# Document Approval

# Contributors

# Applicable Documents

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Document ID | Source | Title | Version | Date |

# Acronyms

# Executive Summary

* Project name
* Stakeholders
* Subsystems

# Introduction

# System Requirements

* Top level performance requirements
* Budgets
  + Heat
  + Electricity
  + Mechanical
  + Mass
* Passive/active systems
  + Frequency of use – calibration frequency

## Subsystem

* List requirements relevant to the system
* Physical characteristics of the system (values + metric)
* Performance characteristics (values + metrics)
* Functional subsystem diagram
* System architecture diagram
* Performance requirement

|  |  |  |  |
| --- | --- | --- | --- |
| Requirement ID – title | Requirement statement | Value + units | Notes |
|  |  |  | (a) |

1. – xxx

* Error Budget table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Requirement Level | | 1 | 2 | 3 | 4 |
| Subsystem component error | |  |  |  |  |
| Requirement | Metric |  | Value |  |  |
| Total Error | Metric | Value |  |  |  |

* Associated risks

## Concept Design

* Written
* CAD + Render
  + Annotated components
  + Dimensions
* Scalability of design
  + Scalability of design components
* Architecture flow chart comparison of multiple design options
* Limitations due to alternate subsystem designs or components

|  |  |  |  |
| --- | --- | --- | --- |
| Requirement title | Requirement statement | Optical design | Derived mechanical design requirements |
|  |  |  |  |

* Issues relevant to subsystem
* Error accumulation calculation

|  |  |
| --- | --- |
| Subsystem | Value (Error percentile) |

* External Interfaces
  + External system requirements
* Operation modes if multiple
* Prototyping
* Testing
* Maintenance
* Summary and conclusion

## Component Design

* Assembly – architecture schematic including values and metrics
* Design constraints
* General information on the component
* standards

## Subsystem Modelling

* Simulation tools
* Analysis
  + Tables + plots
  + Noise + error analysis
* Heat map diagrams
  + Description of colours
* Calculations (if any)
* Simulation parameters table

|  |  |
| --- | --- |
| Variable | Value |

* Baseline assumptions table

|  |  |  |
| --- | --- | --- |
| Parameter | Metric + Value | Notes |

* CAD models
* Simulation maps
* Predicted values on simulation
* Control Systems diagram
  + Block diagram
  + High level block diagram
  + Detailed
* Recommendations to design

# Risk Management

# References

* IEEE referencing