

**MT7601U**

**802.11 b/g/n single chip**

**EEPROM Content**

Version: 0.C

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**Document Revision History**

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| **Revision** | **Date** | **Author** | **Description** |
| 0.0 | 2013/1/1 | AlexCC Lin | Initial version : based on xls version 1027 |
| 0.1 | 2013/1/2 | AlexCC Lin | Correct some field |
| 0.2 | 2013/1/3 | AlexCCLin | Modify TSSI slop/offset, 20/40M tx power to 0.5db |
| 0.3 | 2013/1/31 | Alex Kang | reserved 0x110~0x117 8 bytes for customer specific |
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1. **General Description**
   1. **General Descriptions**

The MT7601U EEPROM layout provides configuration for vendor/product ID, SW setting, RF TX power setting.

Note:

If hardware selects external EEPROM, please follow below EEPROM type.

The following table summarizes EEPROM used in MT7601U configuration.

|  |  |  |
| --- | --- | --- |
|  | EEPROM Type | EEPROM size (in byte) |
| USB | AT25080 Compatible (SPI) | 1024 (0x400)  512 (0x200) |

1. **MT7601U EEPROM Layout**

| **Offset** | **Default**  **(hex)** | **b15 ~b8** | **b7 ~ b0** |
| --- | --- | --- | --- |
| 00h | 7601 | Chip ID | |
| 02h | 0C00 | EEPROM Version | |
| 04h |  | Mac Address [15:0] | |
| 06h |  | Mac Address [31:16] | |
| 08h |  | Mac Address [47:32] | |
| 0Ah | FFFF | Reserved | |
| 0Ch | FFFF | Reserved | |
| 0Eh | FFFF | Reserved | |
| 10h | 0201 | ASIC Reserved | |
| 12h | 148F | USB descriptor : Vendor ID | |
| 14h | 7601 | USB descriptor : Product ID | |
| 16h | 0000 | ASIC Reserved | |
| 18h | 004A | ASIC Reserved | |
| 1Ah | 0001 | ASIC Reserved | |
| 1Ch | 5080 | ASIC Reserved | |
| 1Eh | 0008 | ASIC Reserved | |
| 20h | 0003 | ASIC Reserved | |
| 22h | 0002 | ASIC Reserved | |
| 24h | 0000 | ASIC Reserved | |
| 26h | 02FF | USB String Index Head | ASIC Reserved |
| 28h | 2000 | USB String Index | USB String Index |
| 2Ah | FF40 | USB String Index | USB String Index |
| 2Ch | FFFF | USB String Index | USB String Index |
| 2Eh | FFFF | USB String Index | USB String Index |
| 34h | FF11 | NIC Configuration 0 | |
| 36h | 2804 | NIC Configuration 1 | |
| 38h | FFFF | Country Region 2.4G band | Reserved for use |
| 3Ah | 012C | LED Mode | Frequency offset |
| 3Ch | FFFF | LED A/G Configuration | |
| 3Eh | 9999 | LED ACT Configuration | |
| 40h | 888C | LED A/G/ACT Polarity | |
| 42h | 07FF | NIC Configuration 2 | |
| 44h | 0008 | Reserved for use | External LNA gain for 2.4G Band |
| 46h | 0000 | 2.4G RSSI1 offset | 2.4G RSSI0 offset |
| 48h | 0000 | Reserved for use | TX mixer gain setting for 2.4Ghz Band |
| 4Eh | 0000 | Reserved for use | EIRP TX Power for for 2.4GHz band |
| 50h | 0000 | Reserved for use | 20M/40M BW Power delta for 2.4G band |
| 52h | 0000 | Channel 2 TX0 power(ALC) | Channel 1 TX0 power(ALC) |
| 54h | 0000 | Channel 4 TX0 power(ALC) | Channel 3 TX0 power(ALC) |
| 56h | 0000 | Channel 6 TX0 power(ALC) | Channel 5 TX0 power(ALC) |
| 58h | 0000 | Channel 8 TX0 power(ALC) | Channel 7 TX0 power(ALC) |
| 5Ah | 0000 | Channel 10 TX0 power(ALC) | Channel 9 TX0 power(ALC) |
| 5Ch | 0000 | Channel 12 TX0 power(ALC) | Channel 11 TX0 power(ALC) |
| 5Eh | 0000 | Channel 14 TX0 power(ALC) | Channel 13 TX0 power(ALC) |
| 6Eh | 0080 | TX0 TSSI offset for group0 | TX0 TSSI Slope |
| 70h | 0000 | TX0 TSSI offset for group2 | TX0 TSSI offset for group1 |
| 76h | 0000 | Reserved for use | TX0 TSSI offset |
| D0h | F920 | 25C Temp Sensor Calibration | 2.4G Target Power |
| DEh | 0505 | TX power for CCK 5.5M/11M | TX power for CCK 1M/2M |
| E0h | 0303 | TX power for OFDM 12M/18M | TX power for OFDM 6M/9M |
| E2h | 0004 | TX power for OFDM 48M/54M | TX power for OFDM 24M/36M |
| E4h | 0000 | TX power for HT MCS=2,3 | TX power for HT MCS=0,1 |
| E6h | 0002 | TX power for HT MCS=6,7 | TX power for HT MCS=4,5 |
| E8h | 0000 | TX power for HT MCS10,11 | TX power for HT MCS8,9 |
| EAh | 0002 | TX power for HT MCS14,15 | TX power for HT MCS12,13 |
| ECh | 0000 | TX power for STBC MCS2,3 | TX power for STBC MCS0,1 |
| EEh | 0002 | TX power for STBC MCS6,7 | TX power for STBC MCS4,5 |
| 110h | FFFF | Reserved for Customer | Reserved for Customer |
| 112h | FFFF | Reserved for Customer | Reserved for Customer |
| 114h | FFFF | Reserved for Customer | Reserved for Customer |
| 116h | FFFF | Reserved for Customer | Reserved for Customer |
| 118h | FFFF | Configured 2.4G Channels | Configured 2.4G Channels |
| 11Eh | FFFF | Reserved for Customer | Reserved for Customer |
| 140h~17fh | FFFF | **USB String Descriptor** | |

