PIM (U1A) Pin Number	Classic Explorer 16 Net Name	Explorer 16/32 Net Name	PICtail Plus (J9) Pin Number	Special Notes/Purpose
1	RG15	P1_VBUS	65	Used as +5V VBUS signal on USB capable PIMs, or GPIO on non-USB PIMs. Explorer 16/32 has 2k series resistance and voltage clamp between PIM and PICtail™+ pin 65 (protects non-USB PIMs that may not have 5V tolerance on this pin).
2	VDD	VDD_PIM	(21, 22, 53, 54, 107, 108 go to 3.3V) (117, 118 go to VDD_PIM)	
3	RE5/PMD5	P3_LCDD5	114	LCD module data line. Upper bits (LCDD4-LCDD7) required for 4-bit mode.
4	RE6/PMD6	P4_LCDD6	115	LCD module data line. Upper bits (LCDD4-LCDD7) required for 4-bit mode.
5	RE7/PMD7	P5_LCDD7	116	LCD module data line. Upper bits (LCDD4-LCDD7) required for 4-bit mode.
6	RC1	P6	85	GPIO
7	RC2	P7	86	GPIO
8	RC3	P8	87	GPIO
9	RC4	P9	88	GPIO
10	RG6/PMA5/SCK2	P10_SCKA	35	SPI interface for PICtail+ and mikroBUS™ A daughter boards.
11	RG7/PMA4/SDI2	P11_MISOA	37	SPI interface for PICtail+ and mikroBUS A daughter boards.
12	RG8/PMA3/SDO2	P12_MOSIA	39	SPI interface for PICtail+ and mikroBUS A daughter boards.
13	PIMMCLR	P13_MCLR	78	PIM MCLR Reset line with user pushbutton.
14	RG9/PMA2/SS2	P14_CSA	33	SPI interface (chip select) for PICtail+ and mikroBUS A daughter boards.
15	VSS	VSS	9, 10, 15, 16, 41, 42, 47, 48, 119, 120	
16	VDD	VDD_PIM	(21, 22, 53, 54, 107, 108 go to 3.3V) (117, 118 go to VDD_PIM)	
17	RA0/TMS	P17_LED3	69	General purpose green LED D3.
18	RE8/INT1	P18_INTB	18	On Exp 16/32: mikroBUS B INT signal (interrupt or GPIO)
19	RE9/INT2	P19_RSTB	17	On Exp 16/32: mikroBUS B RST signal (reset or GPIO)
20	RB5/AN5	P20_POT	77	Connects to 10k potentiometer R6
21	RB4/AN4	P21_TEMP	14	Connects to TC1047A temperature sensor.
22	RB3/AN3	P22	13	GPIO
23	RB2/SS1/AN2	P23_CSB	1	SPI interface (chip select) for PICtail+ and mikroBUS B daughter boards.
24	RB1/AN1	P24_ANB	12	On Exp 16/32: mikroBUS B AN signal (analog)
25	RB0/AN0	P25_ANA_USBOC	11	On Exp 16/32: mikroBUS A AN signal (analog). Also used for USB host mode overcurrent sensing (when J33 is capped).
