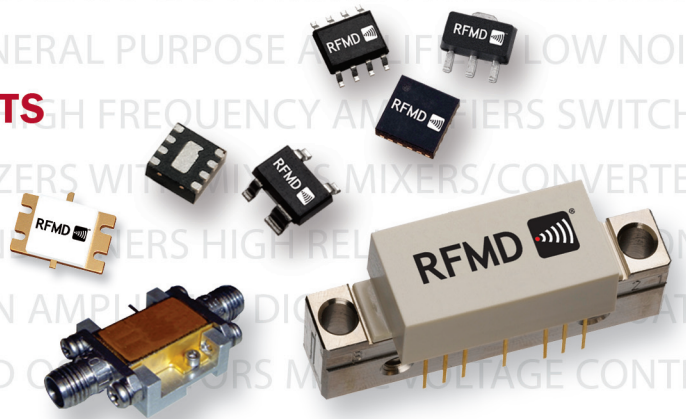


RFMD[®]

2010-2011 PRODUCT SELECTION GUIDE

MORE THAN 150 NEW PRODUCTS



Multiple Markets. Multiple Choices. One RFMD®.

RFMD® is a global leader addressing the RF industry's complex challenges by delivering a broad portfolio of high-performance RF components for a diverse range of applications and end markets. Our product leadership, extensive portfolio breadth, and exceptional technical support enable us to accelerate our customers' time to market.

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InGaP Active Bias Gain Blocks (SBB Series)

- Active bias provides stable performance over temperature
- Runs directly off a 5 V supply with no dropping resistor required
- Flat gain over frequency bandwidth



Table 01

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
	50	850	15.5	3.5	19.0	43.0	5.0	90	SOT-89	SBB-1089Z
	50	6000	15.5	4.5	19.5	35.0	5.0	80	SOT-89	SBB-4089Z
	50	6000	16.5	3.9	15.0	30.0	4.2	42	SOT-89	SBB-3089Z
	50	850	20.0	2.7	20.0	43.0	5.0	90	SOT-89	SBB-2089Z
	50	6000	20.0	4.2	20.5	35.0	5.0	75	SOT-89	SBB-5089Z

SBB Series - InGaP Amplifiers (Active Bias)

- High-linearity InGaP HBT
- Active bias network providing stable current over temperature
- Optimized for applications requiring excellent gain flatness



Table 02

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
	50	6000	15.5	4.3	19.0	39.0	5.0	80	Die	SBB-4000
	50	6000	21.0	3.8	20.5	38.5	5.0	80	Die	SBB-5000
	50	1000	15.0	3.4	18.0	42.0	5.0	90	Die	SBB-1000
	50	1000	20.0	2.9	19.0	42.5	5.0	90	Die	SBB-2000

SiGe Active Bias Gain Blocks (SGC Series)

- Active bias provides stable performance over temperature
- 3 V and 5 V supply voltage with no dropping resistor



Table 03

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
	50	4000	16.7	3.7	13.4	29.5	3.0	54	SOT-86	SGC-4386Z
	50	4000	17.0	3.7	10.4	23.0	3.0	26	SOT-363	SGC-2363Z
	50	4000	17.0	3.8	10.5	23.0	3.0	26	SOT-86	SGC-2386Z
	50	4000	17.1	4.0	13.3	28.5	3.0	54	SOT-363	SGC-4363Z
	50	4000	19.8	3.5	10.5	22.5	3.0	26	SOT-363	SGC-2463Z
	50	4000	19.9	3.3	10.5	23.0	3.0	25	SOT-86	SGC-2486Z
	50	4000	20.5	3.7	13.8	28.0	3.0	52	SOT-363	SGC-4463Z
	50	4000	20.5	3.4	13.8	29.0	3.0	52	SOT-86	SGC-4486Z
	50	4000	26.5	1.7	16.8	29.5	3.0	48	SOT-363	SGC-4563Z
	50	4000	15.0	3.3	15.2	32.0	3.0	55	SOT-363	SGC-4263Z

SiGe Gain Blocks (SGA Series)

- Industry-leading 50 ohm gain blocks
- Wide range of P1 db, gain, and package styles



Table 04

	<i>Freq Range (Min) (MHz)</i>	<i>Freq Range (Max) (MHz)</i>	<i>Gain (dB)</i>	<i>NF (dB)</i>	<i>OP1dB (dBm)</i>	<i>OIP3 (dBm)</i>	<i>V_{cc} (V)</i>	<i>I_{cc} (mA)</i>	<i>Package</i>	<i>Part Number</i>
	DC	2500	25.6	1.9	15.0	27.1	6.0	45	SOT-363	SGA-4563Z
	DC	3000	21.5	2.8	22.4	35.5	7.0	115	SOT-89	SGA-7489Z
	DC	3500	14.0	3.4	14.2	29.3	6.0	45	SOT-363	SGA-4263Z
	DC	3500	17.5	2.9	11.6	25.4	5.0	35	SOT-363	SGA-3363Z
	DC	3500	18.8	3.1	17.0	32.0	6.0	60	SOT-86	SGA-5486Z
	DC	3500	19.0	2.5	14.0	27.0	6.0	45	SOT-363	SGA-4463Z
	DC	3500	20.1	2.7	20.7	34.0	6.0	75	SOT-89	SGA-6489Z
	DC	3500	25.2	2.5	21.5	32.5	6.0	80	SOT-89	SGA-6589Z
	DC	4000	15.7	2.7	-7.8	2.6	5.0	8	SOT-363	SGA-1263Z
	DC	4000	17.5	2.7	14.3	28.7	6.0	45	SOT-363	SGA-4363Z
	DC	4000	19.7	2.8	16.0	30.8	6.0	60	SOT-89	SGA-5489Z
	DC	4000	23.1	2.5	18.1	31.6	6.0	60	SOT-86	SGA-5586Z
	DC	4000	23.8	2.7	21.5	33.8	6.0	80	SOT-86	SGA-6586Z
	DC	4000	23.8	3.0	18.2	32.9	6.0	60	SOT-89	SGA-5589Z
	DC	4000	24.0	1.7	16.5	28.6	6.0	45	SOT-86	SGA-4586Z
	DC	4500	12.7	4.6	-1.8	9.4	5.0	8	SOT-363	SGA-0163Z
	DC	4500	13.3	4.0	16.3	32.5	5.0	60	SOT-363	SGA-5263Z
	DC	4500	13.9	3.7	18.1	34.4	6.0	75	SOT-89	SGA-6289Z
	DC	4500	15.5	3.8	20.2	35.2	6.0	80	SOT-89	SGA-6389Z
	DC	4500	16.4	3.3	16.3	31.5	6.0	60	SOT-89	SGA-5389Z
	DC	4500	17.0	2.9	15.3	28.9	6.0	45	SOT-86	SGA-4386Z
	DC	4500	18.5	2.7	15.4	28.2	6.0	45	SOT-86	SGA-4486Z
	DC	4500	19.6	3.0	2.3	14.2	5.0	11	SOT-363	SGA-0363Z
	DC	4500	19.7	3.0	20.2	35.0	6.0	75	SOT-86	SGA-6486Z
	DC	5000	10.0	4.7	14.6	28.3	6.0	45	SOT-86	SGA-4186Z
	DC	5000	10.2	4.3	7.5	20.0	5.0	20	SOT-86	SGA-2186Z
	DC	5000	10.5	4.1	7.1	21.0	5.0	20	SOT-363	SGA-2163Z
	DC	5000	10.5	4.8	13.0	29.7	6.0	45	SOT-363	SGA-4163Z
	DC	5000	13.4	4.2	15.8	31.8	6.0	60	SOT-89	SGA-5289Z
	DC	5000	13.5	3.7	15.0	29.1	6.0	45	SOT-86	SGA-4286Z
	DC	5000	13.5	4.1	17.0	31.0	6.0	60	SOT-86	SGA-5286Z
	DC	5500	13.6	3.9	18.7	35.0	6.0	75	SOT-86	SGA-6286Z
	DC	5000	14.5	3.7	12.2	25.5	5.0	35	SOT-86	SGA-3286Z
	DC	5000	14.7	3.2	7.5	20.2	5.0	20	SOT-363	SGA-2263Z
	DC	5000	15.0	3.2	8.3	20.0	5.0	20	SOT-86	SGA-2286Z
	DC	5000	15.0	3.6	11.6	26.2	5.0	35	SOT-363	SGA-3263Z
	DC	5000	15.4	3.6	21.0	36.0	6.0	80	SOT-86	SGA-6386Z
	DC	5000	16.6	3.5	17.0	32.0	6.0	60	SOT-86	SGA-5386Z
	DC	5000	17.0	3.2	12.3	24.3	5.0	35	SOT-86	SGA-3386Z
	DC	5000	17.2	2.9	8.5	20.5	5.0	20	SOT-86	SGA-2386Z
	DC	5000	17.5	2.9	8.2	19.4	5.0	20	SOT-363	SGA-2363Z
	DC	5000	19.8	2.7	8.4	20.0	5.0	20	SOT-86	SGA-2486Z
	DC	5000	20.0	2.6	8.0	20.1	5.0	20	SOT-363	SGA-2463Z
	DC	5000	21.0	2.8	12.7	24.6	5.0	35	SOT-86	SGA-3486Z
	DC	5000	21.5	2.5	11.3	24.0	5.0	35	SOT-363	SGA-3463Z
	DC	5000	25.0	2.5	13.0	24.5	5.0	35	SOT-86	SGA-3586Z
	DC	5000	25.5	2.3	13.0	24.0	5.0	35	SOT-363	SGA-3563Z