## E2PROM layout version # (02h)

|  |  |
| --- | --- |
| **Value** | **Description** |
| 0 | Version 0. |
| 1 ~ 255 | Invalid version. Treat as version 0. |

## USB Vendor ID (0x12h~0x13h)

|  |  |
| --- | --- |
| **Value** | **Description** |
| 0x148F | The default Vendor ID for MTK |

## USB Product ID (0x14h~0x15h)

|  |  |
| --- | --- |
| **Value** | **Description** |
| 0x7601 | The default Product ID for MTK |

## USB String Descriptor Index (0x27h~0x2Fh)

| **Offset** | **Field** | **Description** |
| --- | --- | --- |
| 27h | 7:0 | USB descriptor string index (high byte part) : It’s the string start address high byte part , for example, the string index start address is 0x0200, the 0x02 is the string index head, the low byte will indicate on 0x28h~0x2Fh |
| 28h~2Fh | 7:0 | The USB string index low byte part, it concates with 0x27h to indicate the string address in EEPROM.  It provides 8 string index fields. Customer can update USB string on EEPROM’s empty field (0x140~0x1BF is prefered field) and modify the string start address on these string descriptor index.  For example :  At EEPROM 0x120 has one String (“802.11n WLAN”) , it should be:  1E 30 38 00 30 00 32 00 2E 00 31 00 31 00 20 00  6E 00 20 00 57 00 4C 00 41 00 4E 00  “1E” is the string length, “30” is the String type , then each two bytes indicate the unitcode of each character.    And please update 0x27h = 0x01 , 0x28h = 0x20 to indicate the string index. |

## NIC Configuration 0 (0x34)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **15** | **14** | **13** | **12** | **11** | **10** | | **9** | **8** | **7** | **6** | **5** | **4** | **3** | **2** | **1** | **0** |
| Reserved | | Board type ??? | | Reserved | | External PA | | | TX Path setting | | | | RX Path setting | | | |
| Reserved | | 0: Mini Card  1: USB PEN  2:Mini card with TX/RX Diversity (RT5390U)  3: USB with TX/RX Diversity (RT5370) | | Reserved | |  | | | 1:1TX 2: 2TX | | | | 1: 1RX  2: 2RX | | | |

