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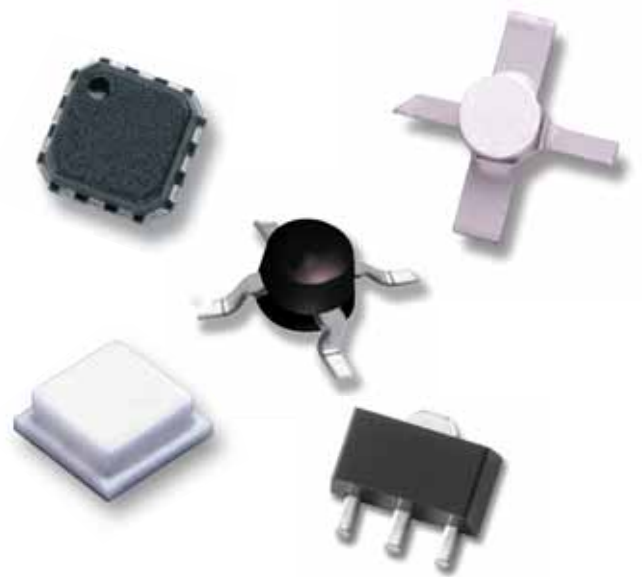
Product Selection Guide

General Purpose RF Amplifiers

RF Micro Devices offers an array of general purpose amplifiers designed for applications ranging from base station infrastructure to high frequency microwave transceivers. Our general purpose gain blocks feature excellent gain flatness, power gain, OIP3 and are offered in a variety of package types for design convenience — plastic QFN, SOT-89, plastic micro-X, ceramic micro-X and ceramic MPGA. By providing low-cost, high-performance solutions and a variety of process technologies and package options, RFMD's general purpose amplifiers offer the utmost in design flexibility for today's complex wireless systems.

Competitive Advantages:

- The RF337X gain block series is designed to meet industry-specific reliability and thermal requirements in order to exceed life tests. These devices are packaged in a highly reliable, low-cost, plastic SOT-89 package.



The RF Designer's Tool Kits

RF204X-K1 GaAs HBT Ceramic Micro-X Gain Blocks

- (5) Each - RF2044, RF2045, RF2046, RF2047, RF2048
- (1) RF204X Evaluation Board
- Specification Summary Index



RF337X-K1 GaAs HBT SOT-89 Gain Blocks

- (5) Each - RF3374, RF3375, RF3376, RF3377, RF3378
- (1) RF337X-PCBA Evaluation Board
- Specification Summary Index



RF339X-K1 GaAs HBT 3x3mm Leadless Plastic Gain Blocks

- (5) Each - RF3394, RF3395, RF3396, RF3397, RF3398
- (1) RF339X-PCBA Evaluation Board
- Specification Summary Index



