

ETSI TS 102 874-5 V1.1.1 (2011-05)

Technical Specification

Access, Terminals, Transmission and Multiplexing (ATTM); External Common Power Supply for Customer Premises Network and Access Equipment; Part 5: CPS Type 2.c implementation details

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ETSI TS 102 874-5 V1.1.1 \(2011-05\)](https://standards.iteh.ai/catalog/standards/etsi/fc3f9e47-b8b8-435c-bfbc-fac431781f97/etsi-ts-102-874-5-v1-1-1-2011-05)

<https://standards.iteh.ai/catalog/standards/etsi/fc3f9e47-b8b8-435c-bfbc-fac431781f97/etsi-ts-102-874-5-v1-1-1-2011-05>



Reference

DTS/ATTM-02011-5

Keywords

Customer Premises Networks, power supply

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

(<https://standards.iteh.ai>)
Document Preview

Important notice

Individual copies of the present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at

<http://portal.etsi.org/tb/status/status.asp>

If you find errors in the present document, please send your comment to one of the following services:

http://portal.etsi.org/chaicor/ETSI_support.asp

Copyright Notification

No part may be reproduced except as authorized by written permission.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2011.
All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™**, **TIPHON™**, the TIPHON logo and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.

3GPP™ is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

LTE™ is a Trade Mark of ETSI currently being registered

for the benefit of its Members and of the 3GPP Organizational Partners.

GSM® and the GSM logo are Trade Marks registered and owned by the GSM Association.

Contents

Intellectual Property Rights	7
Foreword.....	7
Introduction	7
1 Scope	8
2 References	8
2.1 Normative references	8
2.2 Informative references.....	9
3 Definitions and abbreviations.....	10
3.1 Definitions	10
3.2 Abbreviations	10
4 Electrical Specifications	11
4.1 Input Requirements	11
4.2 Output Requirement	11
4.2.1 Output Voltage, Current And Ripple	11
4.2.2 Short Circuit Protection And Over Current Protection	11
4.2.3 Output Over Voltage Protection	12
4.3 Performance Requirement	12
4.3.1 Efficiency.....	12
4.3.2 Turn On Delay Time	12
4.3.3 Hold-up Time.....	12
4.3.4 Brown-out and recovery	12
4.3.5 Dynamic Load	13
4.3.6 Max Open Circuit Voltage.....	13
4.3.7 Overshoot at turn on/Turn off	13
4.3.8 Output transient response/Transient load slew	13
4.3.9 Rise time	13
5 Operational, Storage and Transportation Requirements.....	13
5.1 Temperature And Humidity	13
6 EMC, safety and Environmental requirements	14
6.1 EMC Specification	14
6.1.1 CISPR Requirements	14
6.1.2 AC Input Voltage Periodic and random disturbances	14
6.1.3 Electrostatic Discharge (ESD)	14
6.1.4 Lightning Surge	14
6.1.5 Harmonic Current	14
6.1.6 Harmonic Distortion Susceptibility	14
6.2 Product Safety	15
6.2.1 Safety Approval	15
6.2.2 Leakage Current.....	15
6.2.3 Dielectric voltage withstand	15
6.3 Environmental and Eco-Design Requirements.....	15
7 Reliability	15
7.1 Burn-in	15
7.2 MTBF Calculation.....	16
7.3 Quality classes	16
8 Mechanical Specification	16
8.1 AC plug	16
8.2 DC cord	17
8.3 Label specification	17
9 PLT filters to limit interference and improve coexistence	17

Annex A (normative):	Tests Plans and Procedures	19
A.0	Overview of Tests	19
A.0.1	Test Equipment	20
A.1	Performance test	20
A.1.1	Test purpose	20
A.1.2	Test Condition	20
A.1.3	Test Criteria	20
A.1.4	Results report examples	20
A.2	Switcher Loop Stability Test	22
A.2.1	Test Purpose	22
A.2.2	Test Condition	22
A.2.3	Test Criteria	23
A.2.4	Results report example	23
A.3	Internal Thermal Profile	23
A.3.1	Test Purpose	23
A.3.2	Test Condition	23
A.3.3	Test Criteria	23
A.3.4	Results report example	24
A.4	External Thermal Profile	24
A.4.1	Test Purpose	24
A.4.2	Test Condition	24
A.4.3	Test Criteria	24
A.4.4	Results report example	25
A.5	Life test	25
A.5.1	Test Purpose	25
A.5.2	Test Condition	25
A.5.3	Test Criteria	25
A.5.4	Results report example	26
A.6	Dynamic load switching test	26
A.6.1	Test Purpose	26
A.6.2	Test Condition	26
A.6.3	Test Criteria	26
A.6.4	Results report example	27
A.7	Output trans response-load slew and step	27
A.7.1	Test Purpose	27
A.7.2	Test Condition	27
A.7.3	Test Criteria	27
A.7.4	Results report example	27
A.8	AC input inrush current test	27
A.8.1	Test Purpose	27
A.8.2	Test Condition	27
A.8.3	Test Criteria	28
A.8.4	Results report example	28
A.9	Turn on delay test	28
A.9.1	Test Purpose	28
A.9.2	Test Condition	28
A.9.3	Test Criteria	28
A.9.4	Results report example	28
A.10	Output hold-up time test	29
A.10.1	Test Purpose	29
A.10.2	Test Condition	29
A.10.3	Test Criteria	29
A.10.4	Results report example	29
A.11	Rise time and overshoot test	29

