

specification

Customer name: Customer	
Pair name Pairing Name	V 53
Product name and specification are Description	bluetooth speaker
Company model number, I nternal Model	V 53

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1: Scope of application / Scope

This specification describes the relevant parameter requirements and inspection rules for the products manufactured by the Company.;

2: Product features / Product Feature

1	Product features
2	Sound card / K song / Bluetooth audio integrated machine
3	Quickly connect to Bluetooth devices and support hi-fi music playback.
4	Built-in MIC support for no improved clear calls.
5	Built-in dsp, multisegment EQ.
6	Built-in live broadcasting / internal recording function / listening.
7	Built-in USB output emergency mobile power supply (5V / 1A)
8	Bluetooth High Fidelity K song
11	Choose high efficiency of speakers and high power amplifier to achieve high volume, high fidelity music playback.
12	Use large capacity: 6000mAH(11.1V * 2000; 18650 / 2000 mA * 3; three-string) power battery,

13	Stable strap portable design for easy to carry
14	Multiple modes of controllable magic lights



Product profile / size ID size chart: L 205mm * W 94.7 * H 123mm

Product weight Product Weight: ?g

3: Basic parameters / Basic Parameters

3.1 Product Bluetooth Parameters / Bluetooth Parameters

No	project	Parameter features
1	model model	V53
2	The Product type is Stereo type	Bluetooth K song speaker
3	Sound channel system Track system	2.0 Sound channel
4	Control mode: The control mode	7 PCS physical function button + remote control
5	Active and passive Active passive	active

6	The Bluetooth solution is Bluetooth solutions	BP1048B2
7	The Bluetooth version of the Bluetooth version	Bluetooth V 5.0
8	Support for the Bluetooth protocol, the Support Bluetooth profile	specification support .A2DP v1.3, AVRCP v1.6, HFP v1.7, HID v1.1, AVCTP v1.4, AVDTP v1.3, and SPP v1.2
9	The Bluetooth working frequency is Bluetooth working frequency	40H z -18K Hz
10	Bluetooth audio decoding of the Bluetooth audio decoding	SBC
11	Antenna specification of Antenna specification	On-board antenna
12	Antenna transmitting power (RF)	2dBm
16	Compatibility requirements are made for compatibility	IOS/Android
17	The Bluetooth effective distance is Bluetooth range	12 Meters
	The Bluetooth pairing time is Bluetooth pairing time	<12S
	The Bluetooth reconnection time is Bluetooth connection time	A2DP 3s; HFP 8s
	Best call distance (TBR)	0.3 Meters
19	Bluetooth distance	10 m (open space without shelter)
20	The Bluetooth microphone distance	8 m (open space without shelter)

3.2 Product Electrical parameters / Electrical Parameters

No	project	Parameter features
1	Power scheme	ACM3128A
2	Charging scheme	IP2306
3	OVP slug	ETA7014 (28V)
4	Audio signal / noise ratio S / N	79dB
5	Frequency response to frequency response	40HZ -18KHZ
6	output rating	50W
7	Rated power distortion rate	≤5%
8	maximizing power output	60W

4: Battery parameters / Battery SPEC

4.1 Battery pack specification / Battery String Specifications

ITEMS	Specifications	remarks
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nominal capacity	Section 3,18650 / 2000mA 6000 mAh (11.1V/2000mAh; three-string)	
nominal voltage	11.1V	
Factory voltage	11.5-12V	The whole machine is powered on within 6 months after shipment
internal resistance	The cell internal resistance is <60m Ω	Including the protective panel row line <150m Ω
charging voltage	5V	
Maximum charging voltage	5-5.5V	
Standard charge current / voltage	5V/2.5A	
Maximum charging current	2.6A \pm 0.2	
Standard discharge current	2000mA	
Maximum discharge current	6A	
Discharge the overcurrent protection current	\geq 20A	
cutoff voltage	10V	
working temperature	0°C—45°C	charge
	-5°C—+60°C	discharge
NTC	With a 100K resistance to the NTC	
Battery cycle life	300 times (80% remaining capacity)	

4.2 Charging specification / Charging Specification

Charging temperature: 0-45 degrees

Charging current: 3A + / -200 mA

Charging voltage range: 4.5V~6.05V

Charging overvoltage voltage: 28V

Charging time: 8 hours

Charging indicator: the red light is on; the red light is off

4.3 Play time specification / Play Time Specification

test method:

- 1 Preferred song (Hotel California)
- Fill the product battery and measure the endpoint voltage of the battery with a

multimeter with 12.6V \pm 0.2.

- Set to TF card mode, use TF card as the audio source, input device.
- Maximum volume, loop playing songs, that is, the maximum volume playing time.

