



Wi-Fi Equipment Front End Solutions

High Linearity and Low Power Consumption Devices for Wi-Fi Applications



qorvo
all around you

Leveraging Qorvo Technologies for Wi-Fi

Qorvo® has a growing portfolio of leading products for Wi-Fi equipment including customer premise equipment (CPE), enterprise systems and internet of things (IoT) applications. Using a mix of Qorvo technological strengths, we focus on enabling the latest standards up to 802.11ac Wave 2 (1024QAM and 160MHz channels) while delivering front-end solutions that are at the forefront of low power consumption, high efficiency, improving compliance to bandedge and mitigating interference.

Our power amplifiers provide leading edge power consumption performance while still increasing throughput, range and regulatory compliance. These attributes give designers the capability to meet the performance needs of the market in smaller packages and with less cost spent on thermal compensation such as heatsinks or fans.

Our latest low noise amplifiers employ in-house semiconductor processes that achieve the next level of noise figures for better Rx sensitivity in Wi-Fi devices while maintaining linearities that keep up with today's 802.11 standards.

In filtering we are one of the few with Wi-Fi specific BAW solutions that combine high rejections, low insertion losses and stability over temperature.

As a leader in integrated front-end module (FEM) solutions, we take all the aspects in our discrete solutions and combine them into products that help achieve the same technical advantages in smaller footprints with optimization built in.

Qorvo's unique position and product offering in Wi-Fi enable today's and tomorrow's hardware needs.

5GHz Power Amplifiers

11ac P _{OUT} (dBm)	11ac EVM (dB)	11ac I _{CC} (mA)	11n P _{OUT} (dBm)	11n EVM (dB)	11n I _{CC} (mA)	Gain (dB)	Output P1dB (dBm)	Voltage (V)	Detector	Package	Size (mm)	Part Number
23	-35	285	25	-30	335	33	33	5	DC	QFN	4x4	RFPA5542
21	-35	275	22	-30	295	32	30	3.3	DC	QFN	4x4	RFPA5532
23	-35	295	25	-30	345	33	33	5	Log DC	QFN	4x4	RFPA5562
21	-35	275	22	-30	295	32	30	3.3	Log DC	QFN	4x4	RFPA5552
23	-35	285	25	-30	335	33	33	5	DC	QFN	4x4	RFPA5522
19	-35	210	20	-30	220	33	29	3.3	DC	QFN	4x4	RFPA5512
23	-35	275	25	-30	325	-	33	5	DC	QFN	4x4	RFPA5512
21	-35	300	23.5	-30	-	32	-	5	DC	QFN	4x4	TQP5523
25	-35	600	26	-30	-	32	-	5	DC	QFN	4x4	TQP5525

2GHz Power Amplifiers

11ac P _{OUT} (dBm)	11ac EVM (dB)	11ac I _{CC} (mA)	11n P _{OUT} (dBm)	11n EVM (dB)	11n I _{CC} (mA)	Gain (dB)	Output P1dB (dBm)	Voltage (V)	Package	Size (mm)	Part Number
24	-35	375	25	-30	410	30	31.5	5	Lam	3x3	RFPA5218
24	-35	375	25	-30	410	31	31.5	5	Lam	3x3	QPA5219
26	-35	470	28	-30	590	40	34	5	Lam	4x4	RFPA5208
-	-	-	29	-30	875	33.5	35	5	Lam	7x7	RFPA5201E

2GHz Bandedge Filtering

Function	Channel	Size (mm)	Part Number
2.4GHz Bandedge	1-11	1.1x0.9	885135
2.4GHz Bandedge	1-12	1.7x1.3	885136
2.4GHz Bandedge	1-11	1.7x1.3	885070

Wi-Fi/LTE Coexistence Filtering

Function	Channel	Size (mm)	Part Number
2.4GHz Wi-Fi/LTE CoExist	1-13	1.1x0.9	885128
2.4GHz Wi-Fi/LTE CoExist	1-13	1.4x1.2	885062
2.4GHz Wi-Fi/LTE CoExist	1-13	1.4x1.2	885071

5GHz Rx Solutions

Functions	Rx Gain (dB)	Noise Figure (dB)	I _{DD} (mA)	Bypass Loss (dB)	2.4GHz Rej (dB)	Insertion Loss (dB)	Isolation (dB)	Input P1dB (dBm)	Input IP3 (dBm)	Package	Size (mm)	Part Number
SW + LNA	13.5	1.7	14	25	-29	0.7	42	-	-	QFN	2.3x2.3	RFFM4554
SW + LNA	13	2.6	13	28	-15	0.6	35	-	-	DFN	1.5x1.5	RFFM4555
SW + LNA	12	2.5	10	7	-	0.6	-	-	-	DFN	1.5x1.5	RFFM8550
LNA + Bypass	16	-	15	29	-28	-	-	-	-	DFN	1.6x1.6	RFFM4527
SPDT	-	-	-	-	-	0.85	25.5	38	55	DFN	2x2	RFSW8000
SPDT	-	-	-	-	-	0.65	26	34	60	Lam	1.5x1.86	RFSW8009
SPDT	-	-	-	-	-	0.8	23	29	-	QFN	1x1.075	RFSW8008

