Tech4u
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1). Document description

This document presents the test results executed by "P1 Certifier device".
The document is divided in number of sections.

Table of contents:

2). P1 Certifier device information

Firmware 6.03
P1C_Rev=6.0
Firmware version=6.05
SN=6012
Owner=ZIV
calibration_date=2017-05-30
calibrated by=tech4u

3). Profile parameters used during the test

profile_number=1
DSMR40
Max voltage on 5V line=5.500
Min_voltage_on_5V_line=4.600
Ripple_level=100
Noise level=100
Max continous load=120
Overload_trigger=280
RJ_11_cable_resistance=0.330
Datagram_period=10
Short circuit max current=100.000
Max_DATA_request_current=10.000
DATA_line_zero_level=1.000

4). Test set used during the test

test suit number=5
test suit name=Reference test

1	Voltage under load test
2	Variable load @ 5ms
3	Variable load @ 10ms
4	Variable load @ 100ms
5	Variable load @ 1s
6	Noise level at idle load
7	Ripple level at idle load
8	Ripple level at maximal load
9	Noise level at maximal load
10	Data packet reception
11	Timing P1 packets
13	Inrush current

14 DATA line - zero level
15 Request line current
16 Short circuit test
19 Data parser

5). One page report

1	**PASSED**	Voltage under load test	Testcase executed correctly. No errors found.
2	**PASSED**	Variable load @ 5ms	Testcase executed correctly. No errors found.
3	**PASSED**	Variable load @ 10ms	Testcase executed correctly. No errors found.
4	**PASSED**	Variable load @ 100ms	Testcase executed correctly. No errors found.
5	**PASSED**	Variable load @ 1s	Testcase executed correctly. No errors found.
6	**PASSED**	Noise level at idle load	Testcase executed correctly. No errors found.
7	**PASSED**	Ripple level at idle load	Testcase executed correctly. No errors found.
8	**PASSED**	Ripple level at maximal load	Testcase executed correctly. No errors found.
9	**PASSED**	Noise level at maximal load	Testcase executed correctly. No errors found.
10	**PASSED**	Data packet reception	Testcase executed correctly. No errors found.
11	**PASSED**	Timing P1 packets	Testcase executed correctly. No errors found.
13	**PASSED**	Inrush current	Testcase executed correctly. No errors found.
14	**PASSED**	DATA line - zero level	Testcase executed correctly. No errors found.
15	**PASSED**	Request line current	Testcase executed correctly. No errors found.
16	**PASSED**	Short circuit test	Testcase executed correctly. No errors found.
19	**EXECUTED**	Data parser	Testcase executed correctly. No errors found.

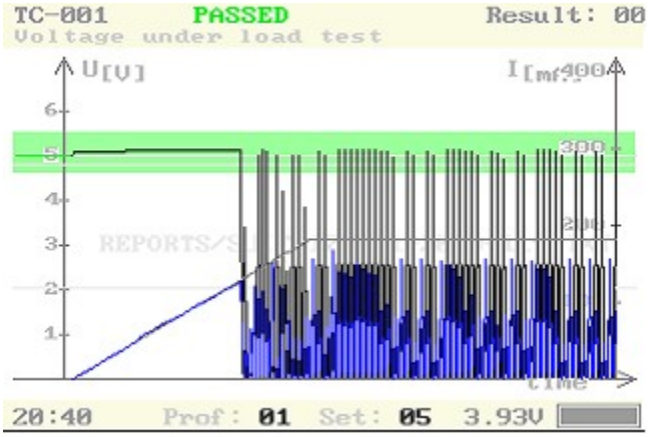
6). TC details and graphs

Below all the executed tests are detailed.
Related graphs are displayed where applicable.

TC-001 Voltage under load test

The intenction of TC-001 is to check correctness of overload protection mechanism. During the test, voltage on the "+5V line" is measured at continously increasing load.

Result = **PASSED**
Reason = Testcase executed correctly. No errors found.