26	RB6/AN6	P26_PGC	75	PIM programming/debug clock line. Has weak pull down.
27	RB7/AN7	P27_PGD	76	PIM programming/debug data line. Has weak pull down.
28	RA9/PMA7	P28	45	GPIO
29	RA10/PMA6	P29	46	GPIO
30	AVDD	VDD_PIM	(21, 22, 53, 54, 107, 108 go to 3.3V) (117, 118 go to VDD_PIM)	
31	AVSS	VSS	9, 10, 15, 16, 41, 42, 47, 48, 119, 120	
32	RB8/AN8	P32_CC2	43	On Exp 16/32: USB-C™ Connector Configuration Channel 2 sense line (analog).
33	RB9/AN9	P33_CC1	44	On Exp 16/32: USB-C Connector Configuration Channel 1 sense line (analog).
34	RB10/PMA13	P34	79	GPIO
35	RB11/PMA12	P35	80	GPIO
36	VSS	VSS	9, 10, 15, 16, 41, 42, 47, 48, 119, 120	
37	VDD	VDD_PIM	(21, 22, 53, 54, 107, 108 go to 3.3V) (117, 118 go to VDD_PIM)	
38	RA1/TCK	P38_LED4	70	General purpose green LED D4.
39	RF13/U2RTS	P39	52	
40	RF12/U2CTS	P40	51	
41	RB12/PMA11	P41	81	Control signal for direction control MUX on classic Explorer 16.
42	RB13/PMA10	P42	82	Control signal for direction control MUX on classic Explorer 16.
43	RB14/PMA1	P43	83	Control signal for direction control MUX on classic Explorer 16.
44	RB15/PMA0	P44_LCDRS	84	
45	VSS	VSS	9, 10, 15, 16, 41, 42, 47, 48, 119, 120	
46	VDD	VDD_PIM	(21, 22, 53, 54, 107, 108 go to 3.3V) (117, 118 go to VDD_PIM)	
47	RD14/U1CTS	P47	19	Direction controlled by MUX on classic Explorer 16.
48	RD15/U1RTS	P48	20	Direction controlled by MUX on classic Explorer 16.
49	RF4/PMPA9/U2RX	P49_RXB	34	Connects to MCP2221A (Exp 16/32) USB-Serial adapter or RS232 translator (Exp 16). On Exp 16/32, also goes to mikroBUS B.
50	RF5/PMPA8/U2TX	P50_TXB	36	Connects to MCP2221A (Exp 16/32) USB-Serial adapter or RS232 translator (Exp 16). On Exp 16/32, also goes to mikroBUS B.
51	RF3/U1TX	P51_TXA	4	UART interface for PICtail+ and mikroBUS A daughter boards. Direction controlled by MUX on classic Explorer 16.
52	RF2/U1RX	P52_RXA	2	UART interface for PICtail+ and mikroBUS A daughter boards. Direction controlled by MUX on classic Explorer 16.
53	RF8/SDO1	P53_MOSIB	7	SPI interface for PICtail+ and mikroBUS B daughter boards. Direction controlled by MUX on classic Explorer 16.
54	RF7/SDI1	P54_MISOB	5	SPI interface for PICtail+ and mikroBUS B daughter boards. Direction controlled by MUX on classic Explorer 16.
55	RF6/SCK1	P55_SCKB	3	SPI interface for PICtail+ and mikroBUS B daughter boards.
56	RG3/SDA1	P56_SDA	8	I2C Interface data line. Shared between mikroBUS A and B.
57	RG2/SCL1	P57_SCL	6	I2C Interface clock line. Shared between mikroBUS A and B.
58	RA2/SCL2	P58_LED5	38	General purpose green LED D5.
59	RA3/SDA2	P59_LED6	40	General purpose green LED D6.
60	RA4/TDI	P60_LED7	71	General purpose green LED D7.
61	RA5/TDO	P61_LED8	72	General purpose green LED D8.
62	VDD	VDD_PIM	(21, 22, 53, 54, 107, 108 go to 3.3V) (117, 118 go to VDD_PIM)	
63	OSC1 (RC12/CLKI)	P63_OSCI	(accessible on pin 59 via two DNP resistors on Exp 16/32)	Crystal pin. For best signal quality, normally does not connect to PICtail+ connector (unless two DNP resistors installed on Exp 16/32).
