

# Embedded Solutions

NuWaves provides state-of-the-art RF and embedded design services to commercial, industrial, and military customers. We are a turn-key solutions provider for custom RF and embedded designs with full project management and thorough design responsibilities; taking ownership from conceptual idea to production.

## Embedded Systems

- Hardware
- Software
- Low Power Design
- Hardware Interfacing
- Custom Integrated Circuit Design (MMIC)
- Built-In Self-Test (BIT/BIST)

## Software

- C
- C++
- C#
- Assembler
- Test-Driven Development
- Internet of Things (IoT)
- Off-Target Simulation
- Python
- Qt
- GNU Radio
- .NET Framework

## Test Software

- LabVIEW
- Automated Test
- Test Software Development
- MATLAB

## Wireless Systems

- Radio Design
- Mesh Networking
- Zigbee
- Bluetooth
- Software-Defined Radio (SDR)

## Standard Interfaces/Busses

- Serial Peripheral Interface (SPI)
- I2C
- UART
- GPIO
- ADC and DAC Interfaces
- Custom Ports and Interfaces
- 1553 Bus
- Ethernet
- Universal Serial Bus (USB)

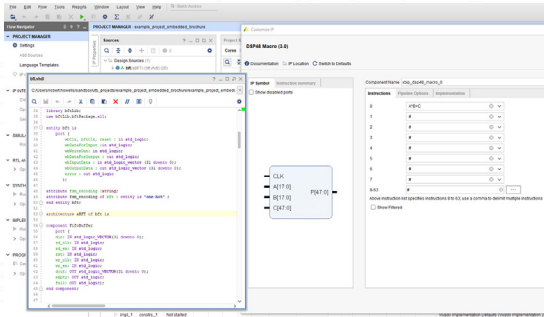
## Field-Programmable Gate Array (FPGA)

- VHSIC Hardware Description Language (VHDL)
- Verilog
- Signal Processing
- Tamper-Proof Design
- Digital Signal Processor (DSP)
- Xilinx/AMD Devices
- Altera/Intel Devices
- Vivado, ISE Tools
- Quartus Prime, ModelSim Tools
- System on Chip (SoC) Designs
- Hardware Emulation

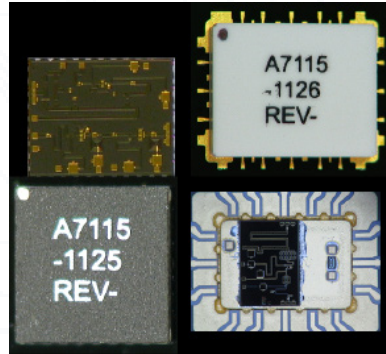
## Legacy Support

- Hardware
- Software
- Low Power Design
- Hardware Interfacing

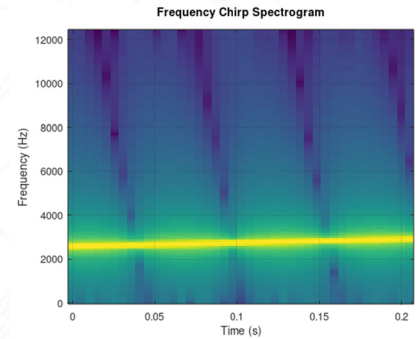
## Our Experience & Capabilities



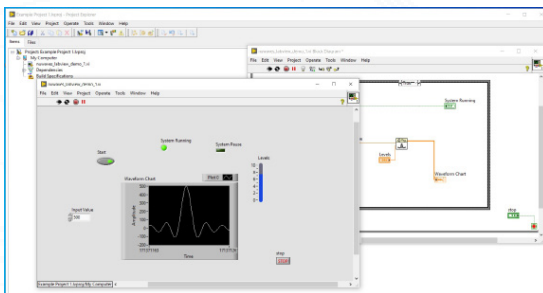
**Firmware Design Featuring Xilinx Vivado**



**MMIC Design**



**MATLAB Simulation**



**LabVIEW GUI Testing Software**



**Embedded RF and Software Maintenance**

```

//***** tomain.h
#include <stdlib.h>
#include <string.h>
#include <float.h>
#include <stdint.h>
//include coin_c.h
//void functionName(); /* Function declaration */

int coin_flip();

int main()
{
    //clear output
    printf("Hello world \n\n");
    printf("Welcome to Game 5... \n\n");

    //declare players
    int player_1 = 10;
    int player_2 = 10;
    int player_3 = 10;
    int player_4 = 10;
    int player_5 = 10;
    int player_6 = 10;
    int player_7 = 10;
    int player_8 = 10;
    int player_9 = 10;
    int player_10 = 10;
    int player_11 = 10;
    int player_12 = 10;
    int player_13 = 10;
    int player_14 = 10;
    int player_15 = 10;
    int player_16 = 10;

    int coin_flip_req = 0; //tracks number of coin flips equal to 1 value side

    //array of players, in order
    int players[16] = {player_1, player_2, player_3, player_4, player_5, player_6, pl
    int num_of_players = 16;
    int flip_result = 0;

    //PRNG vars
    int i, n;
    time_t t;
    n = 10;

    // Test the random number generator //
    
```

**C-Code**

Interested in learning more? Reach out to our dedicated embedded solutions team to see how NuWaves RF Solutions can maximize your system's capability and readiness.