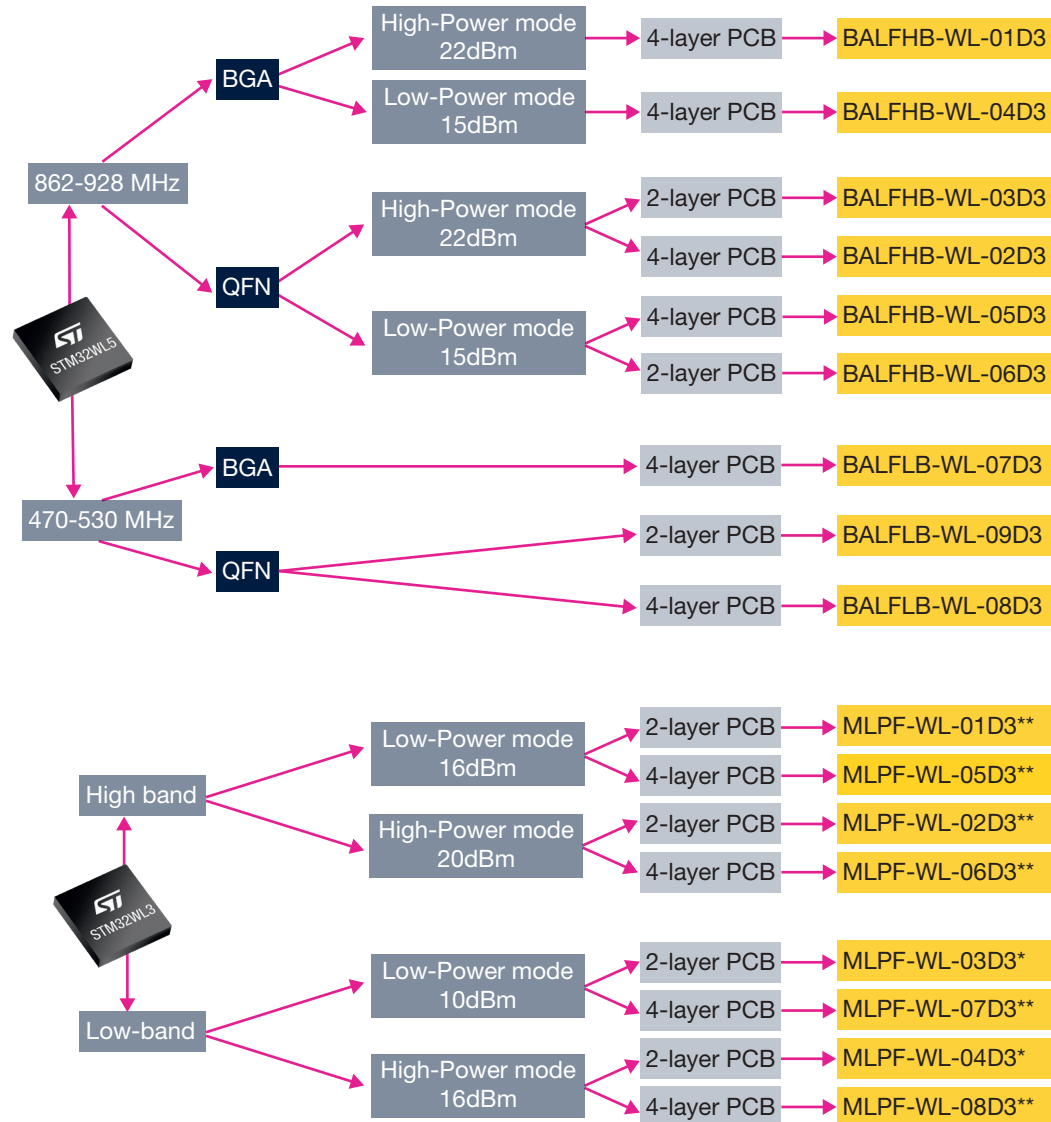


RF IPD products for STM32WL: how to pick the right product

17 RF IPD products optimized to match all the STM32WL configurations

IPD products tailored for your needs



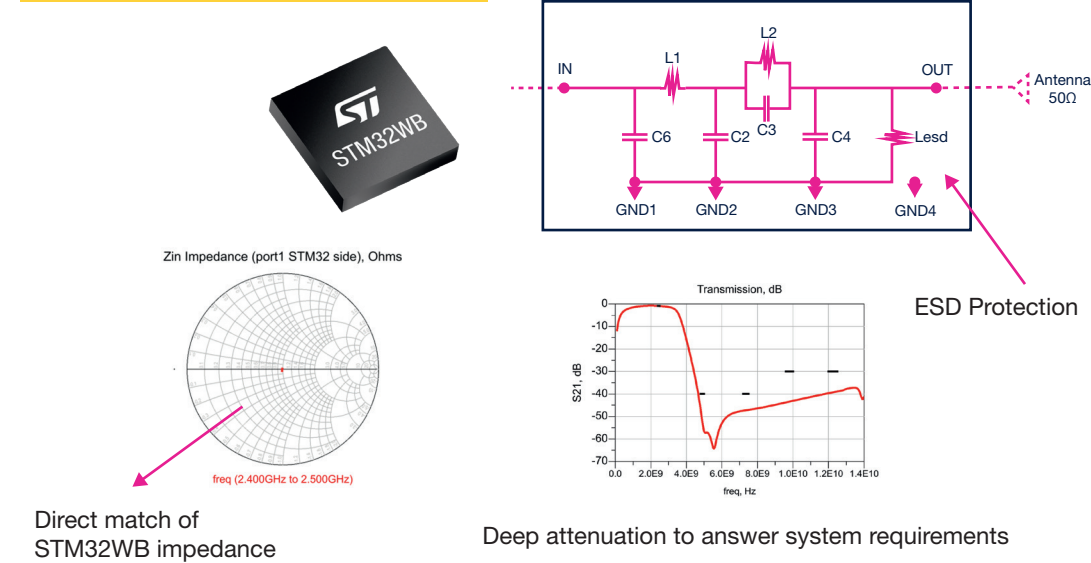
Note: * Qualification Q2 2024, ** Qualification Q4 2024

RF IPD products for Bluetooth® Low Energy chips

All in one: transmit and receive matching, deep filtering, and antenna protection.



IPD part number selection based on chip version and package



How to pick the right product

STM32WBxx	STM32WBxx BGA and CSP STM32WBxx QFN	10 dbm 2400 MHz	
