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Target MCU: LPC1769

Page 3

Ethernet PHY Interface

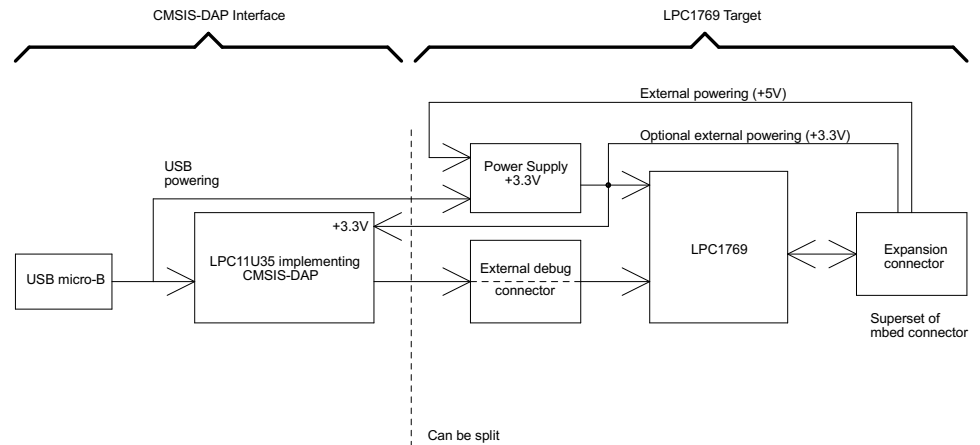
Page 4

LPCXpresso expansion connector

Page 5

CMSIS-DAP interface

Design Overview



NXP board number: OM13085

UL = UnLoaded = normally not mounted component.

Default jumper settings are indicated in the schematic. However, always check jumper positions on actual boards since there is no guarantee that all jumpers are in default place.

Rev D1

Changed R57 to UL. Added JP4.

Rev D

Original release with CMSIS-DAP debug interface.



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TITLE: LPCXpresso LPC1769 CMSIS-DAP rev D1

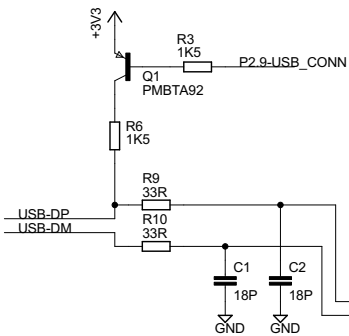
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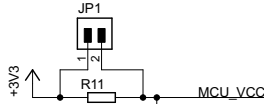
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Target MCU: LPC1769

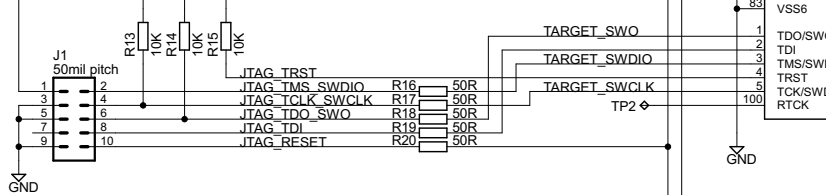
USB pullup for USB Device operation



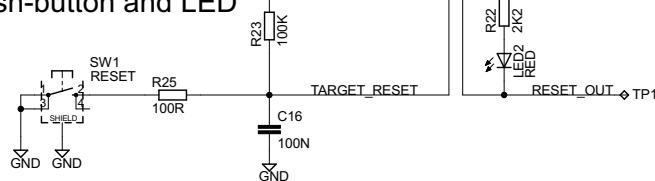
R95 can be replaced to measure current



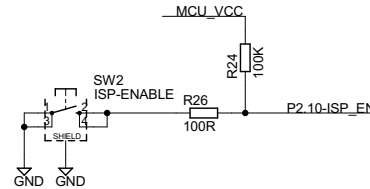
Debug connector (SWD/JTAG)



