



CERTIFICATE NUMBER	22-2206816-PDA-DUP
EFFECTIVE DATE	24-Jan-2022
EXPIRY DATE	23-Jan-2027
ABS TECHNICAL OFFICE	Hamburg Engineering Department

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

SIEMENS INDUSTRY. INC

located at

4170 COLUMBIA ROAD, LEBANON, OH, United States, 45036

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: **Personal Computer Device**

Model: **SIMATIC IPC627D, IPC827D, IPC647D, IPC227E, IPC277E, IPC427E, IPC427E PCS7, IPC477E, IPC477E PCS7, IPC477E PRO, IPC627E, IPC677E, IPC647E, PCS IPC647E**

Endorsements:

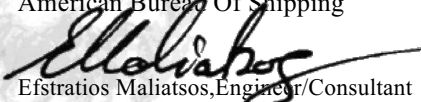
Tier: **2 - PDA Issued**

This Product Design Assessment (PDA) Certificate remains valid until 23/Jan/2027 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping


Efstratios Maliatsos, Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

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LEBANON OH

United States 45036

Telephone:

Fax:

Email:

Web: www.usa.siemens.com

Tier: 2 - PDA Issued

Product: Personal Computer Device

Model: SIMATIC IPC627D, IPC827D, IPC647D, IPC227E, IPC277E, IPC427E, IPC427E PCS7, IPC477E, IPC477E PCS7, IPC477E PRO, IPC627E, IPC677E, IPC647E, PCS IPC647E

Endorsements:

Intended Service:

Compact PC units for use in machinery control and monitoring systems.

Description:

IPC627D: Box-PC; 6AG4 131-2....-...

IPC827D: Box-PC; 6AG4 132-2...-...

IPC647D: Rack-PC; 6AG4 112-2...-..

IPC227E: Box-PC; 6ES7 647-8B...-....

IPC277E: Panel-PC; 6AV7 882-0...-...

IPC427E: Box-PC; 6AG4 141-.....-....

IPC427E PCS7: Box-PC; 6ES7 650-0VG...-0YX1

IPC477E: Panel-PC; 6AV7 241-.....-....

IPC477E PCS7: Panel-PC; 6ES7 650-0VG...-1YX1

IPC477E PRO: Panel-PC; 6AV7 251-.....-....

IPC627E: Box-PC; 6AG4 131-3....-....

IPC677E: Panel-PC; 6AV7 261-.....-....

IPC647E: Rack-PC; 6AG4 112-3....-....

PCS IPC647E: Rack-PC; 6ES7 661-0....-.... ;6ES7 650-0XH03-1YA0; 6ES7 650-0XH03-2YA0

PCS variants come with pre-installed Process Control Software.

System components contained in metallic housing:

Processor units: Celeron N2807/N2930, Core i3-330E, 2.13 GHz, Core i3-3217 UE, 1.6 GHz, Core i3-4330 2.4/2.7 GHz, Core i5-520E, 2.40 GHz, Core i5-4570 2.7GHz, Core i7-3517 UE, 1.7 GHz (2.8 GHz), Core i7-610E, 2.53 GHz, Xeon E3 2.3(3.3) GH, Celeron M1.2 GHz, Core2Solo 1.2 GHz, Core2Duo 1.2 GHz, Atom 600 MHz/ 1.0 GHz/ 1.3 GHz, Celeron G3902E, Core i3-6102E, Core i5-6442EQ, XEON E3-1505L, Celeron G4900 (3.1 GHz, 2MB Cache), Core i3-8100 (3.6 GHz), Core i7-8700 (3.2/4.6 GHz), Celeron G4900, Core i3-8100, Core i5-8500, Core i7-8700, Xeon

Memory units: up to 64GB DDR2 or DDR3 SDRAM (with or without ECC), NVRAM, DDR4 SDRAM (with or without ECC);

Drive units: without HDD, with SSD upand/or M.2 NVMe module up to 1920 GB, compact-Flash and CFast-card;

Operating system: without or with Windows XP Embedded, Windows Embedded Standard 2009, Windows Embedded Standard 7, Windows XP Prof., Windows 7 Ultimate, Windows Server 2008/2012, 2016, 2019, Windows 10 IoT, Windows 10 Enterprise;

Front panel: Touch 7" / 9" / 12" / 15" / 19" TFT, Key 12" / 15", Multitouch: 15"/ 19"/ 22" /24";

Panel options: with / without front USB.