		4 Layers	2 Layers
STM32WBxx	STM32WBxx BGA and CSP	MLPF-WB-02D3	
STM32WBxx	STM32WBxx QFN		MLPF-WB-01D3
STM32WBA	STM32WBAxx BGA STM32TWBAxx QFN	MLPF-WB-04D3	
STM32WB09	BLUENRG-LP-LPS	MLPF-NRG-01D3	
BlueNRG-1/-2	BLUENRG-1 and BLUENRG-2 (QFN and CSP)	BALF-NRG-02D3	
BlueNRG-MS	BLUENRG-MS (QFN and CSP)	BALF-NRG-01D3	



Wireless connectivity - RF IPD



Protection and EMI filters

Protection and Filters IPD-RF

ST companion-chips

Protection and Filters IPD-RF ST companion-chips



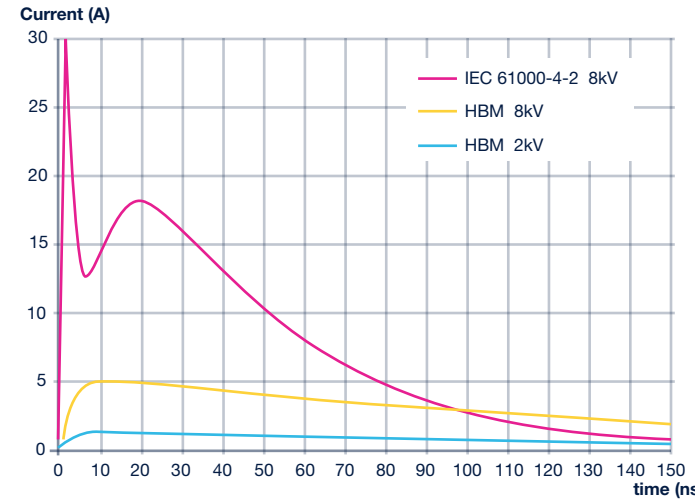
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Ordercode: KIT2404IOTPROT

