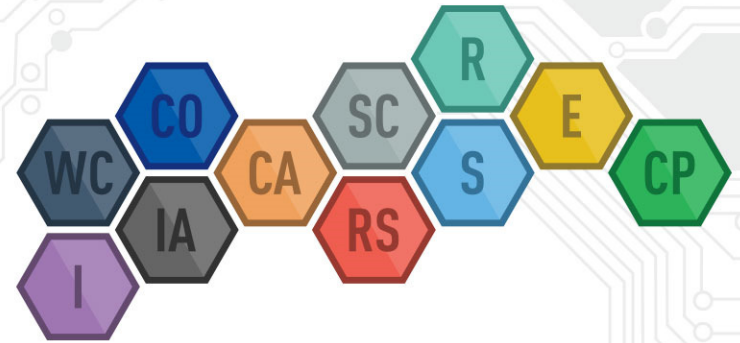


**Panasonic**



# PAN1740 Beacon

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1-800-344-2112

# Introduction



\*

- ... *What is it all about?*



- Proprietary Bluetooth protocol / profile developed by Apple (i.e. it is not a hardware device)
- Applicable for Bluetooth Low Energy (smart) capable devices
- Main general application is indoor positioning and proximity as alternative to the existing Bluetooth Proximity Profile (PXP)
- Supported by Apple IOS (version 7 and later) and Android (version 4.3 and later)

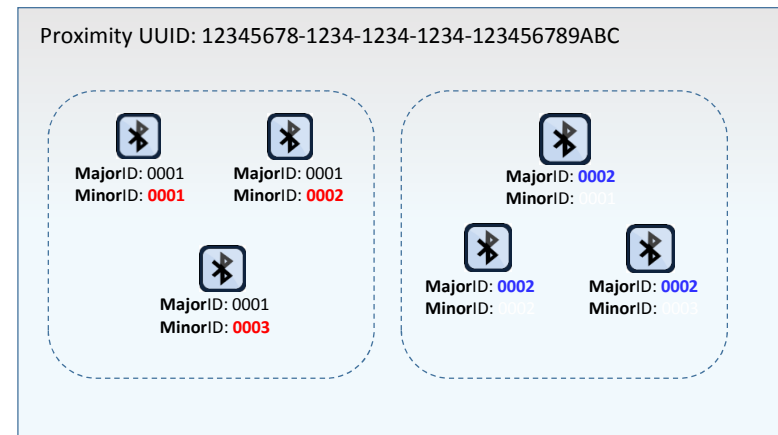
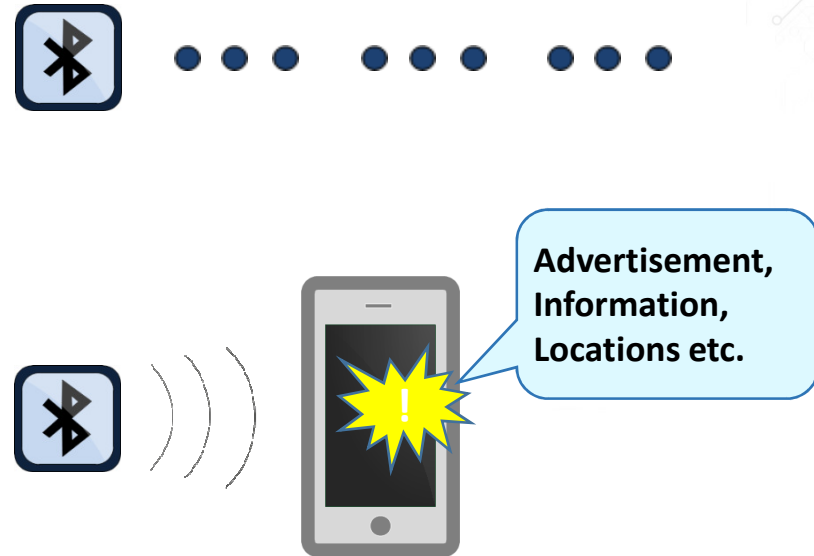
\* Utilization of any iBeacon specific components (general IP, H/W, S/W, logo) is subject to iBeacon Program



**Panasonic**

# How it works

1. The Beacon continuously transmits advertising messages
2. An advertising message contains universal unique identification information (UUID). The application of the receiving device utilizes this information to trigger various functions.
3. In addition to the unique identifier a MajorID and MinorID are transmitted, which may be used in case a specific Beacon shall be identified when using more than one Beacons at the same time.



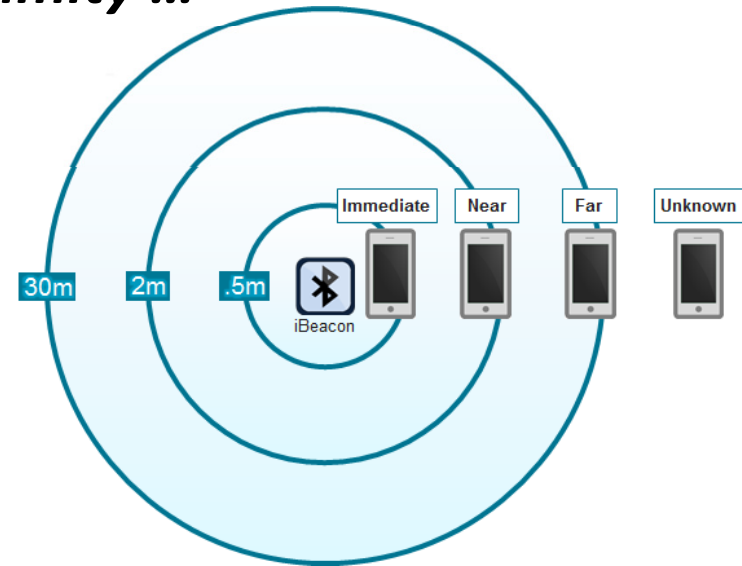
# iBeacon – How it works (2/2)

