

**Contents of MSP430F21x2 Code Examples (slac163.zip) - asm (CCS), .s43 (IAR), and .c (CCS & IAR)**

**Link to zip file:** <http://www.ti.com/lit/zip/slac163>

**Applicable Devices:** MSP430F2112, MSP430F2122, MSP430F2132

*Consult readme.txt included in the zip file for disclaimer and coding style guidelines*

**Contents:**

- [Assembly Code Examples \(.asm, CCS compatible\)](#)
- [Assembly Code Examples \(.s43, IAR compatible\)](#)
- [C Code Examples \(.c, IAR & CCS compatible\)](#)

<b>.asm code examples – CCS</b>	
<b>File name</b>	<b>Description</b>
msp430x21x2_1.asm	Software Toggle P1.0
msp430x21x2_1_vlo.asm	Software Toggle P1.0, MCLK = VLO/8
msp430x21x2_lpm3.asm	Basic Clock, LPM3 Using WDT ISR, 32kHz ACLK
msp430x21x2_lpm3_vlo.asm	Basic Clock, LPM3 Using WDT ISR, VLO ACLK
msp430x21x2_nmi.asm	Configure RST/NMI as NMI
msp430x21x2_p1_01.asm	Software Poll P1.3, Set P1.0 if P1.3 = 1
msp430x21x2_p1_02.asm	Software Port Interrupt Service on P1.3 from LPM4
msp430x21x2_p1_03.asm	Poll P1 With Software with Internal Pull-up
msp430x21x2_p1_04.asm	Timer0_A3, Toggle P1.0, Overflow ISR, 32kHz ACLK
msp430x21x2_adc10_01.asm	ADC10, Sample A0, AVcc Ref, Set P1.0 if A0 > 0.5*AVcc
msp430x21x2_adc10_02.asm	ADC10, Sample A0, 1.5V Ref, Set P1.0 if A0 > 0.2V
msp430x21x2_adc10_03.asm	ADC10, Sample A10 Temp, Set P1.0 if Temp ++ ~2C
msp430x21x2_adc10_04.asm	ADC10, Sample A0, Signed, Set P1.0 if A0 > 0.5*AVcc
msp430x21x2_adc10_05.asm	ADC10, Sample A11, Lo_Batt, Set P1.0 if AVcc < 2.3V
msp430x21x2_adc10_06.asm	ADC10, Output Internal Vref on P2.4 & ADCCLK on P1.0
msp430x21x2_adc10_07.asm	ADC10, DTC Sample A0 64x, AVcc, Repeat Single, DCO
msp430x21x2_adc10_08.asm	ADC10, DTC Sample A0 64x, 1.5V, Repeat Single, DCO
msp430x21x2_adc10_09.asm	ADC10, DTC Sample A10 64x, 1.5V, Repeat Single, DCO
msp430x21x2_adc10_10.asm	ADC10, DTC Sample A2-0, AVcc, Single Sequence, DCO
msp430x21x2_adc10_11.asm	ADC10, Sample A0, 1.5V, TA1 Trig, Set P1.0 if > 0.5V
msp430x21x2_adc10_12.asm	ADC10, Sample A7, 1.5V, TA1 Trig, Ultra-Low Pwr
msp430x21x2_adc10_13.asm	ADC10, DTC Sample A1 32x, AVcc, TA0 Trig, DCO
msp430x21x2_adc10_14.asm	ADC10, DTC Sample A1-0 32x, AVcc, Repeat Seq, DCO
msp430x21x2_adc10_15.asm	ADC10, DTC Sample A10 32x to Flash, Int Ref, DCO
msp430x21x2_adc10_16.asm	ADC10, DTC Sample A0 -> TA1, AVcc, DCO
msp430x21x2_adc10_17.asm	ADC10, DTC Sample A0 -> TA1, AVcc, HF XTAL
msp430x21x2_adc10_18.asm	ADC10, DTC Sample A1/0 -> TA1/2, 2.5V, HF XTAL
msp430x21x2_adc10_19.asm	ADC10, DTC Sample A0 64x, AVcc, HF XTAL
msp430x21x2_adc10_20.asm	ADC10, DTC Sample A0 2-Blk Cont. Mode, AVcc, HF XTAL
msp430x21x2_adc10_temp.asm	ADC10, Sample A10 Temp and Convert to oC and oF
msp430x21x2_flashwrite_01.asm	Flash In-System Programming, Copy SegC to SegD
msp430x21x2_flashwrite_03.asm	Flash In-System Programming w/ EEI, Copy SegC to SegD
msp430x21x2_flashwrite_04.asm	Flash In-System Programming w/ EEI, Copy SegD to A/B/C

