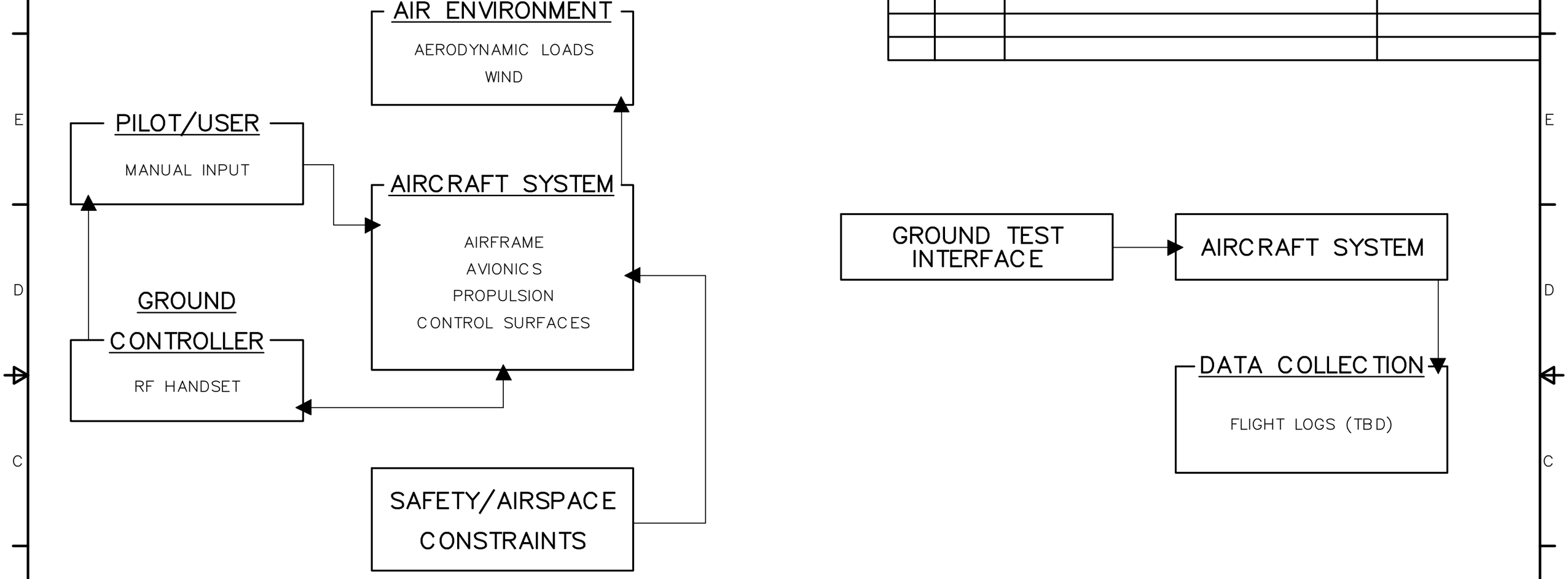
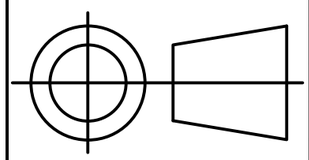
DOCUMENT REVISION HISTORY			
REV.	DATE	DESCRIPTION	AUTHORIZATION
0	11/21/25	DOCUMENT CREATION	CHRIS DILLOW



NOTES	
N1	Defines external actors, communication boundaries, and operational context for the RC aircraft system.
N2	
N3	
N4	
N5	
N6	
N7	

TOLERANCE TABLE		
USC	SI	ANGLE
X.X=±1/16" X.XX=±.015" X.XXX=±.003" X.XXXX=±.001" X.XXXXX=±.0005"	X=±0.5mm X.X=±0.1mm X.XX=±0.05mm	X=±1.0° X.X=±0.5° X.XX=±0.1°

