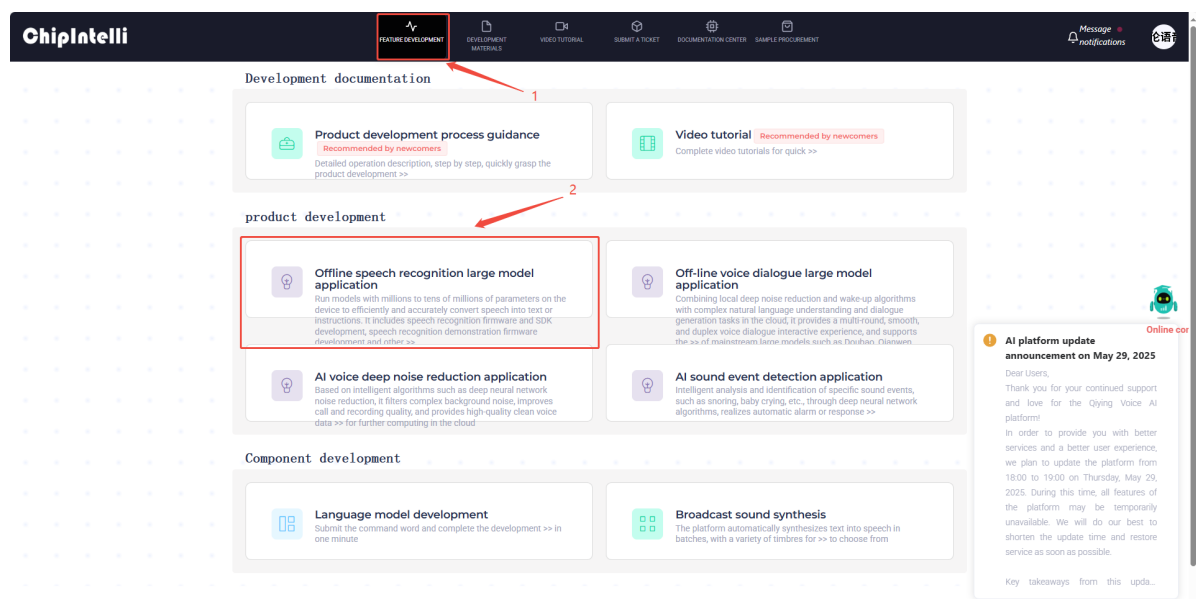


Modify the wake-up word and command word

- First, you need to open the link "[Chiplnelli Voice AI Platform](#)" and enter the official firmware production website.
- Translate this page into English.



- Click "**Function development**" in the menu bar, and then click "**Offline speech recognition large model application**" under the Product Development column.



- At this time, you will be prompted to log in. Here you need to use your own information to register a platform account. The tutorial here has already been registered in advance.

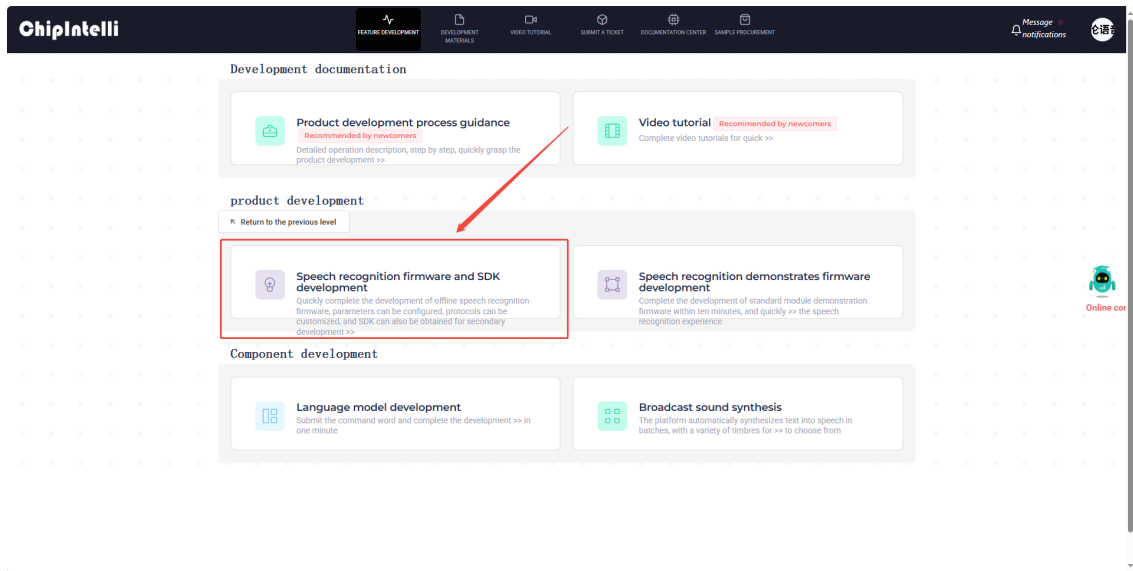
If you don't have a Chinese mobile phone number, you can use the following account:

Account number: 15338857526

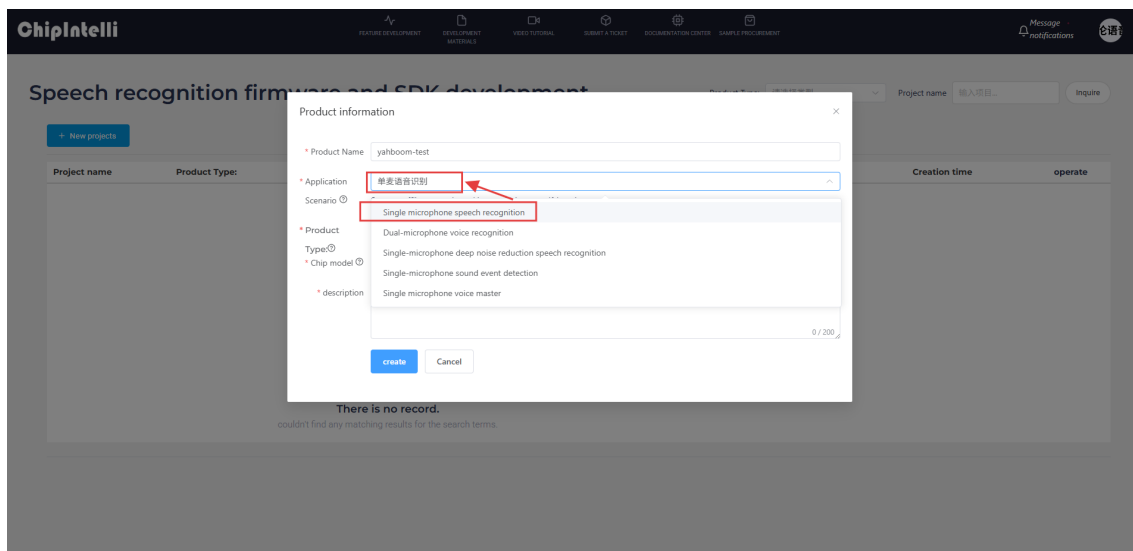
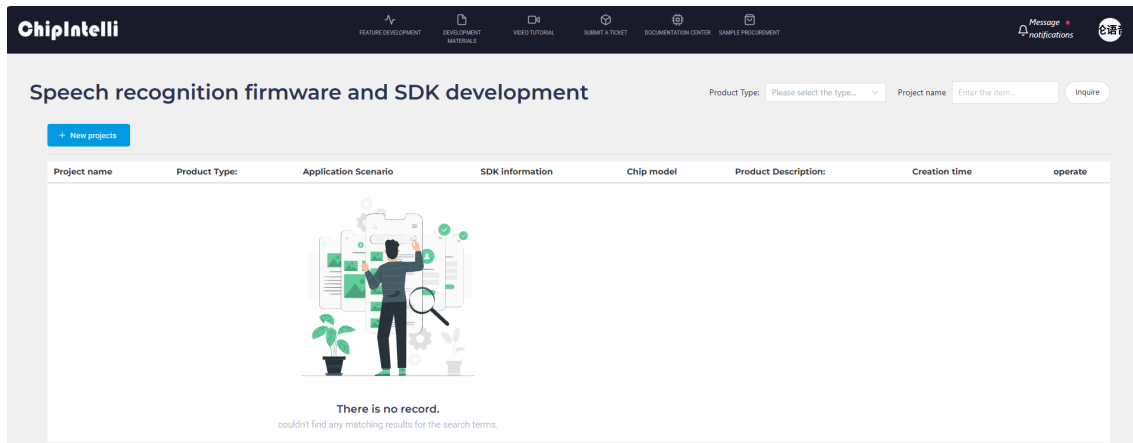
Password: Yahboom123

