



REALTEK

RTL8188FTV MFG Command Guide for Mstar

(CONFIDENTIAL: External)

Version V1
2018-02-06



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REVISION HISTORY

| Revision | Release Date | Summary | Writer |
|-----------------|---------------------|-----------------|---------------|
| V1.0 | 2018-02-06 | Initial Version | Alex Xu |
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1. 如何进入 MFG Mode

rtl8188ftv_lib.a已经同时支持Normal Mode和MFG Mode，请确定SDK中已经#define NCFG_WIFI_MFG_EN 1，具体方法为在Mercury5\proj\sc\project\Dvr_CarDV_SDK\cfg\net\inc\net_cfg.h中添加如下灰色背景蓝色加粗字体的code，此时build出来的image方可使用MFG Command。

```
#if (WIFI_DRIVER_TYPE == WIFI_DRIVER_MTK || WIFI_DRIVER_TYPE ==  
WIFI_DRIVER_RTK)  
//MFG mode and Normal mode FW are the same version.  
#define NCFG_WIFI_MFG_EN          1  
#else  
#define NCFG_WIFI_MFG_EN          0  
#endif
```

想要进入MFG Mode，则可在开机启动完成之后，通过如下UART Command进入MFG Mode。

```
/:>wifi mfggen
```

```
/:>net on
```

若想要进入Normal Mode，则可在开机启动完成之后，通过如下UART Command进入Normal Mode。

```
/:>net on
```

2. 如何添加 MFG Command

由于SDK中提供的MFG Command接口有限，例如mfgtxbg和mfgtxn仅支持Continuous Packet TX测试，如果想要进行Continuous TX测试，则需要自行添加MFG Command。下面以添加Continuous TX Command mfgcontxbg和mfgcontxn为例，介绍如何在SDK中添加MFG Command。

在Mercury5\proj\sc\core\system\net\wifi\src\wlan_cli.c中添加如下灰色背景蓝色加粗字体的code，即可使用Continuous TX Command mfgcontxbg和mfgcontxn。

```
/*  
7. Stop MFG test  
   wlan_mfg_stop()  
*/  
void UartCmd_MFGStop(char* szParam)  
{  
    INT32 iError;  
  
    iError = WLAN_MFG_Stop();  
  
    printf("Stop Status : %d\n", iError);  
}  
  
/*  
8. 11b Continuous TX test  
   wlan_mfg_con_tx_bg(ch, WLM_RATE_11M, txpwr)
```

- ch: channel number
- txpwr: -1 means default power or value in mili dBm (15000 for 15dBm)

9. 11g Continuous TX test

wlan_mfg_con_tx_bg(ch, WLM_RATE_54M, txpwr)

- ch: channel number
- txpwr: -1 means default power or value in mili dBm (15000 for 15dBm)

```

*/
void UartCmd_MFGConTxBG(char* szParam)
{
    UINT32 uiChannel, uiRate, uiPowerValue;
    INT32 iError;

    sscanf( szParam, "%d %d %d", &uiChannel, &uiRate, &uiPowerValue);

    printf("Ch : %d, Rate : %d, PowerValue : %d \n", uiChannel, uiRate, uiPowerValue);

    iError = WLAN_MFG_Con_TxBG(uiChannel, uiRate, uiPowerValue);

    printf("Continuous Tx BG Status : %d \n", iError);
}

```

```

/*
10. 11n Continuous TX test
    wlan_mfg_con_tx_n(ch, WLM_MCS_RATE_7, txpwr)
    - ch: channel number
    txpwr: -1 means default power or value in mili dBm (15000 for 15dBm)
*/
void UartCmd_MFGConTxN(char* szParam)
{
    UINT32 uiChannel, uiRate, uiPowerValue;
    INT32 iError;

    sscanf( szParam, "%d %d %d", &uiChannel, &uiRate, &uiPowerValue);

    printf("Ch : %d, Rate : %d, PowerValue : %d \n", uiChannel, uiRate, uiPowerValue);

    iError = WLAN_MFG_Con_TxN(uiChannel, uiRate, uiPowerValue);

    printf("Continuous Tx N Status : %d \n", iError);
}
#endif

```

```

#if NCFG_WIFI_MFG_EN == 1
    { "mfgen",          "",          "MFG Enable(Start MFG)",    UartCmd_EnterWiFiMFGMode},
    { "mfgtxbg",       "",          "MFGTxBG",                UartCmd_MFGTxBG},