ANGLE OF PROJECTION



DOCUMENT PREPARATION	
ENGINEER	CHRIS DILLOW
DRAFTER	CHRIS DILLOW
CHECKER	
APPROVAL	
PM	N/A

CAD BY CHRIS

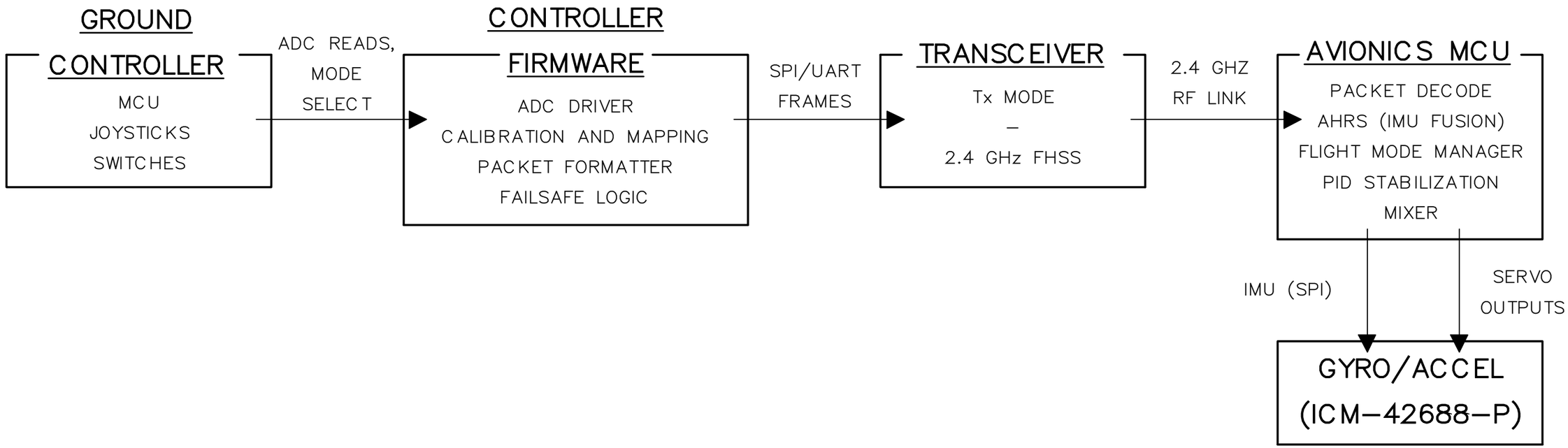
SYSTEM CONTEXT

SHEET: A

SIZE: B

PROJECT	ASSEMBLY	PART NUMBER	MATERIAL	MASS	UNIT	SCALE
TROPOCHIEF	DIAGRAMS	N/A	N/A	N/A	N/A	N/A

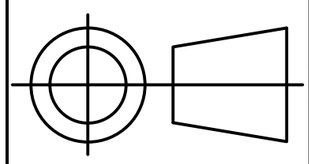
DOCUMENT REVISION HISTORY			
REV.	DATE	DESCRIPTION	AUTHORIZATION
0	11/21/25	DOCUMENT CREATION	CHRIS DILLOW



NOTES	
N1	
N2	
N3	
N4	
N5	
N6	
N7	

TOLERANCE TABLE		
USC	SI	ANGLE
X.X=±1/16" X.XX=±.015" X.XXX=±.003" X.XXXX=±.001" X.XXXXX=±.0005"	X=±0.5mm X.X=±0.1mm X.XX=±0.05mm	X=±1.0° X.X=±0.5° X.XX=±0.1°

