

FREE MANUFACTURING QUALITY TEMPLATE

Calibration Audit Checklist

Use this 60-point checklist to audit calibration governance, equipment status, intervals, traceability, reference standards, methods, external providers, out-of-tolerance control, records, and corrective-action closure.

Facility / area

Audit date

Auditor / reviewer

Calibration scope

Internal manufacturing audit template. Apply current quality-system requirements, ISO 10012:2026, ISO/IEC 17025 where applicable, customer specifications, approved methods, and recognized traceability requirements.

1. Calibration programme, scope, ownership, and measurement requirements

1

Confirm a documented calibration and measurement-management process defines scope, responsibilities, approval authority, escalation, and controls for monitoring and measuring equipment.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Begin with the measurement-management scope: identify which measurements affect product acceptance, process control, safety,...

2

Verify the organization has identified measurement processes and equipment whose accuracy, precision, resolution, or uncertainty can affect product, process, safety, regulatory, or customer requirements.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Begin with the measurement-management scope: identify which measurements affect product acceptance, process control, safety,...

3

Confirm measurement requirements are defined for each critical characteristic, including units, tolerance, acceptance criteria, required capability, and decision rule where applicable.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Begin with the measurement-management scope: identify which measurements affect product acceptance, process control, safety,...

4

Verify a competent owner or metrology function is responsible for calibration planning, technical review, traceability, records, equipment status, and out-of-tolerance response.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Begin with the measurement-management scope: identify which measurements affect product acceptance, process control, safety,...

5

Check calibration controls cover company-owned, employee-owned, customer-owned, rented, loaned, reference, master, and embedded measuring devices used for acceptance or process decisions.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Begin with the measurement-management scope: identify which measurements affect product acceptance, process control, safety,...

6

Review previous audit findings, recurring overdue calibrations, failed standards, customer complaints, measurement-related nonconformities, and overdue corrective actions.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Begin with the measurement-management scope: identify which measurements affect product acceptance, process control, safety,...

2. Equipment register, unique identification, status, and location control

7

Confirm the master calibration register includes every controlled measuring instrument, reference standard, test device, fixture, gauge, and software-controlled measuring system within scope.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Trace sampled instruments from the master register to the actual point of use. The equipment identity, status, range, location, owner, and...

8

Verify each controlled item has a unique identification that matches its label, calibration record, maintenance history, and asset register.

CRITICAL

CALIBRATION

Compliant

Needs action

Critical

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Execution tip: Trace sampled instruments from the master register to the actual point of use. The equipment identity, status, range, location, owner, and...

9

Check the register records equipment description, manufacturer, model, serial number, measurement range, resolution, location, owner, calibration interval, and current status.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Trace sampled instruments from the master register to the actual point of use. The equipment identity, status, range, location, owner, and...

10

Verify calibration-status labels or electronic status controls clearly show whether equipment is current, due, overdue, limited-use, quarantined, or out of service.

CRITICAL

CALIBRATION

Compliant

Needs action

Critical

LIVE PHOTO | Add

Execution tip: Trace sampled instruments from the master register to the actual point of use. The equipment identity, status, range, location, owner, and...

11

Confirm equipment moved between departments, lines, laboratories, storage areas, or sites remains traceable and its calibration status is preserved.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Trace sampled instruments from the master register to the actual point of use. The equipment identity, status, range, location, owner, and...

12

Verify obsolete, damaged, missing, scrapped, or permanently withdrawn instruments are removed from active use and their status is updated promptly in the register.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Trace sampled instruments from the master register to the actual point of use. The equipment identity, status, range, location, owner, and...

3. Calibration intervals, scheduling, recall, and overdue control

13

Confirm every controlled instrument has an approved calibration or verification interval based on measurement risk, stability, use frequency, environment, manufacturer guidance, and historical performance.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Calibration frequency should be justified by risk and evidence, not habit alone. Review use severity, stability, past results, manufacturer...

14

Verify calibration due dates are calculated consistently from the approved interval and the organization's defined policy for calibration completion dates.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Calibration frequency should be justified by risk and evidence, not habit alone. Review use severity, stability, past results, manufacturer...

