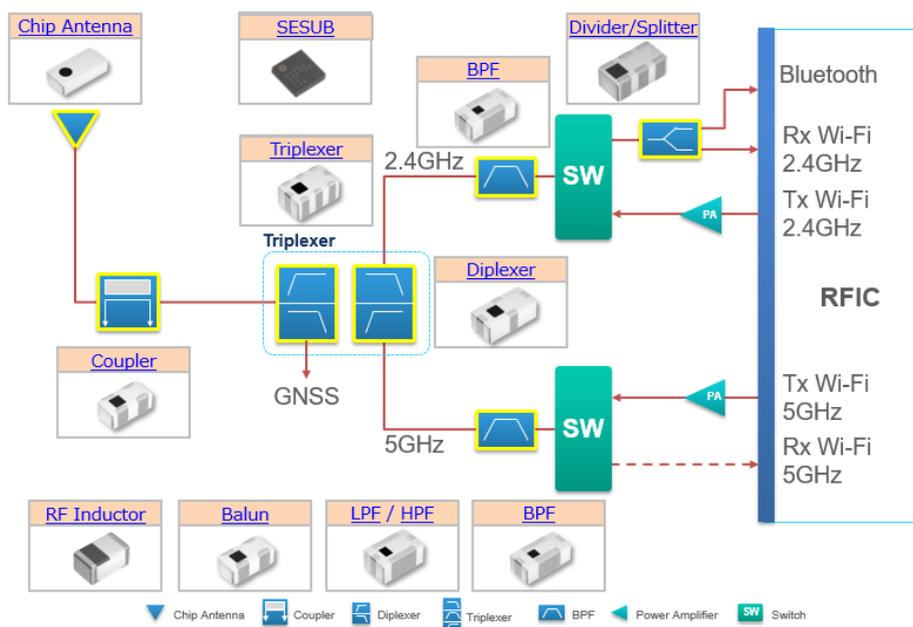


TDK's wide lineup of RF components includes filters, diplexers, triplexers, baluns, directional couplers, chip antennas, isolators/circulators and modules developed with LTCC, thin-film and SESUB (Semiconductor Embedded in SUBstrate) technology.  
Click on the product names to view detailed information.

## ▶ BLOCK DIAGRAM EXAMPLE : Wi-Fi with Bluetooth/GNSS



Product Name	Symbol in Diagrams	Image	Functions and TDK Product Features
Filter	LPE / HPE		A fixed frequency is used for communication between wireless devices. A filter has functions to pick up only the signals in this required frequency, and eliminate the signals in the frequencies which are not required.
	BPF		
Diplexer			A diplexer is used in the I/O part of the antenna, and has functions to separate or combine two different frequency signals during transmission and reception, and is also used in CA (carrier aggregation) circuits. It aims to achieve miniaturization and low insertion loss, and also supports high functionality. It is also a product which is ideal for embedding in modules.
Triplexer			A triplexer is used in the I/O part of the antenna, and has functions to separate or combine three different frequency signals during transmission and reception, and is also used in CA (carrier aggregation) circuits. It aims to achieve miniaturization and low insertion loss, and also supports high functionality. It is also a product which is ideal for embedding in modules.
Balun			A balun has functions to convert unbalanced signals into balanced signals, or vice versa, and to also simultaneously convert the impedance values.
Directional coupler			A directional coupler has functions to pick up a part of the output in order to constantly maintain and control the output gain of the power amplifier (PA), and to provide feedback to the PA input.
Divider/Splitter			Dividers / Splitters split a single RF signal into two.
Chip antenna			A chip antenna has functions to send and receive signals in the required frequency.
Module (SESUB)			The BLE4.x module, which uses the SESUB, is greatly decreased in size when compared with modules made with conventional methods. SESUB (Semiconductor Embedded in SUBstrate) is the TDK's original product. This substrate with the thinned IC can be mounted with various electronic components.
RF inductor			Unique ceramic material and configuration allows for the realization of high Q characteristics that are equivalent to that of air core wound inductors. Multilayer method allows for a lineup with fine increments of inductance.

▶ Product Overview : Chip antenna