ZigBee Alliance

Project	ZigBee Alliance	
Title	**064712r01ZB_ZQG-Manufacturer_Specific_Profile_PICS**	
Date Submitted	[March 2, 2007]	
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Re:	ZigBee V1.0 PICS for the Manufacturer Specific Profile (MSP)	
Abstract	As a part of formal conformance testing, manufacturers will be asked to submit a statement of protocol conformance with respect to the appropriate Manufacturer Specific Profile implementation. This document is intended to provide the form of that statement of conformance for the MSP.	
Purpose	This document provides a form whereby developers can proffer a statement of protocol conformance to be tested under profile testing.	
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Change history

The following table shows the change history for this specification.

Table 1 – Revision change history

Revision	Version	Description
0	-	Initial draft (Converted from the HCL PICS written by Don Sturek, contributions from Drew Gislason)
1	-	Added PICS items

Table of Contents

1 Introduction

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented for a given standard. Such a statement is called a protocol implementation conformance statement (PICS).

1.1 Scope

This document provides the protocol implementation conformance statement (PICS) proforma for the ZigBee specifications**Error! Reference source not found.** in compliance with the relevant requirements, and in accordance with the relevant guidance, given in ISO/IEC 9646-7.

This document addresses the Manufacturer Specific Profile.

1.2 Purpose

The supplier of a protocol implementation claiming to conform to a ZigBee private profile that uses a ZigBee Compliant Platform shall complete the following PICS proforma and accompany it with the information necessary to identify fully both the supplier and the implementation.

The protocol implementation conformance statement (PICS) of a protocol implementation is a statement of which capabilities and options of the protocol have been implemented. The statement is in the form of answers to a set of questions in the PICS proforma. The questions in a proforma consist of a systematic list of protocol capabilities and options as well as their implementation requirements. The implementation requirement indicates whether implementation of a capability is mandatory, optional, or conditional depending on options selected. When a protocol implementer answers questions in a PICS proforma, they would indicate whether an item is implemented or not, and provide explanations if an item is not implemented.

2 References

The following standards contain provisions, which, through reference in this document, constitute provisions of this standard. All the standards listed are normative references. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

2.1 ZigBee Alliance documents

[R1] Document 053474r06: ZigBee Specification

[R2] Document 064711r00: Manufacturer Specific Profile Test Specification

2.2 IEEE documents

[R3] IEEE Standard for Part 15.4: Wireless Medium Access Control (MAC) and Physical Layer (PHY) specifications for Low Rate Wireless Personal Area Networks (LR-WPANs), 2003.

2.3 ISO documents

[R4] ISO/IEC 9646-1:1991, Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts.

[R5] ISO/IEC 9646-7:1995, Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7. Implementation conformance statements.

SP180

3 Abbreviations and special symbols

Notations for requirement status:

M	Mandatory
O	Optional
O.n	Optional, but support of at least one of the group of options labeled O.n is required.
N/A	Not applicable
X	Prohibited
Item number: *Status*	Status is conditional on support of item number

"item": Conditional, status dependent upon the support marked for the "item".

For example, FD1: O.1 indicates that the status is optional but at least one of the features described in FD1 is required to be implemented, if this implementation is to follow the standard of which this PICS Proforma is a part.

4 Instructions for completing the PICS proforma

If a given implementation is claimed to conform to this standard, the actual PICS proforma to be filled in by a supplier shall be technically equivalent to the text of the PICS proforma in this annex, and shall preserve the numbering and naming and the ordering of the PICS proforma.

A PICS which conforms to this document shall be a conforming PICS proforma completed in accordance with the instructions for completion given in this annex.

The main part of the PICS is a fixed-format questionnaire, divided into tables. Answers to the questionnaire are to be provided in the rightmost column, either by simply marking an answer to indicate a restricted choice (such as Yes or No), or by entering a value or a set or range of values.

5 Identification of the implementation

Implementation under test (IUT) identification (MSP)

IUT name: NetBotz Wireless POD

IUT version: NBPDϕ18ϕ

System under test (SUT) identification (ZCP, MAC and PHY)

SUT name: NetBotz NBPDϕ18ϕ

Software Version:

Hardware Version:

Operating system (optional):

Product supplier

Name: SCHNEIDER ELECTRIC IT CORPORATION

Address: 800 FEDERAL ROAD ANDOVER MA 01810

Telephone number: 978 975-14ϕ8

Facsimile number: —

Email address: VINCENT.HAWKHURST@APCC.COM

Additional information:

Client

Name:

Address:

Telephone number:

Facsimile number:

Email address:

Additional information:

PICS contact person

Name: VINCENT HAWKHURST

Address: 800 FEDERAL ROAD

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Telephone number: 978 975- 1408

Facsimile number: —

Email address: VINCENT.HAWKHURST@AFCC.COM

Additional information:

6 Identification of the protocol

This PICS proforma applies to Manufacturer Specific Profile, cited in References [R2], **Error! Reference source not found., Error! Reference source not found., Error! Reference source not found..**

7 Global statement of conformance

The implementation described in this PICS proforma meets all of the mandatory requirements of the referenced standards:

Standard(s): Manufacturer Specific Profile, cited in References [R2], **Error! Reference source not found., Error! Reference source not found., Error! Reference source not found.,**

☉ Yes

☐ No

Note -- Answering 'No' indicates non-conformance to the specified protocol standard. Non-supported mandatory capabilities are to be identified in the following tables, with an explanation by the implementer explaining why the implementation is non-conforming.