For more information on ST products and solutions, visit www.st.com

The stressful life of an IC



An IC rated according to the human body model (HBM) is not protected against external electrostatic discharge (ESD) events. The energy carried by IEC61000-4-2 is much higher than that of HBM. Only an external ESD protection rated according to IEC standards can clamp the IEC61000-4-2 Level 4 (+8kV) ESD surge.

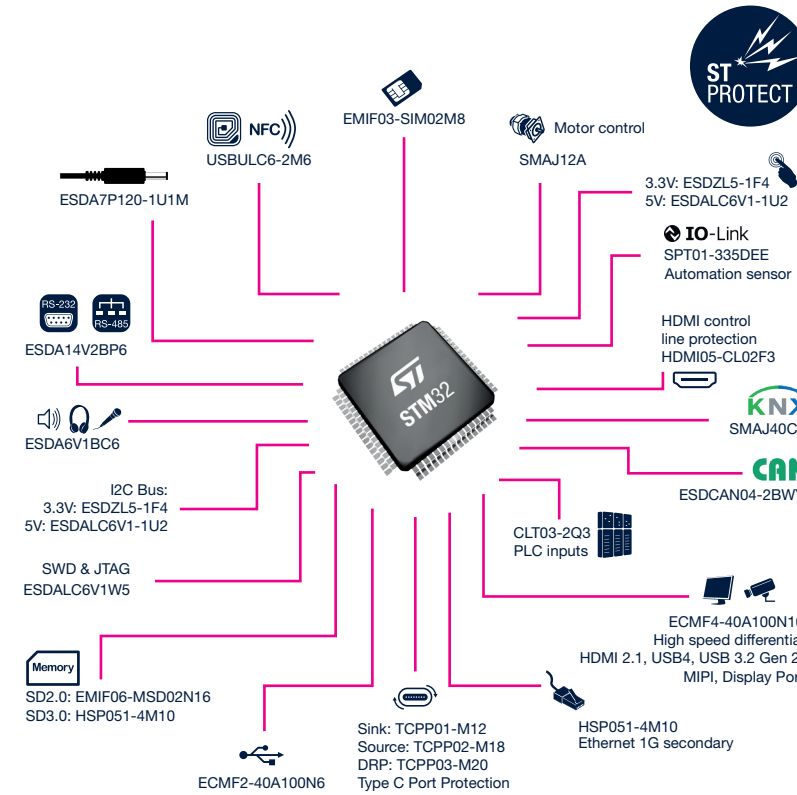
To ensure compliance with the most stringent requirements, ST ESD protection and EMI filter devices combine:

- Protection efficiency with low clamping voltage (VCL)
- Protection transparency with low leakage current (IRM)
- Signal integrity with ultralow capacitance and ultrawide bandwidth



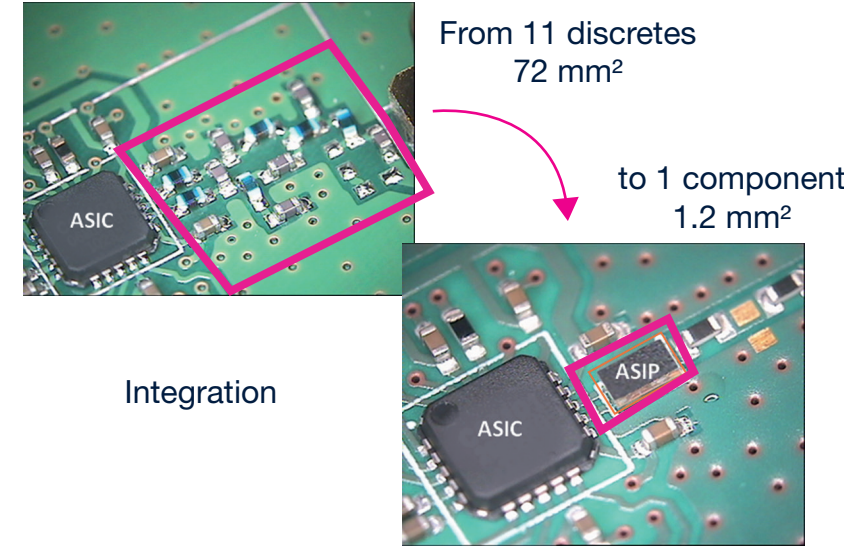
- Best-in-class performance
- 10-year longevity commitment
- Referenced in ST hardware boards

