I want to make a bespoke Tablet using Rasberry Pi4 (4GB)

1. It needs 15.6 inch touchscreen

2. It needs two cameras (the cameras need to have Camera2API-FULL VERSION)

3. It needs 1 x 8 watt Speaker (facing back)

4. It needs good quality Mic facing forward (it needs to have AEC and NS built into firmware)

5. It needs Bluetooth 5

6. It needs dual wifi (2.4 Ghz and 5 Ghz)

7. It needs NFC

8. It needs Microwave sensor chip

9. It needs 433 Mhz chip

10. It needs voice activation (optional)

11. I want to be able to remotely update the device (and make changes to the device)

12. Needs MDM

The Tablet will be used primarily for Video calling so mic and speaker should be good quality (and there should be no ECHO, hence need AEC built into firmware)

1. **It needs 15.6-inch touchscreen:** There is a 15.6-inch touchscreen available for Raspberry Pi. It has dual speakers which can be used through HDMI connected to the screen.

This is the best LCD I found. I search more but they were expensive also they were HDMI.

**URL:** [**https://www.waveshare.com/15.6inch-hdmi-lcd-h-with-case.htm**](https://www.waveshare.com/15.6inch-hdmi-lcd-h-with-case.htm)

1. **It needs two cameras (the cameras need to have Camera2API-FULL VERSION):**

In order to use two cameras you will have to use a Camera Multiplexer.

Camera 2 API was introduced by Google with the Android Version 5. Before Camera 2 API, camera functions of any device was very limited. Camera app could just be used to preview and capture images and take a video. With Camera 2 API, Google gives camera developers options to do more with the camera. Control the shutter speed(ISO), focus, RAW capture etc. This helps third-party developers to include more features in their applications with the tools they are given through the API.

Since the introduction of camera 2 API with the Lollipop version of Android, it is used a standard camera API in every device. But Google limits the level of implementation of API in different phones. Every device is not given full access to the features it can implement using the Camera 2 API.

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So Camera2 API is a program/software.

**URL:** <https://www.uctronics.com/arducam-multi-camera-adapter-module-v2-2-for-raspberry-pi-4-3b-3b-5mp-and-8mp-cameras-compatible-with-arducam-mipi-cameras.html>

1. **It needs 1 x 8-watt Speaker:**

You can use these speakers with the LCD audio output or you can use a USB soundcard for this which have both the input AUX ports for microphone and speaker.

**URL:** <https://www.amazon.com/External-Windows-Raspberry-Headphones-Microphones/dp/B07DBNFZJR/ref=sr_1_10?dchild=1&keywords=usb+microphone+raspberry+pi&qid=1617162834&refresh=1&sr=8-10>

1. **It needs good quality Mic facing forward**

You can use a USB microphone according to your requirements with raspberry Pi. Or you can use the about USB soundcard for AUX output microphone. You can select the microphone of your choice and requirements.

This is the Raspberry Pi Hat for Microphone and Speaker.

<https://www.amazon.com/ReSpeaker-Raspberry-Expansion-Microphone-Applications/dp/B07D5X7N6W>

This is linear array microphone for Raspberry Pi with Hat.

<https://www.seeedstudio.com/ReSpeaker-4-Mic-Linear-Array-Kit-for-Raspberry-Pi.html>

Here is a sample:

**URL:** <https://www.amazon.com/Microphone-MAONO-Omnidirectional-Microphone-Recording-Broadcasting/dp/B074BLM973/ref=sr_1_4?dchild=1&keywords=usb+microphone+raspberry+pi&qid=1617164604&sr=8-4>

1. **It needs Bluetooth 5**

Raspberry Pi 4 Model B has its own built in Bluetooth 5.

URL: <https://www.raspberrypi.org/products/raspberry-pi-4-model-b/specifications/>

1. **It needs dual Wi-Fi (2.4 Ghz and 5 Ghz):**

Raspberry Pi 4 Model B has its own built-in Wi-Fi 2.4GHz and 5GHz

URL: <https://www.raspberrypi.org/products/raspberry-pi-4-model-b/specifications/>

1. **It needs NFC:**

You can use this NFC Hat for Raspberry Pi.

**URL:** <https://www.waveshare.com/pn532-nfc-hat.htm>

1. **It needs Microwave sensor chip:**

You can use this sensor with Raspbery Pi. You can get this from this link.

**URL:** <https://www.cqrobot.com/index.php?route=product/product&product_id=1135>

This is an IOT Motion sensor, which will inform you through an application.

<https://www.amazon.com/Motion-Notification-PIR-Detector-Compatible/dp/B08MFMDCPH/ref=pd_sbs_1?pd_rd_w=hC5Oz&pf_rd_p=2419a049-62bf-452e-b0d0-ca5b7e35a7b4&pf_rd_r=5C1S8ASCAVW7F3GA3BQN&pd_rd_r=860c6504-467e-4d1b-9e78-b8c8381ab7a9&pd_rd_wg=DXQfV&pd_rd_i=B08MFMDCPH&psc=1>

1. **It needs 433 Mhz chip:**

You can use this with raspberry pi.

**URL:** <https://www.amazon.com/Transmitter-Receiver-Arduino-Raspberry-Wireless/dp/B07PDGKW8B>

For transmitting you can use a microcontroller. For example; Arduino Nano.

<https://randomnerdtutorials.com/rf-433mhz-transmitter-receiver-module-with-arduino/>

1. **I want to be able to remotely update the device**

Yes it is possible. You can make an app for your phone or laptop and can control the device remotely from there. You will have to write a program for this in Raspberry Pi too.

1. **Needs MDM:**

You can make your own. Or you can see this here:

**URL**: <https://wsww.raspberrypi.org/forums/viewtopic.php?t=55253>