

Contents of MSP430F47x, MSP430FG47x Code Examples (slac258.zip) - asm (CCS), .s43 (IAR), and .c (CCS & IAR)

Link to zip file: <http://www.ti.com/lit/zip/slac258>

Applicable Devices: MSP430F477, MSP430F478, MSP430F479, MSP430FG477, MSP430FG478, MSP430FG479

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 \(.c, IAR & CCS compatible\)](#)

| .asm code examples – CCS | |
|---------------------------------|---|
| File name | Description |
| msp430F(G)47x_1.asm | Toggle P4.6 in software |
| msp430F(G)47x_bt_01.asm | Basic Timer, Toggle P4.6 Inside ISR, DCO SMCLK |
| msp430F(G)47x_bt_02.asm | Basic Timer, Toggle P4.6 Inside ISR, 32kHz ACLK |
| msp430F(G)47x_dac12_01.asm | DAC12_0, Output 1V on DAC0 |
| msp430F(G)47x_dac12_02.asm | DAC12_0, Output 2V on DAC1 |
| msp430F(G)47x_dac12_03.asm | DAC12_0, Output Voltage Ramp on DAC0 |
| msp430F(G)47x_dac12_05.asm | DAC12_0, Output Voltage Ramp on DAC0 |
| msp430F(G)47x_clks_03.asm | FLL+, Output 32kHz XTAL + HF XTAL + Internal DCO |
| msp430F(G)47x_fll_01.asm | FLL+, Runs Internal DCO at 2.5MHz |
| msp430F(G)47x_fll_02.asm | FLL+, Runs Internal DCO at 8MHz |
| msp430F(G)47x_LFXT1_nmi.asm | LFXT1 Oscillator Fault Detection |
| msp430F(G)47x_lpm3.asm | FLL+, LPM3 Using Basic Timer ISR, 32kHz ACLK |
| msp430x41x2_flashwrite_01.asm | Flash In-System Programming, Copy SegC to SegD |
| msp430x41x2_flashwrite_03.asm | Flash In-System Programming w/ EEI, Copy SegC to SegD |
| msp430x41x2_flashwrite_04.asm | Flash In-System Programming w/ EEI, Copy SegD to A/B/C |
| msp430F(G)47x_oa_02.asm | OA0,Comparator in General-Purpose Mode |
| msp430F(G)47x_oa_03.asm | OA0,General-Purpose Mode |
| msp430F(G)47x_oa_06.asm | OA0,Unity-Gain Buffer Mode |
| msp430F(G)47x_oa_11.asm | OA1,Unity-Gain Buffer Mode |
| msp430F(G)47x_sd16_03.asm | SD16_A, Continuous Conversion on a Single Channel |
| msp430F(G)47x_sd16_04.asm | SD16_A, Single Conversion on Single Channel Polling IFG |
| msp430F(G)47x_sd16_05.asm | SD16_A, Single Conversion on a Single Channel Using ISR |
| msp430F(G)47x_sd16_07.asm | SD16, Single Conversion on a Single Channel Using ISR |
| msp430F(G)47x_sd16_08.asm | SD16_A, Single Conversion on a Channel using buffered input |
| msp430F(G)47x_sd16_09.asm | SD16_A, Single Conversion on a Single Channel Using ISR |
| msp430F(G)47x_sd16_10.asm | SD16_A, Single Conversion on a Single Channel Using ISR 1024 Extended Oversampling Rate |
| msp430F(G)47x_sd16_11.asm | SD16_A, Single Conversion on a Single Channel Using ISR ACLK input to SD16_A |
| msp430F(G)47x_sd16_12.asm | SD16_A, Single Conversion on a Single Channel Using ISR SMCLK input is divided by 32 |
| msp430F(G)47x_compA_01.asm | Comparator_A, Poll input CA0, result in P4.6 |
| msp430F(G)47x_compA_02.asm | Comparator_A, Poll input CA0, CA exchange, result in P4.6 |

