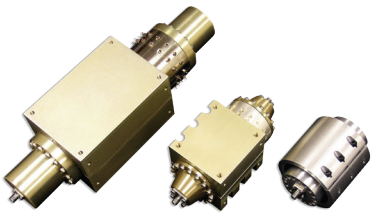
High-Performance SSPA Technology

Delivering a Higher Standard of Efficiency,
Reliability & Bandwidth



qorvo®

all around you

High-Power, Ultra-Broadband Performance & Solid State Reliability Using Spatium® Technology

Patented Spatium RF power combining technology from Qorvo provides a low loss, broadband, highly reliable, efficient alternative to traveling wave tube amplifiers (TWTAs) for commercial and defense communications, radar, EW and many other RF applications. The Spatium SSPAs dramatically improve broadband RF power and efficiency through patented coaxial spatial combining techniques. These SSPA solutions are offered as standard products with several platforms available across the 2 to 40 GHz spectrum. For those applications that require customer specific SSPAs, Spatium solutions are readily customizable. Qorvo uses its world class GaN MMIC amplifiers to deliver longer service lifetimes than comparable TWTAs. Spatium SSPAs provide clear advantages in size, weight, power and cost (SWaP-C) at the total solution level. Spatium technology allows unprecedented combining efficiency, specifically over wide bandwidths, with output power up to 750W CW.

Over wide (up to a decade bandwidth) frequency bands and over temperature at CW conditions, Spatium SSPAs provide higher output power and efficiency than coventionally-combined solid-state products.

Benefits of Spatium Technology

- Ultra-broadband instantaneous operation: up to decade bandwidth
- Efficiently combines 16 GaN MMIC HPAs
- Provides graceful degradation vs TWTA single point of failure
- Highly reliable Solid State technology
- Technology readiness level (TRL 9)
- Lower supply voltage compared to TWTA: 18-28V
- No system warm-up time needed

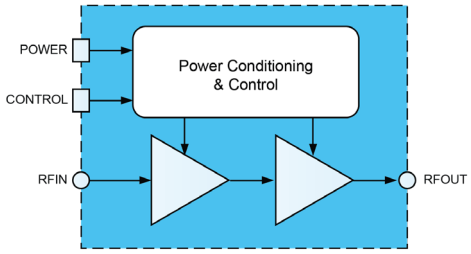
Applications

- EW/jammers
- Radar/SAR systems
- Satellite communications
- Airborne, Shipborne, andTerrestrial Systems
- Test Instrumentation

Qorvo introduces Spatium SSPA Modules QPR0220 and QPR3238

Optimized for Seamless Integration and Performance

- Simplifies integration – Compact unit with minimal loss between driver and Spatium.
- Boosts yield – Tested and guaranteed as a single unit.
- Reduces wiring – Unified power conditioning eliminates extra harnesses.
- Enhances reliability – Advanced fault monitoring and notifications.



Spatium SSPA Amplifiers

Frequency (GHz)	Psat (W)	Small Signal Gain (dB)	Power Gain (dB)	PAE (%)	Voltage (V)	ECCN	Part Number
2-6	250-320	30-33	18-19	30-37	24	3A001.B.4	QPB0206N
2-18	100-200	17-20	11-14	15-35	20	3A001.B.4	QPB0218N
2-18	120-263	14-18	8-11	10-25	18	3A001.B.4	QPB0220N
2-18	120-263	53-60	36-39	13-24	18	3A001.B.4	QPR0220
6-18	162-288	15-19	9.1-11.6	15-24	18	3A001.B.4	QPB0618N
8-11	590-740	27-30	19.7-20.7	31-39	28	3A001.B.4	QPB1024
13.4-15.5	590-645	33-37	23.7-24.1	25-28	28	3A001.B.4	QPB1316
18-40	16-32	18-25	10-13	6-14	18	3A001.B.4	QPB1840N
18-40	80-126	13-17	10-12	8-14	18	3A001.B.4	QPB2040N
27.5-31	150-200	21-24	13-14	22-26	22	3A001.B.4	QPB2731N
32-38	126-155	18-25	8-9	13-15	24	3A001.B.4	QPB3238N
32-38	126-155	55-80	51-52	15-17	24	3A001.B.4	QPR3238
34-36	316-347	21-25	16-16.4	15-17	28	3A001.B.4	QPB1111

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