



CB TEST CERTIFICATE

Ref. Certificate No.

SG-2209M2

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

Issued by:

TÜV SÜD PSB Pte Ltd

Product:

Home Automation/Security System

Applicant:

Cytech Technology Pte Ltd 55 Ubi Ave 1, #07-04, Singapore 408935 Singapore

Manufacturer:

Cytech Technology Pte Ltd 55 Ubi Ave 1, #07-04, Singapore 408935 Singapore

Factory:

Cytech Technology Pte Ltd 55 Ubi Ave 1, #07-04, Singapore 408935 Singapore

Rating and principal characteristics:

230V, 50Hz, 0.2A, Class I

Trade mark (if any):

Comfort

Model/Type reference:

CP9000

Additional information:

Certificate SG-2209 issued 2006-02-14 and Certificate SG-2209M1 issued 2009-06-22 are replaced by this version due to include ringer module (RGR05).

Sample of product tested to be in conformity with IEC:

60950-1(ed.1)

Comments:

+ EN 60950-1: 2001

Test Report Ref. No:

719186069-EEC10/NCH

This CB Test Certificate is issued by the National Certification Body:

TÜV SÜD PSB Pte Ltd
1 Science Park Drive, Singapore 118221

Signed by: Teo Kim Hock

Date of issue: 2010-10-22



TEST REPORT IEC 60950-1 and/or EN 60950-1 Information technology equipment – Safety – Part 1: General requirements	
Report reference No	719186069-EEC10/NCH
Tested by (printed name and signature)	Ng Chin Heng 
Approved by (printed name and signature)	Chen Zhuo 
Date of issue	21 October 2010
Testing Laboratory Name	TÜV SÜD PSB Pte Ltd
Address	1 Science Park Drive , Singapore 118221
Testing location	CBTL ☒ CCATL ☐ SMT ☐ TMP ☐
Address	Same as above
Applicant's Name	Cytech Technology Pte Ltd
Address	55 Ubi Ave 1 #07-04 Singapore 408935
Test specification	
Standard	IEC 60950-1:2001 (1 st Edition) and EN 60950-1:2001
Test procedure	CB/CCA –scheme
Non-standard test method	N/A
Test Report Form No.	IECEN60950_1B
TRF originator	SGS Fimko Ltd
Master TRF	dated 2003-03
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Test item description	Home Automation/Security System
Trademark	Comfort
Manufacturer	Cytech Technology Pte Ltd
Model and/or type reference	CP9000
Serial number	N/A
Rating(s)	230V , 50Hz, 0.2A

Copy of marking plate

- See Appendix 6 of Test Report Ref. No.: 55S052622/NCH/CZ.

Summary of testing:

- All test results were found satisfactory in accordance with IEC 60950-1:2001 / EN 60950-1:2001.

Equipment mobility	Stationary Equipment
Operating condition.....	Continuous
Mains supply tolerance (%).....	± 10%
Tested for IT power systems	No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	Class I
Mass of equipment (kg).....	4.5 kg (Enclosure A) 5.0 kg (Enclosure B)
Protection against ingress of water	IP 20

Test case does not apply to the test object :	N/A
Test item does meet the requirement	P(ass)
Test item does not meet the requirement ..:	F(ail)

Date of receipt of test item: 13 September 2010
Date(s) of performance of test: 15 September 2010 to 18 October 2010

"This report is not valid as a CB Test Report unless appended by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IEC 60385-02".

The test result presented in this report relate only to the object(s) tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(see Enclosure #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

Throughout this report a point is used as the decimal separator.

Comments:

Remark 1: The following contents are included in this test report :

- Test Report page 1 to 11
- Appendix 1 to 2

Remark 2: This modification report supplements the earlier Test Report Nos.: 55S052622NCH/CZ, dated 10 February 2006 (CB test certificate No. SG-2209) and S09EEC00516/NCH/CZ, dated 22 June 2009 (CB test certificate No. SG-2209M1).

Remark 3: The modification made on this report is to include Ringer Module (RGR05).

The CP9000 is an Integrated Security and Home Automation System connected to the PSTN.