The maximum volume playback time is 2H

The default 50% volume playback time is 5H

5: Acoustic specifications / Acoustical specifications

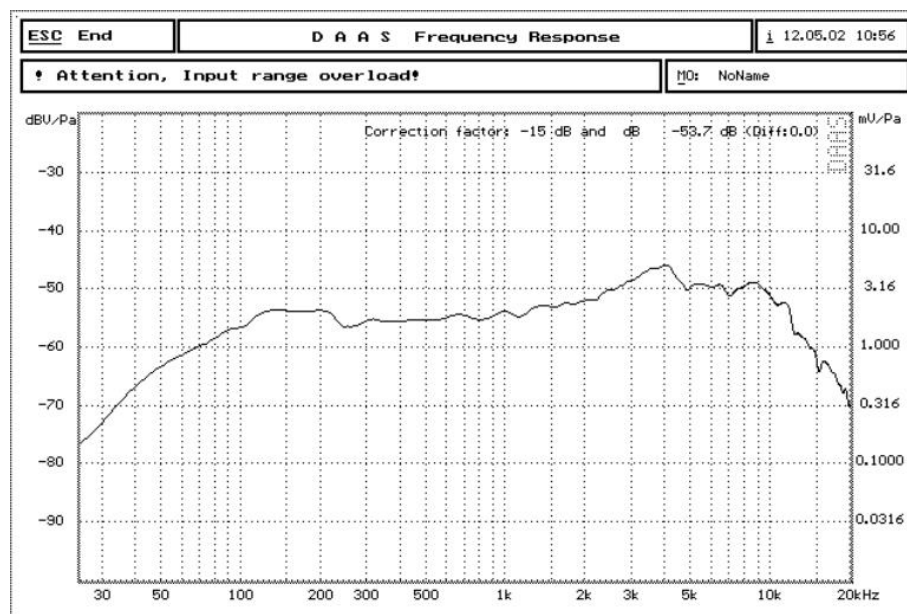
5.1 MIC specification / Microphone Specifications

Description	Specification
sensitivity (S)	Min.-45dB;Type -42dB;Max -39dB (0dB=1V/Pa,at 1KHz)
Output impedance (Zout)	Max.:2.2K Ω (f=1KHz)
Operating current (IDSS)	Max.:500uA (VCC=2.0V,RL=2.2K Ω)
noise-signal ratio (S/N)	Min.:60dB (at1KHz S,P,L=1Pa(A-Weighted Curve)
working voltage	Min.:1V,Max.:10V
frequency response	90Hz~15KHz

5.2, Microphone specifications

Description	Specification
sensitivity (S)	-53.7 (± 3) dB (at 1KHz) (0dB=1V/Pa)
Output impedance (Zout)	600 ($\pm 15\%$) Ω (at 1KHz)
frequency response	70Hz~13KHz

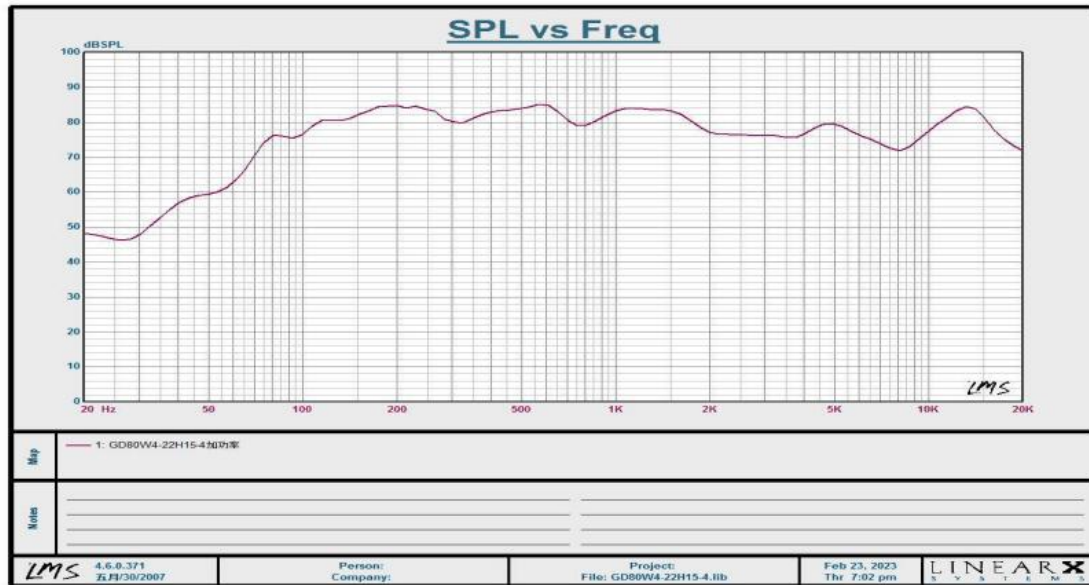
.35 Test curve of the microphone at 0°



5.4 System design requirements / System design Requirements

design item	ask	remarks
Sound processing	-The DSP shall be above section EQ 14 -The DSP shall have the DRC section 3	
Acoustic noise level (residual noise / buzzing sound)	40 dBA (20cm from each horn)	
Net volume of horn cavity	NA	
Structural design requirements	No loosening, to prevent air leakage	
Bold wall thickness	5.0mm	

project	parameter	remarks
1. The horn caliber	Full-frequency speaker; 78mm * 2	
Vibration film material	silica gel	
SPL	SPL \geq 82dB 1M/1W	
Fo	120Hz	
Frequency ring range	Fo 40HZ -18kHz (-6dB)	
impedance	4 Ω	
2. Rated power of horn	30W	
Horn curve:		