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| msp430F(G)47x_compA_04.asm | Comparator_A, Poll input CA0, result in P4.6 |
| msp430F(G)47x_compA_05.asm | Comparator_A, Poll input CA0, interrupt triggered |
| msp430F(G)47x_ta_01.asm | Timer_A, Toggle P4.6, CCRO Cont. Mode ISR, DCO SMCLK |
| msp430F(G)47x_ta_02.asm | Timer_A, Toggle P4.6, CCRO Up Mode ISR, DCO SMCLK |
| msp430F(G)47x_ta_03.asm | Timer_A, Toggle P4.6, Overflow ISR, DCO SMCLK |
| msp430F(G)47x_ta_04.asm | Timer_A, Toggle P4.6, Overflow ISR, 32kHz ACLK |
| msp430F(G)47x_ta_05.asm | Timer_A, Toggle P4.6, CCRO Up Mode ISR, 32kHz ACLK |
| msp430F(G)47x_ta_16.asm | Timer_A, Timer_A, PWM TA1-2 Up Mode, DCO SMCLK |
| msp430F(G)47x_ta_17.asm | Timer_A, PWM TA1-2, Up Mode, 32kHz ACLK |
| msp430F(G)47x_tb_01.asm | Timer_B, Toggle P4.6, CCRO Cont. Mode ISR, DCO SMCLK |
| msp430F(G)47x_tb_02.asm | Timer_B, Toggle P4.6, CCRO Up Mode ISR, DCO SMCLK |
| msp430F(G)47x_tb_03.asm | Timer_B, Toggle P4.6, Overflow ISR, DCO SMCLK |
| msp430F(G)47x_tb_04.asm | Timer_B, Toggle P4.6, Overflow ISR, 32kHz ACLK |
| msp430F(G)47x_tb_05.asm | Timer_B, Toggle P4.6, CCRO Up Mode ISR, 32kHz ACLK |
| msp430F(G)47x_tb_10.asm | Timer_B, PWM TB1 -2 Up Mode, DCO SMCLK |
| msp430F(G)47x_tb_11.asm | Timer_B, PWM TB1-2 Up Mode, 32kHz ACLK |
| msp430F(G)47x_uscia0_irda_01.asm | USCI_A0 IrDA External Loopback Test, 4MHz SMCLK |
| msp430F(G)47x_uscia0_spi_09.asm | USCI_A0, SPI 3-Wire Master Incremented Data |
| msp430F(G)47x_uscia0_spi_10.asm | USCI_A0, SPI 3-Wire Slave Data Echo |
| msp430F(G)47x_uscia0_duplex_9600.asm | USCI_A0, UART 9600 Full-Duplex Transceiver, 32K ACLK |
| msp430F(G)47x_uscia0_uart_115k_lpm.asm | USCI_A0, 115200 UART Echo ISR, DCO SMCLK, LPM3 |
| msp430F(G)47x_uscia0_uart_115k.asm | USCI_A0, 115200 UART Echo ISR, DCO SMCLK |
| msp430F(G)47x_uscia0_uart_9600.asm | USCI_A0, Ultra-Low Pwr UART 9600 Echo ISR, 32kHz ACLK |
| msp430F(G)47x_uscb0_i2c_02.asm | USCI_B0 I2C Master Interface to PCF8574, Read/Write |
| msp430F(G)47x_uscb0_i2c_08.asm | USCI_B0 I2C Master TX multiple bytes to MSP430 Slave |
| msp430F(G)47x_uscb0_i2c_09.asm | USCI_B0 I2C Slave RX multiple bytes from MSP430 Master |
| msp430F(G)47x_uscb0_i2c_10.asm | USCI_B0 I2C Master RX multiple bytes from MSP430 Slave |
| msp430F(G)47x_uscb0_i2c_11.asm | USCI_B0 I2C Slave TX multiple bytes to MSP430 Master |
| msp430F(G)47x_wdt_01.asm | WDT, Toggle P1.0, Interval Overflow ISR, DCO SMCLK |
| msp430F(G)47x_wdt_02.asm | WDT, Toggle P1.0, Interval Overflow ISR, 32kHz ACLK |
| msp430F(G)47x_svs_01.asm | SVS, POR @ 2.5V Vcc |
| msp430F(G)47x_svs_03.asm | SVM, Toggle port 4.6 on Vcc < 2.8V |