**NIC Configuration 0 Register Bit Fields Description**

| **Offset** | **Field** | **Description** |
| --- | --- | --- |
| 34h | 3:0 | RX front-end architecture in the system.  0 (0000): Reserved.  1 (0001): 1 RX front-end in the system.  2 (0010): 2 RX front-end in the system.  3 ~ F (0011 ~ 1111): Reserved. |
| 7:4 | TX front-end architecture in the system.  0 (0000): Reserved.  1 (0001): 1 TX front-end in the system.  2 (0010): 2 TX front-end in the system.  3~ F (0011 ~ 1111): Reserved. |
| 35h | 9:8 | external PA  00: 2.4G+5G external PA  01: 5G external PA  10: 2.4G external PA  11: disable |
| 11:10 | Reserved. |
| 13:12 | Define the board type.  0: Mini Card  1: USB PEN  2: Mini card with TX/RX Diversity (RT5390U)  3: USB with TX/RX Diversity (RT5370) |
| 15:14 | Reserved. |

## NIC Configuration 1 (0x36)

Bit[7:0]=0xFF will be treated as INVALID and used Default Value.

Bit[15:8]=0xFF will be treated as INVALID and used Default Value

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **7** | **6** | **5** | **4** | **3** | **2** | **1** | **0** |
| WPS  PBC | 5G side band for 40M BW | 2.4G side band for 40M BW | Proprietary Test bit | EXT LNA 5G | EXT LNA 2.4G | Temperature TX ALC | HW CTRL |
| 0: off (D)  1: on | 0: off(D) 1: on | 0: off 1: on(D) | 0: off(D) 1: on | 0: off 1: on | 0: off 1: on | 0: off(D) 1: on | 0: off(D) 1: on |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **15** | **14** | **13** | **12** | **11** | **10** | **9** | **8** |
| DAC  test bit | BT Coexist | Internal TX ALC | Antenna Diversity | | Broadband EXT LNA | 40M BW in 5G band | 40M BW in 2.4G band |
| 0: off (D) 1: on | 0: off (D) 1: on | 0: off(D)  1: on | 00: Disable (D)  01: Diversity  10: Main antenna 11: Aux antenna | | 0: off 1: on | 0: on (D) 1: off | 0: on (D) 1: off |

**NIC Configuration 1 Register Bit Fields Description**

| **Offset** | **Field** | **Description** |
| --- | --- | --- |
| 36h | 0 | Hardware Radio Control.  0: disable hardware radio control (default value).  1: enable hardware radio control.  When “hardware radio control” bit is enabled (=1), the driver will read MAC’s GPIO[2] status. When GPIO[2] pin is low, the radio is disabled. When GPIO[2] pin is high, the radio is enabled.  The Radio ON/OFF is controlled by both software UI and MAC’s GPIO[2] pin. |
| 1 | External TX Auto Level Control.  0: disable external TX ALC function (default value).  1: enable external TX ALC function.  When the TX ALC function is enabled (=1), the driver will use external thermistor to automatic compensate TX power varied due to temperature variation.  It also needs to fill the register “Tx reference temperature for 2.4GHz (77h)” for the TX ALC function. |
| 2 | External 2.4GHz band LNA.  0: Board without external LNA for 2.4GHz band must set this bit to 0.  1: Board with external LNA for 2.4GHz band must set this bit to 1 (default value). |
| 3 | External 5GHz band LNA.  0: Board without external LNA for 5GHz band must set this bit to 0.  1: Board with external LNA for 5GHz band must set this bit to 1. |
| 4 | Proprietary TEST BIT.  For debug purpose. Default value is 0. |
| 5 | 2.4GHz side band for 40MHz BW.  For debug purpose. |
| 6 | 5G side band for 40M BW  For debug purpose. |
| 7 | WPS Push Button Configuration control.  0: disable WPS PBC control (default value).  1: enable WPS PBC control.  The WPS PBC function is controlled through GPIO[2].  If LED mode set to “Signal strength”(64), WPS PBC will be disabled. |
| 37h | 8 | 40M BW in 2.4GHz band.  0: enable 40MHz bandwidth for 2.4GHz band  1: disable 40MHz bandwidth for 2.4GHz band |
| 9 | 40M BW in 5G band  0: enable 40MHz bandwidth for 5GHz band.  1: disable 40MHz bandwidth for 5GHz band. |
| 10 | Broadband EXT LNA  0: Board without external LNA must set this bit to 0.  1: Board with external LNA must set this bit to 1. |
| 12:11 | Antenna Diversity control.  Bit[12:11]:  00: disable diversity function (default value).  01: enable diversity function.  10: Fix antenna at main antenna  11: Fix antenna at auxiliary antenna |
| 13 | Internal TX auto level control  0: disable internal TX ALC function (default value).  1: enable internal TX ALC function  When the internal TX ALC function is enabled (=1), the driver will use the internal TX ALC function to automatic compensate TX power varied due to temperature variation.  It also needs to fill the register “2.4G internal/external step value (77h )” for the TX ALC function. |
| 14 | BT Coexist  0: Disable BT coexistence.  1: Enable BT coexistence. |
| 15 | DAC test bit  0: Disable DAC test.  1: Enable DAC test. |

