



# Ready to use solution

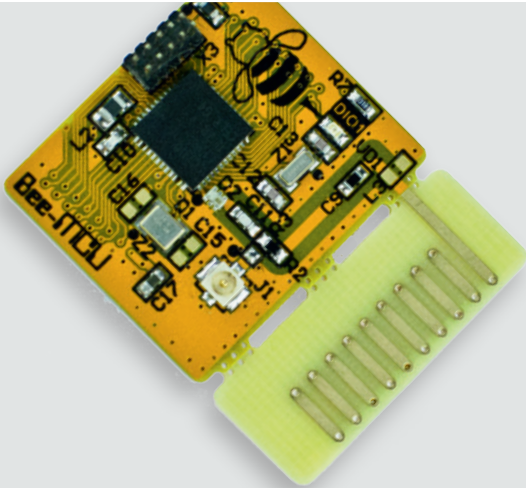
An example of an Energy Harvesting system in life



Company Third Pin in cooperation with Würth Elektronik presents a ready to use solution based on Energy Harvesting principles.

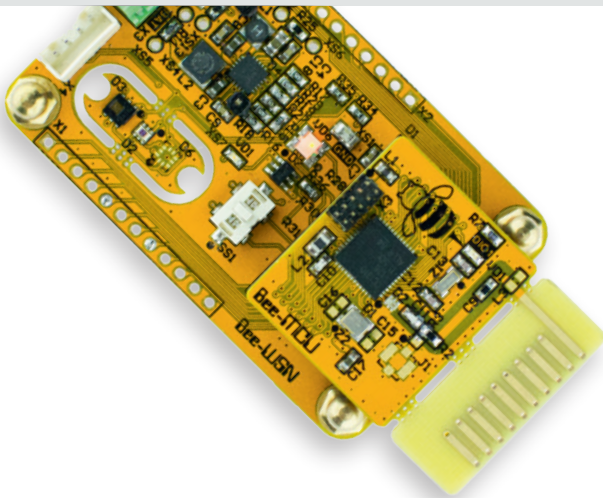
# Bee - 333

Bee is a wireless sensor node platform for IoT. You can easily start developing your own application with it. Bee is based on TI CC1310 chip and charged with the energy harvesting and dongle modules. The platform consists of the following devices:



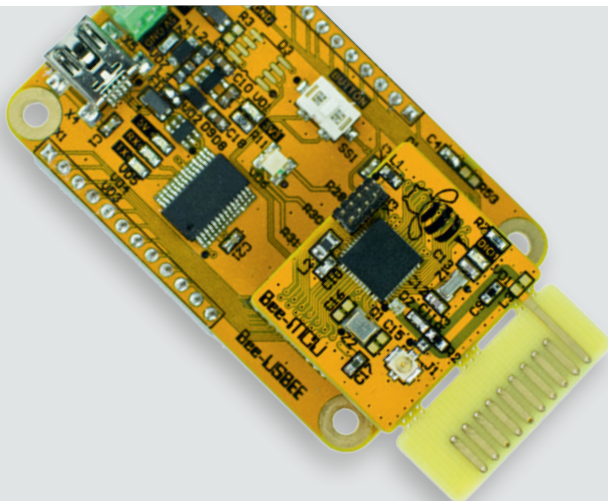
**Bee-MCU board is a universal RF transceiver module.  
Working with Bee-WSN, Bee-USBEE or your custom devices.**

- TI CC1310 Low Power Sub-1 GHz Wireless MCU
- 868 MHz RF path, built-in antenna
- Ultra low power
- Size 35 x 27 mm



**Bee-WSN board is an autonomous wireless sensor node for data acquisition without external power supply.**

- Solar & peltier energy harvester
- Battery charger
- On board sensors:
  - temperature
  - humidity
  - air pressure
  - air quality
  - ambient light