Rating:

Power Supply: 24V DC, 110 to 240 V AC, 50/60 Hz.

Degree of Protection: Box PC - IP20, Panel PC - IP20 for back side and IP54 or IP65 for front side.

Operating temperature ranges: Ref. to manufacturer's data sheets.

Service Restriction:

1. Unit Certification is not required for the original equipment manufacturer. However, unit certification in accordance with 4-9-9/Table 2 of Marine Vessel Rules is required by the user to customize this equipment where this equipment is used for System Category II or III in accordance with 4-9-3/Table 1 of Marine Vessel Rules.

2. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

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2. IPC 647D (6AG4112-2xxx(0,6)-(4,5)xxx MLFB No. position 12-0,6 (2-slot bus device) not to be combined with position 13 - 4,5 (graphics adapter).

Comments:

1. The manufacturer has provided a declaration about the control of, or the lack of asbestos in this product.
2. Approval is for hardware only. Each particular application/ configuration and the user operating software is to be specifically approved in conjunction with the relevant system in which the PC units are being used.
3. Models IPC647D, IPC427E, IPC 427E PCS7, IPC477E, IPC477E PCS7, IPC477E PRO may be used in bridge and deck zones together with a filter unit, type Epcos B84113C or equivalent with ratings: I=3A, C=2*0.47µF+2*4700pF, L=4*4.7mH.
4. Models IPC227E, IPC277E, IPC627E, IPC677E, IPC647E, PCS IPC647E may be used in bridge and deck zones together with filter: Corcom xFC10 or equivalent.
5. The product has been type tested as per IEC 60068-2-2 up to 55°C/16h and 70°C/2h. Refer to manufacturer's datasheets for limitations on the ambient operating temperature depending on the equipment configuration and installation.

Notes/Drawing/Documentation:

Technical Datasheets

Drawing No. ipc227e_operating_instructions_enUS_en-US_02-2021, Manual
Drawing No. ipc277e_operating_instructions_enUS_en-US_02-2021, Manual
Drawing No. ipc427e_operating_instructions_en_en-US_02-2021, Manual
Drawing No. ipc477e-pro_operating_instructions_enUS_en-US_02-2021, Manual
Drawing No. ipc477e_operating_instructions_enUS_en-US_02-2021, Manual
Drawing No. ipc627d-827d_operating_instructions_enUS_en-US_01-2020, Manual
Drawing No. ipc627e_operating_instructions_enUS_en-US_06-2021, Manual
Drawing No. ipc647d_operating_instructions_en-US_03-2018, Manual
Drawing No. ipc647e_operating_instructions_enUS_en-US_11-2018, Manual
Drawing No. ipc677e_operating_instructions_enUS_en-US_06-2021, Manual
Drawing No. ENG_CS_1654001_CORCOM_PRODUCT_GUIDE_FC_SERIES_0611, Corcom EMC filter - Datasheet

Test Reports IPC627D, IPC827D, IPC647D (ref. T1369115)

Drawing No. 02.1, Type Test Specification/ E0.1 Report 15-E006314-BM-A01 (IPC627D/827D), 19.12.2014
Drawing No. 02.2, Type Test Specification/ E0.1 Report 15-E006314-BM-B01 (647D_PC-S7), 19.12.2014
Drawing No. K006390_01_2021_E_A01, IPC827D, EMC Test Report (6GHz), Type Test Center Karlsruhe, 17-08-2021
Drawing No. K006391_01_2021_E_A01, IPC647D, EMC Test Report (6GHz), Type Test Center Karlsruhe, 23-08-2021

Test Reports IPC227E, IPC277E (ref. T1413988)

Document No.02 Specification for Type Test ..., SIMATIC Type Test Specification - 2015-05 (17.08.2015)
Drawing No. K006388_01_2021_E_A01, IPC277E, EMC Test Report (6GHz), Type Test Center Karlsruhe, 17-08-2021

Test Reports IPC427E, IPC477E, IPC477E PRO (ref. T1706624)

Document No. Type Approval Report Marine SIMATIC IPC, Test Report of 23 Sep 2017_Siemens Type Test Center Fuerth SIMATIC IPC...
Document No. K005506_01_2017_E_A01, Test Report of 20 Aug 2017_Siemens Type Test Center EMC for SIMATIC IPC477E
Document No. K005506_01_2017_K_A01, Test Report of 25 Aug 2017_Siemens Type Test Center