General Purpose RF Amplifiers

Part	Description	Process Tech	Frequency (MHz)	Gain (dB)	NF (dB)	P1dB (dBm)	OIP3 (dBm)	Vcc (V)	Icc (mA)	Package
RF2044	General Purpose Amplifier Gain Block	GaAs HBT	DC-6000	20.0	4.1	18.5	33.5	4.5	65	Ceramic Micro-X
RF2045	General Purpose Amplifier Gain Block	GaAs HBT	DC-6000	13.7	5.0	17.8	33.0	5.0	65	Ceramic Micro-X
RF2046	General Purpose Amplifier Gain Block	GaAs HBT	DC-3000	20.8	3.8	11.2	22.5	3.5	35	Ceramic Micro-X
RF2047	General Purpose Amplifier Gain Block	GaAs HBT	DC-6000	15.3	4.2	11.9	26.0	3.6	40	Ceramic Micro-X
RF2048	General Purpose Amplifier Gain Block	GaAs HBT	DC-8000	11.8	5.3	11.7	26.0	3.6	40	Ceramic Micro-X
RF2333	General Purpose Amplifier	GaAs HBT	DC-6000	10.0	8.2	18.5	34.0	5.5	70	SOT23-5
RF2334	General Purpose Amplifier	GaAs HBT	DC-6000	16.0	4.8	18.5	33.0	4.8	65	SOT-23-5
RF2335	General Purpose Amplifier	GaAs HBT	DC-6000	12.5	5.8	17.3	33.0	5.0	65	SOT-23-5
RF2336	General Purpose Amplifier	GaAs HBT	DC-3000	16.5	3.8	11.5	22.5	3.5	34	SOT-23-5
RF2337	General Purpose Amplifier	GaAs HBT	DC-6000	14.4	4.5	11.8	25.0	3.5	40	SOT-23-5
RF2338	General Purpose Amplifier	GaAs HBT	DC-6000	11.2	5.3	10.5	23.5	3.7	40	SOT-23-5
RF3374	General Purpose Amplifier	GaAs HBT	DC-6000	20.0	3.5	18.0	32.0	6.0	65	SOT-89
RF3375	General Purpose Amplifier	GaAs HBT	DC-6000	13.2	4.6	16.0	28.0	6.6	65	SOT-89
RF3376	General Purpose Amplifier	GaAs HBT	DC-6000	22.0	2.0	11.0	24.4	4.2	35	SOT-89
RF3377	General Purpose Amplifier	GaAs HBT	DC-6000	15.5	3.0	13.0	25.5	4.5	40	SOT-89
RF3378	General Purpose Amplifier	GaAs HBT	DC-6000	12.0	3.7	13.0	26.0	4.8	40	SOT-89
RF3394	General Purpose Amplifier Gain Block	GaAs HBT	DC-6000	18.7	3.5	17.5	32.0	4.5	65	QFN-12
RF3395	General Purpose Amplifier Gain Block	GaAs HBT	DC-6000	13.2	4.5	16.0	28.7	5.0	65	QFN-12
RF3396	General Purpose Amplifier Gain Block	GaAs HBT	DC-6000	19.8	2.0	11.5	24.0	3.4	35	QFN-12
RF3397	General Purpose Amplifier Gain Block	GaAs HBT	DC-6000	15.5	2.8	12.5	25.5	3.7	40	QFN-12
RF3398	General-Purpose Amplifier Gain Block	GaAs HBT	DC-6000	11.5	5.3	12.9	27.0	4.0	40	QFN-12

InGaP HBT Extended Frequency Gain Blocks

Part	Description	Process Tech	Frequency (MHz)	Gain (dB)	NF (dB)	P1dB (dBm)	OIP3 (dBm)	Vcc (V)	Icc (mA)	Package
NBB-300	Broadband General Purpose Amplifier	InGaP HBT	DC-12000	13.0	5.1	13.0	27.1	3.9	50	Micro-X and Die*
NBB-302	Broadband General Purpose Amplifier	InGaP HBT	DC-12000	13.0	5.5	13.7	23.5	3.9	50	MPGA
NBB-310	Broadband General Purpose Amplifier	InGaP HBT	DC-12000	12.5	1.9	13.8	24.0	5.0	50	Micro-X and Die*
NBB-312	Broadband General Purpose Amplifier	InGaP HBT	DC-12000	12.9	4.9	14.9	24.0	5.0	50	MPGA
NBB-400	Broadband General Purpose Amplifier	InGaP HBT	DC-8000	16.5	4.3	13.0	28.1	3.9	47	Micro-X and Die*
NBB-402	Broadband General Purpose Amplifier	InGaP HBT	DC-8000	15.8	4.3	15.8	26.0	3.9	47	MPGA
NBB-500	Broadband General Purpose Amplifier	InGaP HBT	DC-4000	18.5	3.2	12.3	26.5	3.9	35	Micro-X
NLB-300	Broadband General Purpose Amplifier	InGaP HBT	DC-10000	10.7	4.9	11.1	27.0	3.8	50	Plastic Micro-X
NLB-310	Broadband General Purpose Amplifier	InGaP HBT	DC-10000	10.7	5.0	12.6	27.9	4.6	50	Plastic Micro-X
NLB-400	Broadband General Purpose Amplifier	InGaP HBT	DC-6000	13.0	4.1	12.0	27.3	3.9	47	Plastic Micro-X

*NBB Series Die: NBB-XXX-D

The RF Designer's Tool Kit

NBB-X-K1 Extended Frequency General Purpose InGaP Gain Block Amplifiers

- (5) Each - NBB-300, NBB-310, NBB-400, NLB-300, NLB-310, NLB-400
- (2) - Broadband Evaluation Boards and High Frequency SMA Connectors
- Specification Summary Index
- Broadband Bias Application Support