## *Proximity ...*

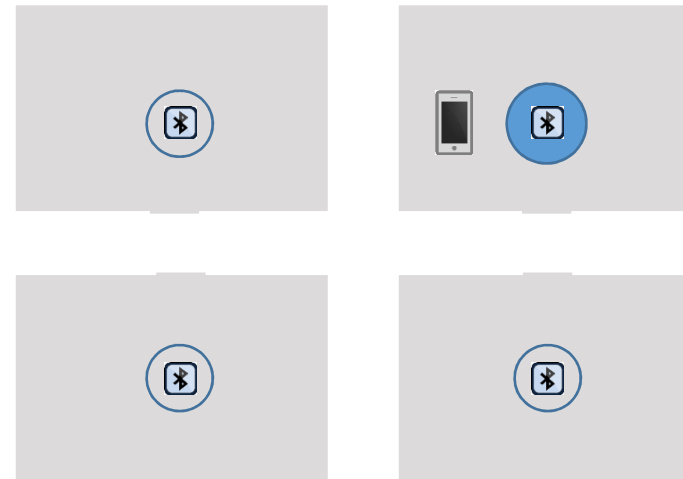
- The distance to a Beacon is categorized in 3 levels:

*Far (30m), Near (2m) and Immediate (0.5m)*

- This information is calculated inside the target application based on the **reference RSSI** (Received Signal Strength Indicator) transmitted as part of the advertising message and the actual measured RSSI.
- Coarse Indoor Positioning is possible by considering the known locations of beacons within a room/building.
- Trilateration (positioning based on measuring the distance to 3 Beacons) may give more precise position, but is heavily dependent on environmental conditions...



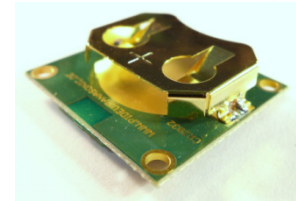
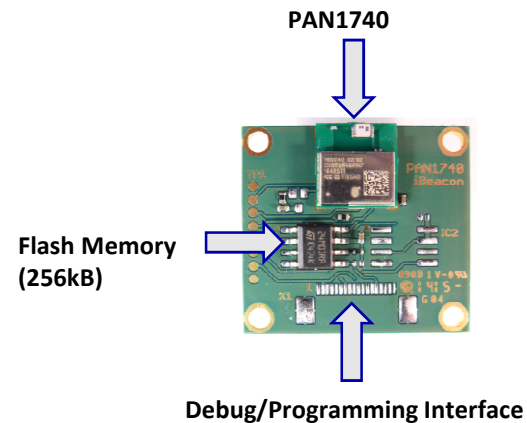
## *... Indoor Positioning (IPS)*



# PAN1740 Beacon

## Concept

- The PAN1740 Beacon consists of PAN1740, carrier PCB, Flash memory and battery holder.
- Based on proven design of PAN1740 Low Energy Module
- Flash memory for customer specific applications and beacon specific parameters (UUID, Major/MinorID)
- CR2032 battery holder
- Reference designs available for keychain and watch cases.



Bottom Side:  
CR2032 coin cell  
battery holder



Watch and Keychain Cases



# PAN1740 Beacon – Experimenter Kit

This kit can be used by for full evaluation of the beacons including programming capability for both OTP and flash memory.

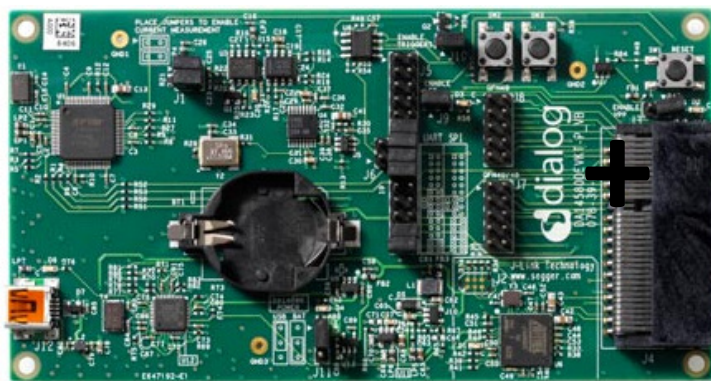
The kit consists of:



5pcs **PAN1740 Beacon** with  
flat band cable connector



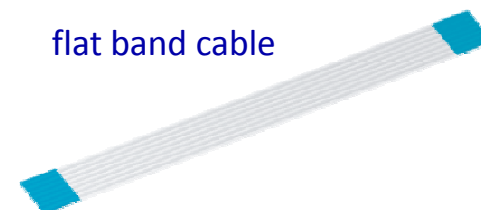
Dialog DA14580 Development Kit – Pro



**PAN1740 Adapter Board**  
with flat band cable connector



flat band cable



# Features



## **Low power consumption:**

~18 Months battery life with  
popular CR2032 3V coin cell battery  
@ 700 ms connection interval (configurable)  
0 dBm output power



## **Small size (26x24mm)**



## **Software SDK / Application Notes**

available from Dialog Semiconductor



## **Low cost**

