compliance & Interoperability Test Specs. The CRB will notify members with implementations that require retest. Procedures for retest will be published by the CRB.
- 6) If retesting is **not** required, a notice will be given allowing for administrative re-*Registration* or re-*Certification* without retest. In this case, registration or certification will be extended by 2 years from the expiration date and, with appropriate fees paid, granted procedurally.
- 7) If a *Registered PHY* or *Certified Product* is not re-*Registered* or re-*Certified* within ninety (90) days after expiration, the implementation will be de-*Registered* or de-*Certified*, and removed from the Integrator's List. If the member fails to re-*Registered* or re-*Certify* the implementation within this grace period and wishes to have *Registration* or *Certification*, then the implementation must be tested and *Registered* or *Certified* again.

## 6.6 Rebranding Arrangements

If an OEM or rebranding entity wishes to rebrand a *Certified Product* currently on the *Integrator's List* under another member's name (e.g. an *ODM*), it is possible to have the same *Certified Product* added to the Integrator's List under the *OEM's* name without retesting. To do so, the member must submit the Certification by Equivalency Form for an *OEM* arrangement. The requirements for a company to *Certify* an implementation or display the WiMedia trademark in conjunction with its *Certified Products* are:

- 1) The *OEM* or rebranding entity must be a WiMedia member.
- 2) The *Certified Product* must be listed on the Integrator's List under that member's name.
- 3) The OEM or rebranding entity must execute the WiMedia Alliance Registration & Trademark License Agreement.

All requirements must be met before a member may *Certify* an existing implementation without retesting. The OEM must be a member in order to claim certification and to have rights to use the WiMedia logos.

## 7 Exception Policy

All implementations are required to pass all relevant tests for Registration/Certification. The process of defining Exceptions to allow variance from currently-established specifications and tests is defined in this section.

Implementations are required to pass all tests in the corresponding test specification in order to receive PHY Registration or Platform Certification. A test can be passed in one of two ways -- with or without consideration of Exceptions. Any approved Exception to a technical specification must also explain what allowances are made for the Exception in the corresponding test specification. An implementation must at a minimum pass the test taking into account the allowances made for the Exception. The results of the test must reflect whether an implementation passed the test with no allowances for Exceptions, if it passed with allowances for one or more Exceptions (and identify which Exceptions), or if it failed to pass the test, even with allowances for Exceptions.

The Exception process provides a method for temporarily changing a governing specification<sup>2</sup>. These temporary changes are meant to relax requirements to enable implementations to qualify for Registration / Certification under the belief that a specific deficiency in implementations does not cause operational impacts that effect end-user experience to a great degree. The time each Exception is valid is recommended by the CRB to the TSC, who are responsible for setting the date of expiry.

When the term of an Exception expires, any Registrations or Certifications of implementations that utilize them shall be required to be retested to maintain Registration/Certification status.

## **7.1 CRB Requests to TSC**

The input to the TSC is expected to contain a specific change request referring to one or more clauses in the core specification part of a Final Deliverable, and shall contain a justification for the exception including reasons why the exception is expected not to have an impact on the end-user experience. The member submitting the Exception Request is required to supply all pertinent information, which the CRB will review. The request to the TSC by the CRB includes a suggested time frame for the validity of the Exception, if granted.

## **7.2 CRB Analysis of Non Conformance to Technical Specifications**

The CRB is responsible for determining if a proposed Exception, if allowed, will cause undesirable behavior in any implementation that utilizes it. The behavior of an implementation that utilizes the Exception must have:

1. Minor impact to the user's experience with a product implementation utilizing the Exception.
2. Little or no discernable impact with the user's experience to other WiMedia products directly communicating with the product utilizing the Exception.
3. No impact to other WiMedia implementations in the immediate area which are not in direct communication with the product utilizing the Exception.
4. Little or no discernable impact to WiMedia products not utilizing the Exception.

---

<sup>2</sup> Note: This process does not allow specific permissions for named implementations. Exceptions are available to any implementation for the duration of the term of the Exception.