5.5 horn specification requirements- -full frequency horn / S peaker S


pecification





No	Test items	ask	Test condition description	Test frequency
1.	Polarity and vocal channel testing	Correct polar vocal channel	Use test equipment or test tunes	Full inspection of finished products
2.	sweep test	The vibration of the sound box should be less than the limit prototype	The bottom noise of the test room should be less than or equal to the condition of 60 dBA. Frequency range: 80Hz-2 KHz Input voltage: 200 mVrms (equivalent power 2W) Volume position: maximum Duration of 3S, 2 times Compare the limit prototype	Full inspection of finished products
3.	Air leak test	The wind noise and air leakage of each part should be less than the limit prototype	The bottom noise of the test room should be less than or equal to the condition of 60 dBA. Frequency range: 100Hz Input voltage: 200 mVrms (equivalent power 2W) Volume position: maximum Duration: 6S Contrast the limit prototype	Full inspection of finished products


4.	Sound quality test	Sound quality of the equivalent acoustic standard prototype	Experienced voice listeners; Listen to the sound with the default sound setting and the maximum volume in the listening room; The audition room compares the acoustic standard samples.	Full inspection of finished products
5.	Radator sound quality test (Karsound, out of control)	Sound quality of the equivalent acoustic standard prototype	Experienced voice listeners; Listen to the sound with the default sound setting and the maximum volume in the listening room; The audition room compares the acoustic standard samples.	Full inspection of finished products
6.	System frequency response test	Test: 100-6 KHz \pm 3dB 6K-15KHz \leq ±4dB Reference to the acoustic standard prototype	In the muffler room; MIC distance: 15cm Volume: the maximum volume MIC location: MIC to speaker center Smoothing:1/3rd Octave Smoothing	Full inspection of finished products
7.	maximal SPL	Reference to the acoustic standard prototype	In the muffler room; Maximum output SPL was tested using EIA-426B noise with a coaxial direction distance of 1m at the maximum power @ MIC	
8.	Acoustic noise level (residual noise / boo / hum)	30 dBA, sound pressure meter distance of 10cm, aim at each horn	Environment: sound chamber <20 dBA Test signal: Noise tune input pattern:BT Volume level: maximum	

5.6 System Acoustic Test Requirements / Acoustic Test

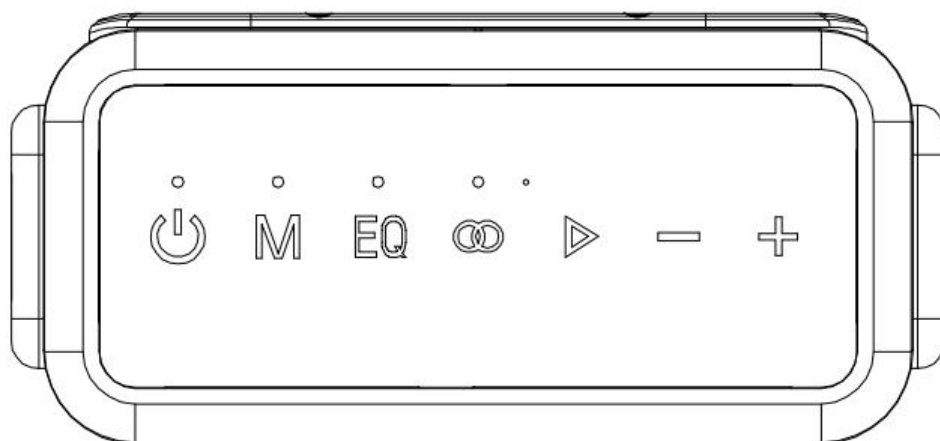
6.V53 UI function / User Interface Function

order number	function	Functional operation	Voice Prompt	LED state
1  POWER	starting up	Short press "POWER" key for 1 second, such as inserted U disk, TF card, Line-in speaker boot memory into the last working mode. Do not plug in U disk, TF card, Line-in boot speaker automatically enter the Bluetooth mode search state.	warning tone	Bluetooth search status blue light flash
	shut down	When turned on, press "POWER" for 2 seconds to turn off the Bluetooth speaker.	warning tone	The LED lights are all off
	Magic light control	When switched on, short press "POWER" to switch magic lights. 1. meteor shower; 2. rhythm; 3 colorful breathing gradient; 4. Turn off the lights		The Bluetooth current state light
	Forced shutdown	In the crash state, long press the "POWER" key for 8 seconds to turn off the Bluetooth speaker.		All of the lights are going out.
	Mode	Short press "MODE" key to switch BT / U disk / TF / AUX working mode.		

