

TO WHOM IT MAY CONCERN

Bosch Security Systems
 1706 Hempstead Road
 Lancaster
 Pennsylvania, 17601
 USA
 30 July 2015

Product Test report

Product name: **BOSCH AUTODOME IP 4000 HD**

Model number and description:

NEZ-4212-PPCW4 AUTODOME IP 4000 HD 12x 1080P Pendant Clear Bubble PTZ Camera
 NEZ-4112-PPCW4 AUTODOME IP 4000 HD 12x 720P Pendant Clear Bubble PTZ Camera
 NEZ-4212-CPCW4 AUTODOME IP 4000 HD 12x 1080P In-ceiling Clear Bubble PTZ Camera

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. Please note that for some tests, test conditions exceed the range that Bosch recommends for effective continuous operation of the camera.

Data subject to change without notice.

ENVIRONMENTAL TEST

EN50130-5:1999 Alarm systems Part 5: Environmental test methods	Specific Test description (Temperatures stated are outside of the camera housing)	Comments	Passed
Dry heat Operational IEC60068-2-2:1974 +A1:1993+ A2:1994	Temp. +60°C, duration 48 hours.		Yes
Dry heat endurance IEC60068-2-2:1974 +A1:1993+ A2:1994	Temp. +60°C, duration 10 days.		Yes
Cold operational IEC60068-2-1:1990 +A1:1993+ A2:1994	Outdoor: -40°C, duration 48 hours, Indoor: -20°C, duration 48 hours.		Yes
Cold Endurance and Cold Start Test IEC 60068-2-1:1990 +A1:1993+ A2:1994	Outdoor: -40 °C, duration 96 hours Indoor: -20 °C, duration 96 hours Perform cold start at end of test		Yes
Damp heat, steady state endurance IEC60068-2-3:1969+A1:1984	Temp. 60°C, Relative humidity 93%, duration 10 days		Yes
Damp heat, cyclic operational IEC60068-2-30:1980+A1:1985	16h @ 60C/95%RH to 16h @ 40C/85%, 5 Cycles total		Yes
IEC 60529 Ingress Protection Rating	Dust protected / Dust tight Dripping water / Water jets	NEZ-4x12-PPCW4 : IP65	Yes

		NEZ-4x12-CPCW4 : IP51	
Shock operational IEC60068-2-27:1987	Half sine wave 11 ms, 10g, 6 number of shocks, 3 pulses per direction.		Yes
Vibration sinusoidal operational IEC60068-2-6:1995	Freq. Range 10-150Hz, 5m/s ² , 3 axes, sweep rate 1 octave/min 1 sweep/axis		Yes
Vibration sinusoidal endurance IEC60068-2-6:1995	Freq. Range 10-150Hz, 10m/s ² , 3 axes, sweep rate 1 octave/min 20 sweep/axis		Yes

ADDITIONAL ENVIRONMENTAL – FUNCTIONAL BOSCH TESTS

Environmental test methods	Specific Test description	Comments	Passed
MTBF calculation of used components	MTBF > 120,000 hours		Yes
Design Maturity Test	Outdoor Life test - external environmental conditions		Yes
HALT (Highly Accelerating Life Test)	overstress test to Fail		Yes
Sound level	<45dB		Yes
Transportation Vibration Test	ISTA-2A		Yes
Transportation Drop test	10 drops after vibration test		Yes

Approvals Safety, EMC and Environmental

EMC Europe	Description	Comments	Passed
EN 55022:2010/AC:2011 (Class B)	Information Technology Equipment- Radio disturbance characteristics Limits and Methods of measurement.		Yes
EN 50130-4:2011	Part 4: Electromagnetic compatibility - Product family standard: Immunity requirements for components of fire, intruder and social alarm systems.		Yes
EN 61000-3-2:2014	Mains harmonics Part 3-2: Limits - Limits for harmonic current emissions		Yes
EN 61000-3-3:2013	Voltage fluctuations Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and		Yes

	flicker in public low-voltage supply systems		
EMC USA			Passed
CFR 47 FCC part 15 (Class B)	Conducted + Radiated Emission based on VERIFICATION procedure		Yes
Safety Europe			
EN 60950-1:2006/ A1:2010/ A11:2009/ A12:2011/ A2:2013	Information technology equipment — Safety — Part 1: General requirements		Yes
Safety USA + Canada			
UL 60950-1 (2 nd edition, 2014-10-14) CAN/CSA-C22.2 No.E60950-1 (CSA C22.2 No. 60950-1-07, 2 nd edition, 2014-10)	UL listing + cUL listing. First edition dated April 1, 2003. Information technology equipment — Safety — Part 1: General requirements		Yes
Environmental			
Prohibited and declarable substances in products, components, materials and preparations.	Manufacturer's declaration database based on N 2580-1.		Yes
Restriction of Hazardous Substances	RoHS compliant		Yes

Functional and specification test

Functional tests description		Comments	Passed
Camera Performance	Refer to AUTODOME IP 4000 HD datasheet		Yes

The product is produced by a manufacturing organisation, which is certified on **ISO9001** and **ISO14001** standards.