

Annex no. 5

Functional Description / User Manual

User Manual / Functional Description

of the

Continental

Radio Frequency Transmitter

Type

**S180144011
S180144014
S180144015**

Functional description of Nissan DPF I – key 3rd Bundle

This document gives an overview of the different device operation modes and the RF transmissions performance of the key. In this document the device is referenced as "key", even if the mechanical backup key might be separated from it.

1. Operating modes

The key has three main operating modes which differ regarding of the signal transmitting with the RF:

- **Immo** Immobilizer transponder mode
- **RKE** Remote key functionality
- **PASE** Passive key functionality
- **RES** Remote engine start functionality

Immobilizer Transponder mode

When the key is operating as an immobilizer transponder, the communication is done via a "contact less interface" depending on a magnetic coupling. The transponder is the passive side of the link and there is **no RF transmission from it involved** in any aspect.

Remote key functionality

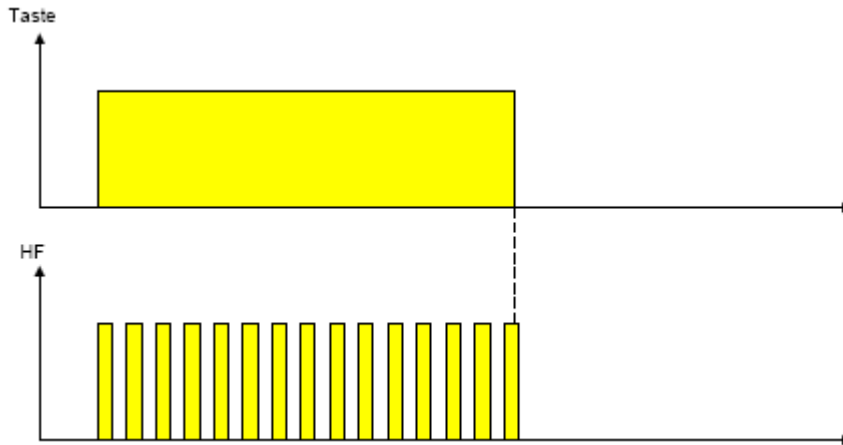
This mode refers to use the key as a remote control unit to initiate actions on the vehicle such as open or close door latches. RF transmission depends on a user activating (a button pressing) on the key. During the button pressing the amount of telegrams are sent on the RF channel.

Short button press:



A short valid button pressing results a sending of the minimum number of the RF telegrams, as showed on the diagram.

Long button press:



If the duration of the button pressing extends the time required for transmitting the minimum amount of RF telegrams, additional telegrams will be sent until the button is released or a timeout of 10s is reached. This timeout function prevents the unintended transmission over the extended time periods in case of a button was fixed.

Passive key functionality

For passive key operation no user action on the key side is required. The trigger is delivered by the vehicle via an LF data telegram. When the key receive a valid LF message, it responds with two RF telegrams and the inter telegram timing in this mode depends on the key configuration data (sort of time slot concept).

Remote engine start functionality

This mode refers to use the key as a remote control unit to initiate actions on the vehicle such as start and stop engine. RF transmission depends on a user activating (a button pressing) on the key. During the button pressing the amount of telegrams are sent on the RF channel. In this mode, RF output power is higher than RKE mode.

2. Block diagram

3. RF parameters

For all RF transmission the following parameters apply:

	JP variant	US/EUR variant
Center frequency	315 MHz	433.92 MHz
Frequency accuracy	± 15 kHz	± 22 kHz
Frequency deviation	± 35 kHz nominal	± 35 kHz nominal
RF modulation	FSK	FSK
RF frame data rate	4.096 kbps	4.096 kbps
Data coding	Manchester	Manchester
RKE RF power (max)	-16dBm	-13dBm
RES RF power (max)		-10dBm

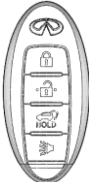

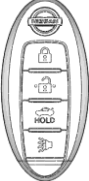
Button functions

The validation of the accurate frequency deviation and the measurement of the transmission function of the key are implemented basing on RF test software. The graphic below shows the functionality of the buttons.

	<i>First Button press</i>	<i>Second Button press</i>	<i>Third Button press</i>	<i>Fourth Button press</i>	
Button RES					
Button Lock	CW; center frequency	F _{up}	F _{low}	With every additional button press switch between F _{up} and F _{low}	
Button Unlock	CW; center frequency	F _{mod}	Sweep		


Button Trunk	CW; center frequency				
Button Panic	CW; center frequency				
	RESET: if "Lock"- and "Unlock"- button is pressed at the same time				

Variant

S180144011	I_4_L/UL/PBD/P 433,92MHz	
S180144014	I_5_RES/L/UL/PBD/P 433,92MHz	
S180144015	N_4_L/UL/TR/P 315MHz	

Label

Europe

S180144014 

USA

Thierry RASPAUD
Josef Lohr

Continental
S180144014
FCC ID: KR5S180144014

Warning Statement:

NOTE

This device complies with part 15 of the FCC Rules and RSS-210. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept interference received, including interference that may cause undesired operation.

CAUTION

Changes or modifications not expressly approved by the manufacturer could avoid the user's authority to operate the equipment.

Canada

Continental
S180144014
IC: 7812D-S180014

Korea

Continental
S180144014



XXX-YYYYYYYYYYYY

Taiwan

Continental
S180144014



ETCXXXLPDXXXX

Brazil

Continental
S180144014

"Este equipamento opera em caráter secundário, isto é, não tem direito à proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário."



Only Example, must be replaced by the original certificate number

Japan

Continental
S180144015
[identification code]

