Software Requirements Specification

Project: Serial Port

Module: Print

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**Table of Contents**

1. Overview 3

1.1 Purpose 3

1.2 References 3

2. Description 3

2.1 Module Perspective 3

2.2 Module Functions 3

3. Specific Requirements 3

3.1 External Interface Requirements 3

3.2 Functional Requirements 3

3.3 Classes / Objects / Variables 4

3.4 Design Constraints 4

3.5 Non-Functional Requirements 4

3.6 Tests 4

**3.6.1 Unit Tests** 4

**3.6.2 Integration Tests** 4

**3.6.3 System Tests** 4

4. Analysis Models 4

4.1 Sequence Diagrams 4

4.3 Data Flow Diagrams (DFD) 4

4.2 State-Transition Diagrams (STD) 4

# 1. Overview

The introduction to the Software Requirement Specification (SRS) document should provide an overview of the complete SRS document. While writing this document please remember that this document should contain all of the information needed by a software engineer to adequately design and implement the software product described by the requirements listed in this document.

## 1.1 Purpose

*The purpose of this module is to be able to print into a buffer different data types.*

## 1.2 References

*This subsection should:*

*(1) Provide a complete list of all documents referenced elsewhere in the SRS, or in a separate, specified document.*

*(2) Identify each document by title, report number - if applicable - date, and publishing organization.*

*(3) Specify the sources from which the references can be obtained.*

*This information may be provided by reference to an appendix or to another document.*

# 2. Description

*This section of the SRS should describe the general factors that affect 'the product and its requirements’. It should be made clear that this section does not state specific requirements; it only makes those requirements easier to understand.*

## 2.1 Module Perspective

*This subsection of the SRS puts the module into perspective with other related modules or*

*projects.*

## 2.2 Module Functions

*This subsection of the SRS should provide a summary of the functions that the software will perform.*

# 3. Specific Requirements

This will be the largest and most important section of the SRS. The customer requirements will be embodied within Section 2, but this section will give the D-requirements that are used to guide the project’s software design, implementation, and testing.

## 3.1 External Interface Requirements

## 3.2 Functional Requirements

1. Supplier low layer code shall provide printNumber function to print out 0…9 digits
2. Supplier low layer code shall provide printFloat function to print out floating point numbers with a specific precision.
3. Supplier low layer code shall call write to print out a byte.
4. Supplier low layer code shall call write to print out multiple bytes with the length of the bytes.
5. Supplier low layer code shall provide write to print out a character.
6. Supplier low layer code shall provide write to print out multiple characters with the length of the characters.
7. Supplier low layer code shall provide strlen to return the size of a character array
8. Supplier low layer code shall provide print to print out a character, character array, unsigned character, integer, unsigned integer, long, unsigned long, and a double.
9. Supplier low layer code shall provide println to print out a character, character array, unsigned character, integer, unsigned integer, long, unsigned long, and a double followed by carriage return and new line.
10. Supplier low layer code shall provide DEC, HEX, OCT, and BIN when printing out integers.
11. Suppler low layer code shall return the number of bytes that have been printed.

## 3.3 Classes / Objects / Variables

*List the classes/objects/variables attributes and reference to functional requirements*

## 3.4 Design Constraints

Specify design constraints imposed by other standards, company policies, hardware limitation, etc. that will impact on this software project.

## 3.5 Non-Functional Requirements

Non-functional requirements define the quality attributes and performance characteristics of the firmware. This can include aspects such as reliability, security, power consumption, real-time constraints, and response time. Each requirement should be quantifiable and measurable.

## 3.6 Tests

### **3.6.1 Unit Tests**

*A unit test is a type of software test that focuses on function requirements of a software component/module.*

### **3.6.2 Integration Tests**

*Integration testing is the phase in software testing in which the whole software module is tested or if it consists of multiple software modules they are combined and then tested as a group.*

### **3.6.3 System Tests**

System testing examines every component of an application to make sure that they work as a complete and unified whole.

### **3.6.4 Acceptance Tests**

System testing examines every component of an application to make sure that they work as a complete and unified whole.

# 4. Analysis Models

List all analysis models used in developing specific requirements previously given in this SRS. Each model should include an introduction and a narrative description. Furthermore, each model should be traceable the SRS’s requirements.

## 4.1 Sequence Diagrams

## 4.3 Data Flow Diagrams (DFD)

## 4.2 State-Transition Diagrams (STD)