msp430x21x2_clks.asm	Basic Clock, Output Buffered SMCLK, ACLK and MCLK/10
msp430x21x2_fll_01.asm	Basic Clock, Implement Auto RSEL SW FLL
msp430x21x2_fll_02.asm	Basic Clock, Implement Cont. SW FLL with Auto RSEL
msp430x21x2_hfxtal.asm	Basic Clock, MCLK Sourced from HF XTAL
msp430x21x2_hfxtal_nmi.asm	Basic Clock, LFXT1/MCLK Sourced from HF XTAL, NMI
msp430x21x2_rosc.asm	DCOCLK Biased with External Resistor Rosc
msp430x21x2_dco_flashcal.asm	DCO Calibration Constants Programmer
msp430x21x2_ta0_01.asm	Timer_A, Toggle P1.0, TACCR0 Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta0_02.asm	Timer_A, Toggle P1.0, TACCR0 Up Mode ISR, DCO SMCLK
msp430x21x2_ta0_03.asm	Timer_A, Toggle P1.0, Overflow ISR, DCO SMCLK
msp430x21x2_ta0_04.asm	Timer_A, Toggle P1.0, Overflow ISR, 32kHz ACLK
msp430x21x2_ta0_05.asm	Timer_A, Toggle P1.0, TACCR0 Up Mode ISR, 32kHz ACLK
msp430x21x2_ta0_06.asm	Timer_A, Toggle P1.0, TACCR1 Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta0_07.asm	Timer_A, Toggle P1.0-3, Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta0_08.asm	Timer_A, Toggle P1.0-3, Cont. Mode ISR, 32kHz ACLK
msp430x21x2_ta0_09.asm	Timer_A, Toggle P1.0-3, Cont. Mode ISR, HF XTAL ACLK
msp430x21x2_ta0_10.asm	Timer_A, Toggle P1.1/TA0, Up Mode, DCO SMCLK
msp430x21x2_ta0_11.asm	Timer_A, Toggle P1.1/TA0, Up Mode, 32kHz ACLK
msp430x21x2_ta0_12.asm	Timer_A, Toggle P1.1/TA0, Up Mode, HF XTAL ACLK
msp430x21x2_ta0_13.asm	Timer_A, Toggle P1.1/TA0, Up/Down Mode, DCO SMCLK
msp430x21x2_ta0_14.asm	Timer_A, Toggle P1.1/TA0, Up/Down Mode, 32kHz ACLK
msp430x21x2_ta0_15.asm	Timer_A, Toggle P1.1/TA0, Up/Down Mode, HF XTAL ACLK
msp430x21x2_ta0_16.asm	Timer_A, PWM TA1-2, Up Mode, DCO SMCLK
msp430x21x2_ta0_17.asm	Timer_A, PWM TA1-2, Up Mode, 32kHz ACLK
msp430x21x2_ta0_18.asm	Timer_A, PWM TA1-2, Up Mode, HF XTAL ACLK
msp430x21x2_ta0_19.asm	Timer_A, PWM TA1-2, Up/Down Mode, DCO SMCLK
msp430x21x2_ta0_20.asm	Timer_A, PWM TA1-2, Up/Down Mode, 32kHz ACLK
msp430x21x2_ta0_21.asm	Timer_A, PWM TA1-2, Up/Down Mode, HF XTAL ACLK
msp430x21x2_ta0_22.asm	Timer_A, Ultra-Low Pwr Pulse Accumulator
msp430x21x2_ta1_01.asm	Timer_A, Toggle P1.0, TACCR0 Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta1_02.asm	Timer_A, Toggle P1.0, TACCR0 Up Mode ISR, DCO SMCLK
msp430x21x2_ta1_03.asm	Timer_A, Toggle P1.0, Overflow ISR, DCO SMCLK
msp430x21x2_ta1_04.asm	Timer_A, Toggle P1.0, Overflow ISR, 32kHz ACLK
msp430x21x2_ta1_05.asm	Timer_A, Toggle P1.0, TACCR0 Up Mode ISR, 32kHz ACLK
msp430x21x2_ta1_06.asm	Timer_A, Toggle P1.0, TACCR1 Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta1_07.asm	Timer_A, Toggle P1.0-3, Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta1_08.asm	Timer_A, Toggle P1.0-3, Cont. Mode ISR, 32kHz ACLK
msp430x21x2_ta1_09.asm	Timer_A, Toggle P1.0-3, Cont. Mode ISR, HF XTAL ACLK
msp430x21x2_ta1_10.asm	Timer_A, Toggle P1.1/TA0, Up Mode, DCO SMCLK
msp430x21x2_ta1_11.asm	Timer_A, Toggle P1.1/TA0, Up Mode, 32kHz ACLK
msp430x21x2_ta1_12.asm	Timer_A, Toggle P1.1/TA0, Up Mode, HF XTAL ACLK
msp430x21x2_ta1_13.asm	Timer_A, Toggle P1.1/TA0, Up/Down Mode, DCO SMCLK
msp430x21x2_ta1_14.asm	Timer_A, Toggle P1.1/TA0, Up/Down Mode, 32kHz ACLK
msp430x21x2_ta1_15.asm	Timer_A, Toggle P1.1/TA0, Up/Down Mode, HF XTAL ACLK
msp430x21x2_ta1_16.asm	Timer_A, PWM TA1-2, Up Mode, DCO SMCLK
msp430x21x2_ta1_17.asm	Timer_A, PWM TA1-2, Up Mode, 32kHz ACLK