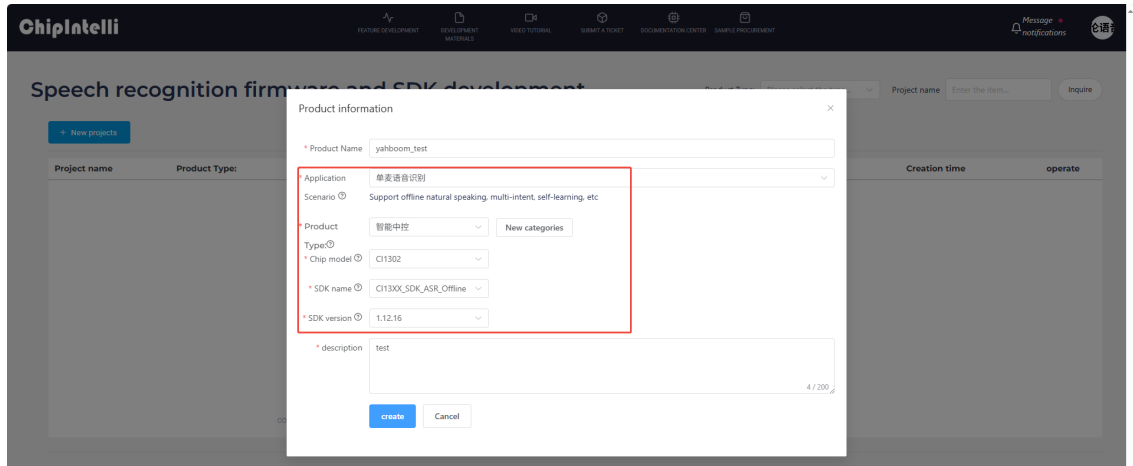
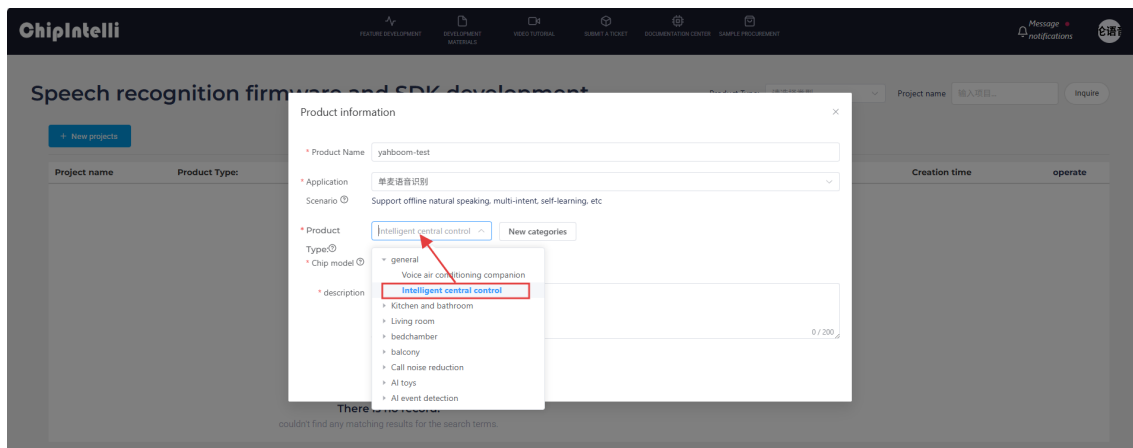
Note: Since multiple people may share one account, please be careful not to modify other people's firmware when using it.

After logging in, click "**Speech recognition firmware and SDK development**" again.



