

```

void __attribute__((__interrupt__, auto_psv, context)) PWM1_Interrupt(void)
{
    // Get the ADC value that samples the BODE injected signal
    // Note: ADC is sampled every PWM cycle
    uint16_t bodeInjected = ADCBUF18;

    // Output the ADC value to the DAC
    DAC1DATH = bodeInjected;

    // To remove the offset introduced by the on-board operational amplifier,
    // subtract the sampled offset BODE injected signal with VDD/2
    int16_t bodeSignal = bodeInjected - 2047;

    // Add the BODE injected signal to the open loop PWM duty cycle
    // Clamp the duty cycle, incase the duty cycle exceeds the maximum
    uint16_t pwmDc = PWM_DC_54percent + bodeSignal;
    (pwmDc < PWM_DC_MAX ?
     pwmDc : PWM_DC_MAX);

    // Write in the register the new duty cycle value with injected noise
    PG1DC = pwmDc;

    // Update the PWM instance module with the new duty cycle
    PG1STATbits.UPDREQ = 1;

    // Clear the interrupt flag bit allowing the next interrupt to trip
    VLOOP_ISR_IF = 0;
}

```