2  MODE	switching			
	Force to disconnect Bluetooth	With the Bluetooth connection state, long press the "MODE" key 3S to disconnect the Bluetooth connection.	warning tone	
	factory data reset	In Bluetooth state, long press "MODE" key 8S to restore the factory setting and clear the previous operation memory.	warning tone	Bluetooth search status blue light flash
3  EQ	EQ changing-over	The default EQ is full frequency, short press "EQ" key for 3D, and then short press for heavy bass.		The white light is 3D and the green light is heavy bass.
	Turn off power saving	In the boot state, long press the "EQ" key 8S speaker to turn off the power saving mode. At this time, you can provide 5V maximum 1A current to other electronic devices for a long time.	warning tone	
4  MIC	Microphone switch	Start the default to open the microphone function, press to turn off the microphone function;		When the microphone is connected, the yellow light is always on
	accompany	Start the default original sing, long press 1.5S to eliminate the original sound	No prompt sound	The green light is bright
5  PLAY/PAUSE	Pause play	Press the "PLAY / PAUSE" button in the Bluetooth / TF playback state to pause the playback.		Bluetooth play, pause the blue light long on, TF, U disk pause the blue light slow flash
		Press the "PLAY / PAUSE" button in the AUX playback state to play the mute		Play the blue light long on, silent blue slow flash
	Call to answer	Press the "PLAY / PAUSE" button to answer the call.		
	Call to refuse to receive	Press the 2S "PLAY / PAUSE" key to reject the call.		
	End of the call	Press PLAY / PAUSE briefly to hang up the call.		
	The end of the re-pull	Bluetooth connection to the phone, double-click the "PLAY / PAUSE" key to redial the last call.		
	Voice assistant	Long press the PLAY / PAUS 3S to start the voice assistant function		
6	Reduce the volume	Short press the "V- / Next" key to reduce the volume.	No prompt sound	

V-/Prev	The last song	Long press "V- / Prev" to switch to the previous song	No prompt sound	
7  V+/Next	Add volume	Short press the "V + / Next" key to increase the volume	warning tone	
	The next song	Long press "V + / Next" to switch to the next song	No prompt sound	
8	Intelligent power saving	The speaker will automatically shut down for 10 minutes, and it will not automatically shut down after connection.	not have	
9	charge	5V/2.5A Smart charging	not have	Charge the red light on after the red light out
10	Low electric alarm function	When 20% of the power, the low power alarm, and the speaker below 10% starts the shutdown program.	Have prompt sound	blinking red lamp
11	The AUX audio playback	Insert the 3.5mm audio line and automatically play the music provided by AUX	warning tone	When playing, the blue light is always on. When suspended, the blue light flashes slowly
12	USB broadcast	Insert the U disk to automatically play the U disk music	warning tone	When playing, the blue light is always on. When suspended, the blue light flashes slowly
13	TF card play	Insert the card to automatically play the TF card music	warning tone	When playing, the blue light is always on. When suspended, the blue light flashes slowly
14	Cable microphone input	Inserting a 6.5mm wired microphone will be automatically connected.	not have	
15	USB supply electricity	Under the boot state, long press the "EQ" key 8S speaker to close the power saving mode, insert the USB charging line to charge the external equipment for a long time, and the maximum output voltage DC5V maximum current is 1A.	warning tone	
16	Live broadcast of the OTG internal	The Type-C data cable with OTG function to connect the mobile phone and the speaker at one end can realize the live broadcast / internal recording function	No prompt sound	

	recording			
17	Other special states	<p>1) . If inserted U disk, TF card, Line-in speaker boot memory into the last working mode. Do not plug in U disk, TF card, Line-in boot speaker automatically enter the Bluetooth mode search state.</p> <p>2) . Bluetooth input: after starting on, first connect the last matched device, and automatically enter the matching state after the connection fails</p> <p>3) . TF card input: Insert the TF card automatically converted to TF card mode and automatically play the music on the TF card</p> <p>4) . Line in Input: insert the audio line Φ 3.5mm terminal into the audio input port, automatically switch to Line in mode and play the audio input from Line in</p> <p>5) . If the communication distance is disconnected, a reconnection is initiated every 30 seconds</p> <p>6) . When the mode switch is pressed, the corresponding TF card or Line in line is not inserted</p> <p>7) . In Bluetooth mode: when Bluetooth is not connected, automatic shutdown after 10 minutes; (not automatic shutdown when connecting Bluetooth, not shutdown when connecting microphone, and long press "EQ" 8S speaker to close the power saving mode.)</p> <p>8) . After connecting to Bluetooth, the mobile phone should display the battery symbol.</p> <p>Indicator lamp definition</p> <p>The blue light on the top of the power button is a Bluetooth indicator, and the red light is a charging indicator</p> <p>The green / white light on the top of the EQ key is the EQ indicator, the white light is 3D and the green light is heavy bass</p> <p>The green light on top of the microphone key is the microphone indicator</p>		