- After the page jumps, click New Project on the left and create a new product as shown below. The product name and description can be customized. The rest of the information needs to be selected according to the content in the red box. The product model needs to be selected as "**General->Intelligent central control**". After completion, click Create





- Next, you need to fill in the basic information of the project. We need to recognize English, so select "English" as the language type. If you need to recognize Chinese, you can also make corresponding changes. For other information, select as shown below. Click Continue when you are done.

Version Name

plan: **Single microphone voice recognition**

product: **Intelligent central control**

chip: **CI1302**

sdk: **CI13XX_SDK_ASR_Offline_V1_12_16**

Language type

Select acoustic model②

Module board selection②

Chinese

English

continue

Version Name

plan: **Single microphone voice recognition**

product: **Intelligent central control**

chip: **CI1302**

sdk: **CI13XX_SDK_ASR_Offline_V1_12_16**

Language type

Select acoustic model②

Module board selection②

V00488_English_ASR_General_1M

V00570_English_ASR_General_1.3M

V00614_English_ASR_General_1.6M

V00618_English_ASR_General_1.6M

✓ V00627_English_ASR_General_1.1M

V00916_English_ASR_General_1.1M

Version Name

plan: **Single microphone voice recognition**

product: **Intelligent central control**

chip: **CI1302**

sdk: **CI13XX_SDK_ASR_Offline_V1_12_16**

Language type

Select acoustic model②

Module board selection②

- Then you need to configure the firmware. Here we only explain the parts that need to be modified and turn on the echo cancellation algorithm parameters.

Algorithm parameters	parameter	illustrate	Options
	Echo cancellation	This is suitable for scenarios that require voice in interruption (such as music playback), and you need to confirm that the module hardware supports this function before you can enable it.	close <input checked="" type="checkbox"/> open

- In the hardware parameters, you need to select the crystal source as "**internal RC**".

Hardware parameters	parameter	illustrate	Options
	Core 1.1V power supply	External DC-DC or internal LDO power supply	内部
	Crystal oscillator	Internal RC or external crystal source is optional	内部RC
	parameter	illustrate	Internal RC
	baud rate calibration function	Use baud rate calibration function when using internal RC.	External crystal oscillator

- In the print serial port configuration, configure the UART1 level as open drain function, supporting external pull-up 5V.

Print serial port configuration	parameter	illustrate	Options
	Debugging information printing serial port	During debugging, the serial port (baud rate 921600) that prints debugging information must not be the same as the communication serial port; if not needed, simply turn it off.	UART1
	parameter	illustrate	Options
	UART1 level	Configured with open-drain pins, supporting external 5V pull-up.	close <input type="checkbox"/> open

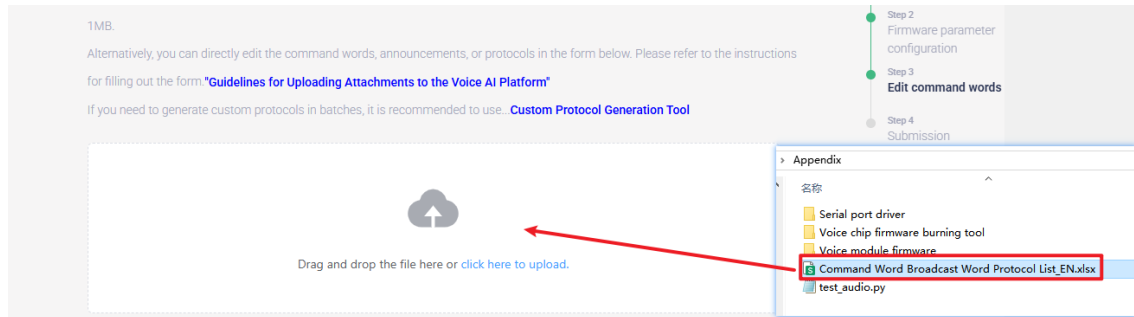
- Modify the communication serial port configuration, set the baud rate to 115200, and configure the UART0 level to open drain function, support external pull-up 5V, and click "Continue" to enter the next step after the configuration is completed.