## NIC Configuration 2 (0x42)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Bit <15:9>** | **8** | **7** | **6** | **5** | **4** | **3** | **2** | **1** | **0** |
| Reserved | DAC mode | TX Stream | | | | RX Stream | | | |
| 0: Normal mode 1: Extension mode | 1: 1 Stream 2: 2 Stream | | | | 1: 1 Stream  2: 2 Stream | | | |

Note:

1. The 1 stream support MCS0~MCS7. The 2 stream support MCS0~MCS15.

2. Stream setting should be equal or less than path setting of EEPROM (0x34)

3. Default=0xFF means that based on the path setting (0x34) for MAX capability.

**NIC Configuration 2 Register Bit Fields Description**

| **Offset** | **Field** | **Description** |
| --- | --- | --- |
| 42h | 3:0 | RX stream.  0 (0000): Reserved  1 (0001): 1 RX stream  2 (0010): 2 RX stream  3 ~ F (0011 ~ 1111): Reserved. |
| 7:4 | TX stream.  0 (0000): Reserved  1 (0001): 1 TX stream  2 (0010): 2 TX stream  3 ~ F (0011 ~ 1111): Reserved. |
| 43h | 15:8 | Reserved. |

## Country Region Code for 2.4G band (0x39)

Default value = FFh, which means read from INF and registry, more flexible than reading from EEPROM, this is our current InstallShield CCS implementation. We do not recommend customers to read SKU from EEPROM. Value FFh is the default value.

CountryCode— Specify the domain code, can be FFh or one of the followings,

|  |  |
| --- | --- |
| **Index** | **Support Channels** |
| 0 | CH 1 ~ 11 |
| 1 | CH 1 ~ 13 |
| 2 | CH 10 ~ 11 |
| 3 | CH 10 ~ 13 |
| 4 | CH 14 |
| 5 | CH 1 ~ 14 |
| 6 | CH 3 ~ 9 |
| 7 | CH 5 ~ 13 |
| 30 | Manual Channel (Refer to 0x118h~119h) |
| 31 | CH1 ~ 14 (CH1 ~ 11 active scan, CH12 ~ 14 passive scan) |
| 32 | CH1 ~ 13 (CH1 ~ 11 active scan, CH12 ~ 13 passive scan) |
| 33 | 802.11b: CH1 to CH14 are active scan.  802.11g/n: CH1 to CH13 are active scan. CH14 is disallowed |

Notes: If set to read SKU from EEPROM, only available if 2.4G Country Region code registers are programmed.

## Reserved for Customer (0x110h~0x117h)

## Configured 2.4G Channels (0x118~119h)

Default value=0x00, this field is available when 0x39h = 30d. (Configured channel)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **7** | **6** | **5** | **4** | **3** | **2** | **1** | **0** |
| CH8 | CH7 | CH6 | CH5 | CH4 | CH3 | CH2 | CH1 |
| 0: off 1: on | 0: off 1: on | 0: off 1: on | 0: off 1: on | 0: off 1: on | 0: off 1: on | 0: off 1: on | 0: off 1: on |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **15** | **14** | **13** | **12** | **11** | **10** | **9** | **8** |
| Reserve | Reserve | CH14 | CH13 | CH12 | CH11 | CH10 | CH9 |
| 0: off 1: on | 0: off 1: on | 0: off 1: on | 0: off 1: on | 0: off 1: on | 0: off 1: on | 0: off 1: on | 0: off 1: on |

For example:

If available channels are 1,2,3 and 5, then

0x39h = 30d, 0x118h = 17h, 0x119h = 00h.

## Frequency offset (0x3A)

Used for crystal calibration.

## LED Mode Setting (0x3B)

Reserved.

## LED A/G Configuration (0x3C~3Dh)

Reserved.

## ACT Configuration (0x3E~3Fh)

Reserved.

## LED A/G/ACT Polarity (0x40~41h)

Reserved.

