



CSA INTERNATIONAL

Certificate of Compliance

Certificate: 2002912

Master Contract: 242288

Project: 2075823

Date Issued: 2008/10/08

Issued to: Ascom Sweden AB

2 Grimbodalen
Göteborg, 402 76
Sweden

Attention: Ms. Tania Ottebrink

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US'



Issued by: Edward Foo, C.E.T.

Authorized by: Patricia Pasemko, Operations Manager

PRODUCTS

CLASS 2228 81 - RADIO APPLIANCES - Transmitters and Receivers, Amateur, Commer -
Communication-For Hazardous Locations-Certified to U.S. Standa

CLASS 2228 01 - RADIO APPLIANCES - Transmitters and Receivers, Amateur, -
Commercial and Communication - For Hazardous Locations

Ex ib IIC:

AEx ib IIC:

The 'C' and 'US' indicators adjacent to the CSA Mark signify that the product has been evaluated to the applicable CSA and ANSI/UL Standards, for use in Canada and the U.S., respectively. This 'US' indicator includes products eligible to bear the 'NRTL' indicator. NRTL, i.e. National Recognized Testing Laboratory, is a designation granted by the U.S. Occupational Safety and Health Administration (OSHA) to laboratories which have been recognized to perform certification to U.S. Standards.



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Class II, Div. 2, Groups E, F and G:

• Handheld battery operated DECT Pocket Telephone unit 9d24, Models RAID2-xxxBx, Ascom Protector MkII, Ascom Messenger MkII, Aastra DT432 and Aastra Handset Office 160ATEX with output connection to headset meeting Entity U_o = 4.2V; I_o = 350mA; P_o = 1.3W; C_o = 2.2μF; L_o = 2.4μH; L_o/R_o = 3.2μH/Ω. Intrinsically Safe with Sanyo battery pack UF553436F. T₄, T_{amb} = -20 °C to +40 °C.

APPLICABLE REQUIREMENTS

CAN/CSA C22.2 No. 0-M91 (R2001) - General Requirements - Canadian Electrical Code, Part II

CSA Std. C22.2 No. 25-1966 - Enclosures for Use in Class II, Groups E, F and G Hazardous Locations

CAN/CSA-E60079-0:02 - Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements

CAN/CSA-E60079-11:02 - Electrical Apparatus for Explosive Gas Atmospheres - Part 11: Intrinsic Safety “i”

UL 60079-0 4th Ed 2005 - Electrical Apparatus For Explosive Gas Atmospheres – Part 0:

General Requirements

UL 60079-11 2nd Ed 2007 - Electrical Apparatus For Explosive Gas Atmospheres – Part 11: Intrinsic Safety “i”

ANSI/ISA-12.12.01-2007 - Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations



Supplement to Certificate of Compliance

Certificate: 2002912

Master Contract: 242288

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
2075823	2008/10/08	Update to cover minor circuit revisions, rename Ericsson DT432 as Aastra DT432 and included Class II, Div. 2, Groups E, F & G
2002912	2008/04/04	Handheld Messenger and Protector transmitter for AEx/Ex ib IIC T4 classification with SIRA Test report

History

Supplement Notes



Descriptive Report and Test Results

MASTER CONTRACT: 242288

REPORT: 2002912

PROJECT: 2075823

Edition 1: April 4, 2008; Project 2002912 – Toronto
Issued by E. Foo, C.E.T.

Edition 2: October 8, 2008; Project 2075823 – Toronto
Issued by E. Foo, C.E.T.

Report Reissued.

Contents: Certificate of Compliance - Page 1 to 2
Supplement to Certificate of Compliance – Page 1
Description and Tests – Pages 1 to 6
Descriptive Documents Package – Filed in Certification Record Services Only.

