QUALITY CONTROL SAMPLING PROCEDURES

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NaviFloor Robotics, Inc.

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1. PURPOSE AND SCOPE

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1. This Quality Control Sampling Procedures document ("Procedures") estab

2. These Procedures apply to all production units, software releases, and syst

2. DEFINITIONS

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1. "Critical Components" means the LiDAR sensors, terrain-mapping modul

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2. "Production Batch" means any group of AMR units manufactured within t

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3. "Testing Environment" means Company-approved facilities equipped with

3. SAMPLING REQUIREMENTS

1. Production Batch Sampling

- Minimum sampling rate of 15% of units per Production Batch

- 100% testing of Critical Components prior to assembly

- Additional sampling required for batches exceeding 50 units

2. Software Validation

- Full system testing on minimum 3 production units per software release

- Regression testing on all previously validated navigation scenarios

Minimum 72-hour continuous operation testing per sampled unit

4. TESTING PROTOCOLS

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1. Hardware Validation

a) Surface Navigation Testing

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Minimum 1,000 meters traversed on each approved surface type

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Variable load testing at 25%, 75%, and 100% of rated capacity

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Obstacle avoidance verification using standardized test objects

b) Sensor Calibration

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LiDAR accuracy verification within ±2mm at 10m range

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Depth-sensing calibration across minimum 20 reference points

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Cross-validation with redundant sensor arrays

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2. Software Validation

a) Navigation Algorithm Testing

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Multi-floor mapping accuracy verification

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Dynamic obstacle response timing measurement

- Path optimization efficiency scoring

b) Fleet Management Integration

- Multi-unit coordination scenarios
- Network latency measurement
- Failsafe protocol verification

5. ACCEPTANCE CRITERIA

- 1. Hardware Performance

- 100% pass rate on safety system functionality
- Maximum deviation of ±0.1% on movement precision
- Zero critical failures during continuous operation testing

2. Software Performance

- Maximum latency of 50ms for navigation decisions
- 99.9% accuracy in obstacle detection
- 100% completion rate for standardized test courses

6. DOČUMENTATION AND REPORTING

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1. Required Records

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Test results for each sampled unit

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Calibration certificates for testing equipment

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Environmental condition logs during testing

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Video documentation of critical test scenarios

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2. Retention Requirements

All test records maintained for minimum 5 years

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Digital backups stored in redundant locations

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Chain of custody documentation for all test units

7. NON-CONFORMANCE PROCEDURES

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1. Upon detection of any non-conformance:

a) Immediate quarantine of affected Production Batch

b) Root cause analysis within 24 hours

c) Corrective action plan development

d) Expanded sampling of adjacent Production Batches

2. Return to Production Requirements

- Implementation of corrective actions
- Verification testing on minimum 3 units
- Quality Control Manager approval
- Updated test documentation

8. REVISION AND CONTROL

- 1. These Procedures shall be reviewed annually and updated as necessary to

- Changes in production methods

- New technology implementations

- Regulatory requirements

- Customer specifications

2. All revisions require approval from:

- Chief Technology Officer

- Quality Control Manager

Chief Research Officer

9. LEGAL COMPLIANCE

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1. These Procedures comply with:

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ISO 9001:2015 Quality Management Systems

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ANSI/RIA R15.06-2012 Safety Requirements

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Applicable OSHA regulations

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Company's Quality Management System

AUTHORIZATION

APPROVED AND ADOPTED by NaviFloor Robotics, Inc.

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