



TEST REPORT

IEC 60529

Degrees of protection provided by enclosures (IP code)



Report Reference No.: DNT2408270291S1236-01589
Testing Laboratory: Dongguan DN Testing Co., Ltd.
Address: No. 1, West Fourth Street, Xingfa South Road, Wusha Community, Chang 'an Town, Dongguan City, Guangdong P.R.China

The samples and sample information for the following tests are provided and confirmed by the applicant

Date of issue: September 6, 2024
Applicant's name: SHENZHEN NORSON INDUSTRY CO.,LIMITED
Address: A1402 building 14, YishanJun, Longping West Road, Huilongpu community, Longgang district, Shenzhen, China
Manufacturer's name: SHENZHEN NORSON INDUSTRY CO.,LIMITED
Address: A1402 building 14, YishanJun, Longping West Road, Huilongpu community, Longgang district, Shenzhen, China
Factory's name: N/A
Address: N/A
Standard: IEC 60529:1989+A1:1999+A2:2013
Test procedure: Test report
Non-standard test method: N/A
Test item description: Bluetooth Speaker
Trade Mark: /
Model/Type reference: NS160
Ratings: DC 5V,1A
IP degrees: IPX7
Date of receipt: 2024-08-29
Date test: 2024-08-29 to 2024-08-30



Dongguan DN Testing Co., Ltd.

Add: No. 1, West Fourth Street, Xingfa South Road, Wusha Community, Chang 'an Town, Dongguan City, Guangdong P.R.China

Web: www.dn-testing.com

Tel: +86-769-88087383

E-mail: service@dn-testing.com



Tested By:

James Yin

James Yin

Reviewed By:

Bob Wang

Bob Wang

Approved By:

Alex Wu

Alex Wu

Note: If there is any objection to the results in this report, please submit a written inquiry to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp, and is issued by the company in accordance with the requirements of the "Conditions of Issuance of Test Reports" printed in the attached page. Unless otherwise stated, the results presented in this report only apply to the samples tested this time. Partial reproduction of this report is not allowed unless approved by the company in writing.



ATTACHMENT:

Style No(s):

AVS1623



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Clause	Requirement + Test	Result - Remark	Verdict
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11	General requirements for tests		P
11.1	Atmospheric conditions for water or dust tests	25.6°C, 57% R.H., 96 kPa	P
11.2	Test samples	The tests specified in this standard are type tests.	P
11.3	Application of test requirements and interpretation of test results		P
11.4	Combination of test conditions for the first characteristic numeral		N/A
11.5	Empty enclosures	Test with equipment inside	N/A

12	Test for protection against access to hazardous parts indicated by the first characteristic numeral		N/A
12.1	Access probes		N/A
12.2	Test conditions		N/A
12.3	Acceptance conditions		N/A
12.3.1	For low-voltage equipment. (Rated voltage not exceeding 1000V a.c. and 1500V d.c.)		N/A
12.3.2	For high-voltage equipment (Rated voltage exceeding 1000V a.c. and 1500V d.c.)		N/A
12.3.3	For equipment with hazardous mechanical parts		N/A

13	Test for protection against solid foreign objects indicated by the first characteristic numeral		N/A
13.1	Test means		N/A
	Test means and the main test conditions are given in table 7		N/A
13.2	Test conditions for first characteristic numerals 1, 2, 3, 4		N/A
13.3	Acceptance conditions for first characteristic numerals 1, 2, 3, 4		N/A
13.4	Dust test for first characteristic numerals 5 and 6		N/A
13.5	Special conditions for first characteristic numeral 5		N/A
13.5.1	Test conditions for first characteristic numeral 5		N/A
13.5.2	Acceptance conditions for first characteristic numeral 5		N/A
13.6	Special conditions for first characteristic numeral 6		N/A
13.6.1	Test conditions for first characteristic numeral 6		N/A



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Clause	Requirement + Test	Result - Remark	Verdict

13.6.2	Acceptance conditions for first characteristic numeral 6	No dust has entered.	N/A
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14	Test for protection against water indicated by the second characteristic numeral		P
14.1	The test means and the main test conditions are given in table 8	IPX7	P
14.2	Test conditions		P
	Test means and main test conditions are given in table 8		P
	During the tests for IPX1 TO IPX6 the water temperature should not differ by more than 5K from the temperature of the specimen under test		N/A
	For IPX7 details of the water temperature are given in 14.2.7		P
	Test for second characteristic numeral 8, the test conditions are subject to agreement between manufacturer and user, but they shall be more severe than those prescribed in 14.2.7 and they shall take account of the condition that the enclosure will be continuously immersed in actual use		N/A
14.2.1	Test for second characteristic numeral 1 with the drip box		N/A
14.2.2	Test for second characteristic numeral 2 with the drip box		N/A
14.2.3	Test for second characteristic numeral 3 with oscillating tube or spray nozzle		N/A
14.2.4	Test for second characteristic numeral 4 with oscillating tube or spray nozzle		N/A
14.2.5	Test for second characteristic numeral 5 with the 6.3mm nozzle		N/A
14.2.6	Test for second characteristic numeral 6 with the 12.5mm nozzle		N/A
14.2.7	Test for second characteristic numeral 7: temporary immersion between 0.15m and 1m		P
	The test is made by completely immersing the enclosure in water in its service position as specified by the manufacturer so that the following conditions are satisfied		P
	a) the lowest point of enclosures with a height less than 850mm is located 1000mm below the surface of the water	The EUT is located 1000mm below the surface of the water	P
	b) the highest point of enclosures with a height equal to or greater than 850mm is located 150mm below the surface of the water		N/A



