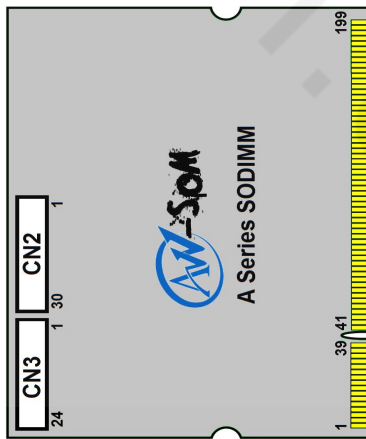
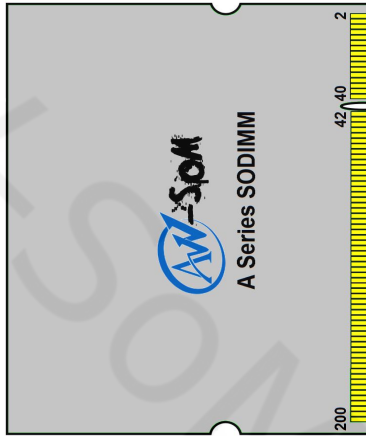




Allwinner based System on Modules

AW-SoM.com



AW-SOM A Series SODIMM Pin Function

POWER INPUT

Port	Location	Reserved			Description
PWRIN	SODIMM-1	PMU			Input Power (3.8-6.3 V)
	SODIMM-2				
	SODIMM-3				
	SODIMM-4				
	SODIMM-5				
	SODIMM-6				

Intelligent Power Supply OUTPUT

Port	Location	Reserved			Description
IPSOUT	SODIMM-11	PMU			Output for external use
	SODIMM-12				
	SODIMM-13				
	SODIMM-14				

TEMPERATURE SENSOR

Port	Location	Reserved			Description
TS	SODIMM-19	Sensor			Options:Default disabled, PMU configurable

BATTERY (Rechargeable)

Port	Location	Reserved			Description
BAT	SODIMM-20	PMU			External Lithium Ion Battery, PMU Configurable
	SODIMM-21				
	SODIMM-22				
	SODIMM-23				
	SODIMM-24				

AW-SOM A Series SODIMM Pin Function

3.3 VDC Supply

Port	Location	Reserved			Description
VCC-3V3	SODIMM-25				Output for external use
	SODIMM-26				

5 VDC Supply

Port	Location	Reserved			Description
VCC-5V	SODIMM-27				Output for external use
	SODIMM-28				

USB0 VBUS

Port	Location	Reserved			Description
USBVBUS	SODIMM-29	PMU			Input Power Source and Output USB Device Power
	SODIMM-30				

External Power Controls

Port	Location	Reserved			Description
EXTEN	SODIMM-31	PMU			Used to enable power systems once PMU output stabilizes

Charge LED

Port	Location	Reserved			Description
CHGLED	SODIMM-32	LED			Battery Charging Indicator

AW-SOM A Series SODIMM Pin Function

USB0 (OTG)¹

Port	Location	Reserved	USB		Description
USBVBUS	SODIMM-29,30	USB0	1		VBUS ²
DM0	SODIMM-33		2		D-
DP0	SODIMM-35		3		D+
USB0-ID	SODIMM-37		4		ID
GND			5		GND

Note 1: Mosfet current limit switch and USBID built into the module

Note 2: VBUS can be used to charge battery or as power source for the module. SODIMM pins are rated at 500mA each.

Review PMU VBUS settings and adjust accordingly.

POWER BUTTON

Port	Location	Reserved			Description
PWRON	SODIMM-34	PMU			optional

RESET BUTTON

Port	Location	Reserved			Description
RESET	SODIMM-36	System			optional

BOOT SELECT BUTTON

Port	Location	Reserved			Description
UBOOT/FEL	SODIMM-38	System			Also known as recovery, recommended feature

LRADC

Port	Location	Reserved			Description
AVCC	SODIMM-43				3.0 VREF for ADC
LRADC1	SODIMM-45				Low Resolution ADC (6bit)
LRADC0	SODIMM-47				Low Resolution ADC (6bit)

AW-SOM A Series SODIMM Pin Function

TOUCH PANEL

Port	Location	Reserved			Description
X2	SODIMM-49				Touch Panel ADC (11bit)
Y2	SODIMM-51				
X1	SODIMM-53				
Y1	SODIMM-55				

