

moto tag – RE-D Risk Assessment Report

This statement covers the following products

Product Market Name : moto tag

Product Model Numbers: XT2445-1

Product Type Names: /

Intended use: Consumer

Environmental Condition: Operating Temperature -20°C to +45 °C The product has temperature monitoring to prevent operation outside safe limits.

Operating Humidity Non Condensing

High Voltage/Low Voltage: 3.0V nominal. The product has regulated internal supplies for critical circuitry, and is designed to shut down if battery voltage falls below the design threshold. Internal protection circuitry protects against excessive charger voltage.

The compliance assessment uses harmonized standards where possible, and Notified body review of Article 3.1a, 3.1b, 3.2 compliance. Additional measures are taken as below.

Article 3.1(a) Health and Safety

In the absence of any RED 2014/53/EU harmonized safety standards, we intend to use IEC62368 for safety. These have been assessed as sufficient to cover the health and safety risk of persons and also of domestic animals and property as required by 2014/53/EU. These test reports have been submitted for Notified Body review under article 3.1(a).

In particular:

IEC62368 will be applied, and due to the low global recognition of the standard, which has ensured a high level of safety in moto tag. The standards include assessment of normal use, including foreseeable stress use conditions, for instance charging a flat battery while streaming video which is an extreme use case for thermal safety. Additionally, single fault conditions are considered to ensure safety in the event of the failure of safety critical components. It requires the use of materials with a suitable flammability rating, ensuring that the device can not catch fire, and battery cells that comply to cell safety standards.

In addition to the EN/IEC standards applied, Motorola also takes the following additional steps to ensure adequate levels of product safety.

The printed user manual and in-box Legal and Safety guide contains sufficient instructions to meet the legislative requirements and also instruct the user on the applicable safety related matters before the device is turned on. Additional information relating to safety and SAR, is available on our website and on-device (where applicable) the location of which is advised to the user via the printed user guide.

These safety warnings/cautions including the following:

- Battery safety including disassembly and damage
- Use of original spare batteries
- Driving precautions
- Seizures, Eyestrain, Blackouts, discomfort
- High volume usage/hearing protection
- Small parts, supervision of children
- Glass parts
- Allergens
- Care and cleaning
- Explosive atmospheres
- Explanation of warning and other symbols
- RF Exposure/SAR and selection of accessories that maintain specified body separation
- Compatibility with medical devices/pacemaker
- Accuracy of location services, navigation limitations
- Privacy and security information including software updating, WiFi security
- Use of 3rd party accessories.
- Safe disposal and recycling

Motorola has developed a number of internal safety requirements (SOPs) which may be applied as required by product type. These cover the following topics.

- Battery safety and integration, including charging and discharging
- Flammability of materials
- Thermal safety
- Acoustic Safety
- Eye (optical) safety
- Short circuit protection
- Invalid (non genuine) battery safety
- Mechanical safety
- Removable parts
- Glass lens requirements including safe behavior following breakage

Additional measures:

All products undergo individual inspection, parametric test and calibration during manufacture.

The ability to update software and firmware over the air (OTA) can prevent or correct some potential safety or compliance issues without units being physically returned for service.

Motorola provides instructions on what consumers should do in the event of a defective product, either through normal use or abuse, and maintains a network of service centers that can repair and replace defective, damaged or broken units. The service centers have access to service work instructions, test tools and genuine compatible spare parts to ensure the ongoing compliance of repaired units.

Motorola has a process for analyzing call center activity, which will appropriately route safety or compliance related enquiries for review and any necessary corrective action and response. The call center trigger words such as SAR, Safety, Heat etc.

Recognised quality systems at manufacturing facilities, helps ensure 'series production remains in conformity with the Directive'.

Foreseeable misuse/Abuse

Non genuine battery replacement: Motorola has specific requirements that include applying charging parameters that are considered safe for non genuine batteries, backed up by user manual text recommending use of Motorola batteries and service by professional service centers.

Eye safety: Analysis of optical emitters to ensure that they meet internationally agreed safety criteria and cannot cause permanent eye damage.

Glass safety: Design requirements that require glass display lenses to remain safe if broken by not presenting dangerous edges, backed up by warning text to discontinue use of broken products and seek professional repair.