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	c) the duration of the test is 30min	Test duration: 30min	P
	d) the water temperature does not differ from that of the equipment by more 5K		P
14.2.8	Test for second characteristic numeral 8: continuous immersion subject to agreement		N/A
14.2.9	Test for second characteristic numeral 9 by high pressure and temperature water jetting		N/A
	The test is made by spraying the enclosure with a stream of water from a standard test nozzle as shown in Figures 7, 8 and 9.		N/A
	The set-up for measuring the impact force of the water jet is given in Figure 10.		N/A
	The distribution force shall be verified at upper and lower limits of distance tolerance range (see Figure 11).		N/A
	a) For small enclosures (largest dimension less than 250 mm), the enclosure shall be mounted on the test device shown in Figure 12.		N/A
	b) For large enclosures (largest dimension greater than or equal to 250 mm), the enclosure shall be mounted as per intended use. The entire exposed surface area of the enclosure shall be subjected to the spray at some point during the test procedure.		N/A
14.3	After testing in accordance with the appropriate requirements of 14.2.1 to 14.2.9 the enclosure shall be inspected for ingress of water	No water has entered.	P
	It is the responsibility of the relevant technical committee to specify the amount of water which may be allowed to enter the enclosure and the details of a dielectric strength test		N/A
	In general, if any water has entered, it shall not:		N/A
	–be sufficient to interfere with the correct operation of the equipment or impair safety		N/A
	–deposit on insulation parts where it could lead to tracking along the creepage distances		N/A
	–reach live parts or windings not designed to operated when wet		N/A
	–accumulate near the cable end or enter the cable if any		N/A
	If the enclosure is provided with drain-holes, it should be proved by inspection that any water which enters does not accumulate and that it drains away without doing any harm to the equipment		N/A
	For enclosure without drain-holes, the relevant		N/A



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	product standard shall specify the acceptance conditions if water can accumulate to reach live parts		

15	Test for protection against access to hazardous parts indicated by the additional letter		N/A
15.1	Access probes	No additional letter	N/A
	The access probe are given in table 6		N/A
15.2	Test conditions		N/A
	The access probe is pushed against any openings of the enclosure with the force specified in table 6		N/A
15.3	Acceptance conditions		N/A
	Test for the additional letter B		N/A
	Test for the additional letter C and D		N/A