**Bee-USBEE board is a simple device for interacting with sensor nodes and PC or gateway connection.**

- USB dongle
- RGB LED
- button



## Würth Elektronik parts

Partnumber	Description	pcs per board
150060GS75000	WL-SMCW SMD mono-color Chip LED waterclear 0603, Green Typ.(@20mA): 520nm, 430mcd, 3.2V, 140° InGaN	2
150060RS75000	WL-SMCW SMD mono-color Chip LED waterclear 0603, Red Typ.(@20mA): 625nm, 250mcd, 2.0V, 140° AlInGaP	1
150060YS75000	WL-SMCW SMD mono-color Chip LED waterclear 0603, Yellow Typ.(@20mA): 590nm, 120mcd, 2.0V, 140° AlInGaP	3
150121M153000	WL-SFCD SMD full-color Chip LED Diffused 1210, full-color, Red/Green/Blue Typ.(@20mA): 632/520/468nm, 70/180/70mcd, 2.0/3.3/3.3V, 120° AlInGaP/InGaN	2
428542320816	Rotary Switch 7*7mm, 16 position, 2.54mm, horizontal type, SMD, Round Arrow type, light grey actuator, real code, T&R	2
444YD21025816	Tact Switch illuminated 8*4.5mm vertical type, SMD, height 2.5mm, yellow double color LED, T&R	2
450301014042	Mini Slide Switch 10mm*2.5mm. SPDT, ON-ON, 2.54mm, vertical type, THT, bulk	1
62000411622	ConWTB Wire-to-Board Connectors 2.00 mm Male Vertical Shrouded Header, 4 pins	1
62201021121	WR-PHD 1.27 mm Dual Pin Header 10 pins, dual row, straight, gold plating	2
62302021021	WR-PHD 1.27 mm Dual SMT Socket Header =4.50mm 20 pins, dual row, straight, gold plating	4
65100516121	WR-COM_USB_Mini Type B_Horizontal_SMT Mini Type B Horizontal SMT - with Pads & Pegs	1
665104131822	ConWTB Wire-to-Board Connectors 1.00 mm SMT Male Horizontal Shrouded Header, 4 pins - Tape & Reel	1
691210910002	WR-TBL Terminal block - serie 2109 2,54mm - modular - green - Horizontal wire entry - Cage clamp - 0,8mm2 wires - 02p	4
742792656	WE-CBF SMD EMI Suppression Ferrite Bead Size 0603; Z @ 100 MHz = 750 Ω; Zmax = 800 Ω @ 150 MHz; IR = 400 mA; RDC = 0.35 Ω	3
744029100	WE-TPC SMD Shielded Tiny Power Inductor Size 2813; L = 10 μH ±30%; IR = 0.65 A; Isat = 0.5 A; RDC = 470 mΩ	1
744031220	WE-TPC SMD Shielded Tiny Power Inductor Size 3816; L = 22 μH ; IR = 0.51 A; Isat = 0.36 A; RDC = 450 mΩ	1
744232090	WE-CNSW SMD Common Mode Line Filter Size 1206; Z = 90 Ω; IR = 370 mA; RDC = 0.3 Ω	2
74479777310	WE-PMI Power Multilayer Inductor Size 0805; L = 10.0 μH ; IR@40K = 650 mA; Isat = 125 mA; RDC = 500 mΩ	1
79523141	Battery Holder for Lithium Coin Cell Phosphor Bronze SMT-Style Tape&Reel Number of Batteries: 1	1
82400102	TVS Diode Array WE-TVS SOT23-6L; 5Vdc; 2pF; 2Channel + VDD; Marking: .W00XY	1

# Third Pin



Third pin LLC is an independent electronics design center, based in Saint Petersburg, Russia. Since 2011 we have developed about 60 devices for shipbuilding, industrial production, oil and gas sector, retail trade, IT security, robotics, ornithology, meteorology and the IoT.

## Contacts

Dmitry Shishov

Third Pin

194017 St. Petersburg, Kostromskoy Avenue 10, office 32

+7 812 627-68-96

d.shishov@thirdpin.ru

www.thirdpin.ru

