I/O	Air780E PIN Name	Air780EG PIN Name	Air780EX PIN Name	Air700E PIN Name	Powerup default	paddr [7:2]	Alt Func0	Alt Func1	Alt Func2	Alt Func3	Alt Func4	Alt Func5	Alt Func6
SWD (Sleep electricity)	LDO_CTL 97	LDO_CTL 97			I&PU	11	SWCLKA				GPIO12		
	I2C_SCL 67	I2C_SCL 67			I&PU	13	SWCLKC		I2C0_SCL	UART2_DTRn	GPIO14	UART0_DCDn	KPC_R4
	I2C_SDA 66	I2C_SDA 66			I&PU	14	SWDIOC	I2S2_MCLK	I2C0_SDA	UART2_DCDn	GPIO15	UART0_DTRn	KPC_C4
GPIO (Sleep electricity)	USB_BOOT 82	USB_BOOT 82	USB_BOOT 6	USB_BOOT 25	I&PD	15	GPIO0						KPC_R4
	LCD_RST 49	LCD_RST 49			I&PD	16	GPIO1					PWM0	KPC_R3
	MAIN_DCD twenty one	MAIN_DCD twenty one	MAIN_DCD twenty one		I&PU	17	GPIO2		UART1_DTRn		ONEW	PWM1	KPC_R2
	CAM_MCLK 54				I&PU	18	GPIO3	I2S1_MCLK	UART1_DCDn		SPI0_SSn1		KPC_C4
	CAM_SPI_CLK 80				I&PU	19	GPIO4	I2S1_BCLK	I2C1_SDA	ONEW			KPC_R1
	CAM_PWDN 81				I&PU	20	GPIO5	I2S1_LRCK	I2C1_SCL				KPC_R0
	CAM_SPI_D0 55				I&PU	twenty one	GPIO6	I2S1_DIN		UART2_RXD			KPC_C3
	CAM_SPI_D1 56				I&PU	twenty two	GPIO7	I2S1_DOUT		UART2_TXD	ONEW		KPC_C2
	LCD_CS 52	LCD_CS 52		I2C_SDA 33	I&PU	twenty three	GPIO8	SPI0_SSn0	I2C1_SDA	UART2_RTSn			
	LCD_DOUT 50	LCD_DOUT 50		I2C_SCL 49	I&PU	twenty four	GPIO9	SPI0_MOSI	I2C1_SCL	UART2_CTSn			
	AUX_RXD /LCD_RS 28/51	LCD_RS 51	AUX_RXD 28	AUX_RXD 32	I&PU	25	GPIO10	SPI0_MISO		UART2_RXD			
	AUX_TXD /LCD_CLK 29/53	LCD_CLK 53	AUX_TXD 29	AUX_TXD 31	I&PU	26	GPIO11	SPI0_SCLK		UART2_TXD			
	CAM_I2C_SDA 58				I&PU	27	GPIO12	SPI1_SSn0	I2C0_SDA	UART0_RTSn		UART2_RXD	KPC_C1
	CAM_I2C_SCL 57				I&PU	28	GPIO13	SPI1_MOSI	I2C0_SCL	UART0_CTSn		UART2_TXD	KPC_C0
	DBG_RXD 38	DBG_RXD 38	DBG_RXD 38	DBG_RXD 2	I&PU	29		SPI1_MISO		UART0_RXD		PWM0	
	DBG_TXD 39	DBG_TXD 39	DBG_TXD 39	DBG_TXD 3	I&PU	30		SPI1_SCLK		UART0_TXD		PWM1	
	MAIN_CTS twenty two	MAIN_CTS twenty two	MAIN_CTS twenty two		I&PU	31	GPIO16	UART1_RTSn	I2C0_SDA	UART0_RXD	SPI1_SSn1	PWM2	
	MAIN_RTS twenty three	MAIN_RTS twenty three	MAIN_RTS twenty three		I&PU	32	GPIO17	UART1_CTSn	I2C0_SCL	UART0_TXD			
	MAIN_RXD 17	MAIN_RXD 17	MAIN_RXD 17	MAIN_RXD 15	I&PU	33	GPIO18	UART1_RXD				PWM4	
	MAIN_TXD 18	MAIN_TXD 18	MAIN_TXD 18	MAIN_TXD 14	I&PU	34	GPIO19	UART1_TXD					
Audio (Sleep electricity)	I2S_BCK 30	I2S_BCK 30	I2S_BCK 30	I2S_BCK 39	I&PD	35	GPIO29	I2S0_BCLK				PWM1	KPC_C0
	I2S_LRCK 31	I2S_LRCK 31	I2S_LRCK 31	I2S_LRCK 40	I&PD	36	GPIO30	I2S0_LRCK				PWM2	KPC_C1
	I2S_DIN 32	I2S_DIN 32	I2S_DIN 32	I2S_DIN 38	I&PD	37	GPIO31	I2S0_DIN					KPC_C2
	I2S_DOUT 33	I2S_DOUT 33	I2S_DOUT 33	I2S_DOUT 37	I&PD	38		I2S0_DOUT	I2S2_MCLK		GPIO18	PWM4	KPC_C3
	I2S_MCLK 26	I2S_MCLK 26	I2S_MCLK 26	I2S_MCLK 41	I&PD	39		I2S0_MCLK			GPIO19	PWM0	KPC_C4
AON GPIO (Hibernation hold)	AGPIOWU0 102	AGPIOWU0 102		AGPIO0 48	I&PD	40	GPIO20	WAKEUP3					
	AGPIOWU1 107	AGPIOWU1 107		MAIN_RI 5	I&PD	41	GPIO21	WAKEUP4					
	MAIN_DTR 19	MAIN_DTR 19	MAIN_DTR 19	MAIN_DTR 50	I&PD	42	GPIO22	WAKEUP5					
	AGPIO3 99	AGPIO3 99			I&PD	43	GPIO23					PWM0	KPC_R4
	MAIN_RI 20	MAIN_RI 20	MAIN_RI 20		I&PD	44	GPIO24					PWM1	KPC_R3
	AGPIO5 106	AGPIO5 106			I&PD	45	GPIO25					PWM2	KPC_R2
	STATUS 25	STATUS 25	STATUS 25		I&PD	46	GPIO26						KPC_R1
	NET_STATUS 16	NET_STATUS 16	NET_STATUS 16	NET_STATUS 27	I&PD	47	GPIO27					PWM4	KPC_R0
	LCD_TE 78	LCD_TE 78			I&PU	48	GPIO28				ONEW		
WAKEUP (Sleep wake-up Awake)	WAKEUP0 101	WAKEUP0 101		WAKEUP0 29	I&PU			WAKEUP0					
	VBUS 61	VBUS 61	VBUS 2	VBUS 6	I&PD			WAKEUP1					
	USIM_DET 79	USIM_DET 79		WAKEUP2 26	I&PU			WAKEUP2					