PRODUCTS

CLASS 2228 01 - RADIO APPLIANCES - Transmitters and Receivers - Amateur, Commercial and
Communication - For Hazardous Locations
CLASS 2228 81 - RADIO APPLIANCES - Transmitters and Receivers - Amateur, Commercial and
Communication - For Hazardous Locations - CERTIFIED TO U.S. STANDARDS

Ex ib IIC:

AEx ib IIC:

Class II, Div. 2, Groups E, F and G:

• Handheld battery operated DECT Pocket Telephone unit 9d24, Models RAID2-xxxBx, Ascom Protector MkII, Ascom Messenger MkII, Aastra DT432 and Aastra Handset Office 160ATEX with output connection to headset meeting Entity $U_o = 4.2V$; $I_o = 350mA$; $P_o = 1.3W$; $C_o = 2.2\mu F$; $L_o = 2.4\mu H$; $L_o/R_o = 3.2\mu H/\Omega$. Intrinsically Safe with Sanyo battery pack UF553436F. T4, $T_{amb} = -20\text{ }^\circ C$ to $+40\text{ }^\circ C$.

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APPLICABLE REQUIREMENTS

- CAN/CSA C22.2 No. 0-M91 (R2001) - General Requirements - Canadian Electrical Code, Part II
- CSA Std. C22.2 No. 25-1966 - Enclosures for Use in Class II, Groups E, F and G Hazardous Locations
- CAN/CSA-E60079-0:02 - Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements
- CAN/CSA-E60079-11:02 - Electrical Apparatus for Explosive Gas Atmospheres - Part 11: Intrinsic Safety "i"
- UL 60079-0 4th Ed 2005 - Electrical Apparatus For Explosive Gas Atmospheres –Part 0: General Requirements
- UL 60079-11 2nd Ed 2007 - Electrical Apparatus For Explosive Gas Atmospheres – Part 11: Intrinsic Safety "i"
- ANSI/ISA-12.12.01-2007 - Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations

MARKINGS

- Company name, tradename and/or CSA Master Contract No. 242288;
- Model designation;
- Serial Number or Year of manufacture;
- Hazardous locations designations;
- CSA Monogram with "c/us", and "2008 2002912 /X" adjacent;
- Warning statements, "Static Hazard: Do not rub with a dry cloth" and "Battery charging or replacement is NOT permitted in hazardous area" or its equivalent, appeared on the surface of the non-metallic enclosure by laser printing.

Method of marking: By laser printing on unit enclosure.

Special Conditions for Safe Use (X):

Warning statement, "Do not expose to prolong light" appeared in manufacturer's "Quick Reference Guide" Ascom 9d24 MkII, document no. M2072330.

ALTERATIONS

Markings as above.

FACTORY TESTS

Not applicable on battery operated equipment.

FIELD SERVICE INSTRUCTION:

This report contains reference to certain construction and engineering documents that have been deemed critical to ensuring continued compliance with applicable construction and performance requirements. A list of these documents, with drawing numbers and the appropriate revision levels is summarized in this report. Documents detailed herein are subject to inspection by CSA International personnel and shall be made available in the manufacturing location upon request. Failure to produce these documents in a timely manner constitutes noncompliance and is subject to the actions outlined in the CSA Product Service Agreement.

Descriptive Documents:

Note: Documents detailed herein are subject to inspection by CSA International personnel and shall be made available in the manufacturing location upon request.

<u>Subject</u>	<u>Drawing</u>	<u>Rev.</u>	<u>Date</u>
Nameplate RAID2	460495	H	081003
Battery pack warning markings	460497	B	060411
Battery warning markings	460502	C	061005
Illustration and specification	TD 92381 GB	B	2006-12-14
Quick Reference Guide Ascom 9d24 MkII	M2072330	-	March 2008
Enclosure Illustration & Assemblies	M62873	D2	2006.01.27
Battery pack illustration	M62307	C0	2006-03-15
Battery pack insulation	M62940	C6	2006-03-29
Battery pack and positive terminal connector strip placement	M62941	B0	2006-03-28
Battery pack schematic (page 2/3)	SCH4040094	-	24.01.06
Battery pack pcb component/trace layout	DV-BG4040094	00	10.02.06
Main schematic, RAID2	000208	G4	2008.04.16
Main pcb component layout, encapsulation	M62464_3	B1+	2006.01.026
Main Pcb trace layout	010849	D	-
Critical Component List	DOC000566-A4	A4	2006.10.06
SIRA Test & Certification Report	R52L11611A	-	2006.04.12
SIRA Assessment Report	R51L18424B	-	June 2008
SIRA Certificate	07ATEX4324	-	-