msp430x21x2_ta1_18.asm	Timer_A, PWM TA1-2, Up Mode, HF XTAL ACLK
msp430x21x2_ta1_19.asm	Timer_A, PWM TA1-2, Up/Down Mode, DCO SMCLK
msp430x21x2_ta1_20.asm	Timer_A, PWM TA1-2, Up/Down Mode, 32kHz ACLK
msp430x21x2_ta1_21.asm	Timer_A, PWM TA1-2, Up/Down Mode, HF XTAL ACLK
msp430x21x2_ta1_22.asm	Timer_A, Ultra-Low Pwr Pulse Accumulator
msp430x21x2_wdt_01.asm	WDT, Toggle P1.0, Interval Overflow ISR, DCO SMCLK
msp430x21x2_wdt_02.asm	WDT, Toggle P1.0, Interval Overflow ISR, 32kHz ACLK
msp430x21x2_wdt_04.asm	WDT+ Failsafe Clock, DCO SMCLK
msp430x21x2_wdt_05.asm	Reset on Invalid Address fetch, Toggle P1.0
msp430x21x2_wdt_06.asm	WDT+ Failsafe Clock, 32kHz ACLK
msp430x21x2_uscia0_uart_01_115k.asm	USCI_A0, 115200 UART Echo ISR, DCO SMCLK4
msp430x21x2_uscia0_uart_01_115k_lpm.asm	USCI_A0, 115200 UART Echo ISR, DCO SMCLK, LPM4
msp430x21x2_uscia0_uart_01_19200.asm	USCI_A0, 19200 UART Echo ISR, DCO SMCLK
msp430x21x2_uscia0_uart_01_19200_2.asm	USCI_A0, UART 19200 Echo ISR, HF XTAL SMCLK
msp430x21x2_uscia0_uart_01_9600.asm	USCI_A0, 9600 UART Echo ISR, DCO SMCLK
msp430x21x2_uscia0_uart_05_9600.asm	USCI_A0, Ultra-Low Pwr UART 9600 Echo ISR, 32kHz ACLK
msp430x21x2_uscia0_uart_06_9600.asm	USCI_A0, Ultra-Low Pwr UART 9600 String, 32kHz ACLK
msp430x21x2_uscia0_uart_07_9600.asm	USCI_A0, Ultra-Low Pwr UART 9600 RX/TX, 32kHz ACLK
msp430x21x2_uscia0_uart_08_9600.asm	USCI_A0, UART 9600 Full-Duplex Transceiver, 32kHz ACLK
msp430x21x2_uscia0_spi_01.asm	USCI_B0 I2C Master to TMP100, Set P5.1 if Temp > 28C
msp430x21x2_uscia0_spi_02.asm	USCI_A0, SPI Interface to HC165 Shift Register
msp430x21x2_uscia0_spi_03.asm	USCI_A0, SPI Interface to HC165/164 Shift Registers
msp430x21x2_uscia0_spi_09.asm	USCI_A0, SPI 3-Wire Master Incremented Data
msp430x21x2_uscia0_spi_10.asm	USCI_A0, SPI 3-Wire Slave Data Echo
msp430x21x2_uscib0_spi_01.asm	USCI_B0, SPI Interface to TLC549 8-Bit ADC
msp430x21x2_uscib0_spi_02.asm	USCI_B0, SPI Interface to TLV1549 10-Bit ADC
msp430x21x2_uscia0_irda_01.asm	USCI_A0 IrDA External Loopback Test, 8MHz SMCLK
msp430x21x2_uscia0_irda_02.asm	USCI_A0 IrDA Monitor, 8MHz SMCLK
msp430x21x2_uscia0_irda_03.asm	USCI_A0 IrDA Physical Layer Comm, 8MHz SMCLK
msp430x21x2_uscib0_i2c_01.asm	USCI_B0 I2C Master to TMP100, Set P5.1 if Temp > 28C
msp430x21x2_uscib0_i2c_02.asm	USCI_B0 I2C Master Interface to PCF8574, Read/Write
msp430x21x2_uscib0_i2c_03.asm	USCI_B0 I2C Master Interface to DAC8571, Writeve
msp430x21x2_uscib0_i2c_04.asm	USCI_B0 I2C Master RX single bytes from MSP430 Slave
msp430x21x2_uscib0_i2c_05.asm	USCI_B0 I2C Slave TX single bytes to MSP430 Master
msp430x21x2_uscib0_i2c_06.asm	USCI_B0 I2C Master TX single bytes to MSP430 Slave
msp430x21x2_uscib0_i2c_07.asm	USCI_B0 I2C Slave RX single bytes from MSP430 Master
msp430x21x2_uscib0_i2c_08.asm	USCI_B0 I2C Master TX multiple bytes to MSP430 Slave
msp430x21x2_uscib0_i2c_09.asm	USCI_B0 I2C Slave RX multiple bytes from MSP430 Master
msp430x21x2_uscib0_i2c_10.asm	USCI_B0 I2C Master RX multiple bytes from MSP430 Slave
msp430x21x2_uscib0_i2c_11.asm	USCI_B0 I2C Slave TX multiple bytes to MSP430 Master
msp430x21x2_compA_01.asm	Comparator A, Poll input CA0, result in P5.1
msp430x21x2_compA_02.asm	Comparator A, Poll input CA0, CA exchange, result in P5.1
msp430x21x2_compA_04.asm	Comparator A, Poll input CA0, result in P5.1
msp430x21x2_compA_05.asm	Comparator A, Poll input CA0, interrupt triggered

