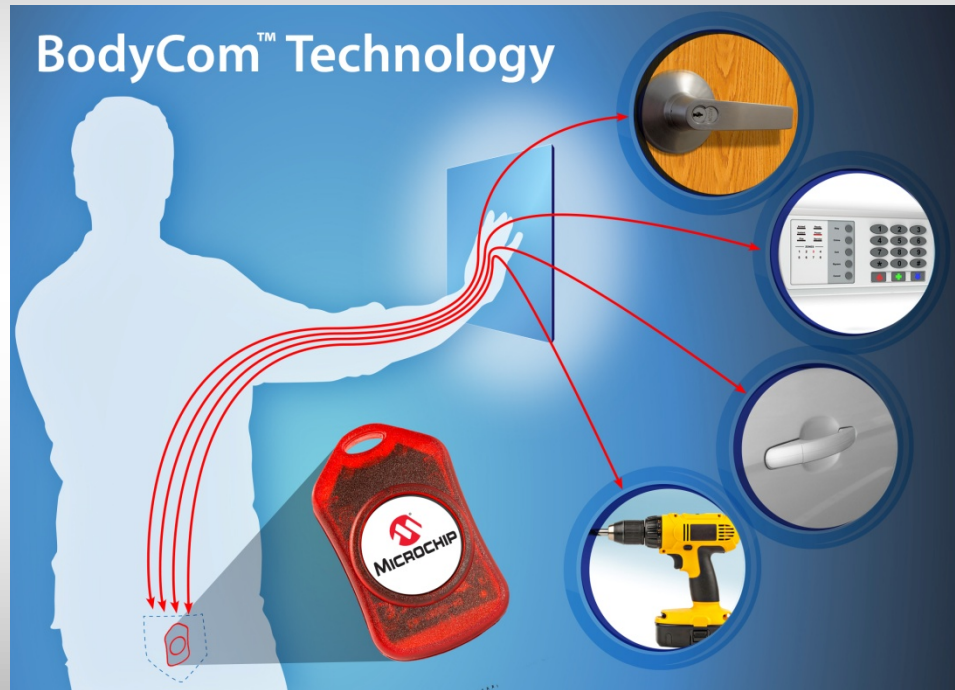




MICROCHIP



Introducing BodyCom™ Technology

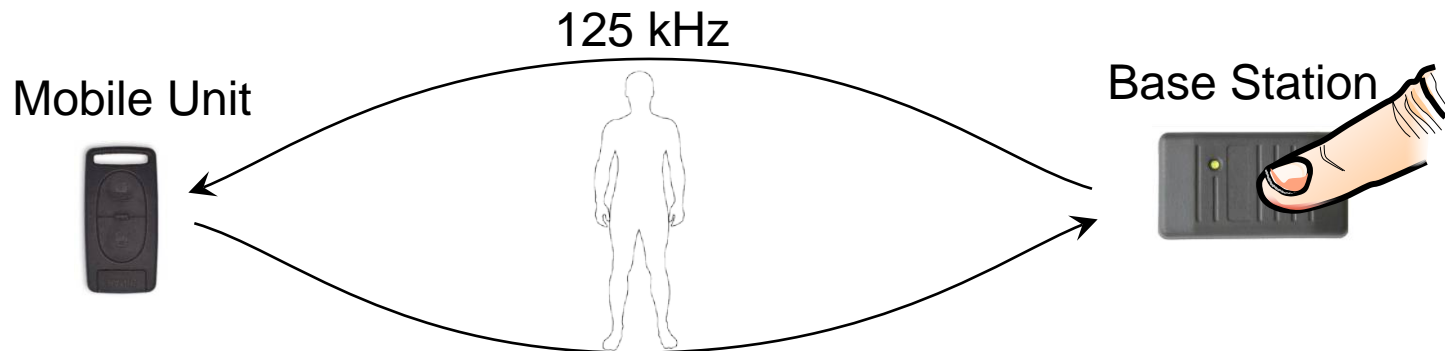


What is BodyCom™ Technology?

- ❖ **BodyCom™ Technology** is a short-range, low-data-rate communication solution for securely connecting to a wide range of wireless applications
- ❖ Compared to existing wireless technologies:
 - ❖ Lower active and standby energy usage
 - ❖ Increases security through bidirectional authentication
 - ❖ Uses human body as the secure communication channel
 - ❖ Allows for simpler circuit-level designs
- ❖ **BodyCom™ Development V1.0 Framework**
Supplied via free Software Libraries for all PIC® MCUs

How does BodyCom™ Technology work?