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
1.5	Components		P
1.5.1	General		P
	Comply with IEC 60950 or relevant component standard	(see appended table 1.5.1)	P
1.5.2	Evaluation and testing of components	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard	P
1.5.3	Thermal controls	No thermal control	N/A
1.5.4	Transformers	Transformers used are suitable for their intended application and comply with the relevant requirements of Annex C	P
1.5.5	Interconnecting cables	Interconnection cables do not present a hazard	P
1.5.6	Capacitors in primary circuits	Not used	N/A
1.5.7	Double insulation or reinforced insulation bridged by components		N/A
1.5.7.1	General		N/A
1.5.7.2	Bridging capacitors	No bridging capacitor used	N/A
1.5.7.3	Bridging resistors	No bridging resistor used.	N/A
1.5.7.4	Accessible parts		N/A
1.5.8	Components in equipment for IT power systems		N/A

2.3	TNV circuits		P
2.3.1	Limits	Combination of a.c. and d.c. values complies with the requirement of $V_{ac}/70.7 + V_{dc}/120 \leq 1$ The telephone ringing signals complied with Clause M.2.	P
	Type of TNV circuits	TNV-2 circuit for voltages other than telephone ringing signals.	—
2.3.2	Separation from other circuits and from accessible parts		P
	Insulation employed	Supplementary insulation between TNV and SELV provided	—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.3.3	Separation from hazardous voltages	TNV circuit separated to primary circuit by reinforced or double insulation	P
	Insulation employed..... :	Double or reinforced insulation.	—
2.3.4	Connection of TNV circuits to other circuits	TNV circuit only connected to SELV circuit	N/A
	Insulation employed..... :		—
2.3.5	Test for operating voltages generated externally		N/A

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General		P
2.10.2	Determination of working voltage		P
2.10.3	Clearances		P
2.10.3.1	General		P
2.10.3.2	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.3	Clearances in secondary circuits	Functional insulation only	P
2.10.3.4	Measurement of transient voltage levels	Considered only normal transient level.	N/A
2.10.4	Creepage distances	(see appended table 2.10.3 and 2.10.4)	P
	CTI tests		—
2.10.5	Solid insulation	See below.	P
2.10.5.1	Minimum distance through insulation	(see appended table 2.10.5)	P
2.10.5.2	Thin sheet material		P
	Number of layers (pcs)	3 layers	—
	Electric strength test	3000Vac applied on any combination of two layers	—
2.10.5.3	Printed boards	No printed board serving as critical insulation.	N/A
	Distance through insulation		N/A
	Electric strength test for thin sheet insulating material		—
	Number of layers (pcs)		N/A
2.10.5.4	Wound components		N/A
	Number of layers (pcs)		N/A
	Two wires in contact inside wound component; angle between 45° and 90°		N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.10.6	Coated printed boards	No coated printed boards.	N/A
2.10.6.1	General		N/A
2.10.6.2	Sample preparation and preliminary inspection		N/A
2.10.6.3	Thermal cycling		N/A
2.10.6.4	Thermal ageing (°C)		N/A
2.10.6.5	Electric strength test		—
2.10.6.6	Abrasion resistance test		N/A
	Electric strength test		—
2.10.7	Enclosed and sealed parts	No hermetically sealed component.	N/A
	Temperature $T_1 = T_2 + T_{ma} - T_{amb} + 10K$ (°C)		N/A
2.10.8	Spacings filled by insulating compound		N/A
	Electric strength test		—
2.10.9	Component external terminations		N/A
2.10.10	Insulation with varying dimensions		N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General		P
5.1.2	Equipment under test (EUT)	No interconnected equipment or multiple power source	N/A
5.1.3	Test circuit	Figure 5A used.	P
5.1.4	Application of measuring instrument	Measuring instrument in Annex D.1 used	P
5.1.5	Test procedure		P
5.1.6	Test measurements		P
	Test voltage (V)	253 V	—
	Measured touch current (mA)	0.02 mA.	—
	Max. allowed touch current (mA)	3.5mA	—
	Measured protective conductor current (mA)	0.02 mA.	—
	Max. allowed protective conductor current (mA):	3.5mA	—
5.1.7	Equipment with touch current exceeding 3.5 mA		N/A
5.1.8	Touch currents to and from telecommunication networks and cable distribution systems and from telecommunication networks		P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
5.1.8.1	Limitation of the touch current to a telecommunication network and a cable distribution system		P
	Test voltage (V)	253 V	—
	Measured touch current (mA)	0.02 mA	—
	Max. allowed touch current (mA)	0.25 mA	—
5.1.8.2	Summation of touch currents from telecommunication networks	Single connection	N/A
5.2	Electric strength		P
5.2.1	General	(See appended table 5.2)	P
5.2.2	Test procedure	(See appended table 5.2)	P
6	CONNECTION TO TELECOMMUNICATION NETWORKS		P
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		P
6.1.1	Protection from hazardous voltages		P
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements	(see appended table 5.2)	N/A
	Test voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions.....		N/A
6.2	Protection of equipment users from overvoltages on telecommunication networks		P
6.2.1	Separation requirements		P
6.2.2	Electric strength test procedure		P
6.2.2.1	Impulse test		P
6.2.2.2	Steady-state test	(see appended table 5.2)	P
6.2.2.3	Compliance criteria		P
6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)	Equipment not intended to supply other units via telecommunication wiring system	—
	Current limiting method.....		—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict

M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		P
M.1	Introduction	See below	P
M.2	Method A	$I_{DC} = 5.6 \text{ mA}$ $I_P = 25.2 \text{ mA}$ $I_{PP} = 50.8 \text{ mA}$ $t_1 = 0.503 \text{ sec}$ $t_2 = 2.90 \text{ sec}$ $I_{TS1} = 18.1 \text{ mA max. (< 30 mA)}$ $I_{TS2} = 7.66 \text{ mA max. (< 16 mA)}$	P
M.3	Method B		N/A
M.3.1	Ringling signal		N/A
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage.....		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V).....		N/A

D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument		P
D.2	Alternative measuring instrument		N/A

1.5.1	TABLE: list of critical components				P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
Mains Transformer	Ngai Cheong Electronics Ltd.	NC-4688TL	Class B	IEC 60950-1	Tested in unit
-Transformer Bobbin	E.I Dupont De Nemours Co.	101F	94V-2	UL94	UL
-Transformer winding	Wa Tai Electrotechnical Materials	UEW	130° C, Class B	-	UL
- Alternate use -	Shenzhen Dayang Industry Co., Ltd.	XUEW	130° C, Class B	-	UL
-Thermal fuse in transformer	Aupo Electronics Ltd.	A4	130° C 2A AC 250V	EN 60691	TUV
- Alternate use -	Joint Force Metal Research & o., Ltd.	L33	130° C 2A AC 250V	EN 60691	TUV
Secondary Current Fuse (optional)	Walter Electronic Co., Ltd.	SIC	5A 125V	-	UL, CSA
PCB material	Guangdong Shengyi Sci Tech Co Ltd	S1141	94V-0	UL746	UL
- Alternate use -	various	various	94V-0	UL746	UL
Insulator	Lexan	8010	94V-2	UL94	UL
Terminal Block	Heavy Power Co., Ltd.	PA8	AC 400V 6A	EN 60998-1 EN 60998-2	Semko, VDE, UL, CSA
- Alternate Terminal Block (with fuse holder) -	Degson Electronics Co., Ltd.	DG801	AC 250V 6.3A	IEC 60127-1 IEC 60127-6	VDE, UL
- Fuse in DG801 Terminal Block	Schurter	FST	AC 250V 250mA	IEC 60127-1 IEC 60127-2	VDE, UL
F51	Excel Cell Electronic Co., Ltd.	ERF-RB250-30	30Vdc Ihold: 2.5A	EN 60738-1	TUV
Line Transformer T51	Atech Technology Co., Ltd.	ATS-075	-	IEC 69050	FIMKO
F52	Excel Cell Electronic Co., Ltd.	ERF-HU015-V3	250Vdc Ihold: 0.15A	EN 60738-1	TUV
Opto-coupler U58	Fairchild Semiconductor	4N25	Isolation voltage: 5300Vac	VDE 0884	VDE
Opto-coupler U59	Fairchild Semiconductor	4N35	Isolation voltage: 5300Vac	VDE 0884	VDE