Note:

1. AONGPIOThe pin can be held in sleep mode, either high or low.

2. AONGPIOOutput drive capability single pin: can be multiplexed asWAKEUP3/WAKEUP4/WAKEUP5The first threeAONGPIO<=30uA,the remainingAONGPIO<=5mA;allAONGPIOThe total drive current cannot exceed5mA AGPIO3The chip itself is pulled low by default.ATThe

3. firmware is currently changed to pull up normal through software startup initializationGPIOOutput drive capability single pin <=10mA,But the total of all common drive currents cannot exceed 200mA WAKEUPThe pin can only be used as an input interrupt and cannot be set

4. as an output

5.

6. WAKEUPThe pin has a fixed voltage level of 1.8V. Due to the internal voltage division, the internal pull-up voltage level is measured at around 1.1V.

7. WAKEUPThe internal pull-up and pull-down of the pin is very weak, and the driving capability is <30uA;WAKEUP3-WAKEUP5AsAGPIOThe maximum driving capability is also <30uA After the system is in

8. sleep mode, external devices can onlyWAKEUPPin orLPUARTSerial port wake-up,AONGPIOAlthough the power is not cut off in sleep mode, the interrupt cannot be triggered.GPIOAfter hibernation, the

9. processors are in a power-off state and frequently generate high pulses as the system wakes up intermittently to interact with the network.

10. ordinaryGPIOWhen configured in input/interrupt mode, the pull-up and pull-down cannot be set. If the default pull-up and pull-down cannot meet the requirements, you can cancel the default pull-up and pull-down, and then add a pull-down

11. externally. The wakeuppad can be configured with pull-up and pull-down.GPIO20,21,22When configured in interrupt mode,wakeuppadFunction, you can configure pull-up and pull-down, or cancel and use external pull-up and pull-down.

DBG_TX,DBG_RXThe default function is the system bottom log port. When designing the module hardware, avoid usingDBG_TXandDBG_RXIf this pin is multiplexed with other functions, it cannot beDBG_TXandDBG_RXCapture system logs. In some scenarios, if a module fails, the problem log cannot be captured and the problem can only be solved by hardware revision.DBG_TX,DBG_RX, grab the logs and analyze them.

12   Including but not limited to the following two scenarios:

1, Low power consumption scenario:

In low power consumption scenarios,USBCannot be used, only throughDBG_TX,DBG_RXto grab the logs. 2, Non-low

power consumption scenario:

Module accessUSBWhen working normally, no accessUSBWhen the work is abnormal, you can onlyDBG_TX,DBG_RXto grab the logs.

allioAll support interrupts;

13   Can be reused aswakeupofioSupports double edge or high and low level interrupts, and can be used in sleep and wake-up states; OtherioOnly

single-edge or single-level interrupts are supported, which are available in wake-up state but not in sleep state;

14   When the 618 GPIO is used as an input, you can only use/not use the default pull-up and pull-down, and you cannot select the pull-up and pull-down. If you want to use the opposite level of the default pull-up and pull-down, you must turn off the internal pull-up and pull-down, and add an external pull-down.

For 780EG modules with hardware version A12 and shipped after March, the power consumption will be abnormally high when testing low power consumption using AT firmware.

15   The reason is that the GNSS power is turned on by default and not turned off, resulting in abnormal power consumption. This problem has been solved in V1167_AT & V1167_LSAT & V1167_AUAT & 1161_LPAT versions. If there are special reasons and the firmware cannot be upgraded, you need to send two commands "AT+CGNSPWR=1" and "AT+CGNSPWR=0" in sequence when booting up to manually turn off the GPS power.

If you are using 780EA or 780EU modules, after updating to V1167_AT & V1167_LSAT & V1167_AUAT & 1161_LPAT version, the PIN8 pin of the module will be initially pulled low. Other module models will not be affected by this modification. 780E 80/81/55The pins correspond toGPIO4/5/6, the

16   module is internal due to andSIM2The pins are connected together and internal pull-ups are added, resulting in the use of these threegpioThere may be problems with the pull-up and pull-down configurations. It is recommended that customers use othergpio