**.s43 code examples – IAR**

<b>File name</b>	<b>Description</b>
msp430x21x2_1.s43	Software Toggle P1.0
msp430x21x2_1_vlo.s43	Software Toggle P1.0, MCLK = VLO/8
msp430x21x2_lpm3.s43	Basic Clock, LPM3 Using WDT ISR, 32kHz ACLK
msp430x21x2_lpm3_vlo.s43	Basic Clock, LPM3 Using WDT ISR, VLO ACLK
msp430x21x2_nmi.s43	Configure RST/NMI as NMI
msp430x21x2_p1_01.s43	Software Poll P1.3, Set P1.0 if P1.3 = 1
msp430x21x2_p1_02.s43	Software Port Interrupt Service on P1.3 from LPM4
msp430x21x2_p1_03.s43	Poll P1 With Software with Internal Pull-up
msp430x21x2_adc10_01.s43	ADC10, Sample A0, AVcc Ref, Set P1.0 if A0 > 0.5*AVcc
msp430x21x2_adc10_02.s43	ADC10, Sample A0, 1.5V Ref, Set P1.0 if A0 > 0.2V
msp430x21x2_adc10_03.s43	ADC10, Sample A10 Temp, Set P1.0 if Temp ++ ~2C
msp430x21x2_adc10_04.s43	ADC10, Sample A0, Signed, Set P1.0 if A0 > 0.5*AVcc
msp430x21x2_adc10_05.s43	ADC10, Sample A11, Lo_Batt, Set P1.0 if AVcc < 2.3V
msp430x21x2_adc10_06.s43	ADC10, Output Internal Vref on P2.4 & ADCCLK on P1.0
msp430x21x2_adc10_07.s43	ADC10, DTC Sample A0 64x, AVcc, Repeat Single, DCO
msp430x21x2_adc10_08.s43	ADC10, DTC Sample A0 64x, 1.5V, Repeat Single, DCO
msp430x21x2_adc10_09.s43	ADC10, DTC Sample A10 64x, 1.5V, Repeat Single, DCO
msp430x21x2_adc10_10.s43	ADC10, DTC Sample A2-0, AVcc, Single Sequence, DCO
msp430x21x2_adc10_11.s43	ADC10, Sample A0, 1.5V, TA1 Trig, Set P1.0 if > 0.5V
msp430x21x2_adc10_12.s43	ADC10, Sample A7, 1.5V, TA1 Trig, Ultra-Low Pwr
msp430x21x2_adc10_13.s43	ADC10, DTC Sample A1 32x, AVcc, TA0 Trig, DCO
msp430x21x2_adc10_14.s43	ADC10, DTC Sample A1-0 32x, AVcc, Repeat Seq, DCO
msp430x21x2_adc10_15.s43	ADC10, DTC Sample A10 32x to Flash, Int Ref, DCO
msp430x21x2_adc10_16.s43	ADC10, DTC Sample A0 -> TA1, AVcc, DCO
msp430x21x2_adc10_17.s43	ADC10, DTC Sample A0 -> TA1, AVcc, HF XTAL
msp430x21x2_adc10_18.s43	ADC10, DTC Sample A1/0 -> TA1/2, 2.5V, HF XTAL
msp430x21x2_adc10_19.s43	ADC10, DTC Sample A0 64x, AVcc, HF XTAL
msp430x21x2_adc10_20.s43	ADC10, DTC Sample A0 2-Blk Cont. Mode, AVcc, HF XTAL
msp430x21x2_adc10_temp.s43	ADC10, Sample A10 Temp and Convert to oC and oF
msp430x21x2_flashwrite_01.s43	Flash In-System Programming, Copy SegC to SegD
msp430x21x2_flashwrite_03.s43	Flash In-System Programming w/ EEI, Copy SegC to SegD
msp430x21x2_flashwrite_04.s43	Flash In-System Programming w/ EEI, Copy SegD to A/B/C
msp430x21x2_clks.s43	Basic Clock, Output Buffered SMCLK, ACLK and MCLK/10
msp430x21x2_fll_01.s43	Basic Clock, Implement Auto RSEL SW FLL
msp430x21x2_fll_02.s43	Basic Clock, Implement Cont. SW FLL with Auto RSEL
msp430x21x2_hfxtal.s43	Basic Clock, MCLK Sourced from HF XTAL
msp430x21x2_hfxtal_nmi.s43	Basic Clock, LFXT1/MCLK Sourced from HF XTAL, NMI
msp430x21x2_rosc.s43	DCOCLK Biased with External Resistor Rosc
msp430x21x2_dco_flashcal.s43	DCO Calibration Constants Programmer
msp430x21x2_ta_01.s43	Timer_A, Toggle P1.0, TACCR0 Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta_02.s43	Timer_A, Toggle P1.0, TACCR0 Up Mode ISR, DCO SMCLK
msp430x21x2_ta_03.s43	Timer_A, Toggle P1.0, Overflow ISR, DCO SMCLK

