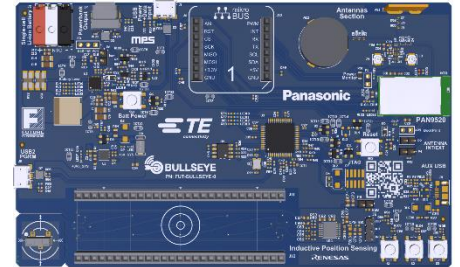


Bullseye for Industrial Wireless IoT Nodes

Overview

The Bullseye board is designed by Future Electronics SDC aiming at wireless IoT node solutions. It showcases the Panasonic [PAN9520](#), an embedded 2.4 GHz ISM band 802.11 b/g/n Wi-Fi module with highly integrated controller to be used in stand-alone or host-controlled applications. The Bullseye evaluation board aims to enable systems design engineers to quickly evaluate and integrate Wi-Fi communication and functionality into their IoT product without comprehensive knowledge of wireless hardware and software designs.

In addition to the [PAN9520](#) embedded chip antenna, the Bullseye board features four selectable external antennas from TE for extended range with different use case or performances evaluation. The Bullseye also features MPS battery charger and power solutions to enable a battery powered wireless IoT node designs. With extensive user interfaces including USB, inductive position sensing from Renesas and a mikroBUS™ extension interface, the Bullseye evaluation platform is well equipped for many wireless IoT application developments.

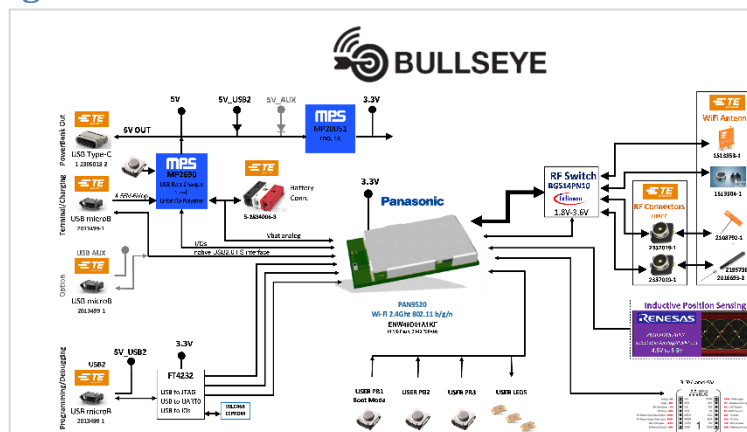


Ordering Part Number:
[FUT-BULLSEYE-0](#)

Features

- Highly integrated 2.4GHz Wi-Fi module
 - Espressif® ESP32-S2 processor
 - 36 GPIOs with alternative functions
 - RAM and Flash memory
 - USB OTG, SPI, UART, I²C etc.
- Interface and connectivity:
 - USB micro B & type C (power output only)
 - mikroBUS™ Socket
 - 3x User Buttons and 3 User LEDs
- Embedded web page interface
 - Antenna selection
 - Wi-Fi SSID, RSSI etc
 - Position sensor control
 - Battery voltage monitoring
 - Wireless remote control and monitoring
- 4 Additional selectable antennas
- Inductive position sensing with break out actuator board
- Integrated battery charger with system power path management

System Block Diagram



Bullseye for Industrial Wireless IoT Nodes

Key Components

Function	Part Number	Description	Manufacturer
Wi-Fi Module & Controller	ENW49D01A1KF	PAN9520, 4 MB of QSPI Flash and 2 MB of QSPI PSRAM	Panasonic
Switch	EVPBFAC1A000	6mm Square Middle Travel SMD Tactile Switch	Panasonic
Antenna	1513353-1	ZigBee / WLAN / Bluetooth PCB SMT Antenna, Single Band 2400 – 2483.5 MHz	TE
Antenna	1513504-1	WiFi / Bluetooth / WLAN / ZigBee PCB SMT Antenna Single band 2400 - 2483.5 MHz,	TE
Antenna	2108792-1	Bluetooth / WLAN / Wi-Fi FPC Antenna (with Cable – UMCC) Triple Band 2400-2500, 5150-5875, 5925-7125 MHz	TE
Antenna	2195736-1	2G, 3G, 4G, NB-IoT, CatM, World Band, Lora, Sigfox, BT, Zigbee, WiFi 2.4GHz, GNSS, GPS/LTE Antenna (SMA male) Quad band 698-960; 1420-1610; 1710-2170; 2300-2700 MHz	TE
RF Cable	2016693-2	50 Ohm coax cable, SMA receptacle to UMCC; DC - 9 GHz	TE
Connector	2337019-1	Antenna connector, UMCC Receptacle, 50 Ω, Coax, DC - 6GHz	TE
Connector	2013499-1	USB Micro B connector	TE
Connector	1-2305018-2	USB Type C connector	TE
Connector	5-2834006-3	Wire-to-board Poke-In connector, SMT, 18–22AWG, 6A	TE
Power	MP2690	All-in-One, 2.5A Battery Charger w/ 2.1A Boost Current	MPS
Power	MP20051	Low Noise, High PSRR, 1A Linear Regulator	MPS
Sensor	ZMID4200AI1R	Inductive Position Sensor IC	Renesas
RF Switch	BGS14PN10	SP4T high linearity, high power RF switch, up to 6.0 GHz	Infineon
Interface	FT4232	Hi-speed USB 2.0 Slave to Quad Channel UART / Serial Converter	FTDI

Application Examples

- Industrial IoT
- Medical
- Smart Home
- Personal Care

