Qualcomm Developer Project WIFIHygroThermoGraph-demo

Project Submission

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| **Project Title**\* | WIFIHygroThermoGraph | |
| **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**  IMG_256  [Alt tag: “WIFIHygroThermoGraph-demo using The Qualcomm® CM2290 SOC Open Kit”]  **Type-c usb line**   |  | | --- | | **typc** |   [Alt tag: “using the USB line to develop on Qualcomm® CM2290 SOC Open Kit” ]  **charger**  charger  [Alt tag: “using round-hole charger to power Qualcomm® CM2290 SOC Open Kit”]  **ESP8266**  esp8266  [Alt tag: “The lower machine device is used to connect to wifi and upload data through mqtt protocol.”]  **LCD1602**  LCD1602  [Alt tag: “LCD1602 liquid crystal display (LCD) is a widely used character LCD module.”]  **DHT11**  [Alt tag: “DHT11 is a temperature and humidity sensor with calibrated digital signal output. ”]  dht11 | |
| **Description**\*  *High level description of the project* ***(75 words or less)*** | This project relies on the CM2290 development kit and makes full use of its diverse and powerful connection capability. By enabling AP WIFI through HostAPD and UDHCPD tools, temperature and humidity data transmission is completed via mosquitto. After the development board opens the wifi hotspot and runs the mosquitto service, the hyhumidity meter will actively connect to the wifi and report the data. Temperature and humidity data can be viewed on a simple web page. | |
| **Objective**   * *What inspired you to create this project?* * *What is your desired outcome?* | CM2290 development board can be used for the development of sweeping robot. Environmental monitoring ability is one of the basic abilities of sweeping robot, which is used for the robot to perceive the external environment and make responses.  This project can be used to detect the temperature of the home environment. With small modifications, multiple hygrometers can be connected simultaneously to monitor the temperature and humidity changes of the entire environment. | |
| **Materials Required / Parts List / Tools** | Part Name | Link to purchase |
| Qualcomm® CM2290 SOC Open Kit | https://www.thundercomm.com/zh/product/cm2290-c2290-development-kit |
| USB Line | https://item.jd.com/40759941966.html |
| Charger |  |
| ESP8266 |  |
| LCD1602 |  |
| DHT11 |  |
| **Source Code / Source Examples / Application Executable**  *Link to open source / shareable code repository* | Description | Link |
| Source Code | https://github.com/ThunderSoft-XA/CM2290-WIFIHygroThermoGraph |
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| **Additional Resources**  *List related links or resources such as websites, videos, presentations, or other materials* | Resource Title | Link or File Name (and provide file) |
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| **Build / Assembly Instructions** | Sample outline:   1. Quickly build AP WIFI through command line tools 2. Use the mosquito tool to listen for the web and data transfer ports 3. Connect the mobile phone to CM2290 AP wifi, use the browser to open 192.168.0.1:8080, connect the mqtt display temperature and humidity data. | |
|  | Sample outline:   1. How does it work?   Use HostAPD and UDHCPD tools to open AP WIFI, use mqtt to transmit temperature and humidity data, and then connect the mobile phone to wifi and log in to the web to view the temperature and humidity data. | |
| **Usage Instructions** | The Demo running results are as follows： | |
| **Contributor(s) Info**  *Feel free to include headshots!* | Name | Title  Company |
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Filters and Tags for QDN projects page

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| **Platform/Hardware** | CSR 101x/102x Bluetooth  DragonBoard 410c  mangOH Red/Yellow  √ Qualcomm CM2290 | 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 |

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