

#### 4. INTENDED USE

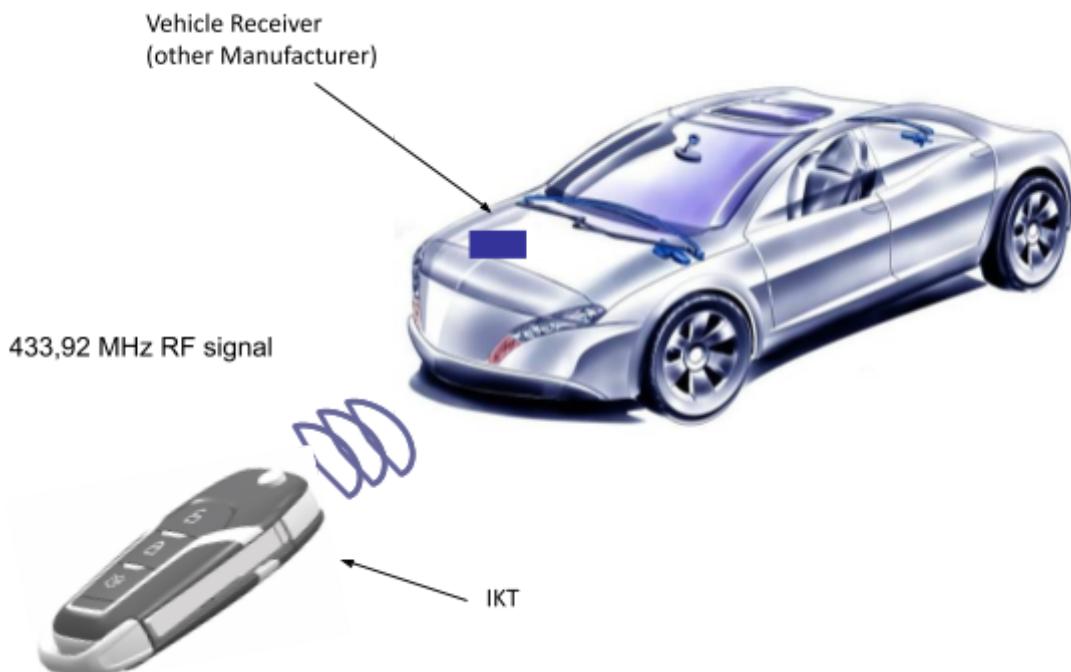
The IKT is a 'foldable' Car Key including a radio frequency Transmitter (category Low Power / Short Range Device).

Intended use is a Remote Control to operate car doors through radio waves. The provided function is generally designated as 'Remote Keyless Entry' (RKE) and aims at enhancing the driver's convenience while accessing his Vehicle.

Basic principle: when the car driver presses one of a control button, an unidirectional radio signal is emitted towards his Vehicle (in which a Radio Receiver is embedded). The received message is demodulated and the information checked. If the operation is successful, the Receiver sends then the information to the central Electronic Control Unit (ECU) via the Vehicle network.

Depending on the pressed button (Lock, UnLock, Trunk, Panic), the ECU executes the requested command:

1. Door Lock,
2. Door UnLock
3. Remote E
4. Alarm triggering (Panic)



Picture 1: System overview

## 5. OPERATION DESCRIPTION

### 5.1. REMOTE KEYLESS ENTRY

1. When the user presses one of the control switches of the Transmitter IKT corresponding to the desired function, a modulated radio wave signal is transmitted.
2. The signal is then detected and demodulated by a dedicated RF Receiver fitted with the Vehicle.
3. The transmitted data is checked.
4. Once the user identification is confirmed, the Body ECU executes the command.

### 5.2. ENGINE START BY TRANSPONDER

1. The Transmitter IKT has a built-in passive tag which enables the engine start when the right code is positively authenticated by the Immobilizer.
2. The driver just needs to deploy the Key blade of the IKT and to insert it in the column lock cylinder.
3. A very short distance LF communication takes place then: after rotating the key inside the column lock cylinder, the LF base station (Immobilizer) emits a 125 kHz LF field and interrogates the IKT.
4. The signal is then detected, demodulated by the IKT then the IKT delivers its reply through the built-in Transponder
5. Once the user identification is confirmed, the LF base station (Immobilizer) informs the Body ECU of the requested function via the Vehicle network,
6. The Body ECU executes the command