HDMI

Port	Location	Reserved	HDMI Type A		Description
HTX2P	SODIMM-79	HDMI	1		TMDS Data2+
HTX2N	SODIMM-77		3		TMDS Data2-
HTX1P	SODIMM-75		4		TMDS Data1+
HTX1N	SODIMM-73		6		TMDS Data1-
HTX0P	SODIMM-71		7		TMDS Data0+
HTX0N	SODIMM-69		9		TMDS Data0-
HTXCP	SODIMM-67		10		TMDS Clock+
HTXCN	SODIMM-65		12		TMDS Clock-
HCEC	SODIMM-63		13		CEC
HSCL	SODIMM-61		15		SCL (I ² C Serial Clock for DDC)
HSDA	SODIMM-59		16		SDA (I ² C Serial Data Line for DDC)
HHPD	SODIMM-57		19		Hot Plug detect

SATA

Port	Location	Reserved	SATA Male		Description
TXP_SATA	SODIMM-91	SATA	2		TXP
TXM_SATA	SODIMM-89		3		TXN
RXM_SATA	SODIMM-85		5		RXN
RXP_SATA	SODIMM-83		6		RXP

AW-SOM A Series SODIMM Pin Function

Ethernet

Port	Location	Reserved	HY911105H	Description
TPTX+	SODIMM-123	Ethernet	1	TD+
TPTX-	SODIMM-125		2	TD-
PWFBOUT	SODIMM-127		4,5	TDCT, RDCT
TPRX-	SODIMM-129		6	RD-
TPRX+	SODIMM-131		3	RD+
LINK	SODIMM-133		10	Green LED -
100ACT	SODIMM-135		12	Yellow LED+

USB1 Host

Port	Location	Reserved	USB	Description
DM1	SODIMM-195	USB1	2	D-
DP1	SODIMM-197		3	D+
USB1-DRV ¹	User Defined			Mosfet current limit switch

Note 1: Strongly recommend a Mosfet current limit switch on USB supply line.

USB2 Host

Port	Location	Reserved	USB	Description
DM2	SODIMM-196	USB2	2	D-
DP2	SODIMM-198		3	D+
USB2-DRV ¹	User Defined			Mosfet current limit switch

Note 1: Strongly recommend a Mosfet current limit switch on USB supply line.

AW-SOM A Series SODIMM Pin Function

Audio Codec

Port	Location	Reserved			Description
VMIC	SODIMM-44	Audio I/O			Microphone ADC Power Output
MICIN1	SODIMM-46				Audio ADC(24 bit) Input for Microphone 1 In
MICIN2	SODIMM-48				Audio ADC(24 bit) Input for Microphone 2 In
MCM	SODIMM-50				Microphone Input Common
LINEINR	SODIMM-52				Audio ADC(24 bit) Input for Left Channel Line In
LINEINL	SODIMM-54				Audio ADC(24 bit) Input for Left Channel Line In
HPL	SODIMM-56				Headphone Left Channel Output
HPR	SODIMM-58				Headphone Right Channel Output

MIC1OUTP	CN3-16	Audio I/O			Microphone 1 Amplifier Output P
MIC1OUTN	CN3-17				Microphone 1 Amplifier Output N
FMINL	CN3-18				Audio ADC(24 bit) Input for Left Channel FM Radio In
FMINR	CN3-19				Audio ADC(24 bit) Input for Left Channel FM Radio In
VMIC	CN3-20				Microphone ADC Power Output
HPR	CN3-21				Headphone Right Channel Output
HPL	CN3-22				Headphone Left Channel Output
HPCOM	CN3-23				Headphone Amplifier Output Common
HPCOMFB	CN3-24				Headphone Amplifier Feedback

TV Encoder

Port	Location	Reserved			Description
VGA-G	CN3-2	TV I/O			TV Analog Output (12bit DAC)
VGA-B	CN3-3				TV Analog Output (12bit DAC)
VGA-R	CN3-4				TV Analog Output (12bit DAC)
CVBS	CN3-5				TV Analog Output (12bit DAC)
TVIN0	CN3-9				TV Analog Input
TVIN1	CN3-10				TV Analog Input
TVIN2	CN3-11				TV Analog Input
TVIN3	CN3-12				TV Analog Input

