

## Product Overview

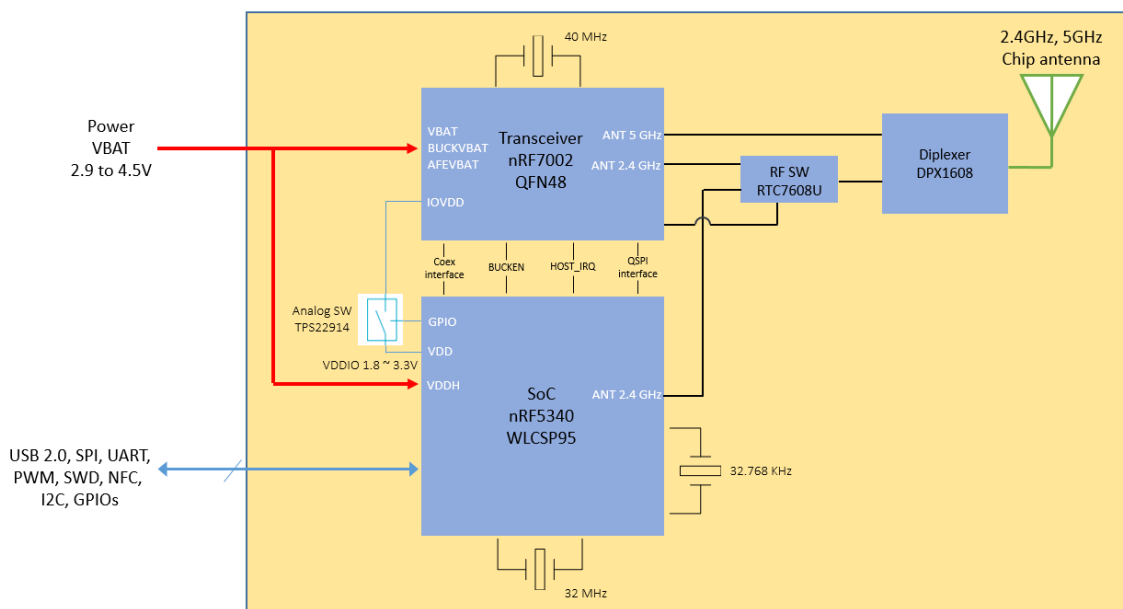
This module is a wireless solution integrated with Nordic nRF7002 and nRF5340 chip that provides highly optimized 2.4GHz and 5GHz dual band Wi-Fi 6 (IEEE a/b/g/n/ac/ax) and Bluetooth Low Energy 5.3 wireless standards which comes with chip antenna and supports industrial temperature grade. The Wi-Fi function transmits data via USB/UART/SPI interface. Supports 20 MHz wide channels, 1x1 (SISO) operation and can deliver a PHY data rate of MCS7. It supports Station and Wi-Fi Direct operation modes.

## Key Feature

- Low-power and secure Wi-Fi for the IoT
- Dual-core ARM Cortex-M33 32-bit processor (with FPU, 64MHz)
- 1MB Flash + 512KB RAM
- Support Bluetooth mesh, 2 Mbps, Long Range
- Multi-protocol radio supporting:
  - Bluetooth LE
  - Bluetooth mesh
  - Thread and ZigBee
- Wi-Fi 6 Station (STA)
- Support IEEE 802.11 ax and earlier standards (IEEE 802.11 a/b/g/n/ac)
- Support Target Wake Time (TWT)
- Support WPA3 - Personal and Enterprise
- Dual-band 2.4GHz and 5GHz operation
- 20 MHz channel bandwidth
- FCC/IC/CE/TELEC certificate



## Block Diagram



## Technical Specifications

<b>Chipset</b>	Nordic nRF7002, Nordic nRF5340
<b>Operating Frequency</b>	2.4GHz, 5GHz
<b>Wi-Fi Specifications</b>	IEEE 802.11 a/b/g/n/ac/ax (Wi-Fi 6)
<b>Wi-Fi Transmit Power</b>	Max. +19dBm
<b>Wi-Fi Receiver Sensitivity</b>	Min. -96.5dBm
<b>Bluetooth Specifications</b>	Bluetooth Low Energy 5.3, BLE 2 Mbps, BLE Long Range
<b>Bluetooth Transmit Power</b>	Max. +3 dBm
<b>Bluetooth Receiver Sensitivity</b>	Min. -98 dBm
<b>Max Data Rate</b>	Wi-Fi: 56 Mbps, BLE: 2 Mbps
<b>Power Consumption</b>	Wi-Fi max. Tx @ 2.4GHz, MCS7: 191mA, Rx: 60mA Wi-Fi max. Tx @ 5GHz, MCS7: 260mA, Rx: 56mA BT max. Tx: 3.4mA, Rx: 3.1mA Sleep: 0.9uA
<b>Peripherals</b>	31 General purpose I/O pins include the following: - USB 2.0 full speed (12 Mbps) - 2x UART (CTS/RTS) - Up to 3x SPI masters or slaves - Up to 2x I2C compatible 2-wire masters/slaves - Type 2 NFC-A tag
<b>Form Factor</b>	LCC 45 pins
<b>Antenna</b>	Chip antenna
<b>Operating Voltage</b>	2.9V to 4.5V
<b>Operating Temperature</b>	-40 to 85°C
<b>Storage Temperature</b>	-40 to 125°C
<b>Certifications</b>	FCC, IC, CE, TELEC

## Dimension: 20mm x 20mm x 2.4mm (±0.1mm)