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Environm. Climatic for SIMATIC IPC477E

Document No. K005506_01_2017_M_A01, Test Report of 7 Aug 2017_Siemens Type Test Center Environm. Mechan. for SIMATIC IPC477E

Document No. K005507_01_2017_M_A01, Test Report of 17 Aug 2017_Siemens Type Test Center Environm. Mechan. for SIMATIC IPC477E PRO

Document No. K005505_01_2017_M_A01, Test Report of 17 Aug 2017_Siemens Type Test Center Environm. Mechan. for SIMATIC IPC427E

Document No. SIMATIC IPC 477E_24V_HV-Test, Test Report of 19 Jul 2017_Siemens Karlsruhe_HV for SIMATIC IPC 477E/ 24V

Drawing No. K006344_01_2021_E_A01, IPC477E PRO 24", EMC Test Report (6GHz), Type Test Center Karlsruhe, 24-08-2021

Drawing No. K006389_01_2021_E_A01, IPC477E, EMC Test Report (6GHz), Type Test Center Karlsruhe, 23-08-2021

Test Reports IPC627E/ IPC677E (ref. T2059157)

Drawing No. 19-E008316-BM-A01 Marine Test Report SIMATIC IPC627E + IPC677E, Type Approval Report IPC627E and IPC677E

Drawing No. K005930_01_2019_E_A01, IPC627E, EMC Test Report, Type Test Center Karlsruhe, 28-05-2019

Drawing No. K005930_01_2019_E_B01, IPC677E, EMC Test Report, Type Test Center Karlsruhe, 01-07-2019

Drawing No. K005930_01_2019_K_A01, IPC677E, Climatic Test Report, Type Test Center Karlsruhe, 24-06-2019

Drawing No. K005930_01_2019_M_A01, IPC677E, Mechanical Report, Type Test Center Karlsruhe, 11-06-2019

Drawing No. K005930_01_2019_M_B01, IPC627E, Mechanical Report, Type Test Center Karlsruhe, 12-06-2019

Drawing No. K005930_SIMATIC IPC 627E_24VDC_HV-Test, IPC627E, High Voltage Test 24V, Type Test Center Karlsruhe, 24-07-2019

Drawing No. K005930_SIMATIC IPC 677E_230VAC_HV-Test, IPC677E, High Voltage Test 230V, Type Test Center Karlsruhe, 23-07-2019

Test Reports IPC647E/ PCS IPC647E (ref. T2059157)

Drawing No. Specification and Test Report Marine SIMATIC IPC647E + PCS7, Type Approval Test Report

Drawing No. K005977_01_2020_E_A01, IPC647E, EMC Test Report, Type Test Center Karlsruhe, 28-04-2020

Drawing No. K005977_01_2020_E_B01, IPC647E, EMC Test Report, Type Test Center Karlsruhe, 28-04-2020

Drawing No. K005977_01_2019_K_A02, IPC647E, Climatic Test Report, Type Test Center Karlsruhe, 17-10-2019

Drawing No. K005977_01_2019_K_B01, IPC647E, Climatic Test Report, Type Test Center Karlsruhe, 17-10-2019

Drawing No. K005977_01_2019_M_A01, IPC647E, Mechanical Test Report, Type Test Center Karlsruhe, 15-11-2019

Drawing No. K005977_01_2019_M_B01, IPC647E, Mechanical Test Report, Type Test Center Karlsruhe, 15-11-2019

Drawing No. K005977AU01-1_IPC647E_HV-Test, IPC647E, IPC647E, HV and ISO Test Report, Type Test Center Karlsruhe, 18-11-2019

Drawing No. K005977AU01-2_IPC647E_HV-Test, IPC647E, HV and ISO Test Report, Type Test Center Karlsruhe, 18-11-2019

Terms of Validity:

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STANDARDS

ABS Rules:

2022 Marine Vessel Rules: 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-8-3/ 1.7, 4-8-3/1.11.1, 4-8-3/1.17, 4-9-3/11, 4-9-9/13.1, 4-9-9/Table 1 & Table 2

2022 Mobile Offshore Units Rules: 1-1-4/9.7, 1-1-A2, 1-1-A3, 4-3-1/11, 4-3-1/15, 4-3-1/17

National:

NA

International:

IACS UR E10 Rev.7

Government:

NA

EUMED:

NA

OTHERS:

NA