AW-SOM A Series SODIMM Pin Function

GROUND

Port	Location	Reserved			Description
GND	SODIMM-7	System			Common Ground
	SODIMM-8				
	SODIMM-9				
	SODIMM-10				
	SODIMM-15				
	SODIMM-16				
	SODIMM-17				
	SODIMM-18				
	SODIMM-39				
	SODIMM-40				
	SODIMM-41				
	SODIMM-42				
	SODIMM-60				
	SODIMM-81				
	SODIMM-87				
	SODIMM-88				
	SODIMM-93				
	SODIMM-121				
	SODIMM-137				
	SODIMM-146				
	SODIMM-199				
	SODIMM-200				
	CN2-1				
	CN2-30				
	CN3-1				
CN3-8					
CN3-15					

AW-SOM A Series SODIMM GPIO Function

Port	Location	Reserved	Function						
			0/1	2	3	4	5	6	7
PA0	N.AP.	Ethernet		ERXD3					
PA1	N.AP.	Ethernet		ERXD2					
PA2	N.AP.	Ethernet		ERXD1					
PA3	N.AP.	Ethernet		ERXD0					
PA4	N.AP.	Ethernet		ETXD3					
PA5	N.AP.	Ethernet		ETXD2					
PA6	N.AP.	Ethernet		ETXD1					
PA7	N.AP.	Ethernet		ETXD0					
PA8	N.AP.	Ethernet		ERXCK					
PA9	N.AP.	Ethernet		ERXERR					
PA10	N.AP.	Ethernet		ERXDV					
PA11	N.AP.	Ethernet		EMDC					
PA12	N.AP.	Ethernet		EMDIO					
PA13	N.AP.	Ethernet		ETXEN					
PA14	N.AP.	Ethernet		ETXCK					
PA15	N.AP.	Ethernet		ECRS					
PA16	N.AP.	Ethernet		ECOL					
PA17	N.AP.	Ethernet	RESET						

Port	Location	Reserved	Function						
			0/1	2	3	4	5	6	7
PB0	SODIMM-148	PMU		TWI0_SCK					
PB1	SODIMM-150	PMU		TWI0_SDA					
PB2	SODIMM-152		GPIO	PWM0					
PB3	SODIMM-154		GPIO	IR0_TX					
PB4	SODIMM-156		GPIO	IR0_RX					
PB5	SODIMM-158		GPIO	I2S_MCLK	AC97_MCLK				
PB6	SODIMM-160		GPIO	I2S_BCLK	AC97_BCLK				
PB7	SODIMM-162		GPIO	I2S_LRCK	AC97_SYNC				
PB8	SODIMM-164		GPIO	I2S_DO0	AC97_DO				
PB9	SODIMM-166		GPIO	I2S_DO1					

AW-SOM A Series SODIMM GPIO Function

PB10	SODIMM-168		GPIO	I2S_DO2					
PB11	SODIMM-170		GPIO	I2S_DO3					
PB12	SODIMM-172		GPIO	I2S_DI	AC97_DI				
PB13	SODIMM-174		GPIO	SPI2_CS1					
PB14	SODIMM-176		GPIO	SPI2_CS0	JTAG_MS0				
PB15	SODIMM-178		GPIO	SPI2_CLK	JTAG_CK0				
PB16	SODIMM-180		GPIO	SPI2_MOSI	JTAG_DO0				
PB17	SODIMM-182		GPIO	SPI2_MISO	JTAG_DI0				
PB18	SODIMM-184		GPIO	TWI1_SCK					
PB19	SODIMM-186		GPIO	TWI1_SDA					
PB20	SODIMM-188		GPIO	TWI2_SCK					
PB21	SODIMM-190		GPIO	TWI2_SDA					
PB22	SODIMM-192		GPIO	UART0_TX	IR1_TX				
PB23	SODIMM-194		GPIO	UART0_RX	IR1_RX				

