High-Performance Solutions for RF Front Ends

Wideband RF Performance for Embedded and Wireless Systems

qorvo®

all around you

Advanced RF, Anywhere You Need it

Qorvo® provides critical building blocks for RF systems that demand high performance. Our solutions are integral to advanced systems for 5G infrastructure, cellular repeaters, DAS, defense and aerospace, SATCOM, drones, meter reading, RFID, handheld two-way radios, IoT, telematics, medical and beyond.

Qorvo offers a family of high-performance discrete RF components to provide flexibility to system designers, as well as the highest level of integration of multifunction building blocks to reduce size, lower costs and accelerate time to market. The robust RF portfolio includes power amplifiers (PAs), linear drivers, low noise amplifiers (LNAs), gain block amplifiers, switches, digital step attenuators (DSAs), integrated modules and other high-performance RF solutions. These products support wideband and narrowband system architectures, with reference designs and expert technical support available to accelerate development. This brochure includes five block diagrams – RFID, drone SDR, meter reading/Wi-SUN®/LoRaWAN®, SATCOM direct-to-device and cellular repeaters, boosters and DAS – each highlighting how Qorvo solutions can be effectively integrated into real-world RF designs.

Qorvo continues to lead the industry with ultra-low noise amplifiers with the lowest noise figure. The LNA products are internally matched and offer wide bandwidth and high linearity. The portfolio of LNA products includes bypass LNA and switch LNA for increased functionality and RF front-end control.

Low Noise Amplifiers

Frequency (GHz)	Noise Figure (dB)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	Vd (V)	Package (mm)	Part Number
0.1-6	0.3	19.5	23	38	5	2x2	QPL9547
0.6-4.2	0.55	21	20	38	5	2x2	TQL9092
0.6-4.2	0.54	20	21.7	41.5	5	2x2	TQL9093
0.7-4.5	0.5	20	19	35	5	2x2	QPL9057
0.6-6	0.9	21.5	19	35.5	5	2x2	QPL9503
1-5	0.6	18	21	35	5	2x2	QPL9058
2-6	0.7	21.5	18	34.5	5	2x2	QPL9504
0.02-4	1.3	20.5	21	37	5	3x3	TQP3M9018
0.02-4	1.3	22	22	39.5	5	3x3	TQP3M9019
0.02-4	1.3	20.5	21	37	5	3x3	TQP3M9018
0.02-4	1.3	22	22	39.5	5	3x3	TQP3M9019

Qorvo offers bypass LNA in single stage and two stage configurations. Our bypass LNAs have high gain, low noise figure and high linearity.

Bypass Low Noise Amplifiers

Frequency (GHz)	Noise Figure (dB)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	Vd (V)	Package (mm)	Part Number
0.7-1	0.6	22	20	33	4.2	2x2	QPL9095
1.7-2.7	0.75	25	17	33.5	4.2	2x2	QPL9096
0.2-3.8	0.5	37.5	18	35	5	3.5x3.5	QPL9065
0.7-4	0.7	19	21	36	5	2x2	TQL9063
3.3-4.2	1.1	22	15.5	35	4.2	2x2	QPL9097
4-6	1.3	20	16	32	4.2	2x2	QPL9098

Our highly integrated front-end modules feature switch LNA modules in a single or dual-channel configuration and are targeted at 5G massive MIMO, small cells or TDD macro base stations.

Switch Low Noise Amplifier Modules

Frequency (GHz)	# of Channels	IL (dB)	Noise Figure (dB)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	Tx Pin (W)	Package (mm)	Part Number
3.1-4.2	1	0.7	1.2	35.5	16.8	29	8	5x3	QPB9362
2.3-2.7	1	0.4	1.3	35.5	16	25.5	8	5x3	QPB9361
2.3-5.0	1	0.5	1.1	34	18	31	8	3x3	QPB9850
1.7-4.2	2	0.5	1.2	37	20	35	15	6x6	QPB9348
2.3-5.0	2	0.5	1.1	34	18	35	22	6x6	QPB9378
2-3-4.2	2	0.5	1.0	38	16.8	34	22	6x6	QPB9380

Qorvo offers a variety of versatile wideband gain blocks that are suitable for IF and RF applications. The devices are easy to use and are matched to 50 ohms.

Gain Block Amplifiers

Frequency (GHz)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	Noise Figure (dB)	Vd (V)	Package (mm)	Part Number
1-6	16	20	35	1.4	5	2x2	QPA9126
1-6	20	19.5	35	1.4	5	2x2	QPA9127
0.02-4	22	22	39.5	1.3	5	3x3	TQP3M9019
0.02-4	20.5	21	37	1.3	5	3x3	TQP3M9018
0.05-6	16	21.3	40.3	1.5	5	2x2	TQL9062
0.05-4	14.5	20.8	35.5	1.6	5	2x2	TQL9047
0.05-4	14.9	21.6	39.5	2	5	3x3	TQP3M9038
0-12	13	13	27	5.1	5	5.08x5.08	NBB-300
0-12	12.5	15	24	4.9	8	5.08x5.08	NBB-310
0-12	12.9	14.9	24	4.3	8	5.08x5.08	NBB-312
0-8	16.5	13	28.1	4.3	5	5.08x5.08	NBB-400
0-8	17	15.8	26	4.3	5	3x3	NBB-402
0-4	20	12.3	26.5	3.2	5	5.08x5.08	NBB-500

Qorvo offers driver amplifiers with multiple P1dB options to fit different line-ups. The devices can accommodate high instantaneous bandwidths and can be used as final stages for certain applications. Devices are available with bias adjustment to allow for trade-off in linear performance and efficiency.

