

RFMD.

Customer Premises Equipment Product Portfolio

RFMD has an expanding portfolio of world-class Customer Premises Equipment (CPE) products for WiFi 802.11ac and 802.11n applications. The RFMD® CPE product portfolio includes high-linearity front end modules (FEMs), high-linearity power amplifiers (PAs), low-noise amplifiers (LNAs), and low-loss switches. Our high-linearity FEMs integrate PA and switching functionality to deliver linear output power in a fully-tested package. These are designed specifically to reduce the time to develop a WiFi system by making it easier to implement onto a PCB design.

Designed to operate in highly linear 802.11ac systems, RFMD's CPE products offer exceptional EVM across a broad dynamic range. To ensure that linearity is maintained across operating conditions, RFMD PAs and FEMs exhibit industry-leading EVM in the dynamic bias conditions present in WiFi systems. Dynamic EVM performance is ensured by full RF production testing. Additionally, RFMD offers the highest power and most efficient 2.5GHz PAs and FEMs in the market.

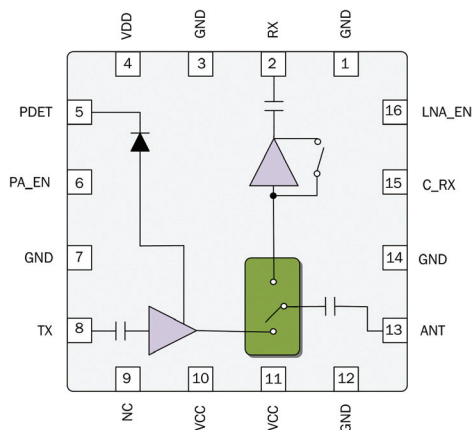
Our latest generation of mid-power FEMs—RFFM4203 and RFFM4501—offer a full front end with PA, filter, switch, and LNA in compact 3 x 3mm footprint with minimum external components. The RFFM4501 is a 5GHz FEM that provides 18dBm of power for 11ac systems at 1.8% EVM, and 21dBm for 11n systems at 3% EVM. The RFFM4203 operates in the 2.5GHz band and provides 21.5dBm of power for 11n systems at 3% EVM. For higher power requirements, RFFA5200 and RFFA5201 are discrete PA modules that provide 27dBm and 29.5dBm of linear power, respectively, and offer best-in-class efficiency.

RFMD solutions focus on market-leading linearity, dynamic bias performance, and efficiency. We remain committed to simplifying and reducing BOM and cost, while improving our customers' time-to-market.

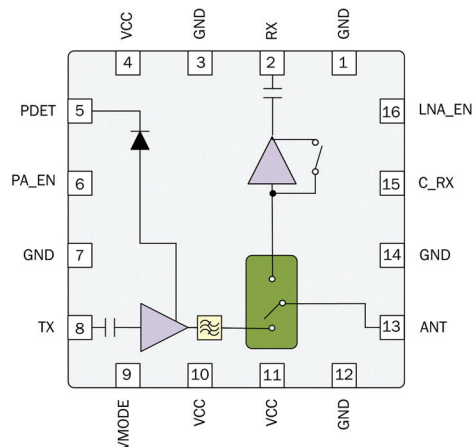
HIGH-LINEARITY 5GHz FRONT END MODULES (FEMs)

Freq Range (GHz)	Description	Gain (dB)	Linear P _{OUT} (dBm)	EVM (%)	V _{CC} (V)	Current at Po (mA)	Package Style (dim. in mm)	Part Number
4.9 to 5.85	PA + SPDT+ LNA	27.0	16.0	1.8	3.3	220	LGA 3.0 x 3.0	RFFM4501/RFFM4591 NEW
			17.0	3.0	3.3	225		
			18.0	1.8	5.0	280		
			21.0	3.0	5.0	290		
4.9 to 5.85	PA + SPDT+ LNA	29.0	16.0	1.8	3.3	190	QFN 2.5x2.5x0.40	RFFM8505 NEW
			19.0	3.0	3.3	210		
			19.0	1.8	5.0	250		
			20.0	3.0	5.0	270		