- ❖ Activated by *capacitively coupling to the human body*, the system communicates bidirectionally between a centralized controller and one or more wireless mobile units
- ❖ Intra-body communication, using the *human body as the transmission medium*





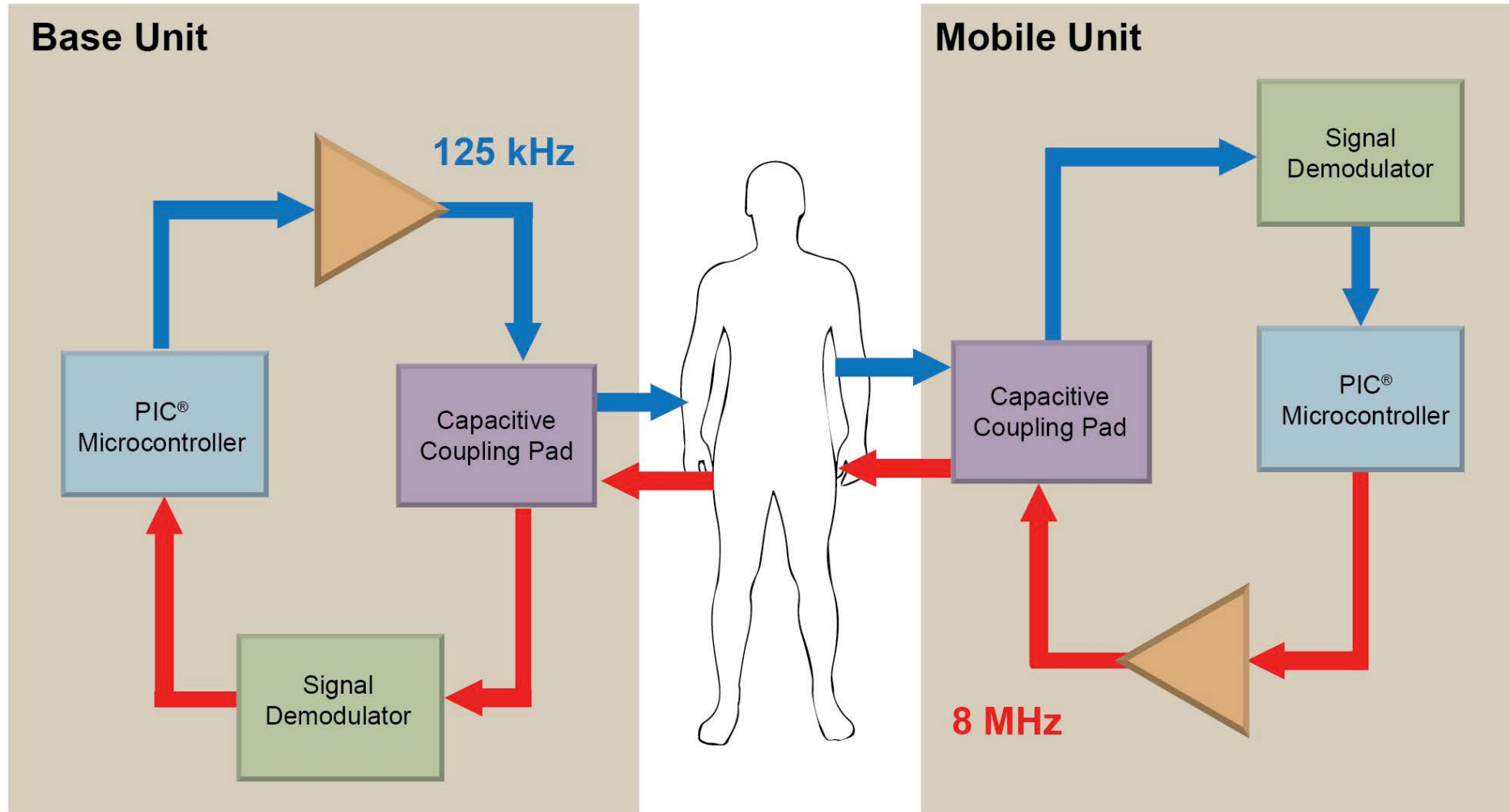
Typical Applications

- ❖ **Access Control**
 - ❖ Passive Keyless Entry (PKE)
 - ❖ Security Systems
 - ❖ Home/Industrial Door Locks
 - ❖ Pet Doors
- ❖ **Personal Safety & Security**
 - ❖ Equipment Access/Disable
 - ❖ Power Tools
 - ❖ Firearms
 - ❖ Computer Systems
- ❖ **Medical**
 - ❖ Patient Monitoring
 - ❖ Hospital Room Access
 - ❖ Equipment Tracking
- ❖ **Consumer**
 - ❖ Profile Management for
 - ❖ Gaming Consoles
 - ❖ Exercise Equipment





BodyCom™ Technology Signal Chain





BodyCom™ Technology Benefits

❖ **Simpler Implementation**

- ❖ No RF antenna design necessary
- ❖ Low-frequency design using common microcontroller and AFE frequencies (125 kHz / 8 MHz), no external crystals needed
- ❖ Complies with FCC Part 15-B, Radiated Emissions
- ❖ Lower overall BOM, compared to existing technologies