GaAs Gain Blocks

- Internally matched input and output
- High-frequency performance



Table 05

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
	DC	6000	12.0	3.7	13.5	24.0	4.8	40	SOT-89	RF3378
	DC	6000	12.0	3.7	13.6	25.4	4.8	40	QFN-12	RF3398
	DC	6000	12.7	5.3	17.5	33.5	6.6	65	QFN-12	RF3395
	DC	6000	13.2	4.5	16.0	29.0	6.6	65	SOT-89	RF3375
	DC	6000	15.5	2.8	12.5	25.5	4.5	40	SOT-89	RF3377
	DC	6000	15.5	2.8	13.0	25.5	4.5	40	QFN-12	RF3397
	DC	6000	18.7	3.5	17.5	32.0	6.0	65	SOT-89	RF3374
	DC	6000	18.7	3.5	17.5	32.0	6.0	65	QFN-12	RF3394
	DC	6000	19.8	2.0	11.5	24.0	4.2	35	SOT-89	RF3376
	DC	6000	19.8	2.0	11.5	24.0	4.2	35	QFN-12	RF3396

InGaP Gain Blocks

- Broadband performance with excellent thermal performance
- Increased breakdown voltage and minimal leakage current between junctions



Table 06

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
	DC	500	14.8	3.3	20.1	42.0	4.9	90	SOT-89	SBF-4089Z
	DC	500	20.0	2.8	21.0	41.0	4.9	90	SOT-89	SBF-5089Z
	DC	4000	19.0	3.2	12.3	26.5	3.6 to 4.2	35	Ceramic Micro-X	NBB-500
	DC	4000	19.0	4.0	13.0	23.0	3.6 to 4.2	35	Ceramic MPGA 3.0 x 3.0	NBB-502
	DC	5000	14.2	4.8	19.0	33.5	5.0	80	SOT-86	SBA-4086Z
	DC	5000	14.6	4.8	19.0	33.5	5.0	80	SOT-89	SBA-4089Z
	DC	5000	17.2	4.5	19.5	34.0	4.9	80	SOT-86	SBA-5086Z
	DC	5000	18.0	4.5	19.5	34.0	4.9	80	SOT-89	SBA-5089Z
	DC	6000	15.5	4.1	12.0	29.6	3.6 to 4.2	47	Plastic Micro-X	NLB-400
	DC	8000	14.3	4.3	15.8	26.0	3.6 to 4.2	47	Ceramic MPGA 3.0 x 3.0	NBB-402
	DC	8000	16.0	4.3	15.0	28.1	3.6 to 4.2	47	Ceramic Micro-X	NBB-400
	DC	10000	12.0	4.9	11.1	28.6	3.6 to 4.2	50	Plastic Micro-X	NLB-300
	DC	10000	12.0	5.0	12.6	28.9	4.4 to 4.8	50	Plastic Micro-X	NLB-310
	DC	12000	11.5	4.9	13.8	24.0	4.6 to 5.3	50	Ceramic Micro-X	NBB-310
	DC	12000	12.0	5.2	13.0	27.1	3.6 to 4.2	50	Ceramic Micro-X	NBB-300
	DC	12000	12.5	5.5	13.7	23.5	3.6 to 4.2	50	Ceramic MPGA 3.0 x 3.0	NBB-302
	DC	12000	12.5	4.9	15.8	24.0	4.7 to 5.3	50	Ceramic MPGA 3.0 x 3.0	NBB-312

Low Noise Amplifiers

- Low noise figure <2.0 dB, minimal matching components
- Excellent output power
- Versatile with extended frequency ranges