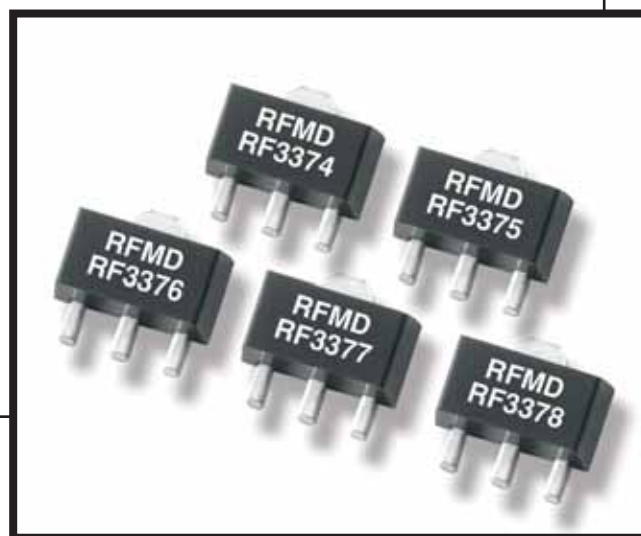


Competitive Advantages:

- Excellent thermal resistance (θ_{JC}) specification
- Extended 3 dB bandwidth for higher frequency performance
- Available in die form for hybrid circuit design

GaAs HBT Broadband High-Linearity Amplifier Series Now Available

- Broadband general purpose GaAs gain block amplifier series — RF3374, RF3375, RF3376, RF3377 and RF3378
- Low-cost, industry standard SOT-89 packaging now available
- Broadband DC-6 GHz operation
- Higher gain and Pout capacities with up to +32 dBm OIP3
- 50 ohm input and output impedance
- Ideally suited for cellular base stations, WLAN, SATCOM, Point-to-Point, LO buffer amplifiers, driver stages, IF and RF amplifiers, and final PAs for low-power applications
- Evaluation Board Kit RF337XPCK-410 and samples available from RFMD Webstore.



High Linearity Amplifiers

RF Micro Devices offers several high linearity amplifiers specifically designed for wireless infrastructure systems. These devices offer excellent output IP3 and low-junction temperature for long operating life.



High Linearity Amplifiers

Part	Description	Process Tech	Frequency (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Vcc (V)	Icc (mA)	Package
RF2103	Medium Power Linear Amplifier	GaAs HBT	450-1000	31.0	—	26.5	40.0	7.5	45	SOIC-14
RF2312	Linear General Purpose Amplifier	GaAs HBT	DC-2500	15.0	3.8	20.0	33.0	5.5	100	SOIC-8
RF2317	Linear General Purpose Amplifier	GaAs HBT	DC-3000	14.3	4.9	22.0	37.0	8.5	180	Std Batwing
RF2318	Linear General Purpose Amplifier	GaAs HBT	DC-5000	8.0	6.0	18.0	30.0	7.0	63	SOIC-8
RF2320	Linear General Purpose Amplifier	GaAs MESFET	5-2500	16.0	1.6	22.0	33.0	6.0	78	Std Batwing
RF2360	Linear General Purpose Amplifier	GaAs HBT	5-1500	20.0	1.5	23.7	36.4	7.0	120	Std Batwing
RF3220	High Linearity Driver Amplifier	GaAs HBT	500-2000	14.2	2.9	25.5	40.0	5.0	145	QFN-12
RF3223	High Linearity Driver Amplifier	GaAs HBT	500-2000	14.0	3.4	24.5	45.0	5.0	150	QFN-12
RF3305	High Linearity Driver Amplifier	GaAs HBT	DC-3000	12.5	3.0	23.0	40.0	5.0	150	QFN-12
RF3315	Linear General Purpose Amplifier	GaAs HBT	300-3000	12.5	2.5	23.0	40.0	5.0	150	SOT-89

Competitive Advantages:

- The RF3315 is a high linearity power amplifier that is designed to meet industry specific reliability and thermal requirements in order to exceed life tests of wireless infrastructure applications. The device is packaged in a industry standard SOT-89 package.