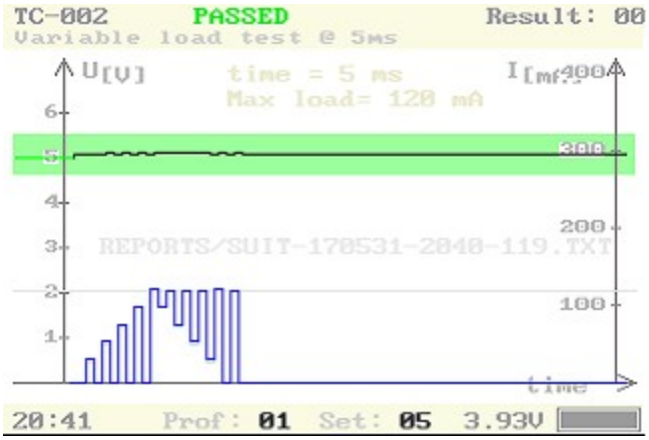


Picture of TC-001

TC-002 Variable load @ 5ms

This testcase simulates variable load on +5V line at period of 5 milisecond.

Result = **PASSED**
Reason = Testcase executed correctly. No errors found.

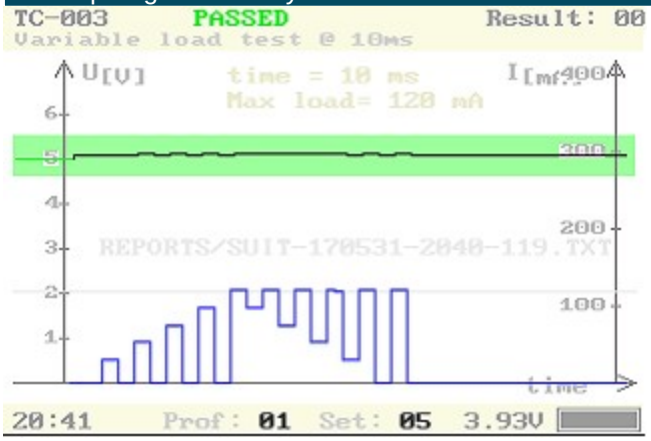


Picture of TC-002

TC-003 Variable load @ 10ms

This testcase simulates variable load on +5V line at period of 10 milisecond.

Result = **PASSED**
Reason = Testcase executed correctly. No errors found.



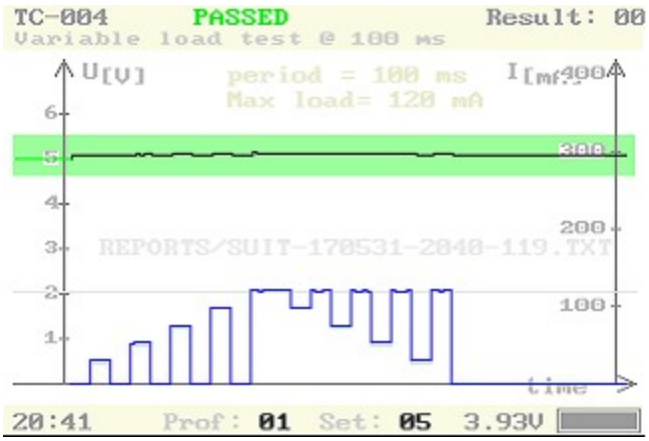
Picture of TC-003

TC-004 Variable load @ 100ms

This testcase simulates variable load on +5V line at period of 100 milisecond.

Result = **PASSED**

Reason = Testcase executed correctly. No errors found.



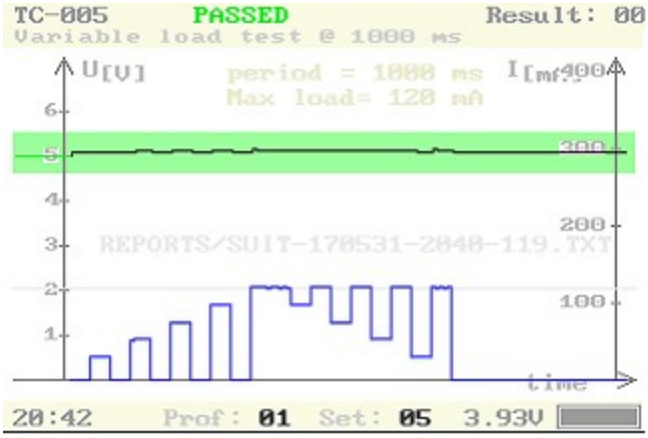
Picture of TC-004

TC-005 Variable load @ 1s

This testcase simulates variable load on +5V line at period of 1 second.