Table 07

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{cc} (V)	I _{cc} (mA)	Package (mm)	Part Number
	50	4000	12.8	0.8	22.7	39.5	5.0	90	SOT-89	SPF-5189Z
	50	4000	18.2	0.8	20.0	33.0	3.0	46	SOT-343	SPF-5043Z
	50	4000	18.9	0.6	23.0	38.0	3.0	90	QFN 2.0 x 2.0	SPF-5122Z
	400	3800	30.0	0.8	22.5	36.0	5.0	180	QFN 5.0 x 5.0	RF3866
	700	3800	15.0	0.8	22.5	35.0	5.0	90	QFN 3.0 x 3.0	RF3863
	700	3800	15.0	0.8	22.5	35.5	5.0	180	QFN 5.0 x 5.0	RF3867
	800	4000	24.5	0.8	22.4	39.0	5.0	120	QFN 4.0 x 4.0	SPF-5344Z
	1550	1600	13.5	0.9	13.5	17.5	4.0	8	SMT	RF2815 **
	DC	2500	25.6	1.9	15.0	27.1	6.0	45	SOT-363	SGA-4563Z
	DC	4000	19.3	1.1	9.0	27.8	3.0	10	SOT-343	SGA-8343
	DC	4000	24.0	1.7	16.5	28.6	6.0	45	SOT-86	SGA-4586Z
	DC	6000	18.7	1.5	4.0	22.0	3.0	6	SOT23-5	RF2472
	5	1500	20.5	1.3	24.0	39.0	5.0	110	QFN 3.0 x 3.0	RF3827
	5	2000	20.0	1.1	2.5	13.0	3.0	6	SOT-363	SGL-0363Z
	5	4000	23.0	2.0	1.5	5.3	3.0	11	QFN 2.0 x 2.0	SGL-0622Z
	45	2500	15.0	1.5	5.0	19.0	3.0	6	QFN 3.0 x 3.0	RF2884
	48	1000	17.5	1.2	1.3	—	3.0	20	QFN 2.0 x 2.0	CXE-2022Z
	100	1300	15.5	1.2	5.2	24.5	3.6	12	SOT-363	SGL-0163Z
	150	2500	14.0	1.5	18.0	9.0	3.0	13	SOT23-5	RF2314
	150	2500	20.0	1.4	14.0	26.0	3.0	22	SOT23-5	RF2878
	300	2500	11.7	1.6	16.0	15.0	3.0	8	SOIC-8	RF2304
	400	3800	14.5	1.0	22.5	35.5	5.0	90	QFN 3.0 x 3.0	RF3861
	400	3800	28.5	1.2	22.5	36.0	5.0	180	QFN 5.0 x 5.0	RF3865
	500	2500	19.0	1.5	13.0	27.0	3.6	12	MSOP-8	RF2442
	900	4000	14.0	1.3	-5.0	7.0	3.0	7	SOT-6	RF2370 *
	900	4000	14.0	1.3	-5.0	7.0	3.0	7	QFN 2.2 x 2.2	RF2374 *
	900	4000	14.0	1.3	11.0	21.0	3.0	7	QFN 3.0 x 3.0	RF3857 *
	1400	2500	10.8	2.0	7.9	25.0	3.0	13	SOT-363	SGL-0263Z
	4900	5900	11.0	1.7	-2.0	22.0	3.3	12	QFN 2.0 x 2.0	RF5515
	4900	5900	11.0	1.7	-2.0	22.0	3.3	12	QFN 2.0 x 2.0	RF5601 *
	7000	11000	21.0	1.1	12.0	24.0	3.0	65	Die	FMA219

* Integrated bypass

** GPS LNA

pHEMT Low Noise Discrete Transistors

- Low noise and high linearity over a range of bias conditions



Table 08

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	NF (dB)	V _{cc} (V)	I _{cc} (mA)	Package (mm)	Part Number
	500	18000	19.0	22.0	32.0	0.5	5.0	55.0	P70	FPD6836P70
	700	3000	13.0	30.0	45.0	1.3	5.0	450.0	SOT-89	FPD3000SOT89
	700	3000	16.5	29.0	38.0	0.7	4.0	100.0	QFN 4.0 x 4.0	FPM21500QFN
	700	3500	14.0	29.0	44.0	1.2	5.0	300.0	SOT-89	FPD2250SOT89
	700	4500	17.0	27.5	42.0	1.0	5.0	200.0	SOT-89	FPD1500SOT89
	700	5000	18.0	24.0	38.0	0.6	4.0	100.0	QFN 4.0 x 4.0	FPM2750QFN
	700	5000	20.0	24.0	39.0	0.8	5.0	100.0	SOT-89	FPD750SOT89
	1000	5000	18.0	20.0	31.0	0.6	3.3	40.0	SOT-343	FPD750SOT343
	1000	5000	18.0	18.0	32.0	0.5	3.0	50.0	SOT-343	FPD6836SOT343
	1000	18000	21.0	20.0	30.0	0.5	5.0	30.0	P70	FPD7612P70
	1000	26000	21.0	20.0	30.0	0.3	5.0	30.0	P70	FPD200P70

Analog Variable Gain Amplifiers

- Amplifiers with voltage variable attenuators
- High-linearity power control
- Cellular infrastructure applications



Table 09

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain Range (Min) (dB)	Gain (dB)	Gain Flatness (dB)	P_{out} at Rated ACPR (dBm)	OIP3 (dBm)	ACPR (dBc)	V_{cc} (V)	I_{cc} (mA)	Package (mm)	Part Number
NEW	690	810	20.0	23.0	±0.2	10.0	41.0	-62.0	5.0	475	MCM 7.0 x 7.0	RFVA1007
NEW	740	870	20.0	23.0	±0.2	10.0	41.0	-62.0	5.0	475	MCM 7.0 x 7.0	RFVA1027
NEW	1425	1550	20.0	25.0	±0.2	12.0	43.0	-65.0	5.0	475	MCM 7.0 x 7.0	RFVA1017
NEW	1750	2250	20.0	25.0	±0.2	12.0	43.0	-65.0	5.0	475	MCM 7.0 x 7.0	RFVA2007
NEW	2250	2440	20.0	24.0	±0.2	12.0	43.0	-65.0	5.0	475	MCM 7.0 x 7.0	RFVA2017
NEW	2440	2750	20.0	27.0	±0.2	12.0	44.0	-65.0	5.0	430	MCM 7.0 x 7.0	RFVA3007

Digital Variable Gain Amplifiers

- Amplifiers with digital step attenuators
- High-linearity power control
- Cellular infrastructure applications



Table 10

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Number of Bits (dB)	Gain (dB)	Step Size (dB)	P1dB (dBm)	OIP3 (dBm)	Interface	V_{cc} (V)	I_{cc} (mA)	Package (mm)	Part Number
NEW	10	850	6.0	18.5	0.5	20.0	35.0	serial	5.0	90	MCM 4.0 x 4.0	RFDA0025
NEW	10	4000	6.0	18.5	0.5	21.0	35.0	serial	5.0	80	QFN 5.0 x 5.0	RFDA1005L
NEW	50	850	6.0	38.5	0.5	20.0	40.0	serial	5.0	175	QFN 5.0 x 5.0	RFDA0016
NEW	400	2500	6.0	11.5	0.5	25.0	42.0	serial	5.0	120	QFN 5.0 x 5.0	RFDA2025
NEW	680	970	6.0	35.0	0.5	24.0	41.0	serial	5.0	190	MCM 6.0 x 6.0	RFDA0026
NEW	1800	2400	6.0	32.0	0.5	24.0	43.0	serial	5.0	190	MCM 6.0 x 6.0	RFDA2026
NEW	10	850	6.0	18.5	0.5	20.0	35.0	parallel	5.0	90	QFN 5.0 x 5.0	RFDA0015
NEW	50	1000	6.0	38.0	0.5	20.0	38.0	parallel	5.0	158	QFN 5.0 x 5.0	RFDA2032Z
NEW	400	2500	6.0	11.5	0.5	25.0	42.0	parallel	5.0	120	QFN 5.0 x 5.0	RFDA2015

