

Filter / Duplexer capabilities

VHF, UHF, 7/800 MHz, 900 MHz bands



Combilent has more than 15 years' experience in design and manufacturing of high-performance filters and duplexers for the LMR market. Our design philosophy emerges from the cellular industry putting high focus on small size and high level of integration.

The product features include:

Feature	Example
Multiple signal high power Tx-filters and duplexer	8 TETRA signals at 35W each
Low power duplexer	1 ch / 2 ch duplexer for mini-TETRA base station
Wide band width and high rejection close to pass band	UHF pre-selector. 4 MHz band width, 65 dB rejection at 1 MHz from pass band
Low profile	UHF duplexer (low power) in 1U UHF duplexer (high power) in 2U VHF duplexer (high power) in 3U
Integrated low noise amplifier (LNA)	Pre-selector with LNA and 4 outputs Duplexer with LNA and 4 outputs
Integrated power monitor / antenna monitoring	Duplexer with power monitor. Integrated web-server, SNMP v2C

All designs are properly de-rated with respect to peak power from multiple high-power signals: modulation, operating altitude, poor antenna return loss, and PIM tested in serial production.

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Example specification

Parameter	Specification
Frequency bands / band width	150 MHz / 3 MHz 230 MHz / 3 MHz 350-470 MHz / 5 MHz 350-470 MHz / 2.5 MHz 806-824 MHz / 851- 869 MHz
Insertion loss	150 MHz: 1.5 dB 230 MHz: 1.5 dB 350-470 MHz (5 MHz): 1.5 dB 350-470 MHz (2.5 MHz): 2 dB 800 MHz: 1 dB
Duplex spacing	5 MHz / 10 MHz
Pre-selector rejection	Typically >65 dB
Duplexer Tx <-> Rx	Typically >85 dB
Gain (if LNA included)	3-14 dB (1 dB steps)
Noise figure (if LNA included)	<2.5 dB at 12 dB gain
IIP3 (if LNA included)	>6 dBm
No. of LNA outputs	4
Power monitor (if used)	Composite FWD, REFL, antenna RL
Alarm interface	Relay, SNMP, web-server
Passive Intermododulation (PIM)	<150 dBc (2*43 dBm)



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