

MT6620 Wi-Fi NVRAM on MTK SP Platform Configuration

Version 1.2

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Revision History

Revision	Date	Author	Description
0.1	2011/05/30	CP Wu	Initial version from spreadsheet version 1.04
0.11	2011/05/31	CP Wu	Remove unused country codes
1.0	2011/6/3	CM Chang	Modify description of 40MHz bandwidth (only for AP mode)
1.1	2011/09/8	CM Chang	1. Add aucRegSubbandInfo field 2. Modify regulation domain description
<u>1.2</u>	<u>2011/09/29</u>	<u>CM Chang</u>	1. <u>Fix offset of ucEnable5GBand in NVRAM map table</u> 2. <u>uc2G4BwFixed20M and uc5GBwFixed20M are not supported anymore. They should be controlled by GUI.</u>

带格式表格

带格式的: 字体: 10 磅

带格式的: 编号 + 级别: 1 +
编号样式: 1, 2, 3, ... + 起
始编号: 1 + 对齐方式: 左侧 +
对齐位置: 0 磅 + 制表符
后于: 0 磅 + 缩进位置: 18
磅

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1 NVRAM Map

The following table describes the entire NVRAM map for MT6620 chip.

Byte Offset	Content	Description	Default Value
0x000	u2Part1OwnVersion	Own version of the 1 st 256-bytes of NVRAM content. This field indicates the version of the created content and might be identified by driver for compatibility checking.	0x0103
0x002	u2Part1PeerVersion	Required version for software component, usually driver, which parses the 1 st 256 bytes of NVRAM content.	0x0000
0x004	aucMacAddress	MAC address	
0x00A	aucCountryCode	Country code for regulatory domain	0x0000
0x00C	rTxPwr	TX Power Control	
0x034	aucEFUSE	Mirrored content of EFUSE for overriding EFUSE values.	
0x0c4	ucTxPwrValid	Zero: rTxPwr is not valid Nonzero: Use values from rTxPwr for overriding default TX power	
0x0c5	ucSupport5GBand	Zero: Not supporting 5GHz band Nonzero: 5GHz band is supported	0x00
0x0c6	fg2G4BandEdgePwrUsed	Zero: Do not apply extra band edge power control Nonzero: Apply band edge TX power control	0x00

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0x0c7	cBandEdgeMaxPwrCCK	Max. Band Edge TX Power for CCK rates	
0x0c8	cBandEdgeMaxPwrOFDM20	Max. Band Edge TX Power for OFDM rates within 20MHz bandwidth	
0x0c9	cBandEdgeMaxPwrOFDM40	Max. Band Edge TX Power for OFDM rates within 40MHz bandwidth	
0x0ca	ucRegChannelListMap	0: By aucCountryCode 1: By ucRegChannelListIndex 2: By aucRegSubBandInfo field	0x00
0x0cb	ucRegChannelListIndex	Channel list is defined based on channel list index in the mapping table of country channels	0x00
0x0cc	aucRegSubbandInfo	There are 6 regulation channel sub-bands and each sub-band has 6 bytes data. Please refer to the following regulation domain section for detailed description.	0x00, ..., 0x00
0x0f0	aucReserved2	Reserved fields	
0x100	u2Part2OwnVersion	Own version of the 2 nd 256-bytes of NVRAM content. This field indicates the version of the created content and might be identified by driver for compatibility checking.	0x0000
0x102	u2Part2PeerVersion	Required version for software component, usually driver, which parses the 2 nd 256 bytes of NVRAM content.	0x0000
0x104	uc2G4BwFixed20M	Zero: Support both 20MHz and 40MHz bandwidth within 2.4GHz band for AP mode Nonzero: Support only 20MHz bandwidth within 2.4GHz band for AP mode	0x00

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0x105	uc5GBwFixed20M	Zero: Support both 20MHz and 40MHz bandwidth within 5GHz band for AP mode Nonzero: Support only 20MHz bandwidth within 5GHz band for AP mode	0x00
0x106	ucEnable5GBand	Zero: Disable 5GHz band support Nonzero: Enable 5GHz band support	0x00
0x107	aucTailReserved	Reserved fields	

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带格式的: 删除线

删除的内容: 0x105

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2 Detailed Table Content Description

2.1 Regulatory Domain

The following table shows the mapping relation between the regulation channel list and table index or the regulation country codes, which are ISO 3166-1 alpha-2 codes. For example: US (0x55, 0x53), CN (0x43, 0x4E), JP (0x4A, 0x50), EU (0x45, 0x55).