7: Reliability test / Test of R eliability

test item	Test equipment + test method	condition of experiment	critierion for judgement
High temperature and high humidity work	high Appearance and function and performance confirmation of DUT before test. Put the DUT in operation into the corresponding test equipment, and set the relevant parameters according to the test conditions. After completing the test, remove the DUT,	temperature: $45 \pm 2^{\circ}\text{C}$; Relative humidity: 93 (+ 2 / -3)%; Enter the pink noise; Test time: 12H; Recovery time at room temperature 2H.	1. No functional abnormality in the high-temperature working process; 2. The surface of the product has no discoloration, foaming and other abnormal appearance, and no abnormal function and performance.

	and verify the appearance, function and performance. Sample number: 3 samples		
Low temperature work	high Appearance and function and performance confirmation of DUT before test. Put the DUT in operation into the corresponding test equipment, and set the relevant parameters according to the test conditions. After completing the test, remove the DUT, and verify the appearance, function and performance. Sample number: 3 samples	temperature:-20±2°C; Normal humidity; Enter the pink noise; Test time: 12H; Recovery time at room temperature 2H.	1. No functional abnormality during the low-temperature work process; 2. The surface of the product has no discoloration, cracking and other abnormal appearance, and no abnormal function and performance.
drop test	Drop tester Place the DUT on the drop tester, adjust its height to the specified position, and then let the DUT do the free fall motion Sample number: 3 samples	1.2m high, each face falls once, 6 faces on the cement floor in a certain order, a total of 6 times, (need to check the appearance, function, disassembly confirmation)	There should be no sound or obvious loose parts inside, and all functions and performance is normal.

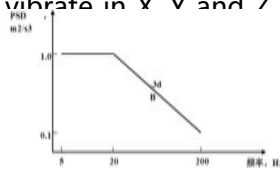
load carrying capacity	General aging site Sample number: 3 samples	Environment 23 °C ± 3 °C , Bluetooth connection input EIA-426-B track 2 pink noise signal, signal source volume, test 96 hours.	requirement: Power on test for 96 hours, after the end, the full functional examination should be free of damage and concealed damage. The sound ring should not fall off and the coil is deformed, the sound ring should not be black, wipe the foreign matter on the sound ring with hand.(Each 24H subjective listening sound detection function)
burn-in test	General aging site Sample number: 3 samples	Conditions and signal: Rated voltage: + / -10%, input EIA-426-B track 2 powder noise, output is 1 / 4 of rated power; Test environment: 45°C, 90% RH (3hour) - -45°C, normal humidity (21 high), the whole process is a cycle, a total of 7 cycles tested. Note: This test is	After removing the sample from the incubator, the functional test and appearance inspection should be completed within 15 minutes, and there should be

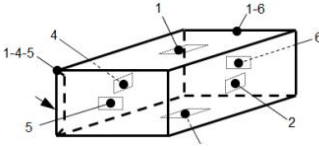
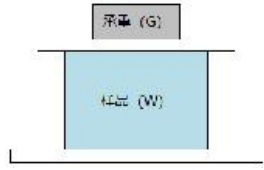
		charged in the incubator.	no functional impairment or hidden damage.
Key life test	Key-button life testing machine Sample number: 3 samples	Test load: 500gf Test speed: 30 times / min Test times: 5000 times.	No abnormal functions and performance.
Wire swing test	Swing test machine Sample number: 3 samples	TYPE-C charging cable: Clip Plug tail, speed 12 times / min, swing Angle: ± 60 , hang 200g weight at 30cm below the swing position for 2000 times.	No abnormal function and performance; no damage in appearance.
Wire lifting heavy test	weight Sample number: 3 samples	Hold the Plug head vertically and horizontally and hang 3kg and 2kg weight along the cable at a distance of 30cm from the plug end to the load for one minute.	No abnormal function and performance; no damage in appearance.
Play the state displacement test	Sample number: 3 samples	At full charge, the speaker is placed on the wooden table without slope, and the outline of the speaker is crossed; The maximum volume loop plays the specified test signal "Moving test _ Burn" for 1 hour, and lines the profile of the speaker position again after shutdown; Measure the distance of the speaker and record the maximum value.	Displacement is less than 1cm
Finished	Sample number: 3	Store the test product in	The footmat