RESET push-button and LED

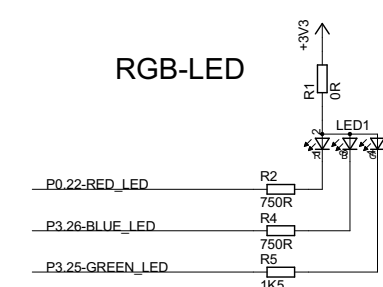



Bootload enable



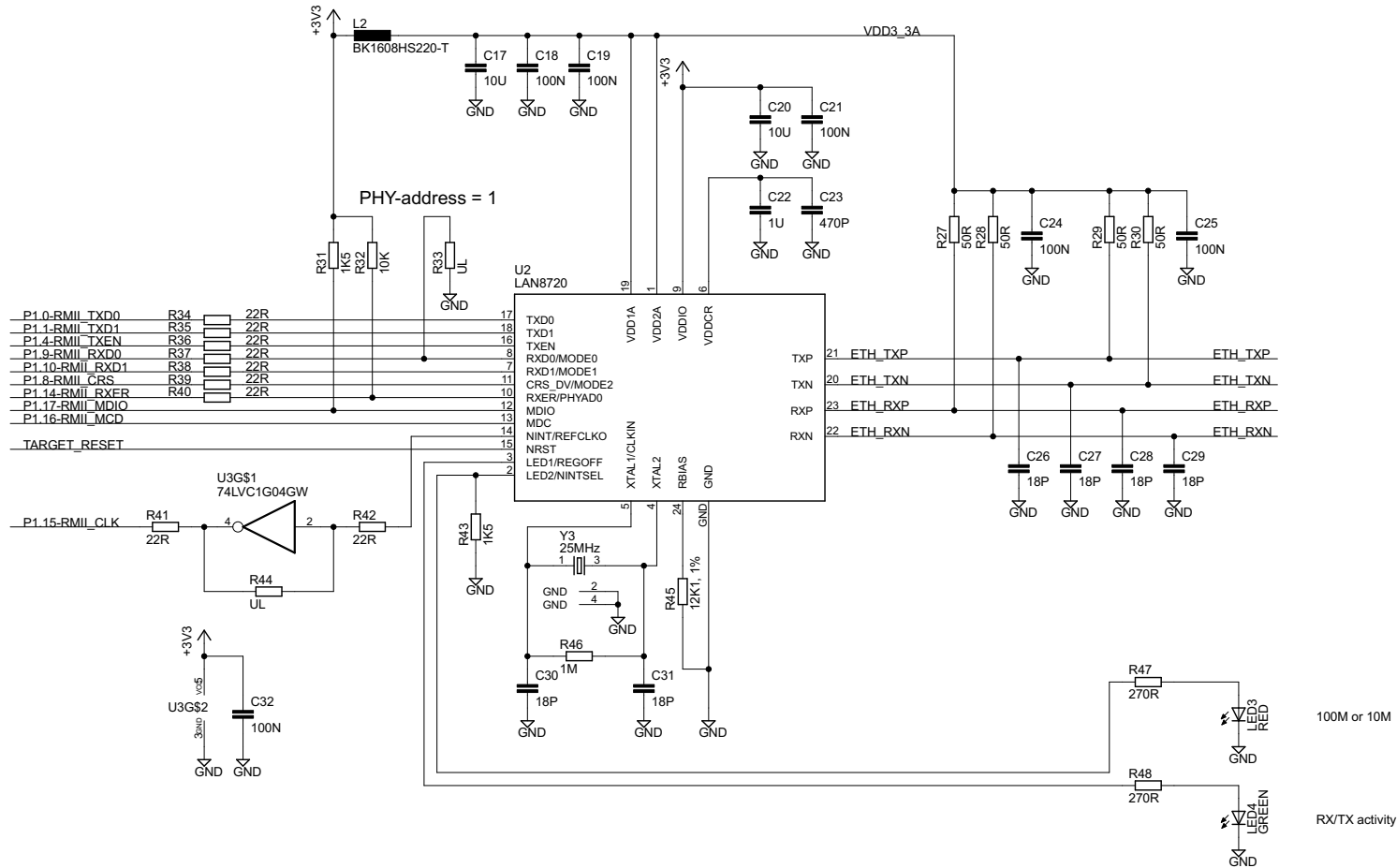
U1 LPC1769FBD100			
P0.0	46	P1[0]/ENET_TXD0	95
P0.1	47	P1[1]/ENET_TXD1	94
P0.2	98	P1[4]/ENET_TX_EN	93
P0.3	99	P1[8]/ENET_CRS	92
P0.4	81	P1[9]/ENET_RXD0	91
P0.5	80	P1[10]/ENET_RXD1	90
P0.6	79	P1[14]/ENET_RX_ER	89
P0.7	78	P1[15]/ENET_REF_CLK	88
P0.8	77	P1[16]/ENET_MDC	87
P0.9	76	P1[17]/ENET_MDIO	86
P0.10	48	P1[18]/USB_UP_LED/PWM1[1]/CAP1[0]	85
P0.11	49	P1[19]/MCOA0/USB_PPWR/CAP1[1]	84
P0.15	62	P1[20]/MCI0/PWM1[2]/SCK0	83
P0.16	63	P1[21]/MCA0RT/PWM1[3]/SSEL0	82
P0.17	61	P1[22]/MCOB0/USB_PPWR/MAT1[0]	81
P0.18	60	P1[23]/MCI1/PWM1[4]/MISO0	80
P0.19	59	P1[24]/MCI2/PWM1[5]/MISO0	79
P0.20	58	P1[25]/MCOA1/MAT1[1]	78
P0.21	57	P1[26]/MCOB1/PWM1[6]/CAP0[0]	77
P0.22-RED_LED	56	P1[27]/CLKOUT/USB_OVRCR/CAP0[1]	76