ANGLE OF PROJECTION



DOCUMENT PREPARATION	
ENGINEER	CHRIS DILLOW
DRAFTER	CHRIS DILLOW
CHECKER	
APPROVAL	
PM	N/A

CAD BY CHRIS

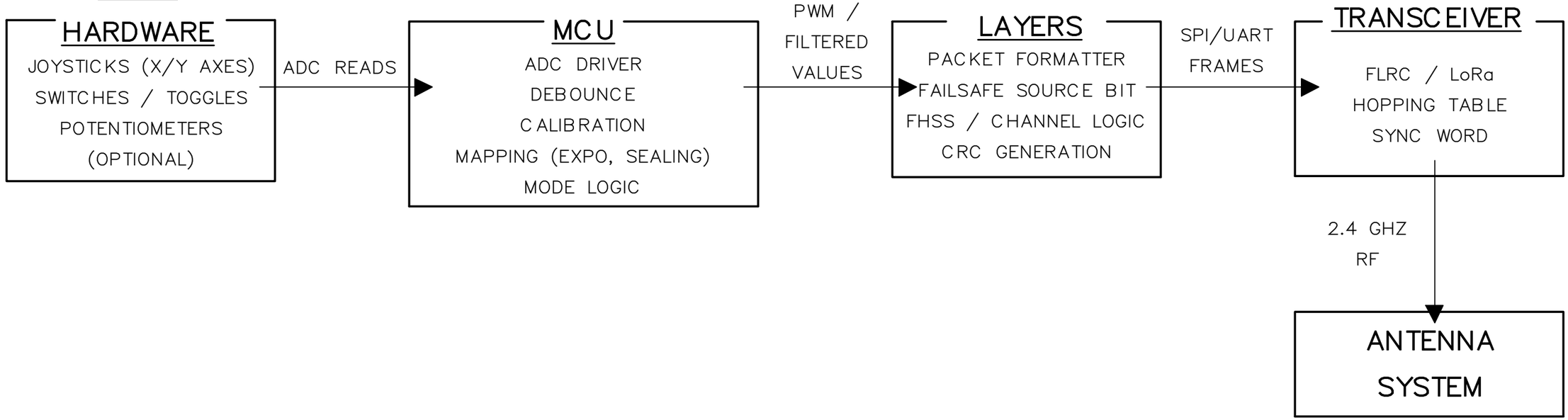
RF ARCHITECTURE

SHEET: A1

SIZE: B

PROJECT	ASSEMBLY	PART NUMBER	MATERIAL	MASS	UNIT	SCALE
TROPOCHIEF	DIAGRAMS	N/A	N/A	N/A	N/A	N/A

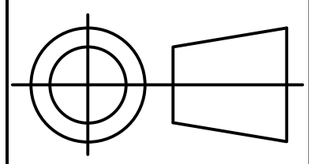
DOCUMENT REVISION HISTORY			
REV.	DATE	DESCRIPTION	AUTHORIZATION
0	11/21/25	DOCUMENT CREATION	CHRIS DILLOW



NOTES	
N1	All signal flows shown as logical (not electrical).
N2	MCU shown generically; final pinout defined in PCB schematic.
N3	Diagram is not to scale.
N4	RF module shown in Tx mode only.
N5	
N6	
N7	

TOLERANCE TABLE		
USC	SI	ANGLE
X.X=±1/16"	X=±0.5mm	X=±1.0°
X.XX=±.015"	X.X=±0.1mm	X.X=±0.5°
X.XXX=±.003"	X.XX=±0.05mm	X.XX=±0.1°
X.XXXX=±.001"		
X.XXXXX=±.0005"		

