

PRODUCTS SELECTION GUIDE

2024.Q2 V1.1



Make Independent Control High-level Core Chips Accessible To Everyone .



About Us

Bonray (Xi'an) Integrated Information Electronics Technology Co., Ltd is a leading provider of independent controllable core chips and special communication equipment in China. We focus on the R&D, production, testing and sales of whole set equipment and core chips in communications, radar, avionics and other fields by providing completely independent and controllable innovative technologies and a whole package of product solutions, which can meet the personalized needs of different users and the requirements for quick response to innovation and upgradation.

The company headquarters boasts a R&D site of nearly 10000 square meters, a first-class super-clean workshop, and a complete micro-assembly production line, with table sticking, adhesive, bonding, sealing, assembly, testing and other production capacity. Our main products are Monolithic Microwave Integrated Circuit (MMIC) and Mixed Signal Integrated Circuit manufactured by GaAs, GaN, CMOS and other processes. With frequency coverage up to DC-50GHz, the integrated circuits possess such advantages as wide

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frequency band, low power consumption, high integration, high reliability, short supply cycle, etc. These featured products have been widely used in special communications, Beidou Navigation Satellite System, radar and other market fields. Equipped with complete qualifications in special industry, we have undertaken nearly 100 projects of national, provincial and ministerial-level, and declared and been authorized with nearly 100 intellectual property rights. We have been identified as the National Specialized and New Enterprise, Xi'an Academician Workstation, Xi'an Engineering and Technology Research Center, etc.

Bonray is committed to creating value for customers in the field of special communication systems and core chips and enhancing the core competitiveness of the electronic information industry.