P0.23	9	P1[28]/MCOA2/PCAP1[0]/MAT0[0]	75
P0.24	8	P1[29]/MCOB2/PCAP1[1]/MAT0[1]	74
P0.25	7	P1[30]/VBUS/AD0[4]	73
P0.26	6	P1[31]/SCK1/AD0[5]	72
P0.27-I2C_SDA	25	P2[0]/PWM1[1]/TXD1	71
P0.28-I2C_SCL	24	P2[1]/PWM1[2]/RXD1	70
P0.29	23	P2[2]/PWM1[3]/CTS1/TRACEDATA[3]	69
P0.30	30	P2[3]/PWM1[4]/DCD1/TRACEDATA[2]	68
		P2[4]/PWM1[5]/DSR1/TRACEDATA[1]	67
		P2[5]/PWM1[6]/DTR1/TRACEDATA[0]	66
		P2[6]/PCAP1[0]/R11/TRACECLK	65
		P2[7]/RD2/RTS1	64
		P2[8]/TD2/TXD2/ENET_MDC	63
		P2[9]/USB_CONNECT/RXD2/ENET_MDIO	62
		P2[10]/EINT0/NMI	61
		P2[11]/EINT1/I2STX_CLK	60
		P2[12]/EINT2/I2STX_WS	59
		P2[13]/EINT3/I2STX_SDA	58
		P3[25]/MAT0[0]/PWM1[2]	57
		P3[26]/STCLK/MAT0[1]/PWM1[3]	56
		P4[28]/RX_MCLK/MAT2[0]/TXD3	55
		P4[29]/TX_MCLK/MAT2[1]/RXD3	54
		RTCX1	53
		RTCX2	52
		XTAL1	51
		XTAL2	50
		NC	49
		UL	48
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RGB-LED

