

GMAC(Ethernet MAC Universal Controller)接口函数

1. *u8 FGmac_Ps_InitRxDes(FGmacPs_Instance_T *pGmac)*

描述	* Initialize Rx Descriptor
参数	* @param FGmacPs_Instance_T * pGmac
返回值	* @return GMAC_RETURN_CODE_OK

2. *void FGmac_Ps_ResetCurRxDES(FGmacPs_RxDescriptor_T *pRxD)*

描述	* Reset current Rx Descriptor
参数	* @param FGmacPs_Instance_T * pGmac
返回值	* @return void

3. *u8 FGmac_Ps_InitTxDes(FGmacPs_Instance_T *pGmac)*

描述	* Initialize Tx Descriptor
参数	* @param FGmacPs_Instance_T * pGmac
返回值	* @return GMAC_RETURN_CODE_OK

4. *u8 FGmac_Ps_DmaInit(FGmacPs_Instance_T *pGmac)*

描述	* initialize dma of gmac
参数	* @param FGmacPs_Instance_T * pGmac
返回值	* @return GMAC_RETURN_CODE_OK or GMAC_RETURN_CODE_TIME_OUT

5. *u8 FGmac_Ps_MacInit(FGmacPs_Instance_T *pGmac)*

描述	* Initialize Gmac
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参数	* @param FGmacPs_Instance_T *pGmac
返回值	* @return GMAC_RETURN_CODE_OK, GMAC_RETURN_CODE_ERR, GMAC_RETURN_CODE_TIME_OUT

6. *u8 FGmac_Ps_RcvPoll(FGmacPs_Instance_T *pGmac,u32 *pRcvSize)*

描述	* Poll Rcv packet
参数	* @param FGmacPs_Instance_T *pGmac * @param u32 *pRcvSize (as a return value)
返回值	* @return GMAC_RETURN_CODE_RX_NULL, GMAC_RETURN_CODE_SIZE_TOO_SMALL, GMAC_RETURN_CODE_OK

7. *u8 FGmac_Ps_Send(FGmacPs_Instance_T *pGmac,u8 *pBuffer,u32 size,u8 DisCRC,u8 DisPAD)*

描述	* send a frame
参数	* @param FGmacPs_Instance_T *pGmac * @param u8 *pBuffer (point to frame to be sent) * @param u32 size (frame size to be sent) * @param u8 DisCRC (disable CRC auto-add) * @param u8 DisPAD (disable PAD auto-add)
返回值	* @return GMAC_RETURN_CODE_OK

8. *u8 FGmac_Ps_PreSendNoCopy(FGmacPs_Instance_T *pGmac,u8 *pFrame,u32 size,u8 DisCRC,u8 DisPAD)*

描述	* prepare to send a frame, let DES pt point to the frame; setup DES; but don't send * @note TxDES use 11bit address for each buffer, so each Buffer is less than 2KB-1. * we split giant frame in pieces of GMAC_TBUFFER_SIZE Byte * We should set OWN BIT of 1st DES after all oprations have been done
参数	* @param FGmacPs_Instance_T *pGmac * @param u8 *pBuffer (point to frame to be sent) * @param u32 size (frame size to be sent) * @param u8 DisCRC (disable CRC auto-add)

	* @param u8 DisPAD (disable PAD auto-add)
返回值	* @return GMAC_RETURN_CODE_ERR, GMAC_RETURN_CODE_OK

9. *u8 FGmac_Ps_PreSendCopy(FGmacPs_Instance_T *pGmac, u8 *pFrame, u32 size, u8 DisCRC, u8 DisPAD)*

描述	* prepare to send a frame, copy frame to buffer; setup DES; but don't send * @note TxDES use 11bit address for each buffer, so each Buffer is less than 2KB-1. * we split giant frame in pieces of GMAC_TBUFFER_SIZE Byte * We should set OWN BIT of 1st DES after all oprations have been done
参数	* @param FGmacPs_Instance_T *pGmac * @param u8 *pBuffer (point to frame to be sent) * @param u32 size (frame size to be sent) * @param u8 DisCRC (disable CRC auto-add) * @param u8 DisPAD (disable PAD auto-add)
返回值	* @return GMAC_RETURN_CODE_ERR, GMAC_RETURN_CODE_OK

10. *void FGmac_Ps_SetListener(FGmacPs_Instance_T *pGmac, FMSH_callback userFunction)*

描述	* setup interrupt listerner function
参数	* @param FGmacPs_Instance_T *pGmac * @param FMSH_callback userFunction
返回值	* @return void