Small Signal Products >>>

Low Noise Amplifier

Part Number	Features	Freq. (GHz)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	NF (dB)	Vs (V)	Is (mA)	Package	Product Lifecycle
BR9555TA	Low noise, High linearity	0.03~1	27.8	23.9	38.6	0.7	5	117	SOT89	Prodction
BR9518TA	Excellent gain flatness, Low power	0.03~1	19.1	21.4	27.6	1.2	5	22	SOT89	Prodction
BR9562FD	High linearity, Universal amplifier	0.03~1	20.7	22.4	37.5	1.2	5	92	QFN16	Prodction
BR9513TA	Short wave, High linearity	0.001~1	17.1	21.6	33.0	1.8	5	68	SOT89	Prodction
BR9533DC	Low noise, Low power	0.03~2	16.1	22.7	19.0	0.8	5	14	DFN6L	Prodction
BR9116TA	Low power, Middle Gain	0.03~3	15.0	17.1	28.9	1.7	5	36	SOT89	Prodction
BR9118TC	Low power, Ultra low noise	0.03~4	16.6	22.3	31.1	0.7	5	43	SOT343	Prodction
BR95321TCJ	Ultra low noise, High linearity	0.03~4	18.0	20.5	33.3	0.67	5	54	SOT343	Prodction
BR9123TA	Low power, Ultra low noise	0.03~4	18.9	22.1	32.4	0.7	5	46	SOT89	Prodction
BR9123TC	High linearity, Ultra low noise	0.03~4	16.6	22.3	31.1	0.7	5	43	SOT343	Prodction
BR9038TA	Low power, Low noise	0.03~4	14.6	21.5	27.1	1.0	5	45	SOT89	Prodction
BR9549TA	High linearity, Low noise	0.03~4	19.4	22.7	36.5	1.2	5	81	SOT89	Prodction
BR9549FD	High linearity, Low noise	0.03~4	19.6	22.4	36.3	1.3	5	81	QFN16	Prodction
BR9112TA	High linearity, Low noise	0.001~4	22.7	23.2	35.9	1.2	5	130	SOT89	Prodction
BR9115TA	High Gain, Low noise	0.001~4	31.7	15.1	25.3	1.2	5	67	SOT89	Prodction
BR9103TA	High linearity, Low power	0.03~4	20.0	20.0	30.0	1.5	5	60	SOT89	Prodction
BR9122TC	Ultra-low power, Low noise	0.03~4	17.5	11.6	21.0	1.4	2.7	20	SOT343	Prodction
BR91221TCJ	Ultra-low power, Low noise	0.03~4	17.9	12.5	23.3	1.4	2.7	19	SOT343	Prodction
BR9105TA	Low power, Low noise	0.03~4	16.6	15.0	27.7	1.4	5	38	SOT89	Prodction
BR9124TA	Excellent gain flatness, High linearity	0.05~4	14.6	19.9	35.1	1.5	5	52	SOT89	Prodction
BR91241TAJ	Excellent gain flatness, High linearity	0.05~4	15.8	21.8	34.1	1.5	5	55	SOT89	Prodction
BR9104TA	High linearity, High IP1	0.03~4	17.3	20.3	35.1	1.7	5	66	SOT89	Prodction
BR9534TA	Broadband, Low power	0.001~4	22.5	14.9	21.9	2.0	3.3	37	SOT89	Prodction
BR9515TA	Broadband, High Gain	0.001~4	26.9	16.4	27.7	1.9	5	82	SOT89	Prodction
BR9554FD	High linearity, Excellent gain flatness	0.03~4	15.4	20.9	36.6	2.2	5	95	QFN16	Prodction
BR9554TA	High linearity, Excellent gain flatness	0.03~4	15.1	20.8	35.9	2.2	5	94	SOT89	Prodction
BR9335DA	Low noise, High linearity, High IP1	1~1.7	13.5	20.9	37.0	0.6	5	60	DFN8	Prodction
BR9537DA	Ultra low noise	0.3~3	19.1	20.9	32.9	0.5	5	63	DFN8	Prodction
BR9511DA	Turn-off function, Ultra low noise	0.6~4.2	20.8	19.1	35.5	0.55	5	67	DFN8	Prodction
BR9625DA	Turn-off function, Ultra low noise	0.7~6	18.0	21.8	35.4	0.5	5	77	DFN8	Prodction
BR8121AF	Low noise, High linearity, High IP1	0.02~1	10.7	19.1	37.2	1.49	5	61	SMO-8C	Prodction
BR8122AFF	Low noise, High linearity, High IP1	0.02~0.7	10.9	24.1	43.6	1.2	5	127	SMO-8C	Prodction
NEW BR8123AFF	Low noise, High linearity, High IP1	0.02~0.6	16.1	23.7	41.7	1.0	5	130	SMO-8C	Samples
NEW BR9845	Ultra broadband, High linearity	0.05~6	17.0	23.3	39.0	2.5	5	145	DFN4	Samples
NEW BR9617DAJ	Broadband, High linearity, Excellent gain flatness	0.02~8	23.2	20.1	36.3	1.1	5	87	DFN8	Samples
NEW BR9614LD	Excellent gain flatness	2~20	16.1±1.5	18.0	28.1	1.7	5	70	Die	Samples
NEW BR9615LD	Excellent gain flatness	0.1~20	17.0±0.5	13.9	24.2	1.2	5	48.5	Die	Samples
NEW BR9616LD	Excellent gain flatness	1~9	22.3±0.3	20.5	33.1	1.2	5	85	Die	Samples
NEW BR9618LD	Excellent gain flatness	6~18	26.9±2	17.7	29.4	1.4	5	71	Die	Samples
NEW BR9619LD	Excellent gain flatness	18~26	21.7±0.4	15.8	20.0	1.8	5	55	Die	Samples
BR9117TA	High IP1, Short wave	0.001~2.5	16.1	22.3	34.5	1.7	5	72	SOT89	Pre-release
BR9339TAJ	Low power, Excellent gain flatness	0.03~4	15.4	19.5	29.5	1.6	5	35	SOT89	Pre-release

Low Phase Noise Amplifier

Part Number	Features	Freq. (GHz)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	Excess Phase Noise (10KHz Freq Offset) (dBc/Hz)	NF (dB)	Vs (V)	Is (mA)	Package	Product Lifecycle
BR9192TA	High linearity, Low phase noise, Excellent gain flatness	0.03~1	20.1	21.1	39.8	-165	3.4	5	89	SOT89	Prodction
BR9191TA	High linearity, Low phase noise	0.05~1	23.1	19.9	33.5	-165	3.3	5	75	SOT89	Prodction
BR9108TA	High linearity, Low phase noise	0.03~4	19.7	21.1	30.9	-165	4.0	5	72	SOT89	Prodction

