

SPECIFICATION FOR APPROVAL

Customer: _____

Part Num: _____

Part type: _____

Sample date: _____

Manufacture			
Fiction	Check By	Approved By	Stamp

Customer			
Engineer Dept	QC Dept	Purchase Dept	Stamp

Version	Detail	Date
V1.0		

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1.Overview


AN16A is a BLE voice remote.In the bluetooth state,it can control the device by 360 degrees without dead ends.The maximum control distance is more than 15m.With the corresponding voice APK,it can perform voice recognition to control the equipment by remote.When bluetooth is not connected,the remote can control the host through infrared.

2. Appearance and key description



Key names and report descriptors (Customer code=0X00ff) :

Num	Key name	Usage page	Usage ID	Infrared code	Function
1		0X0C	0X0030	87	Power on/off
2		0X0C	0X00DC	DC	Undefined
3		0X0C	0X0042	84	Up
4		0X0C	0X0044	BB	Left
5		0X0C	0X0041	B2	ENTER
6		0X0C	0X0045	8E	Right
7		0X0C	0X0043	8D	Down
8		0X0C	0X00EA	B5	Volume down
9		0X0C	0X00E9	89	Volume up
10		0X0C	0X0224	8B	Back
11		0X0C	0X0223	4F	HOME
12		0X0C	0X0040	8A	Menu
13		0X0C	0X0221	66	Voice
14		0X0C	0X00E2	5B	Mute
15		0X0C	0X00DE	F5	Undefined

16		0X0C	0X00DF	45	Undefined
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3. Pairing mode

- First pairing: Press any key to enter the pairing mode after the remote control is powered on (with the battery installed). LED flashes quickly in paired state. After a few seconds the LED flashes off, and the pairing is successful.
- Pairing again: To pair the remote control again, you need to press the pairing combination key (OK key & volume down key) at the same time. After long pressing for 3s till the LED flashes quickly. After a few seconds, the LED flashes off, and the pairing is successful.

4. Operating mode

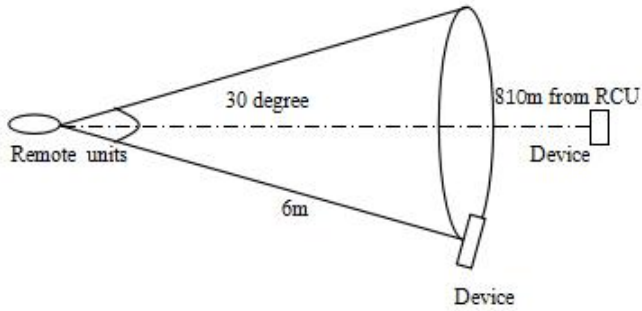
When the remote control is connected to the host via bluetooth, it is in the bluetooth state, otherwise it is in the infrared state.

5. Device name

The Bluetooth device name of the remote: RemoterATV3

6. Electrical performance (TA=25°C, 3.0V)

Num	Item	Specification
1	Chip type	Actions ATB1103L
2	Operating Voltage	2.2V~3.6V
3	Bluetooth version	BT V4.2
4	Minimum operating voltage	2.2V
5	Crystal frequency	32 MHz
6	Quiescent current	$\leq 15 \mu\text{A}$
7	operating current in infrared state	$\leq 20 \text{ mA}$
8	RF test frequency	$2.440\text{G} \pm 150\text{KHz}$
9	Control distance in bluetooth state	$\geq 15\text{m}$

10	Voice data	Mono 16bit@16Khz
11	Microphone sensitivity	-42+-3dB
12	Microphone signal-to-noise ratio	>=58dB
13	Infrared carrier frequency	38Khz \pm 2%
14	Infrared emission distance and angle (working voltage 3V)	<p>Minimum 10m at straight line to a aim device, Minimum 6m at 30 degree conical to a aim device Refer to the below drawing</p> 

