

				Design Validation	Verification Method
ID	Name	Description	Rationale		
CRO-002	Pixel Spacing	The pixel spacing for the ND readout shall provide spatial resolution < 4.7 mm	The pixel spacing for the ND readout shall provide spatial resolution as good as the far detector.	Design	Design
CRO-003	Pixel Time Resolution	The pixel timing resolution for spatial resolution in the drift direction and in the transverse directions shall be < 3 μs	The pixel timing resolution should provide equivalent spatial resolution in the drift direction as in the transverse directions.	Full Scale Demonstrator	Full Scale Demonstrator
CRO-004	Pixel noise	The noise (uncertainty) in the measurement of ND pixel charge shall be < 1000 electrons	The noise (uncertainty) in the measurement of ND pixel charge should be as good as the FD specification.	Full Scale Demonstrator	Test/ Inspection
CRO-005	Pixel Saturation Level	The pixel electronics shall have sufficient dynamic range such that it saturates at >180,000 electrons	The pixel electronics should have sufficient dynamic range such that it saturates in less than <10% of neutrino events.	Engineering Unit Test	Engineering Unit Test
			The ND charge readout should have comparable or better fidelity as the FD.		
CRO-008	Pixel Efficiency	The pixel channels shall be > 95% efficient for signals greater than 1/4 MIP	The channel efficiency should be high enough that we do not lose signal fidelity, particularly for MIP-level or larger signals.	Full Scale Demonstrator	Full Scale Demonstrator
CRO-010	Pixel Multiplexing	Each IO cable shall control and readout > 1000 pixels	Driven by heat conduction from feedthru, impurities especially in gas region, spacing and reliability	Full Scale Demonstrator	MIF Testing