Power Amplifiers

Frequency (GHz)	Gain (dB)	OP3dB (dBm)	Vd (V)	Id (mA)	Package (mm)	Part Number
0.1-1	33.8	35.4	3.6	208	3x3	QPA9510
0.85-0.96	32.6	35.5	5	70	5x5	QPA9908
0.758-0.798	31.1	36.6	5	89	5x5	QPA9909
1.805-1.88	32	36	5	92	5x5	QPA9903
2.11-2.2	36.5	35.6	5	93	5x5	QPA9901
2.3-2.4	34.5	36	5	100	5x5	QPA9940

Qorvo offers a wide variety of switches in SPST, SPDT and SP4T configurations. Switches are offered with low insertion loss and in absorptive and reflective options.

Driver Amplifiers

Frequency (GHz)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	Noise Figure (dB)	Vd (V)	Id (mA)	Package (mm)	Part Number
3.3-4.2	39	28	35	4.5	5	145	3x3	QPA9822
3.3-4.2	36.5	29.5	38	3.8	5	110	3x3	QPA9862
0.6-5	15.5	30	44	5.7	5	230	4x4	QPA9442
0.4-4.2	17.1	27.2	44	4.8	5	137	3x3	QPA9119
1.7-5	28	22	36	1.5	5	95	3x3	QPA9120
2.3-5	27	25.5	34	5	5	95	3x3	QPA9121
2.3-5	37	25.5	34	5	5	90-120	3x3	QPA9122M
2.7-3.8	18.5	25	38	2.3	5	280	5x5	QPA9842
0.7-1	20	27.4	43	4.5	5	248	5x5	QPA9805
1.8-2.4	20	26.4	42	1.5	5	296	5x5	QPA9801
2.3-2.7	19.6	25	40	1.4	5	286	5x5	QPA9807
3.4-3.8	19.3	24	41	2.3	5	284	5x5	QPA9842
5.1-5.9	32	33	47	7	5	350	4x4	QPA9501
0.6-2.7	15.8	32.8	49.5	4.4	5	435	4x4	TQP7M9104
0.05-1.5	20.8	33	50	4.8	5	455	4x4	TQP7M9106
0.6-0.96	35.5	31.4	46	5	4.3	370	3.5x4.5	TQP9107
1.8-2.7	30.5	27.5	46	3.5	5	225	4x4	TQP9109
1.8-2.7	29.8	32.5	46	6.2	5	545	4x4	TQP9111

Qorvo has a proven track record in providing PA solutions across many frequencies and power levels. Our PAs support demanding system requirements for many applications.

Switch Solutions

Frequency (GHz)	Type	Termination Type	IL (dB)	Isolation (dB)	P_{IN} Max (dBm)	Vcc (V)	Package (mm)	Part Number
0.005-6	SPDT	R	0.3	37	37	3 to 5	2x2	RFSW1012
0.005-6	SPDT	R	0.25	46	37	3 to 5	1.1x1.5	QPC1022
0.005-6	SP4T	R	0.45	34	35	3 to 5	2.5x2.5	RFSW6042
0.005-6	SPDT	A	0.7	70	35	3 to 5	4x4	RFSW6024
0.005-6	SP4T	A	0.98	50	36	3 to 5	4x4	QPC6044
0.005-4.2	SPDT	R	0.4	40	40	5	5x5	QPC3025
0.005-6	2xSPDT	R	0.4	23	36	3	2x2	RFSW6222
0.005-6	SPST	A	0.85	55	36	5	2x2	QPC6014
0.005-6	SPDT	A	0.9	62	37	5	4x4	QPC6324

Our portfolio of digital step attenuators covers 0.05 to 6 GHz. Offerings include serial or parallel control. The DSA products have overshoot-free switching, fast switching, high attenuation accuracy and low insertion loss. The devices are compatible with 1.8V logic.

