Beaglebone Black P9 Header

Head pin	ŚPINS.	ADDR/OFFSET	Name	GPIO NO.	Mode7	Mode6	Mode5	Mode4	Mode3	Mode2	Mode1	Mode0	PIN	Notes
P9_01	ŞI IIIS	ADDIGOTTSET	GND	di lo lio.	Moder	Widaco	Wiodes	Wiodca	Widdes	WOUCE	Wiodel	Modeo		Ground
P9 02			GND											Ground
P9 03			DC 3.3V											250mA Max Current
P9_03			DC_3.3V											250mA Max Current
P9_05			VDD 5V											1A Max Current (only if DC jack powered)
P9 06			VDD 5V											1A Max Current (only if DC jack powered)
P9 07			SYS 5V											250mA Max Current
P9_08			SYS_5V											250mA Max Current
P9 09			PWR BUT											Has a 5V Level (pulled up by TPS65217C)
P9 10			SYS_RESETn									RESET OUT	A10	has a 54 Ecver (panea up by 11 505217e)
P9_11	28	0x870/070	UART4 RXD	30	gpio0[30]	uart4 rxd mux2		mmc1 sdcd	rmii2 crs dv	gpmc_csn4	mii2 crs	gpmc_wait0	T17	NB: GPIOs limit current to 4-6mA output
P9_12	30	0x878/078	GPIO1_28	60	gpio1[28]	mcasp0_aclkr_mux3		gpmc_dir	mmc2_dat3	gpmc_csn6	mii2_col	gpmc_be1n	U18	and approx. 8mA on input.
P9 13	29	0x874/074	UART4 TXD	31	gpio0[31]	uart4 txd mux2		mmc2 sdcd	rmii2 rxerr	gpmc_csn5	mii2 rxerr	gpmc_wpn	U17	and approxicement input
P9 14	18	0x848/048	EHRPWM1A	50	gpio1[18]	ehrpwm1A mux1		gpmc_a18	mmc2 dat1	rgmii2_td3	mii2_txd3	gpmc_a2	U14	
P9_15	16	0x840/040	GPIO1 16	48	gpio1[16]	ehrpwm1_tripzone_input		gpmc_a16	mii2 txen	rmii2 tctl	gmii2_txen	gpmc_a0	R13	
P9 16	19	0x84c/04c	EHRPWM1B	51	gpio1[10]	ehrpwm1B mux1		gpmc_a19	mmc2 dat2	rgmii2_td2	mii2 txd2	gpmc_a3	T14	
P9_17	87	0x95c/15c	I2C1 SCL	5	gpio0[5]	CIII PWIII I I I I I I I I I I I I I I I		pr1_uart0_txd	ehrpwm0_synci	I2C1_SCL	mmc2_sdwp	spi0_cs0	A16	
P9_18	86	0x958/158	I2C1_SDA	4	gpio0[3]			pr1_uart0_rxd	ehrpwm0_synci	I2C1_SDA	mmc1_sdwp	spi0_cs0	B16	
P9_19	95	0x97c/17c	I2C2_SCL	13	gpio0[4]		pr1_uart0_rts_n	spi1_cs1	I2C2_SCL	dcan0_rx	timer5	uart1_rtsn	D17	Allocated (Group: pinmux i2c2 pins)
P9 20	94	0x978/178	I2C2 SDA	12	gpio0[13]		pr1_uart0_cts_n	spi1_cs0	I2C2 SDA	dcan0_tx	timer6	uart1_rtsn	D18	Allocated (Group: pinmux_i2c2_pins)
P9 21	85	0x954/154	UART2 TXD	3	gpio0[12]	EMU3 mux1	pri_durto_cts_rr	pr1_uart0_rts_n	ehrpwm0B	I2C2 SCL	uart2 txd	spi0 d0	B17	Allocated (Group: pilitiax_12c2_pilis)
P9_22	84	0x950/150	UART2 RXD	2	gpio0[3]	EMU2 mux1		pr1_uart0_cts_n	ehrpwm0A	I2C2_SDA	uart2_rxd	spi0_sclk	A17	
P9 23	17	0x844/044	GPIO1 17	49	gpio0[2]	ehrpwm0_synco		gpmc_a17	mmc2_dat0	rgmii2_rxdv	gmii2_rxdv	gpmc_a1	V14	
P9 24	97	0x984/184	UART1 TXD	15	gpio0[17]	pr1_pru0_pru_r31_16	pr1 uart0 txd	gpilic_a17	I2C1 SCL	dcan1 rx	mmc2 sdwp	uart1 txd	D15	
P9_25	107	0x9ac/1ac	GPIO3 21	117	gpio3[21]	pr1_pru0_pru_r31_7	pr1 pru0 pru r30 7	EMU4 mux2	mcasp1 axr1	mcasp0_axr3	eQEP0 strobe	mcasp0 ahclkx	A14	Allocated (Group: mcasp0_pins)
P9_26	96	0x980/180	UART1_RXD	14	gpio3[21] gpio0[14]	pr1_pru1_pru_r31_16	pr1_prdo_prd_rsd_/	LIVIO4_IIIUX2	I2C1 SDA	dcan1_tx	mmc1_sdwp	uart1_rxd	D16	Allocated (Group: Ilicaspo_pilis)
P9 27	105	0x9a4/1a4	GPIO3 19	115	gpio3[14]	pr1_pru0_pru_r31_5	pr1_pru0_pru_r30_5	EMU2 mux2	mcasp1_fsx	mcasp0_axr3	eQEPOB in	mcasp0 fsr	C13	
P9_28	103	0x99c/19c	SPI1_CS0	113	gpio3[17]	pr1_pru0_pru_r31_3	pr1_pru0_pru_r30_3	eCAP2 in PWM2 out	spi1_cs0	mcasp0_axr2	ehrpwm0_synci	mcasp0_ahclkr	C12	Allocated (Group: mcasp0_pins)