Gain Block/Amplifier

Part Number	Features	Freq. (GHz)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	NF (dB)	Vs (V)	Is (mA)	Package	Product Lifecycle
BR9035TA	High Gain, Low power	0.03~3	21.0	11.8	23.0	4.3	5	39	SOT89	Prodction
BR9613TC	Broadband, Low power	0.03~4	13.8	15.3	29.6	1.9	5	42	SOT343	Prodction
BR9522TA	High linearity, Excellent gain flatness	0.03~4	21.4	19.9	38.6	2.2	5	81	SOT89	Prodction
BR9034DC	Broadband, Low power	0.03~8	17.5	14.0	26.1	4.2	5	45	DFN6	Prodction
BR9035DC	Broadband, Low power	0.03~8	21.7	11.0	24.4	3.9	5	38	DFN6	Prodction
BR9611TC	Broadband, Ultra-low power	0.03~5	13.8	2.1	16.4	1.7	5	12	SOT343	Samples
BR9612TC	Broadband, Ultra-low power	0.03~5	12.1	6.5	21.2	2.8	5	24	SOT343	Samples
BR9557TA	Excellent gain flatness	0.05~6	16.5	15.3	29.4	3.9	-	-	SOT89	Pre-release

Switch

Part Number	Features	Freq. (GHz)	IL (dB)	Iso. (dB)	IP1dB (dBm)	IIP3 (dBm)	Control Voltage (V)	Switching Time (ns)	Package	Product Lifecycle
BR9572TD	Reflective, Low insertion loss, SPDT	0.001~2.5	0.2	28.6	34.9	>40	0/+3/+5	220	SOT23-6	Prodction
BR9573TDJ	Reflective, Low insertion loss, SPDT	0.001~2.5	0.22	28.6	35.6	>40	0/+3/+5	320	SOT23-6	Prodction
BR9142TD	Reflective, Low insertion loss, SPDT	0.02~3	0.6	27.0	34.0	56.0	0/+3/+5/+8	90	SOT23-6	Prodction
BR9502TD	Reflective, Low insertion loss, SPDT	0.001~4	0.6	28.5	33.1	47.0	0/+3/+5	66	SOT23-6	Prodction
BR9146FD	Reflective, Fast switching, SPDT	0.03~4	0.6	46.0	33.0	45.0	0/+3/+5/+8	25	QFN16	Prodction
BR9503DA	Absorption, High isolation, SPST	0.03~4	0.6	45.4	31.7	49.5	0/+3/+5	100	DFN8	Prodction
BR9147EA	Absorption, High isolation, SPDT	0.01~4	0.9	51.4	34.0	54.3	0/+3/+5	140	eMSOP8	Prodction
BR9147FD	Absorption, High isolation, SPDT	0.01~6	0.6	52.0	34.0	48.0	0/+3/+5	130	QFN16	Prodction
BR9509FD	Absorption, High isolation, SP4T	0.01~4	1.0	50.0	28.3	42.6	0/+3/+5	100	QFN16	Prodction
BR9508TD	3W, Low insertion loss, T/R SPDT	DC~3	0.3	32.3	38.2	-	0/+3/+5/+8	30	SOT23-6	Prodction
BR9506EA	10W, Low insertion loss, T/R SPDT	0.01~4	0.4	30.0	39.6	-	0/+3/+5/+8	55	eMSOP8	Prodction
BR9505EA	Fast switching, Broadband, T/R SPDT	DC~6	0.7	33.5	33.1 @IP0.3dB	-	0/+3/+5	7	eMSOP8	Prodction