General mechanical safety: Reliability testing, which includes visual inspection and assessment and parametric testing of devices during accelerated life test to identify any hazardous condition or non compliance that might occur as a result of misuse or abuse such as dropping or water ingress.

Acoustic safety: The product complies with the acoustic safety requirements of EN62368, including having volume limits and pop up warnings enabled.

Article 3.1(b) Electromagnetic Compatibility

The application of EN301489-1 V2.2.3 and the applicable parts of the EN301489 series gives an adequate level of compliance with the aims of Article 3.1(b) for moto tag which are a mature product category. The standards and levels are aligned with 2014/30/EU applicable to non radio products, ensuring compatibility of different product types. Since not all the relevant standards are harmonized, we have applied the most recent draft standard or the last harmonized RED version as applicable.

Motorola tag are EMC tested at system level with all "inbox accessories". These accessories are listed in the EMC report, and on the Declaration of Conformity. All Motorola accessories comply with the applicable EMC requirements in their own right and as a system with all moto tag they are shipped with. A Notified Body is used to review the TCF and EMC reports and issue of a Type Examination Certificate in accordance with Annex III of the Directive.

Forseeable Use/Misuse:

Use of Supplied Motorola accessories: All inbox accessories are tested at system level with the moto tag they are shipped with. Second source or alternate parts are also system level tested prior to release. Motorola policy requires a margin of safety on all measurements to account for variation between products. Accessories are typically used with many tags, and undergo testing with new models, often over a period of years ensuring compliance.

Use of non Motorola accessories: The design margin of Motorola tag is considered sufficient to give some measure of confidence when used with non-Motorola branded accessories, provided that they themselves comply with all applicable standards and regulations.

The printed user manual and in-box Legal and Safety guide contains sufficient instructions to meet the legislative requirements and also instruct the user on the applicable safety related matters before the device is turned on. These warnings/cautions including the following:

- Use of original spare batteries
- Use of 3rd party accessories.

Motorola has a process for analyzing call center activity, which will appropriately route safety or compliance related enquiries for review and any necessary corrective action and response. The call center trigger words include “EMC”.

Recognised quality systems at manufacturing facilities, helps ensure ‘series production remains in conformity with the Directive’.

Motorola products undergo reliability testing, which includes visual inspection and assessment and parametric testing of devices during accelerated life test – this will detect damage to EMC critical parts such as EMC shields, ESD components etc.

Article 3.2 Radio Spectrum

The EN Radio Spectrum standards (draft or harmonized) applied to this product have been assessed as sufficient to cover the risks to the RF spectrum. Where no harmonized spectrum exists, best industry practice has been used – for example the application of existing RED standards. In particular:

EN300328 V2.2.2 is considered sufficient to show compliance with article 3.2 of RE-D for the BLE is harmonized.

EN302065-2 V2.1.1 is used to show compliance for UWB, which is specifically in the scope of the standard, which is therefore considered sufficient to show conformity.

Motorola tags are designed and manufactured to high standards to ensure high levels of standards compliance, performance, user experience and safety. Motorola considers the following measures sufficient to ensure conformity with the essential requirements of the Directive.

Intended Use/Foreseeable Use:

All of the cellular interfaces in the device will operate only under the control of a licenced Cellular Network, there is therefore no possibility of transmission on an unlicensed band/channel.

There are no user adjustments or user serviceable parts in the device, calibration and performance are set for the life of the product.

Motorola products undergo reliability testing, which includes visual inspection and assessment and parametric testing of devices during accelerated life test, the unit will remain within the required

parameters even under abuse, and extended temperature range operation, beyond the limits in the user manual.

All products undergo individual parametric test and calibration during manufacture.

The ability to update software and firmware over the air (OTA) on units already in the field helps to ensure devices remain up to date, and many potential issues can be prevented and corrected without units being physically returned for service, for instance in the event that power or frequency restrictions came into force after the date of shipment.

Motorola maintains a network of service centers that can repair and replace defective, damaged or broken units. The service centers have access to service work instructions, test tools and genuine compatible spare parts to ensure the ongoing compliance of repaired units.

Recognised quality systems at manufacturing facilities, helps ensure 'series production remains in conformity with the Directive'.

A handwritten signature in black ink, reading "Dai Lihua", is positioned above a horizontal line.

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