Digital Step Attenuator

- Broadband 50 MHz to 4000 MHz operation
- Single supply, 3 V to 5 V operation
- High-linearity, wireless infrastructure grade performance



Table 11

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Number of Bits (dB)	Step Size (dB)	Attenuation Range (dB)	Insertion Loss (dB)	P1dB (dBm)	Interface	V_{cc} (V)	Package (mm)	Part Number
NEW	DC	4000	6.0	0.5	31.5	2.5	27.0	parallel	5.0	QFN 4.0 x 4.0	RFSA2614
NEW	DC	4000	6.0	0.5	31.5	2.5	27.0	serial	5.0	MCM 4.0 x 4.0	RFSA2624

Power Amplifiers

- Final stage power amplifier
- High-efficiency amplifier
- High gain



Table 12

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{cc} (V)	I _{cc} (mA)	Package (mm)	Part Number
	150	960	33.0	35.0	—	3.6	180	QFN 3.0 x 3.0	RF5110G
NEW	400	1000	30.0	28.0	34.0	5.0	70	QFN 4.0 x 4.0	RFFA0133
NEW	400	1000	31.0	35.0	40.0	3.6	400	QFN 4.0 x 4.0	RF6886

Linear Driver Amplifiers

- Pre-driver for base station power amplifiers
- Final LNA stages for wireless infrastructure



Table 13

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	OP1dB (dBm)	OIP3 (dBm)	Gain (dB)	NF (dB)	V _{cc} (V)	I _{cc} (mA)	Package (mm)	Part Number
	5	2500	24.5	43.0	17.0	4.2	5.0	135	SOT-89	SXB-2089Z
	50	3000	22.9	38.5	11.7	3.2	5.0	128	SOT-89	SXE-1089Z
NEW	150	1000	35.0	47.0	14.5	—	5.0	400	QFN 4.0 x 4.0	RFFA3800
	300	3000	25.0	40.0	12.0	3.0	5.0	100	SOT-89	RF3315
NEW	400	2200	25.0	45.0	17.0	—	5.0	110	SOIC-8	RFFA3807
	400	2500	25.0	42.0	18.4	5.0	5.0	115	SOT-89	SXA-389BZ
	400	2500	27.5	43.5	20.0	5.6	5.0	265	SOT-89	SXB-4089Z
NEW	400	2500	30.0	48.0	15.0	—	5.0	250	SOIC-8	RFFA3809
	700	2200	28.5	47.0	14.0	5.3	5.0	318	SOF-26	SPA-1426Z
	700	2200	32.0	49.0	13.5	5.5	5.0	645	SOF-26	SPA-1526Z

High-Linearity Amplifiers

- Low noise figure
- Small package styles



Table 14

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{cc} (V)	I _{cc} (mA)	Package (mm)	Part Number
	DC	2500	16.0	4.2	18.5	30.0	9.0	100	SOIC-8	RF2312
	DC	3000	15.0	5.3	22.0	38.0	10.0	180	CJ2BAT0	RF2317
	5	120	25.0	3.0	—	37.5	8.0	138	SOIC-8	CGR-0118Z
	5	900	12.5	4.5	20.0	38.0	8.0	150	ESOP-8	CGA-3318Z
	5	1500	20.0	1.2	24.0	33.7	7.0	120	SOP-16	RF2360
	5	2500	16.7	2.6	22.0	36.0	7.0	85	CJ2BAT0	RF2320
	50	3500	14.0	2.4	20.6	34.6	3.3	86	SOT-343	SGA-8543Z
	400	2500	17.5	5.1	28.0	47.0	5.0	240	SOIC-8	SXA-3318BZ
	400	3800	10.0	1.0	22.5	36.0	5.0	90	QFN 3.0 x 3.0	RF3861
	400	3800	20.0	1.1	22.5	36.0	5.0	180	QFN 5.0 x 5.0	RF3865
	400	3800	20.0	0.8	22.5	36.0	5.0	180	QFN 5.0 x 5.0	RF3866
	700	2200	13.7	5.2	33.8	46.0	5.0	445	SOF-26	SPB-2026Z
	700	3800	10.0	0.7	22.5	35.0	5.0	90	QFN 3.0 x 3.0	RF3863
	700	3800	10.0	0.8	22.5	36.0	5.0	180	QFN 5.0 x 5.0	RF3867
	810	960	33.0	5.0	30.5	47.0	5.0	400	SOIC-8	SPA-2118Z
	1700	2200	23.5	5.5	30.0	47.0	5.0	400	SOIC-8	SPA-2318Z
	2110	2170	12.5	7.0	29.5	47.0	5.0	310	SOIC-8	SPA-1318Z

High-Linearity Discrete Transistors

- Low noise figure
- Low current consumption
- PA stage for medium-power applications



Table 15

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	OIP3 (dBm)	OP1dB (dBm)	NF (dB)	V _D (V)	I _D (mA)	Package	Part Number
	50	3000	17.7	42.0	28.0	2.4	5.0	280	SOT-89	SGA-9289Z
	50	3000	19.0	40.0	25.8	2.1	5.0	180	SOT-89	SGA-9189Z
	50	4000	18.0	37.4	23.7	3.2	3.0	170	SOT-89	SGA-9089Z
	50	6000	18.6	40.0	27.2	4.7	8.0	100	SOT-89	SHF-0189Z
	50	6000	19.2	43.0	30.0	3.2	7.0	200	SOT-89	SHF-0289Z

LTE/WiMAX/WiFi High-Power Amplifiers

- High gain, high P_{OUT} performance
- Optimized for CPE (Customer Premises Equipment) applications