Low Noise Amplifiers

Part	Description Tech	Process (MHz)	Frequency (dB)	Gain (dB)	NF (dBm)	OP1dB (dBm)	OIP3 (V)	Vcc (mA)	Icc	Package
RF2304	General Purpose Amplifier, LNA	GaAs MESFET	300-2500	8	1.8	6	6	6.0	5	SOIC-8
RF2314	General Purpose Amplifier, LNA	GaAs HBT	150-2500	14	1.4	-1	18	3.0	5	SOT-5 lead
RF2370	LNA with Bypass mode	GaAs HBT	400-4000	13	1.1	—	8	5.0	4	SOT-6 lead
RF2373	LNA with AGC operation	GaAs HBT	400-3000	19	1.1	-5	5	3.3	10	SOT-5 lead
RF2411	LNA Amp Mixer	GaAs HBT	500-1900	25	2.5	—	-8	5.0	20	SOIC-14
RF2418	Low Current LNA Mixer	GaAs MESFET	400-1100	14	1.8	—	4	5.0	14	SOIC-14
RF2451	General Purpose Amplifier, LNA	GaAs HBT	700-2000	12	1.8	—	0	3.0	3	MSOP-8
RF3334	LNA/Mixer	Si-BiCMOS	0-700	RF30/ IF40	5.0	—	78	5.0	24	QFN 16 pin

Pre-Driver & Driver Amplifiers

RFMD offers an array of medium power pre-driver amplifiers and higher power driver amplifiers optimized for wireless infrastructure applications. Fabricated utilizing a mature GaAs HBT process, these power amplifiers provide users high linearity, high efficiency, and a variety of gain choices for maximum engineering flexibility. Incorporated into thermally enhanced packages, these robust pre-driver and driver amplifiers are a perfect fit for GSM, DCS, PCS, and UMTS base station applications where high power is required, and high reliability is essential.

Competitive Advantages:

- High output powers ranging from 0.5-6.0 watts (P1dB)
- High linearity
- High power added efficiency
- Thermally enhanced packaging
- Broadband platform design approach



Low Power Pre-Drivers										
Part	Description	Process Tech	Frequency (MHz)	Gain (dB)	NF (dB)	P1dB (dBm)	OIP3 (dBm)	Vcc (V)	Icc (mA)	Package
RF2312	Linear General Purpose Amplifier	GaAs HBT	DC-2500	15.1	3.8	18.5	33	6.0	100.0	SOIC-8
RF2314	General Purpose Low Noise Amplifier	GaAs HBT	150-2500	14.2	1.5	8.0	18	5.0	12.5	SOTC23-5
RF2442	High Linearity Low Noise Amplifier	GaAs HBT	500-2500	12.0	1.5	13.0	21	3.0	12.0	MSOP-8
RF2637	Receiver AGC Amplifier	SiGe	12-385	48.0	5.0	—	0	2.7	13.0	MSOP-8

Pre-Driver Amplifiers										
Part	Description	Process Tech	Frequency (MHz)	Gain (dB)	OIP3 (dBm)	P1dB (dBm)	Output Power (dBm)	Vcc (V)	Icc (mA)	Package
RF2125P	Linear Power Amplifier	GaAs HBT	1500-2200	14	40	31	29.5	2.7-7.5	360	SOIC-8
RF2126	Linear Power Amplifier	GaAs HBT	1800-2500	12	40	31	29.0	3.0-6.5	350	SOIC-8
RF2132	Linear Power Amplifier	GaAs HBT	800-950	29	—	29	—	4.8	40	Batwing
RF5187	Low Power Linear Amplifier	GaAs HBT	800-2500	14	43	29	13.0	5.0	240	SOIC-8

Driver Amplifiers											
Part	Bias Design	Process Tech	Frequency (MHz)	Gain (dB)	OIP3 (dBm)	p1dB (dBm)	PAE @ P1dB (%)	Vcc (V)	Icc (mA)	Package	Evaluation Board
†RF3800	6W Pre-Driver	GaAs HBT	450-470	14.7	51 @ 31 dBm	38.0	45.0	8.0	400	AIN 8-Lead LCC	RF3800PCBA-416
†RF3802	5W, Pre-Driver	GaAs HBT	869-894	18.0	48 @ 29 dBm	36.5	36.5	8.0	270	AIN 8-Lead LCC	RF3802PCBA-410
†RF3802	5W, Pre-Driver	GaAs HBT	921-960	18.0	46 @ 29 dBm	36.5	35.5	8.0	270	AIN 8-Lead LCC	RF3802PCBA-411
†RF3805	5W, Pre-Driver for Satcom	GaAs HBT	1625-1665	20.0	50 @ 31 dBm	37.0	40.0	8.0	670	AIN 8-Lead LCC	RF3805PCBA-411
†RF3805	5W, Pre-Driver	GaAs HBT	1710-1785	20.0	50 @ 31 dBm	37.0	40.0	8.0	670	AIN 8-Lead LCC	RF3805PCBA-412
†RF3805	5W, Pre-Driver for DCS	GaAs HBT	1800-1880	20.0	50 @ 31 dBm	37.0	40.0	8.0	670	AIN 8-Lead LCC	RF3805PCBA-413
†RF3805	5W, Pre-Driver for PCS	GaAs HBT	1930-1990	20.0	49 @ 31 dBm	37.0	40.0	8.0	670	AIN 8-Lead LCC	RF3805PCBA-414
†RF3806	4W, Pre-Driver for UMTS	GaAs HBT	2110-2179	18.0	50 @ 30 dBm	36.5	36.0	8.0	630	AIN 8-Lead LCC	RF3806PCBA-415
†RF3807	0.5W Pre-Driver	GaAs HBT	450-2400	15.0	42	28.5	40.0	8.0	110	SOIC-8	See Datasheet
†RF3808	1W Pre-Driver	GaAs HBT	450-2400	11.5	43	31.5	42.0	8.0	175	SOIC-8	See Datasheet
†RF3809	2W Pre-Driver	GaAs HBT	450-2400	11.5	43	33.5	43.0	8.0	275	SOIC-8	See Datasheet
†RF5110G	3V DCS Power Amp	GaAs HBT	800-950	32.0	—	34.5	57.0	3.5	200	QFN-16 Pin	