11. *void FGmac_Ps_SetRxCallback(FGmacPs_Instance_T *pGmac, FMSH_callback userFunction)*

描述	* setup Rx interrupt callback function
参数	* @param FGmacPs_Instance_T *pGmac * @param FMSH_callback userFunction
返回值	* @return void

12. void FGmac_Ps_SetTxCallback(FGmacPs_Instance_T *pGmac, FMSH_callback userFunction)

描述	* setup Tx interrupt callback function
参数	* @param FGmacPs_Instance_T *pGmac * @param FMSH_callback userFunction
返回值	* @return void

13. u8 FGmac_Ps_SetTxState(FGmacPs_Instance_T *pGmac, u8 state)

描述	* setup Tx state : run or stop
参数	* @param FGmacPs_Instance_T *pGmac * @param u8 state : GMAC_STATE_STOP or GMAC_STATE_RUN
返回值	* @return GMAC_RETURN_CODE_OK or GMAC_RETURN_CODE_PARAM_ERR

14. u8 FGmac_Ps_SetRxState(FGmacPs_Instance_T *pGmac, u8 state)

描述	* setup Rx state : run or stop
参数	* @param FGmacPs_Instance_T *pGmac * @param u8 state : GMAC_STATE_STOP or GMAC_STATE_RUN
返回值	* @return GMAC_RETURN_CODE_OK

15. u8 FGmac_Ps_GetLinkStatus(FGmacPs_Instance_T *pGmac)

描述	* read mac reg54 (SGMII/RGMII/SMII Status Register), store in * FGmacPs_Instance_T->gmac_link_status
参数	* @param FGmacPs_Instance_T * pGmac
返回值	* @return GMAC_RETURN_CODE_OK

16. u8 FGmac_Ps_GetHwFeature(FGmacPs_Instance_T *pGmac)

描述	* get hardware feature of core configuration
参数	* @param FGmacPs_Instance_T * pGmac

返回值	* @return GMAC_RETURN_CODE_OK
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17. void FGmac_Ps_ClearIrq(FGmacPs_Instance_T *pGmac, FGmacPs_DmaIrq_T interrupts)

描述	* Write 1bit to status register to clear interrupts
参数	* @param FGmacPs_Instance_T *pGmac * @param FGmacPs_DmaIrq_T interrupts
返回值	* @return void

18. u8 FGmac_Ps_StructInit(FGmacPs_Instance_T *pGmac, u8 index, u32 base_address, FGmacPs_LinkStatus_T *gmac_link_status, FGmacPs_Config_T *gmac_cfg, FGmacPs_PhyConfig_T *phy_cfg)

描述	* reset gmac instance struct
参数	* @param FGmacPs_Instance_T *pGmac * @param u32 base_address * @param FGmacPs_LinkStatus_T *gmac_link_status * @param FGmacPs_Config_T *gmac_cfg * @param FGmacPs_PhyConfig_T *phy_cfg
返回值	* @return GMAC_RETURN_CODE_OK

19. u8 FGmac_Ps_DeviceReset(FGmacPs_Instance_T *pGmac)

描述	* gmac device reset * @note dma reg0 bit0 is useless, use SLCR reg to reset
参数	* @param FGmacPs_Instance_T *pGmac
返回值	* @return GMAC_RETURN_CODE_OK

20. u8 FGmac_Ps_SetupTxMode(FGmacPs_Instance_T *pGmac, u32 mode)

描述	* setup Tx mode: TSF or TTH
参数	* @param FGmacPs_Instance_T *pGmac

	* @param u32 mode
返回值	* @return GMAC_RETURN_CODE_OK or GMAC_RETURN_CODE_PARAM_ERR

21. *u8 FGmac_Ps_SetupRxMode(FGmacPs_Instance_T * pGmac,u32 mode)*

描述	* setup Rx mode: RSF or RTH
参数	* @param FGmacPs_Instance_T * pGmac * @param u32 mode
返回值	* @return GMAC_RETURN_CODE_OK or GMAC_RETURN_CODE_PARAM_ERR

22. *u8 FGmac_Ps_EnFwErrFrame(FGmacPs_Instance_T * pGmac,u8 enable)*

描述	* Enable/Disable DMA forward error frame
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK

23. *u8 FGmac_Ps_EnRxFwUnderSizeGoodFrame(FGmacPs_Instance_T * pGmac,u8 enable)*

描述	* Enable/Disable DMA forward error frame
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK

24. *u8 FGmac_Ps_EnTxOsf(FGmacPs_Instance_T * pGmac,u8 enable)*

描述	* Enable/Disable Tx OSF mode
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK

25. *u8 FGmac_Ps_Enable2k(FGmacPs_Instance_T * pGmac,u8 enable)*

描述	* Enable/Disable 2K Frame
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK

26. *u8 FGmac_Ps_TypeCrcStrip(FGmacPs_Instance_T * pGmac,u8 enable)*

描述	* Enable/Disable CRC Stripping for type frame
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK;

27. *u8 FGmac_Ps_SetupRxWatchDog(FGmacPs_Instance_T * pGmac,u8 wd_en,u8 prog_en,u16 timeout)*

描述	* setup RxWDG * @note When Bit 16 (PWE) is set, the value in this field should be more than 1,522 (0x05F2). Otherwise, the IEEE Std 802.3-specified valid tagged frames are declared as error frames and are dropped..
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 wd_en : wdt enable or not * @param u8 prog_en : Programmable Watchdog Enable * @param u16 timeout : timeout value
返回值	* @return GMAC_RETURN_CODE_OK or GMAC_RETURN_CODE_PARAM_ERR

28. *u8 FGmac_Ps_EnTxJabber(FGmacPs_Instance_T * pGmac,u8 enable)*

描述	* Enable/Disable Tx Jabber
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable

返回值	* @return GMAC_RETURN_CODE_OK
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29. *u8 FGmac_Ps_EnableJumbo(FGmacPs_Instance_T * pGmac,u8 enable)*

描述	* Enable/Disable Jumbo Frame
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK

30. *u8 FGmac_Ps_SetupSpeed(FGmacPs_Instance_T * pGmac,u8 speed)*

描述	* Select ethernet link speed * @note speed[PS,FES]: 0x - 1000Mbps operations 10 - 10Mbps operations 11 - 100Mbps operations speed:2'b10 for 1000;2'b01 for 100;2'b00 for 10
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 speed
返回值	* @return GMAC_RETURN_CODE_OK;

31. *u8 FGmac_Ps_LoopbackMode(FGmacPs_Instance_T * pGmac,u8 enable)*

描述	* Enable/Disable GMAC Loopback mode
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK;

32. *u8 FGmac_Ps_PadCrcStrip(FGmacPs_Instance_T * pGmac,u8 enable)*

描述	* Enable/Disable GMAC CRC & Pad Stripping
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参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK;

33. u8 FGmac_Ps_RxFilt_EnRcvAll(FGmacPs_Instance_T * pGmac,u8 enable)

描述	* Rx Filter config : Enable/Disable recieve all * @note The result of the SA or DA filtering is updated (pass or fail) in the corresponding bits in the Receive Status Word.
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK

34. u8 FGmac_Ps_RxFilt_EnFwAllMultiCast(FGmacPs_Instance_T * pGmac,u8 enable)

描述	* Rx Filter config : Enable/Disable Pass All Multicast
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK

35. u8 FGmac_Ps_RxFilt_EnFwBroadCast(FGmacPs_Instance_T * pGmac,u8 enable)

描述	* Rx Filter config : Enable/Disable Pass Broadcast Frames
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK

36. u8 FGmac_Ps_RxFilt_EnDaInvF(FGmacPs_Instance_T * pGmac,u8 enable)

描述	* Rx Filter config : Enable/Disable DA Inverse Filtering
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable

返回值	* @return GMAC_RETURN_CODE_OK
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37. *u8 FGmac_Ps_RxFilt_EnSaF(FGmacPs_Instance_T * pGmac,u8 enable)*

描述	* Rx Filter config : Enable/Disable SA Filtering
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK

38. *u8 FGmac_Ps_RxFilt_EnSaInvF(FGmacPs_Instance_T * pGmac,u8 enable)*

描述	* Rx Filter config : Enable/Disable SA Inverse Filtering
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK

39. *u8 FGmac_Ps_RxFilt_CtrlFrame(FGmacPs_Instance_T * pGmac,u8 value)*

描述	* Rx Filter config : config ctrl frame filter * @note 00: MAC filters all control frames from reaching the application. 01: MAC forwards all control frames except Pause frames to application even if they fail the Address filter. 10: MAC forwards all control frames to application even if they fail the Address Filter. 11: MAC forwards control frames that pass the Address Filter
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 value : 0 1 2 3
返回值	* @return GMAC_RETURN_CODE_OK or GMAC_RETURN_CODE_PARAM_ERR

