

TO WHOM IT MAY CONCERN

Bosch Security Systems
Torenallee 49
5617 BA Eindhoven
The Netherlands

Product Test Report

BT-SC 2018-E-054

Products**DIVAR IP all-in-one 6000**

F.01U.404.045	DIP-6440IG-00N	Management Appliance 1U w/o HDD
F.01U.404.046	DIP-6444IG-4HD	Management Appliance 1U 4x4TB
F.01U.404.047	DIP-6448IG-4HD	Management Appliance 1U 4x8TB
F.01U.404.048	DIP-644IIG-4HD	Management Appliance 1U 4x18TB

The above mentioned Bosch Security Systems products have been tested in accordance and were found to comply with the tests listed below which were carried out during the development phase of the product.

EMC approvals

EMC EU, 2014/30/EU (EMCD)	Description
EN 55032:2015 +A11:2020	Electromagnetic compatibility of multimedia equipment - Emission requirements. Class A
EN 55035:2017 +A11:2020	Electromagnetic compatibility of multimedia equipment - Immunity requirements
EN 61000-3-2:2014	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤16 A per phase)
EN 61000-3-3:2013	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems
EMC Canada	
ICES-003 Issue 7:2020 Class A	Spectrum Management and Telecommunications Policy Interference-Causing Equipment Standard
EMC US	
FCC CFR Title 47 part 15 Subpart B: 2020, Class A	Telecommunication Chapter I - FEDERAL COMMUNICATIONS COMMISSION, Subchapter A – GENERAL, Part 15 - RADIO FREQUENCY DEVICES
EMC Australia and New Zealand	
AS/NZS CISPR 32: 2015 AMD 1: 2020, Class A	RCM, Electromagnetic compatibility of multimedia equipment - Emission requirements.
EMC Japan	

VCCI: VCCI-CISPR 32: 2016	CISPR 32 EMC Emission Testing of Multimedia Equipment. EMC certification for Japan.
EMC Korea	
KS C 9832 KS C 9835	KCC, ELECTROMAGNETIC COMPATIBILITY (EMC) TEST METHODS FOR CONFORMITY ASSESSMENT CHANGE TO KS STANDARDS. EMC certification for South Korea.
EMC United Kingdom	
BS EN 55032:2015+A11:2020, Class A BS EN 55035:2017+A11:2020 BS EN 61000-3-2:2014 BS EN 61000-3-3:2013	UKCA DoC
EMC South Africa	
SANS 2332: 2017, ClassA SANS 2335:2018 SANS 61000-3-2: 2009 SANS 61000-3-3: 2009	SABS, EMC certification for South Africa
EMC Taiwan	
CNS 15936	BSMI, EMC certification for Taiwan

Safety approvals

Safety EU, 2014/35/EU (LVD)	
EN IEC 62368-1:2020/A11:2020	Audio/video, Information and communication technology equipment - Part 1: Safety requirements
Safety USA	
UL 62368-1, 3rd Edition, 2018	Audio/video, Information and Communication Technology Equipment - Part 1: Safety Requirements)
Safety Canada	
CSA/UL 62368-1:2019	Audio/video, Information and Communication Technology Equipment - Part 1: Safety Requirements)
Safety RCM	
AS/NZS 62368.1:2022	Audio/video, Information and Communication Technology Equipment - Part 1: Safety Requirements)
Safety India	
IS 13252: Part 1(2010)	BIS, Information Technology Equipment Safety Part 1 General Requirements
Safety Taiwan	
CNS15598-1	BSMI, Safety certification for Taiwan
Safety Argentina	

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IEC 62368-1: 2018	IRAM, Safety certification for Argentina
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Environmental approvals

Directive or standard	Description
RoHS EU, 2011/65/EU and 2015/863/EU	Directive of the European Parliament and of the Council as regards the list of restricted substances
EN IEC 63000: 2018	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
REACH, Regulation (EC) 1907/2006	Registration, Evaluation, and Authorization of Chemicals
WEEE EU, 2012/19/EU	Waste Electrical and Electronic Equipment (WEEE)
Packaging EU, 94/62/EC (amended by 2014/12/EC)	Packaging and packaging waste
N2580-1 (Bosch standard)	Central directive Bosch-Norm N 2580-1: "Prohibition and declaration of substances" Bosch-Norm N 2580-1 regulates prohibited substances and those rated declarable in materials, and it is part of the requirements for materials.
N33 6 (Bosch standard)	Design for Environment (DfE): Design and manufacturing rules.

Management system

Directive or standard	Description
ISO 9001:2015	Quality management systems – Requirements Scope: Development, Production, Installation and Sales.
ISO 14001:2015	Environmental management systems – Requirements with guidance for use Scope: Development, Production, Sales and After Sales.