1 The CRB shall establish and publish procedures to ensure that continuity over time is maintained  
2 in assessing impact of Exceptions. The member submitting an Exception may use a currently-  
3 established methodology for demonstrating impact or submit documentation for a new  
4 methodology, which the CRB may adopt as an established methodology.

5 Methodologies may include:

- 6 • Analysis
- 7 • Simulation
- 8 • Test demonstrations

9 Guidelines for creating methodologies will be documented in the CRB procedures document.

### 10 7.2.1 Proposed Exception Impacts end-user experience

11 If the CRB determines that the likely impact of adopting the proposed Exception will allow the  
12 behavior cited in section 7.4, the CRB shall deny the request and notify the member with specific  
13 reason(s). The member may appeal to the WiMedia Board of Directors if they feel the CRB  
14 erred in their decision.

### 15 7.2.2 No Impact to end-user experience

16 If the CRB determines that a proposed Exception does not negatively impact end-user  
17 experience, the CRB shall consult with the TSC to corroborate the finding.

### 18 **CRB creates Exception request**

19 The CRB shall create a set of Exception request documents that includes the following:

- 20 ➤ The Exception request as submitted by the member company.
- 21 ➤ Summary of research done by the CRB in determining probable negative impact.
- 22 ➤ Recommendation of the CRB for time frame for Exception to be in effect.

### 23 **TSC exception review process**

24 The specifics of the TSC review process is documented in their policies and procedures and is  
25 not reproduced here. The results of their review process may be:

- 26 ➤ TSC needs more information – receipt of clarification request essentially restarts the CRB  
27 consideration process after some additional research
- 28 ➤ TSC accepts exception – confirmation of the appropriateness of the Exception enables the  
29 CRB to publish the Exception on the WiMedia members-area website. It also enables  
30 review of test results in light of the Exception and is then processed as specified in  
31 Section 6. The TSC is responsible for setting the date of expiry, based on their judgment  
32 and the recommendation of the CRB.
- 33 ➤ TSC rejects exception – rejection of the Exception request by the TSC results in the CRB  
34 generating a notice of non-adoption of the Exception by WiMedia to the requesting  
35 member company.

## 8 Extensions

Members may choose to implement *Extensions* to their *WCI*. These *Extensions* are features or facilities added to those *WCIs* that are not explicitly stated in a WiMedia *Final Deliverable* but build upon, use, incorporate or implement, in whole or in part, such *Final Deliverable*.

If a *WCI* uses, incorporates or implements *Extensions*, the *WCI* must meet the following requirements in addition to the other terms of this policy

1. If an *Extension* is used, incorporated or implemented in a *WCI* at the time of initial submission for certification, such *WCI* with *Extensions* under test must also demonstrate that:
  - a. it does not interfere with other *WCI* without such *Extensions*; and
  - b. it does not in any way degrade the performance of any other *WCI* without such *Extensions*.
2. If an *Extension* is used, incorporated or implemented in or into a *WCI* following a *WCI*'s certification, such implementation must be re-Certified by WiMedia and also demonstrating that:
  - a. it does not interfere with other *WCIs* without such *Extensions*; and
  - b. it does not in any way degrade the performance of any other *WCI* without such *Extensions*.

WiMedia is likely to approve multiple *Final Deliverables* over time. *Final Deliverables* approved in the future may render a *WCI* with an *Extension* non-WiMedia compliant or interoperable irrespective of whether such implementation with an *Extension* was deemed WiMedia compliant and interoperable under an earlier *Final Deliverable*.

## 9 CIP Implementation and Enforcement

The general guidelines for implementing this Policy are set forth below, which guidelines may be supplemented or modified by WiMedia in its sole discretion from time-to-time. The term "compliance" or "compliance and interoperability" in the context of this section refers to adherence to all necessary specifications, tests, and procedures necessary for an implementation to attain the status of Registered or Certified. "Non-compliance" in this context refers to the failure of one or more of the above.