Digital Step Attenuators

Frequency (GHz)	Attenuation Range (dB)	Step Size (dB)	Control Interface	IIP3	Vd (V)	Package (mm)	Part Number
0.05-6	18	6	Parallel	55	3-5	3x3	QPC3223
0.005-6	31.5	0.5	Serial	55	5	4x4	QPC6614
0.05-6	31.75	0.25	Serial	55	3-5	3x3	QPC6713
0.05-6	15	1	Parallel	55	5	3x3	RFSA3413
0.005-6	31	3	Serial	55	5	3x3	RFSA3513
0.005-6	31.5	0.5	Serial	55	5	3x3	RFSA3613
0.005-6	31.75	0.25	Serial	55	5	3x3	RFSA3713
0.05-6	31.75	0.25	Serial/Parallel	55	5	4x4	RFSA3714
0.005-4	31.75	0.25	Serial/Parallel	55	5	5x5	RFSA3715
0-4	31.5	0.5	Parallel	57	5	4x4	TQP4M9071
0-4	31.5	0.5	Serial	57	5	4x4	TQP4M9072

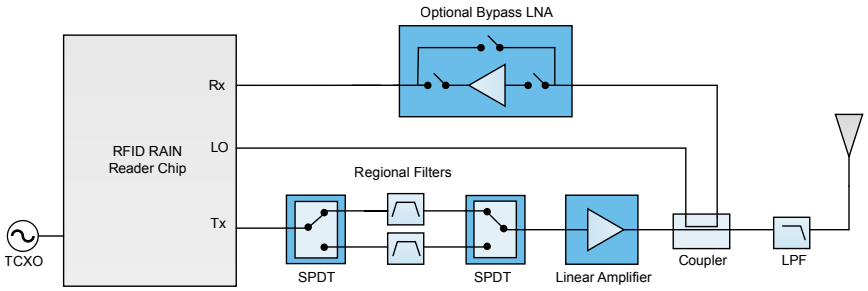
Qorvo RF filters include a broad range of surface acoustic wave (SAW) and bulk acoustic wave (BAW) products that cover all popular wireless standards. We have one of the widest portfolios of RF filters offered in a small form factor to help designers create compact and cost-effective system solutions.

RF Filters

Frequency (GHz)	Bands	Description	Technology	IL Typ (dB)	Package (mm)	Part Number
699-716, 7290756, 777-787	B12/B13, UL/DL	LTE Band 12/Band 13 Triplexer Filter Module	TC-SAW	3 Max	4x5	QPQ1214
1710-1785, 1805-1880	B3	Band 3 BAW Duplexer	BAW	2.3	2x2.5	QPQ1297
2500-2570, 2620-2690	B7	Band 7 BAW Duplexer	BAW	2.4	2x2.5	QPQ1270
2515-2675	B41	Band 41, 160 MHz Sub-Band Filter	BAW	2.5	2x1.6	QPQ1298
3300-3600	B52, B42	Band 52+42, 300 MHz Bandpass Filter	BAW	3.2 Max	2x1.6	QPQ3501
3400-3600	B42	Band 42, 200 MHz Bandpass Filter	BAW	3.2 Max	2x1.6	QPQ3500
3700-3980	C-band	1W C-band BAW Bandpass Filter	BAW	3 Max	3x2	QPQ3509
4800-4960	n79	Sub-band n79, 160 MHz Bandpass Filter	BAW	2.2 Max	2x1.6	QPQ4900
3550-3700	B48	CBRS Band 48 BAW Bandpass Filter	BAW	2.7 Max	2x1.6	QPQ3550

RFID Application

Radio frequency identification (RFID) technology is a cornerstone in various industries, enabling efficient, contactless identification and tracking of objects. At the heart of every RFID reader lies the RF front end – a critical component that governs the transmission and reception of radio signals between the reader and the tag. Qorvo offers key elements for the RF front end such as highly linear amplifiers and switches.



RFID Linear Power Amplifiers

Frequency (GHz)	Gain (dB)	OP3dB (dBm)	Vd (V)	Id (mA)	Package (mm)	Part Number
0.1-1	33.8	35.4	3.6	208	3x3	QPA9510
0.85-0.96	32.6	35.5	5	70	5x5	QPA9908
0.75-0.80	31.5	36.6	5	90	5x5	QPA9909
0.6-5	15.5	30	5	230	4x4	QPA9442
0.05-1.5	20.8	34	5	455	4x4	TQP9107

RFID SPDT Switches

Frequency (GHz)	Type	Termination Type	IL (dB)	Isolation (dB)	P_{IN} Max (dBm)	Vcc (V)	Package (mm)	Part Number
0.005-6	SPDT	R	0.3	37	37	3 to 5	2x2	RFSW1012
0.005-6	SPDT	R	0.25	46	37	3 to 5	1.1x1.5	QPC1022
0.005-6	SPDT	A	0.7	70	35	3 to 5	4x4	RFSW6024
0.005-6	SPDT	A	0.9	62	37	5	4x4	QPC6324