Result = **PASSED**

Reason = Testcase executed correctly. No errors found.

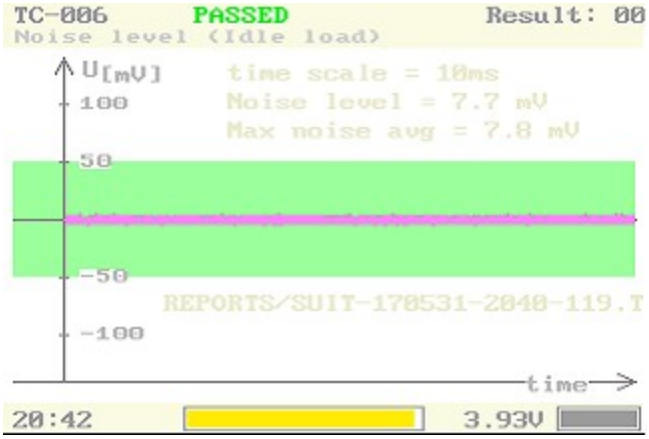


Picture of TC-005

TC-006 Noise level at idle load

Test case measures the noise level when there is no load on +5V line.

Result = **PASSED**
Reason = Testcase executed correctly. No errors found.



Picture of TC-006

TC-007 Ripple level at idle load

Test case measures the ripple level when there is no load on +5V line.

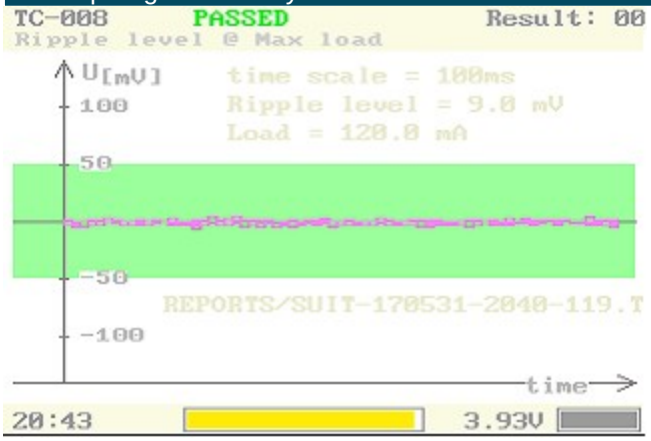
Result = **PASSED**
Reason = Testcase executed correctly. No errors found.

Picture of TC-007

TC-008 Ripple level at maximal load

Test case measures the ripple level when +5V line is loaded at level of maximal continous load.

Result = **PASSED**
Reason = Testcase executed correctly. No errors found.



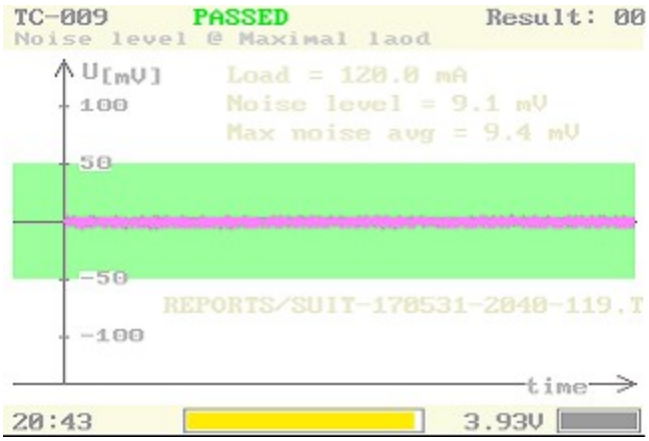
Picture of TC-008

TC-009 Noise level at maximal load

Test case measures the noise level when +5V line is loaded at level of maximal continous load.

Result = **PASSED**

Reason = Testcase executed correctly. No errors found.