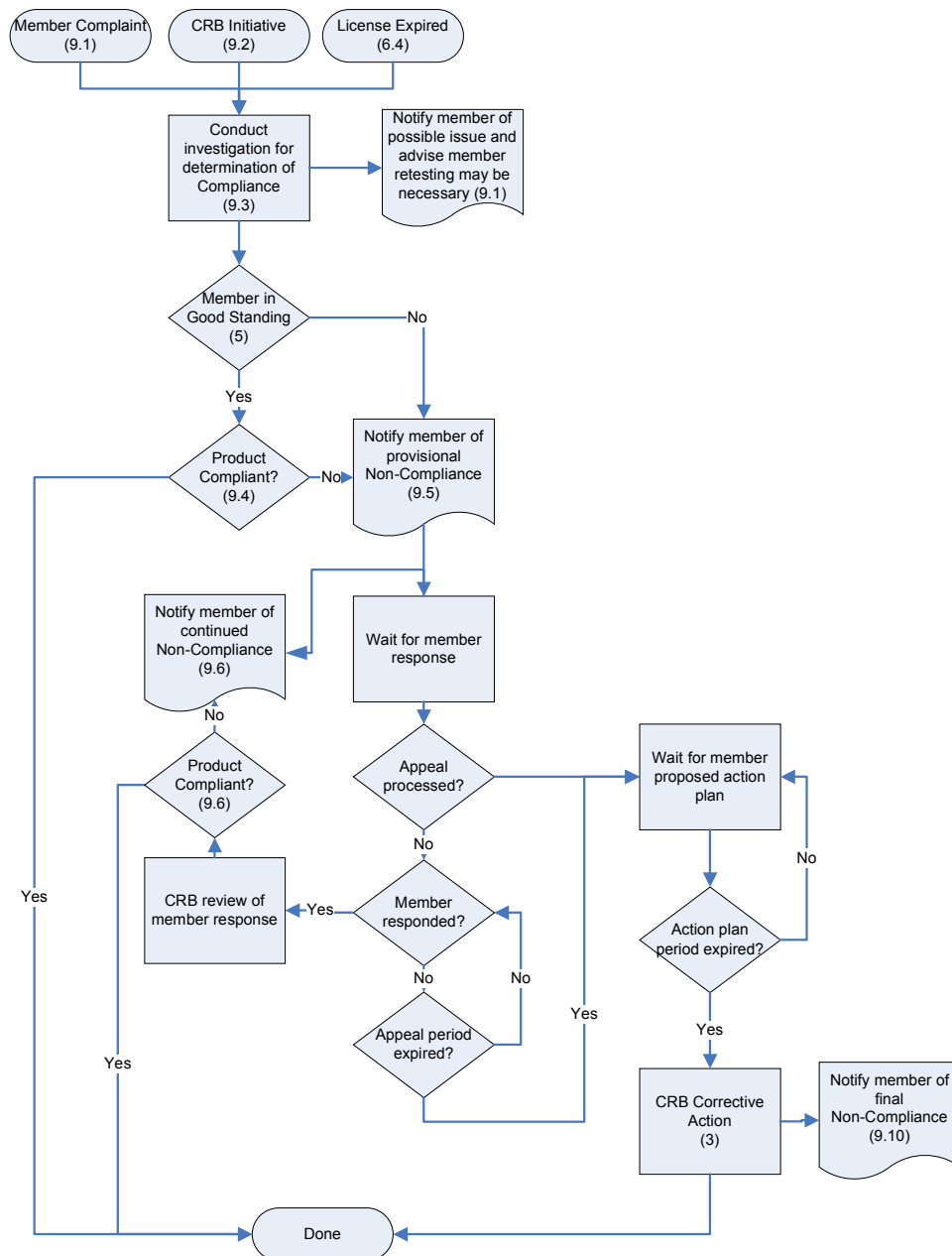


Figure 4 – Enforcement flowchart

### 9.1 Member Belief of Non-Compliance

If a Member believes a *Registered PHY* or *Certified Product* does not comply with this CIP, such member may request to the CRB a WiMedia investigation. At the time a member requests a WiMedia investigation; such member must provide the CRB with written notice of its assertion of non-compliance accompanied by complete and detailed supporting documentation. The CRB shall then notify the member asserted to be in non-compliance that another company is requesting a WiMedia investigation.

