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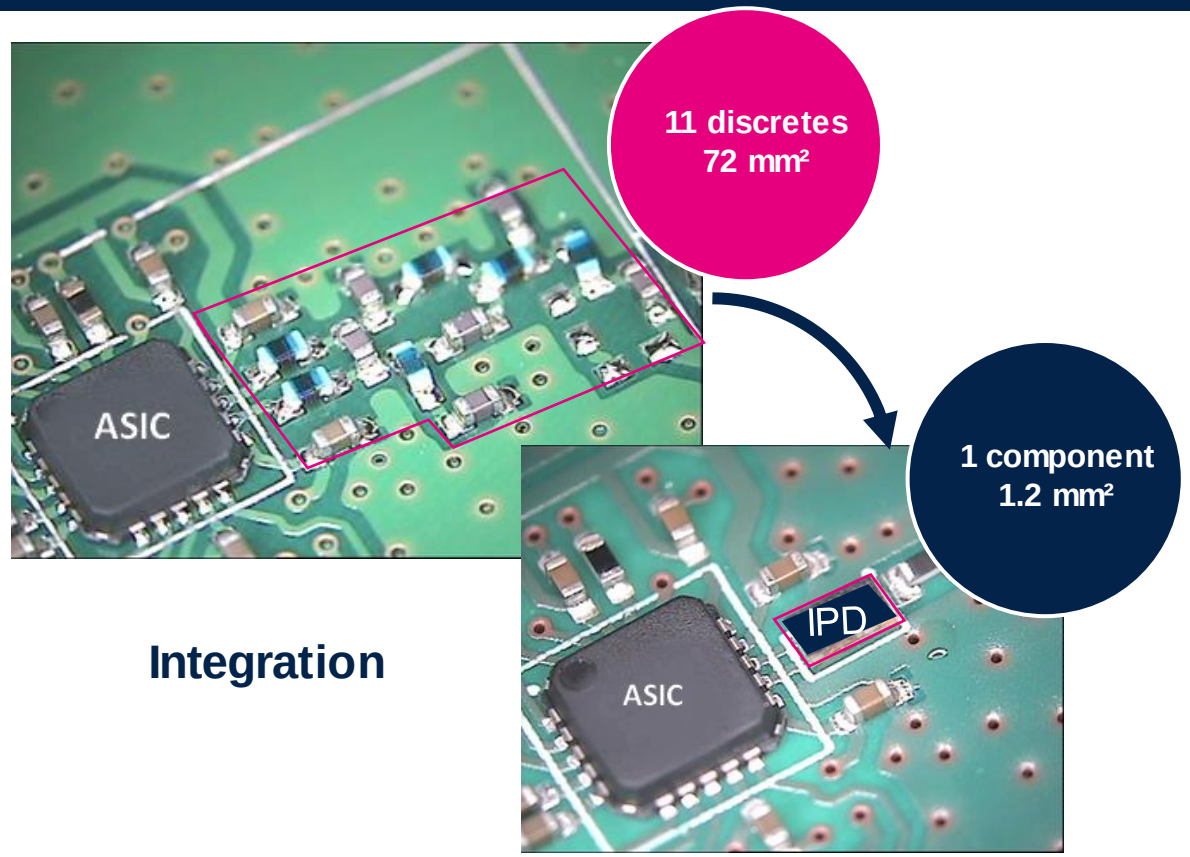
Integrated Passive Devices (IPD) for RF applications

STM32WBA companion chip

DISCRETE & FILTER DIVISION

Integrated passive devices (IPD) for RF applications

ST integrated passive devices offer a competitive cost structure, a small form factor, and reduced power losses

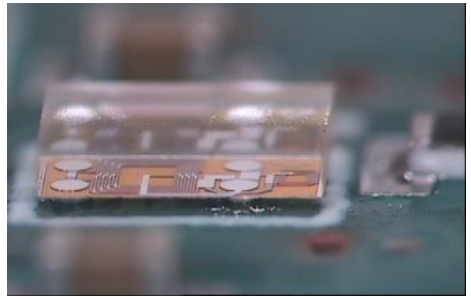


Integration

Covering all RF applications with a frequency range from 168 MHz and above including Sub-1 GHz, WLAN, Bluetooth, ZigBee, WiMax, UWB, UMTS, LTE and more.