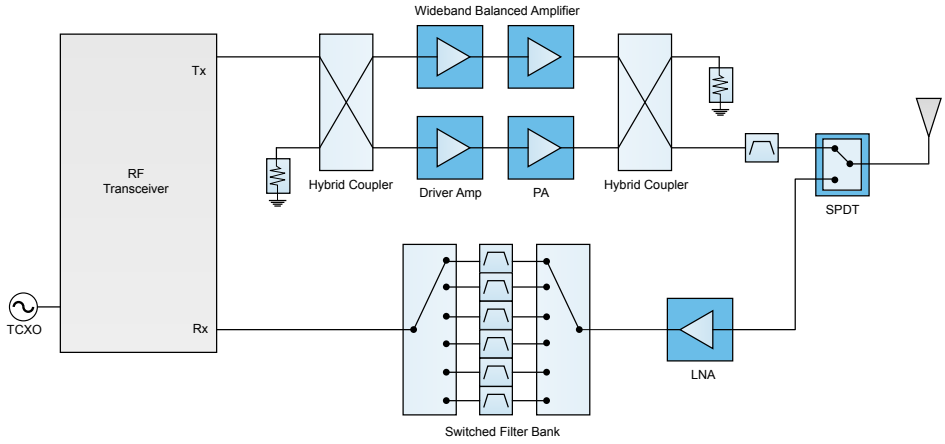
RFID Bypass Low Noise Amplifiers

Frequency (GHz)	Noise Figure (dB)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	Vd (V)	Package (mm)	Part Number
0.7-1	0.6	22	20	33	4.2	2x2	QPL9095
0.2-3.8	0.5	37.5	18	35	5	3.5x3.5	QPL9065
0.7-4	0.7	19	21	36	5	2x2	TQL9063

Drone SDR Application

As unmanned aerial vehicles (UAVs), commonly known as drones, become increasingly integrated into commercial, defense and research applications, the demand for highly flexible, robust and efficient communication systems grows correspondingly. Central to this capability is the radio frequency (RF) front end – the critical interface between the antenna and the digital processing stages. In modern drone systems, software defined radio (SDR) technology plays a transformative role, enabling dynamic reconfiguration of communication protocols, frequency bands and modulation schemes in real-time.

To fully leverage the flexibility of SDRs, wideband RF front ends are essential. These devices must be capable of operating across broad frequency ranges, while maintaining high linearity, low noise performance and minimal power consumption – all within the size, weight and power (SWaP) constraints that drone platforms impose. Qorvo's wideband RF components are designed to enable the SDR to adapt to changing mission requirements, operate across multiple bands and support a variety of communication, navigation and sensing applications.



Drone SDR Wideband Amplifiers

Frequency (GHz)	Gain (dB)	OP3dB (dBm)	Vd (V)	Id (mA)	Package (mm)	Part Number
0.6-5	15.5	30	5	230	4x4	QPA9442
0.4-4.2	17.1	27	5	130	3x3	QPA9119
1-6	16	20	5	68	2x2	QPA9126
1-6	20.7	19.5	5	70	2x2	QPA9127

Drone SDR SPDT Switches

Frequency (GHz)	Type	Termination Type	IL (dB)	Isolation (dB)	P_{IN} Max (dBm)	Vcc (V)	Package (mm)	Part Number
0.005-6	SPDT	R	0.3	37	37	3 to 5	2x2	RFSW1012
0.005-6	SPDT	R	0.25	46	37	3 to 5	1.1x1.5	QPC1022
0.005-6	SPDT	A	0.7	70	35	3 to 5	4x4	RFSW6024
0.005-6	SPDT	A	0.9	62	37	5	4x4	QPC6324

Drone SDR Low Noise Amplifiers

Frequency (GHz)	Noise Figure (dB)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	Vd (V)	Package (mm)	Part Number
0.1-6	0.3	19.5	23	38	5	2x2	QPL9547
0.6-4.2	0.55	21	20	38	5	2x2	TQL9092
0.6-4.2	0.54	20	21.7	41.5	5	2x2	TQL9093
0.7-4.5	0.5	20	19	35	5	2x2	QPL9057
0.6-6	0.75	21.5	19	35	5	2x2	QPL9504
1-5	0.6	18	21	35	5	2x2	QPL9058

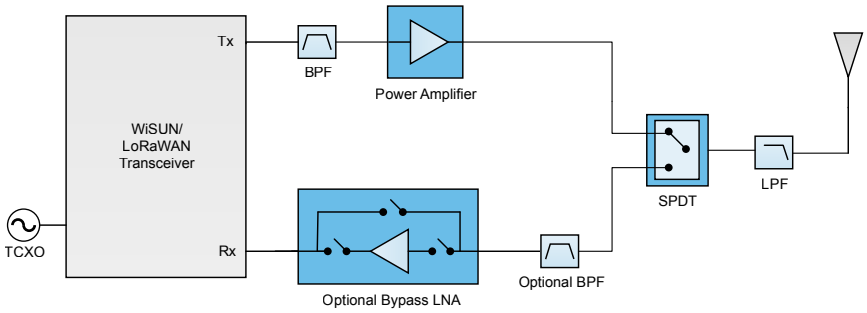
Meter Reading/Wi-SUN®/LoRaWAN® Application

The RF front end is a critical component in meter reading applications such as smart electricity, gas and water meters. For automated meter reading (AMR) and advanced metering infrastructure (AMI) systems, the RF front end's performance directly impacts the reliability, range, power efficiency and scalability of the entire solution.

Many meters are installed in hard-to-reach or remote areas. Power amplifiers boost the transmission power and low noise amplifiers enhance sensitivity on the receiving side, significantly extending the range of communication. This reduces the need for costly repeaters or additional infrastructure to cover a wide area.

