Ukpik-1

*DOCUMENT TITLE*

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**Document Change Record**

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| Issue | Date | Changes Made | Name |
| 0.1 | YYYY-MM-DD | First Draft | Last Name, First Names |
|  |  |  |  |
|  |  |  |  |

**Reference Documents**

*Insert applicable reference document titles, such as requirements documents*

**Terms, Definitions, Abbreviations**

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| --- | --- |
| CSA | Canadian Space Agency |
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# Requirements

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| **Requirement ID** | **Requirement Description** | **Parent Requirement** |
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# Architecture and Interface Diagrams

*Block diagram schematic to show internal interface connections and external interface connections. Label data connections with signal paths, connector types, protocols, etc. Label power connections with current flow paths, voltages, connector types, etc. Identify physical connection points with connector, screw type, adhesive type, etc.*

*3D rendering of spacecraft accommodation including the connectors and routing of coax cable*

# Functional Operations

*Provide a functional block diagram or state diagram with description of how the subsystem operates, including state transitions with input and output triggers*

*Spacecraft radio transmitter enable/disable operation scenarios and fail-safe implementation*

*Provide a walk-through of the CubeSat operation plan (uplink and downlink)*

# Ground Station and Operations

## Design and Status

*Provide a design and status for the ground station*

## Payload Data Plan

*Provide a step-by-step walkthrough of how the data will be received, stored, curated, and distributed*

## Ground Station Access Time Analysis

*Provide summary of estimated ground station access analysis*

## Operation Organization

*Operation Organization*

## RF Licensing Status

*RF license status*

# Link Budgeting and Protocols

*Provide the link budgets and show link margins*

*Provide protocols for uplink and downlink*

# Antenna design

*Antenna design, accommodation and deployment*

*Antenna radiation pattern simulation*

# Assembly and Integration Plan

*Provide a step-by-step walkthrough of how the subsystem will be assembled and integrated with the CubeSat*

# Test and Verification Plan

*Provide a step-by-step test and verification plan, including equipment needed and what results in a passing test*

*Requirement verification strategy: Take the subsystem requirements and identify how that requirement will be verified to have been met, and identify the necessary equipment or resources to complete that verifications*

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| **Requirement ID** | **Verification Strategy** | **Resources** |
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# Schedule and Work Plan for Phase C2 and D

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| **Task Description** | **Estimation of Time and Human Resources** | **Required Resources to Complete** |
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*Provide a description of the work that remains to be completed to complete the detailed design process. Provided an estimated time required to complete that work. Provide an estimate on the time and schedule for completing the testing, verification, assembly, and integration.*

# Datasheets for COTS Components

*Attach any datasheets or spec sheets for identified COTS components*