| .s43 code examples – IAR | |
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| File name | Description |
| msp430F(G)47x_1.s43 | Toggle P4.6 in software |
| msp430F(G)47x_bt_01.s43 | Basic Timer, Toggle P4.6 Inside ISR, DCO SMCLK |
| msp430F(G)47x_bt_02.s43 | Basic Timer, Toggle P4.6 Inside ISR, 32kHz ACLK |
| msp430F(G)47x_dac12_01.s43 | DAC12_0, Output 1V on DAC0 |
| msp430F(G)47x_dac12_02.s43 | DAC12_0, Output 2V on DAC1 |
| msp430F(G)47x_dac12_03.s43 | DAC12_0, Output Voltage Ramp on DAC0 |
| msp430F(G)47x_dac12_05.s43 | DAC12_0, Output Voltage Ramp on DAC0 |
| msp430F(G)47x_clks_03.s43 | FLL+, Output 32kHz XTAL + HF XTAL + Internal DCO |

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| msp430F(G)47x_fll_01.s43 | FLL+, Runs Internal DCO at 2.5MHz |
| msp430F(G)47x_fll_02.s43 | FLL+, Runs Internal DCO at 8MHz |
| msp430F(G)47x_LFXT1_nmi.s43 | LFXT1 Oscillator Fault Detection |
| msp430F(G)47x_lpm3.s43 | FLL+, LPM3 Using Basic Timer ISR, 32kHz ACLK |
| msp430x41x2_flashwrite_01.s43 | Flash In-System Programming, Copy SegC to SegD |
| msp430x41x2_flashwrite_03.s43 | Flash In-System Programming w/ EEI, Copy SegC to SegD |
| msp430x41x2_flashwrite_04.s43 | Flash In-System Programming w/ EEI, Copy SegD to A/B/C |
| msp430F(G)47x_oa_02.s43 | OA0,Comparator in General-Purpose Mode |
| msp430F(G)47x_oa_03.s43 | OA0,General-Purpose Mode |
| msp430F(G)47x_oa_06.s43 | OA0,Unity-Gain Buffer Mode |
| msp430F(G)47x_oa_11.s43 | OA1,Unity-Gain Buffer Mode |
| msp430F(G)47x_sd16_03.s43 | SD16_A, Continuous Conversion on a Single Channel |
| msp430F(G)47x_sd16_04.s43 | SD16_A, Single Conversion on Single Channel Polling IFG |
| msp430F(G)47x_sd16_05.s43 | SD16_A, Single Conversion on a Single Channel Using ISR |
| msp430F(G)47x_sd16_07.s43 | SD16, Single Conversion on a Single Channel Using ISR |
| msp430F(G)47x_sd16_08.s43 | SD16_A, Single Conversion on a Channel using buffered input |
| msp430F(G)47x_sd16_09.s43 | SD16_A, Single Conversion on a Single Channel Using ISR |
| msp430F(G)47x_sd16_10.s43 | SD16_A, Single Conversion on a Single Channel Using ISR 1024 Extended Oversampling Rate |
| msp430F(G)47x_sd16_11.s43 | SD16_A, Single Conversion on a Single Channel Using ISR ACLK input to SD16_A |
| msp430F(G)47x_sd16_12.s43 | SD16_A, Single Conversion on a Single Channel Using ISR SMCLK input is divided by 32 |
| msp430F(G)47x_compA_01.s43 | Comparator_A, Poll input CA0, result in P4.6 |
| msp430F(G)47x_compA_02.s43 | Comparator_A, Poll input CA0, CA exchange, result in P4.6 |
| msp430F(G)47x_compA_04.s43 | Comparator_A, Poll input CA0, result in P4.6 |