15

Check an effective recall or alert system identifies upcoming calibrations early enough to remove, replace, or schedule equipment without uncontrolled use.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Calibration frequency should be justified by risk and evidence, not habit alone. Review use severity, stability, past results, manufacturer...

16

Confirm overdue equipment is automatically or procedurally blocked from use for product acceptance, release, or other controlled measurements unless formally risk-assessed and authorized.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Calibration frequency should be justified by risk and evidence, not habit alone. Review use severity, stability, past results, manufacturer...

17

Verify extensions to calibration intervals are technically justified, documented, approved, and supported by historical performance or other objective evidence.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Calibration frequency should be justified by risk and evidence, not habit alone. Review use severity, stability, past results, manufacturer...

18

Review overdue trends, repeated early failures, unnecessary short intervals, equipment stability, and workload capacity to improve the calibration programme.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Calibration frequency should be justified by risk and evidence, not habit alone. Review use severity, stability, past results, manufacturer...

4. Metrological traceability, reference standards, and calibration hierarchy

19

Confirm calibration results that require metrological traceability are linked through a documented unbroken chain of calibrations to suitable national, international, SI, certified reference, or otherwise specified standards.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Trace one critical production instrument backward through working standards and reference standards. Each link should be documented,...

20

Verify reference standards and master instruments have valid calibration status, suitable uncertainty, and adequate capability for the measurements they support.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Trace one critical production instrument backward through working standards and reference standards. Each link should be documented,...

21

Confirm reference standards are used only for authorized calibration, verification, or comparison activities unless other use is controlled and cannot compromise their status.

CRITICAL

CALIBRATION

C

PC

NC

NA

Execution tip: Trace one critical production instrument backward through working standards and reference standards. Each link should be documented,...

22

Check intermediate and working standards are clearly identified and their relationship to higher-level standards is documented in the calibration hierarchy.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Trace one critical production instrument backward through working standards and reference standards. Each link should be documented,...

23

Verify reference materials and certified reference materials are within validity, stored as specified, traceable to their certificates, and protected from contamination or degradation.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Trace one critical production instrument backward through working standards and reference standards. Each link should be documented,...

24

Confirm any break in traceability, expired master standard, damaged reference, or suspect calibration standard triggers immediate containment and impact assessment.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Trace one critical production instrument backward through working standards and reference standards. Each link should be documented,...

5. Calibration methods, technical procedures, accuracy, and uncertainty

25

Confirm calibration and verification activities use current, approved methods or work instructions suitable for the equipment type, range, accuracy, and intended use.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Compare the written method with the actual calibration. Confirm the selected points, reference standard, stabilization time, calculations,...

26

Verify calibration points adequately cover the equipment's normal operating range and include critical or frequently used measurement points where needed.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Compare the written method with the actual calibration. Confirm the selected points, reference standard, stabilization time, calculations,...

27

Check the reference standard's accuracy or measurement uncertainty is suitable relative to the tolerance or required measurement capability being assessed.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
---------------	----------------	-------	----------	--------

Execution tip: Compare the written method with the actual calibration. Confirm the selected points, reference standard, stabilization time, calculations,...

28

Verify measurement uncertainty is evaluated and reported where required by the applicable calibration method, laboratory scope, customer requirement, or decision rule.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
---------------	----------------	-------	----------	--------

Execution tip: Compare the written method with the actual calibration. Confirm the selected points, reference standard, stabilization time, calculations,...

29

Confirm calculations, corrections, conversions, interpolation, software formulas, and acceptance criteria used in calibration are technically verified and protected from unauthorized change.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
---------------	----------------	-------	----------	--------

Execution tip: Compare the written method with the actual calibration. Confirm the selected points, reference standard, stabilization time, calculations,...

30

Where adjustments are made, verify before-adjustment and after-adjustment results are recorded when needed to evaluate equipment condition and potential impact on previous measurements.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Compare the written method with the actual calibration. Confirm the selected points, reference standard, stabilization time, calculations,...

6. Environmental conditions, handling, storage, and equipment protection

31

Confirm calibration areas control or monitor temperature, humidity, vibration, cleanliness, electromagnetic influence, power quality, or other environmental factors that can affect measurement validity.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
---------------	----------------	-------	----------	--------

Execution tip: Look beyond the certificate. Calibration validity can be lost through poor storage, shock, contamination, temperature extremes, uncontrolled...

