

COMMUNICATIONS

MILITARY, GOVERNMENT AGENCY, TACTICAL RADIOS, NETWORKS



Critical technologies and capabilities required for this application

Empower has fielded a number of leading edge, “Best in Class” power amplifiers for command and control communications for the warfighter, civilian and homeland network applications. These multi-band, multi-mission, highly integrated amplifiers are designed for software-defined radios in manpack, vehicular and fixed site configurations.

How Empower is positioned to support these applications

Empower amplifiers provide the power to communicate in the next generation digital, wideband networks for both tactical battlefield systems, public safety and federal agency.

Empower has a versatile amplifier product line specific to the demanding digital waveforms and modulations required in today’s RF communications networks. Empower has developed the amplifier technologies to provide linear, broadband and efficient amplifiers with an emphasis on SWAP (Size, Weight and Power) reduction. Empower uses the latest in RF device technology in addition to linearization, filtering and distortion reduction techniques providing amplifiers compatible for legacy and emerging tactical waveforms.

- ◆ 1.5 to 30 MHz
- ◆ 20 to 520 MHz
- ◆ 20 to 1000 MHz
- ◆ 500 to 1000 MHz
- ◆ 1000 to 3000 MHz
- ◆ 2000 to 6000 MHz

Empower is a leader in the design and development of linear power amplifiers encompassing all state of the art GaN, LDMOS, MOSFET, GaAs FET and Bipolar RF device technologies. Empower provides fast switching for Half and Full Duplex transmitters in addition to COSITE interference mitigation.

Empower amplifiers are rugged and protected against high peak to average waveforms, over temperature, antenna mismatch, over current, input over-drive and over voltage fault conditions.

Empower provides various controls and modes of operation such as power level control, low energy usage in addition to RS232, TCP/IP, RS422 or other interfaces and features.

The existing designs provide a solid and proven engineering foundation to work with our customers in developing custom specific power amplifiers for high density, multi channel applications.



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MODULES

SKU	Start (MHz)	Stop (MHz)	Pout (Watt)	Gain (dB)	Size (Inch)
1067	0.01	500	25	44	7.0 x 5.0 x 1.3
1094	20	520	100	50	6.4 x 3.4 x 1.1
1163	20	520	125	54	7.0 x 4.0 x 1.2
1100	20	1000	80	49	6.4 x 3.4 x 1.1
1193	20	1000	100	53	7.0 x 4.0 x 1.2
1119	500	2500	50	46	7.4 x 3.6 x 1.1
1205	500	2700	25	44	6.0 x 3.0 x 1.0
1208	500	2700	100	50	8.2 x 3.6 x 1.06
1164	800	3000	50	50	6.4 x 3.4 x 1.1
1199	1000	3000	100	61	7.0 x 4.0 x 1.1
1212	2000	6000	50	61	7.0x4.0x1.1
1191	2500	6000	100	60	8.0 x 6.5 x 1.0

Band specific, wireless infrastructure MODULES

SKU	Start (MHz)	Stop (MHz)	Pout (Watt)	Gain (dB)	Size (Inch)
7086	869	894	16	49	4.4x6.7x1.1
7085	2110	2170	30	49	5.1x6.7x1.2
7079	2110	2170	60	49	6.9x8.3x1.1

SYSTEMS

SKU	Start (MHz)	Stop (MHz)	Pout (Watt)	Gain (dB)	Size
2203	1	30	1000	60	R5U
2073	1	100	1000	60	R5U
2173	20	500	500	57	R3U
2126	20	500	1000	60	R5U
2192	20	1000	250	54	R3U
2162	20	1000	1000	63	R5U
2192	20	1000	250	54	R3U
2175	80	1000	500	60	R3U
2174	500	1000	500	56	R3U
2066	500	1000	1000	60	R5U
2129	500	2500	50	46	R2U
2151	500	2500	170	52	R3U
2199	500	2500	200	53	R5U
2202	500	2500	1000	60	R8U
2193	1000	3000	100	49	R3U
2194	1000	3000	250	54	R3U
2170	1000	3000	1000	63	R5U
2141	100	6000	400	56	R3U+R3U+R3U+R3U
2196	2000	6000	35	46	R3U
2197	2000	6000	80	49	R3U
2198	20	6000	100	49	R3U

Key Design Wins Capability Showcase

Empower amplifiers are ready to provide the power to communicate in SATCOM/LOS, DAMA/ NON DAMA, 5 kHz and 25 kHz, AM/FM –VHF/UHF/L, UMTS, GSM, CDMA, FLO, COFDM and multi-media, high speed wide-band waveforms and modulations.

BBS2E3KUT (SKU 2126-001)



This ruggedized tactical communications 1kW, LDMOS based, high performance amplifier has guaranteed power output performance over full bandwidth, temperature and environments in a 5U chassis. The amplifier includes a built in control and monitoring system, with protection functions which preserve high availability. Remote management and diagnostics are via an embedded web server allowing network managed site status and control simply by connecting the unit's Ethernet port to a LAN.



Empower RF Systems has extensive experience with Multi-Function, Highly-Integrated Assemblies. Customer-specific requirements are met by incorporating Integrated Filters, T/R switches, DC/DC Converters, Forward/Reverse Power detectors and RCV LNAs into the Amplifier.