Meters are typically battery-powered and often need to operate maintenance-free for 10 to 20 years. The RF front end must be designed to consume very low power during both active transmission and idle listening modes. Power-efficient RF front ends extend battery life, helping utilities lower maintenance costs and minimize service interruptions.

Different regions and applications use different communication standards (e.g., 169 MHz, 433 MHz, 868/915 MHz, sub-GHz ISM bands, NB-IoT, LoRaWAN, Wi-SUN). Qorvo offers a variety of high-performance devices that help to extend the range of these applications.



Sub 1GHz Power Amplifiers

Frequency (GHz)	Gain (dB)	OP3dB (dBm)	Vd (V)	Id (mA)	Package (mm)	Part Number
0.1-1	33.8	35.4	3.6	208	3x3	QPA9510
0.85-0.96	32.6	35.5	5	70	5x5	QPA9908
0.75-0.80	31.5	36.6	5	90	5x5	QPA9909
0.6-5	15.5	30	5	230	4x4	QPA9442
0.05-1.5	20.8	34	5	455	4x4	TQP9107

SPDT Switches

Frequency (GHz)	Type	Termination Type	IL (dB)	Isolation (dB)	P_{IN} Max (dBm)	Vcc (V)	Package (mm)	Part Number
0.005-6	SPDT	R	0.3	37	37	3 to 5	2x2	RFSW1012
0.005-6	SPDT	R	0.25	46	37	3 to 5	1.1x1.5	QPC1022
0.005-6	SPDT	A	0.7	70	35	3 to 5	4x4	RFSW6024
0.005-6	SPDT	A	0.9	62	37	5	4x4	QPC6324

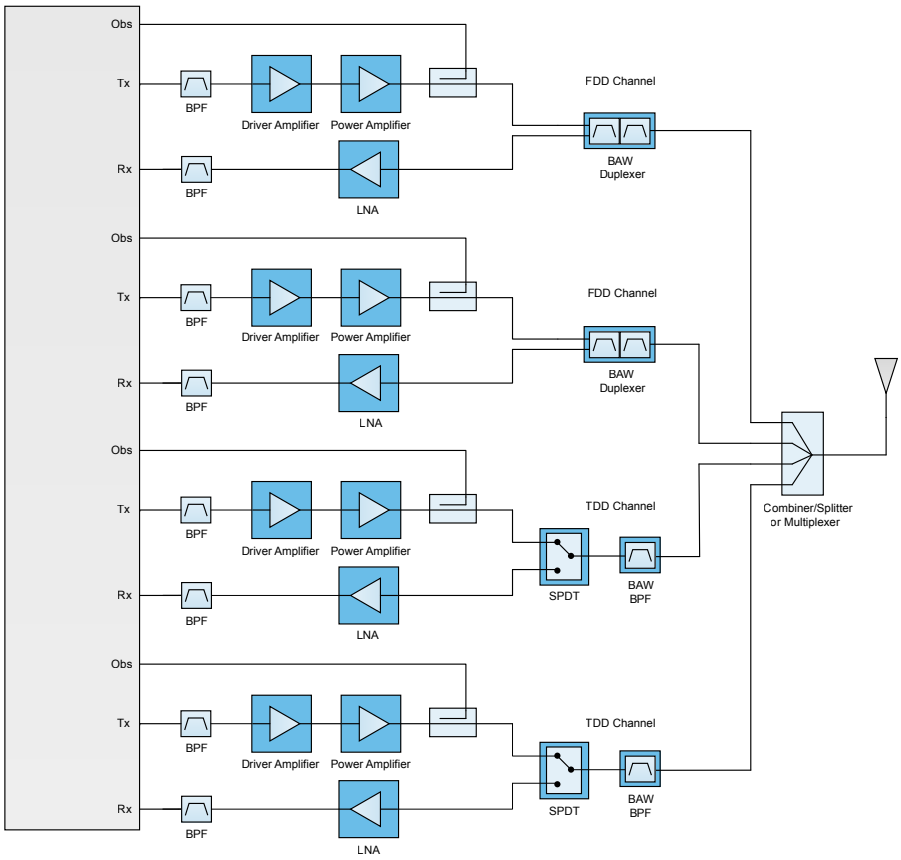
Bypass Low Noise Amplifiers

Frequency (GHz)	Noise Figure (dB)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	Vd (V)	Package (mm)	Part Number
0.7-1	0.6	22	20	33	4.2	2x2	QPL9095
0.2-3.8	0.5	37.5	18	35	5	3.5x3.5	QPL9065
0.7-4	0.7	19	21	36	5	2x2	TQL9063

SATCOM Direct to Device Application

Direct to device (D2D) satcom and high-altitude platform stations (HAPS) can be transformative in global connectivity providing coverage in remote, rural or underserved areas where terrestrial networks are unavailable or unreliable. In addition, D2D can complement terrestrial networks and provide uninterrupted service in disaster areas, during cyberattacks or with terrestrial network failure. D2D uses the same bands as terrestrial infrastructure so no special user equipment is needed for 4G and 5G connectivity in smart phones and IoT.

