

# LPR

# RF

# Power

# Amplifiers

# Contents

Introduction	3
Broadband Solid State Amplifiers	4
Linear Solid State Amplifiers	6
RF Amplifier Systems for EMC Testing	8
RF Amplifier Systems for Performance Testing	10
RF Amplifier Systems for Particle Acceleration	12



# Introduction

LPR Global designs, manufactures and supplies RF Power Amplifiers for communication, defense, testing and research purposes. Since 2001 we have been providing Solid State Broadband Amplifiers using GaN devices and Linear Amplifiers employing various linearization techniques. Over the past decade, we have also developed a range of amplifier systems to serve the EMC testing, RF performance verification, and heavy-ion accelerator markets.

Based in South Korea, our ISO9001 and ISO4001-certified plant continuously invests in R&D to supply innovative and advanced products. We have a diverse product range of over 650 standard amplifier models, along with vast customization capabilities up to 8 GHz. Our team of skilled engineers have in-depth experience with producing highly efficient and highly linear designs.

We have a long history of working with renowned global companies as well as participating in research programs by the South Korean government. Some of our partners include:



# Broadband Amplifiers

LPR's Broadband Amplifiers provide high power density and high efficiency over multiple octaves, using GaN, GaAs and LDMOS technology. They cover frequencies of 20 to 11,000 MHz, with power ranging from 5 to 230 W. These solid-state modules are ideal for both wideband and band-specific applications in communications, defense, satellite, radar and testing.

## Features

- Reverse Voltage Protection
- Current Monitoring
- Over Temperature Shutdown
- Fast Shutdown Speed
- High Breakdown Voltage
- Stable output power with VSWR protection
- Forward and reverse power monitoring (optional)
- Voltage variable attenuator (optional)

## Applications

- AM/FM/CW Boosting
- Electronic Warfare
- Passive Intermodulation Testing
- Satellite Communications



# Broadband Amplifiers

Model Number	Frequency Min (MHz)	Frequency Max (MHz)	Power (W)	Voltage (V)	Size (mm)
MU210BP5	20	1000	5	28	132 x 76.2 x 25.4
M2040BP15	2000	4000	15	13	279.4 x 127 x 25.4
M2560BP10	2500	6000	10	28	152.4 x 76.2 x 25.4
M0738BP15	700	3800	15	28	152.4 x 76.2 x 25.4
MU210BP25	20	1000	25	28	162.5 x 86.4 x 28
M0527BP25	500	2700	25	28	152.4 x 76.2 x 25.4
M6080BP30	6000	8000	30	28	150 x 100 x 25.4
M2060BP35	2000	6000	35	28	175.3 x 91.4 x 28
M3060BP35	3000	6000	35	28	154 x 90.2 x 30.5
M0325BP50	500	2500	50	28	188 x 91.4 x 28
M0527BP50	500	2700	50	28	188 x 91.4 x 28
M0825BP50	800	2500	50	28	141.5 x 80.3 x 25.4
M0830BP50	800	3000	50	28	162.5 x 86.4 x 28
M1030BP50	1000	3000	50	28	162.5 x 86.4 x 28
MU210BP80	20	1000	80	28	162.5 x 86.4 x 28
M0738BP80	700	3800	80	28	241.3 x 124.5 x 25.4
MU205BP100	20	520	100	28	162.5 x 86.4 x 28
M1030BP100	1000	3000	100	28	173 x 112.5 x 28.9
M0220BP100	200	2000	100	28	213.3 x 91.4 x 25.46
M0525BP100	500	2500	100	28	188 x 91.4 x 25.46
M0527BP100	500	2700	100	30	208.3 x 91.4 x 24.9
M1020BP150	1000	2000	150	28	188 x 104.1 x 25.46
M0930BP160	960	3000	160	28	304.8 x 254 x 28
M0520BP200	500	2000	200	28	254 x 152.4 x 28
M1020BP230	1000	2000	230	28	208.3 x 127 x 25.4
M0216BP50	200	1600	50	32	170.2 x 82.5 x 28

Please contact us for additional models and customized solutions.

# Linear Amplifiers

Our Linear Amplifiers provide high linearity for modulated signals and multi-carrier signals, for frequencies from 400 MHz to 3.8 GHz. Various linearization techniques are implemented including analog predistortion, feedforward, and IM cancellation. They are ideal for a range of wireless communications applications.