## External LNA gain for 2.4GHz Band (0x44h)

**External LNA gain for 2.4GHz Band Register Bit Fields Description**

| **Offset** | **Field** | **Description** |
| --- | --- | --- |
| 44h | 7:0 | External LNA gain for 2.4G Band.  1 step = 1 dB  Example:   |  |  | | --- | --- | | Value | LNA gain (dB) | | 0000 0000 | 0 | | 0000 0001 | 1 | | 0000 1010 | 10 | |

## TX mixer gain setting for 2.4G band (0x48h)

**TX mixer gain setting for 2.4GHz band Register Bit Fields Description (For RT307x only)**

| **Offset** | **Field** | **Description** |
| --- | --- | --- |
| 48h | 7:0 | This register is for RT307x TX mixer gain setting.  2 (010)= +0dB (Default), 0x00 and 0xFF are invalid that will apply to default setting.  3 (011)= +1dB  4 (100)= +2.5dB |

**TX mixer gain setting for 2.4GHz band Register Bit Fields Description (For RT3572 only)**

| **Offset** | **Field** | **Description** |
| --- | --- | --- |
| 48h | 7:0 | This register is for RT3572 2.4GHz TX mixer gain setting.  1 (001)= +1.5dB  2 (010)= +3dB  4 (100)= +4dB (Default) |

## EIRP TX Power for 2.4GHz band (0x4Eh)

The register is intended to limit the TX power for different countries in one SKU.

**EIRP TX Power for 2.4GHz band Register Bit Fields Description**

|  |  |  |
| --- | --- | --- |
| **Offset** | **Field** | **Description** |
| 4Eh | 7:0 | 2.4GHz maximum TX power. The register value is the board’s EIRP value. The driver will compare the board’s EIRP with each country allow TX power automatically if this function is enabled.  FF (1111 1111): disable the maximum TX power comparison function.  Example:  08 (0000 1000): TX power limit is 8dBm  10 (0001 0000): TX power limit is 16dBm  12 (0001 0010): TX power limit is 18dBm |

Example:

If antenna gain is 3dBi, board’s maximum TX power is 17dBm. The Equivalent isotropically radiated power (EIRP) is 17+3=20dBm. The value of offset 4Eh is 14 (0001 0100).

Following table is based on the maximum TX power comparison function is enabled.

|  |  |  |  |
| --- | --- | --- | --- |
| **Country** | **Allowed TX power of the country (dBm)** | **Offset 4Eh = 14** | **Exact maximum EIRP (dBm)** |
| A | 20 | 20 | 20 |
| B | 16 | 20 | 16 |
| C | 18 | 20 | 18 |
| D | 23 | 20 | 20 |

Note:

If allowed country power is greater than the TX power setting of offset 4Eh, then the board maximum EIRP is the TX power setting of offset 4Eh.

If allowed country power is less than the TX power setting of offset 4Eh, then the board maximum EIRP is the country’s allowed TX power.

## 20M/40M BW Power Delta for 2.4GHz band (0x50h)

Driver compensates the TX power value of 40M BW with this configured value.

**TX power delta configuration Register Bit Fields Description**

|  |  |  |
| --- | --- | --- |
| **Offset** | **Field** | **Description** |
| 50h | 5:0 | 40M BW TX power delta value (MAX=4dB).  000001: 0.5dB  000010: 1dB  000011: 1.5dB  000100: 2dB  000101: 2.5dB  000110: 3dB  000111: 3.5dB  001000: 4dB |
| 6 | 1: increase 40M BW TX power with the delta value.  0: decrease 40M BW TX power with the delta value. |
| 7 | 1: enableTX power compensation. |

**Example:**

The default calibrated TX power as followings with the TX power delta configuration is not enable.

* 40M BW TX power= 14dBm and 20M BW TX power = 14dBm

If want keep 20M BW TX power in 14dBm and reduce 40M BW TX power to 10dBm (delta=4dB), set 50h = 88h (1000 1000).

## 2.4G band TX0 & TX1 Power (0x52~0x6Dh)

To prevent reading from EMPTY E2PROM, driver treats these “Channel xx Tx Power” value 0 and any value > =0x28 as invalid.