| msp430F(G)47x_compA_05.s43 | Comparator_A, Poll input CA0, interrupt triggered |
| msp430F(G)47x_ta_01.s43 | Timer_A, Toggle P4.6, CCR0 Cont. Mode ISR, DCO SMCLK |
| msp430F(G)47x_ta_02.s43 | Timer_A, Toggle P4.6, CCR0 Up Mode ISR, DCO SMCLK |
| msp430F(G)47x_ta_03.s43 | Timer_A, Toggle P4.6, Overflow ISR, DCO SMCLK |
| msp430F(G)47x_ta_04.s43 | Timer_A, Toggle P4.6, Overflow ISR, 32kHz ACLK |
| msp430F(G)47x_ta_05.s43 | Timer_A, Toggle P4.6, CCR0 Up Mode ISR, 32kHz ACLK |
| msp430F(G)47x_ta_16.s43 | Timer_A, Timer_A, PWM TA1-2 Up Mode, DCO SMCLK |
| msp430F(G)47x_ta_17.s43 | Timer_A, PWM TA1-2, Up Mode, 32kHz ACLK |
| msp430F(G)47x_tb_01.s43 | Timer_B, Toggle P4.6, CCR0 Cont. Mode ISR, DCO SMCLK |
| msp430F(G)47x_tb_02.s43 | Timer_B, Toggle P4.6, CCR0 Up Mode ISR, DCO SMCLK |
| msp430F(G)47x_tb_03.s43 | Timer_B, Toggle P4.6, Overflow ISR, DCO SMCLK |
| msp430F(G)47x_tb_04.s43 | Timer_B, Toggle P4.6, Overflow ISR, 32kHz ACLK |
| msp430F(G)47x_tb_05.s43 | Timer_B, Toggle P4.6, CCR0 Up Mode ISR, 32kHz ACLK |
| msp430F(G)47x_tb_10.s43 | Timer_B, PWM TB1 -2 Up Mode, DCO SMCLK |
| msp430F(G)47x_tb_11.s43 | Timer_B, PWM TB1-2 Up Mode, 32kHz ACLK |
| msp430F(G)47x_uscia0_irda_01.s43 | USCI_A0 IrDA External Loopback Test, 4MHz SMCLK |
| msp430F(G)47x_uscia0_spi_09.s43 | USCI_A0, SPI 3-Wire Master Incremented Data |
| msp430F(G)47x_uscia0_spi_10.s43 | USCI_A0, SPI 3-Wire Slave Data Echo |
| msp430F(G)47x_uscia0_duplex_9600.s43 | USCI_A0, UART 9600 Full-Duplex Transceiver, 32K ACLK |
| msp430F(G)47x_uscia0_uart_115k_lpm.s43 | USCI_A0, 115200 UART Echo ISR, DCO SMCLK, LPM3 |

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| msp430F(G)47x_uscia0_uart_115k.s43 | USCI_A0, 115200 UART Echo ISR, DCO SMCLK |
| msp430F(G)47x_uscia0_uart_9600.s43 | USCI_A0, Ultra-Low Pwr UART 9600 Echo ISR, 32kHz ACLK |
| msp430F(G)47x_uscib0_i2c_02.s43 | USCI_B0 I2C Master Interface to PCF8574, Read/Write |
| msp430F(G)47x_uscib0_i2c_08.s43 | USCI_B0 I2C Master TX multiple bytes to MSP430 Slave |
| msp430F(G)47x_uscib0_i2c_09.s43 | USCI_B0 I2C Slave RX multiple bytes from MSP430 Master |
| msp430F(G)47x_uscib0_i2c_10.s43 | USCI_B0 I2C Master RX multiple bytes from MSP430 Slave |
| msp430F(G)47x_uscib0_i2c_11.s43 | USCI_B0 I2C Slave TX multiple bytes to MSP430 Master |
| msp430F(G)47x_wdt_01.s43 | WDT, Toggle P1.0, Interval Overflow ISR, DCO SMCLK |
| msp430F(G)47x_wdt_02.s43 | WDT, Toggle P1.0, Interval Overflow ISR, 32kHz ACLK |
| msp430F(G)47x_svs_01.s43 | SVS, POR @ 2.5V Vcc |
| msp430F(G)47x_svs_03.s43 | SVM, Toggle port 4.6 on Vcc < 2.8V |