Attenuator

Part Number	Features	Freq. (GHz)	IL (dB)	Peak Attenuation (dB)	Step (dB)	Interface	Vs (V)	Is (mA)	Package	Product Lifecycle
BR9158FP	7bit, Short wave, Parallel CNC	0.001~0.5	0.33	31.75	0.25	TTL/CMOS	5	3	QFN24	Prodction
BR9155FP	6bit, High precision, Parallel CNC	0.01~4	1.3	31.5	0.5	TTL/CMOS	5	3	QFN24	Prodction
BR9155S	6bit, High precision, Serial Data Controllers	0.1~4	1.6	31.5	0.5	TTL/CMOS,SPI	5	4	QFN24	Prodction
BR9154FD	5bit, High precision, Parallel CNC	0.001~8	1.2	31.0	1.0	TTL/CMOS	5	2	QFN16	Prodction
BR9153FP	6bit, High precision, Parallel CNC	DC~8	1.3	31.5	0.5	TTL/CMOS	5	2	QFN24	Prodction
BR9153S	6bit, High precision, Serial Data Controllers	DC~8	1.2	31.5	0.5	TTL/CMOS,SPI	5	3	QFN24	Prodction
BR9156FD	6bit, Broadband, Parallel CNC	2~8	2.0	31.5	0.5	TTL/CMOS	5	2	QFN16	Prodction
BR7052-3	Fixed attenuator	DC~40	-	3.0	-	-	-	-	Die	Prodction
BR7052-6	Fixed attenuator	DC~40	-	6.0	-	-	-	-	Die	Prodction

Coaxial Attenuator

Part Number	Features	Freq. (GHz)	Attenuation (dB)	Maximum attenuation accuracy (dB)	Max VSWR (: 1)	Max P-in(average) (W)	Max P-in(peak) (W)	Package	Product Lifecycle
BR8490D	Coaxial fixed attenuator	DC-50	3、6、10、20、30、40	-1.8/+1.5	1.1/1.45	1	100	2.4mm(m,f)	Samples
BR8491B	Coaxial fixed attenuator	DC-18	3、6、10、20、30、40、50、60	±2.0	1.5	2	100	N(m,f)	Samples
BR8493B	Coaxial fixed attenuator	DC-18	3、6、10、20、30	±1.0	1.5	2	100	SMA(m,f)	Samples
BR8493C	Coaxial fixed attenuator	DC-26.5	3、6、10、20、30、40	±1.3	1.25	2	100	3.5mm(m,f)	Samples
BR8498A	Coaxial fixed attenuator	DC-18	30	±1.0	1.3	30	500	N(m,f)	Samples

Equalizer

Part Number	Features	Freq. (GHz)	IL. (dB)	Equalization (dB)	VSWR (: 1)	Package	Product Lifecycle
BR9313DA	0.5~3GHz, 2dB equalization	0.5~3	0.5	2	1.2	DFN8	Prodction
BR9314DA	0.5~3GHz, 3dB equalization	0.5~3	0.5	3	1.1	DFN8	Prodction
BR9315DA	0.5~3GHz, 4dB equalization	0.5~3	0.5	4	1.2	DFN8	Prodction
BR9316DA	0.5~3GHz, 5dB equalization	0.5~3	0.4	5	1.2	DFN8	Prodction
BR9317DA	0.5~3GHz, 6dB equalization	0.5~3	0.5	6	1.2	DFN8	Prodction
BR9311DA	DC~6GHz, 3dB equalization	DC~6	0.4	3	1.2	DFN8	Prodction
BR9312DA	DC~6GHz, 5dB equalization	DC~6	0.8	5	1.1	DFN8	Prodction
BR9318LD	2~18GHz, 3dB equalization	2~18	0.5	3	1.5	Die	Prodction
BR9319LD	2~18GHz, 6dB equalization	2~18	0.5	6	1.5	Die	Prodction

Limiter

Part Number	Features	Freq. (GHz)	IL. (dB)	Response Time (ns)	Flat Leakage (dBm)	Maximum Input Power (dBm)	Package	Product Lifecycle
BR9301DA	Low insertion loss, Low flat Leakage power	0.01~1	0.36@500MHz	2.4	11.0	30.0	DFN8	Prodction
BR93011DAJ	Low insertion loss, Low threshold	0.01~3	0.39@1GHz	2.4	12.0	30.0	DFN8	Prodction
BR9301FV	Low insertion loss, Low threshold	0.01~1	0.3@500MHz	2.6	11.0	30.0	DFN2	Prodction
BR9306FVJ	Low insertion loss, Low threshold	0.03~4	0.07@3GHz	3.3	14.0	35.0	DFN2	Prodction
BR9308LDZ	Broadband, Low insertion loss	0.03~18	0.17@4GHz	11.65	14.0	37.0	Die	Prodction
BR9307FPJ	High Input Power, broadband	0.03~4	0.3@2GHz	3.7	14.0	40.0	QFN24	Prodction
BR9308FPJ	High Input Power, broadband	0.03~6	0.27@3GHz	3.2	14.0	37.0	QFN24	Prodction