msp430x21x2_ta_04.s43	Timer_A, Toggle P1.0, Overflow ISR, 32kHz ACLK
msp430x21x2_ta_05.s43	Timer_A, Toggle P1.0, TACCR0 Up Mode ISR, 32kHz ACLK
msp430x21x2_ta_06.s43	Timer_A, Toggle P1.0, TACCR1 Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta_07.s43	Timer_A, Toggle P1.0-3, Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta_08.s43	Timer_A, Toggle P1.0-3, Cont. Mode ISR, 32kHz ACLK
msp430x21x2_ta_09.s43	Timer_A, Toggle P1.0-3, Cont. Mode ISR, HF XTAL ACLK
msp430x21x2_ta_10.s43	Timer_A, Toggle P1.1/TA0, Up Mode, DCO SMCLK
msp430x21x2_ta_11.s43	Timer_A, Toggle P1.1/TA0, Up Mode, 32kHz ACLK
msp430x21x2_ta_12.s43	Timer_A, Toggle P1.1/TA0, Up Mode, HF XTAL ACLK
msp430x21x2_ta_13.s43	Timer_A, Toggle P1.1/TA0, Up/Down Mode, DCO SMCLK
msp430x21x2_ta_14.s43	Timer_A, Toggle P1.1/TA0, Up/Down Mode, 32kHz ACLK
msp430x21x2_ta_15.s43	Timer_A, Toggle P1.1/TA0, Up/Down Mode, HF XTAL ACLK
msp430x21x2_ta_16.s43	Timer_A, PWM TA1-2, Up Mode, DCO SMCLK
msp430x21x2_ta_17.s43	Timer_A, PWM TA1-2, Up Mode, 32kHz ACLK
msp430x21x2_ta_18.s43	Timer_A, PWM TA1-2, Up Mode, HF XTAL ACLK
msp430x21x2_ta_19.s43	Timer_A, PWM TA1-2, Up/Down Mode, DCO SMCLK
msp430x21x2_ta_20.s43	Timer_A, PWM TA1-2, Up/Down Mode, 32kHz ACLK
msp430x21x2_ta_21.s43	Timer_A, PWM TA1-2, Up/Down Mode, HF XTAL ACLK
msp430x21x2_ta_22.s43	Timer_A, Ultra-Low Pwr Pulse Accumulator
msp430x21x2_ta_01.s43	Timer_A, Toggle P1.0, TACCR0 Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta_02.s43	Timer_A, Toggle P1.0, TACCR0 Up Mode ISR, DCO SMCLK
msp430x21x2_ta_03.s43	Timer_A, Toggle P1.0, Overflow ISR, DCO SMCLK
msp430x21x2_ta_04.s43	Timer_A, Toggle P1.0, Overflow ISR, 32kHz ACLK
msp430x21x2_ta_05.s43	Timer_A, Toggle P1.0, TACCR0 Up Mode ISR, 32kHz ACLK
msp430x21x2_ta_06.s43	Timer_A, Toggle P1.0, TACCR1 Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta_07.s43	Timer_A, Toggle P1.0-3, Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta_08.s43	Timer_A, Toggle P1.0-3, Cont. Mode ISR, 32kHz ACLK
msp430x21x2_ta_09.s43	Timer_A, Toggle P1.0-3, Cont. Mode ISR, HF XTAL ACLK
msp430x21x2_ta_10.s43	Timer_A, Toggle P1.1/TA0, Up Mode, DCO SMCLK
msp430x21x2_ta_11.s43	Timer_A, Toggle P1.1/TA0, Up Mode, 32kHz ACLK
msp430x21x2_ta_12.s43	Timer_A, Toggle P1.1/TA0, Up Mode, HF XTAL ACLK
msp430x21x2_ta_13.s43	Timer_A, Toggle P1.1/TA0, Up/Down Mode, DCO SMCLK
msp430x21x2_ta_14.s43	Timer_A, Toggle P1.1/TA0, Up/Down Mode, 32kHz ACLK
msp430x21x2_ta_15.s43	Timer_A, Toggle P1.1/TA0, Up/Down Mode, HF XTAL ACLK
msp430x21x2_ta_16.s43	Timer_A, PWM TA1-2, Up Mode, DCO SMCLK
msp430x21x2_ta_17.s43	Timer_A, PWM TA1-2, Up Mode, 32kHz ACLK
msp430x21x2_ta_18.s43	Timer_A, PWM TA1-2, Up Mode, HF XTAL ACLK
msp430x21x2_ta_19.s43	Timer_A, PWM TA1-2, Up/Down Mode, DCO SMCLK
msp430x21x2_ta_20.s43	Timer_A, PWM TA1-2, Up/Down Mode, 32kHz ACLK
msp430x21x2_ta_21.s43	Timer_A, PWM TA1-2, Up/Down Mode, HF XTAL ACLK
msp430x21x2_ta_22.s43	Timer_A, Ultra-Low Pwr Pulse Accumulator
msp430x21x2_wdt_01.s43	WDT, Toggle P1.0, Interval Overflow ISR, DCO SMCLK
msp430x21x2_wdt_02.s43	WDT, Toggle P1.0, Interval Overflow ISR, 32kHz ACLK
msp430x21x2_wdt_04.s43	WDT+ Failsafe Clock, DCO SMCLK
msp430x21x2_wdt_05.s43	Reset on Invalid Address fetch, Toggle P1.0
msp430x21x2_wdt_06.s43	WDT+ Failsafe Clock, 32kHz ACLK

