

TO WHOM IT MAY CONCERN

Bosch Security Systems  
Torenallee 49  
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The Netherlands

**Product Test Report**

BT-SC 2018-E-054

**Products****DIVAR IP all-in-one 4000**

F.01U.404.040	DIP-4420IG-00N	Management Appliance w/o HDD
F.01U.404.041	DIP-4424IG-2HD	Management Appliance 2x4TB
F.01U.404.042	DIP-4428IG-2HD	Management Appliance 2x8TB
F.01U.404.043	DIP-442IIG-2HD	Management Appliance 2x18TB

**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**

<b>EMC EU, 2014/30/EU (EMCD)</b>	<b>Description</b>
EN 55032:2015 +A11:2020	Electromagnetic compatibility of multimedia equipment - Emission requirements. Class B
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
<b>EMC Canada</b>	
ICES-003 Issue 7:2020 Class B	Spectrum Management and Telecommunications Policy Interference-Causing Equipment Standard
<b>EMC US</b>	
FCC CFR Title 47 part 15 Subpart B: 2020, ClassB	Telecommunication Chapter I - FEDERAL COMMUNICATIONS COMMISSION, Subchapter A – GENERAL, Part 15 - RADIO FREQUENCY DEVICES
<b>EMC Australia and New Zealand</b>	
AS/NZS CISPR 32: 2015 AMD 1: 2020, Class B	RCM, Electromagnetic compatibility of multimedia equipment - Emission requirements.
<b>EMC Japan</b>	

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

### Safety approvals

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

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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**

<b>Environmental test methods</b>	<b>Specific Test description</b>
MTBF (Mean Time Between Failures) calculation of used components	Used method Telcordia SR-332 . (40 degrees.) DIP-4420IG-00N MTBF is about 65,675 hours DIP-4424IG-2HD MTBF is about 69,066 hours DIP-4428IG-2HD MTBF is about 69,066 hours DIP-442IIG-2HD MTBF is about 62,397 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"> <li>1. Unit is packaged.</li> <li>2. Put the packaged-product on the vibration table so that bottom side rests on the platform.</li> <li>3. Start the vibration system to vibrate at 1 inch (25mm) total displacement at the machine's lowest frequency.</li> <li>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.</li> <li>5. Hold the frequency to that determined</li> <li>6. Complete impact 14200 times</li> </ol>
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"> <li>1. Unit is packaged.</li> <li>2. Put the packaged-product on the vibration table so that bottom side rests on the platform.</li> <li>3. Start the vibration system to vibrate at 1 inch (25mm) total displacement at the machine's lowest frequency.</li> <li>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.</li> <li>5. Hold the frequency to that determined</li> <li>6. Complete impact 14200 times</li> </ol>

**ONVIF**

<b>Conformance</b>	<b>Specific Test description</b>
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.