RFFM4501/RFFM4591



RFFM8505



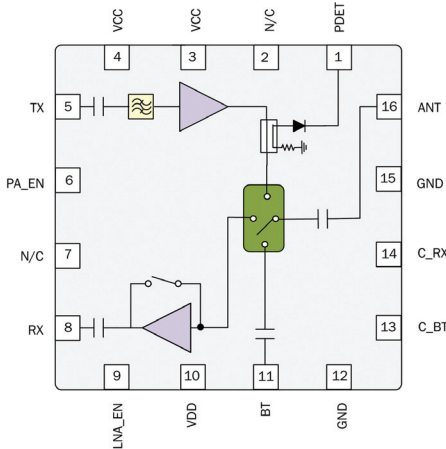
5GHz HIGH-LINEARITY AMPLIFIERS

Freq Range (GHz)	Description	Gain (dB)	Linear P _{OUT} (dBm)	EVM (%)	V _{CC} (V)	Current at Po (mA)	Package Style (dim. in mm)	Part Number
4.9 to 6.4	MMIC Amplifier	15.0	10.0	3.0	3.3	52	SOT-363	STA-5063Z
4.9 to 5.9	Matched Amplifier	29.0	18.0 21.0	3.0	3.3 5.0	200 250	QFN 3.0 x 3.0	RF5616
4.9 to 5.9	MMIC Amplifier	33.0	22.0	3.0	5.0	310	QFN 4.0 x 4.0	SZA-5044Z
4.9 to 5.85	MMIC Amplifier	18.0	25.0	2.5	5.0	800	QFN 6.0 x 6.0	SZM-5066Z
4.9 to 5.85	MMIC Amplifier	35.0	23.0	3.0	5.0	600	LGA 4.0 x 4.0	RF5626
4.9 to 5.9	Matched Amplifier	9.0	25.5	2.5	5.0	570	DFN-26	RFFA5026

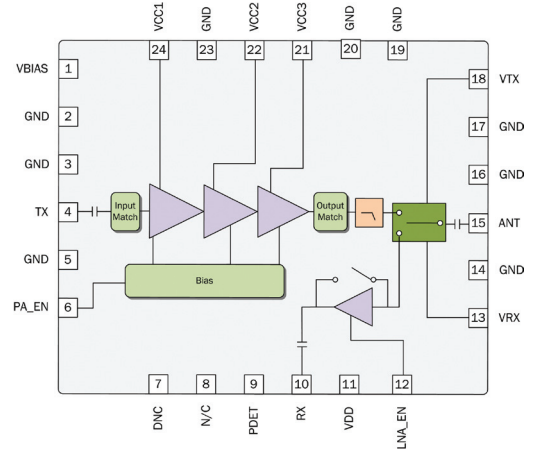
HIGH-LINEARITY 2.5GHz FRONT END MODULES (FEMS)

Freq Range (GHz)	Description	Gain (dB)	Linear P _{OUT} (dBm)	EVM (%)	V _{CC} (V)	Current at Po (mA)	Package Style (dim. in mm)	Part Number
2.4 to 2.5	PA + SP3T + LNA	26.5	19.5 21.5	2.5	3.3 5.0	210 260	LGA 3.0 x 3.0	NEW RFFM4203/RFFM4293
2.4 to 2.5	PA + SPDT + LNA	32.0	20.0 21.5	1.8 3.0	3.3	260 295	LGA 4.0 x 4.0	RFFM4205 NEW
2.4 to 2.5	PA + SPDT + LNA	32.0	24.5 25.5	1.8 3.0	5.0	370 420	LGA 6.0 x 6.0	RFFM4204 NEW
2.4 to 2.5	PA + SPDT	34.0	25.5	2.5	5.0	435	LGA 6.0 x 6.0	RFFM4200
2.4 to 2.5	PA + SPDT	34.0	25.5	2.5	5.0	435	LGA 6.0 x 6.0	RFFM4201
2.4 to 2.5	PA + SPDT	34.0	27.0	2.5	5.0	900	LGA 6.0 x 6.0	RF5605
2.4 to 2.5	PA + SPDT	34.0	27.5	2.5	5.0	925	LGA 6.0 x 6.0	RFFM4202
2.5 to 2.7	PA + SPDT	34.0	27.0	2.5	5.0	825	LGA 6.0 x 6.0	RFFM7600