ANGLE OF PROJECTION



DOCUMENT PREPARATION	
ENGINEER	CHRIS DILLOW
DRAFTER	CHRIS DILLOW
CHECKER	
APPROVAL	
PM	N/A

CAD BY CHRIS

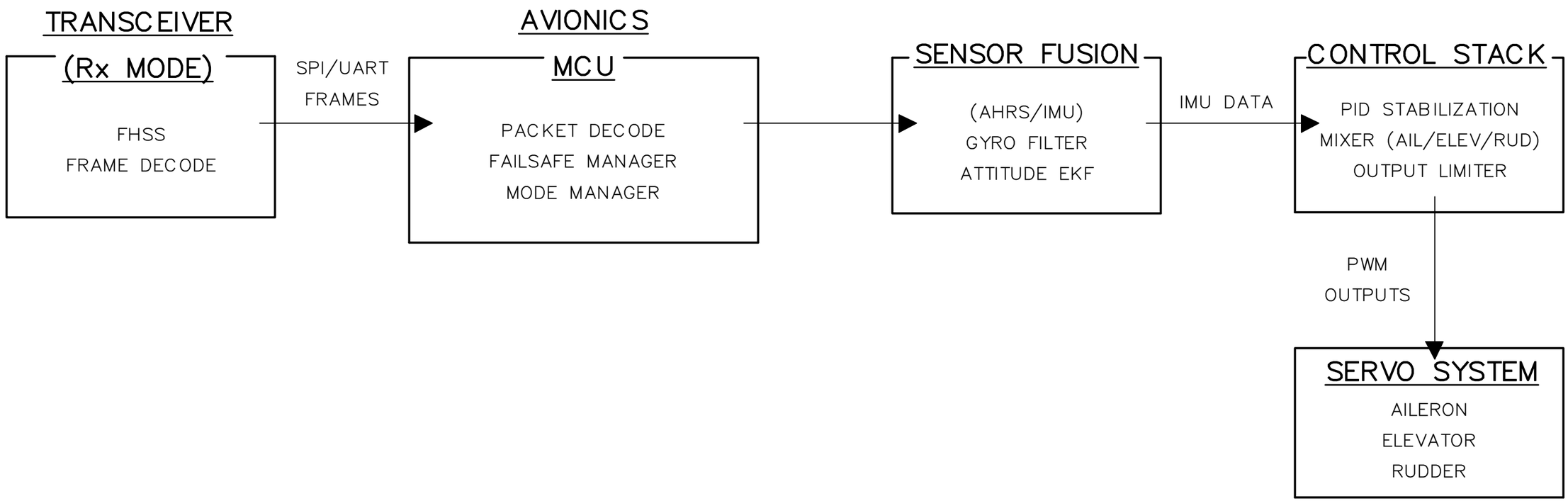
CONTROLLER ARCHITECTURE

SHEET: A2

SIZE: B

PROJECT	ASSEMBLY	PART NUMBER	MATERIAL	MASS	UNIT	SCALE
TROPOCHIEF	DIAGRAMS	N/A	N/A	N/A	N/A	N/A

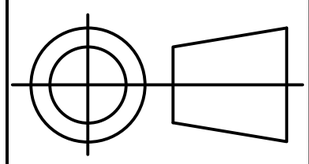
DOCUMENT REVISION HISTORY			
REV.	DATE	DESCRIPTION	AUTHORIZATION
0	11/21/25	DOCUMENT CREATION	CHRIS DILLOW



NOTES	
N1	Avionics MCU firmware operates at 200–500 Hz loop rate.
N2	EKF and PID shown functionally, not electrically.
N3	Servo power rail provided from 5V regulator (see power architecture).
N4	IMU shown as ICM-42688-P via SPI.
N5	
N6	
N7	

TOLERANCE TABLE		
USC	SI	ANGLE
X.X=±1/16"	X=±0.5mm	X=±1.0°
X.XX=±.015"	X.X=±0.1mm	X.X=±0.5°
X.XXX=±.003"	X.XX=±0.05mm	X.XX=±0.1°
X.XXXX=±.001"		
X.XXXXX=±.0005"		

ANGLE OF PROJECTION



DOCUMENT PREPARATION	
ENGINEER	CHRIS DILLOW
DRAFTER	CHRIS DILLOW
CHECKER	
APPROVAL	
PM	N/A

CAD BY CHRIS

AVIONICS ARCHITECTURE

SHEET: A3

SIZE: B

PROJECT	ASSEMBLY	PART NUMBER	MATERIAL	MASS	UNIT	SCALE
TROPOCHIEF	DIAGRAMS	N/A	N/A	N/A	N/A	N/A

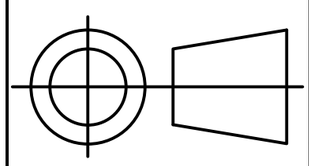
DOCUMENT REVISION HISTORY			
REV.	DATE	DESCRIPTION	AUTHORIZATION
0	11/21/25	DOCUMENT CREATION	CHRIS DILLOW

BYTE	FIELD	DESCRIPTION
0	START BYTE	0xA5 (SYNC)
1	FLAGS	BITS: ARMING, MODE, FAILSAFE
2	ROLL LSB	11-BIT VALUE (0-2047 RAW)
3	ROLL MSB	-
4	PITCH LSB	-
5	PITCH MSB	-
6	YAW LSB	-
7	YAW MSB	-
8	THROTTLE LSB	-
9	THROTTLE MSB	-
10	AUX1-MODE SWITCH	0-255
11	AUX2-FUTURE	0-255
12	CRC-8	POLYNOMIAL 0x07
	PACKET LENGTH:	13 BYTES

NOTES	
N1	
N2	
N3	
N4	
N5	
N6	
N7	

TOLERANCE TABLE		
USC	SI	ANGLE
X.X=±1/16"	X=±0.5mm	X=±1.0°
X.XX=±.015"	X.X=±0.1mm	X.X=±0.5°
X.XXX=±.003"	X.XX=±0.05mm	X.XX=±0.1°
X.XXXX=±.001"		
X.XXXXX=±.0005"		