msp430x21x2_uscia0_uart_01_115k.s43	USCI_A0, 115200 UART Echo ISR, DCO SMCLK4
msp430x21x2_uscia0_uart_01_115k_lpm.s43	USCI_A0, 115200 UART Echo ISR, DCO SMCLK, LPM4
msp430x21x2_uscia0_uart_01_19200.s43	USCI_A0, 19200 UART Echo ISR, DCO SMCLK
msp430x21x2_uscia0_uart_01_19200_2.s43	USCI_A0, UART 19200 Echo ISR, HF XTAL SMCLK
msp430x21x2_uscia0_uart_01_9600.s43	USCI_A0, 9600 UART Echo ISR, DCO SMCLK
msp430x21x2_uscia0_uart_05_9600.s43	USCI_A0, Ultra-Low Pwr UART 9600 Echo ISR, 32kHz ACLK
msp430x21x2_uscia0_uart_06_9600.s43	USCI_A0, Ultra-Low Pwr UART 9600 String, 32kHz ACLK
msp430x21x2_uscia0_uart_07_9600.s43	USCI_A0, Ultra-Low Pwr UART 9600 RX/TX, 32kHz ACLK
msp430x21x2_uscia0_uart_08_9600.s43	USCI_A0, UART 9600 Full-Duplex Transceiver, 32kHz ACLK
msp430x21x2_uscia0_spi_01.s43	USCI_A0, SPI Interface to HC164 Shift Register
msp430x21x2_uscia0_spi_02.s43	USCI_A0, SPI Interface to HC165 Shift Register
msp430x21x2_uscia0_spi_03.s43	USCI_A0, SPI Interface to HC165/164 Shift Registers
msp430x21x2_uscia0_spi_09.s43	USCI_A0, SPI 3-Wire Master Incremented Data
msp430x21x2_uscia0_spi_10.s43	USCI_A0, SPI 3-Wire Slave Data Echo
msp430x21x2_uscib0_spi_01.s43	USCI_B0, SPI Interface to TLC549 8-Bit ADC
msp430x21x2_uscib0_spi_02.s43	USCI_B0, SPI Interface to TLV1549 10-Bit ADC
msp430x21x2_uscia0_irda_01.s43	USCI_A0 IrDA External Loopback Test, 8MHz SMCLK
msp430x21x2_uscia0_irda_02.s43	USCI_A0 IrDA Monitor, 8MHz SMCLK
msp430x21x2_uscia0_irda_03.s43	USCI_A0 IrDA Physical Layer Comm, 8MHz SMCLK
msp430x21x2_uscib0_i2c_02.s43	USCI_B0 I2C Master Interface to PCF8574, Read/Write
msp430x21x2_uscib0_i2c_03.s43	USCI_B0 I2C Master Interface to DAC8571, Writeve
msp430x21x2_uscib0_i2c_04.s43	USCI_B0 I2C Master RX single bytes from MSP430 Slave
msp430x21x2_uscib0_i2c_05.s43	USCI_B0 I2C Slave TX single bytes to MSP430 Master
msp430x21x2_uscib0_i2c_06.s43	USCI_B0 I2C Master TX single bytes to MSP430 Slave
msp430x21x2_uscib0_i2c_07.s43	USCI_B0 I2C Slave RX single bytes from MSP430 Master
msp430x21x2_uscib0_i2c_08.s43	USCI_B0 I2C Master TX multiple bytes to MSP430 Slave
msp430x21x2_uscib0_i2c_09.s43	USCI_B0 I2C Slave RX multiple bytes from MSP430 Master
msp430x21x2_uscib0_i2c_10.s43	USCI_B0 I2C Master RX multiple bytes from MSP430 Slave
msp430x21x2_uscib0_i2c_11.s43	USCI_B0 I2C Slave TX multiple bytes to MSP430 Master
msp430x21x2_compA_01.s43	Comparator A, Poll input CA0, result in P5.1
msp430x21x2_compA_02.s43	Comparator A, Poll input CA0, CA exchange, result in P5.1
msp430x21x2_compA_04.s43	Comparator A, Poll input CA0, result in P5.1
msp430x21x2_compA_05.s43	Comparator A, Poll input CA0, interrupt triggered

### C code examples – IAR & CCS

File name	Description
msp430x21x2_1.c	Software Toggle P1.0
msp430x21x2_1_vlo.c	Software Toggle P1.0, MCLK = VLO/8
msp430x21x2_lpm3.c	Basic Clock, LPM3 Using WDT ISR, 32kHz ACLK
msp430x21x2_lpm3_vlo.c	Basic Clock, LPM3 Using WDT ISR, VLO ACLK
msp430x21x2_nmi.c	Configure RST/NMI as NMI
msp430x21x2_p1_01.c	Software Poll P1.3, Set P1.0 if P1.3 = 1
msp430x21x2_p1_02.c	Software Port Interrupt Service on P1.3 from LPM4
msp430x21x2_p1_03.c	Poll P1 With Software with Internal Pull-up
msp430x21x2_adc10_01.c	ADC10, Sample A0, AVcc Ref, Set P1.0 if A0 > 0.5*AVcc

