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EPSILON

1 EC - Type Examination Certificate

2 Equipment intended for use in potentially explosive atmospheres

3 Certificate Number: EPSILON 06 ATEX 2083

4 Equipment: iWAP101

5 Manufacturer: Extronics Limited

6 Address: Meridian House,
Roe Street
Congleton CW12 1PG. UK.

7 This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

8 Epsilon, Notified Body number 1712 in accordance with Article 9 of the Council directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to design and construction of equipment and protective systems for use in potentially explosive atmospheres given in Annex II to the directive

The examination and test results are recorded in confidential report no; RETS(A)1775/A/1

9 Compliance with the applicable Essential Health and Safety Requirements has been assured by compliance with:

EN 50014:1997 incl A1 + A2
EN 50018:2000 incl A1

10 If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by the certificate.

12 The marking of the equipment shall include the following:

Ex II 2 G EEx d IIB + H_2 T5 (Ta 55°C)

or T6 (Ta 40°C)

On behalf of Epsilon

S L Clarke MSc.
Director

Date: 23 September 2006

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For help or assistance relating to this certificate, contact cs@epsilon-ltd.com.

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13 **Schedule**

14 Certificate Number: EPSILON 06 ATEX 2083

15 Description of Equipment or protective system

The iWAP101 is a universal EEx d wireless LAN solution. The wireless LAN equipment is house in a metal component approved flameproof enclosure (CESI 01 ATEX 034U) suitable for gas environments. Other equipment can also be housed in the EEx d enclosure such as power supplies, media converters and PCB's(see drawing number 314546 for details).

16 Descriptive Documents

16.1 Report No: RETS(A)1775/A/1

16.2 Drawings:

Number	Date	Issue	Description
314596	10/08/06	01	iWAP101 ATEX Label Drawings
314546	10/08/06	REL01	Generic iWAP101
311980	09/03/06	REL01	iWAP101LR Generic

17 Conditions of Certification

17.1 Special Conditions for Safe Use
None.

17.2 Conditions for Use
None

18 Essential Health and Safety Requirements
Essential Health and Safety Requirements not covered by section 9: covered by manufacturer's instructions.

The manufacturer shall inform the notified body of any modifications to the design of the product described by this schedule

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EPSILON

Supplement to EC-Type Examination Certificate

Certificate Number: Epsilon 06 ATEX 2083 Dated: 29 November 2006

Variation Number: 01 (ONE)

Variation Detail:

To Permit:

1) The use of alternative printed circuit boards in the iWAP101 forming an iWAP102. The new boards are an Ethernet Isolation Board, Aeroscout Location Receiver Board, and two RF Attenuator Boards having intrinsically safe outputs each to separate external antennae. In addition to the standards listed in the original certificate the intrinsic safety standard, EN 50020:2002, has been referenced for the assessment of the changes and the intrinsically safe outputs to the antennae. The intrinsically safe output is:-

Uo = 5.88V

Io = 2.164A (transient)

2) The coding of the original iWAP101 to be updated to include the reference to the intrinsically safe output and is EEx d[ia] IIB+H_2 T5 (Tamb = -20°C to +55°C) or T6 (Tamb = -20°C to +40°C).

The ATEX marking is changed to Ex II 2(1) G

3) The connection of up to two antennae which are considered to be simple apparatus as defined in clause 5.4 of EN 50020:2002. Refer to the conditions of certification.

Descriptive Documents:

Epsilon Report: RETS(A) 1775/A/2

On behalf of Epsilon

S L Clarke
Director

Date: 29 November 2006

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Drawings

Document No.	Document Title	Sheets	Issue	Date (yyyy/mm/dd)
312733	IWAP protection system block diagram	1 of 1	01	2006/07/11
313085	IWAP102 general arrangement	1 of 1	01	2006/11/23
315471	IWAP102 ATEX label	1 of 1	1	2006/10/31
313497	IWAP102 Ethernet isolator motherboard schematic	1 of 1	02	2006/11/24
313880	IWAP102 Ethernet isolator motherboard BOM	1 to 3	02	2006/11/24
313827	IWAP102 Ethernet isolator motherboard PCB	1 to 6	02	2006/11/28
AGW9106	Transformer details and pinouts	1 and 2	-	2006/11/27
313146	IWAP102 RF limiter board schematic	1 of 1	01	2006/11/24
313348	IWAP102 RF limiter board BOM	1 of 1	01	2006/11/24
2563C	0.5dB attenuator substrate layout	1 of 1	A	2006/06/19
2563C-2	0.5dB attenuator outline	1 of 1	A	2006/06/19
313347	IWAP102 0.5dB RF Limiter board layout	1 to 12	01	2006/11/24
315295	IWAP102 1.0RF Limiter board layout	1 to 12	01	2006/11/24
315296	IWAP102 15dB RF Limiter board layout	1 to 12	01	2006/11/24
315473	IWAP102 Antenna detail	1 of 1	1	2006/11/27
314085	Aeroscout location receiver RF board, schematic	1 to 5	01	2006/07/06
314086	Aeroscout location receiver RF board, BOM	1 to 3	01	2006/07/11
314083	Aeroscout location receiver TMU board, schematic	1 to 16	01	2006/07/06
314084	Aeroscout location receiver TMU board, BOM	1 to 3	01	2006/10/30

Additional Conditions of Certification:

There are additional conditions of manufacture specified as follows:-

The details of the permissible antennae which may be used are as follows, and must be made clear in the user instructions.

Gas Group	Max. Inductance of antenna and cable	The total capacitance of the antenna plus cable plus RF attenuator board 110pF capacitor must not exceed the values below.
IIC	8.55µH	43µF
IIB	34.2µH	1000µF
IIA	68.4µH	1000µF

Temperature Class	Ambient temperature	Minimum antenna copper wire diameter	Minimum antenna copper track width (on PCB board of between 0.5mm and 1.6mm thickness)	
			32µm copper thickness	18µm copper thickness
T5	55°C	0.2mm	0.5mm	0.7mm
T6	40°C	0.2mm	0.5mm	0.7mm

Additional Special Conditions for Safe Use:

None

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EPSILON

Supplement to EC – Type Examination Certificate

Certificate Number: 06 ATEX 2083 Dated: 18 April 2007

Variation Number: 01

Variation Detail:

To Permit:

Minor modifications to the Ethernet Isolator Motherboard. The changes include swapping the TX and RX signal pairs on the connections to the optic fibre modules M2 and M3. The copper printed circuit board tracks between components M2 and T1 and between components M3 and J5 have been re-routed.

Descriptive Documents:

Report No: RETS(A) 1775/A/1/V1

Drawings:

Only the drawings that have changed from the original schedule are listed.

Number	Sheets	Date	Issue	Description
313497	1 of 1	07 March 07	03	iWAP102 Ethernet Isolator Motherboard, Circuit diagram
313827	1 to 6	08 March 07	03	iWAP102 Ethernet Isolator Motherboard, PCB Layout

Additional Conditions of Certification:

None

Additional Special Conditions for Safe Use:

None

On behalf of Epsilon

S L Clarke
Director

Date: 18 April 2007

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