| C code examples – IAR & CCS | |
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| File name | Description |
| msp430F(G)47x_1.c | Toggle P4.6 in software |
| msp430F(G)47x_bt_01.c | Basic Timer, Toggle P4.6 Inside ISR, DCO SMCLK |
| msp430F(G)47x_bt_02.c | Basic Timer, Toggle P4.6 Inside ISR, 32kHz ACLK |
| msp430F(G)47x_dac12_01.c | DAC12_0, Output 1V on DAC0 |
| msp430F(G)47x_dac12_02.c | DAC12_0, Output 2V on DAC1 |
| msp430F(G)47x_dac12_03.c | DAC12_0, Output Voltage Ramp on DAC0 |
| msp430F(G)47x_dac12_05.c | DAC12_0, Output Voltage Ramp on DAC0 |
| msp430F(G)47x_clks_03.c | FLL+, Output 32kHz XTAL + HF XTAL + Internal DCO |
| msp430F(G)47x_fll_01.c | FLL+, Runs Internal DCO at 2.5MHz |
| msp430F(G)47x_fll_02.c | FLL+, Runs Internal DCO at 8MHz |
| msp430F(G)47x_LFXT1_nmi.c | LFXT1 Oscillator Fault Detection |
| msp430F(G)47x_lpm3.c | FLL+, LPM3 Using Basic Timer ISR, 32kHz ACLK |
| msp430x41x2_flashwrite_01.c | Flash In-System Programming, Copy SegC to SegD |
| msp430x41x2_flashwrite_03.c | Flash In-System Programming w/ EEI, Copy SegC to SegD |
| msp430x41x2_flashwrite_04.c | Flash In-System Programming w/ EEI, Copy SegD to A/B/C |
| msp430F(G)47x_oa_02.c | OA0,Comparator in General-Purpose Mode |
| msp430F(G)47x_oa_03.c | OA0,General-Purpose Mode |
| msp430F(G)47x_oa_06.c | OA0,Unity-Gain Buffer Mode |
| msp430F(G)47x_oa_11.c | OA1,Unity-Gain Buffer Mode |
| msp430F(G)47x_sd16_03.c | SD16_A, Continuous Conversion on a Single Channel |
| msp430F(G)47x_sd16_04.c | SD16_A, Single Conversion on Single Channel Polling IFG |
| msp430F(G)47x_sd16_05.c | SD16_A, Single Conversion on a Single Channel Using ISR |
| msp430F(G)47x_sd16_07.c | SD16, Single Conversion on a Single Channel Using ISR |
| msp430F(G)47x_sd16_08.c | SD16_A, Single Conversion on a Channel using buffered input |
| msp430F(G)47x_sd16_09.c | SD16_A, Single Conversion on a Single Channel Using ISR |
| msp430F(G)47x_sd16_10.c | SD16_A, Single Conversion on a Single Channel Using ISR 1024 Extended Oversampling Rate |
| msp430F(G)47x_sd16_11.c | SD16_A, Single Conversion on a Single Channel Using ISR ACLK input to SD16_A |