Summary of key benefits

- Design **simplification**
- Same **performance** across components, tolerances, and temperature
- System **integration**
- **Reliability** improvement
- BOM **reduction**
- Successful **development** story



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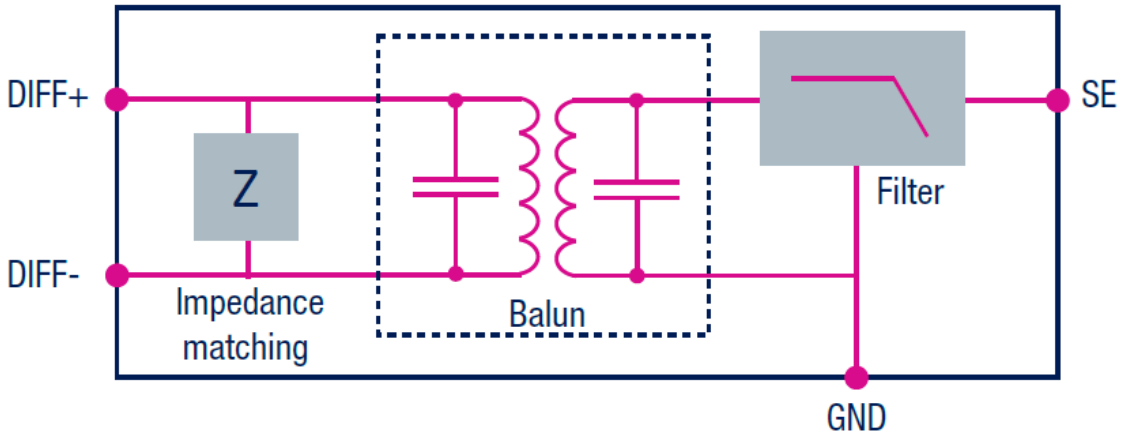
Tuned for high RF integration

ST RF IPD baluns improve system performance & simplify RFIC to antenna matching network complexity

Designed with integrated harmonic filters, they facilitate compliance with major EMC regulations: CCC, FCC, ETSI, ARIB



ST baluns integrate the following functions:

- Impedance matching
- 50 Ω nominal input impedance
- Harmonic filter

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RF IPD

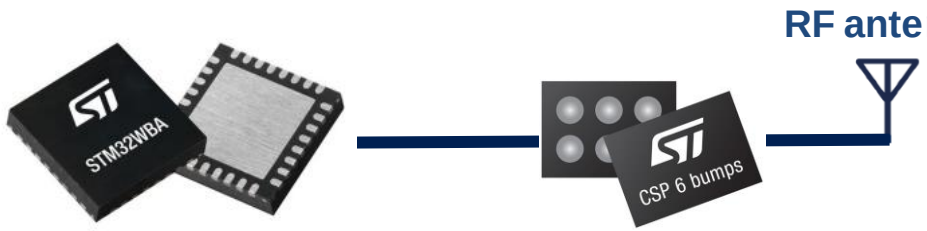
LONGEVITY 10 YEARS COMMITMENT

MLPF-WB-04D3

Matched Low-Pass Filter for STM32WBA series

High RF performance in low PCB footprint

- **Simpler integration**
  - Impedance matching, harmonics filtering and antenna protection
- **Cost effective**
  - BOM reduction and reliability improvement
- **Efficiency**
  - Optimizes wireless performance



STM32WBA **MLPF-WB-04D3**

Chip Scale Package on glass 6 bumps
1.00 x 1.60 x 0.63 mm

Applications

- *BTLE 5.4, IEEE 802.15.4, Zigbee, Thread, Matter*
- *Alarms, appliances, lighting, Door locks*
- *Smoke detectors, Heating/Cooling systems*
- *Wearable and medical equipment,*

ST Competitive Edge

- Co-designed, optimized and validated in ST for best RF performances
- Glass substrate is less sensitive to process and temperature variation than passive discretes
- PCB space reduction with higher RF performance vs discrete solution

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Low pass filter/STM32WB correspondence matrix

	Power frequency	10 dBm 2.45 GHz	
	#PCB layers	2	2
STM32WB QFN	STM32WB55Cx STM32WB55Rx STM32WB35xxx STM32WB50xxx STM32WB30xxx STM32WB1xx	MLPF-WB-01D3	
STM32WB BGA	STM32WB55Vxx STM32WB1x		MLPF-WB55-02E3
	STM32WB5x STM32WB1x		MLPF-WB-02D3

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Our technology starts with You

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