

# The Description of Design Changes on MW503

## 1. General Description

The MW503 wireless module is a highly integrated single-chip that support 2-stream 802.11ac solutions with Multi-user MIMO (Multiple-Input, Multiple-Output) with Wireless LAN (WLAN) USB2.0 network interface controller. It combines a WLAN MAC, a 2T2R capable WLAN baseband, and RF in s single chip. The MW503 wireless module provides a complete solution for a high-performance integrated wireless and Bluetooth device.

- Hardware Version : V1.00C
- Software Version : None.

The MW503 wireless model is designed for communicating with intelligent terminal products like TV etc. It just transfers the data from model to intelligent terminal by USB2.0 and some control signals as the transmission function module, so it has no software version, and the working mechanism is similar to the camera module on a mobile phone.

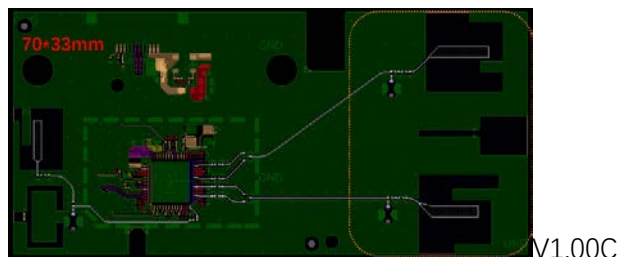
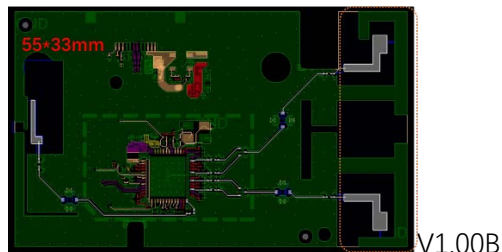
## 2. Description of Design Changes

### 1.The WLAN Chipset

The main chip of the module MW503 is changed from the RTL8822CU-CG to the RTL8822CU-VB-CG,they are all compatible pin-to-pin in hardware design.The main difference is that the RTL8822CU-VB-CG supports Google authentication and Android 11,but the RTL8822CU-CG cannot.

### 2.PCB Size

The PCB size of the module MW503 is changed from 55\*33mm to 70\*33mm,as shown below:



### 3. PCB on-board antenna design

The Wi-Fi Antenna of the module MW503 is changed from V1.00B to V1.00C, the identification part in the frame as shown above.

### 4.Antenna gain

	Initial	Variant	
BT/BLE:	0.7dBi	0.09dBi	
WLAN2.4GHz	Ant0: 0.5dBi Ant1: 0.5dBi	Ant0: 0.5dBi Ant1: -0.62dBi	
WLAN5GHz	Ant0: 0.3dBi Ant1: 0.3dBi	Ant0: 1.1dBi Ant1: -1dBi	

## 5. Other

Apart from the above three points, nothing has changed compared with before.