7.Power consumption test

Power consumption test					
PN:AN16D					
Software version:					
Tool:PowerMonitor/Multimeter					
Power:DC 3V					
Num	Item	Test case	Expected current value	Value	PASS/FAIL
1	Deep sleep	Infrared status (unpaired),wait 3 seconds after pressing the key to start the test	$\leq 15\mu\text{A}$	12.7 μA	PASS
		After remote control pairing,then turn off the host and the remote control status changes from bluetooth to infrared. Wait for 3 seconds after pressing the button to start the	$\leq 15\mu\text{A}$	12.9 μA	PASS

		test			
2	Light sleep	When bluetooth remote control has been paired, wait 3 seconds after pressing the button, observe the highest and lowest values of the current, and test for 3 minutes	Max ≤ 5.5mA	3.71mA	PASS
		The remote control will automatically enter the light sleep state after pressing the key, that is the low power consumption state, It is normal for the current value to jump. This is a back-to-back broadcast. It will jump once every 3 seconds	Minimum value	0.01mA	PASS

3	Pairing status	Press the pairing combination key to enter the pairing state and record the current value during the pairing process	Max ≤ 10mA	2.1mA	PASS
			Minimum value	0.03mA	PASS
4	Bluetooth working status	Record the current value when short pressing other keys except "voice key"	Max ≤ 10mA	2.41mA	PASS
			Minimum value	1.85mA	PASS
		Record the current value when long press other keys except voice key	Max ≤ 10mA	2.91mA	PASS
			Minimum value	1.44mA	PASS
		Record the current value when long press voice key	Max ≤ 10mA	6.4mA	PASS
			Minimum value	6.03mA	PASS
		Record the current value when long press normal key + voice key	≤ 20mA	7.16mA	PASS
5	Infrared	Record the current	Max ≤ 10mA	8.1mA	PASS

	working status (the host is turned off after bluetooth pairing)	value when short pressing other keys except "voice key"	Minimum value	3.72mA	PASS
		Record the current value when long press other keys except voice key	Minimum value	3.34mA	PASS
	Infrared working status (Bluetooth is not paired)	Record the current value when short pressing other keys except "voice key"	Max \leq 10mA	7.82mA	PASS
		Record the current value when long press voice key	Minimum value	7.65mA	PASS
		Record the current value when long press voice key	Minimum value	4.27mA	PASS
		Record the current value when short pressing other keys except "voice key"	Minimum value	4.27mA	PASS
6	Infrared working status (Bluetooth is not paired)	Record the current value when short pressing other keys except "voice key"	Max \leq 10mA	6.6mA	PASS
		Record the current value when long press other keys except voice key	Minimum value	2.48mA	PASS
	Infrared working status (Bluetooth is not paired)	Record the current value when long press other keys except voice key	Max \leq 10mA	7.96mA	PASS
		Record the current value when long press voice key	Minimum value	1.84mA	PASS
		Record the current value when long press voice key	Minimum value	7.61mA	PASS
		Record the current value when long press voice key	Minimum value	4.26mA	PASS

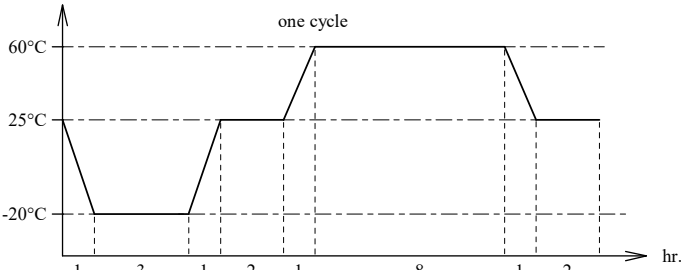
		Record the current value when long press normal key + voice key	$\leq 20\text{mA}$	4.3mA	PASS
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8. Reliability

Num	Item	Specification
1	Product life	5 years
2	Bulk defective rate	Remote control failure rate (MTBF) is less than one percent within one year
3	User simulation test	<p>Press the button and transmit infrared signal for 500 times before checking</p> <p>A. The carrier frequency error must be within 2% of the initial value</p> <p>B. Infrared emission range is within the specified value range of the above specifications</p> <p>C. Static current and operating current must be within the range specified in the above specification</p>