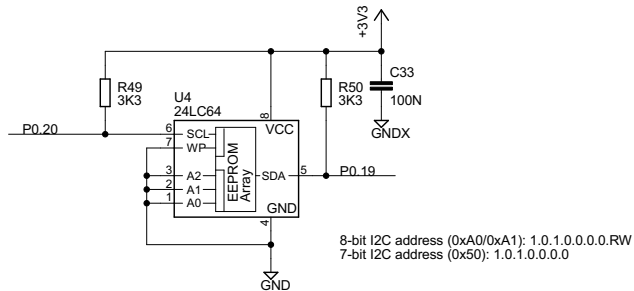



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100/10M Ethernet PHY



I2C-E2PROM



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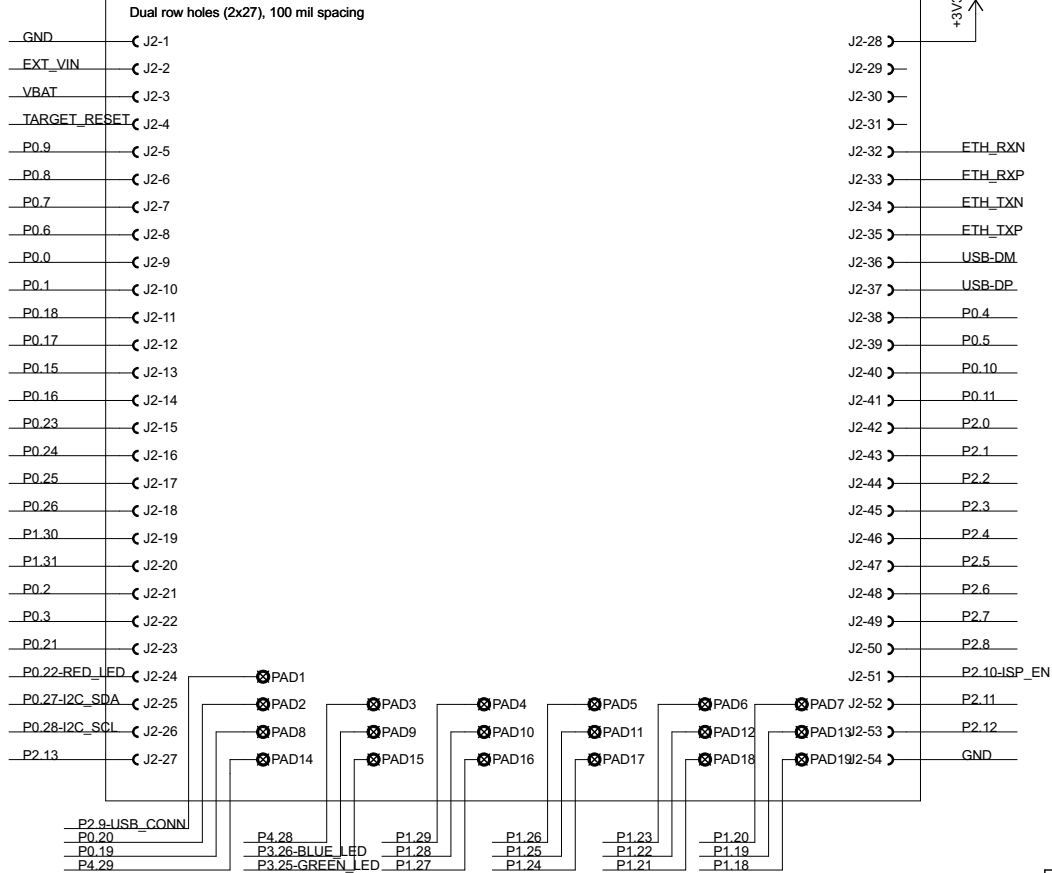
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↑
CMSIS-DAP side

Expansion Connector (superset of mbed pinning)

mbed	LPCXpresso
GND	GND
VIN (4.5-14V)	VIN (4.5-5.5V)
VB (battery supply)	VB (battery supply)
nR (reset)	RESET_N
SPI1-MOSI	P0.9 MOSI1
SPI1-MISO	P0.8 MISO1
SPI1-SCK	P0.7 SCK1
GPIO	P0.6 SSEL1
UART1-TX / I2C1-SDA	P0.0 TXD3/SDA1
UART1-RX / I2C1-SCL	P0.1 RXD3/SCL1
SPI2-MOSI	P0.18 MOSI0
SPI2-MISO	P0.17 MISO0
SPI2-SCK / UART2-TX	P0.15 TXD1/SCK0
UART2-RX	P0.16 RXD1/SSEL0
AIN0	P0.23 AD0.0
AIN1	P0.24 AD0.1
AIN2	P0.25 AD0.2
AIN3 / AOUT	P0.26 AD0.3/AOUT
AIN4	P1.30 AD0.4
AIN5	P1.31 AD0.5
	P0.2
	P0.3
	P0.21
	P0.22
	P0.27-I2C_SDA
	P0.28-I2C_SCL
	P2.13



LPCXpresso	mbed
VOUT (+3.3V out) if self powered, else +3.3V input	VOUT (3.3V out)
not used	VU (6.0V USB out)
not used	IF+
not used	IF-
RD-	RD- (Ethernet)
RD+	RD+ (Ethernet)
TD-	TD- (Ethernet)
TD+	TD+ (Ethernet)
USB-D-	D- (USB)
USB-D+	D+ (USB)
P0.4	CAN_RX2
P0.5	CAN_TX2
P0.10	TXD2/SDA2
P0.11	RXD2/SCL2
P2.0	PWM1.1
P2.1	PWM1.2
P2.2	PWM1.3
P2.3	PWM1.4
P2.4	PWM1.5
P2.5	PWM1.6
P2.6	
P2.7	
P2.8	
P2.10	
P2.11	
P2.12	
GND	