RMS Detector

Part Number	Features	Freq. (GHz)	Dynamic Range (dB)	RMS Conversion Gain (V/Vrms)	Vs (V)	Is (mA)	Package	Product Lifecycle
BR9261	RMS response, Multiple operation mode	0.002~2.5	27	8~18	+2.7~+5.5	0.45@3V; 0.6@5V	MSOP8	Prodction
BR9262EAJ	RMS response, Multiple operation mode	0.002~1.8	25~28	4.0~10.5	+2.7~+5.5	3.8@3V; 8@5V	eMSOP8	Prodction

Mixer

Part Number	Features	RF Freq. (GHz)	IF Freq. (GHz)	LO Freq. (GHz)	CL (dB)	IP1dB (dBm)	IIP3 (dBm)	LO Power (dBm)	Package	Product Lifecycle
BR9133EA	Integrate LO Drive, High linearity	1.0~3.5	DC~0.5	1.0~3.5	7.5	18.0	26.0	-2/0/2	eMSOP8	Prodction
BR9134EA	Double balanced passive mixer	1.5~4.5	DC~1.5	1.5~4.5	7.5	12.1	19.0	11/13/15	eMSOP8	Prodction
BR9132EA	Double balanced passive mixer	3~8	DC~3	3~8	7.0	11.3	18.3	11/13/15	eMSOP8	Prodction
BR9138EA	Integrate LO Driver, High linearity	0.6~2	DC~0.5	0.6~2	8.0	17.0	27.0	4	eMSOP8	Samples
BR9137LD	Double balanced passive mixer	6~16	DC~4	6~16	7.5	10.0	-	13/15	Die	Samples
BR9136LD	Double balanced passive mixer	10~20	DC~6	10~20	7.0	10.0	-	13/15	Die	Samples
BR9135FU	Double balanced passive mixer	3~10	DC~4	3~10	8.0	15.0	25.0	17	QFN12	Pre-release
BR9136FU	Double balanced passive mixer	10~20	DC~4	10~20	8.0	/	/	13	QFN12	Pre-release

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GaN Power Transistor										
Part Number	Features	Freq. (GHz)	Psat (W)	Gain (dB)	PAE (%)	Vd (V)	Product Lifecycle	Package	Size(mm)	Pictures
BR9274FL	Pre-matched, Broadband, Power amplifier transistor	0.01~2.8	10	17.0	55.0	28	Prodction	QFN32	5*5*0.8	
BRGM060015PD	Multi-application, Broadband, High PAE	DC~6	15	18.4	47.5	28	Prodction	PD	5.1*4.1*3.05	
BRGM060025PD	Multi-application, Broadband, High PAE	DC~6	25	17.3	62.4	28	Prodction	PD	5.1*4.1*3.05	
BRGM060015PG	Flange package, Broadband, High PAE	DC~6	15	18.4	47.5	28	Prodction	PG	14*4.1*3.05	
BRGM060025PG	Flange package, Broadband, High PAE	DC~6	25	17.3	62.4	28	Prodction	PG	14*4.1*3.05	
BRGM060025PGG	Flange package, Broadband, High PAE	DC~6	25	17.3	62.4	28	Prodction	PG	14*4.1*3.05	
BRGM040050PC	Multi-application, Broadband, High PAE	DC~4	50	19.2	57.1	28	Prodction	PC	20.3*5.8*3.88	
BRGP040050PC	Pre-Matched, Ultra broadband	DC~4	50	15.7	52.7	28	Prodction	PC	20.3*5.8*3.88	
BRGM032080PC	Multi-application, Broadband, High PAE	DC~3.2	80	18	51.4	28	Prodction	PC	20.3*5.8*3.88	
BRGP038080PC	Multi-application, Ultra broadband application	DC~3.8	80	17.8	53.6	28	Prodction	PC	20.3*5.8*3.88	
BRGP035110PC	Multi-application, Ultra broadband application	DC~3.5	110	15.6	49.1	28	Prodction	PC	20.3*5.8*3.88	
BRGP040070PFD	Two-channel, Pre-Matched, Ultra broadband application	DC~4	70	15.1	48.6	28	Prodction	PF	29*5.8*3.88	
BRGP025250PND	Two-channel, Pre-Matched, Ultra broadband application	DC~2.5	250	16.4	61	28	Prodction	PN	34*9.8*4.7	
BRGM060006PGD	Multi-application, Broadband, High PAE	DC~6	6	18	60	28	Prodction	PG	14*4.1*3.05	
BRGM060006FPJ	Multi-application, Broadband, High PAE	DC~6	6	18	60	28	Prodction	QFN24	4*4*0.8	
BRGM032120PF	Two-channel, Broadband, High PAE	DC~3.2	120	18.9	54	28	Samples	PF	29*5.8*3.88	
BRGM030150PF	Two-channel, Broadband, High PAE	DC~3.0	150	18.6	50.8	28	Samples	PF	29*5.8*3.88	
BRGM060015FPJ	Multi-application, Broadband, High PAE	DC~6	15	18.4	60	28	Pre-release	QFN24	4*4*0.8	

