

AUTOMOTIVE GOES BLUETOOTH® LOW ENERGY

HOW CARS SUDDENLY GOT SMARTER, FRIENDLIER, SAFER

The arrival of the breakthrough Kinetis KW35/36 MCU family from NXP combines Bluetooth Low Energy (BLE) with integrated CAN-FD for the first time. Meaning more driver benefits, faster monitoring and diagnostic data transfer, all with no central computer input. A true paradigm shift, making cars:



THE INTEGRATED SMART SOLUTION

Cars are becoming smart like your phone.

And we link the two through smartphone-friendly, low-energy BLE. Our new MCU family also simplifies building in BLE connectivity throughout the car, while incorporating Flex CAN-FD and LIN for easy integration into in-car comms networks.



MORE ACCURATE
High accuracy I/Q capture with hardware trigger for AoA and Phase-based ToF, helping to determine the position of the smartphone, key fob or tire



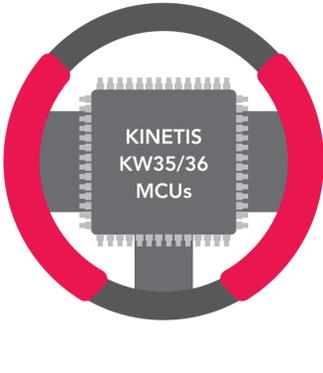
BLUETOOTH LOW ENERGY
Integrate BLE 5, generic SFK at 250,500 and 1000kbit/s and augments proprietary RF protocols



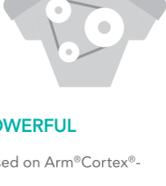
DIRECT SIGNAL
Supports up to 8 concurrent secure connections/multiple authorized users and allows control directly from your personal smart device



TEMPERATURE CONTROL
AEC Q100-Grade 1 temperature range qualifications



FAST
Integrates Flex CAN-FD and LIN



POWERFUL
Based on Arm®Cortex®-M0+core running at 48MHz



PRODUCT LONGEVITY
ensures a stable supply for your embedded designs for up to 15 years from product launch



ADAPTABLE
Integrates 512 KB of on-chip flash with ECC for all automotive applications

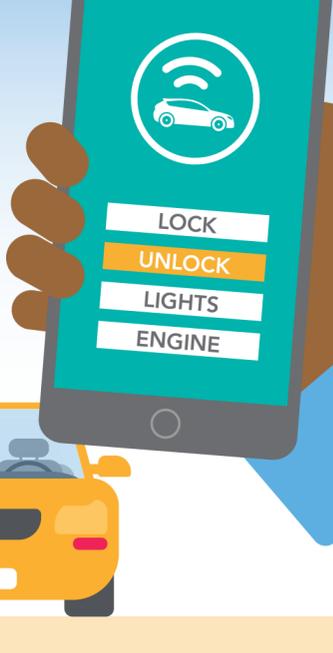
SMART ACCESS

YOUR CAR WELCOMES YOU LIKE A FRIEND

With BLE, your smartphone can **replace your key fob** as a virtual key. A secure signal tells the car to unlock (or lock), switch on lights, start the engine – any combination of options the driver chooses.

The signal from a smartphone can either **transmit direct** to the Body Control Unit, or through the key fob.

- ✓ Lock/unlock vehicle
- ✓ Interior lights
- ✓ Exterior lights
- ✓ Start engine
- ✓ Adjust seats etc to individual settings
- ✓ Passive entry passive start



AWARE YOU'RE THERE

With 512 KB of flash memory with ECC and 64 KB of SRAM on chip, these powerful MCUs accurately calculate the distance and angle of the BLE signal from your phone or keyfob.

SMART CAR DESIGNATED ACCESS

SHARING THE JOURNEY

Incorporating BLE into car security opens the door to much **easier and more efficient** car sharing arrangements. With each potential user's smartphone acting as a **virtual key**, the car can be made available to whoever needs it – practically instantaneously.



- CAR SHARING SCHEMES MADE SIMPLE
- CORPORATE OR MEMBER BASED
- IDEAL FOR RENTAL APPLICATIONS
- ADD OR DELETE PERMITTED DRIVERS IN SECONDS

THE JOINED-UP, THINKING CAR

INTEGRAL MONITORING AND COMMUNICATING IN A BETTER, SAFER VEHICLE

Think of your car as a brain, with all the neurons connected. That's made possible by combining BLE and CAN-FD on MCUs located throughout the vehicle. **Everything is connected, in real time.**

So in addition to better security, you're safer too.



All locks operated **individually or collectively** through instrument panel or phone

Where non-safety compliance is requested, cabling can be replaced with wireless BLE communication between MCUs – **expanding vehicle design options**, reducing vehicle weight, decreasing faults through cable wear/failure

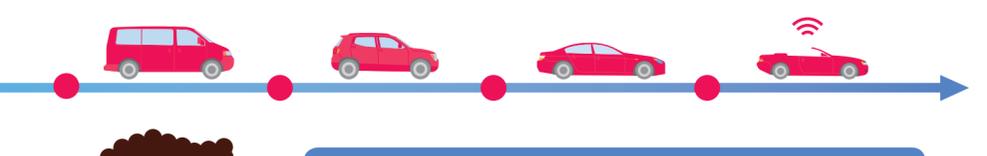
Engine management and monitoring

TPMS on all four tires, giving **individual** readings in real time, **increasing safety**

Exterior and interior lighting – **programmable options** through panel or phone

DIAGNOSTICS TOOL
BLE capability also connects all on-board diagnostic functions

NXP has a **long history of driving forward** with automotive partners to make cars smarter, more efficient, and more experiential. With the new **Kinetis KW35/36 MCU** family, we open the road to more user options and more design flexibility - and new build economies too.



BLE + CAN-FD = the new paradigm in vehicle electronics and automation. Isn't it time to put the latest thinking into your automotive design?

Visit the future of vehicle design, security, control and monitoring at nxp.com/Wireless/KinetisKW35

Join us in driving the smart future.