When the field “ucRegChannelListMap” is set to 0, the specified country code in field “aucCountryCode” will be used to find corresponding channel list by this mapping table. If the specified country code is not found, the channel list in the “EU” (Europe union) country code will be adopted. In case the supported channel list of the target country is changed or no adequate channel list is found, we can set channel list specifically by utilizing “ucRegChannelListIndex” or “aucRegSubbandInfo” field.

Mapping Table of Country Channels

Channel List Index	Country Code	Channels in 2.4GHz Band	Channels in 5GHz band
0	US, BS, BB, BO, DM, DO, HT, PR, TH, TW, AI, AG, AW, BM, CU, GD, GY, JM, KN, LC, VC, TT, SR	1~11	36~48, 52~64, 100~140, 149~165
1	BR, EC, HK, MX, PE, CR, MD, NI, PZ	1~13	36~48, 52~64, 100~140, 149~165
2	CO, PY	1~13	36~48, 52~64, 100~140
3	JP	1~14	36~48, 52~64, 100~140
4	CN, UY, MA	1~13	52~64, 100~140, 149~165
5	AR	1~13	52~64, 149~165
6	AU, NZ	1~11	36~48, 52~64, 100~140, 149~161
7	RU	1~13	36~48, 52~64, 100~140,

			149~161
8	ID, HN, PG, PK	1~13	149~161
9	CA	1~11	36~48, 52~64, 100~116, 132~140, 149~165
10	CL, IN, SA, SG, VE, MY, VN, EG	1~13	36~48, 52~64, 149~165
11	IL, UA	1~13	36~48, 52~64
12	JO, KW	1~13	36~48
13	KR, OM	1~13	36~48, 52~64, 100~128, 149~165
14	EU (Europe Union)	1~13	36~48, 52~64, 100~140, 149~173

When the field “ucRegChannelListMap” is set to 1, “ucRegChannelListIndex” field represents the value of channel list index field in above mapping table of country channels and the listed 2.4/5GHz channels in the same row will be used.

For example: a country code is “XX” and its regulation channel list is the same with USA’s list. The related fields should be set as {aucCountryCode= XX, ucRegChannelListMap=1, ucRegChannelListIndex=0}

When the field “ucRegChannelListMap” is set to 2, “aucRegSubbandInfo” field represents the channel lists of all 6 sub-bands. Each sub-band has 6 bytes structure, which is the format of tuple {Regulation class, Band, Channel span, First channel number, Number of channel, Reserved}.

1. Regulation class: 81 (2.412~2.472 GHz), 82 (2.484 GHz), 115 (5.15~5.25 GHz), 118 (5.25~5.35 GHz), 121 (5.47~5.725 GHz), 125 (5.725~5.85 GHz)
2. Band: 0 (None), 1 (2.4GHz band), 2 (5GHz band)
3. Channel span: 1 (2.4GHz band) or 4 (5GHz band)
4. First channel number, Number of channel: this pair represents the first channel number and its following channels with above specified channel span. For example, if channel 1~13 is used, the first channel number is 1 and number of channel is 13.
5. Reserved: 0

2.2 TX Power Table of CCK and OFDM0~3

TX power tables of CCK and OFDM0~3 consist of TX information tuples.

Byte Offset	Field	Description
0x000	cTxPwr2G4Cck;	TX Power of 2.4GHz CCK modulation in unit of 0.5dBm
0x001	acReserved	Reserved fields
0x004	cTxPwr2G4OFDM_BPSK	TX Power of 2.4GHz OFDM BPSK modulation in unit of 0.5dBm
0x005	cTxPwr2G4OFDM_QPSK	TX Power of 2.4GHz OFDM QPSK modulation in unit of 0.5dBm
0x006	cTxPwr2G4OFDM_16QAM	TX Power of 2.4GHz OFDM 16QAM modulation in unit of 0.5dBm
0x007	cTxPwr2G4OFDM_Reserved	Reserved field
0x008	cTxPwr2G4OFDM_48Mbps	TX Power of 2.4GHz OFDM 48M rate in unit of 0.5dBm
0x009	cTxPwr2G4OFDM_54Mbps	TX Power of 2.4GHz OFDM 54M rate in unit of 0.5dBm