Internal Matched PA										
Part Number	Features	Freq. (GHz)	Psat (W)	Power Gain (dB)	PAE (%)	Vd (V)	Product Lifecycle	Package	Size(mm)	Pictures
BRGF016030PHG	Internal matched, High PAE, Compact package	1.6~1.65	30	16	73	28	Prodction	PH	18*8.7*2.34	
BRGF021050PJG	Internal matched, High PAE, Compact package	1.9~2.2	50	14	61.5	28	Prodction	PJ	24*17.4*4.5	
BRGF024050PJG	Internal matched, High PAE, Compact package	2~2.4	50	14.5	62.9	28	Prodction	PJ	24*17.4*4.5	
BRGF035050PJG	Internal matched, High PAE, Compact package	2.7~3.5	50	11	52.9	28	Prodction	PJ	24*17.4*4.5	
BRGF060010PHG	Internal matched, Broadband, High Gain	2~6	10	17	49.1	28	Prodction	PH	18*8.7*2.34	
BRGF060010LD	Internal matched, Broadband, High Gain	2~6	10	18.2	44.5	28	Prodction	Die	3.4*1.8*0.1	/
BRGF060020LD	Internal matched, Broadband, High Gain	2~6	20	17	32.1	28	Prodction	Die	3.4*4.0*0.1	/
BRGF010010FLJ	Internal matched, Ultra broadband, High PAE	0.03~1	10	17	65	28	Samples	QFN32	5*5*0.8	
BRGF027010FLJ	Internal matched, Ultra broadband, High linearity	0.03~2.7	10	13	55	28	Samples	QFN32	5*5*0.8	
BRGF010010PHG	Internal matched, Ultra broadband, High PAE	0.03~1	10	16	60	28	Samples	PH	18*8.7*2.34	
BRGF027010PHG	Internal matched, Ultra broadband, High linearity	0.03~2.7	10	12	50	28	Samples	PH	18*8.7*2.34	
BRGF042100PJG	Internal matched, High PAE, Compact package	3.7~4.2	100	10	45	28	Samples	PJ	24*17.4*4.5	
BRGF024025PHG	Internal matched, High PAE, Compact package	1.9~2.4	25	16	60	28	Pre-release	PH	18*8.7*2.34	
BRGF035025PHG	Internal matched, High PAE, Compact package	2.7~3.5	25	14	60	28	Pre-release	PH	18*8.7*2.34	
BRGF021100PJG	Internal matched, High PAE, Compact package	1.9~2.1	100	11	45	28	Pre-release	PJ	24*17.4*4.5	
BRGF042050PJG	Internal matched, High PAE, Compact package	3.7~4.2	50	12	50	28	Pre-release	PJ	24*17.4*4.5	
BRGF050050PJG	Internal matched, High PAE, Compact package	4.4~5	50	12	50	28	Pre-release	PJ	24*17.4*4.5	
BRGF050100PJG	Internal matched, High PAE, Compact package	4.4~5	100	10	45	28	Pre-release	PJ	24*17.4*4.5	
BRGF060050PJG	Internal matched, High PAE, Compact package	5~6	50	12	50	28	Pre-release	PJ	24*17.4*4.5	
BRGF007008PED	Ultra broadband, High Gain, High PAE	0.2~0.7	8	36	50	28	Pre-release	PE	/	/

