

Globehopper Edge Standards Overview



Nexxiot Globehopper Edge is a zero-maintenance hardware unit for enabling real-time monitoring of non-powered assets.

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Table of Contents:

- 1. Revision History..... 2
- 2. Intended Audience..... 3
- 3. Abbreviations and Definitions..... 3
- 4. References..... 3
- 5. Scope of the Document..... 4
- 6. Standards and Directives..... 4
- 7. Certification and Type Testing Timeline..... 7

1. Revision History

Version	Author	Publishing date	Reason of the change
1.0	Kuno Bärtschi	2021-11-17	Status update to REVIEW
1.0	Dominik Dumančić	2021-11-17	Initial draft



2. Intended Audience

This document is intended for Nexxiot internal users and certification and testing institutions involved during the development of the GlobeHopper Edge.

3. Abbreviations and Definitions

Abbreviations

ATEX	Atmosphères Explosibles
EC	European Commission
EMC	Electromagnetic Compatibility
EN	Europäische Norm (European Norm)
EU	European Union
GH	GlobeHopper
HW	Hardware
IEC	International Electrotechnical Commission
IMT	International Mobile Telecommunications
RoHS	Restriction of Hazardous Substances
WEEE	Waste Electrical and Electronic Equipment

Definitions

None	No document specific definitions
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4. References

4.1 Documents

	Document Reference	Version	Published
[1]	Document number, name and edition	Latest	N/A



5. Scope of the Document

The document shows an overview of the standards and directives used for the design and development of the GlobeHopper Edge. Furthermore, a timeline for two different variants, an ATEX and non-ATEX one, shows the duration to obtain the certificates and conduct the type testing.

6. Standards and Directives

6.1 ATEX

Directive 2014/34/EU

DIRECTIVE 2014/34/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres

EN 60079-0 and IEC 60079-0

Explosive atmospheres – Part 0: Equipment – General requirements

EN 60079-11 and IEC 60079-11

Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i"

6.2 Radio and EMC

Directive 2014/53/EU

DIRECTIVE 2014/53/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC

EN 301 489-1



Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

EN 301 489-17

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment; Part 17: Specific conditions for Broadband Data Transmission Systems

EN 301 908-1

IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 1: Introduction and common requirements

EN 301 511

Global System for Mobile communications (GSM); Mobile Stations (MS) equipment; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU

EN 300 328

Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz band; Harmonised Standard for access to radio spectrum

EN 300 330

Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU

EN 303 413

Satellite Earth Stations and Systems (SES); Global Navigation Satellite System (GNSS) receivers; Radio equipment operating in the 1 164 MHz to 1 300 MHz and 1 559 MHz to 1 610 MHz frequency bands; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU

EN 62311



Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz to 300 GHz)

6.3 Product Safety

IEC 62368-1

Audio/video, information, and communication technology equipment – Part 1: Safety requirements

6.4 Environmental Testing

IEC 60068-2-1

Environmental testing - Part 2-1: Tests - Test A: Cold

IEC 60068-2-2

Environmental testing - Part 2-2: Tests - Test B: Dry heat

IEC 60068-2-5

Environmental testing - Part 2-5: Tests - Test S: Simulated solar radiation at ground level and guidance for solar radiation testing and weathering

IEC 60068-2-6

Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)

IEC 60068-2-11

Environmental testing - Part 2-11: Tests - Test Ka: Salt mist

EN 60068-2-13

Environmental testing - Part 2-13: Tests - Test M: Low air pressure

EN 60068-2-27

Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock

EN 60068-2-30

Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)



IEC 60529

Degrees of protection provided by enclosures (IP Code)

6.5 RoHS and WEEE

Directive 2011/65/EU

DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

Directive 2015/863 (RoHS 3)

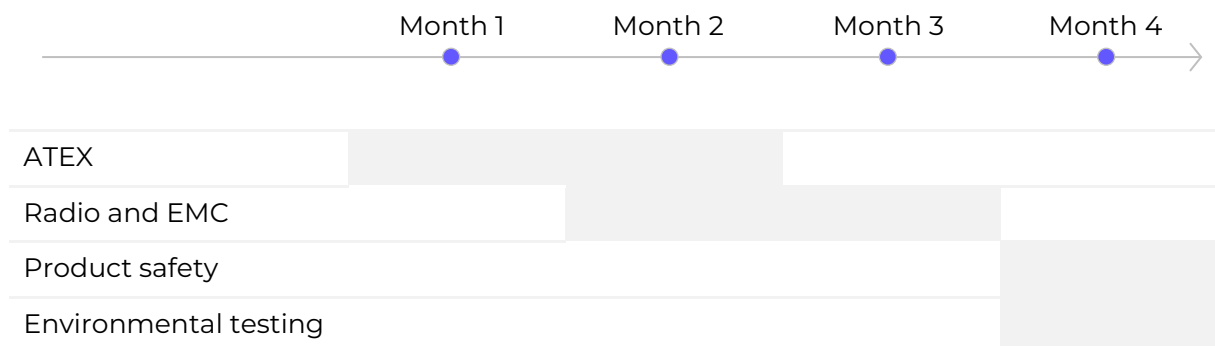
COMMISSION DELEGATED DIRECTIVE (EU) 2015/863 of 31 March 2015 amending Annex II to Directive 2011/65/EU of the European Parliament and of the Council as regards the list of restricted substances

Directive 2012/19/EU

DIRECTIVE 2012/19/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on waste electrical and electronic equipment (WEEE)

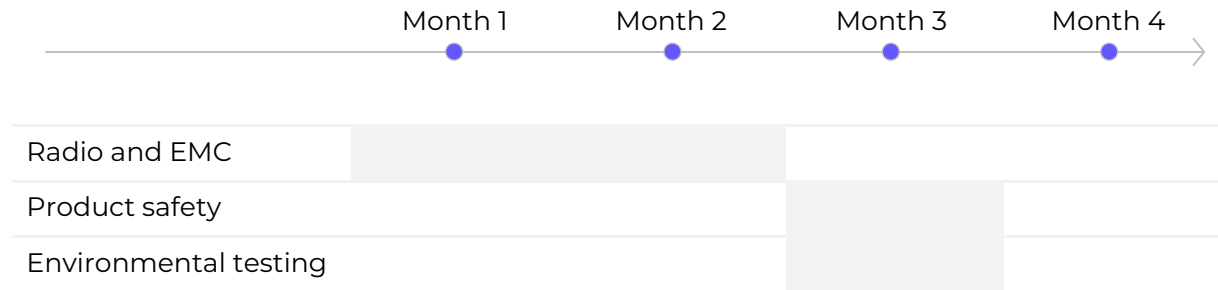
7. Certification and Type Testing Timeline

7.1 ATEX Variant





7.2 Non-ATEX Variant



Contact us:

Prime Tower, Hardstrasse 201,
8005 Zurich, Switzerland
7290 Virginia Parkway Suite 3000, McKinney,
TX 75071, United States

+41 44 275 5151
+1 214 292 7784
info@nexxiot.com
www.nexxiot.com