❖ **Lower Power Consumption**

- ❖ No wireless transceiver required for two-way communication
- ❖ Not using high-power inductive fields

❖ **More Secure Communication Channel**

- ❖ Provides bidirectional authentication using the human body
- ❖ Prevents the “Relay Attack” problem typical in PKE solutions

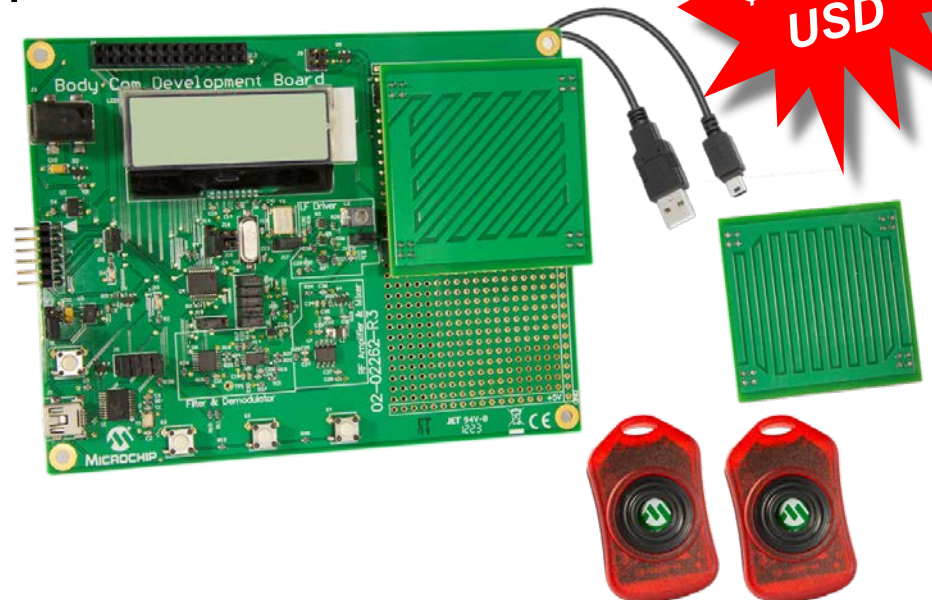
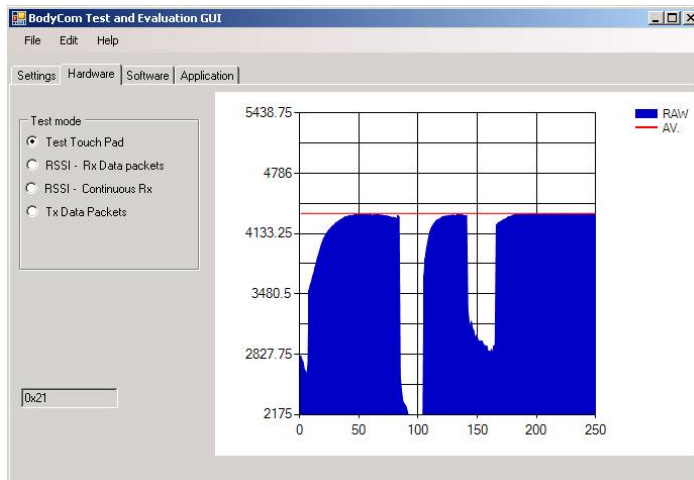
❖ **Supports Advanced Encryption Solutions**

- ❖ Such as KeeLoq® Technology with AES-128



BodyCom™ Development Kit

- ❖ Ordering Part# **DM160213**, available now
 - ❖ Central Controller Unit + 2 Wireless Mobile Units
- ❖ Free BodyCom™ Development V1.0 Framework
 - ❖ BodyCom Communication Library
 - ❖ Application Code Examples
 - ❖ PC Development GUI





BodyCom™ Technology Support

❖ www.microchip.com/BodyCom

- ❖ **AN1391** – Application Note – Introduction to the BodyCom™ Technology
- ❖ **DS41391** – Data Sheet – PIC16F/LF1826/27 18/20/28-Pin Flash Microcontrollers with nanoWatt XLP Technology
- ❖ **DS22304** – Data Sheet – MCP2035 Analog Front-End Device for BodyCom™ Applications
- ❖ **DM160213** – BodyCom™ Development Kit
- ❖ **BodyCom™ Development Framework V1.0**



BodyCom™ Technology Summary

- ❖ **BodyCom™ Technology** is a short-range, low-data-rate communication solution for securely connecting to a wide range of wireless applications
- ❖ **Simpler Implementation**
 - No antennas, lower BOM
- ❖ **Lower Power Consumption**
 - No RF or high-power inductive fields
- ❖ **More Secure Communication Channel**
 - Provides bidirectional authentication using the human body



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