A.11.1	Test Purpose	29
A.11.2	Test Condition	29
A.11.3	Test Criteria	30
A.11.4	Results report example	30
A.12	Output transient response deviation test	30
A.12.1	Test Purpose	30
A.12.2	Test Condition	30
A.12.3	Test Criteria	30
A.12.4	Results report example	31
A.13	Dynamic load test	31
A.13.1	Test Purpose	31
A.13.2	Test Condition	31
A.13.3	Test Criteria	31
A.13.4	Results report example	31
A.14	Brown out and recovery test	32
A.14.1	Test Purpose	32
A.14.2	Test Condition	32
A.14.3	Test Criteria	32
A.14.4	Results report example	32
A.15	Temperature storage test	32
A.15.1	Test Purpose	32
A.15.2	Test Condition	32
A.15.3	Test Criteria	33
A.15.4	Results report example	33
A.16	Humidity storage test	33
A.16.1	Test Purpose	33
A.16.2	Test Condition	33
A.16.3	Test Criteria	34
A.16.4	Results report example	34
A.17	Power cycle test	34
A.17.1	Test Purpose	34
A.17.2	Test Condition	34
A.17.3	Test Criteria	34
A.17.4	Results report example	34
A.18	Shipping, single drop, vibration test	34
A.18.1	Test Purpose	34
A.18.2	Test Condition	34
A.18.3	Test Criteria	35
A.18.4	Results report example	36
A.19	Short circuit protection test	36
A.19.1	Test Purpose	36
A.19.2	Test Condition	36
A.19.3	Test Criteria	36
A.19.4	Results report example	36
A.20	Over voltage protection test	37
A.20.1	Test Purpose	37
A.20.2	Test Condition	37
A.20.3	Test Criteria	37
A.20.4	Results report example	37
A.21	Over current protection test	37
A.21.1	Test Purpose	37
A.21.2	Test Condition	37
A.21.3	Test Criteria	38
A.21.4	Results report example	38
A.22	Construction, Appearance and Weight	38

A.22.1	Test purpose	38
A.22.2	Test Condition	38
A.22.3	Test Criteria	38
A.22.4	Results report example	39
A.23	Hi-Pot test	39
A.23.1	Test Purpose	39
A.23.2	Test Condition	39
A.23.3	Test Criteria	39
A.23.4	Results report example	39
A.24	Dielectric withstand test	40
A.24.1	Test Purpose	40
A.24.2	Test Condition	40
A.24.3	Test Criteria	40
A.24.4	Results report example	40
A.25	Leakage current test	40
A.25.1	Test Purpose	40
A.25.2	Test Condition	40
A.25.3	Test Criteria	40
A.25.4	Results report example	41
A.26	DC cord set and plug test	41
A.26.1	Test Purpose	41
A.26.2	Test Condition 1	41
A.26.3	Test Condition 2	41
A.26.4	Test Criteria	41
A.26.5	Results report example	42
A.27	Energy efficiency test	42
A.27.1	Test Purpose	42
A.27.2	Test Condition	42
A.27.3	Test Criteria	42
A.27.4	Results report example	42
A.28	Capacitive load test	43
A.28.1	Test Purpose	43
A.28.2	Test Condition	43
A.28.3	Test Criteria	43
A.28.4	Results report example	43
A.29	Maximum open circuit voltage test	43
A.29.1	Test Purpose	43
A.29.2	Test Condition	43
A.29.3	Test Criteria	43
A.29.4	Results report example	44
A.30	Other tests	44
Annex B (informative):	Testing immunity of PLT equipment to CPS disturbances	45
B.1	Test Purpose	45
B.2	Test Condition	45
B.3	Test Criteria	45
B.4	Results report example	45
Annex C (informative):	Bibliography	46
History		47