Qorvo provides top performing RF products for terrestrial wireless infrastructure and since the bands for D2D SATCOM are the same, the devices can be used in both non-terrestrial and terrestrial networks.



D2D Satcom Bypass Low Noise Amplifiers

Frequency (GHz)	Noise Figure (dB)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	Vd (V)	Package (mm)	Part Number
0.7-1	0.6	22	20	33	4.2	2x2	QPL9095
1.7-2.7	0.75	25	17	33.5	4.2	2x2	QPL9096
0.2-3.8	0.5	37.5	18	35	5	3.5x3.5	QPL9065
0.7-4	0.7	19	21	36	5	2x2	TQL9063
3.3-4.2	1.1	22	15.5	35	4.2	2x2	QPL9097
4-6	1.3	20	16	32	4.2	2x2	QPL9098

D2D Satcom Low Noise Amplifiers

Frequency (GHz)	Noise Figure (dB)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	Vd (V)	Package (mm)	Part Number
0.1-6	0.3	19.5	23	38	5	2x2	QPL9547
0.6-4.2	0.55	21	20	38	15	2x2	TQL9092
0.6-4.2	0.54	20	21.7	41.5	5	2x2	TQL9093
0.7-4.5	0.5	20	19	35	5	2x2	QPL9057
0.6-6	0.9	21.5	19	35.5	5	2x2	QPL9503
1-5	0.6	18	21	35	5	2x2	QPL9058
2-6	0.7	21.5	18	34.5	5	2x2	QPL9504

D2D Satcom Power Amplifiers

Frequency (GHz)	Gain (dB)	OP3dB (dBm)	Vd (V)	Id (mA)	Package (mm)	Part Number
0.1-1	33.8	35.4	3.6	208	3x3	QPA9510
0.85-0.96	32.6	35.5	5	70	5x5	QPA9908
0.758-0.798	31.1	36.6	5	89	5x5	QPA9909
1.805-1.88	32	36	5	92	5x5	QPA9903
2.11-2.2	36.5	35.6	5	93	5x5	QPA9901
2.3-2.4	34.5	36	5	100	5x5	QPA9940
2.5-2.7	34.5	35	5	109	5x5	QPA9907
3.3-3.8	31	35.3	5	84	5x5	QPA9942

D2D Satcom Switch Solutions

Frequency (GHz)	Type	Termination Type	IL (dB)	Isolation (dB)	P_{IN} Max (dBm)	Vcc (V)	Package (mm)	Part Number
0.005-6	SPDT	R	0.3	37	37	3 to 5	2x2	RFSW1012
0.005-6	SPDT	R	0.25	46	37	3 to 5	1.1x1.5	QPC1022
0.005-6	SP4T	R	0.45	34	35	3 to 5	2.5x2.5	RFSW6042
0.005-6	SPDT	A	0.7	70	35	3 to 5	4x4	RFSW6024
0.005-6	SP4T	A	0.98	50	36	3 to 5	4x4	QPC6044
0.005-4.2	SPDT	R	0.4	40	40	5	5x5	QPC3025
0.005-6	2xSPDT	R	0.4	23	36	3	2x2	RFSW6222
0.005-6	SPST	A	0.85	55	36	5	2x2	QPC6014
0.005-6	SPDT	A	0.9	62	37	5	4x4	QPC6324