4	Smoke test	<p>The test samples were placed in a smoke tester with a concentration of 5% salt water and a PH value of 6.5~7.2 for 24 hours.</p> <p>Check:</p> <p>1.No rust</p> <p>2.Function code normal</p>
5	Key life test	<p>Check after pressing 100,000 times at 30 times per minute</p> <p>The rebound strength of the button is within +/- 0.3N of its initial value</p> <p>Resistance is less than 3 kilohms</p> <p>No obvious change in silk screen</p>
6	Battery cover life	<p>The battery cover must be kept closed/locked intact after 40 times of insertion/removal</p>
7	Battery plug test	<p>Manually operated, the battery must remain in contact after being inserted/removed 40 times.</p>
8	Alcohol resistance test	<p>Soak 99% industrial alcohol with cotton cloth for 1 minute, 300gf 20 times back and forth (press the key 50 times) Wipe test without peeling off, printing without peeling off</p>

9	Adhesion test	<p>All printed legends must exceed the test using Scotch (3M) Super Tape.</p> <p>Apply the tape to the test surface and remove it at a 45-degree angle three times in a row (with new tape each time).</p> <p>Prints must not have any noticeable marks.</p>
10	Endurance test	<p>Use a pen, pencil or nail in normal operation should not damage the keyboard.</p> <p>2H pencil with 1000gf force from 45 ° across the product surface product appearance surface without dent.</p>
11	White cloth abrasion test	<p>All legends printed on plastic and keyboard surfaces must be able to withstand 500 grinding cycles with a load of 500 grams.</p> <p>Cotton cloth (100% white cloth, single needle, 20s pattern, 190 g / m) was used as the test medium 60 cycles per minute.</p>
12	Standard eraser abrasion test	<p>The plastic material substrate cannot be seen even after 2,000 grinding cycles using a load of 500 grams.</p> <p>60 cycles per minute, using a standard eraser as the test medium.</p>

13	Drop test	Drop the remote control once from a height of 1 m (6 sides, 4 corners), and place it on a concrete floor covered with hardwood boards (3 cm thick).
14	High temperature test	Place at a temperature of 60 ° C and a relative humidity of more than 90% for 48 hours, and then place the remote control at normal room temperature for 1 hour. Check all electrical and mechanical properties.
15	Low temperature test	Place at a temperature of -20 ° C and a relative humidity of less than 50% for 48 hours, and then place the remote control at normal room temperature for 1 hour. Check all electrical and mechanical properties.
16	Cycle test	<p>Place the remote control for three cycles according to the temperature / time chart below, and then leave it at room temperature for 1 hour. Check all electrical and mechanical properties. It should be completely normal.</p> 

9.Product packaging

AN16x PE胶袋包装 CARTON箱包装方法:

① 遥控器
Remote

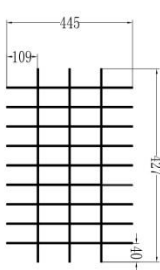
② 产品放入PE胶袋

③ 产品装入PE胶袋
后再放卡槽里

④

⑤ 将外箱透明胶打
包

刀卡装配方式:



每卡槽放6个产品(产品同方向放置, 一层40卡槽), 共一层, 共240个产品。

遥控器: 1PCS/CTN
尺寸(L*W): 460X440X170mm
隔板: 2PCS/CTN
尺寸(L*W): 445X425X3mm
纵刀卡: 3PCS/CTN
尺寸: 427X150X3mm
横刀卡: 9PCS/CTN
尺寸: 445X150X3mm

材料:
外箱: K-A 双层瓦楞纸, 厚度: 5mm, 白乳胶装订。
隔板: B30单层瓦楞纸, 厚度: 3mm

要求:
1、无多余物料。
2、无粉尘。
3、符合ROHS标准。

规格书: 240 PCS / ctn
毛重, M.: 11.5 KG
净重, W.: 9.6 kg

外箱尺寸: 460mm x 460mm x 460mm

(注: 右图为刀卡组
合示意图, 非标准)

REV 版本	DESCRIPTION描述	DATE 日期
A0	原始图	2019.3.14

DRAWING制图:	DATE日期	PART NAME 零件名称	SCALE比例: 1:1
10.25 ±0.13	2019.3.14	包装示意图	DWG NO图号:
25.50 ±0.15			UNITS单位: MM
100.200 ±0.35	CHECKED审核:		SHEET张数: 1/5
100.200 ±0.35	DATE日期		
5.15 ±0.25	APPROVED批准:		
18.14 ±0.10	SERIAL NO序号:		
18.14 ±0.10	SIZE纸张: A4		

10.Contact us

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