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| msp430F(G)47x_sd16_12.c | SD16_A, Single Conversion on a Single Channel Using ISR SMCLK input is divided by 32 |
| msp430F(G)47x_compA_01.c | Comparator_A, Poll input CA0, result in P4.6 |
| msp430F(G)47x_compA_02.c | Comparator_A, Poll input CA0, CA exchange, result in P4.6 |
| msp430F(G)47x_compA_04.c | Comparator_A, Poll input CA0, result in P4.6 |
| msp430F(G)47x_compA_05.c | Comparator_A, Poll input CA0, interrupt triggered |
| msp430F(G)47x_ta_01.c | Timer_A, Toggle P4.6, CCR0 Cont. Mode ISR, DCO SMCLK |
| msp430F(G)47x_ta_02.c | Timer_A, Toggle P4.6, CCR0 Up Mode ISR, DCO SMCLK |
| msp430F(G)47x_ta_03.c | Timer_A, Toggle P4.6, Overflow ISR, DCO SMCLK |
| msp430F(G)47x_ta_04.c | Timer_A, Toggle P4.6, Overflow ISR, 32kHz ACLK |
| msp430F(G)47x_ta_05.c | Timer_A, Toggle P4.6, CCR0 Up Mode ISR, 32kHz ACLK |
| msp430F(G)47x_ta_16.c | Timer_A, Timer_A, PWM TA1-2 Up Mode, DCO SMCLK |
| msp430F(G)47x_ta_17.c | Timer_A, PWM TA1-2, Up Mode, 32kHz ACLK |
| msp430F(G)47x_tb_01.c | Timer_B, Toggle P4.6, CCR0 Cont. Mode ISR, DCO SMCLK |
| msp430F(G)47x_tb_02.c | Timer_B, Toggle P4.6, CCR0 Up Mode ISR, DCO SMCLK |
| msp430F(G)47x_tb_03.c | Timer_B, Toggle P4.6, Overflow ISR, DCO SMCLK |
| msp430F(G)47x_tb_04.c | Timer_B, Toggle P4.6, Overflow ISR, 32kHz ACLK |
| msp430F(G)47x_tb_05.c | Timer_B, Toggle P4.6, CCR0 Up Mode ISR, 32kHz ACLK |
| msp430F(G)47x_tb_10.c | Timer_B, PWM TB1 -2 Up Mode, DCO SMCLK |
| msp430F(G)47x_tb_11.c | Timer_B, PWM TB1-2 Up Mode, 32kHz ACLK |
| msp430F(G)47x_uscia0_irda_01.c | USCI_A0 IrDA External Loopback Test, 4MHz SMCLK |
| msp430F(G)47x_uscia0_spi_09.c | USCI_A0, SPI 3-Wire Master Incremented Data |
| msp430F(G)47x_uscia0_spi_10.c | USCI_A0, SPI 3-Wire Slave Data Echo |
| msp430F(G)47x_uscia0_duplex_9600.c | USCI_A0, UART 9600 Full-Duplex Transceiver, 32K ACLK |
| msp430F(G)47x_uscia0_uart_115k_lpm.c | USCI_A0, 115200 UART Echo ISR, DCO SMCLK, LPM3 |
| msp430F(G)47x_uscia0_uart_115k.c | USCI_A0, 115200 UART Echo ISR, DCO SMCLK |
| msp430F(G)47x_uscia0_uart_9600.c | USCI_A0, Ultra-Low Pwr UART 9600 Echo ISR, 32kHz ACLK |
| msp430F(G)47x_uscib0_i2c_02.c | USCI_B0 I2C Master Interface to PCF8574, Read/Write |
| msp430F(G)47x_uscib0_i2c_08.c | USCI_B0 I2C Master TX multiple bytes to MSP430 Slave |
| msp430F(G)47x_uscib0_i2c_09.c | USCI_B0 I2C Slave RX multiple bytes from MSP430 Master |
| msp430F(G)47x_uscib0_i2c_10.c | USCI_B0 I2C Master RX multiple bytes from MSP430 Slave |
| msp430F(G)47x_uscib0_i2c_11.c | USCI_B0 I2C Slave TX multiple bytes to MSP430 Master |
| msp430F(G)47x_wdt_01.c | WDT, Toggle P1.0, Interval Overflow ISR, DCO SMCLK |
| msp430F(G)47x_wdt_02.c | WDT, Toggle P1.0, Interval Overflow ISR, 32kHz ACLK |
| msp430F(G)47x_svs_01.c | SVS, POR @ 2.5V Vcc |
| msp430F(G)47x_svs_03.c | SVM, Toggle port 4.6 on Vcc < 2.8V |

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