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#include <stdlib.h>
#include <stdio.h>
#include "xutil.h"
#include "xparameters.h"
#include "xuartlite_1.h"

#define SG_SMROdemo_BASEADDR 0xFF000000
#define SG_SMROdemo_HIGHADDR 0xFF01FFFF
#define SG_SMROdemo_SIZE 0x1FFFF
//Gateways In

#define SG_SMROdemo_Gateway_In1 (SG_SMROdemo_BASEADDR+0x0)
//tag name: in_0
//arith_type = Unsigned
//num_bits = 14
//bin_pt = 0

//Gateways Out

#define SG_SMROdemo_Gateway_Out1 (SG_SMROdemo_BASEADDR+0x4)
//tag name: out_1

//Shared Memory Address

#define SG_SMROdemo_SMRO_dpram (SG_SMROdemo_BASEADDR+0x10000)

//Extra definitions to access a specific shared memory address
#define SG_SMROdemo_SMRO_dpram1 (SG_SMROdemo_SMRO_dpram+0x04)
#define SG_SMROdemo_SMRO_dpram2 (SG_SMROdemo_SMRO_dpram+0x08)
#define SG_SMROdemo_SMRO_dpram3 (SG_SMROdemo_SMRO_dpram+0x0C)
#define SG_SMROdemo_SMRO_dpram4 (SG_SMROdemo_SMRO_dpram+0x10)

int main()
{
    while(1)
    {
        *((volatile unsigned int*) SG_SMROdemo_Gateway_In1) = 5;
        usleep(100);
        xil_printf("\n\rGWout: %d", *((volatile unsigned int*) SG_SMROdemo_Gateway_Out1));

        xil_printf("\n\rValue0: %d ", *((volatile unsigned int*) SG_SMROdemo_SMRO_dpram));
        xil_printf("\n\rValue1: %d ", *((volatile unsigned int*) SG_SMROdemo_SMRO_dpram1));
        xil_printf("\n\rValue2: %d ", *((volatile unsigned int*) SG_SMROdemo_SMRO_dpram2));
        xil_printf("\n\rValue3: %d ", *((volatile unsigned int*) SG_SMROdemo_SMRO_dpram3));
        xil_printf("\n\rValue4: %d ", *((volatile unsigned int*) SG_SMROdemo_SMRO_dpram4));
        XUartLite_RecvByte(STDIN_BASEADDRESS);
    }
    return 0;
}

```