```

```

{ "mfgtxn",          "",          "MFGTxN",          UartCmd_MFGTxN},
{ "mfgrx",          "",          "MFGRx",          UartCmd_MFGRx},
{ "mfgrxgetpkt",    "",          "MFGTxGetPkt",    UartCmd_MFGRxGetPkt},
{ "mfgcarriertone", "",          "MFGCarrierTone", UartCmd_MFGCarrierTone},
{ "mfgstop",        "",          "MFGstop",        UartCmd_MFGStop},
{ "mfgcontxbg",     "",          "MFGContinuousTxBG", UartCmd_MFGConTxBG},
{ "mfgcontxn",      "",          "MFGContinuousTxN", UartCmd_MFGConTxN},
#endif
{0,0,0,0}

```

3. 如何使用 MFG Command

rtl8188ftv_lib.a已经支持SDK中提供的所有MFG Command接口，具体包括mfggen、mfgtxbg、mfgtxn、mfgrx、mfgtxgetpkt、mfgcarriertone和mfgstop，此外还支持自行添加的MFG Command mfgcontxbg和mfgcontxn，共9个Command。注意在输入命令前都必须加入**wifi** 前缀。

3.1. mfggen

```
/:>wifi mfggen
```

作用：

进入MFG Mode。

用法：

参见1。

3.2. mfgtxbg

```
/:>wifi mfgtxbg <Channel> <Rate> <Power>
```

作用：

开始802.11b/g mode Continuous Packet TX测试。

用法：

<Channel>: 1 ~ 14 for channel 1 ~ channel 14;

<Rate>: 2 for 1Mbps, 4 for 2Mbps, 11 for 5.5Mbps, 22 for 11Mbps, 12 for 6Mbps, 18 for 9Mbps, 24 for 12Mbps, 36 for 18Mbps, 48 for 24Mbps, 72 for 36Mbps, 96 for 48Mbps, 108 for 54Mbps;

<Power>: -1 for default power index, 0 ~ 63 for power index。（当使用-1时，Default power index会显示在串口Log中。对于不同的Rate，Default power index对应不同的Power value，校准之后的RTL8188FTV大致存在如下对应关系: 16dBm for 1Mbps 16dBm for 2Mbps 16dBm for 5.5Mbps 16dBm for 11Mbps, 18dBm for 6Mbps, 18dBm for 9Mbps, 18dBm for 12Mbps, 17dBm for 18Mbps, 17dBm for 24Mbps, 16dBm for 36Mbps, 15dBm for 48Mbps, 14dBm for 54Mbps。Power index每加1，Power value大致增加0.5dBm。以上对应关系存在一定误差，精确的Power value以仪器显示为准。）

举例：

```
/:>wifi mfgtxbg 1 2 -1 //Continuous Packet TX with 1Mbps data rate on channel 1 using default power index
Ch : 1, Rate : 2, PowerValue : -1
```

Default power index of path A is 32

Tx BG Status : 0

```
/:>wifi mfgtxbg 6 108 40 //Continuous Packet TX with 54Mbps data rate on channel 6 using power index 40
```

Ch : 6, Rate : 108, PowerValue : 40

Tx BG Status : 0

3.3. mfgtxn

```
/:>wifi mfgtxn <Channel> <Rate> <Power>
```

作用:

开始802.11n mode Continuous Packet TX测试。

用法:

<Channel>: 1 ~ 14 for channel 1 ~ channel 14;

<Rate>: 128 ~ 135 for MCS0 ~ MCS7;

<Power>: -1 for default power index, 0 ~ 63 for power index。(当使用-1时, Default power index会显示在串口Log中。对于不同的Rate, Default power index对应不同的Power value, 校准之后的RTL8188FTV大致存在如下对应关系: 17dBm for MCS0, 17dBm for MCS1, 17dBm for MCS2, 15dBm for MCS3, 15dBm for MCS4, 14dBm for MCS5, 13dBm for MCS6, 13dBm for MCS7。Power index每加1, Power value大致增加0.5dBm。以上对应关系存在一定误差, 精确的Power value以仪器显示为准。)

举例:

```
/:>wifi mfgtxn 1 128 -1 //Continuous Packet TX with MCS0 data rate on channel 1 using default power index
```

Ch : 1, Rate : 128, PowerValue : -1

Default power index of path A is 40

Tx N Status : 0

```
/:>wifi mfgtxn 6 135 40 //Continuous Packet TX with MCS7 data rate on channel 6 using power index 40
```

Ch : 6, Rate : 135, PowerValue : 40

Tx N Status : 0

3.4. mfgrx

```
/:>wifi mfgrx <Channel>
```

作用:

开始RX测试。

用法:

<Channel>: 1 ~ 14 for channel 1 ~ channel 14。

举例:

```
/:>wifi mfgrx 1 //RX on channel 1
```

Ch : 1

Rx Status : 0

3.5. mfgrxgetpkt

```
/:>wifi mfgrxgetpkt
```

作用：

获取正确RX包的数量。

用法：

先通过mfgrx开始RX测试，再通过mfgrxgetpkt获取正确RX包的数量。

举例：

```
/:>wifi mfgrx 1
```

Ch : 1

Rx Status : 0

```
/:>wifi mfgrxgetpkt
```

RxGetPkt Status : 0, Count : 4678

3.6. mfgcarriertone

```
/:>wifi mfgcarriertone <Channel>
```

作用：

开始TX single tone测试。

用法：

<Channel>: 1 ~ 14 for channel 1 ~ channel 14。

举例：

```
/:>wifi mfgcarriertone 1 //TX single tone on channel 1
```

Ch : 1

CarrierTone Status : 0

3.7. mfgstop

```
/:>wifi mfgstop
```

作用：

停止正在进行的TX / RX测试。

用法：

通过mfgstop主动停止正在进行的TX / RX测试。

3.8. mfgcontxbg

```
/:>wifi mfgcontxbg <Channel> <Rate> <Power>
```

作用:

开始802.11b/g mode Continuous TX测试。

用法:

<Channel>: 1 ~ 14 for channel 1 ~ channel 14;

<Rate>: 2 for 1Mbps, 4 for 2Mbps, 11 for 5.5Mbps, 22 for 11Mbps, 12 for 6Mbps, 18 for 9Mbps, 24 for 12Mbps, 36 for 18Mbps, 48 for 24Mbps, 72 for 36Mbps, 96 for 48Mbps, 108 for 54Mbps;

<Power>: -1 for default power index, 0 ~ 63 for power index。（当使用-1时，Default power index会显示在串口Log中。对于不同的Rate，Default power index对应不同的Power value，校准之后的RTL8188FTV大致存在如下对应关系：16dBm for 1Mbps 16dBm for 2Mbps 16dBm for 5.5Mbps 16dBm for 11Mbps, 18dBm for 6Mbps, 18dBm for 9Mbps, 18dBm for 12Mbps, 17dBm for 18Mbps, 17dBm for 24Mbps, 16dBm for 36Mbps, 15dBm for 48Mbps, 14dBm for 54Mbps。Power index每加1，Power value大致增加0.5dBm。以上对应关系存在一定误差，精确的Power value以仪器显示为准。）

举例:

```
/:>wifi mfgcontxbg 1 2 -1 //Continuous TX with 1Mbps data rate on channel 1 using default power index
```

Ch : 1, Rate : 2, PowerValue : -1

Default power index of path A is 32

Continuous Tx BG Status : 0

```
/:>wifi mfgcontxbg 6 108 40 //Continuous TX with 54Mbps data rate on channel 6 using power index 40
```

Ch : 6, Rate : 108, PowerValue : 40

Continuous Tx BG Status : 0

3.9. mfgcontxn

```
/:>wifi mfgcontxn <Channel> <Rate> <Power>
```

作用:

开始802.11n mode Continuous TX测试。

用法:

<Channel>: 1 ~ 14 for channel 1 ~ channel 14;

<Rate>: 128 ~ 135 for MCS0 ~ MCS7;

<Power>: -1 for default power index, 0 ~ 63 for power index。（当使用-1时，Default power index会显示在串口Log中。对于不同的Rate，Default power index对应不同的Power value，校准之后的RTL8189FTV大致存在如下对应关系：17dBm for MCS0, 17dBm for MCS1, 17dBm for MCS2, 15dBm for MCS3, 15dBm for MCS4, 14dBm for MCS5, 13dBm for MCS6, 13dBm for MCS7。Power index每加1，Power value大致增加0.5dBm。以上对应关系存在一定误差，精确的Power value以仪器显示为准。）

举例:

```
/:>wifi mfgcontxn 1 128 -1 //Continuous TX with MCS0 data rate on channel 1 using default power index
```

Ch : 1, Rate : 128, PowerValue : -1

Default power index of path A is 40

Continuous Tx N Status : 0

```
/:>wifi mfgcontxn 6 135 40 //Continuous TX with MCS7 data rate on channel 6 using power index 40
```

Ch : 6, Rate : 135, PowerValue : 40

Continuous Tx N Status : 0

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