Table 16

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	P _{OUT} (dBm)	EVM (%)	Gain (dB)	V _{CC} (V)	I _{CC} (mA)	Package (mm)	Part Number
	700	3800	30.0	2.5	10.0	5.0	1200	QFN 3.0 x 8.0	RF5643
	2000	2700	22.0	3.0	25.0	5.0	300	QFN 4.0 x 4.0	SZA-2044Z
	2200	2700	26.0	2.5	13.5	5.0	570	SOF-26	SZP-2026Z
	2300	2700	27.0	2.5	36.0	6.0	900	QFN 6.0 x 6.0	SZM-2166Z
	2300	2700	28.0	2.5	36.0	5.0	950	QFN 4.0 x 4.0	RF5632
	2300	2700	23.5	2.5	34.0	3.3	350		
	2300	2700	26.0	2.5	34.0	5.0	450	QFN 3.0 x 3.0	RF5602
	2400	2700	26.5	2.5	34.0	5.0	710	QFN 6.0 x 6.0	SZM-2066Z
	2700	3800	24.0	2.5	25.0	5.0	340	QFN 4.0 x 4.0	SZA-3044Z
	3300	3800	26.0	2.5	12.0	5.0	580	SOF-26	SZP-3026Z
	3300	3800	26.0	2.5	34.0	5.0	760	QFN 6.0 x 6.0	SZM-3066Z
NEW	3300	3800	26.0	3.0	30.0	5.0	500	QFN 3.0 x 3.0	RF5603
NEW	3300	3800	26.0	3.0	30.0	5.0	480	QFN 3.0 x 3.0	RF5623
	3300	3800	27.0	2.5	35.0	5.2	900	QFN 6.0 x 6.0	SZM-3166Z
	3300	3800	28.0	2.5	34.0	5.0	1050	QFN 4.0 x 4.0	RF5633
	3300	6200	10.0	4.0	14.0	3.3	52	SOT-363	STA-5063Z
	4900	5900	21.0	3.0	28.0	5.0	250	QFN 3.0 x 3.0	RF5616
	4900	5900	22.0	3.0	28.0	5.0	390	QFN 4.0 x 4.0	SZA-5044Z
	4900	5900	25.0	2.5	9.0	5.0	650	SOF-26	SZP-5026Z
	4900	5900	25.0	2.5	17.0	5.0	800	QFN 6.0 x 6.0	SZM-5066Z

NOTE: Multiple platform tunes available for all parts in table 16, contact RFMD applications for details.

WiFi and WiMAX High Power Amplifier Reference Designs

- High efficiency
- High linear output power



Table 17

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	P _{OUT} (dBm)	EVM (%)	Gain (dB)	V _{CC} (V)	I _{CC} (mA)	Reference Design BOM	Evaluation Board Part Number
NEW	2300	2400	29.0	3.0	32.0	5.0	1000	2-RF5602	RF5602-HWB
	2300	2500	>30.0	2.5	35.0	6.0	1400	SZA-2044 and RF5643	RF5643-WDA
	2300	2700	29.0	2.5	35.0	5.0	1500	SZA-2044 and SZP-2026	SZP2026-HWD
NEW	2400	2500	29.0	3.0	32.0	5.0	1000	2-RF5602	RF5602-HWL
NEW	2500	2700	29.0	3.0	31.0	5.0	1200	2-RF5602	RF5602-HWM
	2500	2700	>30.0	2.5	35.0	6.0	1400	SZA-2044 and RF5643	RF5643-WDB
	2700	2900	>30.0	2.5	35.0	6.0	1500	SZA-3044 and RF5643	RF5643-WDC
	3300	3800	29.0	2.5	32.0	5.0	1500	SZA-3044 and SZP-3026	SZP3026-HWD
	3300	3800	>30.0	2.5	35.0	6.0	1500	SZA-3044 and RF5643	RF5643-WDD
NEW	3300	3600	29.0	3.0	30.0	5.0	1000	2-RF5623	RF5623HL
NEW	3600	3800	29.0	3.0	30.0	5.0	1200	2-RF5623	RF5623HH
	5100	5850	25.0	2.5	32.0	5.0	1000	STA-5063 and SZM-5066	SZM5066-WD
	5100	5850							
	5150	5350	28.0	2.5	35.0	5.0	1400	SZA-5044 and SZP-5026	SZP5026-HWD
	5700	5900							

Low Noise Amplifier + Switch

- Integrated LNA with bypass and SP3T switch
- Integrated input and output match, reducing external components
- High-performance WiFi applications



Table 18

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Integrated Switch	LNA Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Switch Insertion Loss (dB)	Switch P1dB (dBm)	IIP3 (dBm)	V _{CC} (V)	I _{CC} (mA)	DC-Blocked RF Ports	Package (mm)	Part Number
	2400	2500	SP3T	11.5	1.8	5.0	19.0	0.6	29.0	7.0	3.3	9	No	Flip Chip 0.9 x 0.9	RF5511
	2400	2500	SP3T	11.5	1.8	5.0	19.0	0.6	29.0	7.0	3.3	9	No	QFN 2.0 x 2.0	RF5501
	2400	2500	SP3T	11.5	1.8	5.0	19.0	0.6	29.0	7.0	3.3	9	No	QFN 1.75 x 1.75	RF5521
	2400	2500	SP3T	11.0	2.2	5.0	19.0	0.8	29.0	7.0	3.3	9	Yes	QFN 2.0 x 2.0	RF5611

2.4 GHz WiFi Front End Modules

- High efficiency
- High linear output power
- Antenna sharing Bluetooth® and WLAN operation



Table 19

	Functionality	IEEE 802.11 Type	11g/n P _{OUT} (dBm)	11b P _{OUT} (dBm)	11b/g/n Gain (dB)	11g/n EVM (%)	LNA Gain (dB)	LNA Noise Figure (dB) (including switch)	V _{CC} (V)	11g/n Operating Current (mA)	11b Operating Current (mA)	Package (mm)	Part Number
	PA, SP3T, Rx Balun	b/g	16.0	20.0	31.5	3.0	—	—	3.3	175	240	QFN 3.5 x 3.5	RF5924
	PA, SP3T, Rx Balun	b/g/n	16.0	19.0	26.0	3.0	—	—	3.3	160	190	QFN 3.0 x 3.0	RF5225
	PA, SP3T, LNA	b/g/n	17.0	20.0	26.0	3.0	15.0	1.9	3.3	130	190	QFN 3.0 x 3.0	RF5745
NEW	PA, SP3T, Rx Balun, 2170 MHz and 2 Fo Filter	b/g/n	16.0	20.5	33.0	3.0	—	—	3.3	135	170	QFN 3.0 x 3.0	RF3482 *
	PA, SP3T, LNA, 2170 MHz and 2Fo Rejection	b/g/n	17.0	20.0	30.0	3.3	15.0	1.9	3.3	145	190	QFN 3.0 x 3.0	RF5345 *
	PA, SP3T, LNA and 2 Fo Rejection	b/g/n	17.0	20.0	26.0	3.0	15.0	1.9	3.3	130	190	QFN 3.0 x 3.0	RF5725 *
	PA, SP3T, 2 Fo Rejection	b/g/n	17.0	20.0	26.0	3.0	—	—	3.3	130	190	QFN 3.0 x 3.0	RF5325 *
NEW	PA, SP3T, LNA and 2 Fo Rejection	b/g/n	19.5	23.0	30.0	3.3	16.0	1.9	3.3	180	210	QFN 3.0 x 3.0	RF5755 *
NEW	PA, SP3T, 2170 MHz and 2 Fo Filter	b/g/n	18.0	21.0	30.0	2.5	—	—	3.3	170	210	QFN 2.5 x 2.5	RF5365 *

