

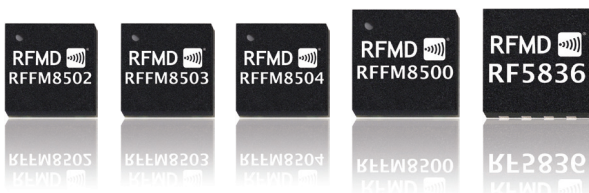
# RFMD.

## Mobile Embedded WiFi Front End Products Portfolio

The RFMD® portfolio of single-chip integrated front end modules (FEMs) are designed for high-performance WiFi applications in the 2.4 to 2.5GHz and 4.9 to 5.8GHz ISM bands. These front end products are specifically designed to address the need for aggressive size reduction in a typical 802.11a/b/g/n front end design and offer a reduced footprint and minimized component count, outside of the core chipset. RFMD is fulfilling the aggressive shift to the IEEE802.11ac standard by providing high-band and low-band solutions supporting the rigorous EVM/linearity at rated power.

### APPLICATIONS

- Cellular handsets
- Mobile devices
- Tablets
- Consumer electronics
- Gaming
- Netbooks/notebooks
- TV/monitors/video
- Smart Energy



# 2.5GHz Front End Modules

Our line of high-efficiency 2.5GHz front end modules (FEMs) offer higher linear output power and high levels of integration for reduced component count. These FEMS are optimized for a wide range of high-performance WiFi applications including mobile devices, consumer electronics, Smart Energy, and much more.

## SWITCH FRONT END SOLUTIONS

Freq Range (MHz)	Switch	Isolation (dB)	Switch Insertion Loss (dB)	Switch P1dB (dBm)	V <sub>CC</sub> (V)	RF Ports DC-Blocked	Package (dim. in mm)	Part Number
2400 to 2500	SP3T	18	0.8	28	2.1 to 5.0	No	QFN 2.0 x 2.0 x 0.6	RF5500
2400 to 2500	SP3T	25	0.6	28	2.5 to 5.0	No	QFN 2.0 x 2.0 x 0.6	RF5570
2400 to 2500	SP3T	25	0.8	25	1.7 to 4.2	No	QFN 1.75 x 1.75 x 0.5	RF5840
2400 to 2500	SP3T	25	0.6	28	2.5 to 5.0	Yes	QFN 1.5 x 1.5 x 0.35	RFSW8001

## SWITCH + LNA FRONT END SOLUTIONS

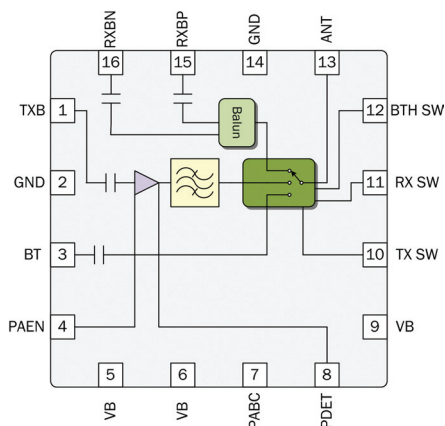
Freq Range (MHz)	Switch	LNA Gain (dB)	NF (dB)	Switch Insertion Loss (dB)	Switch P1dB (dBm)	OP1dB (dBm)	OIP3 (dBm)	IIP3 (dBm)	V <sub>CC</sub> (V)	I <sub>CC</sub> (mA)	RF Ports DC-Blocked	Package (dim. in mm)	Part Number
2400 to 2500	SP3T	11	2.0	0.8	28	5	15	4	3.0 to 4.5	7	No	QFN 2.0 x 2.0 x 0.5	RF5501
2400 to 2500	SP3T	11	2.0	0.6	28	8	18	7	3.0 to 4.5	9	No	Flip Chip 1.0 x 1.0 x 0.4	RF5511
2400 to 2500	SP3T	12	2.0	0.9	28	8	18	6	3.0 to 4.5	7	No	QFN 1.75 x 1.75 x 0.5	RF5521
2400 to 2500	SP3T	12	2.2	1.1	28	7	17	5	3.0 to 4.5	8.5	Yes	QFN 2.0 x 2.0 x 0.5	RF5611