32

Verify environmental limits required by the method, equipment, reference standard, or laboratory procedure are defined and recorded during calibration where applicable.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
---------------	----------------	-------	----------	--------

Execution tip: Look beyond the certificate. Calibration validity can be lost through poor storage, shock, contamination, temperature extremes, uncontrolled...

33

Check instruments and reference standards are protected from shock, vibration, contamination, moisture, corrosion, dust, unauthorized adjustment, and other damage during handling and transport.

CRITICAL

CALIBRATION

Compliant

Needs action

Critical

LIVE PHOTO | Add

Execution tip: Look beyond the certificate. Calibration validity can be lost through poor storage, shock, contamination, temperature extremes, uncontrolled...

34

Verify storage arrangements maintain equipment condition and calibration status, including protective cases, covers, controlled cabinets, and specified orientation or environmental requirements.

CALIBRATION

Compliant

Needs action

Critical

LIVE PHOTO | Add

Execution tip: Look beyond the certificate. Calibration validity can be lost through poor storage, shock, contamination, temperature extremes, uncontrolled...

35

Confirm tamper seals, software locks, adjustment covers, or other safeguards are used where unauthorized changes could invalidate calibration.

CALIBRATION

Compliant

Needs action

Critical

LIVE PHOTO | Add

Execution tip: Look beyond the certificate. Calibration validity can be lost through poor storage, shock, contamination, temperature extremes, uncontrolled...

36

Verify equipment that is dropped, overloaded, repaired, modified, exposed to severe conditions, or suspected of damage is evaluated before being returned to controlled measurement use.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
---------------	----------------	-------	----------	--------

Execution tip: Look beyond the certificate. Calibration validity can be lost through poor storage, shock, contamination, temperature extremes, uncontrolled...

7. External calibration providers, certificates, and supplier control

37

Confirm external calibration laboratories are selected and approved using defined competence criteria appropriate to the measurement, risk, customer, and regulatory requirements.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Do not accept a certificate only because it says 'calibrated.' Verify provider competence, scope, method, traceability, results, uncertainty...

38

Where accredited calibration is required, verify the laboratory's current accreditation scope actually covers the measurement quantity, range, method, and capability provided.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Do not accept a certificate only because it says 'calibrated.' Verify provider competence, scope, method, traceability, results, uncertainty...

39

Verify calibration certificates identify the instrument, laboratory, calibration date, method, results, units, standards used, traceability information, and authorized approval.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Do not accept a certificate only because it says 'calibrated.' Verify provider competence, scope, method, traceability, results, uncertainty...

40

Check reported measurement uncertainty, environmental conditions, corrections, limitations, and conformity statements are reviewed where relevant to the intended use.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Do not accept a certificate only because it says 'calibrated.' Verify provider competence, scope, method, traceability, results, uncertainty...

41

Confirm certificates are technically reviewed before equipment is released for use and any discrepancies, ambiguous results, missing data, or unacceptable uncertainty are resolved.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
---------------	----------------	-------	----------	--------

Execution tip: Do not accept a certificate only because it says 'calibrated.' Verify provider competence, scope, method, traceability, results, uncertainty...

42

Review external provider performance for certificate errors, turnaround time, failed calibrations, recurring discrepancies, scope limitations, complaints, and corrective action.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Do not accept a certificate only because it says 'calibrated.' Verify provider competence, scope, method, traceability, results, uncertainty...

8. Out-of-tolerance results, product impact, and corrective action

43

Confirm equipment found out of tolerance, damaged, unstable, or otherwise unfit is immediately identified and prevented from further controlled use.

CRITICAL

CALIBRATION

Compliant

Needs action

Critical

LIVE PHOTO | Add

Execution tip: An out-of-tolerance instrument is not only a calibration failure. Determine what it measured since the last known-valid condition, what...

44

Verify the organization evaluates the validity of previous measurement results back to the last known acceptable condition or another technically justified boundary.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: An out-of-tolerance instrument is not only a calibration failure. Determine what it measured since the last known-valid condition, what...

45

Confirm affected products, batches, processes, inspections, releases, or test results are identified and assessed for potential impact when a measurement device is found nonconforming.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
---------------	----------------	-------	----------	--------

Execution tip: An out-of-tolerance instrument is not only a calibration failure. Determine what it measured since the last known-valid condition, what...

