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EMC TEST CERTIFICATE

Issued by:	**Eurofins York Ltd**	Issued to:	Mr David Barrass IOT Routers Ltd The Barn 22 Brackendale Bradford West Yorkshire BD10 0SJ	**Project Number: C5877**

Electromagnetic Compatibility Test/s were performed on the apparatus as detailed: -

Description	AKKR8 Sensor		
Serial number	16001000003		
Model Number	EUT: AKKR8, PSU: SMI 12-5		
Version	Full Board_CE		
Part number	PSU: SMI 12-5-KB-P5		
Configuration/ Mode of Operation	The device is a sensor for Temperature, Humidity and Motion. Powered by 5V input, the device relays its data via LTE Data. Testing all interfaces and internal sensors, reporting via cellular, charging. Powered by 230V, PSU down to 5V dc.		
Date received	12/07/21	**Dates Tested**	12/07/21 to 16/07/21
Specification/s	Emissions	EN61326-1: 2013 Electrical equipment for measurement, control and laboratory use – EMC requirements - Part 1: General requirements	
	Immunity		

The apparatus to which this certificate relates was tested against the above specifications. Full results are retained on file at Eurofins York, Castleford. The apparatus was found to be compliant to the above specifications subject to the following conditions: None.

Opinions/Interpretations/Additional information: None.

Certificate No: -	**14245TC2**	**Job No: -**	**C5877**	**Date: -**	**04/08/2021**	**Page 1 of 2**
PDF copy						

Tested by: -	**Approved signatory: -**
Steve Brennan, Senior EMC Test Technician	**M Nicholson BEng (Hons), Laboratory Technical Manager**

EN61326-1: 2013 **Electrical equipment for measurement, control and laboratory use – EMC Requirements consisting of:– Part 1: Emissions**		
	Level	**Result**
Conducted emissions AC mains port CISPR11: 2009 +A1: 2010 EN55011: 2009 +A1: 2010 (Dated Reference)	0.15-0.5MHz 66-56dBμV QP 0.5-5MHz 56dBμV QP 5-30MHz 60dBμV QP 0.15-0.5MHz 56-46dBμV Ave 0.5-5MHz 46dBμV Ave 5-30MHz 50dBμV Ave	Pass
Radiated RF emission Enclosure CISPR11: 2009 +A1: 2010 EN55011: 2009 +A1: 2010 (Dated Reference)	30-230MHz 40dBμV/m 230-1000MHz 47dBμV/m	Pass
EN61000-3-2: 2014 Part 3-2: Limits – Limits for harmonic current emissions (equipment input current up to and including 16A per phase.	Class A	Pass
EN61000-3-3: 2013 Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16A per phase and not subject to conditional connection.	Pst Dmax	Pass

EN61326-1: 2013 **Electrical equipment for measurement, control and laboratory use – EMC Requirements consisting of:– Part 2: Immunity – Requirements for Industrial Environment**		
Consisting of;	**Level**	**Result**
EN61000-4-2: 2009 Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test.	± 8kV air discharge ± 4kV contact discharge	Pass
EN61000-4-3: 2006 +A1: 2008, +A2: 2010 Part 4-3. Testing and measurement techniques – Radiated, radio frequency, electromagnetic field immunity test	10V/m, 80MHz to 1000MHz, 1kHz 80% AM 3V/m, 1400MHz to 2000MHz, 1kHz 80% AM 1V/m, 2000MHz to 2700MHz, 1kHz 80% AM	Pass
EN61000-4-4: 2004 +A1: 2010 Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	± 2kV AC Power lines	Pass
EN61000-4-5: 2006 Part 4-5: Testing and measurement techniques - Surge immunity test	± 2kV line to earth ± 1kV line to line	Pass
EN61000-4-6: 2009 Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	10Vrms AC Power lines 150kHz to 80MHz 1kHz 80% AM	Pass
EN61000-4-11: 2004 Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	0% residual for 250 cycles 70% residual for 25 cycles 40% residual for 10 cycles 0% residual for 1 cycle	Pass

The Decision Rule is applied on the basis of the following:

• EMC testing - CISPR16-4-2 and/or EN61000-4-x (TR61000-1-6)

These standards provide guidance on how to calculate and apply measurement uncertainty whilst providing maximum uncertainties allowance.

In all cases due consideration will be given to JCGM 106:2012, ILAC-G8:09/2019 and LAB 48.

This laboratory has demonstrated by calibrating its equipment and facilities, and calculating its own uncertainties, that it complies with the above requirements and therefore no allowance of uncertainties has been given to the tolerances.

Where a result is considered marginal in respect of its proximity to the limit line, for example, the customer would be made aware of situation so that they can make an informed decision on how to proceed.

EUT Submitted

These results apply only to the particular EUT submitted, in the configuration used and in the mode of operation tested.