2.4GHz Rx Solutions

Functions	Gain (dB)	Noise Figure (dB)	I _{DD} (mA)	Bypass Loss (dB)	Insertion Loss (dB)	Isolation (dB)	Input P1dB (dBm)	Input IP3 (dBm)	Package	Size (mm)	Part Number
LNA + Bypass	15	1.3	9	6	-	-	-	-	QFN	1.6x1.6	RFFM4227
SW + LNA	13	2.3	9	7	0.6	35	30	-	QFN	1.75x1.75	RFFM8250
SPDT	-	-	-	-	0.55	29	40	59	DFN	2x2	RFSW8000
SPDT	-	-	-	-	0.45	28	34	60	Lam	1.5x1.86	RFSW8009
SP3T	-	-	-	-	0.5	27	29	-	DFN	1.5x1.5	RFSW8001

5GHz Front-End Modules

Functions	11ac P _{OUT} (dBm)	11ac EVM (dB)	11ac I _{CC} (mA)	11n P _{OUT} (dBm)	11n EVM (dB)	11n I _{CC} (mA)	Gain (dB)	V _{CC} (V)	Rx Gain (dB)	Noise Figure (dB)	Bypass Loss (dB)	2.4GHz Rej (dB)	Package	Size (mm)	Part Number
PA + SW + LNA	20	-35	175	21	-30	180	32	5	14	2.3	5	15	Lam	2.5x2.5	RFFM4558
PA + SW + LNA	20	-35	175	21	-30	180	32	5	14	2.3	5	15	Lam	3x3	RFFM4552
PA + SW + LNA	17	-35	150	18	-30	155	30	3.3	13.5	2.5	6	15	Lam	2.5x2.5	QPF4538
PA + SW + LNA	17	-35	230	18	-30	245	28	3.3	12	2.4	5	41	Lam	2.3x2.3	QPF8538
PA + SW + LNA	17	-35	260	18	-30	290	30	3.3	14	2.5	6	15	Lam	3x3	RFFM4551
PA + SW + LNA	17.5	-35	225	19	-30	250	28	3.3	13	2.5	3	-	Lam	2.3x2.3	RFFM8528P
PA + SW + LNA	18	-35	230	19.5	-30	275	28	3.3	12	2.5	8	-	Lam	3x3	RFFM4501F
PA + SW + LNA	17	-35	245	-	-30	-	28	3.3	12.5	2.5	8	-	Lam	3x3	RFFM4501E
PA + SW + LNA	16	-35	220	17	-30	225	28	3.3	12.5	2.5	8	-	Lam	3x3	RFFM4501
PA + SW + LNA	17	-35	220	21	-30	290	28	5	12.5	2.5	8	-	Lam	3x3	RFFM4501
PA + SW + LNA	18	-35	225	19	-30	240	28	3.6	14	2.5	-	-	QFN	2.5x2.5	RFFM8511
PA + SW + LNA	17.5	-35	220	19.5	-30	260	28	3.3	12	2.5	-	-	QFN	2.5x2.5	RFFM8505

2GHz Front-End Modules

Functions	11ac P _{OUT} (dBm)	11ac EVM (dB)	11ac I _{CC} (mA)	11n P _{OUT} (dBm)	11n EVM (dB)	11n I _{CC} (mA)	Gain (dB)	V _{CC} (V)	Rx Gain (dB)	Noise Figure (dB)	I _{CC} (mA)	Bypass Loss (dB)	Input P1dB (dBm)	Package	Size (mm)	Part Number
PA + SP3T + LNA	21	-35	230	22	-30	250	29	15	2.5	13	13	7	-5	Lam	3x3	RFFM4252
PA + SP3T + LNA	17	-35	195	19	-30	230	27	13	2.3	10	10	7.5	-2	Lam	3x3	RFFM4203
PA + SP3T + LNA	18	-35	210	21.5	-30	260	29	15	2.5	13	13	7	-5	Lam	3x3	RFFM4251
PA + SW + LNA + SW	18.5	-35	220	20	-30	235	29	13	2	9.5	9.5	5	-5	Lam	2.3x2.3	QPF8248
PA + SW + LNA + SW	17.5	-35	185	19	-30	205	28	15	2.4	9	9	2	-5	QFN	2.3x2.3	RFFM8228P
PA + SP3T + LNA	17.5	-35	185	19	-30	200	27	15	2.5	10	10	-	-4	QFN	2.5x2.5	RFFM4211
PA + SP3T + LNA	18	-35	175	19	-30	185	27	12	2.5	10	10	6	-4	QFN	2.5x2.5	RFFM8211
PA + SP3T + LNA	19	-	180	20	-	195	-	-	-	-	-	-	-	QFN	2.5x2.5	RFFM8205P

Dualband Front-End Modules

Functions	Frequency (GHz)	11n P _{OUT} (dBm)	11n EVM (dB)	11n I _{CC} (mA)	Gain (dB)	V _{CC} (V)	Rx Gain (dB)	Noise Figure (dB)	Bypass Loss (dB)	Insertion Loss (dB)	Package	Size (mm)	Part Number
(PA+SW+LNA) x 2	2.4	18.5	-30	-30	24	3.3	12	2	-	-	Lam	3.2x5.2	RFFM8800
	5	17.5	-	-	28	3.3	14	2.5	-	-	Lam	3.2x5.2	
-	2.4	-	-	-	-	3.6	12	2.2	5	0.6	QFN	2.3x2.3	RFFM8850P
	5	-	-	-	-	3.6	14	2.3	7	0.8			