64	OSC2 (RC15/CLKO)	P64_OSCO	No Connection	Crystal pin, for best signal quality, no access to PICtail+ connector.

PIM (U1A) Pin Number	Classic Explorer 16 Net Name	Explorer 16/32 Net Name	PICtail Plus (J9) Pin Number	Special Notes/Purpose
65	VSS	VSS	9, 10, 15, 16, 41, 42, 47, 48, 119, 120	
66	RA14/INT3	P66	50	GPIO
67	RA15/INT4	P67_INTA	49	On Exp 16/32: mikroBUS A INT signal (interrupt or GPIO)
68	RD8 (RTCC/IC1)	P68	101	GPIO
69	RD9 (IC2)	P69	102	GPIO
70	RD10/PMCS2	P70	103	GPIO
71	RD11/PMCS1	P71	104	GPIO
72	RD0 (OC1)	P72_PWMA	93	On Exp 16/32: mikroBUS A PWM signal (PWM output or GPIO)
73	RC13	P73_SOSCI	(89 - when DNP resistor populated)	32.768kHz crystal pin. For best signal quality, no access to PICtail+ connector, unless DNP resistor is populated.
74	RC14	P74_SOSCO	(90 - when DNP resistor populated)	32.768kHz crystal pin. For best signal quality, no access to PICtail+ connector, unless DNP resistor is populated.
75	VSS	VSS	9, 10, 15, 16, 41, 42, 47, 48, 119, 120	
76	RD1	P76	94	GPIO
77	RD2	P77	95	GPIO
78	RD3/PMBE	P78_PWMB	96	On Exp 16/32: mikroBUS B PWM signal (PWM output or GPIO)
79	RD12	P79_EECS	105	SPI EEPROM (25LC256) chip select. Drive high, except when accessing EEPROM.
80	RD13	P80_S4	106	General purpose pushbutton S4 (with pull-up resistor).
81	RD4/PMWR	P81_LCDE	97	LCD "E" signal (required for 4-bit and 8-bit modes).
82	RD5/PMRD	P82_LCDRW	98	LCD "R/W" signal (recommended to drive logic low for write mode to avoid I/O contention when using LCD data lines as GPIO).
83	RD6	P83_S3	99	General purpose pushbutton S3 (with pull-up resistor).
84	RD7	P84_S6	100	General purpose pushbutton S6 (with pull-up resistor).
85	VDDCORE	P85_VDDCORE	No Connection	
86	ENVREG	P86_ENVREG	No Connection	
87	RF0	P87	28	GPIO
88	RF1	P88	30	GPIO
89	RG1	P89_USBDN	29, 62	On Explorer 16/32, this signal only connects to the PICtail+ Interface when J26 is capped. Used for D- on USB PIMs.
90	RG0	P90_USBDP	27, 60	On Explorer 16/32, this signal only connects to the PICtail+ Interface when J25 is capped. Used for D+ on USB PIMs.
91	RA6	P91_LED9	73	General purpose green LED D9.
92	RA7	P92_S5_LED10	74	General purpose green LED D10. Also multiplexed with pushbutton S5 and pull-up resistor.
93	RE0/PMD0	P93_LCDD0	109	LCD module data line. Unused in 4-bit mode.
94	RE1/PMD1	P94_LCDD1	110	LCD module data line. Unused in 4-bit mode.
95	RG14	P95_RSTA	68	On Exp 16/32: mikroBUS A RST signal (reset or GPIO)
96	RG12	P96_VBUSON	67	On Exp 16/32: Enables +5V output onto USB-C connector (based on J22 setting), for USB host mode applications. GPIO for other applications.
97	RG13	P97	66	GPIO
98	RE2/PMD2	P98_LCDD2	111	LCD module data line. Unused in 4-bit mode.
99	RE3/PMD3	P99_LCDD3	112	LCD module data line. Unused in 4-bit mode.
100	RE4/PMD4	P100_LCDD4	113	LCD module data line. Upper bits (LCDD4-LCDD7) required for 4-bit mode.
PICtail Plus Pins (without corresponding PIM pins)				
N/A	5V	5V	23, 24, 55, 56	5V power supply rail.
N/A	9V	9V	25, 26, 57, 58	"9V" power supply rail. Note: Could be 8V-15V, based on user's wall cube, or <= 5V if running from USB bus power only.
N/A	N/A	N/A	31, 32, 61, 63, 64, 91, 92	These PICtail+ pins are not connected to anything. Some are unimplemented due to the routed slots in the connector, others are unused.