## 2.5GHz FRONT END MODULES

Architecture	Freq (GHz)	Gain (dB)	Avg P <sub>OUT</sub> (dBm)	EVM %	V <sub>CC</sub> (V)	Current at Po (mA)	Package (dim. in mm)	RoHS Comp Pb Free	Part Number
2.5GHz FEM, PA, SP3T SW, LNA, LPF, and P <sub>DET</sub>	2.4 to 2.5	26	17.0	3.0	3.0 to 4.5	130	QFN 3 x 3 x 0.5	Y	RF5725
2.5GHz FEM, PA, Balun, SP3T SW, and P <sub>DET</sub>	2.4 to 2.5	30	16.0	3.0	3.0 to 4.5	160	QFN 3 x 3 x 0.5	Y	RF5225
2.5GHz FEM, PA, SP3T SW, LPF, and P <sub>DET</sub>	2.4 to 2.5	27	18.0	3.0	3.0 to 4.5	130	QFN 3 x 3 x 0.5	Y	RF5325
2.5GHz FEM, PA, SP3T SW, LNA w/bypass, Bt + Rx combo mode, LPF, and P <sub>DET</sub>	2.4 to 2.5	25	17.0	3.3	3.0 to 4.5	150	QFN 3 x 3 x 0.5	Y	RF5345
2.5GHz FEM, PA, SP3T SW, and P <sub>DET</sub>	2.4 to 2.5	25	18.5	3.0	3.0 to 4.8	170	QFN 2.5 x 2.5 x 0.5	Y	RF5365/75
2.5GHz FEM, PA, SP3T SW, and P <sub>DET</sub>	2.4 to 2.5	25	20.5	3.0	3.0 to 4.8	250	QFN 2.5 x 2.5 x 0.5	Y	RF5385/95
2.5GHz FEM, PA, SP3T SW, LNA, LPF, and P <sub>DET</sub>	2.4 to 2.5	30	19.5	3.3	3.0 to 4.8	200	QFN 3 x 3 x 0.5	Y	RF5755/65
2.5GHz FEM, PA, SP3T SW, LNA w/bypass, LPF, and P <sub>DET</sub>	2.4 to 2.5	30	19.5	3.3	3.0 to 4.8	200	QFN 3 x 3 x 0.5	Y	RF5565
2.5GHz FEM, PA, Balun, SP3T SW, LPF, P <sub>DET</sub>	2.4 to 2.5	33	17.0	2.4	3.0 to 4.8	160	QFN 3 x 3 x 0.5	Y	RFFM3482E
2.5GHz FEM, PA, SP3T SW, LNA, LPF, and P <sub>DET</sub>	2.4 to 2.5	24	18	2.0	3.3	150	Laminate 3 x 3 x 1.1	Y	RFFM8200
2.5GHz FEM, PA, SP3T SW, LNA, LPF, and P <sub>DET</sub>	2.4 to 2.5	24	19	3.0	3.3 to 4.2	160	QFN 2.5 x 2.5 x 0.45	Y	RFFM8202

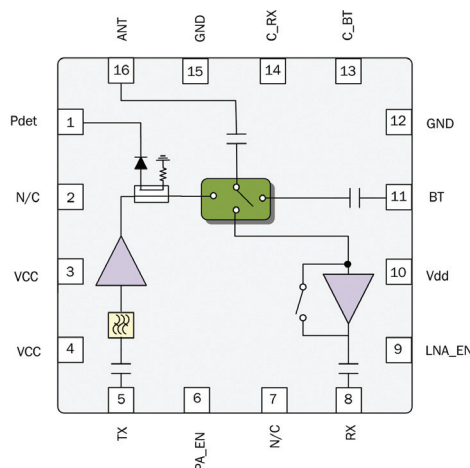
### RFFM3482E

- PA, SP3T, Rx baluns
- 17dBm at 2.4%
- 3.0 x 3.0 x 0.45mm



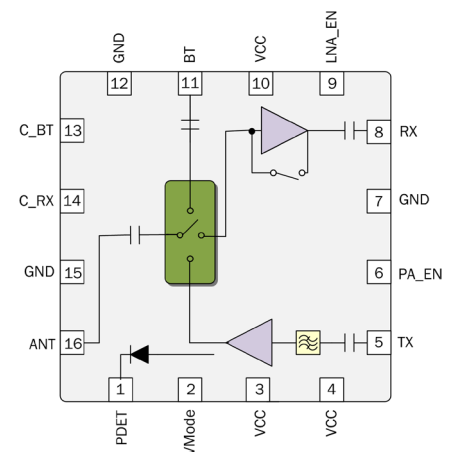
### RFFM8200

- PA, SP3T, LNA
- 18dBm at 2%
- 2 external SMDs
- 3 x 3 x 1.1mm



### RFFM8202

- PA, SP3T, LNA
- 19dBm at 3%
- 2.5 x 2.5 x 0.45mm



# 5GHz Front End Modules/Dual-Band 2.5 to 5GHz

The adoption of dual-band WiFi front end modules (FEMs) for high-performance applications continues to grow, and RFMD leads the charge with its line of highly integrated, high-efficiency FEMs built to deliver high linear output power. By developing a 5GHz power amplifier featuring integrated input and output matching, a low noise amplifier, harmonic filtering, an SPDT switch, and a built-in power detector, these fully integrated FEMs provide reduced component count, minimized footprint, and lowered assembly cost.