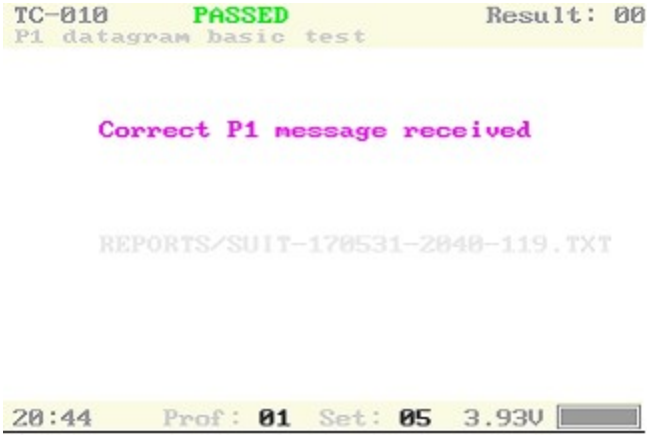
Picture of TC-009

TC-010 Data packet reception

This testcase analyzes the P1 datagram and checks its CRC code when needed.

Result = **PASSED**

Reason = Testcase executed correctly. No errors found.



Picture of TC-010

TC-011 Timing P1 packets

This testcase measures the time period between two consecutive datagrams.

Result = **PASSED**

Reason = Testcase executed correctly. No errors found.

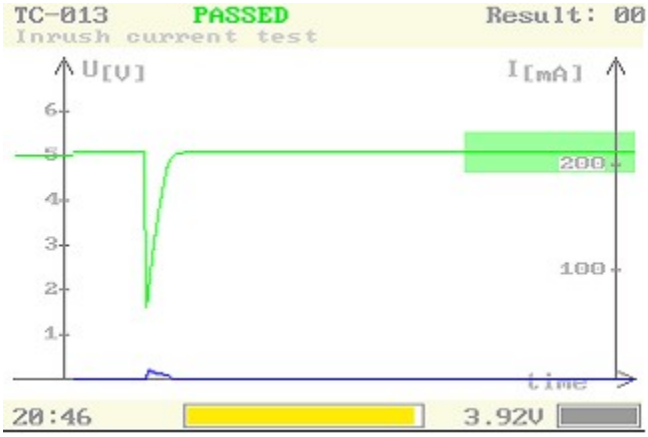
Picture of TC-011

TC-013 Inrush current

This test case verifies the behaviour of the SM under "Inrush current" circumstances.

Result = **PASSED**

Reason = Testcase executed correctly. No errors found.



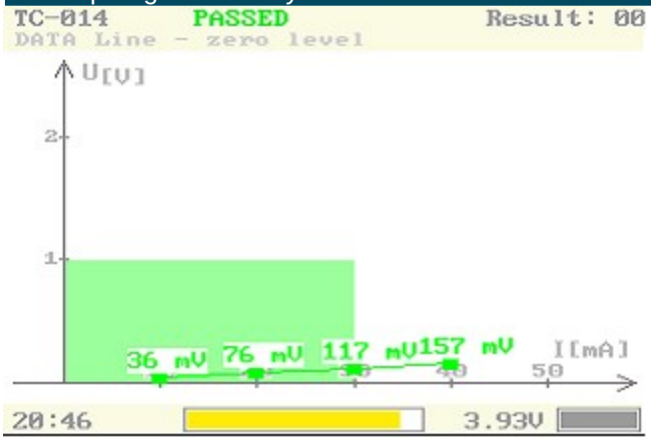
Picture of TC-013

TC-014 DATA line - zero level

This TC measures the logical "zero" level on the DATA line, under variable load.

Result = **PASSED**

Reason = Testcase executed correctly. No errors found.



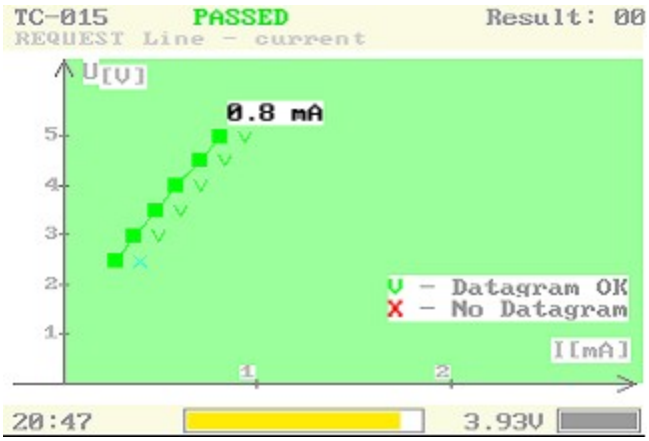
Picture of TC-014

TC-015 Request line current

This TC measures power consumption by the REQUEST line, under variable voltage.