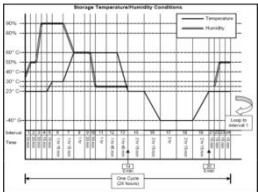
machine foot drag drag test	samples	<p>a high temperature and humidity environment (40°C, 95% RH) for 8H at room temperature for 4H.</p> <p>Test on the glass and wooden table respectively, apply pressure 5 times the weight of the speaker, return 30cm at a uniform speed, 10 times per minute, 10 times in the front and rear direction, and 10 times in the left and right direction.</p>	<p>should not fall off, loose, warped, damaged and other bad phenomena.</p>
Plug-in test	Plug-in tester	<p>Total number: 1,000 times. Speed: 40 times / min.</p> <p>The USB plug and pull force is in accordance with the USB-IF v2.0 specification (plug force $\leq 35\text{N}$, pull force $\geq 8\text{N}$).</p>	<p>Appearance and electrical performance are normal;</p>
Dust proof and waterproof test			
Attachment test	<p>Bagger, 3M 600 tape or equivalent, eraser</p> <p>Draw 10101mm 1mm mesh on the test sample surface, each line shall be deep to the bottom of the paint; brush the debris of the test area with a brush; adhere $350\text{g} / \text{cm}^2 \sim 400\text{g} / \text{cm}^2$ The tape</p>	<p>Grasp one end of the tape by hand, quickly pull off the tape in the vertical direction (90°), and change the same test in the same position.</p>	<p>Qualified adhesion 4B is required.</p>

	<p>(3M 600 tape or equivalent) firmly sticks to the tested small grid, and wipe the tape vigorously with an eraser to increase the contact area and strength of the tape and the tested area.</p> <p>Sample number: 3 samples</p>		
Hand resistance test	<p>Self-made mixture (simulated sweat), plastic bags, dust-free cloth; The dust-free cloth soaked in sweat is pasted on the surface of the product and sealed with plastic bags.</p> <p>Sample number: 3 samples</p>	<p>After 24h at room temperature, check the appearance of the paint after the test is completed.</p>	<p>The appearance of the product has no obvious discoloration, foaming and other abnormal appearance.</p> <p>A. For UV paint, ordinary PU paint, rubber paint, the test time is 24h;</p> <p>B. The composition of sweat is ammonia (purchased ammonia finished product) 1.07%, sodium chloride 0.48%, water 98.45%;</p> <p>C. This test is only for the external surface paint test, if it is the inner surface such as the battery compartment can not be required;</p> <p>D. The paint foaming</p>

			diameter is less than 0.8mm and the number of less than 5 points is acceptable.
Comply with cosmetics	Dust-free cloth, Vaseline special lotion (dry moisturizing formula) First wipe clean the product surface with dust-free cloth, and apply the Vaseline special lotion (dry moisturizing formula) on the surface of the product (a thin layer). Sample number: 3 samples	Put the product in the constant temperature and humidity box (temperature set at $55^{\circ}\text{C} \pm 2^{\circ}\text{C}$; relative humidity $95\% \pm 3\%$), maintain 48H, remove the product, wipe the cosmetics clean, and place in the normal temperature environment for more than 2h to check the appearance of the product.	Product surface without obvious discoloration, foaming and other abnormal appearance
Alcohol resistance test (Silk printing + radium carving)	Anhydrous alcohol (concentration 99.5%), alcohol resistance tester, pure cotton cloth Dip pure cotton cloth (special) with anhydrous alcohol (concentration 99.5%) and wrap it on the special test head (the area of the test head after wrapping cotton cloth is about 1cm^2), A load of 500g was applied. Sample number: 3 samples	Wipe the sample screen surface (flat area) for 100 cycles with a rate of 40 to 60 cycles / minute	After the test, slight wear and fade, but the font shall be complete
Salt Spray Test	Salt mist tester Visual metal parts shall be exposed in the salt spray Sample number: 3	5% NaCl solution, PH between 6.5 and 7.3, 35°C environment by salt spray tester $1.4 \pm$	After testing, rinse, no corrosion and other abnormal

