Schedule

Issue date: 06 April 2025
Valid Until: -

NO: SAMM 917

LABORATORY LOCATION/ CENTRAL OFFICE:	Anttela Sdn. Bhd. No. 104, Jalan Waja Indah 3 Taman Waja Indah Kawasan Perindustrian Waja 09000 Kulim, Kedah , 9000, KEDAH MALAYSIA
ACCREDITED SINCE :	06 APRIL 2025
FIELD(S) OF TESTING:	MECHANICAL (RELIABILITY) MECHANICAL (FAILURE ANALYSIS)

This laboratory has demonstrated its technical competence to operate in accordance with MS ISO/IEC 17025:2017 (ISO/IEC 17025:2017).

This laboratory's fulfillment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001 (see Joint ISO-ILAC-IAF Communiqué dated April 2017).

CENTRAL LOCATION:	Anttela Sdn. Bhd. No. 104, Jalan Waja Indah 3 Taman Waja Indah Kawasan Perindustrian Waja 09000 Kulim, Kedah , 9000, Kedah
FIELD(S) OF TESTING :	MECHANICAL, MECHANICAL

SCOPE OF TESTING : MECHANICAL (RELIABILITY)

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
Electrical And Electronic Equipment And Automotive Parts/ Materials/ Component (continue)	Degree of protection provided by enclosure (IP Code) IP 1X, IP 2X, IP 3X, IP I 4X, IP 5X, IP 6X IP X3, IP X4, IP X5, IP X6, IP X7, IP X8	IEC 60529:2013
	Vibration (XYZ Direction) Displacement: 1 mm to 6 I mm Acceleration I e Sinusoidal (5 Hz to 2 kHz): 1 G to 20G e Random (10 Hz to 1 kHz): 1G to 35 G	BS EN 60068-2-6:2008 Test Fc JESD22-B103B:2006 JESD22-B103B.01:2016 IEC 60068-2-64:2008 Test Fh ISO 16750-3:2007 ISO 16750-3:2012
	Shock Acceleration: 1 G to 40 G I ii. Duration (maximum): 16 ms	IEC 60068-2-27:2008 Test Ea

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Electrical And Electronic Equipment And Automotive Parts/ Materials/ Component	Change of temperature with specified rate of change (-40?C to 180?C) (Max temperature change rate: 5 K/min)	IEC 60068-2-14:2009 Test Nb
	Low temperature test (down to -40?C)	IEC 60068-2-1:2007 Test A JESD22-A119A:2015 JESD22-A119A:2021
	High temperature test (up to 200?C)	IEC 60068-2-2:2007 Test B JESD22-A103:2015 JESD22-A103E.01:2021
	Temperature and humidity test 25?C to 85?C 80% to 98% r.h.	IEC 60068-2-78:2012 Test Cab IEC 60068-2-30:2005 Test Db JESD22-A101D:2015 JESD22-A101D.01:2021

SCOPE OF TESTING : MECHANICAL (FAILURE ANALYSIS)

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Electrical And Electronic Equipment And Automotive Parts/ Materials/ Component (continue)	Degree of protection provided by enclosure (IP Code) IP 1X, IP 2X, IP 3X, IP I 4X, IP 5X, IP 6X IP X3, IP X4, IP X5, IP X6, IP X7, IP X8	IEC 60529:2013
	Vibration (XYZ Direction) Displacement: 1 mm to 6 I mm Acceleration I e Sinusoidal (5 Hz to 2 kHz): 1 G to 20G e Random (10 Hz to 1 kHz): 1G to 35 G	BS EN 60068-2-6:2008 Test Fc JESD22-B103B:2006 JESD22-B103B.01:2016 IEC 60068-2-64:2008 Test Fh ISO 16750-3:2007 ISO 16750-3:2012
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Electrical And Electronic Equipment And Automotive Parts/ Materials/ Component	Change of temperature with specified rate of change (-40?C to 180?C) (Max temperature change rate: 5 K/min)	IEC 60068-2-14:2009 Test Nb
	Low temperature test (down to -40?C)	IEC 60068-2-1:2007 Test A JESD22-A119A:2015 JESD22-A119A:2021
	High temperature test (up to 200?C)	IEC 60068-2-2:2007 Test B JESD22-A103:2015 JESD22-A103E.01:2021
	Temperature and humidity test 25?C to 85?C 80% to 98% r.h.	IEC 60068-2-78:2012 Test Cab IEC 60068-2-30:2005 Test Db JESD22-A101D:2015 JESD22-A101D.01:2021

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SCOPE OF TESTING : MECHANICAL (RELIABILITY)

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Battery	Cross section analysis [Welding spot ? Inspection on the fusion leaking condition] (Qualitative)	In-house laboratory method WI-007
Printed Circuit Board Assembly (pcba)	Dye and pry analysis (Qualitative)	In-house laboratory method WI-003
	Cross section analysis [BGA Component ? Inspection on solder void and crack] (Qualitative)	In-house laboratory method WI-008

SCOPE OF TESTING : MECHANICAL (FAILURE ANALYSIS)

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Battery	Cross section analysis [Welding spot ? Inspection on the fusion leaking condition] (Qualitative)	In-house laboratory method WI-007
Printed Circuit Board Assembly (pcba)	Dye and pry analysis (Qualitative)	In-house laboratory method WI-003
	Cross section analysis [BGA Component ? Inspection on solder void and crack] (Qualitative)	In-house laboratory method WI-008