46

Where risk exists, verify affected product is contained, reinspected, retested, remeasured, dispositioned, or communicated to customers or regulators as required.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
---------------	----------------	-------	----------	--------

Execution tip: An out-of-tolerance instrument is not only a calibration failure. Determine what it measured since the last known-valid condition, what...

47

Confirm calibration failure investigations consider drift, damage, overload, environmental exposure, maintenance, method error, reference-standard failure, misuse, and interval suitability.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: An out-of-tolerance instrument is not only a calibration failure. Determine what it measured since the last known-valid condition, what...

48

Verify corrective actions address root cause, equipment disposition, recalibration, interval changes, retraining, process controls, supplier issues, and effectiveness verification as appropriate.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: An out-of-tolerance instrument is not only a calibration failure. Determine what it measured since the last known-valid condition, what...

9. Calibration records, software, data integrity, and document control

49

Confirm calibration records are legible, uniquely linked to the equipment, protected from loss or unauthorized alteration, retained for the defined period, and readily retrievable.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Sample one paper record and one electronic record end to end. Results, revisions, calculations, approvals, attachments, and audit history...

50

Verify records include as-found results, as-left results where applicable, calibration points, acceptance criteria, standards used, date, technician, and reviewer or approval information.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Sample one paper record and one electronic record end to end. Results, revisions, calculations, approvals, attachments, and audit history...

51

Check electronic calibration databases use appropriate access control, change history, backup, recovery, and data-integrity controls for critical records and status changes.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Sample one paper record and one electronic record end to end. Results, revisions, calculations, approvals, attachments, and audit history...

52

Verify spreadsheets, calibration-management software, automated test scripts, correction tables, and calculation templates are validated or otherwise verified before use and after significant change.

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Sample one paper record and one electronic record end to end. Results, revisions, calculations, approvals, attachments, and audit history...

53

Confirm superseded calibration methods, forms, correction factors, acceptance criteria, and software versions are removed from unintended use while required historical records remain accessible.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Sample one paper record and one electronic record end to end. Results, revisions, calculations, approvals, attachments, and audit history...

54

Verify certificate files, scanned records, attachments, reference-standard certificates, environmental logs, and corrective-action evidence remain linked to the correct equipment record.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Sample one paper record and one electronic record end to end. Results, revisions, calculations, approvals, attachments, and audit history...

10. Competence, internal audit, performance review, and management sign-off

55

Confirm personnel performing calibration, technical review, verification, equipment release, or measurement-system decisions are competent based on education, training, experience, authorization, and demonstrated...

CRITICAL

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Use the final review to test whether the system can detect weak measurement control before product is affected. Focus on competence,...

56

Verify calibration personnel receive training on applicable methods, equipment, uncertainty concepts, traceability, data integrity, out-of-tolerance response, and software used in their role.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
---------------	----------------	-------	----------	--------

Execution tip: Use the final review to test whether the system can detect weak measurement control before product is affected. Focus on competence,...

57

Check internal audits sample the calibration programme, records, equipment status, external providers, traceability, technical methods, overdue controls, and previous corrective actions.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
---------------	----------------	-------	----------	--------

Execution tip: Use the final review to test whether the system can detect weak measurement control before product is affected. Focus on competence,...

58

Review calibration KPIs and trends such as overdue rate, failure rate, drift, turnaround time, external-provider issues, interval changes, repeat findings, and impact assessments.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Use the final review to test whether the system can detect weak measurement control before product is affected. Focus on competence,...

59

Confirm open calibration findings have named owners, priority, due dates, interim controls, required evidence, escalation routes, and effectiveness checks.

CALIBRATION

Record / item	Current status	Owner	Evidence	Action
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Execution tip: Use the final review to test whether the system can detect weak measurement control before product is affected. Focus on competence,...

60

Record final audit status, unresolved critical measurement risks, affected equipment or product, required follow-up, next audit date, auditor, reviewer, date, and management approval.

CRITICAL

CALIBRATION

FINAL STATUS | Enter

REVIEWER | Enter

APPROVAL | Enter

Execution tip: Use the final review to test whether the system can detect weak measurement control before product is affected. Focus on competence,...