ANGLE OF PROJECTION



DOCUMENT PREPARATION	
ENGINEER	CHRIS DILLOW
DRAFTER	CHRIS DILLOW
CHECKER	
APPROVAL	
PM	N/A

CAD BY CHRIS

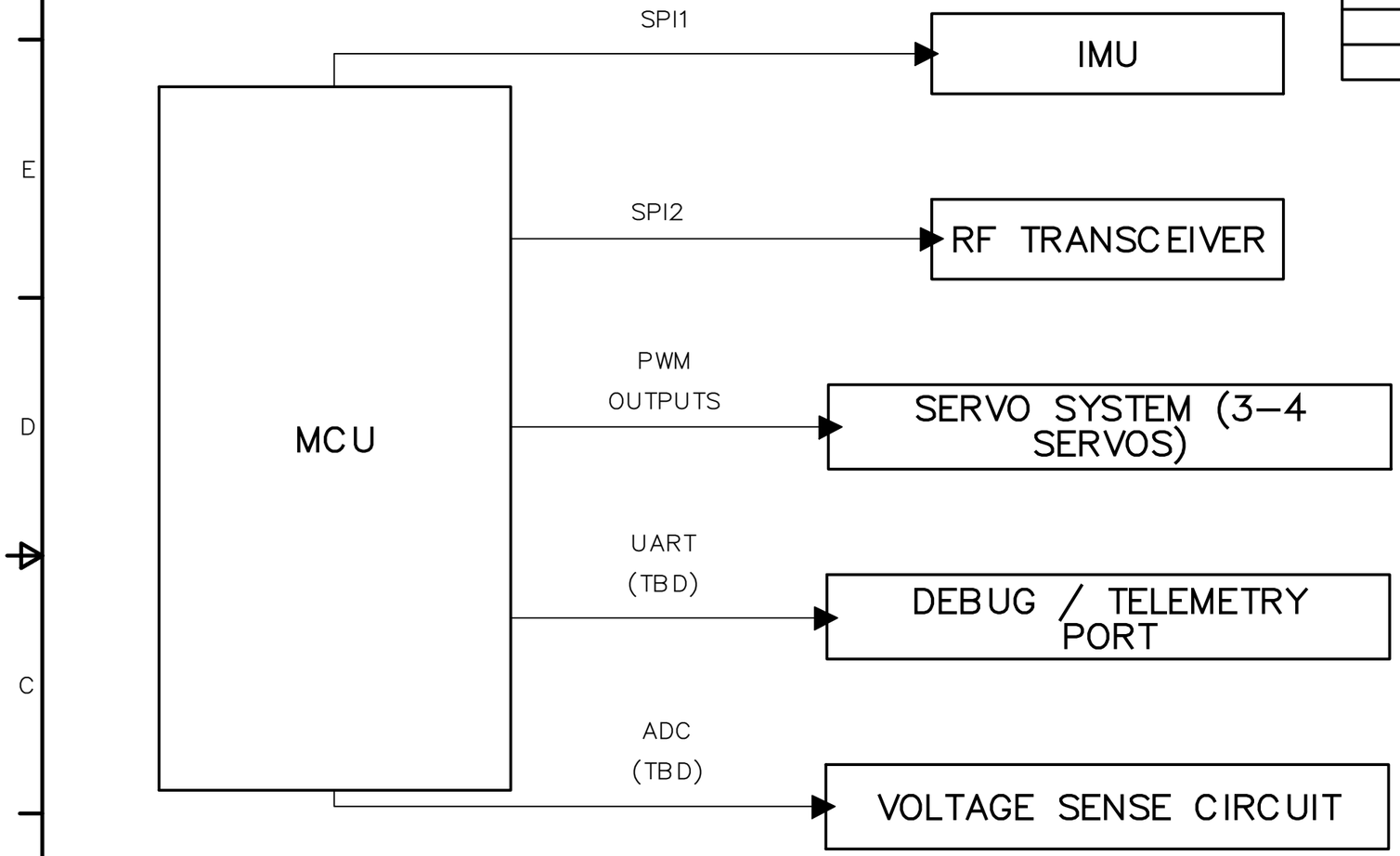
RF PACKET STRUCTURE

SHEET: A4

SIZE: B

PROJECT	ASSEMBLY	PART NUMBER	MATERIAL	MASS	UNIT	SCALE
TROPOCHIEF	DIAGRAMS	N/A	N/A	N/A	N/A	N/A

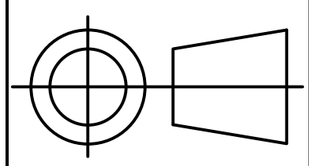
DOCUMENT REVISION HISTORY			
REV.	DATE	DESCRIPTION	AUTHORIZATION
0	11/21/25	DOCUMENT CREATION	CHRIS DILLOW