msp430x21x2_adc10_02.c	ADC10, Sample A0, 1.5V Ref, Set P1.0 if A0 > 0.2V
msp430x21x2_adc10_03.c	ADC10, Sample A10 Temp, Set P1.0 if Temp ++ ~2C
msp430x21x2_adc10_04.c	ADC10, Sample A0, Signed, Set P1.0 if A0 > 0.5*AVcc
msp430x21x2_adc10_05.c	ADC10, Sample A11, Lo_Batt, Set P1.0 if AVcc < 2.3V
msp430x21x2_adc10_06.c	ADC10, Output Internal Vref on P2.4 & ADCCLK on P1.0
msp430x21x2_adc10_07.c	ADC10, DTC Sample A0 64x, AVcc, Repeat Single, DCO
msp430x21x2_adc10_08.c	ADC10, DTC Sample A0 64x, 1.5V, Repeat Single, DCO
msp430x21x2_adc10_09.c	ADC10, DTC Sample A10 64x, 1.5V, Repeat Single, DCO
msp430x21x2_adc10_10.c	ADC10, DTC Sample A2-0, AVcc, Single Sequence, DCO
msp430x21x2_adc10_11.c	ADC10, Sample A0, 1.5V, TA1 Trig, Set P1.0 if > 0.5V
msp430x21x2_adc10_12.c	ADC10, Sample A7, 1.5V, TA1 Trig, Ultra-Low Pwr
msp430x21x2_adc10_13.c	ADC10, DTC Sample A1 32x, AVcc, TA0 Trig, DCO
msp430x21x2_adc10_14.c	ADC10, DTC Sample A1-0 32x, AVcc, Repeat Seq, DCO
msp430x21x2_adc10_15.c	ADC10, DTC Sample A10 32x to Flash, Int Ref, DCO
msp430x21x2_adc10_16.c	ADC10, DTC Sample A0 -> TA1, AVcc, DCO
msp430x21x2_adc10_17.c	ADC10, DTC Sample A0 -> TA1, AVcc, HF XTAL
msp430x21x2_adc10_18.c	ADC10, DTC Sample A1/0 -> TA1/2, 2.5V, HF XTAL
msp430x21x2_adc10_19.c	ADC10, DTC Sample A0 64x, AVcc, HF XTAL
msp430x21x2_adc10_20.c	ADC10, DTC Sample A0 2-Blk Cont. Mode, AVcc, HF XTAL
msp430x21x2_adc10_temp.c	ADC10, Sample A10 Temp and Convert to oC and oF
msp430x21x2_flashwrite_01.c	Flash In-System Programming, Copy SegC to SegD
msp430x21x2_flashwrite_03.c	Flash In-System Programming w/ EEI, Copy SegC to SegD
msp430x21x2_flashwrite_04.c	Flash In-System Programming w/ EEI, Copy SegD to A/B/C
msp430x21x2_clks.c	Basic Clock, Output Buffered SMCLK, ACLK and MCLK/10
msp430x21x2_fll_01.c	Basic Clock, Implement Auto RSEL SW FLL
msp430x21x2_fll_02.c	Basic Clock, Implement Cont. SW FLL with Auto RSEL
msp430x21x2_hfxtal.c	Basic Clock, MCLK Sourced from HF XTAL
msp430x21x2_hfxtal_nmi.c	Basic Clock, LFXT1/MCLK Sourced from HF XTAL, NMI
msp430x21x2_rosc.c	DCOCLK Biased with External Resistor Rosc
msp430x21x2_dco_flashcal.c	DCO Calibration Constants Programmer
msp430x21x2_ta_01.c	Timer_A, Toggle P1.0, TACCR0 Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta_02.c	Timer_A, Toggle P1.0, TACCR0 Up Mode ISR, DCO SMCLK
msp430x21x2_ta_03.c	Timer_A, Toggle P1.0, Overflow ISR, DCO SMCLK
msp430x21x2_ta_04.c	Timer_A, Toggle P1.0, Overflow ISR, 32kHz ACLK
msp430x21x2_ta_05.c	Timer_A, Toggle P1.0, TACCR0 Up Mode ISR, 32kHz ACLK
msp430x21x2_ta_06.c	Timer_A, Toggle P1.0, TACCR1 Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta_07.c	Timer_A, Toggle P1.0-3, Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta_08.c	Timer_A, Toggle P1.0-3, Cont. Mode ISR, 32kHz ACLK
msp430x21x2_ta_09.c	Timer_A, Toggle P1.0-3, Cont. Mode ISR, HF XTAL ACLK
msp430x21x2_ta_10.c	Timer_A, Toggle P1.1/TA0, Up Mode, DCO SMCLK
msp430x21x2_ta_11.c	Timer_A, Toggle P1.1/TA0, Up Mode, 32kHz ACLK
msp430x21x2_ta_12.c	Timer_A, Toggle P1.1/TA0, Up Mode, HF XTAL ACLK
msp430x21x2_ta_13.c	Timer_A, Toggle P1.1/TA0, Up/Down Mode, DCO SMCLK
msp430x21x2_ta_14.c	Timer_A, Toggle P1.1/TA0, Up/Down Mode, 32kHz ACLK
msp430x21x2_ta_15.c	Timer_A, Toggle P1.1/TA0, Up/Down Mode, HF XTAL ACLK
msp430x21x2_ta_16.c	Timer_A, PWM TA1-2, Up Mode, DCO SMCLK