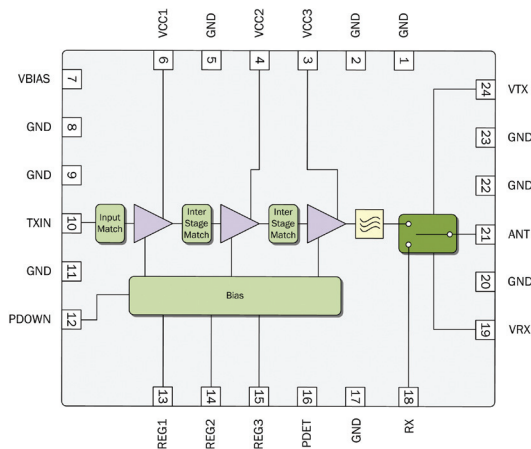
RFFM4203/RFFM4293



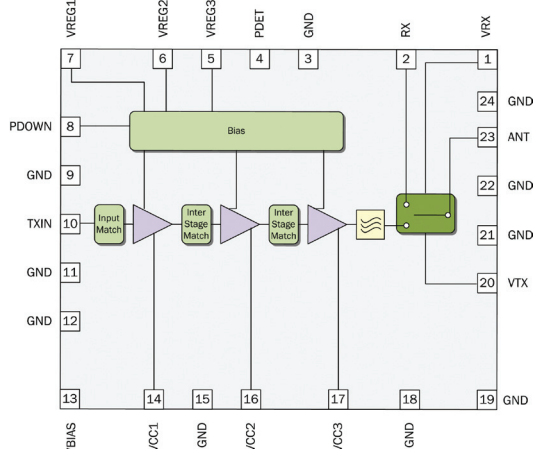
RFFM4204



RF5605/RFFM4200



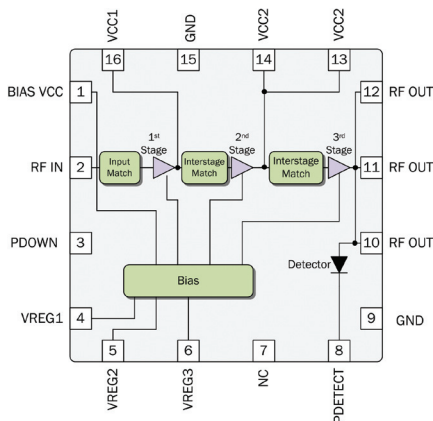
RFFM4201/RFFM4202



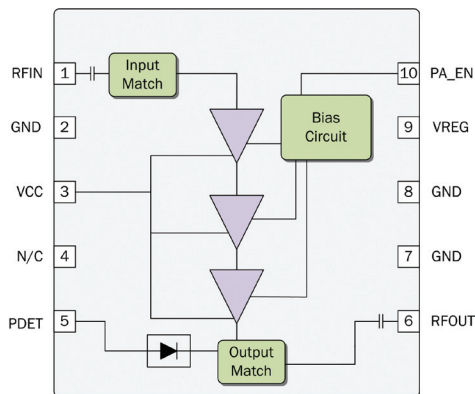
2.5GHz HIGH-LINEARITY AMPLIFIERS

Freq Range (GHz)	Description	Gain (dB)	Linear P _{OUT} (dBm)	EVM (%)	V _{CC} (V)	Current at Po (mA)	Package Style (dim. in mm)	Part Number
2.0 to 2.7	MMIC Amplifier	25.0	22.0	3.0	5.0	330	QFN 4.0 x 4.0	SZA-2044Z
2.3 to 2.7	MMIC Amplifier	28.0	23.0	3.3	5.0	250	QFN 3.0 x 3.0	RF5112
2.3 to 2.7	MMIC Amplifier	34.0	24.0	3.0	3.3	350	QFN 3.0 x 3.0	RF5602
			27.0	2.5	5.0	450		
0.9 to 2.7	MMIC Amplifier	20.0	26.0	2.5	5.0	520	QFN 4.0 x 4.0	RF5163
2.0 to 2.7	MMIC Amplifier	13.5	26.0	2.5	5.0	570	DFN-26	RFPA2226
2.0 to 2.7	MMIC Amplifier	35.0	26.5	2.5	5.0	700	QFN 6.0 x 6.0	SZM-2066Z
2.4 to 2.5	Matched WiFi Amplifier	33.0	27.0	2.5	5.0	480	LGA 4.0 x 4.0	RFPA5200
2.0 to 2.7	MMIC Amplifier	36.0	27.0	2.5	6.0	724	QFN 6.0 x 6.0	SZM-2166Z
2.3 to 2.9	MMIC Amplifier	34.0	28.5	2.5	5.0	800	QFN 4.0 x 4.0	RF5632