Reliability tests

Operation High Temperature & Humidity Test (IEC60068-2-2)	Operating 40°C , Humidity 8%~90%, Duration 12hrs
Operation Low Temperature & Humidity Test (IEC60068-2-2)	Operating 0°C , Humidity 8%~90%, Duration 12hrs

Non-operation High Temperature & Humidity Test (IEC60068-2-2)	Non-operating 70°C , Humidity 5%~95%, Duration 24hrs
Non-operation Low Temperature & Humidity Test (IEC60068-2-2)	Non-operating -40°C , Humidity 5%~95%, Duration 12hrs
Operation High to Low Temperature Humidity test (IEC60068-2-2)	Operating 40°C to 0 °C , Humidity 5%~90%, Duration 12hrs
Operational Shock Test IEC 60068-2-27 (2008)	During operating testing, unit power is on and functioning Temperature : 25 °C ± 10 °C Relative humidity : 50 % ± 25 % Pulse shape : Half-sine waveform Impact acceleration : 5 g Pulse duration : 10 ms Number of shocks : 6 shocks (1 shock for each ±axis) Orientation : ±X, ±Y and ±Z axes
Operational Vibration Test IEC 60068-2-64 (2019)	During operating testing, unit power is on and functioning Temperature : 25 °C ± 10 °C Relative humidity : 50 % ± 25 % Units are operating. Vibration waveform : Random waveform Total Grms : 0.21 Grms Duration of test : 20 minutes for each axis Vibration axes : X, Y and Z
Thermal profile Test	All components can meet LAB thermal criteria at 40°C environment temperature in a temperature-controlled environment chamber.

Additional Reliability tests

Environmental test methods	Specific Test description
MTBF (Mean Time Between Failures) calculation of used components	Used method Telcordia SR-332. (40 degrees.) DIP-6440IG-00N MTBF is about 44,035 hours DIP-6444IG-4HD MTBF is about 40,471 hours DIP-6448IG-4HD MTBF is about 40,471 hours DIP-644IIG-4HD MTBF is about 41,137 hours
Transportation test (ISTA-2A: 2011)	
1. Pre-condition	Place the unit in laboratory temperature and humidity for 6 hours
2. Temperature and humidity test	Temperature : 25 °C ± 10 °C Relative humidity : 50 % ± 25 % Place the package in laboratory environment for 6 hours.

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3. Static compression test	<p>Temperature : 25 °C ± 10 °C Relative humidity : 50 % ± 25 % Unit is packaged. Compression rate : 0.5 inch / minute Compression test duration : 1 hour Compression direction : Top to bottom</p>
4. Fixed displacement test (The first time test)	<p>Temperature : 25 °C ± 10 °C Relative humidity : 50 % ± 25 %</p> <ol style="list-style-type: none"> 1. Unit is packaged. 2. Put the packaged-product on the vibration table so that bottom side rests on the platform. 3. Start the vibration system to vibrate at 1 inch (25mm) total displacement at the machine's lowest frequency. 4. Maintain a fixed displacement at 1 inch (25mm) and slowly increase the frequency of the vibration table until the packaged-product begins to momentarily leave the surface of the platform. 5. Hold the frequency to that determined 6. Complete impact 14200 times
5. Packaged drop test	<p>Temperature : 25 °C ± 10 °C Relative humidity : 50 % ± 25 % Unit is packaged. Drop height : 81 cm Drop test times : 1 corner, 3 edges and 6 faces (Total of 10 drops)</p>
6. Fixed displacement test (The second time test)	<p>Temperature : 25 °C ± 10 °C Relative humidity : 50 % ± 25 %</p> <ol style="list-style-type: none"> 1. Unit is packaged. 2. Put the packaged-product on the vibration table so that bottom side rests on the platform. 3. Start the vibration system to vibrate at 1 inch (25mm) total displacement at the machine's lowest frequency. 4. Maintain a fixed displacement at 1 inch (25mm) and slowly increase the frequency of the vibration table until the packaged-product begins to momentarily leave the surface of the platform. 5. Hold the frequency to that determined 6. Complete impact 14200 times

ONVIF

Conformance	Specific Test description
ONVIF Profile S (BVMS – ONVIF Client)	Version: Latest conformant BVMS version Product Type: Video Management System Profile S features: Audio Streaming: NO Event Handling: YES Multicast Streaming: NO Network Configuration: YES PTZ: PTZ Auxiliary Command: YES PTZ Home Position: NO PTZ Movement: YES PTZ Presets: YES Relay Outputs: NO User Handling: YES

Data subject to change without notice.
 Taiwan, Feb 2024.