

# NOKIAN TYRES PLC S09001 Pressure and Temperature Measurement Sensor User Manual

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**NOKIAN TYRES INTUITU™**  
**Sensor User Manual**  
Version 0.1 May 2020

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## Product description

Product name:  
Intuitu sensor



#### Product description:

The Intuitu sensor is a measurement device that is used as a component in the Intuitu Digital Platform by Nokian Tyres Plc.

The sensor measures pressure, temperature and acceleration inside the tire. The sensor is permanently fixed inside the tire and it uses a low-power radio to transmit the measurement data.

Once installed, the sensor does not require the user's attention. It activates itself upon movement and resumes power-saving mode after the movement has ceased.

#### Operating ambient temperature:

-40 to 80°C (-40 °C to -20 °C with limited functionality and performance)

#### Storage temperature:

-40 to +125°C

#### Frequency bands in which the radio equipment operates:

2.4GHz to 2.483GHz ISM band

433.050MHz to 434.790MHz ISM band

30 kHz to 300 kHz Low frequency (LF) band

#### Maximum radio-frequency power transmitted in the frequency bands in which the radio equipment operates:

The maximum power for all bands is less than the highest limit value specified in the related Harmonized Standard.

The frequency bands and transmitting power nominal limits applicable to this radio equipment are as follows:

Bluetooth: 5.1 dBm, 433 MHz: 8 dBm

### General safety instructions

The Intuitu sensor is always factory-installed. Installation is permanent, and the sensor should not be dismantled from the tire to avoid damaging the tire or causing other safety risks.

### Installation

The Intuitu sensor is always factory-installed.

### General usage instructions

The Intuitu sensor is used together with the Nokian Tyres Intuitu mobile application or a Nokian Tyres Intuitu vehicle gateway.

### Faults and repairs

If you have problems with an Intuitu sensor, please contact customer service at [intuitu.support@nokiantyres.com](mailto:intuitu.support@nokiantyres.com).

## Disposal

### Private households

This symbol (figure 1) on the product(s) and/or accompanying documents means that used electrical and electronic equipment (WEEE) should not be mixed with general household waste. For proper treatment, recovery, and recycling, please take this product(s) to designated collection points where it will be accepted free of charge. Alternatively, in some countries, you may be able to return your products to your local retailer upon purchase of an equivalent new product. Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point. Penalties may be applicable for incorrect disposal of this waste, in accordance with your national legislation. The Intuitu sensor can be disposed of together with the tire it is attached to.



Figure 1. WEEE Symbol – Crossed out wheeled bin

### Professional users within the European Union

If you wish to discard electrical and electronic equipment (EEE), please contact your dealer or supplier for further information.

### All users outside the European Union

The WEEE symbol is only valid in the European Union (EU). If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

## Declarations of Conformity and Compliance

Nokian Tyres Plc declares that the Intuitu sensor fulfills the Radio Equipment Directive 2014/53/EU (RED). See Appendix A for the full text of the EU declaration of conformity.

## FCC Compliance Statement

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device complies with 47 CFR part 15 (the FCC Rules). This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules.

This device complies with FCC RF exposure limits and has been evaluated in compliance with mobile exposure conditions.

The antenna must be installed and operated with minimum distance of 20 cm between the radiator and your body.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These

limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to

radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct

the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

#### **ISED Canada compliance statement**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with ISED Canada RSS standard(s).

This device complies with ISED license-exempt RSS(s). Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device complies with ISED RF exposure limits and has been evaluated in compliance with mobile exposure conditions.

The antenna must be installed and operated with minimum distance of 20 cm between the radiator and your body.

This Class B digital apparatus complies with Canadian ICES-003.

**Manufacturer's address** Nokian Tyres Plc, Pirkkalaistie 7, 37101 Nokia, Finland

#### **Appendix A: EU Declaration of Conformity**


1. Product: NOKIAN TYRES INTUITU™ SENSOR, Product Type: (Intuitu Sensor 9Bar V001, Firmware:1.0.0)
2. Manufacturer: Nokian Tyres Plc, Pirkkalaistie 7, 37101 Nokia, Finland
3. This declaration of conformity is issued under the sole responsibility of the manufacturer.
4. Object of the declaration is the Intuitu Sensor





5. The object of the declaration described above is in conformity with the relevant Community harmonization:
  - a. Directive 2014/53/EU
6. The conformity with the essential requirements of the following directives has been demonstrated against the following standards:

Standard reference	Essential requirements
EN 62368-1:2014 + AC:2015 + A11:2017 EN 62479:2010	Article 3.1 (a): Health and Safety of the User
Draft EN 301 489-1 V2.2.0 Draft EN 301 489-3 V2.1.1 Draft EN 301 489-17 V3.1.1	Article 3.1 (b): Electromagnetic Compatibility
EN 300 328 V2.2.2 Draft EN 300 220-1 V3.1.1 Draft EN 300 220-2 V3.1.1	Article 3.2: Effective use of spectrum allocated

7. The Notified Body DEKRA Testing and Certification S.A.U., with number 1909 performed the conformity assessment procedure and issued the EU- Type Examination Certificate according to Directive 2014/53/EU: (reference)”


8. Thus,  is placed on the product. The Technical Documentation (TD) relevant to the product described above and which supports this Declaration of Conformity, is held at: (Nokian Tyres Plc, Pirkkalaistie 7, 37101 Nokia, Finland)

9. Signed for and on behalf of Nokian Tyres Plc, Nokia, April 22nd, 2020:

 <b>Jukka Kasi</b> SVP, Product and Marketing Nokian Tyres plc	 <b>Mika Penttilä</b> Head of Digital Technology Nokian Tyres plc
PP.NOKIAN TYRES PLC	

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## Documents / Resources

	<p><b><a href="#">NOKIAN TYRES PLC S09001 Pressure and Temperature Measurement Sensor</a></b> [pdf] User Manual</p> <p>S09001, QCE-S09001, QCES09001, PLC S09001 Pressure and Temperature Measurement Sensor, PLC S09001, Pressure and Temperature Measurement Sensor</p>
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