DESCRIPTION

General: Handheld battery operated DECT Pocket Telephone unit 9d24, Models RAID2-xxxBx, Ascom Protector MkII, Ascom Messenger MkII, Aastra DT432 and Aastra Handset Office 160ATEX. They are identical to each other except for tradename.

Refer to the Descriptive Documents for complete details.

1. Enclosure: LG Chemical Ltd., PC/ABS polymeric material, type LUPOY LT-1B, rated 94-HB, approximate dimensions 134 x 60 x 27 mm, min. 1.6 mm thick. Consisted to two-halves secured together by screws with gasket in between the enclosures and with the battery pack secured mechanically by screw.
2. Battery Pack Assembly: Consisted of a single Sanyo UF553436F lithium-ion cell, rated 3.6V, 750mAh nom., with integral battery charging circuit inside the battery pack assembly.
3. Gaskets: Lip gasket seal by Vita Thermoplastic Polymers, type Dryflex A2 660602, UL94HB or LG Chemical Ltd, type LUPOY LT-1B, UL94HB.
4. Protective Components: Refer to dwg DOC000566-A4 Rev. A4 for complete components list.

Additionally, R13 and R14, both rated 680 ohms, 63 mW, 1%, chip resistor.

5. Encapsulation: Refer to dwgs DOC000566-A4 Rev. A4 and M62464_3 Rev. B1+ for areas of encapsulation on components on printed circuit boards for temperature and spacing.
 - i. Delo, type DB777, rated 150 °C.
 - ii. Dow-Corning, type 3-1953, rated 180 °C.
 - iii. Loctite, type Hysol 9492, rated 150 °C.

TESTS

The following tests were conducted in:
SIRA Certification, England.

Model RAID2-xxxBx

Test and evaluation conducted by SIRA in report R52L11611A dated April 12th, 2006, requested by the submittor under CSA/SIRA Reciprocal Agreement, were reviewed and considered to be representative to the requirements under the described applicable standards in this report. No additional testing was deemed necessary.

1. Markings
2. Temperature
3. Conditions of acceptability "X"
4. Entity Parameters
5. Creepage and Clearance Distances
6. Infallible component, infallible assemblies of components and infallible connections
7. Batteries
8. Spark Ignition Assessment and Tests
9. Drop Tests

Project 2075823: Update to cover minor circuit revisions (R113, R114, R115 in dwg 000208_G4) not affecting any intrinsic safety characteristic and replaced tradename Ericsson DT432 with Aastra DT432. Refer to attached SIRA Assessment Report R52L18424B for the above revisions. Dust-tightness tests conducted by SIRA, under CSA/SIRA reciprocal agreement, in certificate SIRA 07ATEX4324 were reviewed to be representative to the requirements listed in this report. No additional testing was deemed necessary.

Model RAID2-xxxBx

1. Temperature (Blanketing): CSA Std. C22.2 No. 25, cl. 5.3

Highest component surface temperature was measured on the bare battery cell without current-limiting circuits under short-circuit condition at 121 °C at 40 °C room ambient. Surface temperature on device was considered not to exceed 165°C.

2. Impact: CSA Std. C22.2 No. 25, cl. 5.4

Test waived based on device being intrinsically safe with Sanyo battery pack assembly housed inside the device enclosure.

3. Dust-Tightness: CSA Std. C22.2 No. 25, cl. 5.2
ANSI/ISA-121.12.01-2007, sec. 14.3

IP6x dust-tight test: No dust found inside enclosure.

Device volume = 0.1 L

Flow rate = 0.1 L/min.

Extraction rate = 60 volumes/hr.

Depression rate = 1.2 mBar

Test duration = 2 hrs.

End of report.