Driver Amplifier

Part Number	Features	Freq. (GHz)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	NF (dB)	Vs (V)	Is (mA)	Package	Product Lifecycle
BR9548TA	Short Wave, Low noise, High linearity	0.001~1	22.1	27.7	42	1.35	8	220	SOT89	Prodction
BR9322TA	Internal matched, Low noise, High linearity	0.03~2	21	28	42	1.5	8	230	SOT89	Prodction
BR9536TA	Internal matched, Ultra broadband, High linearity	0.03~2	15.1	26.3	45.3	3.6	9	177	SOT89	Prodction
BR9321TA	Internal matched, Ultra broadband, High linearity	0.03~6	14	27	41	4	9	175	SOT89	Prodction
BR9535DA	Internal matched, Ultra broadband, High linearity	0.03~2.7	17.4	30.2	49.4	3.1	11	339	DFN8L	Prodction
BR9211FE	Broadband, High Gain, +5V supply voltage	1.1~1.9	28.7	30.1	41.6	5.7	5	253	QFN20	Prodction
BR9212FE	Broadband, High Gain, +5V supply voltage	1.4~3.4	25	30.2	38.6	5.4	5	250	QFN20	Prodction
BR9543TA	Multi-application, High linearity, +5V supply voltage	0.4~4	17.4	30.1	44.6	-	5	245	SOT89	Prodction
BR9544FP	Multi-application, High linearity, +5V supply voltage	0.05~3	18.5	32.8	45.0	4.9	5	446	QFN24	Prodction
BR9545TA	Multi-application, High linearity, +5V supply voltage	0.05~1.5	17.7	31.9	42.2	-	5	251	SOT89	Prodction
BR9541TAJ	Multi-application, High linearity, +5V supply voltage	0.4~5	18	25	40	-	5	80	SOT89	Pre-release
BR9542TAJ	Multi-application, High linearity, +5V supply voltage	0.4~5	18	27	43	-	5	100	SOT89	Pre-release
BR9546FPJ	High Power, High linearity, +5V supply voltage	1.6~2.4	35	37	45	-	5	90	QFN24	Pre-release

GaN Switch

Part Number	Features	Freq. (GHz)	IL (dB)	Iso. (dB)	IP1dB (dBm)	IIP3 (dBm)	Control Voltage (V)	Switching Time (ns)	Package	Product Lifecycle
BR9148FP	50W, Low insertion loss, SPDT, GaN	DC~4	0.3	40.0	47.0	-	0/-40	50	QFN24	Prodction

Time/Frequency Products >>>

PLL with Integrated VCO

Part Number	Features	Freq. (GHz)	Pout (dBm)	10kHz Phase Noise @1.62GHz (dBc/Hz)	100kHz Phase Noise @1.62GHz (dBc/Hz)	VDD (V)	IDD (mA)	Package	Product Lifecycle
BR9177FL	Fractional-N/Integer-N Synthesizer with Integrated VCO	0.025~3.24	2	-102	-97	3.3	125	QFN32	Prodction
BR9179FPJ	Low Power, Fractional-N/ Integer N Frequency Division Synthesizer with Integrated VCO	0.025~3.24	0	-87	-92	1.8/2.5	55@1.8V, 1@2.5V	QFN24	Samples
BR9068FPJ	Low Power, Fractional N/ Integer N Frequency Division Synthesizer with Integrated VCO	0.025~3.24	0	-90	-103	1.8/2.5	47@1.8V, 15@2.5V	QFN24	Samples

Prescaler

Part Number	Features	Freq. (GHz)	Input Signal Swing (mV)	Frequency Dividing Ratio	VDD (V)	IDD (mA)	Package	Product Lifecycle
BR9071	Ultra-Low Power Programmable Prescaler	0.1~1.1	400~1000	10, 20, 40, 80	5	4	CSOP08	Samples

Direct Digital Synthesis (DDS)

Part Number	Features	Reference Clock	DAC Resolution (bit)	Integral Nonlinearity LSB	Differential Nonlinearity LSB	VDD (V)	Power (mW)	Package	Product Lifecycle
BR9818	Low power, Programmable Waveform Generator	0.1Hz~25MHz	10	±1.0	±0.5	2.3~5.5	27	CSOP10	Samples

