Module	Requirement ID(s)	Verification Method	Validation Method	Planned Test Type	Success Criteria	Responsible Engineer	Notes / Dependencies
Spoofing Module	FUN-1, FUN-3, FUN-4, FUN-5, FUN-7, FUN-8, FUN-9, CON-2	Flight test, vary parameters, isolation testing, exposure to different scenerios	Wireless confirmation, compare data, export logs, confirm spoofing para	MATLAB Simulink, Unreal Engine simulation, test videos	10 minutes	Will/Carl	Correct data, antenna array, specfified band
Neural Network Module	PER-1, PER-2, PER-3, PER-4, PER-5, I/O-1, CON-3	Continuous collection, latency testing	Wireless confirmation, compare data, export logs, confirm spoofing para	Python (PyTorch/ONNX), Jetson Nano/Xavier, datasets	50 ms, 85% Accuracy, 30 seconds	Kush/Sachel	Edge device
Control System	COM-1, COM-2, ENV-1, I-O3, TEST-1, CON-1	Documentation comparison, Relocation, Hardware, Chamber for flight	Confirm signal isolation, FAA paperwork, flight logs	Drone Hardware, Simulation, Edge device	Test environment while spoofing	Kush/Drew	Code of Virginia 4VAC5-30-400, U.S.C 4480
Ground Control Station	I/O-2, TEST-2	Identify reliable product, Measure distance and test	Confirm at Propper distance	Laptop	Miles	Izzy/Carl	Communications Act of 1934, 18 U.S.C. 1367(a)
Power Module	POW-1, ME-1	Measure in stable state	Compare endurance (power draw under max load)	Power monitor	Wattage	Will/Drew	Dedicated hardware
Failsafe Module	REL-1, REL-2	Observe flight	Induce failure, confirm stability	Batery log data, Simluation fault	Lifesspan, I/O	Izzy/Sachel	UAV/simulation