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

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, CCR0 Cont. Mode ISR, DCO SMCLK
msp430F(G)47x_ta_02.asm	Timer_A, Toggle P4.6, CCR0 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, CCR0 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, CCR0 Cont. Mode ISR, DCO SMCLK
msp430F(G)47x_tb_02.asm	Timer_B, Toggle P4.6, CCR0 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, CCR0 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_uscib0_i2c_02.asm	USCI_B0 I2C Master Interface to PCF8574, Read/Write
msp430F(G)47x_uscib0_i2c_08.asm	USCI_B0 I2C Master TX multiple bytes to MSP430 Slave
msp430F(G)47x_uscib0_i2c_09.asm	USCI_B0 I2C Slave RX multiple bytes from MSP430 Master
msp430F(G)47x_uscib0_i2c_10.asm	USCI_B0 I2C Master RX multiple bytes from MSP430 Slave
msp430F(G)47x_uscib0_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	
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

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

File name	Description
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	
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

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

IMPORTANT NOTICE