

Alloy Toll Management Sdn Bhd	Doc. No. : PM 35
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Equipment Calibration	Effective Date : 15/12/2020
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1.0 PURPOSE

To ensure all critical equipment that used at toll plazas are properly controlled, calibrated and maintained to demonstrate conformance of the services.

2.0 SCOPE

The procedure cover detection equipments that related to the toll collection system equipment for vehicle detection that pass through toll lanes at toll plazas.

3.0 PROCEDURE

3.1 Determine Equipment Specification

- 3.1.1 Prior to the purchase of any equipment, the Head of Department (HOD) concerned shall determine the equipment specification.
- 3.1.2 The Purchaser shall purchase the equipment based on the equipment specification which has been determined.

3.2 Determine Equipment Require Calibration

- 3.2.1 Whenever the purchase of critical equipment is received, the IT Manager in collaboration with the HOD concerned shall discuss and determine whether the critical equipment requires calibration.
 - 3.2.1.1 The basis for determination whether the equipment require calibration depends on the equipment used in the particular process can affects product performance at lanes or otherwise.
- 3.2.2 After the equipment is confirmed requires calibration, the IT Manager shall update the equipment in the Calibration Equipment Master List (CEML) (Appendix A) within seven (7) working days from the date of receiving the equipment.
 - 3.2.2.1 The CEML contains the following items:
 - (i) Equipment name;
 - (ii) Equipment model/ serial no.;
 - (iii) Equipment location;
 - (iv) Lane Number
 - (v) Equipment accuracy (spec) -
 - (vi) Calibration frequency
 - (vii) Calibrated by in-house or outsource external.

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3.3 Determine Calibration Frequency

- 3.3.1 Before calibration is conducted, the IT Manager in collaboration with the HOD shall determine the equipment whether to be calibrated in-house or outsource and the frequency of the activity.

3.4 Pre-Calibration

- 3.4.1 Prior to the due date of calibration to each of the transceiver, IT technician will inform IT executive to initiate the pre-calibration activity. IT executive or it assignee will raise Requisition Order form (RQ) to purchasing department to award calibration contract to external party.
- 3.4.2 Two (2) months before the due date, the RQ shall be raised for approval by IT Manager before submission to purchasing department.

3.5 Perform Calibration

- 3.5.1 Upon calibration, the assignee by the IT Manager shall verify the equipment which has been calibrated by external parties is identified with a suitable indicator or label carrying the following details.
- (i) Calibration date;
 - (ii) Calibration due;
 - (iii) Calibration by (name & signature).
- 3.5.2 The sticker will be placed near to the equipment or noticeable place.

3.6 Post-Calibration Control

- 3.6.1 After calibration, the users of equipment shall ensure that all the equipment the accuracy and fitness for use of the equipment are properly maintained during handling, storage and maintenance.
- (i) Handle with care;
 - (ii) The calibrated equipment shall be prevented from unauthorized adjustment which would invalidate the calibration setting
 - (iii) To monitor the performance of the equipment after the calibration process, any shortfalls in performance, to consult the PIC who performed the calibration process.

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3.7 Verification of Calibration Result

3.7.1 To confirm the equipment is follow the specifications after the calibration, verification and review the calibration result shall be performed. IT Manager will assign IT technician to verify the calibration result base on the equipment specifications as mentioned in the the CEML.

3.7.2 If there is a result that beyond the equipment specifications, re-calibration test shall be performed . IT technician will only put their signatory for approval on the calibration result report after all specifications have been followed.

3.7.3 For any cases that the equipment was failed to meet the specifications, it is the responsibility of IT technician to trouble shoot and rectify the failure equipment and decide for replacement unit. It is allowable to re-test maximum two times before the decision being made on next of action.

3.8 Documented Information Control

3.7.1 Upon completion of calibration, the Document Controller (DC) shall immediately update the following calibration related documented information in a hard copy file which is labeled as “**Calibration File**”.

- a. CEML;
- b. Calibration reports;
- c. Out of Calibration Affected Batches Record (if any).

4.0 APPLICABLE CLAUSES

7.1.5.2 Measurement Traceability

7.5.3 Control of Documented Information

5.0 QUALITY RECORDS

No	Title of Records	‘Person In Charge’ (PIC)	Retention Period (Year)
1	Calibration Equipment Master List (CEML)	IT Manager	3 years
2	Calibration Reports	Document Controller	3 years
3	Out of Calibration Affected Batches Record	Document Controller	3 years

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APPENDIX A

CALIBRATION EQUIPMENT MASTER LIST						PT 22.00
EQUIPMENT NAME:		TRANSCEIVER				
LOCATION	LANE	MODEL / SN NO (BASE ON CONTROL UNIT NO)	ACCURACY (SPEC) - POINT A AS PER DRAWING	CALIBRATION FREQUENCY	CALIBRATION BY IN-HOUSE / EXTERNAL	REMARKS
GOMBAK	T12	F002006F	60cm (+/- 10 cm)	Once a year	INTERNAL / TERAS TEKNOLOGI SDN BHD	
	T13	F0040006				
	B12	F009004B				
	B13	F0020046				
BENTONG	T08	F0050025				
	B08	F002003E				
KARAK	M03	F001009D				
	K05	F0050054				
TEMERLOH	K04	F002000D				
GAMBANG	M03	F002000B				
	K05	F0020004				
KUANTAN	M03	F002006D				
	K04	F004000F				
JABOR	M04	F004003D				
	K04	F0050026				

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DOCUMENT AMENDMENT REGISTER

NO	DATE	REASON	CHAPTER	VERSION
1	15/10/2020	Initial Release	All	1.0
2	15/12/2020	New Inserted and amendment made: Review results of the audit findings from the CI International Certification Sdn Bhd auditor team.	3.7 Appendix A	1.1

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