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0x00a	cTxPwr2G4HT20_BPSK	TX Power of 2.4GHz HT20 BPSK modulation in unit of 0.5dBm
0x00b	cTxPwr2G4HT20_QPSK	TX Power of 2.4GHz HT20 QPSK modulation in unit of 0.5dBm
0x00c	cTxPwr2G4HT20_16QAM	TX Power of 2.4GHz HT20 16QAM modulation in unit of 0.5dBm
0x00d	cTxPwr2G4HT20_MCS5	TX Power of 2.4GHz HT20 MCS5 rate in unit of 0.5dBm
0x00e	cTxPwr2G4HT20_MCS6	TX Power of 2.4GHz HT20 MCS6 rate in unit of 0.5dBm
0x00f	cTxPwr2G4HT20_MCS7	TX Power of 2.4GHz HT20 MCS7 rate in unit of 0.5dBm
0x010	cTxPwr2G4HT40_BPSK	TX Power of 2.4GHz HT40 BPSK modulation in unit of 0.5dBm
0x011	cTxPwr2G4HT40_QPSK	TX Power of 2.4GHz HT40 QPSK modulation in unit of 0.5dBm

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0x012	cTxPwr2G4HT40_16QAM	TX Power of 2.4GHz HT40 16QAM modulation in unit of 0.5dBm
0x013	cTxPwr2G4HT40_MCS5	TX Power of 2.4GHz HT40 MCS5 rate in unit of 0.5dBm
0x014	cTxPwr2G4HT40_MCS6	TX Power of 2.4GHz HT40 MCS6 rate in unit of 0.5dBm
0x015	cTxPwr2G4HT40_MCS7	TX Power of 2.4GHz HT40 MCS7 rate in unit of 0.5dBm
0x016	cTxPwr5GOFDM_BPSK	TX Power of 5GHz OFDM BPSK modulation in unit of 0.5dBm
0x017	cTxPwr5GOFDM_QPSK;	TX Power of 5GHz OFDM QPSK modulation in unit of 0.5dBm
0x018	cTxPwr5GOFDM_16QAM	TX Power of 5GHz OFDM 16QAM modulation in unit of 0.5dBm
0x019	cTxPwr5GOFDM_Reserved	Reserved field

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0x01a	cTxPwr5GOFDM_48Mbps	TX Power of 5GHz OFDM 48M rate in unit of 0.5dBm
0x01b	cTxPwr5GOFDM_54Mbps	TX Power of 5GHz OFDM 54M rate in unit of 0.5dBm
0x01c	cTxPwr5GHT20_BPSK	TX Power of 5GHz HT20 BPSK modulation in unit of 0.5dBm
0x01d	cTxPwr5GHT20_QPSK	TX Power of 5GHz HT20 QPSK modulation in unit of 0.5dBm
0x01e	cTxPwr5GHT20_16QAM	TX Power of 5GHz HT20 16QAM modulation in unit of 0.5dBm
0x01f	cTxPwr5GHT20_MCS5	TX Power of 5GHz HT20 MCS5 rate in unit of 0.5dBm
0x020	cTxPwr5GHT20_MCS6	TX Power of 5GHz HT20 MCS6 rate in unit of 0.5dBm
0x021	cTxPwr5GHT20_MCS7	TX Power of 5GHz HT20 MCS7 rate in unit of 0.5dBm

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0x022	cTxPwr5GHT40_BPSK	TX Power of 5GHz HT40 BPSK modulation in unit of 0.5dBm
0x023	cTxPwr5GHT40_QPSK	TX Power of 5GHz HT40 QPSK modulation in unit of 0.5dBm
0x024	cTxPwr5GHT40_16QAM	TX Power of 5GHz HT40 16QAM modulation in unit of 0.5dBm
0x025	cTxPwr5GHT40_MCS5	TX Power of 5GHz HT40 MCS5 rate in unit of 0.5dBm
0x026	cTxPwr5GHT40_MCS6	TX Power of 5GHz HT40 MCS6 rate in unit of 0.5dBm
0x027	cTxPwr5GHT40_MCS7	TX Power of 5GHz HT40 MCS7 rate in unit of 0.5dBm