NOTES	
N1	This revision is conceptual and subject to change as components are solidified.
N2	Diagram represents preliminary functional pinout only.
N3	Specific MCU pins are TBD and will be defined during PCB design.
N4	Power rails and exact ADC scaling are TBD pending power budgeting.
N5	All blocks represent physical components or connectors.
N6	
N7	

TOLERANCE TABLE		
USC	SI	ANGLE
X.X=±1/16"	X=±0.5mm	X=±1.0°
X.XX=±.015"	X.X=±0.1mm	X.X=±0.5°
X.XXX=±.003"	X.XX=±0.05mm	X.XX=±0.1°
X.XXXX=±.001"		
X.XXXXX=±.0005"		

ANGLE OF PROJECTION



DOCUMENT PREPARATION	
ENGINEER	CHRIS DILLOW
DRAFTER	CHRIS DILLOW
CHECKER	
APPROVAL	
PM	N/A

CAD BY CHRIS

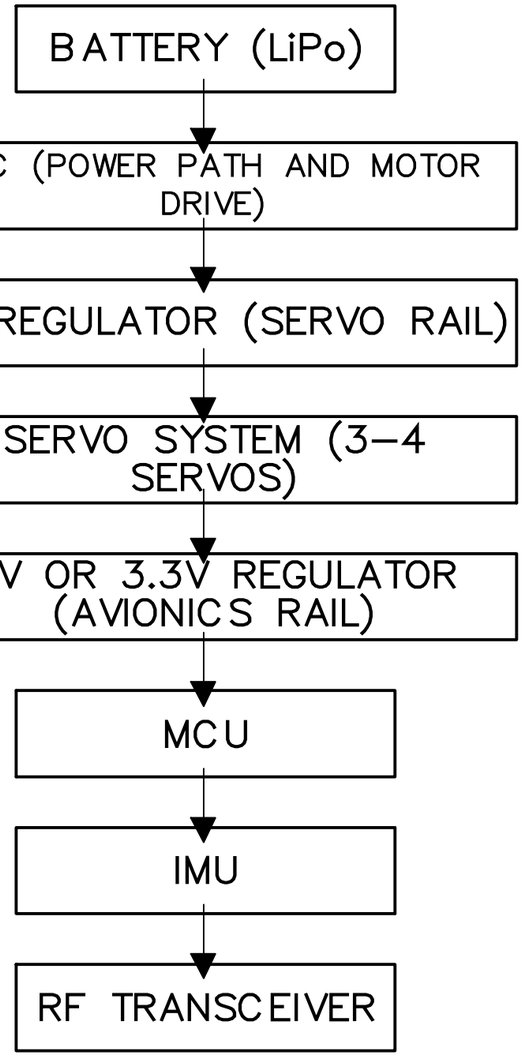
AVIONICS PINOUT

SHEET: A5

SIZE: B

PROJECT	ASSEMBLY	PART NUMBER	MATERIAL	MASS	UNIT	SCALE
TROPOCHIEF	DIAGRAMS	N/A	N/A	N/A	N/A	N/A

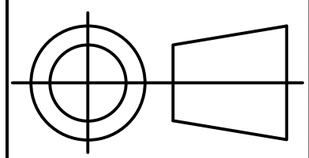
DOCUMENT REVISION HISTORY			
REV.	DATE	DESCRIPTION	AUTHORIZATION
0	11/21/25	DOCUMENT CREATION	CHRIS DILLOW



NOTES	
N1	This revision is conceptual and subject to change as components are solidified.
N2	
N3	
N4	
N5	
N6	
N7	

TOLERANCE TABLE		
USC	SI	ANGLE
X.X=±1/16" X.XX=±.015" X.XXX=±.003" X.XXXX=±.001" X.XXXXX=±.0005"	X=±0.5mm X.X=±0.1mm X.XX=±0.05mm	X=±1.0° X.X=±0.5° X.XX=±0.1°

ANGLE OF PROJECTION



DOCUMENT PREPARATION	
ENGINEER	CHRIS DILLOW
DRAFTER	CHRIS DILLOW
CHECKER	
APPROVAL	
PM	N/A

CAD BY CHRIS

POWER ARCHITECTURE

SHEET: A6

SIZE: B

PROJECT	ASSEMBLY	PART NUMBER	MATERIAL	MASS	UNIT	SCALE
TROPOCHIEF	DIAGRAMS	N/A	N/A	N/A	N/A	N/A