



1. **EC-TYPE EXAMINATION CERTIFICATE**

2. **Equipment or Protective System Intended for use
in Potentially explosive atmospheres
Directive 94/9/EC**

3. **Reference: VTT 06 ATEX 043X Issue 1**

4. **Equipment: Radiophone microphone/speaker unit
Speaker microphone/ com-control unit**

Certified types: SAVOX C-C 500

5. **Applicant: SAVOX Communications**

6. **Address: Sinikalliontie 3
FI-02630 ESPOO
Finland**

Manufacturing locations:

**SAVOX Communications Oy Ab
Laitaatsillantie 3
FI-57170 SAVONLINNA
Finland**

**Savox Communications (Shenzen) Co. Ltd
7th Floor, Building #2, Hong Hui Industrial Park, Liu
Xian 2nd Road, 68th Subdistrict, Baoan, Shenzen
China**

7. This equipment or protective system and any acceptable variations thereto is specified in the schedule and possible supplement(s) to this Certificate and the documents therein referred to.

8. VTT Expert Services Ltd, notified body number 0537, in accordance with Article 9 of the Council Directive 94/9/EC of March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective system intended for use in potentially explosive atmospheres given in Annex II to the Directive.



The examination and test results are recorded in confidential report no. VTT-S-03649-06.

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

EN 60079-0: 2006
EN 60079-11: 2007

10. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system 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. This certificate does not cover these.
12. The marking of the equipment or protective system shall include the following:

SAVOX C-C500/MTP850, 810 ATEX, SAVOX C-C500/TRX51xx Ex, SAVOX C-C500/TK-2260 Ex, Thrane&Thrane C-C500 Ex, Thrane&Thrane C-C500 Ex Peltor or SAVOX C-C500/Becker Ex:



II 2 G

Ex ib IIC T4

or

SAVOX C-C500/WARIS ATEX, SAVOX C-C500/JEDI ATEX:



II 2 G

Ex ib IIC T5

Espoo, 10.08.2011

VTT Expert Services Ltd

Martti Siirola
Senior Expert

Kari Koskela
Technical Expert



13.

Schedule

14.

EC-TYPE EXAMINATION CERTIFICATE VTT 06 ATEX 043X Issue 1

15.

Description of Equipment

The radiophone mic/speaker unit, type SAVOX C-C500 manufactured by Savox Communications Ltd, shall be used with an intrinsically safe radiophone and optional plug in microphone/speaker accessories given below.

The maximum input values of the control unit are:

$$\begin{array}{lll} U_i = 9 \text{ V}, & I_i = 3 \text{ A}, & P_i = 6.75 \text{ W} \\ L_i = 1 \text{ } \mu\text{H}, & C_i = 10 \text{ nF} & \end{array}$$

The type SAVOX C-C500/MTP850, 810 ATEX complies with the Documentation Manual for Motorola ATEX, UC connector interface mentioned in Motorola documents:

- Accessory Interface Definition, Document 6866546D07_02_06, Rev B, 6 pages, dated 27-Jun-08
- Specification of External Loudspeaker used at Accessory Interface, Document 6866546D07_02_07, Rev B, 5 pages, dated 27-Jun-08

Allowed optional plug in accessories

SAVOX HC... ATEX, helmet mic/speaker unit
SAVOX TC... ATEX or BC... ATEX, Throat mic/speaker unit
SAVOX MP-H ATEX, Multi purpose mic/speaker unit
SAVOX MS-Com ATEX, Mask mic/speaker unit
SAVOX N-H Peltor ATEX (IIC) and SAVOX N-HH Peltor ATEX (IIC), headset with hearing protectors
SAVOX IS-Com ATEX, Mask mic/speaker unit
SAVOX NC ATEX, Headset for hearing protectors
SAVOX N-H Silenta ATEX (IIB) and SAVOX N-HH Silenta ATEX (IIB), headset with hearing protectors
Dräger ComTac/ThroatCom or -HelmetCom ATEX (IIB), headset with hearing protectors
Peltor MT7H79F-50, MT7H79B-50, MT7H79P3E-50 headsets, Ex-certified
HL-09 ATEX (P/N 90-26-12835), HL-09 ATEX (P/N 90-26-13033) or HL-19ATEX (P/N 90-26-12836), Certificate No. VTT 10 ATEX 029X Headsets for Protective Helmets, manufacturer Holmberg Gmbh & Co. KG
CON-SPACE FACEMASK COMM, Mask mic/speaker unit, Test Report VTT-S-05756-10
INVISIO H-M3x-2-xxxX-xxx, Ex-certified intrinsically safe headset
Peltor Adapter Cable Ex