Recommended Protection and Filters around MCUs



Standard packaging options are available as well as advanced options, which include single- and multiple-line, compact, flat, and flow-through versions to optimize space constraints. Visit our site.

RF IPD solution: integration and performances

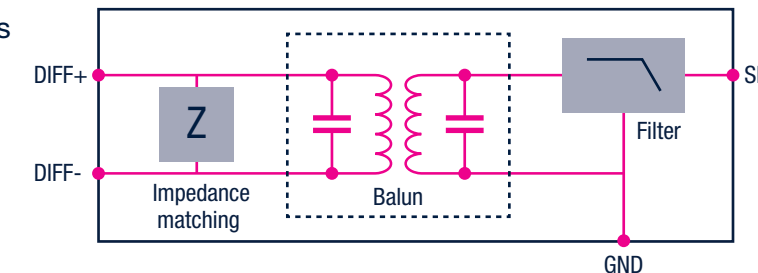


Integration

Covering all RF applications with a frequency range from 168 MHz and above, including sub-GHz, WLAN, Bluetooth, ZigBee, WiMax, UWB, LTE, and more, ST integrated passive devices (IPD) offer competitive cost structure, a small form factor, and reduced power losses.

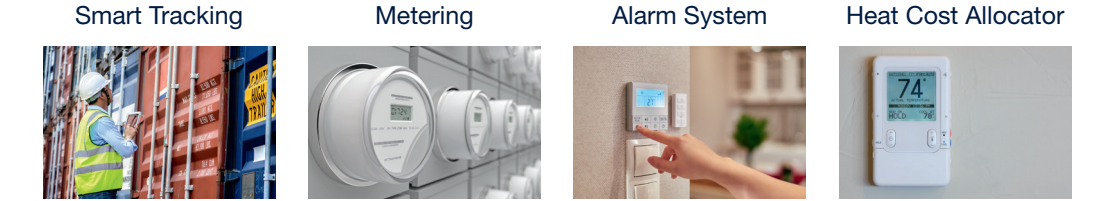
Key benefits

- Design simplification
- Performance optimization
- System integration
- Reliability improvement
- BOM reduction
- Customized designs



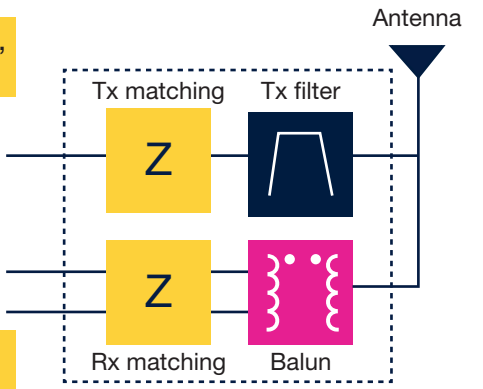
RF IPD products for long range chips: STM32WL5, STM32WL3, SPIRIT1 and SPIRIT2

APPLICATION



All in one: matching, deep filtering, balun, and antenna protection.

Various RF IPD part numbers to match RF chip modes and packages



RF IPD for SPIRIT1 and SPIRIT2 chips: how to pick the right product

	High power mode High frequency band		Low power mode Low frequency band	
	4 Layers	2 Layers	4 Layers	2 Layers
Spirit1	BALF-SPI-01D3		BALF-SPI-02D3	
Spirit2	BALF-SPI2-01D3	BALF-SPI2-03D3	BALF-SPI2-02D3	