* Power Detector Coupler

5 GHz WiFi Front End Modules

- High efficiency
- High linear output power
- Integrated harmonic filter



Table 20

Functionality	IEEE 802.11 Type	11a/n P _{OUT} (dBm)	11a/n Gain (dB)	11a/n EVM (%)	LNA Gain (dB)	LNA Noise Figure (dB) (including switch)	V _{CC} (V)	11a/n Operating Current (mA)	Package (mm)	Part Number
PA, SPDT, LNA	a/n	16.0	27.0	3.0	11.0	2.4	3.3	145	QFN 3.0 x 3.0	RF5506
PA, SPDT, LNA	a/n	16.0	27.0	3.0	11.0	2.4	3.3	145	QFN 3.0 x 3.0	RF5516
PA, SPDT	a/n	16.0	27.0	3.0	—	—	3.3	145	QFN 3.0 x 3.0	RF5686

Dual-Band WiFi Front End Modules

- High efficiency
- High linear output power
- Fully integrated front end

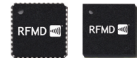


Table 21

Functionality	IEEE 802.11 Type	11g/n P _{OUT} (dBm)	11a/n P _{OUT} (dBm)	11b/g/n Gain (dB)	11a/n Gain (dB)	11g/n EVM (%)	11a/n EVM (%)	11a/n LNA Gain (dB)	11a/n LNA Noise Figure (dB) (including switch)	V _{CC} (V)	11g/n Operating Current (mA)	11a/n Operating Current (mA)	Package	Part Number
NEW 2.4 GHz PA, SP3T, Rx Balun, 5.0 GHz PA, SPDT, Rx Balun	a /b/g/n	16.0	15.5	33.0	30.0	3.0	3.0	—	—	3.3	150	170	QFN 4.0 x 4.0	RF3688
2.4 GHz PA, SP3T, Diplexer 5.0 GHz PA, SPDT	a /b/g/n	18.0	16.0	26.0	25.0	4.0	5.0	8.0	4.5	3.3	160	190	QFN 6.0 x 6.0	RF5388
2.4 GHz PA, SP3T, Diplexer 5.0 GHz PA, SPDT	a /b/g/n	18.0	16.0	26.0	25.0	4.0	5.0	8.0	4.5	3.3	160	190	QFN 6.0 x 6.0	RF5389 *
NEW 2.4 GHz PA, SP3T	a /b/g/n	18.0	16.0	28.0	27.0	3.0	4.0	—	—	3.3	160	200	QFN 5.0 x 5.0	RF5618

* Additional Rx Path (1 X 2 MIMO)

Dual-Band WiFi Front End Modules with Low-Band LNA/High-Band LNA

- High efficiency
- High linear output power
- Fully integrated front end



Table 22

Functionality	IEEE 802.11 Type	11g/n P _{OUT} (dBm)	11a/n P _{OUT} (dBm)	11b/g/n Gain (dB)	11a/n Gain (dB)	11g/n EVM (%)	11a/n EVM (%)	11b/g/n LNA Gain (dB)	11b/g/n LNA Noise Figure (dB) (including switch)	11a/n LNA Gain (dB)	11a/n LNA Noise Figure (dB) (including switch)	V _{CC} (V)	11g/n Op Current (mA)	11a/n Op Current (mA)	Package	Part Number
NEW 2.4 GHz PA, SP3T, LNA Diplexer 5.0 GHz PA, SPDT, LNA	a /b /g/n	16.0	13.0	28.0	27.0	2.0	2.0	12.0	2.0	11.0	2.8	3.3	160	280	QFN 5.0 x 5.0	RF5608
		18.0	16.0			4.0	4.0						200	200		

WiFi Power Amplifiers

- High-efficiency PA
- Optimized for battery applications



Table 23

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	P _{OUT} (dBm)	EVM (%)	V _{CC} (V)	I _{CC} (mA)	Package (mm)	Part Number
	2400	2500	25.5	18.0	2.5	3.0 to 3.6	120	QFN 2.2 x 2.2	RF5122
	2400	2500	25.5	18.0	2.5	3.0 to 3.6	120	QFN 2.2 x 2.2	RF5322
	2400	2500	25.5	18.0	2.5	3.0 to 3.6	120	QFN 2.2 x 2.2	RF5722 *
	2400	2500	28.0	12.0	3.0	1.8 to 3.6	55	QFN 2.2 x 2.2	RF5373
	2400	2500	28.0	23.0	3.0	3.0 to 4.2	210	QFN 3.0 x 3.0	RF5125
	2400	2500	28.0	21.0	3.0	3.0 to 5.0	185	QFN 3.0 x 3.0	RF5112
	2400	2500	30.0	18.0	3.0	3.0 to 3.6	95	QFN 2.2 x 2.2	RF5622 *
	2400	2500	31.0	17.0	3.0	3.0 to 4.2	125	QFN 2.2 x 2.2	RF5222 *
	2400	2500	34.0	18.0	3.0	3.0 to 3.6	130	QFN 3.0 x 3.0	RF5152
	4900	5850	26.0	18.0	4.0	3.0 to 5.0	140	QFN 2.2 x 2.2	RF5355
	4900	5850	28.0	19.0	3.0	3.0 to 5.0	200	QFN 3.0 x 3.0	RF5616 *
	4900	5850	30.0	18.0	4.0	3.0 to 5.0	265	QFN 3.0 x 3.0	RF5300

* Integrated 2Fo Filter

SmartEnergy AMI/ZigBee® Power Amplifiers

- High efficiency
- High output power



Table 24

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	PA Gain (dB)	P _{OUT} (dBm)	OP1dB (dBm)	V _{CC} (V)	PA I _{CC} (mA)	Efficiency (%)	Package (mm)	Part Number
	150	960	33.0	35.0	35.0	3.6	180	57	QFN 3.0 x 3.0	RF5110G
	400	2500	28.0	20.0	22.0	3.6	90	45	QFN 2.2 x 2.2	RF5373
	902	2500	0.0 to 28.0	23.5	25.0	3.6	145	45	QFN 4.0 x 4.0	RF2172 *

* VGA

SmartEnergy AMI/ZigBee® Power Amplifiers/LNA/Switch Front End Modules

- Integrated harmonic filter
- Highly integrated, small form factor
- Antenna diversity switch



Table 24

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	PA Gain (dB)	P _{OUT} (dBm)	OP1dB (dBm)	V _{CC} (V)	PA I _{CC} (mA)	Efficiency (%)	LNA Gain (dB)	NF (dB)	LNA I _{CC} (mA)	Switch	Package (mm)	Part Number
	902	928	27.0	31.5	30.0	3.6	970	40.0	21.0	1.3	12	DPDT	Module 8.0 x 8.0	RF3858
	2400	2500	27.0	23.0	26.0	3.6	220	35.0	12.5	2.2	10	SP3T	QFN 3.0 x 3.0	RF5745
NEW	2400	2500	28.0	22.0	22.0	3.3	200	30.0	13.5	2.5	7	DPDT	QFN 3.5 x 3.5	RF6525

SmartEnergy AMI/ZigBee® Power Amplifiers/Switch Front End Modules

- Integrated harmonic filter
- Highly integrated, small form factor
- High gain, low noise