2.4 to 2.5	Matched WiFi Amplifier	34.0	29.5	2.5	5.0	900	LGA 7.0 x 7.0	RFPA5201 NEW
2.3 to 2.9	MMIC Amplifier	11.0	30.0	3.0	6.0	1300	QFN 3.0 x 8.0	RF5643
2.4 to 2.7	MMIC Amplifier	34.0	30.0	2.5	5.0	1450	QFN 5.0 x 5.0	RF5652

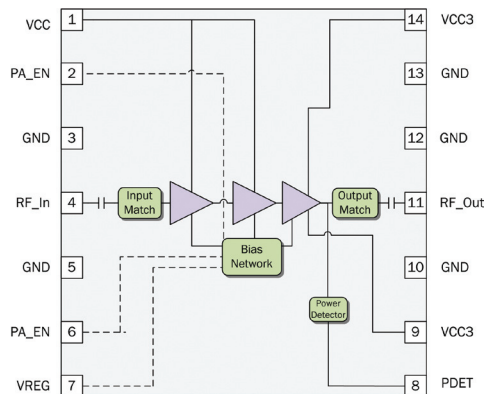
RF5602/RF5623



RFPA5200



RFPA5201



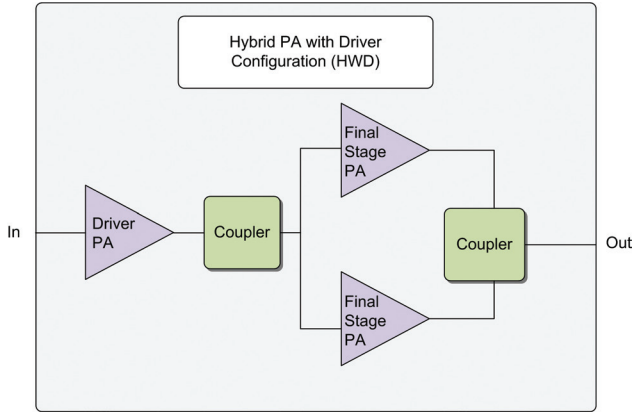
3.5GHz HIGH-LINEARITY AMPLIFIERS

Freq Range (GHz)	Description	Gain (dB)	Linear P _{OUT} (dBm)	EVM (%)	V _{CC} (V)	Current at Po (mA)	Package Style (dim. in mm)	Part Number
3.3 to 3.8	MMIC Amplifier	32.0	23.0	3.0	3.3	425	QFN 3.0 x 3.0	RF5603
3.3 to 3.8	MMIC Amplifier	25.0	24.0	2.5	5.0	340	QFN 4.0 x 4.0	SZA-3044Z
2.7 to 3.8	MMIC Amplifier	11.8	26.0	2.5	5.0	540	SOF-26	SZP-3026Z
3.3 to 3.8	MMIC Amplifier	34.0	26.0	2.5	5.0	700	QFN 6.0 x 6.0	SZM-3066Z
3.3 to 3.8	MMIC Amplifier	35.0	26.0	2.5	5.2	900	QFN 6.0 x 6.0	SZM-3166Z
3.3 to 3.8	MMIC Amplifier	32.0	26.0	3.0	5.0	600	QFN 3.0 x 3.0	RF5623
3.3 to 3.6	MMIC Amplifier	34.0	28.0	2.5	5.0	1050	QFN 4.0 x 4.0	RF5633
3.3 to 3.8	MMIC Amplifier	10.0	30.0	2.5	6.0	1300	QFN 3.0 x 8.0	RF5643