## Features

- High input/output isolation
- Forward and reverse power monitoring (optional)
- Current monitoring
- Temperature monitoring
- Over temperature shutdown and automatic recovery (optional)

## Applications

- LTE/WCDMA/GSM Signals
- RF Repeaters
- Distributed Antenna Systems
- Line Amplifiers
- Digital TV Amplifiers



# Linear Amplifiers

Model Number	Frequency Min (MHz)	Frequency Max (MHz)	Power (W)	Voltage (V)	Size (mm)	Details
M03M9095LP20	390	395	20		205 x 170 x 28	APD
M07M2858LP10	728	758	10	28	182 x 110 x 32	APD
M07M5875LP10	758	775	10	28	188 x 110 x 26.5	Feedforward
M07MC9121LP16	791	821	16	28	111.8 x 170.2 x 28	APD
M07M2857LP30	728	757	30	28	195 x 150 x 30	APD
M08M0625LP10	806	825	10	28	178 x 110 x 26.5	Feedforward
M08M5170LP10	851	870	10	28	188 x 110 x 26.5	Feedforward
M08M6194LP10	861	894	10	28	223 x 110 x 30	Feedforward
M08M6994LP16	869	894	16	28	111.8 x 170.2 x 28	APD
M08M6994LP60	869	894	60	28	210.8 x 175.3 x 28	APD
M09M3560LP25	935	960	25	28	127 x 95.2 x 25.4	Back-off
M09M2560LP6	925	960	6	27.5	178 x 110 x 26.5	Feedforward
M09M3560LP30	935	960	30	28	180.3 x 152.4 x 28	Back-off
M18M0580LP16	1805	1880	16	28	111.8 x 170.2 x 28	APD
M19M3095LP28	1930	1995	28.3	32	203.2 x 177.8 x 48.3	Feedforward
M19M3095LP60	1930	1995	60	28	210.8 x 175.3 x 28	APD
M21M1070LP16	2110	2170	16	28	140 x 100 x 32	APD
M21M1080LP30	2110	2180	30	28	208 x 110 x 30	APD
M21M1070LP30	2110	2170	30	32	203.2 x 177.8 x 48.3	Feedforward
M21M1070LP60	2110	2170	60	29	150.1 x 175 x 28	APD
M23M4070LP30	2340	2370	30	27.5	208 x 110 x 30	
M26M2090LP30	2620	2690	30	28	111.8 x 170.2 x 28	APD
M26M2090LP40	2620	2690	40	28	127 x 172.7 x 28	APD
M07M0388LP250	703	788	250	28	160 x 175 x 28	APD
M07MC9162LP250	791	862	250	28	160 x 175 x 28	APD
M08M2494LP250	824	894	250	28	160 x 175 x 28	APD
M08MC8060LP250	880	960	250	28	160 x 175 x 28	APD
M17M1085LP250	1710	1785	250	28	160 x 175 x 28	APD
M18M0580LP250	1805	1880	250	28	160 x 175 x 28	APD
M19M2080LP250	1920	1980	250	28	160 x 175 x 28	APD
M21M1070LP250	2110	2170	250	28	160 x 175 x 28	APD
M25MC0070LP250	2500	2570	250	28	160 x 175 x 28	APD
M26M2090LP250	2620	2690	250	28	160 x 175 x 28	APD
M07M0348LP250	703	748	250	28	160 x 175 x 28	APD
M07MC5803LP250	758	803	250	28	160 x 175 x 28	APD

Please contact us for additional models and customized solutions.



# RF Amplifier Systems for EMC Testing

LPR's ES Series incorporates our advanced broadband amplifier technology into EMC testing equipment for laboratories, researchers, and electronic device manufacturers. It provides superior performance with high gain, wide dynamic range, and excellent long-term reliability. The shelf-type models come in a 5U, 19-inch rack case, supplying power up to 500 watts. The rack-mounted models are single-input, multi-output systems, enabling alteration of the maximum frequency. An LCD touchscreen is provided on request for easy operation.

## Standard Features

- 50 ohm input/output impedance
- Built in control, monitoring and protection functions
- Automatic gain control
- Remote control: IEEE-488, RS-485, Ethernet
- High reliability and ruggedness



**Shelf type**

## Optional Features

- LCD Touch Panel
- Remote control power on/off
- Abnormality detection circuit
- Forward/reverse monitoring
- VSWR alarm



**Rack type**



# RF Amplifier Systems for EMC Testing

Model Number	Frequency Min (MHz)	Frequency Max (MHz)	Power (W)	Voltage (V)	Size (mm)
ESU205BP100	20	500	100		
ESU205BP150	20	500	150		
ESU205BP250	20	500	250		
ESU205BP500	20	500	500	100 or 240 V AC	310.5 x 441 x 602.5
ESU205BP1000	20	500	1000		
ESU210BP100	20	1000	100		
ESU210BP150	20	1000	150		
ESU210BP250	20	1000	250		
ESU210BP500	20	1000	500	100 or 240 V AC	310.5 x 441 x 602.5
ESU210BP1000	20	1000	1000		
ESU810BP100	80	1000	100		
ESU810BP150	80	1000	150		
ESU810BP250	80	1000	250		
ESU810BP500	80	1000	500	100 or 240 V AC	310.5 x 441 x 602.5
ESU810BP1000	80	1000	1000		
ES0830BP750	800	3000	750		
ES1030BP100	1000	3000	100	100 or 240 V AC	133.5 x 441 x 602.5
ES1030BP150	1000	3000	150		
ES1030BP250	1000	3000	250	100 or 240 V AC	221.5 x 441 x 602.5
ES1030BP500	1000	3000	500		
ES1030BP750	1000	3000	750		
ES1060BP100	1000	6000	100		
ES3060BP35	3000	6000	35	100 or 240 V AC	133.5 x 441 x 600
ES3060BP60	3000	6000	60	100 or 240 V AC	133.5 x 441 x 600
ES3060BP100	3000	6000	100	100 or 240 V AC	221.5 x 441 x 600
ES3060BP200	3000	6000	200		
ES3060BP350	3000	6000	350		

Please contact us for additional models and customized solutions.