40. *u8 FGmac_Ps_RxFilt_EnPmsMode(FGmacPs_Instance_T *pGmac,u8 enable)*

描述	* Rx Filter config : Enable/Disable Promiscuous Mode * @note The SA or DA Filter Fails status bits of the Receive Status Word are always cleared when PR is set.
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK

41. *u8 FGmac_Ps_RxFilt_SetupVlan(FGmacPs_Instance_T *pGmac,u8 vlan_en, u32 vlan_value, u8 slan_en, u8 vlan_12, u8 vlan_inverse)*

描述	* Rx Filter config : setup vlan
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 vlan_en, * @param u32 vlan_value, * @param u8 slan_en, * @param u8 vlan_12, * @param u8 vlan_inverse
返回值	* @return GMAC_RETURN_CODE_OK

42. *u8 FGmac_Ps_FlCtrl_EnHwFlc(FGmacPs_Instance_T *pGmac,u8 enable)*

描述	* Flow Control : Enable/Disable Hardware FC * @note not support now, RxFIFO < 4KB
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK

43. *u8 FGmac_Ps_FlCtrl_EnRx(FGmacPs_Instance_T *pGmac,u8 enable)*

描述	* Flow Control : Enable/Disable Rx FC
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK

44. *u8 FGmac_Ps_FlCtrl_EnTx(FGmacPs_Instance_T *pGmac,u8 enable)*

描述	* Flow Control : Enable/Disable Tx FC
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK

45. *u8 FGmac_Ps_FlCtrl_EnUniPauseFraDetect(FGmacPs_Instance_T *pGmac,u8 enable)*

描述	* Flow Control : Enable/Disable Unicast Pause Frame Detect
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK

46. *u8 FGmac_Ps_FlCtrl_EnZeroQuatPause(FGmacPs_Instance_T *pGmac,u8 enable)*

描述	* Flow Control : Enable/Disable Zero-Quanta Pause
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 enable
返回值	* @return GMAC_RETURN_CODE_OK

47. *u8 FGmac_Ps_FlwCtrlSetup(FGmacPs_Instance_T * pGmac,u8 tx_flc_en, u8 rx_flc_en, u8 upfd_en, u8 pause_low_th, u8 zq_pause_en,*

u16 pause_time, u8 fcbba)

描述	* Flow Control : setup
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 tx_flc_en * @param u8 rx_flc_en * @param u8 upfd_en * @param u8 pause_low_th * @param u8 zq_pause_en * @param u16 pause_time * @param u8 fcbba
返回值	* @return GMAC_RETURN_CODE_OK or GMAC_RETURN_CODE_PARAM_ERR

49. *u8 FGmac_Ps_SendPauseFrame(FGmacPs_Instance_T * pGmac)*

描述	* Flow Control : Initiate pause frame(send a pause frame)
参数	* @param FGmacPs_Instance_T * pGmac
返回值	* @return GMAC_RETURN_CODE_OK;

50. *u8 FGmac_Ps_SetupMacAddr(FGmacPs_Instance_T * pGmac,u8 Index,u8 *pMacAddr,u8 En,u8 SA,u8 mask)*

描述	* setup address reg
参数	* @param FGmacPs_Instance_T * pGmac * @param u8 Index * @param u8 *pMacAddr * @param u8 En

	* @param u8 SA * @param u8 mask
返回值	* @return GMAC_RETURN_CODE_OK;

51. *u8 FGmac_Ps_SetupIntr(FGmacPs_Instance_T *pGmac, FGmacPs_DmaIrq_T mask)*

描述	* setup interrupt
参数	* @param FGmacPs_Instance_T * pGmac * @param FGmacPs_DmaIrq_T mask
返回值	* @return GMAC_RETURN_CODE_OK;

52. *u8 FGmac_Ps_TxPreamLeng(FGmacPs_Instance_T *pGmac,u32 value)*

描述	* config Preamble Length for Transmit frames
参数	* @param FGmacPs_Instance_T * pGmac * @param u32 value (0 1 2)
返回值	* @return GMAC_RETURN_CODE_OK;

53. *u8 FGmac_Ps_InterFrameGap(FGmacPs_Instance_T *pGmac,u32 gap)*

描述	* config inter frame gap
参数	* @param FGmacPs_Instance_T * pGmac * @param u32 gap value 0-7
返回值	* @return GMAC_RETURN_CODE_OK;