Table 26

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	PA Gain (dB)	P _{OUT} (dBm)	OP1dB (dBm)	V _{CC} (V)	PA I _{CC} (mA)	Efficiency (%)	Switch	Package (mm)	Part Number
NEW	2400	2500	28.0	20.0	22.0	3.3	180	30.0	SP2T	QFN 3.5 x 3.5	RF6515

High-Frequency pHEMT Amplifiers

- Monolithically matched high-IP3 broadband pHEMT MMIC
- Low-noise efficient amplifiers

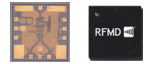


Table 27

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _b (V)	I _b (mA)	V- (V)	Package (mm)	Part Number
	DC	18000	9.5	4.8	13.7	24.3	5.0	46	5.0	QFN 3.0 x 3.0	SUF-1033
	DC	12000	14.6	4.2	16.8	25.7	5.0	58	—	QFN 3.0 x 3.0	SUF-8033
NEW	DC	12000	15.4	4.0	16.7	27.1	5.0	58	—	QFN 3.0 x 3.0	SUF-8533
	DC	20000	10.5	4.5	14.0	26.0	5.0	45	5.0	Die	SUF-1000
	0.1	4000	18.5	3.6	21.0	27.6	5.0	90	5.0	QFN 3.0 x 3.0	SUF-5033
	100	3700	19.0	3.2	22.0	34.5	5.0	90	5.0	Die	SUF-5000
	150	10000	17.0	2.8	21.0	32.0	5.0	73	5.0	Die	SUF-4000
	200	10000	11.5	3.6	16.0	30.0	3.3	71	3.3	Die	SUF-2000
	250	16000	10.0	4.8	15.5	26.5	5.0	51	5.0	Die	SUF-3000
	2000	16000	20.5	4.7	14.0	27.5	5.0	107	5.0	Die	SUF-6000
	2000	20000	11.0	4.5	23.5	—	6.0	120	-0.3	Die	FMA3008
	2000	20000	11.5	4.5	25.0	—	7.0	135	-0.3	Die	FMA3007
	2000	20000	15.0	6.5	15.0	—	5.0	90	90.0	Die	FMA3058
	8000	14000	30.0	2.5	20.0	44.0	6.0	150	6.0	Die	FMA246
	12500	15000	35.0	—	30.0	40.0	6.0	1200	-0.4	Die	FMA3051
	12700	16000	30.0	4.0	28.0	37.0	7.0	450	-0.4	Die	FMA3011
	12700	16000	32.0	6.0	15.0	—	4.5	100	4.5	Die	FMA3014

High-Frequency pHEMT Discrete Transistors

- Monolithically matched high-IP3 broadband pHEMT MMIC
- Low-noise efficient amplifiers



Table 28

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain at 12 GHz (dB)	OP1dB at 12 GHz (dBm)	OIP3 (dBm)	V _{cc} (V)	I _b (mA)	Package	Part Number
	1000	15000	6.5	32.5	42.0	8.0	400	Die	FPD3000
	1000	16000	11.0	28.0	39.0	8.0	160	Die	FPD1050
	1000	18000	7.5	32.5	40.0	8.0	350	Die	FPD2250
	1000	18000	8.5	29.0	41.0	8.0	185	Die	FPD1500
	1000	20000	11.5	27.0	38.0	8.0	115	Die	FPD750
	1000	24000	16.5	25.5	—	8.0	110	Die	FPD6836
	1000	28000	17.0	19.0	—	5.0	30	Die	FPD200
	2000	28000	17.0	20.5	—	5.0	27	Die	FPD7612

High Frequency SDA Series - GaAs pHEMT Distributed Amplifiers

- Directly-coupled GaAs microwave monolithic MMIC
- Operating in the DC to 50 GHz frequency range
- Support high-frequency commercial, military, and space applications



Table 29

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	OIP3 (dBm)	OP1dB (dBm)	P _{SAT} (dBm)	NF (dB)	I _{cc} (mA)	V _{cc} (V)	Package	Part Number
	DC	20000	17.0	36.0	25.0	26.0	3.5	300	8.0	Die	SDA-1000
	DC	22000	12.0	38.0	26.0	28.0	5.0	400	8.0	Die	SDA-2000
	DC	24000	17.1	34.0	24.0	26.0	2.1	160	8.0	Die	SDA-3000
	DC	26000	15.0	30.0	20.0	22.0	3.0	160	5.0	Die	SDA-4000
	DC	35000	12.0	27.0	17.0	19.0	3.0	80	6.5	Die	SDA-5000
	DC	40000	12.0	36.0	22.0	—	-5.0	200	8.0	Die	SDA-7000
	DC	50000	8.5	25.0	15.0	—	-3.7	65	8.0	Die	SDA-6000

Up-Converters

- Integrated I/Q mixer, LO amplifier, and output buffer amplifier
- Wide bandwidth with excellent image frequency rejection and high output power IP3
- Designed to meet requirements of next generation Point-to-Point systems



Table 30

	RF Freq Range (GHz)	IF Freq Range (GHz)	LO Freq Range (GHz)	Conversion Gain (dB)	OIP3 (dBm)	Image Rejection (dBc)	LO Input Power (dBm)	Bias (mA at V)	Package (mm)	Part Number
NEW	10 to 16	DC to 4	6 to 20	13.0	22.0	25.0	0.0 to 5.0	260 at 4.0	QFN 5.0 x 5.0	RFUV5945A

Down-Converters

- Integrated I/Q mixer, LO amplifier, and output buffer amplifier
- Wide bandwidth combining excellent IMD3 performance with low noise figure
- Designed to meet requirements of next generation Point-to-Point systems



Table 31

	RF Freq Range (GHz)	IF Freq Range (GHz)	LO Freq Range (GHz)	Function	Integration	Conversion Gain (dB)	OIP3 (dBm)	Image Rejection (dBc)	LO Input Power (dBm)	Bias (mA at V)	Package (mm)	Part Number
NEW	10 to 16	DC to 4	6 to 20	IQ Downconverter /Receiver	VGC LNA, Image Reject Mixer, LOA	12.0	5.0	24.0	0.0 to 5.0	200 at 4.0	QFN 5.0 x 5.0	RFRX5932A
NEW	10 to 16	DC to 4	3 to 10	IQ Downconverter /Receiver	VGC LNA, Image Reject Mixer, LOA, x2 LO Multiplier	15.0	-1.0	25.0	10.0	200 at 5.0	QFN 5.0 x 5.0	RFRX5933A
NEW	10 to 16	DC to 4	6 to 20	IQ Mixer	Image Reject Mixer, LOA	-7.0	25.0	25.0	0.0 to 5.0	70 at 6.0	QFN 5.0 x 5.0	RFMX5986A

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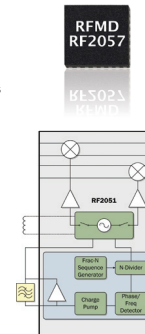
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RF PLL/VCO + Mixers for Repeaters