† Preliminary

Quadrature Modulators/ Demodulators

RF Micro Devices' product offering includes direct quadrature modulators, which convert voice or data signals into a form that can be transmitted, and demodulators, which recover the original signal after it has been modulated to a high-frequency carrier. Our direct modulators exceed industry standards in carrier and sideband suppression and low noise floor.



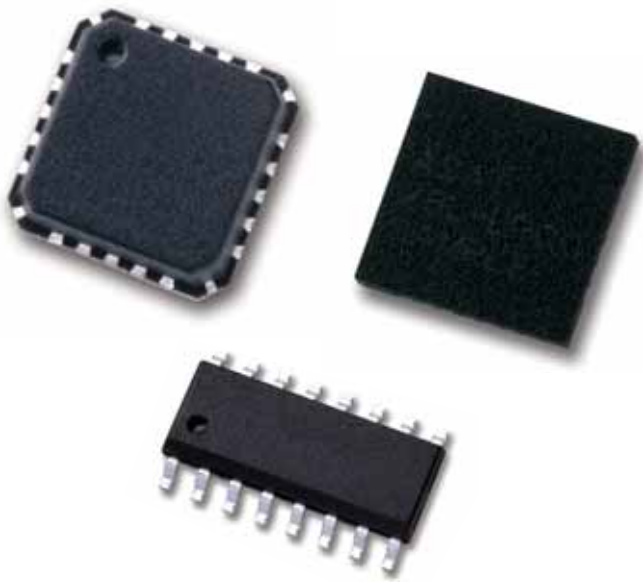
Competitive Advantages:

- Offered in leadless plastic packages, the RF2483, RF2850 and RF2484 are high-performing parts with very low noise floor and excellent carrier and sideband suppression.

Quadrature Modulators/Demodulators

Part	Description	Process Tech	Frequency (MHz)	Broadband Noise Floor dBm/Hz	Carrier Suppression	Sideband Suppression	Output Power (dBm)	OIP3 (dBm)	Vcc (V)	Icc (mA)	Package
RF2422	Direct Quadrature Modulator	HBT	800-2500	-152	30 dB	30 dB	0	—	5.0	45	SOIC-16
RF2480	5V Quadrature Modulator	HBT	800-2500	-153	35 dBc	35 dBc	-17	16	5.0	50	SOIC-16
RF2483	Dual Band Quadrature Modulator with Gain Control	SiGe	700-2200	-156/-155	40 dBc	43 dBc	0.4	20	2.7-3.3	85	QFN-20
RF2484	2GHz Quadrature Modulator	HBT	800-2500	-152.5	35 dBc	35 dBc	-13	19	5.0	66	QFN-16
RF2713	Quadrature Modulator/Demodulator	Si	0.1-250	—	25 dBc	30 dBc	-23	—	3.0-6.0	10	SOIC-14
†RF2850	Direct Quadrature Modulator	HBT	1700-2500	-158	40 dBc	40 dBc	-6	20	5.0	60	QFN-16

† Preliminary



Broadband General Purpose Devices

RF Micro Devices manufactures a variety of RFICs designed specifically for infrastructure applications, such as cellular base stations, SATCom, WLAN, CATV and digital radio. The products listed below represent an array of broadband general purpose devices that utilize mature processing technologies and are well suited for high-volume commercial infrastructure applications. The devices are in full production now.