	samples	0.2Kg/cm ² for 48 hours.	phenomena.
vibration test	<p>vibration measurement instrument</p> <p>1. Put the normal products and accessories into the color boxes according to the packaging requirements;</p> <p>2. Put the color box in a suitable carton (if the paper box is too large, it can be filled with soft fillings, so that the color box does not shake significantly in the carton)</p> <p>3. Let the carton vibrate in X, Y and Z</p> 	<p>At room temperature: temperature:20~25°C</p> <p>Relative humidity: 75%</p> <p>Atmospheric pressure: 86 kPa-106 kPa</p> <p>Random vibration parameters: 5~20Hz, PSD:1.0m²/s³ ; 20~200Hz, -3dB</p>	<p>After the vibration is completed, the color box and the inner box are not allowed to have obvious damage, dispersing, grinding products and other bad.</p>
Pack material drop (color box)	<p>Packaging Drop Tester & Manual Drop</p> <p>After loading the corresponding products, fall freely on the cement floor according to the specified height, with 1 corner, 3 edges and 6 sides.</p> <p>Sample number: 3</p> <p>samples</p>	<p>Drop height (color box): ≤ 2kg:100cm, 2~5kg:50cm.</p> <p>At room temperature: 25 °C ± 5 °C / ≤ 75%RH/ 86kPa-106kPa</p>	<p>After the test, the packaging has no serious damage or rupture, and the product should not have any organization or electrical defects.</p>
Pack material drop (whole box)	<p>The following test conditions were dropped to the cement floor.</p> <p>Drop height reference record</p>	<p>Drop height (box): 0~1kg:1.2m; 1~5kg:1m; 5~25kg:0.9m; 25~60kg:0.8m</p>	<p>The carton can not be broken, except the dent in the corner without the</p>

	<p>below requirements:</p> <p>$\leq 10\text{kg}$ 80cm</p> <p>$> 10\text{kg} \leq 25\text{kg}$ 60cm</p> <p>$> 25\text{kg} \leq 50\text{kg}$ 45cm</p> <p>The test order is as follows, falling once in each direction</p> <p>1st drop: side 4</p> <p>2nd drop: side 5</p> <p>3rd Drop: Side 3</p> <p>4th drop: 1-4-5</p> <p>5th drop: 1-6 side</p> <p>Sample quantity: 1 case</p>		<p>damage, the label sheet can not be damaged;</p> <p>Color box can not have deformation, scraping, sealing paste open and other bad;</p> <p>Products and accessories can not jump out from the inner box and deviate from the original position;</p> <p>Appearance and function of products and accessories OK.</p>
The stacking test	<p>A transport package was used as a test sample</p> <p>Sample quantity: 1 case</p> 	<ol style="list-style-type: none"> 1. Temperature $50\text{ }^{\circ}\text{C}$, 90% RH, left for 96 hours, return to 4H. 2. Pressure weight calculation formula: $G = W \times ((N-1) \times S + 2)$ <p>W: Weight of individual packing boxes</p> <p>N: Number of packing box stacking layers</p> <p>S: The stability factor of the packing box is 1.2</p> <p>G: Stack weight</p> 3. Stacking time lasts for 7 days to relieve the pressure and determine the results 4. The area of the load-bearing board should be greater than the carton area, and cover the whole surface 	<p>The packaging can not prevent the collapse, deformation, cracking and other bad products, the accessories can not be rubbed with each other, the fuselage can not have scratches, the fasteners inside and outside the machine can not be loose</p>

Cryogenic test of packaging material	<p>Constant temperature and humidity box</p> <p>The samples were placed into the test chamber and removed after 48H and shelved for 2H in $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$</p> <p>Sample quantity: 1 case</p>	Temperature of the test chamber is: $-20^{\circ}\text{C} \pm 2^{\circ}\text{C}$	After testing, there is no obvious deformation and damage; the sample appearance shall have no obvious deformation, cracking and cracking.
High-temperature test of the coating material	<p>Constant temperature and humidity box</p> <p>The samples were placed into the test chamber and removed after 48H and shelved for 2H in $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$</p> <p>Sample quantity: 1 case</p>	<p>The temperature of the test box is: $60^{\circ}\text{C} \pm 2^{\circ}\text{C}$;</p> <p>Relative humidity was $90\% \pm 5\%$</p>	After testing, there is no obvious deformation and damage; the sample appearance shall have no obvious deformation, cracking and cracking.
Temperature and humidity storage	<p>Constant temperature and humidity box</p>  <p>Sample quantity: 1 case</p>	Put the packaged samples into the test box as required in the table; 12 cycles for 12 days.	After testing, there is no obvious deformation and damage; the sample appearance shall have no obvious deformation, cracking and cracking.

Simulation transport test	Reference to ISTA 2A	<p>1. Environmental pretreatment;</p> <p>2. Environmental treatment;</p> <p>3. Compression test: release equipment immediately after compression</p> <p>Take pictures of the packaged product. If the product is not damaged or the packaging is degraded, perform the vibration test; otherwise the test fails, the test is stopped and recorded in the test report.</p> <p>4. Vibration</p> <p>Take pictures of the packaged product. If the product is not damaged or the packaging is degraded, perform the vibration test; otherwise the test fails, the test is stopped and recorded in the test report.</p> <p>5. Drop test 6. vibration</p>	<p>1. Maintain the function of OK</p> <p>2. Shake products should not have additional noise</p> <p>3. No, click, click, any loose or "broken" parts</p> <p>4. The product shall have no appearance damage</p> <p>5. The appearance of separate packaging shall be no obvious deformation or damage.</p>
The ESD electrostatic test	<p>Electrostatic gun DUT output terminal, metal mesh, screws and other exposed parts of each terminal or circuit board.</p> <p>Sample number: 3 samples</p> <p>Contact discharge was tested 10 times from + / -4KV and air discharge 10 times from + / -8KV, 1s apart.</p>	<p>Contact discharge: 0-2 No abnormality is allowed</p> <p>2-4 After the product function error occurs, it can automatically restore the normal state allowed.</p> <p>4-6 It is allowed to return to the normal working state through key operation, dial plug, standby, reset and other methods.</p> <p>6-8 No hardware damage problem</p> <p>Air discharge: 0-3 No abnormality is allowed</p>	