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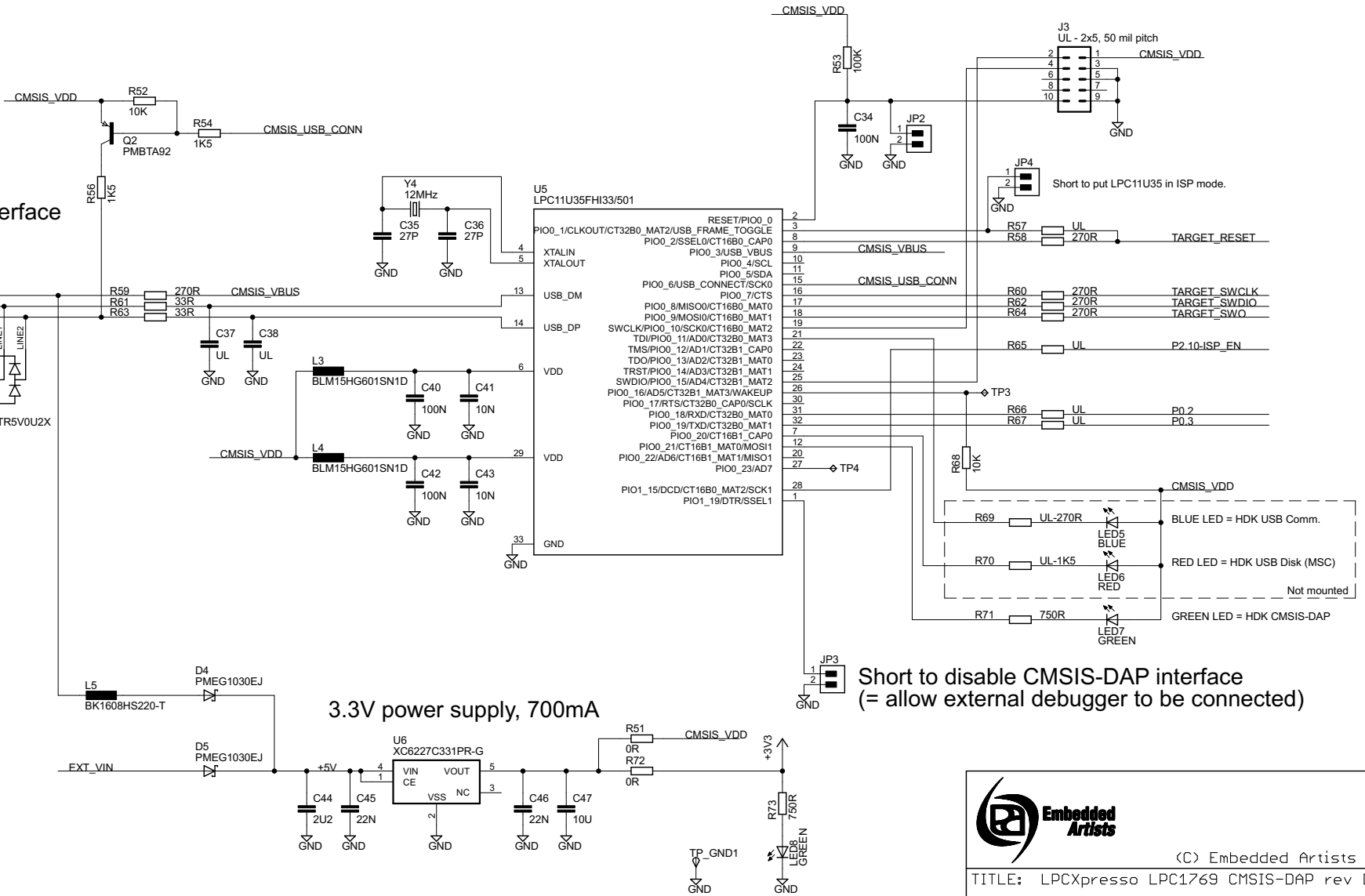
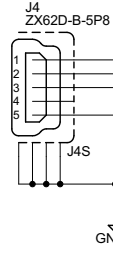
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CMSIS-DAP Debug Interface

CMSIS-DAP USB interface (micro-B connector)



Short to disable CMSIS-DAP interface
(= allow external debugger to be connected)



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