



1. **EU-TYPE EXAMINATION CERTIFICATE**
2. **Equipment or Protective System Intended for use
in Potentially explosive atmospheres
Directive 2014/34/EU**
3. Reference: **VTT 16 ATEX 040X**
4. Equipment: **GPS/GSM Personal Protection and Surveillance Device**
Certified type: **Twig Protector Ex TUP92EU
Twig Protector Pro Ex TUP92EU**
5. Manufactured by: **Twig Com Oy**
6. Address: **Lairolantie 14
FI-24910 Salo
Finland**
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 21 of the Directive 2014/34/EU of February 2014, 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-03541-16.
9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with the standards:

**EN 60079-0 (2012)
EN 60079-11 (2012)**
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 EU-Type examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 2014/34/EU. 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:



II 2 G **Ex ib IIC T4 Gb**
II 2 D **Ex ib IIC T130 °C Db**

Espoo, 29.12.2016
VTT Expert Services Ltd



Jenni Hirvelä
Expert



Martti Siirola
Senior Expert



13. **Schedule**

14. **EU-TYPE EXAMINATION CERTIFICATE VTT 16 ATEX 040X**

15. **Description of Equipment:**

TWIG Protector TUP92EU devices are Lithium-Ion-polymer battery operated GSM Phones and GPS trackers. They use MPTP telematics protocol for tracking the device. Telematics message can be automatic man down signal, location update or manual by pressing the panic button. Device position is retrieved from inbuilt GPS module. Emergency calls use GSM network. The device is meant to be used mainly for safety communication and tracking purposes in case of accident in potentially explosive areas. The battery pack inside the equipment is not user-replaceable. The battery pack has a special safety circuit. Safety circuit is used to limit the current or to provide fast cut-off of supply voltage in case of electronics or segregation failure. The enclosure is static dissipative plastic. Maximum radio frequency power is limited to 2 W (33 dBm).

Documents:

	Document title: (Description in closures)	File name:	Rev	Date:
General information	Twig Com devices TWIG Protector pro Ex TUP92EU, sekä Twig Protector Ex TUP92EU (Description of protection method)	TurvallisuustarkasteluProtector_TTP04_EX-8.odt	8	2016-12-08
	Protector TTP01 (Main assy including parts list)	11092013_Protector_TTP01.pdf	-	2013-09-11
	Protector Pro Ex P4 (Main assy including parts list)	Protector_Pro_EX_explosion_diagram.pdf	-	2016-09-16
	Protector_Ex_/ Protector Pro Ex TUP92EU tyypikilpi-03 (Markings document)	Protector_P4_Ex_typeiabel-03.doc	3	2016-12-29
	Protector P4 massaus V1.1 (Instructions for PCB encapsulation)	Twig_Protector_P4_massaus_v1-1.docx	1.1	2016-10-11
	TWIG Protector P4 AkkuEx – 01 (Instructions for battery pack encapsulation)	Twig Protector AkkuEx-01	1.0	2016-10-11
Schematics	PCB104X3 (Schematic diagram, main board)	PCB104X3_sch_EX3.pdf	A3	2016-12-08
	PCB095X3 (Schematic diagram, safety board)	TTP04-ATEX_Battery_EX2.pdf	A5	2016-12-08
	PCB107X1 (Schematic diagram, USB cable)	ATEX_USB_adapter_x1_2.pdf	A2	2016-12-08
Bill of materials	PCB104x2 Ex parts list (BOM, main board)	pcb104x2_parts_EX-3.xls	3	2016-12-13
	ATEX protection pcb parts list (BOM, safety board)	pcb095x3_parts_EX-2.xls	2	2016-11-09
	PCB107x1 Ex parts list (BOM, USB cable)	pcb107x1_parts_EX4.xls	4	2016-12-20
PCB layout	Assembly top/bottom (Component assembly, main board)	PCB104X1_pcb.pdf	-	2016-04-20
	GTP08 ATEX battery prot. (PCB tracks, safety board)	PCB095X3_pcb.pdf	3	2016-02-15
	TTP04 ATEX USB prot. (PCB tracks, USB cable)	pcb107x1_osas_EX1.pdf	1	2016-12-13
PCB Specs	PCB Specification PCB104X1 (PCB specification, main board)	PCB104x1.pdf	-	2016-04-21
	PCB Specification PCB095X3 (PCB specification, safety board)	PCB095x3.pdf	-	2016-02-17
	PCB Specification PCB107X1 (PCB specification, safety board)	PCB107x1.pdf	-	2016-10-11



Certificate without signatures shall not be valid

This certificate, including the schedule, may only be reproduced in its entirety and without change.

Enclosure drawings	Protector TTP01 MC3441_A-COVER (Standard model, top cover)	MC3441.pdf	G	2016-09-16
	Protector TTP01 MC3442_B-COVER (Standard model, bottom cover)	MC3442.pdf	C	2016-09-16
	Protector TTP01 Atex-Cover (Standard model, additional cover)	MC3444.pdf	C	2016-09-16
	A-cover pro Ex P4 (Pro model, top cover)	A_Cover_MC3540.pdf	-	2015-09-28
	B-cover pro Ex P4 (Pro model, bottom cover)	B_Cover_MC3542.pdf	-	2015-10-26

Allowed Accessories:

Twig Com USB cable, type FME92EU
Twig Com Leather pouch case, types YN3310EX and YN3500EX

16. Report No. VTT-S-03541-16

17. Special conditions for safe use:

The device shall be used according to the manufacturer's instructions.
Connection to the charger input is only allowed with Twig Com USB cable.
The device shall not be recharged or programmed inside hazardous area.
The device shall not be recharged or programmed at ambient temperatures below 0 °C.
SIM card shall not be changed inside hazardous area.
SIM card insertion hole shall always be closed inside hazardous area.

18. Essential Health and Safety Requirements:

Met by compliance with the standards referred in point 9.

Espoo, 29.12.2016
VTT Expert Services Ltd



Jenni Hirvelä
Expert



Martti Siirola
Senior Expert