Broadband General Purpose Devices

Wireless Infrastructure Includes: Cellular Base Station, SATCom, WLAN, CATV & Digital Radio Applications

Part	Description	Frequency	Typical Application	Product Attributes		
RF2301	High Isolation Buffer Amp.	100 - 1900	Local Oscillator Buffer Amps.	Single 2.7V to 4.0V Supply	+0dBm Output Power	20dB Small Signal Gain
RF2304	General Purpose Low-Noise Amp.	300 - 2500	Receive or Transmit LNAs	Single 2.7V - 6.0V Supply	6dBm Output Power	8dB Small Signal Gain @ 900 MHz
RF2312	Linear General Purpose Amp.	DC - 2500	CATV Distribution Amps.	3.8dB Noise Figure	Internally Matched Input and Output	15dB Small Signal Gain
RF2314	General Purpose Low-Noise Amp.	150 - 2500	Broadband Gain Blocks	14dB Gain @ 900MHz	2.7V - 6.0V Single Supply	+18dBm Output IP3 @5V
RF2317	Linear CATV Amp.	DC - 3000	CATV Distribution Amps.	4.9dB Noise Figure	Internally Matched Input and Output	15dB Small Signal Gain
RF2320	Linear General Purpose Amp.	5 - 2500	CATV Distribution Amps.	1.6dB Noise Figure	Internally Matched Input and Output	16dB Small Signal Gain
RF2333	General Purpose Amp.	DC - 6000	Broadband, Low-Noise Gain Blocks	Internally matched Input and Output	10dB Small Signal Gain	+34dBm Output IP3
RF2334	General Purpose Amp.	DC - 6000	Broadband, Low-Noise Gain Blocks	Internally matched Input and Output	16dB Small Signal Gain	5dB Noise Figure
RF2335	General Purpose Amp.	DC - 6000	Broadband, Low-Noise Gain Blocks	Internally matched Input and Output	12dB Small Signal Gain	+33dBm Output IP3
RF2336	General Purpose Amp.	DC - 6000	Broadband, Low-Noise Gain Blocks	Internally matched Input and Output	19dB Small Signal Gain at 1GHz	3.8dB Noise Figure
RF2337	General Purpose Amp.	DC - 6000	Broadband, Low-Noise Gain Blocks	Internally matched Input and Output	15dB Small Signal Gain	+25dBm Output IP3
RF2338	General Purpose Amp.	DC - 6000	Broadband, Low-Noise Gain Blocks	Internally matched Input and Output	12dB Small Signal Gain	+24dBm Output IP3
RF2360	Linear General Purpose Amp.	5 - 1500	CATV Distribution Amps.	1.2dB Noise Figure	Internally Matched Input and Output	20dB Small Signal Gain
RF2411	Low-Noise Amp.	500 - 1900	UHF Digital and Analog Receivers	Single 3V - 6.5V Power Supply	2.5dB Cascaded Noise	25dB Small Signal Gain
RF2418	Low Current LNA/Mixer	400 - 1100	UHF Digital and Analog Receivers	Single 3V - 6.5V Power Supply	High Dynamic Range	Low Current Drain
RF2436	Transmit/Receive Switch	DC - 2500	Cordless Phones	Single Positive Power Supply	Low Current Consumption	1dB Insertion Loss at 900MHz
RF2451	3V Low Noise Amp.	700 - 2000	GSM Handsets	12dB Gain at 1950MHz	2.7V - 3.6V Single Supply	+5dBm Input IP3 at 3.0mA
RF2637	Receive AGC Amp.	12 - 385	3V Basestation Systems	Supports Basestation Applications	-48dB - +48dB Gain Control Range	Single 3V Power Supply
RF3330	IF Gain Controlled Amp.	DC - 150	CATV Set Top Boxes	Single 5V Positive Power Supply	26dB Gain Range	Compact Package
RF3334	IF Low-Noise Amp./Mixer	0 - 700	Cable Set Top Box	30dB RF Gain Control	40dB IF Gain Control	5dB Max. Noise Figure SSB
RF3322	CATV Reverse Path Programmable Gain Amp.	5-65	Cable Set To Box	Single 5V Supply	Differential Input & Output	-30dB to +28 dB Voltage Gain Range