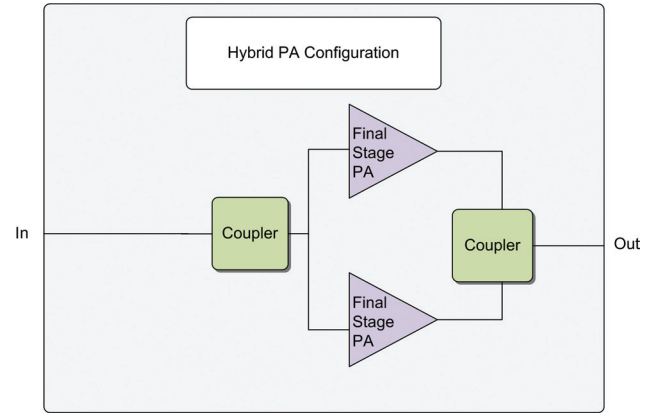
HIGH-LINEARITY AMPLIFIERS WITH DRIVERS REFERENCE DESIGNS

Freq Range (GHz)	Driver	Gain (dB)	P1dB (dBm)	Avg P _{out} (dBm)	EVM (%)	V _{cc} (V)	I _{cc} (mA)	Part Number
2.3 to 2.7	SZA2044	>37.0	36.0	29.0	2.5%	5.0	1500	SZP-2026-HWD
2.3 to 2.7	SZA2044	>32.0	36.0	>29.0	2.5%	5.0	1000	RF5602-HWB, HWL, HWM
2.3 to 2.9	SZA2044	>32.0	38.0	>30.0	2.5%	6.0	1400	RF5643-WD, A, B, C
3.3 to 3.8	SZA3044	>32.0	36.0	29.0	2.5%	5.0	1400	SZP-3026-HWD
3.3 to 3.8	SZA2044	>32.0	36.0	>29.0	2.5%	5.0	1100	RF5623-HL, HH
3.3 to 3.8	SZA3044	>32.0	38.0	>30.0	2.5%	6.0	1500	RF5643-WDD
5.1 to 5.85	STA5063	>32.0	33.0	25.0	2.5%	5.0	900	SZM-5066-WD
5.1 to 5.85	SZA5044	>37.0	36.0	28.0	2.5%	5.5	1700	SZP-5026-HWD

Hybrid PA with Driver



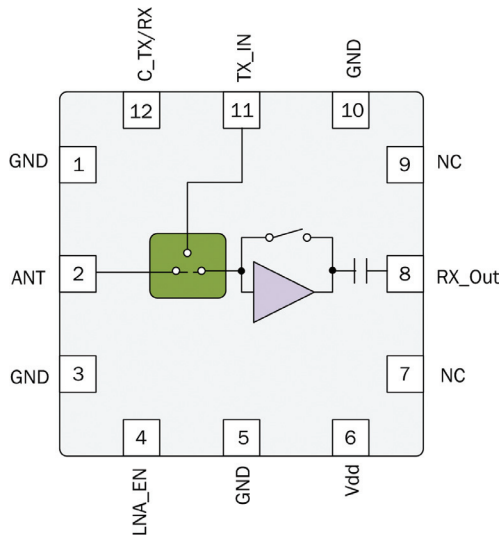
Hybrid PA Configuration



SWITCHES AND SWITCH LNAs

Freq Range (GHz)	Configuration	Switch P0.1dB (dBm)	Isolation	Supply Voltage (V)	LNA Gain (dB)	LNA NF (dB)	LNA I _{cc} (mA)	Part Number
0.005 to 6.5	SPDT	40.0	29	2.5 – 5.0	—	—	—	RFSW8000 NEW
2.4 to 2.5	SP3T	28.0	25	2.7 – 4.8	11.5	1.9	9	RF5501
2.4 to 2.5	SP3T	28.0	25	2.7 – 4.8	11.5	1.9	9	RF5521
4.9 to 5.85	SPDT + LNA	30.0	20	2.7 – 4.8	16.0	2.4	17	RF5540

RF5540



RFSW8000

