

## Health & Safety – Drive Test Procedure

Use of Automatic field performance validation (AFPV) for drive test

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### Change History

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## 1 Introduction

The purpose of this document is to provide key, additional H&S requirements for the use of Nokia's AFPV Solution, also known as AFPV (automatic field performance validation) tool set. Information about this tool can be found at the following link [NPO AFPV](#).

The solution contains test mobile phones (Mobile Phones) placed within a vehicle connected together with ancillary equipment. The solution uses cloud-based processing and storage which will allow the remote monitoring of the drive test. This document identifies additional requirements required to ensure the safe operation of the Drive Test.

The Drive Test will follow a predetermined route using spoken turn by turn navigation (google maps or similar) There is no requirement for the driver of the vehicle to interact with the test equipment once the Drive Test has started.

## 2 Key definitions

RSS – Road Safety Standard

AFPV – Automatic field performance validation.

Central Operations – A group of trained engineers sited remotely from the Drive Team to help co-ordinate and troubleshoot issues with the mobile/Cell phone system.

RF – Radio frequency

PES&S – People Experience Safety & Security

IVMS – In Vehicle Monitoring System

## 3 Road Safety Standard

The Non-Negotiables in the Road Safety Standard must be implemented during any drive test.

Links to the Global Standard and the Guidance documents are below:

- Road Safety Standard [Road-safety-standard.pdf \(sharepoint.com\)](#)
- Road Safety Guidance [Road-safety-guidance.pdf \(sharepoint.com\)](#)
- Journey Management Guide [Nokia Journey Management Guide eBrochure EN.pdf \(sharepoint.com\)](#)

## 4 Equipment Used for the Drive Test

### 4.1 Mobile phone/Cell Phone Devices

The number of mobile phone/cell Phone devices required for a test varies from 1 to usually a maximum of 6. For solutions greater than 6 a special holder from the system manufacturer can be purchased. The cell phone must be secured and covered (for security) and placed in a position where the driver cannot see or touch the units whilst driving.

An appropriate place is on the back seat of the car directly behind the driver, secured by the seatbelt or another suitable alternative.

Placing the equipment in the boot of the car is not recommended as the RF attenuation from being enclosed in a metal box is considered too high.

### 4.2 Ancillary Cables

Any routing of the ancillary cables from the inverter should not interfere with the driver.

### 4.3 Securing of all equipment

The method used to secure the cell phone devices and the cables in the rear of the vehicle must be secure to prevent them becoming a hazard in the event of an incident.

## 5 High, and Extreme Risk Countries

In High and Extreme risk countries where the security risk is designated as significant, there must be at all times, a minimum of two people in the vehicle.

The mutual support provided by a crew of 2 persons will improve safety during unforeseen events e.g., vehicle breakdowns (tyre puncture, mechanical failure), irregular checkpoints, hostile populations/demonstrations, criminal incident. The driver will focus on all aspects of the driving task whilst the second person will act as the vehicle commander and will focus on security-area situational awareness, route selection, security-atmospherics, contingency response, and communication with base-locations.

A list of High and Extreme risk countries can be found at the link: [S2L2 Safety & Security Local Library](#).

Projects conducting Drive-test operations in High and Extreme risk countries must consult with their local PES&S Safety and Security manager to discuss security mitigation before commencement of the operations. Careful attention must be given to Journey Management Planning (JMP) and IVMS tracking to ensure that teams conform to pre-planned routes/activities and to ensure that the teams locations are being carefully monitored.

## 6 Drive Test

### 6.1 Setting up the Mobile phone/Cell Phone Devices

At the start of the test session the car must be stationary and parked safely. The test must not be started where there is a potential risk to the driver whilst parked. During the setting up of the phones, the vehicle must be stationary and switched off, at all times.

The driver will follow a set of instructions, depending on the type of test to be conducted. This will may include checking in, by voice or text, with a central operations team. This will be completed before the drive test starts. The driver will confirm to the central operations team that he has a handsfree Bluetooth phone that does not require any physical touch.

### 6.2 Drive test – Normal Operations

At no time is there any need for the driver to view the phone screens directly or interact with the cell phones whilst driving. The cell phones should be covered to minimise the security risk.

### 6.3 Drive Test – Abnormal conditions (when a problem has occurred)

If an error occurs during the drive test, this can be diagnosed and fixed by the central operations team, remotely without any interaction or the knowledge of the driver.

If there is a failure in the system that cannot be resolved remotely and the drive test must be started again, the central operations team will contact the driver via his Bluetooth connected phone. The call will be brief, and the driver will be asked to pull over and park up the vehicle and when it is safe to do so, switch the vehicle off and returns the call. There must be no further calls.

The driver must not try and diagnose and resolve the problem whilst the car is in motion.

## 7 Completion of the drive test

### 7.1 Checking the test result

At the end of the drive Test, the driver must pull over and park the vehicle safely.

Depending upon the arrangements of the Drive Test, the driver may be given some written instructions (this may vary depending in the test) before the start of the drive test to check the test status on the screen of the phone, or he may initiate or receive a phone call from the central operations team to confirm what he should do next.

If the test has executed successfully the driver will follow the instructions (see appendix1) to release the software license, switch off the phones and return to his base.