Result = **PASSED**

Reason = Testcase executed correctly. No errors found.



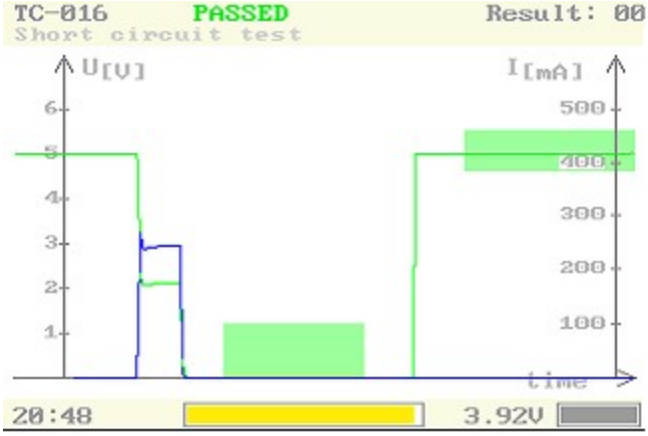
Picture of TC-015

TC-016 Short circuit test

This testcase measures the Short Circuit current of the +5V line.

Result = **PASSED**

Reason = Testcase executed correctly. No errors found.

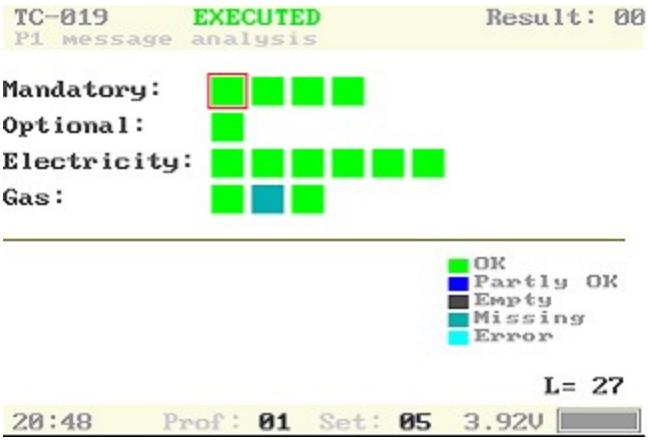


Picture of TC-016

TC-019 **Data parser**

DATA parser test

Result = **EXECUTED**
Reason = Testcase executed correctly. No errors found.



Picture of TC-019

7). DATAGRAM example

/KFM5KAIFA-METER

1-3:0.2.8(42)
0-0:1.0.0(000101055422W)
0-0:96.1.1(4530303235303030303333393235343135)
1-0:1.8.1(000068.333*kWh)
1-0:1.8.2(000038.390*kWh)
1-0:2.8.1(000000.000*kWh)
1-0:2.8.2(000000.000*kWh)
0-0:96.14.0(0001)
1-0:1.7.0(00.001*kW)
1-0:2.7.0(00.000*kW)
0-0:96.7.21(00038)
0-0:96.7.9(00028)
1-0:99.97.0(10)(0-0:96.7.19)(000101000001W)(2147483647*s)
(000101000001W)(2147483647*s)(170126205047W)(0000549468*s)
(170120112811W)(0000039900*s)(170114161010W)(0000014566*s)
(170114120722W)(0000000286*s)(161126174019W)(0000052907*s)
(161017035720S)(0000015419*s)(160924225900S)(0000447753*s)
(160709172812S)(0000113713*s)
1-0:32.32.0(00149)
1-0:32.36.0(00000)
0-0:96.13.1()
0-0:96.13.0()
1-0:31.7.0(000*A)
1-0:21.7.0(00.001*kW)
1-0:22.7.0(00.000*kW)
0-1:24.1.0(003)
0-1:96.1.0(473030303233343031333037323834313 3)
0-1:24.2.1(150803130000S)(00478.612*m3)
0-2:24.1.0(003)

0-2:96.1.0()
!D241

8). Raport summary

Test executed by:
Test report prepared by:

Signatures: _____