D2D Satcom RF Filters

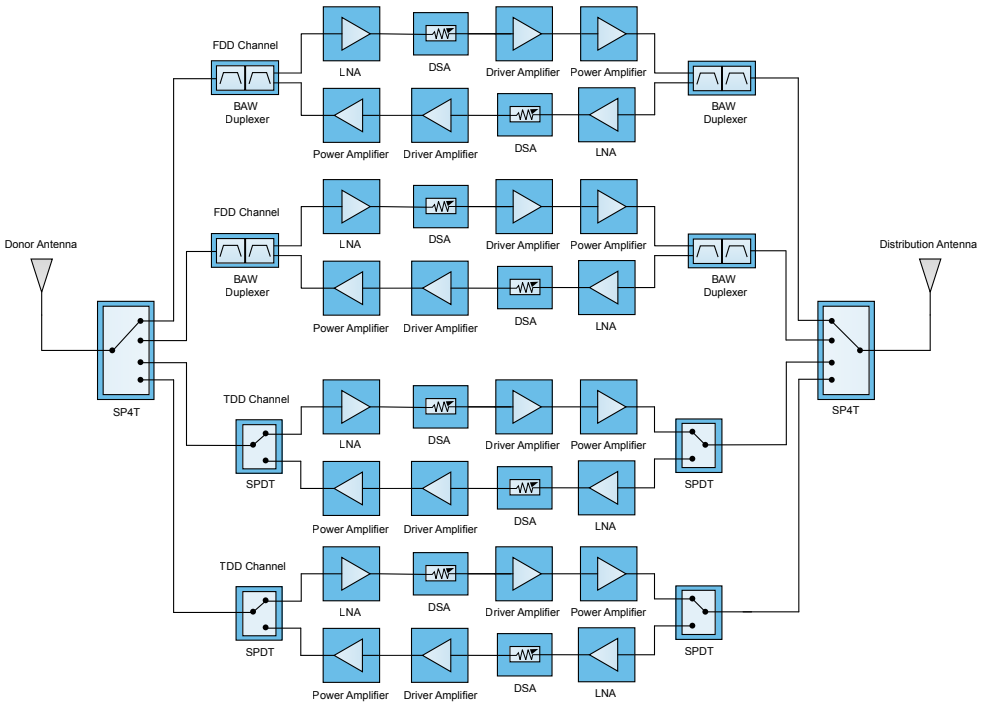
Frequency (GHz)	Bands	Description	Technology	IL Typ (dB)	Package (mm)	Part Number
699-716, 7290756, 777-787	B12/B13, UL/DL	LTE Band 12/Band 13 Triplexer Filter Module	TC-SAW	3 Max	4x5	QPQ1214
1710-1785, 1805-1880	B3	Band 3 BAW Duplexer	BAW	2.3	2x2.5	QPQ1297
2500-2570, 2620-2690	B7	Band 7 BAW Duplexer	BAW	2.4	2x2.5	QPQ1270
2515-2675	B41	Band 41, 160 MHz Sub-Band Filter	BAW	2.5	2x1.6	QPQ1298
3300-3600	B52, B42	Band 52+42, 300 MHz Bandpass Filter	BAW	3.2 Max	2x1.6	QPQ3501
3400-3600	B42	Band 42, 200 MHz Bandpass Filter	BAW	3.2 Max	2x1.6	QPQ3500
3700-3980	C-band	1W C-band BAW Bandpass Filter	BAW	3 Max	3x2	QPQ3509
4800-4960	n79	Sub-band n79, 160 MHz Bandpass Filter	BAW	2.2 Max	2x1.6	QPQ4900
3550-3700	B48	CBRS Band 48 BAW Bandpass Filter	BAW	2.7 Max	2x1.6	QPQ3550

Cellular Repeaters, Boosters and DAS

Cellular repeaters, boosters and distributed antenna systems (DAS) are designed to improve mobile signal strength and coverage in areas where cellular connectivity is weak or inconsistent. Cellular boosters, also known as signal repeaters, amplify existing cellular signals from nearby towers and rebroadcast them within a confined space such as a home, office or vehicle. These systems typically include an external antenna, an amplifier and an internal antenna, making them a cost-effective solution for small to medium-sized areas.

DAS, on the other hand, are more complex infrastructure solutions used to enhance cellular coverage in large buildings, campuses, stadiums or urban environments. DAS networks consist of a central signal source connected to multiple antennas strategically placed throughout the coverage area, ensuring consistent and high-quality signal distribution.

Qorvo offers a wide portfolio of leading ultra-low noise amplifiers, highly linear amplifiers and switches to help extend coverage and range.



Repeater Low Noise Amplifiers

Frequency (GHz)	Noise Figure (dB)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	Vd (V)	Package (mm)	Part Number
0.1-6	0.3	19.5	23	38	5	2x2	QPL9547
0.6-4.2	0.54	20	21.7	41.5	5	2x2	TQL9093
0.7-4.5	0.5	20	19	35	5	2x2	QPL9057
0.6-6	0.9	21.5	19	35.5	5	2x2	QPL9503
1-5	0.6	18	21	35	5	2x2	QPL9058
2-6	0.7	21.5	18	34.5	5	2x2	QPL9504

Repeater Linear Power Amplifiers and Drivers

Frequency (GHz)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	Noise Figure (dB)	Vd (V)	Package (mm)	Package (mm)	Part Number
3.3-4.2	36.5	29.5	38	3.8	5	110	3x3	QPA9862
0.6-5	15.5	30	44	5.7	5	230	4x4	QPA9442
0.4-4.2	17.1	27.2	44	4.8	5	137	3x3	QPA9119
2.7-3.8	18.5	25	38	2.3	5	280	5x5	QPA9842
0.7-1	20	27.4	43	4.5	5	248	5x5	QPA9805
1.8-2.4	20	26.4	42	1.5	5	296	5x5	QPA9801
2.3-2.7	19.6	25	40	1.4	5	286	5x5	QPA9807
3.4-3.8	19.3	24	41	2.3	5	284	5x5	QPA9842
0.6-2.7	15.8	32.8	49.5	4.4	5	435	4x4	TQP7M9104
1-6	16	20	35	1.4	5	68	2x2	QPA9126
1-6	20	19.5	35	1.4	5	70	2x2	QPA9127
0.05-6	16	21.3	40.3	1.5	5	122	2x2	TQL9062
0.05-4.2	14.5	20.8	35.5	1.6	5	70	2x2	TQL9047

