



## MT76xx Single SKU V2 User Guide

Version: 0.1  
Release date: 2013-01-30

© 2008 - 2013 MediaTek Inc.

This document contains information that is proprietary to MediaTek Inc.

Unauthorized reproduction or disclosure of this information in whole or in part is strictly prohibited.

Specifications are subject to change without notice.

## Document Revision History

---

Revision	Date	Author	Description
0.1	01/24	Alan Wu	Initial Version.

## Table of Contents

Document Revision History .....	2
Table of Contents .....	3
1. What Is Single SKU .....	4
2. The difference between Single SKU V1 and Single SKU V2 .....	4
3. Enable Single SKU V2.....	4
4. Single SKU Table for 2.4G .....	4
5. Single SKU Table for 5G .....	5
6. EEPROM Setting.....	6
7. Notice.....	7

## Appendix

## Lists of Tables and Figures

### 1. What Is Single SKU

Single SKU means single stock-keeping unit. Different countries have different transmission power rules for wireless equipments. If the company wants sell one kind of wireless equipment to several countries, the company has to manufacture different type of products with different transmission power rule. It is not convenient for the company.

Single SKU is the software feature can limit transmission power under the specification. The transmission power for each country is specified in Single SKU table. The driver will adjust transmission power according to Single SKU table. So, the company can manufacture one kind of wireless equipment with the same transmission power.

### 2. The difference between Single SKU V1 and Single SKU V2

Single SKU V1 is for RT5xxx, RT3xxx series. The Single SKU table in V1 is hard code in driver. The users have to specify the CountryCode in profile. The driver will select corresponding transmission power rules. It can limit transmission power per-channel and per-bandwidth.

Single SKU V2 is only for MT76xx series. Single SKU V1 and Single SKU V2 are exclusive. The users cannot enable Single SKU V1 and Single SKU V2 at the same time. The Single SKU table in V2 is restored in file system. It can limit transmission power per-channel, per-bandwidth and per-rate.

### 3. Enable Single SKU V2

Set HAS\_SINGLE\_SKU\_V2\_SUPPORT=y in config.mk, and rebuild driver to enable Single SKU V2 feature.

```
#Support features of Single SKU.  
HAS_SINGLE_SKU_V2_SUPPORT=y
```

The Single SKU table is named SingleSKU.dat. Copy SingleSKU.dat to following directory.

AP:

```
/etc/Wireless/RT2860AP/SingleSKU.dat  
or  
/etc/Wireless/RT2870AP/SingleSKU.dat
```

STA:

```
/etc/Wireless/RT2860STA/SingleSKU.dat  
or  
/etc/Wireless/RT2870STA/SingleSKU.dat
```

### 4. Single SKU Table for 2.4G

The following is the example Single SKU Table for 2.4G.

The table should be defined between following block.

```
# End of Single SKU Table
```

ch1 = channel 1  
ch2 = channel 2

[illegible]

If TX power definition is omitted, the driver use default power stored in EEPROM 0xD0 as target power.

The following is the example Single SKU Table for 5G.

[illegible]

Because of 5G not support CCK rate, CCK definition is omitted in 5G. The detail per-channel transmission power definition format is shown below.

[illegible]

## 6. EEPROM Setting

The EEPROM 0xD0 is defined as target power. It indicate the maximum transmission power of the wireless module at OFDM 54M. According to target power, PA mode and MAC 0x1314(EEPROM 0xDE~0xEF), the driver can calculate the maximum transmission power for each rate. For example:

	OFDM		HT20		HT40		CCK
6m	20	M0	20	M0	20	1M	21
9m	20	M1	20	M1	20	2M	21
12m	20	M2	20	M2	20	5.5M	21
18m	20	M3	20	M3	20	11M	21
24m	18	M4	18	M4	18		
36m	18	M5	18	M5	18		
48m	18	M6	18	M6	18		
54m	18	M7	18	M7	18		

If the TX power in Single SKU table exceeds the Wi-Fi module transmission capability, the driver will limit the transmission power on maximum TX power. For example, the maximum TX power at OFDM 54M is 18dBm. But Single SKU table at OFDM 54M is 25dBm. The final TX power is 18dBm at OFDM 54M.

## 7. Notice

Please check the related transmission power settings in EEPROM 0xD0, EEPROM 0x52~0x5F and EEPROM 0xDE~0xEF. If transmission power setting in EEPROM exceeds real transmission capability, the dongle will have bad EVM. For example, the real transmission capability is 18dBm, but EEPROM 0xD0 is 0x28 (20dBm).

If transmission power setting in EEPROM is less than real transmission capability, the transmission performance is limited.

Second, for hardware limitation, the following TX rate is grouped. The Single SKU table cannot set different value in grouped TX rate.

TX power for CCK 1M/2M
TX power for CCK 5.5M/11M
TX power for OFDM 6M/9M
TX power for OFDM 12M/18M
TX power for OFDM 24M/36M
TX power for OFDM 48M/54M
TX power for HT MCS=0,1
TX power for HT MCS=2,3
TX power for HT MCS=4,5
TX power for HT MCS=6,7
TX power for HT MCS=8,9
TX power for HT MCS=10,11
TX power for HT MCS=12,13
TX power for HT MCS=14,15