Communication serial port configuration	parameter	illustrate	Options
	Serial communication	When enabled, the voice chip (module) communicates with the host computer via a designated serial port; when disabled, it cannot communicate with the host computer.	close <input checked="" type="checkbox"/> open
	Communication serial port	Serial port name for communication	UART0
	Communication serial port baud rate	baud rate of serial communication	115200
	Serial port protocol version	Custom serial communication protocols consist of up to 20 hexadecimal digits, such as: AF BF D1 01 12 FB. When the voice chip receives protocol packets, it determines that the packet has been received by measuring the reception timeout duration (0.34ms). Therefore, when the main controller sends protocol packets, it needs to ensure that the time interval between packets is greater than 0.34ms to ensure normal communication.	自定义协议
	parameter	illustrate	Options
	UART0 level	Configured with open-drain pins, supporting external 5V pull-up.	close <input type="checkbox"/> open

- Next, enter the edit command word function. First, you need to select the sound to be played.

tone selection	English - Adult Female Voice	English - Adult Male Voice	English - Girl's Voice
	Ana - English Female Voice Ver.3	Olivia - English Female Voice Ver. 3	
	Sophia - English Female Voice Ver. 3	Mia - English Female Voice Ver. 3	
	Harper - English Female Voice Ver. 3	Linda - English Female Voice Ver. 3	
	Dora - English Female Voice Ver.2	Rebecca - English Female Voice Ver.2	

- Next, we will upload the command word attachment. Locate the protocol table file "Command Word Broadcast Word Protocol List_EN.xlsx" in the download section and drag and drop it directly into the webpage to upload it.



- After uploading the file, you can see our command word data in the table below.

Add a row Delete selected Format check: <input checked="" type="checkbox"/> open								
*The sending protocol, receiving protocol, and confidence level can be modified according to the actual application.								
<input type="checkbox"/>	* Sema ntic tags	* comm and words	* Functi onal type	* Broad cast State ment	* Broad cast mode	* Sendi ng Protoco l	* Recep tion Proto col	Confide nce thresh old
<input type="checkbox"/>	1	Hello	wake word	here	host	AA 55 04 0 0 FB	AA 55 04 0 0 FB	35
<input type="checkbox"/>	2	hello-yahb oom	wake word	here	host	AA 55 05 0 0 FB	AA 55 05 0 0 FB	35
<input type="checkbox"/>	3	hi-yahboo m	wake word	here	host	AA 55 06 0 0 FB	AA 55 06 0 0 FB	35
<input type="checkbox"/>	4	ROBOT-ST OP	command words	ok I am sto p	host	AA 55 00 0 1 FB	AA 55 00 0 1 FB	35
<input type="checkbox"/>	5	STOP	command words	ok I am sto p	host	AA 55 00 0 2 FB	AA 55 00 0 2 FB	39
<input type="checkbox"/>	6	ROBOT-SLE EP	command words	ok dormant	host	AA 55 00 0 3 FB	AA 55 00 0 3 FB	35
<input type="checkbox"/>	7	GO-AHEAD	command	ok let's go	host	AA 55 00 0	AA 55 00 0	35

If we want to add a wake word, we click **Add a row**. If we need to add a new wake word "yahboom", then add the following content to the new line:

<input type="checkbox"/>	93	yahboom	wake word	I'm here	host	AA 55 07 0 0 FB	AA 55 07 0 0 FB	35
--------------------------	----	---------	-----------	----------	------	--------------------	--------------------	----

The sequence **AA 55 07 00 FB** is incremented from the previous command word "hi-yahboom" **AA 55 06 00 FB**. Subsequent commands follow the same pattern; therefore, the next wake word's send/receive protocol would be AA 55 08 00 FB. A maximum of 10 wake words can be set.

- Click to submit now

*The sending protocol, receiving protocol, and confidence level can be modified according to the actual application.