Repeater High Isolation Switch Solutions

Frequency (GHz)	Type	Termination Type	IL (dB)	Isolation (dB)	P_{IN} Max (dBm)	Vcc (V)	Package (mm)	Part Number
0.005-6	SPDT	R	0.25	46	37	3 to 5	1.1x.5	QPC1022
0.005-6	SPDT	A	0.7	70	35	3 to 5	4x4	RFSW6024
0.005-6	SP4T	A	0.98	50	36	3 to 5	4x4	QPC6044
0.005-6	SPDT	A	0.9	62	37	5	4x4	QPC6324

Repeater Duplex RF Filters

Frequency (GHz)	Bands	Description	Technology	IL Typ (dB)	Package (mm)	Part Number
699-716, 7290756, 777-787	B12/B13, UL/DL	LTE Band 12/Band 13 Triplexer Filter Module	TC-SAW	3 Max	4x5	QPQ1214
1710-1785, 1805-1880	B3	Band 3 BAW Duplexer	BAW	2.3	2x2.5	QPQ1297
2500-2570, 2620-2690	B7	Band 7 BAW Duplexer	BAW	2.4	2x2.5	QPQ1270

Repeater Digital Step Attenuators

Frequency (GHz)	Attenuation Range (dB)	Step Size (dB)	Control Interface	IIP3	Vd (V)	Package (mm)	Part Number
0.005-6	31.5	0.5	Serial	55	5	4x4	QPC6614
0.05-6	31.75	0.25	Serial	55	3-5	3x3	QPC6713
0.005-6	31.5	0.5	Serial	55	5	3x3	RFSA3613
0.005-6	31.75	0.25	Serial	55	5	3x3	RFSA3713
0-4	31.5	0.5	Parallel	57	5	4x4	TQP4M9071
0-4	31.5	0.5	Serial	57	5	4x4	TQP4M9072

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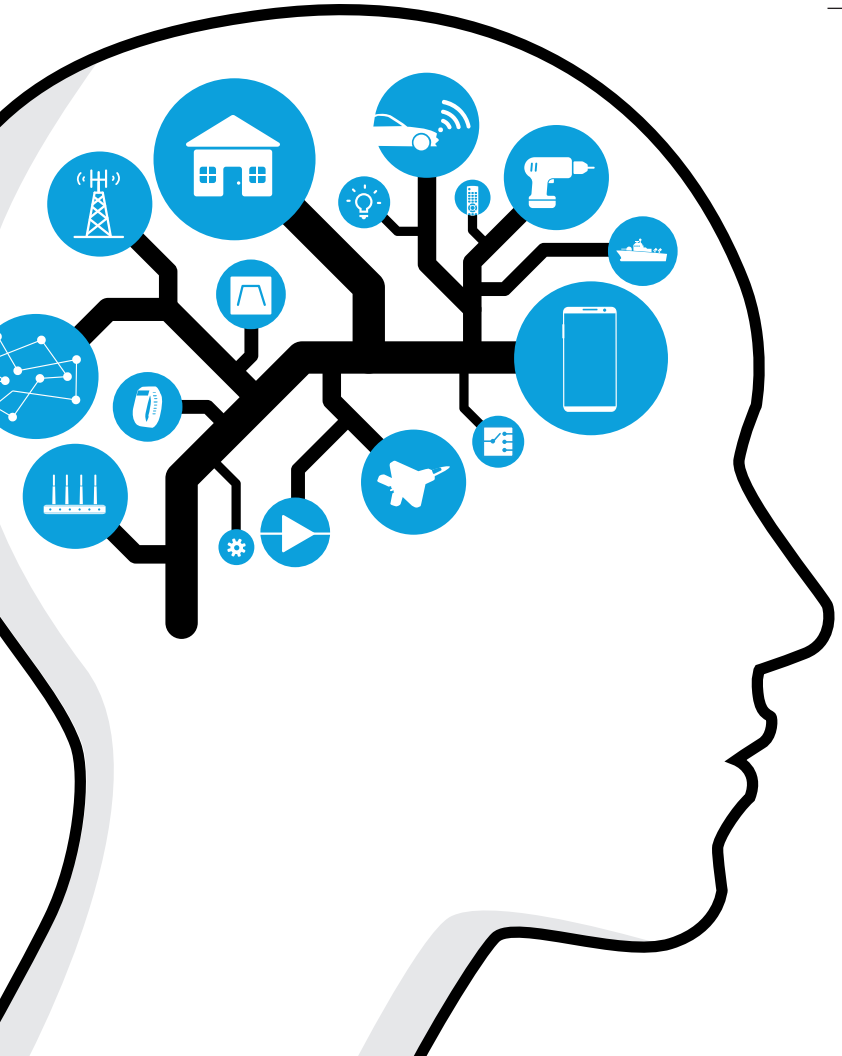

Here to Inspire and Help

Qorvo has a long and proud history of providing RF designers and engineers, from around the world, with the inspiration and technical support they need to make their designs a reality. In addition to designing and manufacturing the industry's best in class RF and mmWave products, Qorvo provides the system level technical know-how that enables true design collaboration. Qorvo stands ready to support our valued customers so they can overcome their toughest design challenges together.

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