Qualcomm Developer Project WifiLed-demo

Project Submission

|  |  |  |
| --- | --- | --- |
| **Attribution:** |  | |
| **Email address** | [zhangzz6687@thundersoft.com](mailto:zhangzz6687@thundersoft.com)  [zhanglei0706@thundersoft.com](mailto:sunzhen@thundersoft.com)  Yuandk0305@thundersoft.com | |
| **Project Title**\* | WifiLed | |
| **Images**  *Upload up to 5 images of your project*  *Please submit/send the original JPEG/PNG files for all images included in the document* | **Qualcomm® CM2290 SOM.png**    [Alt tag: “WifiLed-demo using the Qualcomm® CM2290 SOM Open Kit”]  **usb.png**    [Alt tag: “using the USB line to develop on Qualcomm® CM2290 SOM Open Kit” ]  **charger.jpg**    [Alt tag: “using round-hole charger to power Qualcomm® CM2290 SOM Open Kit”] | |
| **Description**\*  *High level description of the project* ***(75 words or less)*** | This project relies on CM2290 development kit, and realizes the switch of LED lights controlled by WIFI in LAN by the powerful connection and communication ability of development kit. The onboard wifi is used as wifi AP. After the wifi is connected, the mobile phone accesses the WebUI and transmits communication messages through MQTT to control the onboard LED lights. | |
| **Objective**   * *What inspired you to create this project?* * *What is your desired outcome?* | With the increasingly extensive application of the Internet of Things, more and more household appliances can be managed and controlled in the cloud. As a lazy person, I want to use my mobile phone to control the light on and off, instead of going to press the switch. | |
| **Materials Required / Parts List / Tools** | Part Name | Link to purchase |
| Qualcomm® CM2290 SOM Open Kit | https://www.thundercomm.com/zh/product/cm2290-c2290-development-kit/#documents |
| USB Line | https://item.jd.com/40759941966.html |
| Charger |  |
|  |  |
| **Source Code / Source Examples / Application Executable**  *Link to open source / shareable code repository* | Description | Link |
| Source Code | https://github.com/ThunderSoft-XA/CM2290-WifiLed-demo |
|  |  |
| **Additional Resources**  *List related links or resources such as websites, videos, presentations, or other materials* | Resource Title | Link or File Name (and provide file) |
|  |  |
|  |  |
|  |  |
|  |  |

|  |  |  |
| --- | --- | --- |
| **Build / Assembly Instructions** | Sample outline:   1. Build WIFI AP and MQTT web UI,Execute the following command:   Build WIFI AP:  ifconfig wlan0 192.168.0.1 netmask 255.255.255.0  hostapd -B /etc/hostapd.conf -f /var/log/hstap.log  udhcpd -f /etc/udhcpd.conf &  Build MQTT web UI:  mosquitto -c /etc/mosquitto/mosquitto.conf -d   1. Use your mobile phone to connect to wifi, the wifi name and password are visible in hostapd.conf, and use a browser to access the host port you set in mosquitto.conf to open the web page. 2. Enter the MQTT host address and listening port in the UI interface, and click Connect. 3. Run the mqtt client on the development kit, the command is as follows   mqtt-led-client -h 127.0.0.1 -p 1883   1. Input topic and message in ‘Publish’ column in WebUI,as follows:   topic: topic/LED  message: led on/led off | |
|  | Sample outline:   1. How does it work?   The overall process is simple and clear, determine the host address and port you want to use, and then use the command tool to build WIFI AP and mqtt broker (in the configuration of the broker, you need to configure it to support websockets, otherwise your web ui will not. will have any effect), run an MQTT client that controls the hardware on the CM2290 development kit, when accessing the Mqtt WebUI through the mobile phone, establishing an MQTT connection and releasing the corresponding control message, the MQTT hardware client will receive the message and perform corresponding operations. | |
| **Usage Instructions** | The Demo running results are as follows： | |
| **Contributor(s) Info**  *Feel free to include headshots!* | Name | Title  Company |
|  |  |
|  |  |
|  |  |

––– Continued on next page –––

Filters and Tags for QDN projects page

|  |  |  |
| --- | --- | --- |
| **Platform/Hardware** | CSR 101x/102x Bluetooth  DragonBoard 410c  mangOH Red/Yellow  √ Qualcomm CM2290 SOM | MDM920x LTE for IoT  QCA-402x WiFi/BLE/Zigbee  Qualcomm Robotics RBx Dev Kit |
| **Software Tools** | 3D Audio Plugin for Unity  Adreno GPU SDK  Hexagon DSP SDK | Neural Processing SDK for AI  　Snapdragon Profiler |
| **Operating System** | Android  √ Linux  ThreadX RTOS | Ubuntu Core  Windows 10 IoT Core |
| **Cloud Services/Platform** | Sierra Wireless AirVantage  Gizwits Cloud Platform  AT&T M2X  IBM Bluemix | IBM Watson IoT  Microsoft Azure IoT  Amazon AWS IoT |
| **Skill Level Required** | Advanced  Beginner  √ Intermediate |  |
| **Areas of Focus** | 3D Printing & Modeling  Alexa Voice Service  Artificial Intelligence  Bluetooth  Computer Vision  Digital Signage  Education  √ Embedded  Gaming | Healthcare  √ IoT  Robotics  Security  Sensors  Smart Cities  √ Smart Home  Toys |

*By submitting your content (“Submission”), you are granting Qualcomm a royalty-free, perpetual, non-exclusive, unrestricted, worldwide license to: (a) post, use, copy, sublicense, adapt, transmit, publicly perform or display any such Submission, (b) use, reproduce, modify, adapt, publish, translate, create derivative works from, distribute, perform, play, host, communicate, make available and publish your Submission without restriction and (c) sublicense to third parties the unrestricted right to exercise any of the foregoing rights granted with respect to the Submission. The foregoing grants shall include the right to exploit any ideas, concepts, intellectual property, or proprietary rights in such Submission, including but not limited to rights under copyright, trademark, servicemark or patent laws under any relevant jurisdiction without Qualcomm owing any monies to you whatsoever. You represent and warrant that you own all right, title and interest in and to the Submission, or you have been granted sufficient rights in and to the Submission allowing the foregoing use of such Submission.*