msp430x21x2_ta_17.c	Timer_A, PWM TA1-2, Up Mode, 32kHz ACLK
msp430x21x2_ta_18.c	Timer_A, PWM TA1-2, Up Mode, HF XTAL ACLK
msp430x21x2_ta_19.c	Timer_A, PWM TA1-2, Up/Down Mode, DCO SMCLK
msp430x21x2_ta_20.c	Timer_A, PWM TA1-2, Up/Down Mode, 32kHz ACLK
msp430x21x2_ta_21.c	Timer_A, PWM TA1-2, Up/Down Mode, HF XTAL ACLK
msp430x21x2_ta_22.c	Timer_A, Ultra-Low Pwr Pulse Accumulator
msp430x21x2_ta_01.c	Timer_A, Toggle P1.0, TACCR0 Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta_02.c	Timer_A, Toggle P1.0, TACCR0 Up Mode ISR, DCO SMCLK
msp430x21x2_ta_03.c	Timer_A, Toggle P1.0, Overflow ISR, DCO SMCLK
msp430x21x2_ta_04.c	Timer_A, Toggle P1.0, Overflow ISR, 32kHz ACLK
msp430x21x2_ta_05.c	Timer_A, Toggle P1.0, TACCR0 Up Mode ISR, 32kHz ACLK
msp430x21x2_ta_06.c	Timer_A, Toggle P1.0, TACCR1 Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta_07.c	Timer_A, Toggle P1.0-3, Cont. Mode ISR, DCO SMCLK
msp430x21x2_ta_08.c	Timer_A, Toggle P1.0-3, Cont. Mode ISR, 32kHz ACLK
msp430x21x2_ta_09.c	Timer_A, Toggle P1.0-3, Cont. Mode ISR, HF XTAL ACLK
msp430x21x2_ta_10.c	Timer_A, Toggle P1.1/TA0, Up Mode, DCO SMCLK
msp430x21x2_ta_11.c	Timer_A, Toggle P1.1/TA0, Up Mode, 32kHz ACLK
msp430x21x2_ta_12.c	Timer_A, Toggle P1.1/TA0, Up Mode, HF XTAL ACLK
msp430x21x2_ta_13.c	Timer_A, Toggle P1.1/TA0, Up/Down Mode, DCO SMCLK
msp430x21x2_ta_14.c	Timer_A, Toggle P1.1/TA0, Up/Down Mode, 32kHz ACLK
msp430x21x2_ta_15.c	Timer_A, Toggle P1.1/TA0, Up/Down Mode, HF XTAL ACLK
msp430x21x2_ta_16.c	Timer_A, PWM TA1-2, Up Mode, DCO SMCLK
msp430x21x2_ta_17.c	Timer_A, PWM TA1-2, Up Mode, 32kHz ACLK
msp430x21x2_ta_18.c	Timer_A, PWM TA1-2, Up Mode, HF XTAL ACLK
msp430x21x2_ta_19.c	Timer_A, PWM TA1-2, Up/Down Mode, DCO SMCLK
msp430x21x2_ta_20.c	Timer_A, PWM TA1-2, Up/Down Mode, 32kHz ACLK
msp430x21x2_ta_21.c	Timer_A, PWM TA1-2, Up/Down Mode, HF XTAL ACLK
msp430x21x2_ta_22.c	Timer_A, Ultra-Low Pwr Pulse Accumulator
msp430x21x2_wdt_01.c	WDT, Toggle P1.0, Interval Overflow ISR, DCO SMCLK
msp430x21x2_wdt_02.c	WDT, Toggle P1.0, Interval Overflow ISR, 32kHz ACLK
msp430x21x2_wdt_04.c	WDT+ Failsafe Clock, DCO SMCLK
msp430x21x2_wdt_05.c	Reset on Invalid Address fetch, Toggle P1.0
msp430x21x2_wdt_06.c	WDT+ Failsafe Clock, 32kHz ACLK
msp430x21x2_uscia0_uart_01_115k.c	USCI_A0, 115200 UART Echo ISR, DCO SMCLK4
msp430x21x2_uscia0_uart_01_115k_lpm.c	USCI_A0, 115200 UART Echo ISR, DCO SMCLK, LPM4
msp430x21x2_uscia0_uart_01_19200.c	USCI_A0, 19200 UART Echo ISR, DCO SMCLK
msp430x21x2_uscia0_uart_01_19200_2.c	USCI_A0, UART 19200 Echo ISR, HF XTAL SMCLK
msp430x21x2_uscia0_uart_01_9600.c	USCI_A0, 9600 UART Echo ISR, DCO SMCLK
msp430x21x2_uscia0_uart_05_9600.c	USCI_A0, Ultra-Low Pwr UART 9600 Echo ISR, 32kHz ACLK
msp430x21x2_uscia0_uart_06_9600.c	USCI_A0, Ultra-Low Pwr UART 9600 String, 32kHz ACLK
msp430x21x2_uscia0_uart_07_9600.c	USCI_A0, Ultra-Low Pwr UART 9600 RX/TX, 32kHz ACLK
msp430x21x2_uscia0_uart_08_9600.c	USCI_A0, UART 9600 Full-Duplex Transceiver, 32kHz ACLK
msp430x21x2_uscia0_spi_01.c	USCI_A0, SPI Interface to HC164 Shift Register
msp430x21x2_uscia0_spi_02.c	USCI_A0, SPI Interface to HC165 Shift Register
msp430x21x2_uscia0_spi_03.c	USCI_A0, SPI Interface to HC165/164 Shift Registers
msp430x21x2_uscia0_spi_09.c	USCI_A0, SPI 3-Wire Master Incremented Data

msp430x21x2_uscia0_spi_10.c	USCI_A0, SPI 3-Wire Slave Data Echo
msp430x21x2_uscib0_spi_01.c	USCI_B0, SPI Interface to TLC549 8-Bit ADC
msp430x21x2_uscib0_spi_02.c	USCI_B0, SPI Interface to TLV1549 10-Bit ADC
msp430x21x2_uscia0_irda_01.c	USCI_A0 IrDA External Loopback Test, 8MHz SMCLK
msp430x21x2_uscia0_irda_02.c	USCI_A0 IrDA Monitor, 8MHz SMCLK
msp430x21x2_uscia0_irda_03.c	USCI_A0 IrDA Physical Layer Comm, 8MHz SMCLK
msp430x21x2_uscib0_i2c_02.c	USCI_B0 I2C Master Interface to PCF8574, Read/Write
msp430x21x2_uscib0_i2c_03.c	USCI_B0 I2C Master Interface to DAC8571, Writeve
msp430x21x2_uscib0_i2c_04.c	USCI_B0 I2C Master RX single bytes from MSP430 Slave
msp430x21x2_uscib0_i2c_05.c	USCI_B0 I2C Slave TX single bytes to MSP430 Master
msp430x21x2_uscib0_i2c_06.c	USCI_B0 I2C Master TX single bytes to MSP430 Slave
msp430x21x2_uscib0_i2c_07.c	USCI_B0 I2C Slave RX single bytes from MSP430 Master
msp430x21x2_uscib0_i2c_08.c	USCI_B0 I2C Master TX multiple bytes to MSP430 Slave
msp430x21x2_uscib0_i2c_09.c	USCI_B0 I2C Slave RX multiple bytes from MSP430 Master
msp430x21x2_uscib0_i2c_10.c	USCI_B0 I2C Master RX multiple bytes from MSP430 Slave
msp430x21x2_uscib0_i2c_11.c	USCI_B0 I2C Slave TX multiple bytes to MSP430 Master
msp430x21x2_compA_01.c	Comparator A, Poll input CA0, result in P5.1
msp430x21x2_compA_02.c	Comparator A, Poll input CA0, CA exchange, result in P5.1
msp430x21x2_compA_04.c	Comparator A, Poll input CA0, result in P5.1
msp430x21x2_compA_05.c	Comparator A, Poll input CA0, interrupt triggered

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