**2.4GHz TX0 & TX1 power setting register**

|  |  |  |
| --- | --- | --- |
| **Offset** | **b15 ~b8** | **b7 ~ b0** |
| 52h | Channel 2 TX0 power | Channel 1 TX0 power |
| 54h | Channel 4 TX0 power | Channel 3 TX0 power |
| 56h | Channel 6 TX0 power | Channel 5 TX0 power |
| 58h | Channel 8 TX0 power | Channel 7 TX0 power |
| 5Ah | Channel 10 TX0 power | Channel 9 TX0 power |
| 5Ch | Channel 12 TX0 power | Channel 11 TX0 power |
| 5Eh | Channel 14 TX0 power | Channel 13 TX0 power |
| 60h | Channel 2 TX1power | Channel 1 TX1 power |
| 62h | Channel 4 TX1 power | Channel 3 TX1 power |
| 64h | Channel 6 TX1 power | Channel 5 TX1 power |
| 66h | Channel 8 TX1 power | Channel 7 TX1 power |
| 68h | Channel 10 TX1 power | Channel 9 TX1 power |
| 6Ah | Channel 12 TX1 power | Channel 11 TX1 power |
| 6Ch | Channel 14 TX1 power | Channel 13 TX1 power |

## Tx Power Slop /offset for 2.4GHz (0x6Eh~0x77h)

Driver compares current TSSI value (from BBP R49) with this TSSI reference value as a base to decide if real-time TX power compensation is required. 0xFF will be treated as invalid value. This function is controlled by ‘external TX ALC’ bit (NIC configuration1 bit1) or ‘internal TX ALC ‘ bit (NIC configuration1 bit13). 0x76h and 0x77h default setting are 0x00

|  |  |  |
| --- | --- | --- |
| **Offset** | **b15 ~b8** | **b7 ~ b0** |
| 6eh | Offset for Channel 1~4 | TSSI slope |
| 70h | Offset for Channel 9~14 | Offset for Channel 5~8 |
| 72h | Reserved | Reserved |
| 74h | Reserved | Reserved |
| 76h | Reserved | Offset for All channel |

## 2.4G Target Power (0xD0h)

D0h is OFDM 54 M target power. Unit is 0.5 dBm.

e.g. For target power 16 dBm, set D0h as 0x20

## 25C Temperature Sensor Calibration (0xD1h)

25°C temperature reference reading.

## Tx rate power configuration (0xDEh~0xEFh)

**The 1 step=0.5dB.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Offset** | **Default Value** | **Description** | **Sign 6Bit** |
| DEh | 05 | TX power for CCK 1M/2M | TX0 power setting |
| DFh | 05 | TX power for CCK 5.5M/11M | TX0 power setting |
| E0h | 03 | TX power for OFDM 6M/9M | TX0 power setting |
| E1h | 03 | TX power for OFDM 12M/18M | TX0 power setting |
| E2h | 04 | TX power for OFDM 24M/36M | TX0 power setting |
| E3h | 00 | TX power for OFDM 48M/54M | TX0 power setting |
| E4h | 00 | TX power for HT MCS=0,1 | TX0 power setting |
| E5h | 00 | TX power for HT MCS=2,3 | TX0 power setting |
| E6h | 02 | TX power for HT MCS=4,5 | TX0 power setting |
| E7h | 00 | TX power for HT MCS=6,7 | TX0 power setting |
| E8h | 00 | TX power for HT MCS=8,9 | TX0 power setting |
| E9h | 00 | TX power for HT MCS=10,11 | TX0 power setting |
| EAh | 02 | TX power for HT MCS=12,13 | TX0 power setting |
| EBh | 00 | TX power for HT MCS=14,15 | TX0 power setting |
| ECh | 00 | TX power for STBC MCS=0,1 | TX0 power setting |
| EDh | 00 | TX power for STBC MCS=2,3 | TX0 power setting |
| EEh | 02 | TX power for STBC MCS=4,5 | TX0 power setting |
| EFh | 00 | TX power for STBC MCS=6,7 | TX0 power setting |

Example:

If the calibrated TX0 power =17dBm for MCS 6 & MCS 7 = 0x00 (offset = E7h).

Want to set TX0 power to 18dBm for MCS 0 & MCS 1 (offset = E4h).

The power difference is 1dB (18-17). It need to increase register value to be 0 (1dB = **0** step\*0.5+ 1 (PA mode offset)).

i.e. setting E4h=0x00 can meet the power requirement.

The “offset value” is the signed-6bit with 0.5dB step.

i.e. when setting “offset value”=0x02 -> offset 1dB

       when setting “offset value”=0x3E -> offset -1dB

Formula:

54M Tx power = target power + offset value \*0.5 + 0

18M Tx power = target power + offset value \* 0.5 + 1

11M Tx power = target power + offset value \* 0.5 - 0.5

## Reserved for Customer (0x11Eh~0x11Fh)