



IEEE2030.5 CONFORMANCE TESTING REPORT FOR:

**Kitu Systems, Inc.
San Diego, California
USA**

BY:

**UL LLC
RTP, NC USA
Based on the QualityLogic IEEE 2030.5 Conformance Test Program**

Product: Raspberry Pi Client Version 1.0

**DATE: 2016-02-03
PROJECT: 4787273838**

Release Control Record

Issue No.	Reason for Change	Date Issued	Modified by
1	None, Original	2016-02-03	-

Report Information

Independent Test Laboratory

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Conformance Test Program

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Testing Conducted For

Kitu Systems, Inc.
San Diego, California
USA

Equipment Under Test (EUT) Raspberry Pi Client Version 1.0

UL Project Number 4787273838
Date 2016-02-03

Report Signatures

For UL LLC:

For Quality Logic, Inc.

Signed: _____



Tested by: Mark Cuoccio

Date: 2016-02-03

Signed: _____



Date: 3-15-16

UL LLC reports apply only to the specific samples tested under stated test conditions. All samples tested were in good operating condition throughout the entire test program. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical software, electrical and mechanical components. UL LLC shall have no liability for any deductions, inferences or generalizations drawn by the client or others from UL LLC issued reports. This report shall not be used to claim, constitute or imply product certification, approval, or endorsement.

EXECUTIVE SUMMARY

Kitu Systems, Inc. recognizes UL as a global independent safety science company offering expertise across many different businesses, including Interoperability testing. For this expertise, Kitu Systems, Inc. required software to be tested using the tests described in the Consortium for SEP 2 Interoperability (CSEP), “Interoperability Certification Test Plan v1.0”, specified in this test report, using the CSEP approved certification test tools from QualityLogic.. This project followed QualityLogic’s approach to testing and evaluating IEEE 2030.5 as defined by the QualityLogic Inc. IEEE 2030.5 Conformance Test Program.

Kitu Systems, Inc. provided 1 sample(s) of the client to be tested. This report contains the results for the following client design: Raspberry Pi Client Version 1.0. Testing was conducted to determine the software’s ability to comply with the requirements and its ability to communicate with IEEE 2030.5. No certification mark or certificate of compliance was issued as a result of this testing. The Raspberry Pi Client Version 1.0 obtained compliant results for all of the IEEE 2030.5 Function Sets that were tested. Two Function Sets were not tested due to a QualityLogic Test Tool issue which will be corrected in future Conformance Tests.

The conformance testing was focused on basic IEEE 2030.5 **application protocol** and required optional function sets. The testing confirms that the device/software tested can communicate correctly with other IEEE 2030.5 devices/software.

The testing was segmented into function sets as identified below. The following table specifies the results for the testing:

Segment	Function Set	Client	Server
Core	CERT	Unable to Test	N/A
	DCAP	Pass	N/A
	DNS	Pass	N/A
	TLS	Pass	N/A
	TM	Pass	N/A
Optional	APPS	Pass	N/A
	COM	Pass	N/A
	DSGN	Pass	N/A
	DRLC	Pass	N/A
	EDEV	Unable to Test	N/A
	RSPS	Pass	N/A
	TP	Pass	N/A
	UPT	N/A	N/A

Detailed testing and results are contained in the attached report.

TEST RESULTS SUMMARY

The Raspberry Pi Client Version 1.0 was subjected to the requested tests with the results noted in the table below. The CSEP approved QualityLogic Test Tools used were the Version V1.0 Release of the Functional Test Suite (FTS) Client Tester and Ad Hoc Client Tester.

Column Heading Definitions for Summary of Test Results Table

The following Summary of Test Results table contains these columns of information:

- **FTS Suite** column gives the name of the IEEE 2030.5 Function Set and the test cases were consistent with the CSEP defined Test Specification.
- **Test** column gives the test name from the CSEP, “Interoperability Certification Test Plan v1.0”¹.
- **Results** column gives the results of the evaluation (Compliant, Non-compliant, etc.).
 - **Compliant:** The EUT met the requirements of the corresponding criteria.
 - **Non-compliant:** The EUT did not meet the requirements of the corresponding criteria.
 - **NA:** The criteria were Not Applicable to Equipment Under Test {Explanation Required}
 - **ENS:** The specific feature was Not Supported by the customer.
 - **Unable to Test:** the test case could not be completed due to a QualityLogic Test Tool issue.
- **Comments** see PICS chart below for details

¹ The CSEP Test Plan is copyright CSEP and is available to members of the Wi-Fi, Zigbee and HomePlug Alliances and the Bluetooth SIG.

Summary of Test Results

FTS Suite	Test	Results	Comments
TM	APPS1	Compliant	
	DSGN17	Compliant	
	TM2	Compliant	
EDEV	EDEV15	Unable to Test	
DRLC	APPS1	Compliant	Warning on DR21 PICS check
	DSGN2	Compliant	Warning on DR21 PICS check
	DSGN17	Compliant	Warning on DR21 PICS check
	COM6	Compliant	Warning on DR21 PICS check
	COM11	Compliant	Warning on DR21 PICS check
	COM13	Compliant	
	COM15	Compliant	Warning on DR21 PICS check
	COM16	Compliant	Warning on DR21 PICS check
	COM17	Compliant	Verified with sniffer trace
	COM18	Compliant	Warning on DR21 PICS check
	COM20	Compliant	Warning on DR21 PICS check
	COM24	Compliant	Warning on DR21 PICS check
	COM25	Compliant	Warning on DR21 PICS check
	COM27	Compliant	Warning on DR21 PICS check
	COM30	ENS	
	COM34	Compliant	Warning on DR21 PICS check
	COM49	Compliant	Warning on DR21 PICS check
	COM60	Compliant	Warning on DR21 PICS check Kitu manually opted out using DM interface
	DR16	Compliant	Warning on DR21 PICS check
	DR22	Compliant	Warning on DR21 PICS check
	DR24.1	Compliant	
	DR24.2	Compliant	Warning on DR21 PICS check
	DR25	Compliant	Warning on DR21 PICS check
	DR29	ENS	
	DR34	Compliant	Warnings on DR21 and DR33 PICS check
	DR37	ENS	
	DR84_1	NA	Test is optional
	DR84_2	NA	Test is optional
RSP3	Compliant		
TM34	Compliant		

FTS Suite	Test	Results	Comments
TP	TP5	Compliant	Client does not display pricing
	TP26	Compliant	
	TP27	Compliant	
	TP77	Compliant	
	TP93	NA	Test case waived by CSEP
TLS	TLS14.1	Compliant	
	TLS18	Compliant	
	TLS28	Compliant	
	TLS30	Compliant	
	TLS32	ENS	Client does not support self-signed certificate
	TLS38	Compliant	
CERT	CERT2	Unable to Test	“Valid-Dev-Cert-1-Server” and “Valid-Mica-PolicyQualifier” Cert unavailable in QL Test Tool
	DNS01	Compliant	

PICS Checks

DR21	The PICS document defines DR21 as: “If the DRLC client is capable of supporting multiple parameters from the ones that have been included in the event, it SHOULD select the parameter that best fits its functionality.” The DR21 “warning” was generated because the test harness was not able to check for client’s ability to select the best load shedding control that is applied to itself. This was due to the EVSE client returning a generic Response to the test harness which did not include the additional information about the specific load shedding control it is applying. This is an optional behavior, so the “warning” did not affect the device passing the test case.
DR33	Device SHOULD support Offset.

END OF IEEE2030.5 CONFORMANCE TESTING REPORT
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