Documents:

Technical specification D21525A, 29.06.2006
Safety declaration (Sailor) D22111A, 3 pages, 22.01.2009
Safety declaration (500uA/043X) D22370B, 4 pages, 6.7.2010
Safety declaration (500uA/MTP850 Ex) D22377A, 5 pages, 13.9.2010
Cable connection assembly (Jedi) D13233A, 12.02.2007



Cable connection assembly (Waris) D13069B, 11.10.2007
Connector cable (MTP 850) D14060B, 29.10.2009
PCB comp. layout D21379D, 15.10.2009
PCB part list (Waris/Jedi) D21471F, 4 pages, 15.10.2009
PCB part list (Waris Peltor) D13253F, 4 pages, 25.03.2010
PCB part list (Sailor Ex) D13861C, 4 pages, 4.2.2011
PCB part list (Sailor Peltor Ex) D13966C, 4 pages, 4.2.2011
PCB part list (TRX 5004) D14026B, 4 pages, 18.11.2009
PCB part list (TRX 5004 Peltor) D14105B, 4 pages, 18.11.2009
PCB part list (MTP850) D14104C, 4 pages, 25.8.2010
PCB part list (TK-2260 Ex) D14255B, 5 pages, 8.7.2010
PCB part list (Becker Ex) D14894A, 5 pages, 23.6.2011
PCB circuit diagram D21378D, 4 pages, 14.10.2009
Epoxy coating D21495D, 09.10.2008
Ex label D13083C, 14.01.2009
Ex label Peltor D22056B, 14.01.2009
Ex label IIC T4 D22129A, 25.02.2009
Ex label IIC T4 Peltor D22167B, 20.10.2009
Safety guide D21534E, 2 pages, 6.7.2011
Safety guide SAVOX C-C500/Sailor..., D22130G, 2 pages, 8.7.2011

Accessories:

The accessory documents are listed in the document "Headset documents in PTT Ex certificates" Doc. nr. D22115, Rev. G, date 8.7.2011.

16. Report No. VTT-S-03649-06

17. Special conditions for safe use:

1. The allowed ambient temperature range is $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C}$ for temperature class T4 and T5.

2. The allowed ambient temperature range for SAVOX IS-com ATEX and SAVOX NC ATEX accessory is $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$ and temperature class is T4.

3. The allowed ambient temperature range for SAVOX MS-com ATEX, SAVOX HC ATEX and CON-SPACE FACEMASK COMM accessory is $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C}$ and temperature class is T4.

4. The allowed ambient temperature range for SAVOX N-H IIB Silenta and SAVOX N-HH IIB Silenta accessory is $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$ and temperature class is T4 and gas group is IIB.

5. The allowed ambient temperature range for Dräger ComTac/ThroatCom or -HelmetCom IIB accessory is $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$ and temperature class is T4 and gas group is IIB.

6. The allowed ambient temperature range for the Peltor MT7H79F-50, MT7H7B-50 and MT7H79P3E-50 headsets is $-20^{\circ}\text{C} \dots +40^{\circ}\text{C}$ for temperature class T4 according to the Certificate No. Nemko 02ATEX059X. So the temperature class is T4 and the temperature range is $-20^{\circ}\text{C} \dots +40^{\circ}\text{C}$ for the whole system with Peltor headsets.



7. The allowed ambient temperature range for HL-09 ATEX or HL-19 ATEX headset is - 20°C ... +50°C and temperature class is T4 according to the Certificate No. VTT 10 ATEX 029X.

8. The control unit shall be used with an intrinsically safe radiophone.

9. The control unit shall only be connected to the intrinsically safe radiophone with an approved connecting cable and according to the manufacturer's specifications.

18. Essential Health and Safety Requirements

Requirements met by compliance with the standards referred in point 9.

Certificate history:

Issue	Date:	Report no.	Comment
-	07.07.2006	VTT-S-03649-06	Prime certificate
1	10.08.2011	-	Manufacturing locations updated; New document revisions: D13966B → C, D21534D → E, D22370A → B, D13861B → C; SAVOX C-C500/Becker Ex added, part list. D14894A; Thrane&Thrane C-C500 Ex and – Ex Peltor added, part lists D13861C and D13966C, Thrane&Thrane replaces Sailor versions; New headset Invisio H-M3x-2-xxxX-xxx (Ex ia IIC T6) added. Peltor adapter cable Ex added.

Espoo, 10.08.2011

VTT Expert Services Ltd



Martti Siirola
Senior Expert



Kari Koskela
Technical Expert



Certificate without signatures shall not be valid

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