P9 29	101	0x994/194	SPI1_C30	111	gpio3[17]	pr1_pru0_pru_r31_1	pr1_pru0_pru_r30_1	mmc1 sdcd mux1	spi1_cs0	IIIcaspo_axi2	ehrpwm0B	mcasp0_anciki mcasp0_fsx	B13	Allocated (Group: mcasp0_pins) Allocated (Group: mcasp0_pins)
P9 30	102	0x998/198	SPI1_D0	112	gpio3[15]	pr1_pru0_pru_r31_2	pr1_pru0_pru_r30_2	mmc2_sdcd_mux1	spi1_d0		ehrpwm0_tripzone	mcasp0_isx mcasp0_axr0	D12	Allocated (Group: mcaspo_pins) Allocated? Mcasp0 pins? Check
P9_31	100	0x990/190	SPI1_DI	110	gpio3[10]	pr1_pru0_pru_r31_0	pr1_pru0_pru_r30_0	mmc0_sdcd_mux1	spi1_sclk		ehrpwm0A	mcasp0_aclkx	A13	Allocated (Group: mcasp0_pins)
P9_32	100	0,000,100	VADC	110	gpi03[14]	pri_pruo_pru_rsi_o	pri_pruo_pru_rso_o	minico_saca_maxi	spii_scik		empwinoA	IIIcaspo_acikx	AIS	Voltage Reference for ADC (NB: 1.8V)
P9_33			AIN4										C8	NB: 1.8V tolerant
P9_33			AGND										Co	Ground for ADC
P9_35			AIN6										A8	NB: 1.8V tolerant
P9_36			AIN5										B8	NB: 1.8V tolerant
P9_37			AIN2										B7	NB: 1.8V tolerant
P9_38			AIN3										A7	NB: 1.8V tolerant
P9_38			AIN0										B6	NB: 1.8V tolerant
P9_39 P9_40			AIN1										C7	NB: 1.8V tolerant
P9_40	109	0x9b4/1b4	CLKOUT2	20	gpio0[20]	EMU3_mux0	pr1_pru0_pru_r31_16	timer7 mux1	clkout2	tclkin		xdma_event_intr1	D14	Both signals are connected to P21 of P11
P9_41A P9_41B	103	0x9b4/1b4 0x9a8/1a8	GPIO3 20	116	gpio0[20]	pr1 pru0 pru r31 6	pr1_pru0_pru_r31_16 pr1_pru0_pru_r30_6	emu3	Mcasp1 axr0	CURIII	eQEP0 index	mcasp0_axr1	D14	Both signals are connected to P21 of P11 Both signals are connected to P21 of P11
P9_41B P9_42A	89	0x964/164	GPIO3_20	7	gpio3[20]	xdma event intr2	mmc0 sdwp	spi1 sclk	pr1_ecap0_ecap_capin_apwm_o	spi1 cs1	uart3 txd	eCAPO in PWM0 out	C18	Both signals are connected to P21 of P11 Both signals are connected to P22 of P11
F3_42A	03	0.004/104	GF100_/	,	gpioo[/]	Adma_event_mtr2	mmco_sawp	Shit_2cik	hit_ecaho_ecah_cahiii_ahwiii_0	shiT_cs1	uai to_txu	ecaro_iii_rvvivio_out	C19	Both signals are connected to P22 of P11 Both signals are connected to P22 of P11
P9_42B		0x9a0/1a0	GPIO3 18	114	gpio3[18]	pr1_pru0_pru_r31_4	pr1_pru0_pru_r30_4		Mcasp1_aclkx	Mcaspo_axr2	eQEP0A in	Mcasp0_aclkr	B12	Allocated (Group:mcasp0_pins)
P9_42B P9_43		0X34U/ 14U	GND GND	114	ghina[19]	pri_pruo_pru_rsi_4	pri_pru0_pru_rs0_4		ivicash1_acikx	ivicaspo_axt2	eqeron_iii	ivicaspo_aciki	DIZ	- See Pg.50 of the SRM
P9_43 P9_44			GND											- See Pg.50 of the Skivi Ground
P9_44 P9_45			GND											Ground
			GND											
P9_46			GND											Ground
DO Hooder	cat \$PINS	ADDR +	Name	GPIO NO.	Mode 7						Mode 1	Mode 0	CPU	For updates see: www.derekmolloy.ie Notes
P9 Header		44e10000	Name		Mode 7			CDIO C-111			Mode 1	ivioue u	CPU	
	Allocated			(Mode 7)		D'I C	D'1 E	GPIO Settings	811.2	D'1 2 4 0				Please e-mail me directly at:
		Offset from:				Bit 6	Bit 5	Bit 4	Bit 3	Bit 2,1,0				derek@derekmolloy.ie

¹ Enable 1 Pullup select 1 Disable e.g. OUTPUT GPIO(mode7) 0x07 pulldown, 0x17 pullup, 0x?f no pullup/down

Pullup/Pulldown

0 Pulldown select

0 Disable

Slew Control

0 Fast

1 Slow

44e10800

Enable Pullup/Pulldown

0 Enabled

Mux Mode

000 Mode 0 to

111 Mode 7

if you notice a mistake

Thanks Frank for the PRU work!

e.g. INPUT GPIO(mode7) 0x27 pulldown, 0x37 pullup, 0x?f no pullup/down