The supplier will have fully complied with the requirements for a statement of conformance by completing the statement contained in this sub-clause. That means, by clicking the above, the statement of conformance is complete.

8 PICS proforma tables

The following tables are composed of the detailed questions to be answered, which make up the PICS proforma.

8.1 MSP Basic requirements

Table 2 – MSP requirements

Item number	Item description	Reference	Status	Support
BR1	Are the MSP devices based on a Zigbee Compliant Platform?	[R2] 1.1.1	M	Y
BR2	Are the MSP devices based on ZCP certified software and hardware?	[R2] 1.1.1	M	Y

Below, please provide a detailed description of the the changes made to the certified ZCP platform (removed features/commands, changed features, etc.)

None use TI's Z-stack 2.5.1a

8.2 MSP Deployment Case

Table 2 – MSP Deployment cases

Item number	Item description	Reference	Status	Support
DC1	Does the MSP follow a restricted access model?	[R2] 1.2.1	O.1	
DC2	Does the MSP follow an Access open network?	[R2] 1.2.2	O.1	
DC3	Does the MSP follow a Device access network?	[R2] 1.2.3	O.1	

8.3 MSP general information and conventions

Table 4 – MSP Devices

Item number	Item description	Reference	Status	Support
ZD1	Is the MSP device capable of acting as a coordinator?	[R1] 1.2.1	O.2	
ZD2	Is the MSP device capable of acting as a Router?	[R1] 1.2.2	O.2	
ZD3	Is the MSP device capable of acting as a End Device?	[R1] 1.2.3	O.2	

Table 4 – MSP Conventions

Item number	Item description	Reference	Status	Support
ZC1	Does the MSP device have a stack profile = 0?	[R2] NOTE	DC1:M	
ZC2	Does the MSP coordinator avoid using a channel with an existing PAN on it?	[R2] NOTE	O	
ZC3	Does the MSP device avoid continually retrying to form/join a network if it is incapable to do so?	[R2] NOTE	M	

Item number	Item description	Reference	Status	Support
ZC4	Do the MSP devices use Security?	[R2] NOTE	O	Yes
ZC5	Does the MSP coordinator beacon at least 3 times before forming a PAN?	[R2] NOTE	O	Yr

8.4 MSP Coexistance

Table 5 –Commissioning scenarios

Item number	Item description	Reference	Status	Support
CO1	Can the MSP network start up without disrupting an established network?	[R2] 3.1.1	DC1:M DC2: M	Y
CO2	Can the MSP network, in an established state, not disrupt another network starting up?	[R2] 3.1.2	M	Y
CO3	Can the MSP network coexist with another established network while trafficking its own data?	[R2] 3.1.3	M	Y
CO4	Can the MSP network start up without disrupting another network that is starting up at the same time?	[R2] 3.1.4	DC1:M DC2:M	Y

Table 6 – Network level functioning scenarios

Item number	Item description	Reference	Status	Support
NLF1	Can the MSP device join a public network?	[R2] 3.2.1	DC1:X DC2:M DC3:M	N
NLF2	Can the MSP network/device allow public devices to join	[R2] 3.2.2	DC1:X DC2:M	N

Item number	Item description	Reference	Status	Support
	the network?		DC3:M	
NLF3	Can the MSP device broadcast data without negatively affecting other devices?	[R2] 3.2.3	O	y
NLF4	Can the MSP devices communicate using their private profile without affecting other devices of different application profiles?	[R2] 3.2.4	M	y
NLF5	Can the MSP network run at its maximum without disrupting other networks or devices?	[R2] 3.2.5	M	y

Table 7 –AF Interoperability scenarios

Item number	Item description	Reference	Status	Support
AFI1	Can the MSP device properly answer a ZDO Service Discovery?	[R2] 3.3.1	DC2:M DC3:M	y
AFI2	Can the MSP device properly answer a ZDO Device Discovery?	[R2] 3.3.2	DC2:M DC3:M	y
AFI3	Can the MSP device properly answer a Route request?	[R2] 3.3.3	DC2:M DC3:M	y
AFI4	Can a MSP device allow devices using other application profiles to join?	[R2] 3.3.4	DC1:X DC2:M DC3:M	N
AFI5	Can the MSP device route packets of other application profile devices under direct transmission?	[R2] 3.3.5	DC2:M DC3:M DC1	N
AFI6	Can the MSP device send packets over a tree containing devices of different application profiles?	[R2] 3.3.6	DC2:M DC3:M DC1	N