<input type="checkbox"/>	* Sema ntic tags	* comm and words	* Functi onal type	* Broad cast State ment	* Broad cast mode	* Sendi ng Protoco l	* Recep tion Proto col	Confide nce thresh old
		OLOR-BLO CK	words			6 FB	6 FB	
<input type="checkbox"/>	58	FACE-FOLL OWING	command words	ok	host	AA 55 00 4 7 FB	AA 55 00 4 7 FB	35
<input type="checkbox"/>	59	YELLOW-F OLLOWING	command words	ok	host	AA 55 00 4 8 FB	AA 55 00 4 8 FB	35
<input type="checkbox"/>	60	RED-FOLLO WING	command words	ok	host	AA 55 00 4 9 FB	AA 55 00 4 9 FB	35
<input type="checkbox"/>	61	GREEN-FOL LOWING	command words	ok	host	AA 55 00 4 A FB	AA 55 00 4 A FB	35
<input type="checkbox"/>	62	BULE-FOLL OWING	command words	ok	host	AA 55 00 4 B FB	AA 55 00 4 B FB	35
<input type="checkbox"/>	63	STOP-FOLL	command	ok	host	AA 55 00 4	AA 55 00 4	35

SDK Download ☐ SDK Options

Wake word [close](#) ☐ open

switching[Ⓢ]

Self-learning [close](#) ☐ open

function[Ⓢ]

[Previous step](#) [continue](#) [Submit now](#)

- Wait for firmware generation, which takes about 3 minutes. When the **Download File** display turns blue, you can download the firmware.

Version Name	Version number	Chip Model	Language Model	Creation time	Current process	Feedback Description	operate		
V1.0.0	sfw2026010811181467272344	C11302	V00916	January 8, 2026, 11:18:14	Complete	OK	delete	inherit	Check Download file

- Next, flash the firmware. Refer to section 4.3 in [8. AI Large Model Voice Module] - [2. Flash the firmware (Must read)]. After flashing is complete, follow the tutorial to start [9. 2D Voice Control Course] - [1.Simple Voice Control]. After the program starts, use the wake word "yahboom" to wake up the device. If it responds "I'm here", the addition was successful.
- If adding a command word, change the function type to command word, then modify the send protocol and receive protocol. For example, if we want to add a command word **arm-dancing**, we can add the following content to the **new row**:

				ment		I	col	old
<input type="checkbox"/>	89	Tracking-an d-picking-u p-objects	command words	ok	host	AA 55 00 6 B FB	AA 55 00 6 B FB	35
<input type="checkbox"/>	90	Start-garba ge-sorting	command words	ok	host	AA 55 00 6 C FB	AA 55 00 6 C FB	35
<input type="checkbox"/>	91	Reorder	command words	ok	host	AA 55 00 6 D FB	AA 55 00 6 D FB	35
<input type="checkbox"/>	92	arm-centeri ng	command words	ok	host	AA 55 00 6 E FB	AA 55 00 6 E FB	35
<input type="checkbox"/>	93	yahboom	wake word	I'm here	host	AA 55 07 0 0 FB	AA 55 07 0 0 FB	35
<input type="checkbox"/>	94	arm-dancin g	command words	ok	host	AA 55 00 6 F FB	AA 55 00 6 F FB	35

The subsequent send/receive protocol is incremented from the command word "arm-centering" on line 92, whose protocol is AA 55 00 6E FB. We incremented 6E to 6F. By analogy, the following ones are 7A, 7B, etc.

- Similarly, after submission, wait for the firmware production to complete and download it. Then flash it to the voice board, connect the board to the main board, copy test_audio.py from the program source code folder to the ~ directory, and enter the following command to test the added command:

```
python ~/test_audio.py
```

Say "Hello Xiaoya" to wake up the voice module. The module will respond "I'm here", indicating successful wake-up. Then say "Arm dancing" to the voice module. If the terminal prints 111, it means recognition was successful. Here, 111 corresponds to the decimal value of 6F.

```
jetson@yahboom: $ python3 test_audio.py
Speech Serial Opened! Baudrate=115200
111
111
█
```

- Whether updating command words or wake words, it is recommended to select "inherit" the previous configuration each time.

							operate	
Version Name	Version number	Chip Model	Language Model	Creation time	Current process	Feedback Description		
V1.0.0	sfw2026010816031567276592	C11302	V00627	January 8, 2026, 16:03:15	Complete	OK	delete	inherit
V1.0.0	sfw2026010815521367273178	C11302	V00627	January 8, 2026, 15:52:13	Complete	OK	delete	inherit