Port	Location	Reserved	Function						
			0/1	2	3	4	5	6	7
PC0	N.AP.	NAND		NWE#					
PC1	N.AP.	NAND		NALE					
PC2	N.AP.	NAND		NCLE					
PC3	N.AP.	NAND		NCE1					
PC4	N.AP.	NAND		NCE0					
PC5	N.AP.	NAND		NRE#					
PC6	N.AP.	NAND		NRB0					
PC7	N.AP.	NAND		NRB1					
PC8	N.AP.	NAND		NDQ0					
PC9	N.AP.	NAND		NDQ1					
PC10	N.AP.	NAND		NDQ2					
PC11	N.AP.	NAND		NDQ3					
PC12	N.AP.	NAND		NDQ4					
PC13	N.AP.	NAND		NDQ5					
PC14	N.AP.	NAND		NDQ6					
PC15	N.AP.	NAND		NDQ7					
PC16	N.AP.	NAND		NWP					

AW-SOM A Series SODIMM GPIO Function

PC17	N.AP.	NAND		NCE2					
PC18	N.AP.	NAND		NCE3					
PC19	N.AP.	USB0	GPIO						
PC20	N.AP.	USB0	GPIO						
PC21	N.AP.	USB0	GPIO						
PC22	CN3-13		GPIO						
PC23	CN3-14		GPIO						
PC24	N.AP.			NDSQ					

Port	Location	Reserved	Function						
			0/1	2	3	4	5	6	7
PD0	CN2-29		GPIO	LCD0_D0	LVDS0_VP0				
PD1	CN2-28		GPIO	LCD0_D1	LVDS0_VN0				
PD2	CN2-27		GPIO	LCD0_D2	LVDS0_VP1				
PD3	CN2-26		GPIO	LCD0_D3	LVDS0_VN1				
PD4	CN2-25		GPIO	LCD0_D4	LVDS0_VP2				
PD5	CN2-24		GPIO	LCD0_D5	LVDS0_VN2				
PD6	CN2-23		GPIO	LCD0_D6	LVDS0_VPC				
PD7	CN2-22		GPIO	LCD0_D7	LVDS0_VNC				
PD8	CN2-21		GPIO	LCD0_D8	LVDS0_VP3				
PD9	CN2-20		GPIO	LCD0_D9	LVDS0_VN3				
PD10	CN2-19		GPIO	LCD0_D10	LVDS1_VP0				
PD11	CN2-18		GPIO	LCD0_D11	LVDS1_VN0				
PD12	CN2-17		GPIO	LCD0_D12	LVDS1_VP1				
PD13	CN2-16		GPIO	LCD0_D13	LVDS1_VN1				
PD14	CN2-15		GPIO	LCD0_D14	LVDS1_VP2				
PD15	CN2-14		GPIO	LCD0_D15	LVDS1_VN2				
PD16	CN2-13		GPIO	LCD0_D16	LVDS1_VPC				
PD17	CN2-12		GPIO	LCD0_D17	LVDS1_VNC				
PD18	CN2-11		GPIO	LCD0_D18	LVDS1_VP3				
PD19	CN2-10		GPIO	LCD0_D19	LVDS1_VN3				
PD20	CN2-9		GPIO	LCD0_D20	CSI1_MCLK				
PD21	CN2-8		GPIO	LCD0_D21	SMC_VPPEN				
PD22	CN2-7		GPIO	LCD0_D22	SMC_VPPPP				
PD23	CN2-6		GPIO	LCD0_D23	SMC_DET				

AW-SOM A Series SODIMM GPIO Function

PD24	CN2-5		GPIO	LCD0_CLK	SMC_VCCEN				
PD25	CN2-4		GPIO	LCD0_DE	SMC_RST				
PD26	CN2-3,CN3-6		GPIO	LCD0_HSYNC	SMC_SCL				
PD27	CN2-2,CN3-7		GPIO	LCD0_VSYNC	SMC_SDA				

Port	Location	Reserved	Function						
			0/1	2	3	4	5	6	7
PE0	SODIMM-97		GPIO	TS0_CLK	CSI0_PCLK				
PE1	SODIMM-99		GPIO	TS0_ERR	CSI0_MCLK				
PE2	SODIMM-101		GPIO	TS0_SYNC	CSI0_HSYNC				
PE3	SODIMM-103		GPIO	TS0_DVLD	CSI0_VSYNC				
PE4	SODIMM-105		GPIO	TS0_D0	CSI0_D0				
PE5	SODIMM-107		GPIO	TS0_D1	CSI0_D1				
PE6	SODIMM-109		GPIO	TS0_D2	CSI0_D2				
PE7	SODIMM-111		GPIO	TS0_D3	CSI0_D3				
PE8	SODIMM-113		GPIO	TS0_D4	CSI0_D4				
PE9	SODIMM-115		GPIO	TS0_D5	CSI0_D5				
PE10	SODIMM-117		GPIO	TS0_D6	CSI0_D6				
PE11	SODIMM-119		GPIO	TS0_D7	CSI0_D7				