object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
Opto-coupler U60	Fairchild Semiconductor	H11D1	Isolation voltage: 5300Vac	VDE 0884	VDE
Opto-coupler U61	Fairchild Semiconductor	H11AA4	Isolation voltage: 5300Vac	VDE 0884	VDE, UL
Opto-coupler U62	Clare	PLA110	Isolation voltage: 3750Vac	IEC 60950-1	TUV
Relay K51, K52	Matsushita Electric Works Ltd	DS-2E-S- DC12V	12Vdc	-	UL, CSA
Relay K53	Hamlin Electronics	HE3351A1200	12Vdc	-	UL
Ringer Module (RGR05)					
Transformer (T101)	BLOCK Transformatoren- Elektronik GmbH	AVB1,5/2/9	Input: 2 x 115V, 50-60Hz, 0.6W Output: 2 x 9V, 1.5VA	EN 61558-1 EN 61558-2-6 VDE 0570	VDE
PTC (F101)	Exel Cell Electronic Co Ltd	ERF-RB110- 30	30V, I _{hold} : 1.1A, I _{trip} : 2.2A	UL 1434	UL
PCB material	Circuit Image Mfg Pte Ltd	CIM-5	94V-0	UL746	UL
- Alternate use -	various	various	94V-0	UL746	UL
¹⁾ an asterisk indicates a mark which assures the agreed level of surveillance					

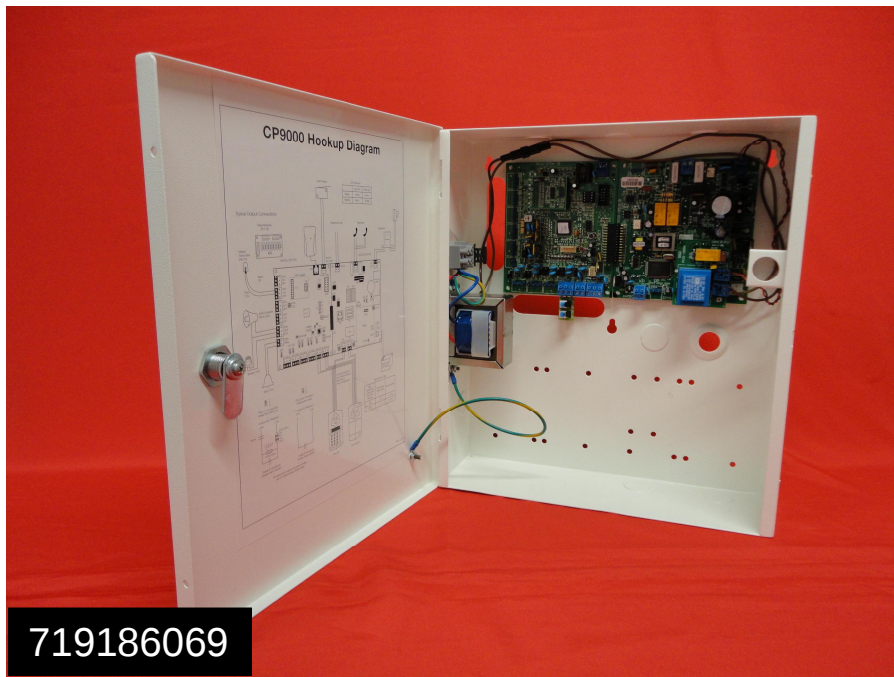
2.10.3 and 2.10.4	TABLE: clearance and creepage distance measurements					P
clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)
TNV traces to SELV traces (Ringer Module)	-	120	1.0	1.6	1.5	1.6
Supplementary information:						

5.2	TABLE: electric strength tests, impulse tests and voltage surge tests		P
test voltage applied between:		test voltage (V) a.c. / d.c.	breakdown Yes / No
TNV to SELV		AC 1500	No
Supplementary information			

Appendix 1

Internal views of Home Automation/Security System

Model: CP9000



Appendix 2

Views of Ringer Module (RGR05) of Home Automation/Security System

Model: CP9000

