



Wi-SUN Alliance

Test and Certification Working Group (TCWG)

**Protocol Implementation Conformance Statement (PICS)
for CISCO IR509
Submission for Wi-SUN Certification
Based on Wi-SUN IEEE802.15.4g PHY PICS 1v02**

Revision 1V00

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1 6 Identification of the Implementation

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3 **Implementation under test (IUT) identification**

4 IUT name: Cisco IR509

5 IUT version: IR509

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7 **System under test (SUT) identification**

8 SUT name: IR509UWP-915/K9

9 Software Version: IR509-V6.1

10 Hardware Version: IR509-D0

11 Operating system (optional):

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13 **Product supplier**

14 Name: Cisco Systems, Inc.

15 Address: 170 West Tasman Dr. San Jose, CA 95134 USA

16 Telephone number: See PICS contact below

17 Facsimile number: Deprecated

18 Email address: xiangfan@cisco.com

19 Additional information: None

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21 **Client**

22 Name: Cisco Systems (China) Research and Development Co., Ltd.

23 Address: 2F, Xinsi Building, No. 926 Yi Shan Rd, Shanghai 200233, China

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29 **PICS contact person**

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1 **7 Identification of the Protocol**

2 This PICS proforma applies to standards given in the following:

- 3 - IEEE Std. 802.15.4-2011 [A1]
4 - IEEE Std. 802.15.4g-2012 [A2]

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8 Global Statement of Conformance

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

- IEEE Std. 802.15.4-2011 [A1]
- IEEE Std. 802.15.4g-2012 [A2]

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 subclause. However, the supplier may find it helpful to continue to complete the detailed tabulations in the subclauses that follow.

9 PICS Proforma Tables

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

9.1 Major Capabilities for the PHY

The requirements for the PHY capabilities are described in this section.

9.1.1 PLP Capabilities

The requirement for the PLP is described in 1.

Table 1 – PHY packet

Item number	Item description	Reference	Status	Support		
				N/A	Yes	No
PLP 1	Transmission of PPDU packets	9 [A1]	M		X	
PLP 2	Reception of PPDU packets	9 [A1]	M		X	
PLP3	PSDU size up to 2047 octets [†]	9.2 [A2]	M		X	

[†] For Echonet Profile, the PSDU size is up to 255 octets.

9.1.2 RF Capabilities

The requirements for the PHY RF capabilities are described in Table .

Table 2 – Radio frequency (RF)

Item number	Item description	Reference	Status	Support		
				N/A	Yes	No
RF1	SUN PHYs					
RF1.1	MR-FSK	18.1	M		X	
RF1.2	MR-FSK Generic PHY	8.1.2.10.2	O			X
RF1.3	Transmit and receive using CSM	8.1	M**	X		

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Item number	Item description	Reference	Status	Support		
				N/A	Yes	No
RF1.4	At least one of the bands given in Table 66 [A2]	8.1	M		X	
RF1.5	Support of 915 MHz band in Table 66 [A2]	8.1.1	O.1		X	
RF1.6	Support of 920 MHz band or 950 MHz band in Table 66 [A2]	8.1.1	O.1		X	
RF1.7	Support of channel plan	8.1.2	M		X	
RF2	SUN PHY operating modes					
RF2.1	Operating mode #1 in 915 MHz band	18.1	RF1.5:M		X*1	
RF2.2	Operating mode #2 in 915 MHz band	18.1	RF1.5:O			
RF2.3	Operating mode #3 in 915 MHz band	18.1	RF1.5:O		X	
RF2.4	Operating mode #1 and #2 in 920 MHz or 950 MHz band	18.1	RF1.6:M*			
RF2.5	Operating mode #3 and #4 in 920 MHz or 950 MHz band	18.1	RF1.6:O			
RF3	MR-FSK Options					
RF3.1	MR-FSK FEC	18.1.2.4	RF1.1: O RF1.2: O			
RF3.2	MR-FSK interleaving	18.1.2.5	RF1.1: O RF1.2: O			
RF3.3	MR-FSK data whitening	18.1.3	RF1.1: O RF1.2: O		X	

1 * Note: 1. Only mode #1b and mode #3 in the 915MHz band is required for USFAN PHY test.

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