Port	Location	Reserved	Function						
			0/1	2	3	4	5	6	7
PF0	SODIMM-134		GPIO	SDC0_D1		JTAG_MS1			
PF1	SODIMM-136		GPIO	SDC0_D0		JTAG_DI1			
PF2	SODIMM-138		GPIO	SDC0_CLK		UART0_TX			
PF3	SODIMM-140		GPIO	SDC0_CMD		JTAG_DO1			
PF4	SODIMM-142		GPIO	SDC0_D3		UART0_RX			
PF5	SODIMM-144		GPIO	SDC0_D2		JTAG_CK1			

Port	Location	Reserved	Function						
			0/1	2	3	4	5	6	7
PG0	SODIMM-64		GPIO	TS1_CLK	CSI1_PCLK	SDC1_CMD			
PG1	SODIMM-66		GPIO	TS1_ERR	CSI1_MCLK	SDC1_CLK			
PG2	SODIMM-68		GPIO	TS1_SYNC	CSI1_HSYNC	SDC1_D0			
PG3	SODIMM-70		GPIO	TS1_DVLD	CSI1_VSYNC	SDC1_D1			

AW-SOM A Series SODIMM GPIO Function

PG4	SODIMM-72		GPIO	TS1_D0	CSI1_D0	SDC1_D2	CSI0_D8		
PG5	SODIMM-74		GPIO	TS1_D1	CSI1_D1	SDC1_D3	CSI0_D9		
PG6	SODIMM-76		GPIO	TS1_D2	CSI1_D2	UART3_TX	CSI0_D10		
PG7	SODIMM-78		GPIO	TS1_D3	CSI1_D3	UART3_RX	CSI0_D11		
PG8	SODIMM-80		GPIO	TS1_D4	CSI1_D4	UART3_RTS	CSI0_D12		
PG9	SODIMM-82		GPIO	TS1_D5	CSI1_D5	UART3_CTS	CSI0_D13		
PG10	SODIMM-84		GPIO	TS1_D6	CSI1_D6	UART4_TX	CSI0_D14		
PG11	SODIMM-86		GPIO	TS1_D7	CSI1_D7	UART4_RX	CSI0_D15		

Port	Location	Reserved	Function						
			0/1	2	3	4	5	6	7
PH0	SODIMM-139		GPIO	LCD1_D0	ATAA0	UART3_TX		EINT0	CSI1_D0
PH1	SODIMM-141		GPIO	LCD1_D1	ATAA1	UART3_RX		EINT1	CSI1_D1
PH2	SODIMM-143		GPIO	LCD1_D2	ATAA2	UART3_RTS		EINT2	CSI1_D2
PH3	SODIMM-145		GPIO	LCD1_D3	ATAIRQ	UART3_CTS		EINT3	CSI1_D3
PH4	SODIMM-147		GPIO	LCD1_D4	ATAD0	UART4_TX		EINT4	CSI1_D4
PH5	SODIMM-149		GPIO	LCD1_D5	ATAD1	UART4_RX		EINT5	CSI1_D5
PH6	SODIMM-151		GPIO	LCD1_D6	ATAD2	UART5_TX	MS_BS	EINT6	CSI1_D6
PH7	SODIMM-153		GPIO	LCD1_D7	ATAD3	UART5_RX	MS_CLK	EINT7	CSI1_D7
PH8	SODIMM-155		GPIO	LCD1_D8	ATAD4	KP_IN0	MS_D0	EINT8	CSI1_D8
PH9	SODIMM-157		GPIO	LCD1_D9	ATAD5	KP_IN1	MS_D1	EINT9	CSI1_D9
PH10	SODIMM-159		GPIO	LCD1_D10	ATAD6	KP_IN2	MS_D2	EINT10	CSI1_D10
PH11	SODIMM-161		GPIO	LCD1_D11	ATAD7	KP_IN3	MS_D3	EINT11	CSI1_D11
PH12	SODIMM-163		GPIO	LCD1_D12	ATAD8	PS2_SCK1		EINT12	CSI1_D12
PH13	SODIMM-165		GPIO	LCD1_D13	ATAD9	PS2_SDA1	SMC_RST	EINT13	CSI1_D13
PH14	SODIMM-167		GPIO	LCD1_D14	ATAD10	KP_IN4	SMC_VPPEN	EINT14	CSI1_D14
PH15	SODIMM-169		GPIO	LCD1_D15	ATAD11	KP_IN5	SMC_VPPPP	EINT15	CSI1_D15
PH16	SODIMM-171		GPIO	LCD1_D16	ATAD12	KP_IN6	SMC_DET	EINT16	CSI1_D16
PH17	SODIMM-173		GPIO	LCD1_D17	ATAD13	KP_IN7	SMC_VCCEN	EINT17	CSI1_D17
PH18	SODIMM-175		GPIO	LCD1_D18	ATAD14	KP_OUT0	SMC_SCK	EINT18	CSI1_D18
PH19	SODIMM-177		GPIO	LCD1_D19	ATAD15	KP_OUT1	SMC_SDA	EINT19	CSI1_D19
PH20	SODIMM-179		GPIO	LCD1_D20	ATAOE	CAN_TX		EINT20	CSI1_D20
PH21	SODIMM-181		GPIO	LCD1_D21	ATADREQ	CAN_RX		EINT21	CSI1_D21
PH22	SODIMM-183		GPIO	LCD1_D22	ATADACK	KP_OUT2	SDC1_CMD		CSI1_D22
PH23	SODIMM-185		GPIO	LCD1_D23	ATACS0	KP_OUT3	SDC1_CLK		CSI1_D23