## 9.2 WiMedia Belief of Non-Compliance

If the CRB believes a *Registered* or *Certified Product* does not comply with this CIP, the CRB may initiate an investigation. If an investigation of non-compliance is initiated by the CRB, the CRB will provide the member asserted to be in non-compliance with written notice of such investigation and any applicable and appropriate supporting documentation.

To enforce this CIP the CRB may select a *Registered* or *Certified Product* for random spot-checks within the 2-year certification period. The frequency and number implementations selected for these spot-checks is determined by the CRB and may vary. These spot checks will include testing to verify adherence to compliance and interoperability test specifications and include checks to verify compliance to the logo policy. The CRB may contract with one of the approved *Independent Test Labs* to perform compliance and interoperability testing. The WiMedia member company will be informed by the CRB that their implementation has been selected for random spot-checks and may be requested to submit test board(s) to facilitate testing at the *PHY* layer.

## 9.3 Conduct an Investigation

In all cases of requests for investigation, the CRB shall determine whether to conduct an investigation and, if so, the extent of such investigation. Nothing contained in this CIP obligates WiMedia to undertake an investigation.

## 9.4 Testing for Asserted Non-Compliance

The CRB may itself undertake additional testing of the asserted non-compliance (including through a subcontractor or agent) and/or require the member asserted to be in non-compliance to undertake such testing to determine whether such implementation complies with this CIP.

Testing in this case shall be done by different personnel (if original testing was done at a Certification Workshop) or by a different ITL (if original testing was done at an ITL).

By way of example, the CRB may test whether approved test equipment or reference units, in the presence of a *Registered* or *Certified Product*, can continue to perform in a manner comparable to that specified in approved compliance and interoperability test specifications.

## 9.5 Notice of Non-Compliance and Appeal

If the CRB determines that a *Registered PHY* or *Certified Product* does not comply with this CIP, the CRB shall provide written notice of non-compliance to the applicable member. A notice shall also be logged in a revision history of the list of compliant implementations. Such member shall have the right to challenge the findings only by providing additional test data that directly, clearly and unequivocally refute the original determination of non-compliance to the CRB within twenty (20) business days from the date of the CRB's original notice of determination of non-compliance. Failure to provide data that refute the original determination of non-compliance within such time period will result in a final determination of non-



compliance. If data submitted by a member does not, to the CRB's satisfaction, directly, clearly and unequivocally refute the original determination of non-compliance, due to such data being incomplete, not sufficiently comprehensive or other WiMedia concerns, the CRB shall notify such member of the incompleteness or other insufficiency, and such member will have an additional fifteen (15) business day period to remedy such incompleteness or other insufficiency.

## 9.6 Non-Compliance Remedy

If, after the above process, the CRB determines that such *Registered PHY* or *Certified Product* is not WiMedia compliant or interoperable, the member shall submit a plan of action to correct the problem for approval by the CRB. If a plan of action acceptable to the CRB is not submitted within ten (10) business days, the CRB shall provide a final notice of non-compliance to the applicable member.

## 9.7 Member Cooperation for Investigations

All members involved in any investigation under this CIP shall cooperate with WiMedia. Non-responsiveness of, or a failure to cooperate by, a member under this CIP will be deemed a violation of this CIP.

## 9.8 Confidentiality of Investigations

Other than at WiMedia's written request, members involved with any investigation under this CIP shall not comment publicly or otherwise disclose, and shall keep confidential, the fact that there has been a request for an investigation, any information about a pending investigation, or any information about the results of an investigation, according to the WiMedia confidentiality sections in the Contributor and Adopter Agreements.

# 10 Fee Structure

All fees are due at the time forms are submitted. The following fees shall be applied according to the fees determined in the WiMedia Compliance and Interoperability Procedures document:

- Company participation per WiMedia Certification Workshop
- *PHY* Registration (for 2 year period)
- *WCRP* Certification (for 2 year period)
- *End-Product* Certification (for 2 year period)
- Certification by Equivalency
- *ITL* Qualification

ITL fees vary by location. Test labs are required to have price lists available to customers for various services.

1