## 5GHz Rx FRONT END MODULE

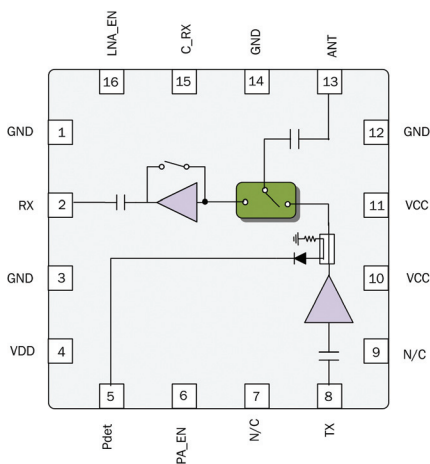
Freq Range (MHz)	Architecture	LNA Gain (dB)	NF (dB)	Switch Insertion Loss (dB)	Switch P1dB (dBm)	OP1dB (dBm)	OIP3 (dBm)	IIP3 (dBm)	V <sub>CC</sub> (V)	I <sub>CC</sub> (mA)	RF Ports DC-Blocked	Package (dim. in mm)	Part Number
4900 to 5850	SPDT/LNA	16.0	2.4	1	30	9	19	3	2.7 to 4.8	15	No	QFN 2.0 x 2.0 x 0.5	RF5540

## 5GHz FRONT END MODULES

Architecture	Freq (GHz)	Gain (dB)	Avg P <sub>OUT</sub> (dBm)	EVM %	V <sub>CC</sub> (V)	Current at Po (mA)	Package (dim. in mm)	RoHS Comp Pb Free	Part Number
5GHz FEM, PA, SW, LPF, and P <sub>DET</sub>	4.9 to 5.85	27	15.5	3.0	3.0 to 4.8	150	QFN 3 x 3 x 0.5	Y	RF5836
5GHz FEM, PA, SW, LNA, LPF, and P <sub>DET</sub>	4.9 to 5.85	32	15.5	2.5	3.0 to 4.8	175	QFN 3 x 3 x 0.5	Y	RF5506
5GHz FEM, PA, SW, LNA, LPF, and P <sub>DET</sub>	4.9 to 5.85	32	15.5	2.5	3.0 to 4.8	175	QFN 3 x 3 x 0.5	Y	RF5516
5GHz FEM, PA, SPDT SW, LNA, LPF, and P <sub>DET</sub>	4.9 to 5.85	30	16.0	2.0	3.3	200	Laminate 3 x 3 x 1.1	Y	RFFM8500
5GHz FEM, PA, SPDT SW, LNA, LPF, and P <sub>DET</sub>	4.9 to 5.85	29	17.5	3.0	3.3	220	QFN 2.5 x 2.5 x 0.45	Y	RFFM8502
5GHz FEM, PA, SPDT SW, LNA, LPF, and P <sub>DET</sub>	4.9 to 5.85	29	17.5	3.0	3.3	220	QFN 2.5 x 2.5 x 0.4	Y	RFFM8503
5GHz FEM, PA, SPDT SW, LPF, and P <sub>DET</sub>	4.9 to 5.85	29	19.0	3.2	3.3	240	QFN 2.5 x 2.5 x 0.45	Y	RFFM8504