Fanout Buffer

Part Number	Features	Maximum Operation Frequency (GHz)	Propagation Delay (ps)	Output Swing (mV)	RMS Phase Jitter (fsRMS)	Vcc (V)	Icc (mA)	Package	Product Lifecycle
BR9292	1:2 CML Fan-Out buffer	4	127	800	150	3.3	91	QFN16	Pre-release
BR9293	1:4 LVPECL Fan-Out buffer	2	230	1560	150	3.3	420	QFN16	Pre-release

SPI							
Part Number	Features	Data Rate (MHZ)	Output High Voltage (V)	Output Low Voltage (V)	Response Time (ns)	Package	Product Lifecycle
BR9341LD	6bit, S/P Convert	10	Vdd-0.5	0.8	-	Die	Samples
BR9342LD	7bit, S/P Convert	10	Vdd-0.5	0.8	-	Die	Samples

SIP Products >>>

Variable Gain Amplifier												
Part Number	Features	Freq. (GHz)	Gain Control Range (dB)	Gain Control Step (dB)	OIP3 (dBm)	NF (dB)	Interface	Vs (V)	Is (mA)	Package	Product Lifecycle	
BR9032FL	6-bit Parallel Variable Gain Amplifier	0.03~1	13.5~45	0.5	33.0	1.8	TTL/CMOS	5	126	QFN32	Prodction	
BR9032S	6-bit Serial Variable Gain Amplifier	0.03~1	13.5~45	0.5	34.2	1.8	SPI	5	130	QFN32	Prodction	
BR9606FP	6-bit Parallel Variable Gain Amplifier	0.5~4.2	-11.5~20	0.5	36.1@2GHz	1.9@2GHz	TTL/CMOS	5	144	QFN24	Prodction	
BR9607FM	6-bit Parallel Dual-Channel Variable Gain Amplifier	0.175~1.15	-12~19.5	0.5	33.1	3.6	TTL/CMOS	5	75	QFN48	Samples	
BR9561	6-bit Digital Variable Gain Amplifier	0.05~6	-.11.3~20.2	0.5	35.3	3.7	TTL/CMOS	5	136	QFN32	Pre-release	

Limiting Amplifier												
Part Number	Features	Freq. (GHz)	Gain (dB)	Dynamic Range (dB)	Gain Flatness (dB)	OIP3 (dBm)	NF (dB)	Limiting Output (dBm)	Vs (V)	Is (mA)	Package	Product Lifecycle
BR9608FR	High Input Dynamic Range	0.08~1.15	38	37	±1	30@900MHz	5@900MHz	≤13	5	165	QFN64	Prodction

IPR

Bonray

Since its establishment, it has obtained 26 patents for inventions and 26 patents for actual examination. 36 IC Layout Protections and many utility model patents.



R&D capacity

Bonray

Relying on the talent team of top universities in China, the core technology is independent and controllable, with high level of chip R&D and design capability.

- RFIC Product Design Technology
- Integrated Circuit Device Modeling Technology
- 3D package simulation technology
- Microwave communication system integration design capability



IC Assembly

Relying on High quality packaging & test production line. Capability of plastic encapsulated QFN, DFN, SOT, SOP series products and high reliability ceramic / metal shell packaging.

- High-precision fully automated thermal ultrasonic gold wire bonding capability, solder wire diameter 18μm-50μm, Key Accuracy±2.0μm@3sigma,suitable for multi-layer chip stacking,high-low differential chip bonding
- Laser sealing, editable encapsulation paths, hazardous materials, encapsulation of stainless steel, Al&Si and other metallic materials, leakage rates≤5×10⁻⁹ pa m³/s
- Fully automated micron-level measurement equipment, panoramic depth multi-angle imaging, flatness analysis, measurement accuracy of 0.1um
- Full-process manufacturing management system, traceable to every chip



Reliability test

Failure analysis and reliability testing capabilities:

- High-definition micrographics: supports 2000x magnification and 3D visualization.
- High-power X-ray penetration equipment: support for thick substrate, large signal product inspection
- Ultra-high resolution SAM device: support T-SCAN plasticized layering, cavity inspection
- High and Low Temperature RF Probe Stations: Supporting DC and RF on-chip high and low temperature testing of bare die performance



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Hard Work Harmony & Win-Win



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