		<p>3-4 When the product function misoperation occurs, it can automatically restore the normal state allowed.</p> <p>4-6 Return to normal working state by dialing, standby and reset, but also return to normal working state by other key operations.</p> <p>6-8 It is allowed to return to the normal working state by key operation, dial plug, standby, reset and other methods.</p> <p>10-15 No hardware damage problem</p>	
Key parts of the temperature rise	<p>1. At least 8 inches from the measured sample surface. Temperature rise measurement and recording were performed at least once every 2 minutes during the test cycle.</p> <p>2. The function of the sample after the test is as normal as that before the test, and the temperature rise test data meets the specifications.</p> <p>3. Temperature probe.</p> <p>Sample number: 3 samples</p>	<p>1. Ambient temperature: 23°C (+ / -3°C)</p> <p>2. Test signal: 0dB Pink Noise</p> <p>3. Output power: 1 / 2 ROP (The voltage of the test speaker, closest to 1 / 2 ROP)</p> <p>4. Power supply: Power supply adapter directly power supply</p> <p>5. Battery: Battery full power status before test</p> <p>6.</p> <p>7. Input source adopts BT input;</p> <p>8. At least 8 inches from the measured sample surface. Temperature rise measurement and recording were performed at least once every 2 minutes during the test cycle.</p> <p>9. The function of the sample test is as normal as before the test, and the temperature rise test data meets the specifications.</p>	Meet the customer's design requirements

Battery capacity test	<p>Battery capacity separation tester</p> <p>Sample number: 3 samples</p>	<p>1. Random take 3 groups of large batteries and put them on the red and negative rack of the positive and negative port of the volume cabinet</p> <p>2. Set the operation steps:</p> <ul style="list-style-type: none"> * Break into single battery aging * Constant current charging is 0.5C standard setting, and the cut-off voltage is set to 4.2V * The parameters of constant voltage charging equipment 4.2v are set according to the test standard value * The device standing time is 5 minutes * Constant discharge 0.5c standard parameter device with cut-off voltage of 2.75v * The circulation capacity number of the equipment shall not be less than 300 times, and the capacity shall not be less than 80% of the standard value 	Meet the battery specification requirements
Charging test	<p>1: DC voltage power supply.</p> <p>2: Adapter 5V / 3A, 5V / 4A, high-pressure fast charging adapter, etc.</p>	<p>1:4.75V-5.25V When the voltage is input, the charging current meets the design requirements.</p> <p>2: Charge with 5V / 3A, 5V / 4A, and the current meets the requirements.</p> <p>3: Use the high-voltage fast charging adapter, and the current meets the requirements.</p>	Meet the customer's design requirements

Play-time test	1: finished product testing machine. 2: The iPhone.	1: Test according to the playback time test method.	Meet the customer's design requirements
Bluetooth distance test	1: finished product testing machine. 2: The iPhone.	1: Connect your phone to play music.	Meet the customer's design requirements: Barrier-free connection distance: 12M; Distance apart: 10M; The distance between the host engine and the pilot is 8M

8: Product certification / Product certification

FCC(America)	CE(EU)	Telec (Japan)	ROHS(EU)	UN38.3 Test Report & MSDS	CCC SRRC (China)
Appraisal report of air and Marine products	UKCA(Britain)	IP67	UL		

9: Packaging and accessories / Packaging and Accessories

Color box packaging (external size:) * 1
 Speaker * 1
 Information Manual (English) * 1
 TYPE-C charging line (2 cores, 60mm long) * 1

10: Product considerations / Notice for Product

1. Do not use an abrasive detergent to clean this product.
 2. Do not let the product be heated or near the fire source, such as a cooking stove.
 3. Do not let this product be directly exposed to sunlight for a long time.
 4. Do not place the product in the fire to avoid an explosion.
 5. Do not attempt to dismantle the product to make any modifications as it does not contain any service components.
 6. Do not soak it in water to use this product.(Except for products above the waterproof grade IPX 7)
 7. If you do not intend to use this product for a long time, please store it in a dry environment to avoid extreme temperature, humidity and dust.
- And charge the stereo at least once a month to extend the battery life.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

The device has been evaluated to meet general RF exposure requirement , the device can be used in portable exposure condition without restriction