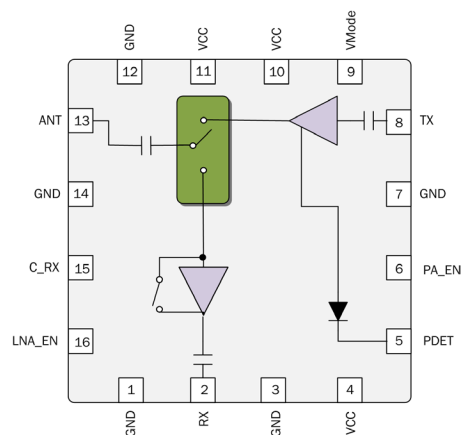
### RFFM8500

- PA, SPDT, LNA
- 16dBm at 2% EVM
- 2 external SMDs
- 3 x 3 x 1.1mm



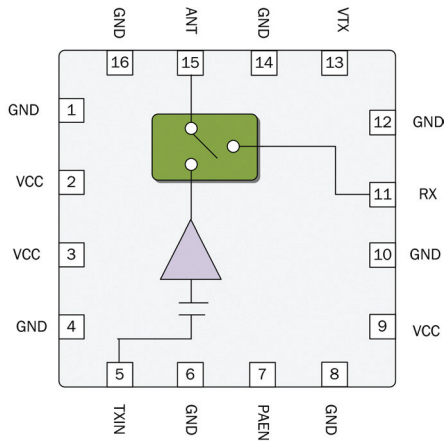
### RFFM8502/RFFM8503

- PA, SPDT, LNA
- 17.5dBm at 3%
- 2.5 x 2.5 x 0.45mm (RFFM8502)
- 2.5 x 2.5 x 0.40mm (RFFM8503)



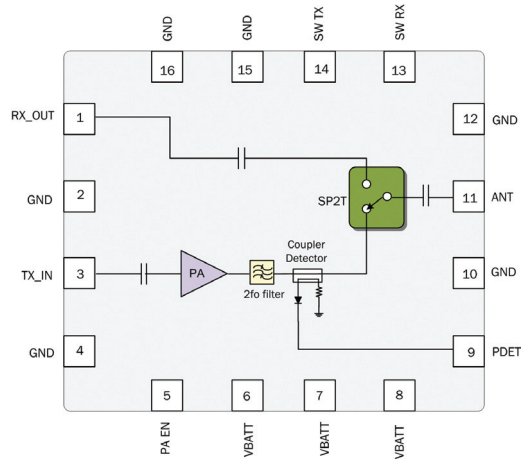
### RFFM8504

- PA, SPDT
- 19dBm at 3.2% EVM
- 2.5 x 2.5 x 0.45mm



### RF5836

- PA, SPDT
- 15.5dBm at 3.0% EVM
- 3 x 3 x 0.5mm

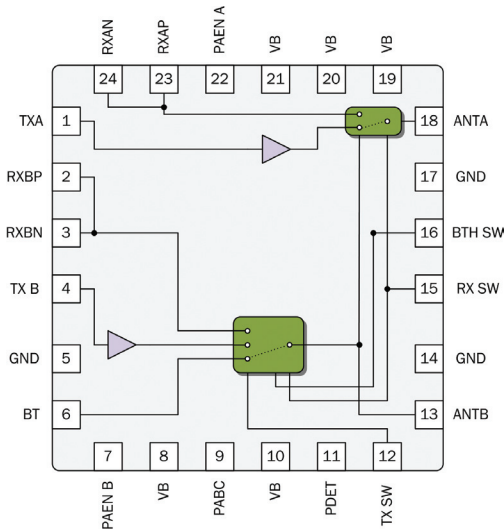


### DUAL-BAND 2.5 and 5GHz FRONT END MODULES

Architecture	Freq (GHz)	Gain (dB)	Avg P <sub>OUT</sub> (dBm)	EVM %	V <sub>CC</sub> (V)	Current at Po (mA)	Package (dim. in mm)	RoHS Comp Pb Free	Part Number
2.5/5GHz FEM, PAs, SPDT and SP3T, Rx Baluns, LPF, and P <sub>DET</sub>	2.4 to 2.5	33	17.0	2.4	3.3	160	QFN 4 x 4 x 0.5	Y	RF3688
	4.9 to 5.85	32	16.5	2.4	3.3	170			
2.5/5GHz FEM, PAs, SPDT and SP3T, LNAs, LPF, and P <sub>DET</sub>	2.4 to 2.5	24	19.5	3.0	3.3	210	Laminate 3 x 5 x 1.1	Y	RFFM8800
	4.9 to 5.85	30	17.5	3.0	2.8 to 4.8	230			

### RF3688

- 2.5 to 5GHz PAs, SPDT and SP3T, LNAs, LPF, and P<sub>DET</sub>
- Low-band 17dBm at 2.4%, high-band 16.5dBm at 2.4%
- 4 x 4 x 0.45mm QFN



### RFFM8800

- 2.5 to 5GHz PAs, SPDT and SP3T, LNAs, LPF, and P<sub>DET</sub>
- 17.5dBm at 3.0%
- Highly integrated
- 3 x 5 x 0.9mm Laminate