# RF Amplifier Systems for Performance Testing

LPR's RF amplifier systems for performance verification allow users to conduct high power tests. Our diverse range of products can provide output power from 10 watts to 500 watts, and frequencies between 20 MHz and 11 GHz. A variety of tests can be carried out, such as evaluations of RF passive components and burn-in tests.

## Features

- 50 ohm input/output impedance
- Built in control, monitoring and protection functions
- Automatic gain control
- Remote control: IEEE-488, RS-485, Ethernet
- High reliability and ruggedness

## Applications

- Automated Production Test
- R&D Bench Test
- RF component Test
- RF Burn-In
- Antenna Power Aging
- Broadband booster amplifier



# RF Amplifier Systems for Performance Testing

Model Number	Frequency Min (MHz)	Frequency Max (MHz)	Power (W)	Type	Application
<b>SU205BP80</b>	20	520	80	Shelf/Rack	Boosting
<b>SU210BP50</b>	20	1000	50	Shelf/Rack	Boosting
<b>S0810GP500</b>	800	1000	500	Rack	Boosting
<b>S0527BP100</b>	500	2700	100	Shelf/Rack	Boosting
<b>S0708BP200</b>	700	800	200	Rack	Boosting
<b>TS0727BP250</b>	700	2700	250	Rack	Source/Boosting
<b>S1030BP60</b>	1000	3000	60	Rack	Boosting
<b>S0360BDP25</b>	300	6000	25/10	Rack	2 Channel Boosting
<b>S1822BDP500</b>	1800	2200	500	Rack	Boosting
<b>S2326GP100</b>	2300	2600	100	Shelf/Rack	Boosting
<b>S2326GP400</b>	2300	2600	400	Shelf/Rack	Boosting
<b>TS2552BBP0.1</b>	2500	5200	0.1	Rack	Bi-Directional Boosting
<b>S2560BP100</b>	2500	6000	100	Rack	Boosting
<b>S2527GP500</b>	2500	2700	500	Rack	Boosting
<b>S2735BP200</b>	2700	3500	200	Rack	Boosting
<b>S3436BP200</b>	3400	3600	200	Rack	Boosting
<b>S3436BP500</b>	3400	3600	500	Rack	Boosting
<b>S5060BP50</b>	5000	6000	50	Shelf/Rack	Boosting
<b>S9011BP10</b>	9000	11000	10	Shelf/Rack	Boosting

Please contact us for additional models and customized solutions.

# RF Amplifier Systems for Particle Accelerators

LPR's Solid State RF Amplifier Systems are used in heavy ion accelerators for research and testing applications. RF power is supplied to the superconducting accelerator tube to accelerate protons and heavy ions to their final velocity.

As a key participant in South Korea's RAON project since 2012, we have in-depth knowledge of, and experience with, accelerator technology. Using this expertise, we developed an 80 kW RF amplifier system with 60% efficiency, which includes combiners for high power and a water-cooling system for effective heat removal. The second and third harmonic values for this model are -40 dBc and -30 dBc respectively.



We have since expanded our product range to include various narrowband amplifiers with power levels of 4, 5, 6, 7 and 20 kW as well. We continuously invest in research and development to offer advanced solutions for medical, industrial and scientific applications.

Model Number	Frequency Min (MHz)	Frequency Max (MHz)	Power (W)	Harmonics (dBc)	Efficiency (%)
<b>AS81R25SP5000</b>	80.25	82.25	5000	-30	60
<b>AS162R5SP7000</b>	161.5	163.5	7000	-40	60
<b>AS0325SP20000</b>	324	326	20000	-40	60
<b>AS81R25SP80000</b>	80.25	82.25	80000	-45	50
<b>AS81R25SP4000</b>	80.25	82.25	4000	-40	60
<b>AS162R5SP6000</b>	161.5	163.5	6000	-40	60

LPR GLOBAL



**LPR Global, Inc.**

344 Bloor Street W, Suite #607 Toronto, ON M5S 3A7 Canada

[www.lprglobal.com](http://www.lprglobal.com) | [www.uskoreahotlink.com](http://www.uskoreahotlink.com)

Tel: +1 416-423-5590

E-Mail: [info@lprglobal.com](mailto:info@lprglobal.com)