PHOTO

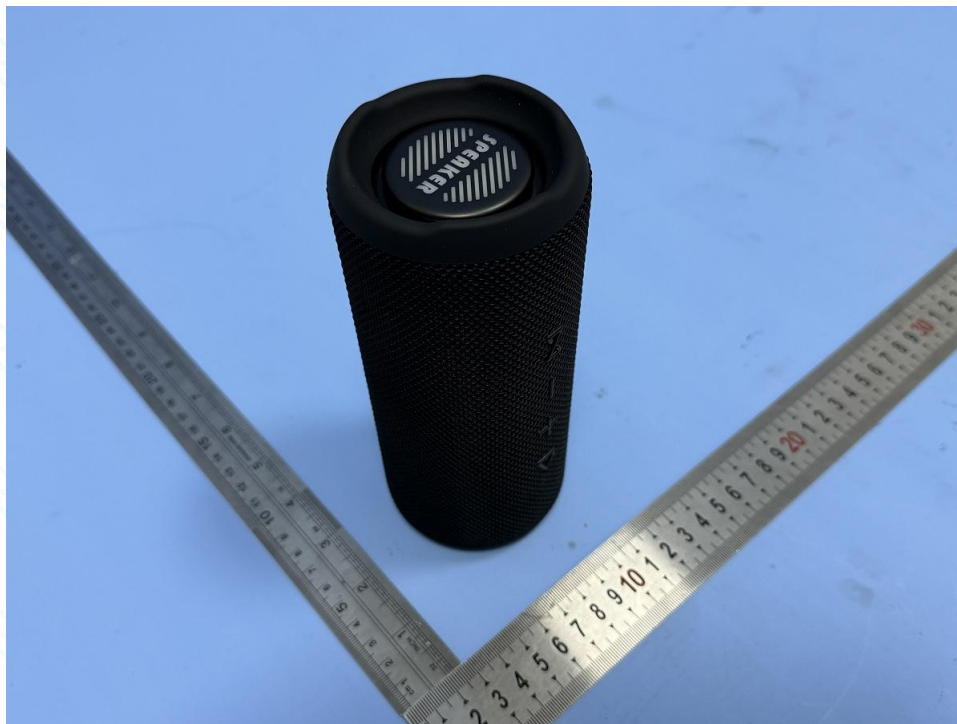


Figure 1: Before test



Figure 2: Before test



Figure 3: IPX7 test on-going

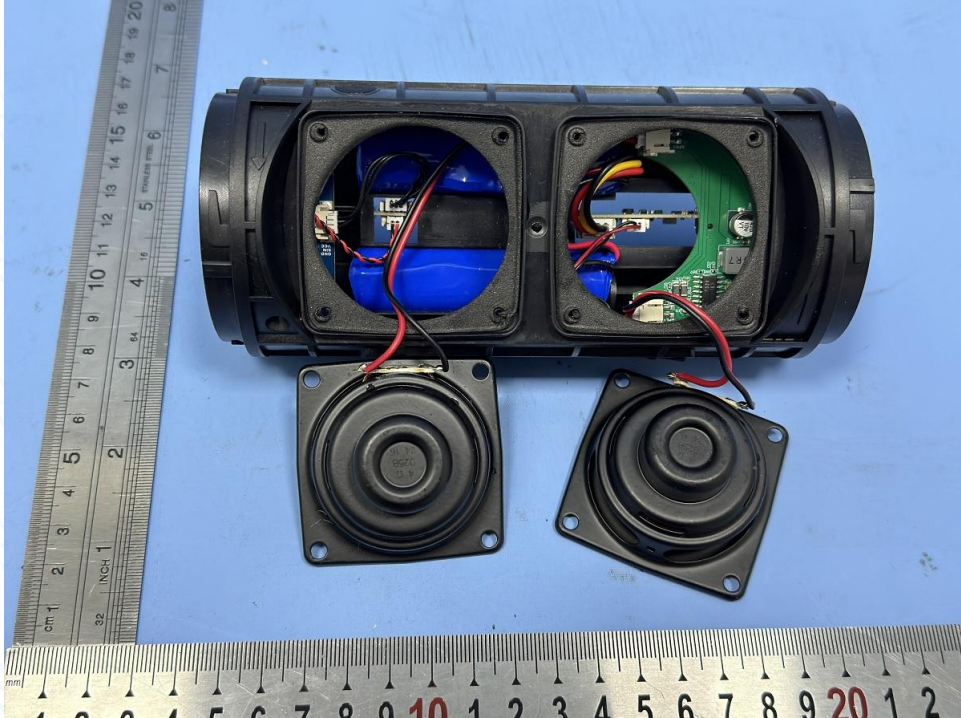


Figure 4: After IPX7 test

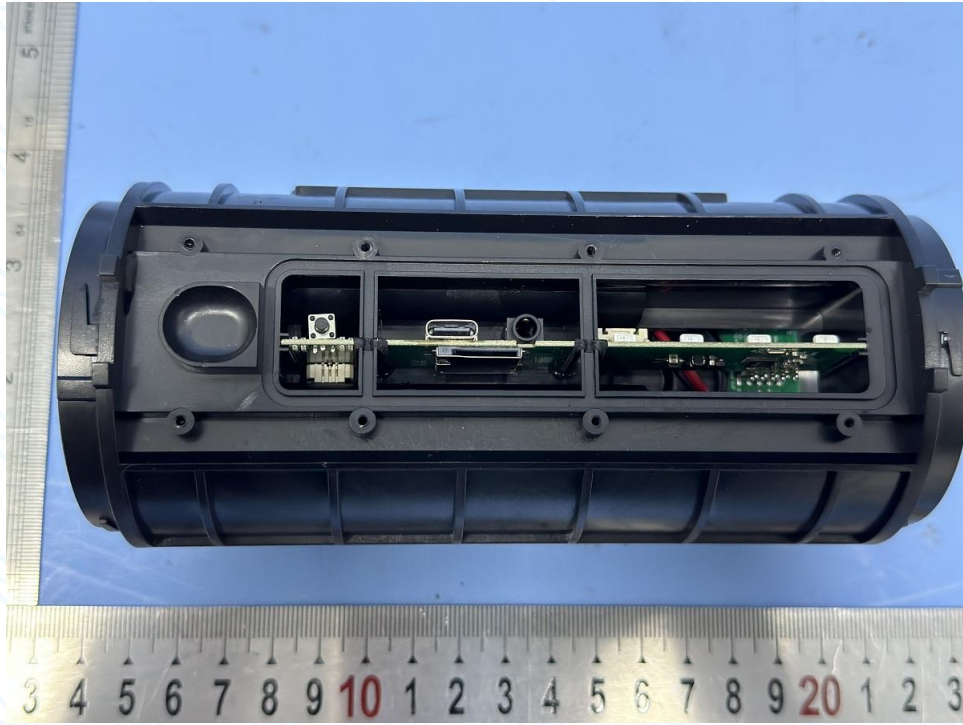


Figure 5: After IPX7 test

*** End of Report ***