AW-SOM A Series SODIMM GPIO Function

PH24	SODIMM-187		GPIO	LCD1_CLK	ATACS1	KP_OUT4	SDC1_D0		CSI1_PCLK
PH25	SODIMM-189		GPIO	LCD1_DE	ATAIORDY	KP_OUT5	SDC1_D1		CSI1_FIELD
PH26	SODIMM-191		GPIO	LCD1_HSYNC	ATAIOR	KP_OUT6	SDC1_D2		CSI1_HSYNC
PH27	SODIMM-193		GPIO	LCD1_VSYNC	ATAIOW	KP_OUT7	SDC1_D3		CSI1_VSYNC

Port	Location	Reserved	Function						
			0/1	2	3	4	5	6	7
PI0	SODIMM-90		GPIO	GPS_CLK	TWI3_SCK				
PI1	SODIMM-92		GPIO	GPS_SIG	TWI3_SDA				
PI2	SODIMM-94		GPIO	GPS_MAG	TWI4_SCK				
PI3	SODIMM-96		GPIO	PWM1	TWI4_SDA				
PI4	SODIMM-98		GPIO	SDC3_CMD					
PI5	SODIMM-100		GPIO	SDC3_CLK					
PI6	SODIMM-102		GPIO	SDC3_D0					
PI7	SODIMM-104		GPIO	SDC3_D1					
PI8	SODIMM-106		GPIO	SDC3_D2					
PI9	SODIMM-108		GPIO	SDC3_D3					
PI10	SODIMM-110		GPIO	SPI0_CS0	UART5_TX			EINT22	
PI11	SODIMM-112		GPIO	SPI0_CLK	UART5_RX			EINT23	
PI12	SODIMM-114		GPIO	SPI0_MOSI	UART6_TX			EINT24	
PI13	SODIMM-116		GPIO	SPI0_MISO	UART6_RX			EINT25	
PI14	SODIMM-118		GPIO	SPI0_CS1	PS2_SCK1	TCLKIN0		EINT26	
PI15	SODIMM-120		GPIO	SPI1_CS1	PS2_SDA1	TCLKIN1		EINT27	
PI16	SODIMM-122		GPIO	SPI1_CS0	UART2_RTS			EINT28	
PI17	SODIMM-124		GPIO	SPI1_CLK	UART2_CTS			EINT29	
PI18	SODIMM-126		GPIO	SPI1_MOSI	UART2_TX			EINT30	
PI19	SODIMM-128		GPIO	SPI1_MISO	UART2_RX			EINT31	
PI20	SODIMM-130		GPIO	PS2_SCK0	UART7_TX			HSCL	
PI21	SODIMM-132		GPIO	PS2_SDA0	UART7_RX			HSDA	