RF2057 FEATURES

- 1900 MHz to 2400 MHz lo frequency range
- Low phase noise VCO
- Two high-linearity RF mixers
- Mixer input IP3 + 18 dBm
- 2.7 V to 3.6 V power supply
- QFN, 32-pin, 5.0 x 5.0 mm

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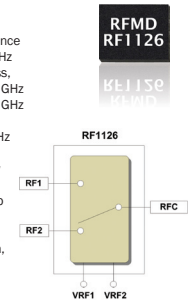


Broadband Medium Power SPDT Switch

RF1126 FEATURES

- Broadband performance low frequency to 6 GHz
- Very low insertion loss,
 - 0.26 dB typ at 1 GHz
 - 0.32 dB typ at 2 GHz
- Excellent harmonics
 - <-75 dBc at 2 GHz
- High IIP3: 62 dBm
- 1.8 V capable for low power applications
- P0.1 dB >23 dBm typ at 2 GHz
- Compact footprint (2.0 x 1.3 x 0.35 mm, 6-pin QFN)

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Switches (Packaged)

- Broadband performance
- Excellent insertion loss and isolation
- Reflective and absorptive options



Table 32

	Type	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Insertion Loss (dB)	Isolation (dB)	OP1dB (dBm)	V _{cc} (V)	Package (mm)	Part Number
NEW	SPST	DC	20000	1.1	42.0	46.0	-3.0 to -7.0	QFN 3.0 x 3.0	RFSW2040 **
NEW	SPST	DC	20000	1.4	45.0	46.0	-3.0 to -7.0	QFN 3.0 x 3.0	RFSW2044 **
NEW	SPDT	DC	20000	1.4	42.0	46.0	-3.0 to -7.0	QFN 3.0 x 3.0	RFSW2041 **
NEW	SPDT	DC	20000	2.6	29.0	40.0	-3.0 to -7.0	QFN 3.0 x 3.0	RFSW2043 **
	SPDT	DC	2500	0.5	>28.0	37.0	2.7 to 5.0	QFN 3.0 x 3.0	FMS2014-001
	SPDT	DC	2500	0.5	26.0	37.0	2.6 to 5.0	QFN-6, 2.0 x 2.0	RF1200
	SPDT	DC	2500	0.5	26.0	41.0	2.6	QFN 2.0 x 2.0	RF1201
	SPDT	DC	3500	0.35	31.0	32.0	2.85	QFN 2.0 x 1.3	RF1128
	SPDT	DC	6000	0.25	27.0	23.0	3.0	QFN 2.0 x 1.3	RF1126
	SPDT	DC	6000	0.6	<36.0	>42.0	2.6 to 5.0	QFN 3.0 x 3.0	FMS2031-001
	SPDT	DC	6000	1.0	25.0	42.0	2.7 to 5.0	QFN 3.3 x 0.9	FMS 2020-001
	SPDT	10	4000	0.3	26.0	32.0	2.5 to 5.0	SC70-6	RF3023
	SPDT	10	4000	0.3	26.0	32.0	2.5 to 5.0	SC70-6	RF3024
	SPDT	10	6000	0.5	58.0	27.0	3.0 to 5.0	QFN 3.0 x 3.0	RF3021
	SPDT	10	6000	0.5	58.0	27.0	3.0 to 5.0	QFN 3.0 x 3.0	RF3025
	SPDT	450	3500	0.3	29.0	23.0	1.8	QFN 2.0 x 1.3	RF1127
NEW	SP3T	DC	15000	2.2	40.0	34.0	-3.0 to -7.0	QFN 3.0 x 3.0	RFSW2042 **
	SP3T	DC	2500	0.3	31.0	>34.0	2.6	QFN 2.0 x 2.0	RF1131
	SP3T	DC	2500	0.5	23.0	>34.0	2.6	QFN 2.0 x 2.0	RF1132
	SP3T	450	2500	0.3	29.5	37.0	1.8	QFN 3.0 x 3.0	RF1130
	SP3T	500	2500	0.45	40.0	37.0	1.8	QFN 2.5 x 2.5	RF1603
	SP3T	600	3500	0.25	28.0	27.0	1.8	QFN 2.5 x 2.5	RF1136
NEW	SP4T	DC	10000	2.8	32.0	33.0	-3.0 to -7.0	QFN 4.0 x 4.0	RFSW2045 **
	SP4T	DC	2500	0.4	29.0	38.0	1.8	QFN 3.0 x 3.0	RF1450
	SP4T	DC	2500	0.65	>30.0	37.0	2.7 to 5.0	QFN 3.0 x 3.0	FMS2016-001
	SP4T	DC	2500	0.65	>30.0	37.0	2.7 to 5.0	QFN 3.0 x 3.0	FMS2016-005
	SP4T	400	2500	0.35	29.0	28.0	1.8	QFN 3.0 x 3.0	RF1146
	SP4T	400	2500	0.35	29.0	28.0	1.8	QFN 3.0 x 3.0	RF1147
	SP4T	450	2500	0.3	28.0	38.0	1.8	QFN 3.0 x 3.0	RF1140
	SP5T	DC	2500	0.35	29.0	28.0	1.8	QFN 3.0 x 3.0	RF1156
	SP8T	DC	2500	0.7	27.0	—	2.7	QFN 3.5 x 3.5	RF1480
	Transmit/Receive	DC	2500	1.0	24.0	—	3.0	SOT23 - 5	RF2436

** High Frequency Switches

Switches (Die)

- High-frequency performance
- High isolation



Table 33

	Type	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Insertion Loss (dB)	Isolation (dB)	OP1dB (dBm)	V _{cc} (V)	Package (mm)	Part Number
NEW	SPST	DC	25000	1.0	50.0	46.0	-3.0 to -7.0	Die	RFSW2040D **
NEW	SPST	DC	25000	1.5	43.0	46.0	-3.0 to -7.0	Die	RFSW2044D **
	SPST	DC	20000	1.0	50.0	24.0	-5.0	Die	FMS 2023 **
	SPST	DC	20000	1.6	57.0	26.0	-5.0	Die	FMS 2029-000 **
NEW	SPDT	DC	20000	2.25	28.0	40.0	-3.0 to -7.0	Die	RFSW2043D **
NEW	SPDT	DC	25000	1.1	45.0	46.0	-3.0 to -7.0	Die	RFSW2041D **
	SPDT	DC	20000	1.4	37.0	24.0	-5.0	Die	FMS 2024 **
	SPDT	DC	20000	2.1	42.0	21.0	-5.0	Die	FMS 2027 **
NEW	SP3T	DC	20000	1.6	42.0	34.0	-3.0 to -7.0	Die	RFSW2042D **
NEW	SP4T	DC	2000	2.8	38.0	33.0	-3.0 to -7.0	Die	RFSW2045D
	SP6T	DC	2500	0.41	>42.0	>37.0	2.7 to 6.0	Die	FMS 2028

** High Frequency Switches

MMIC VCOs

- No external resonator required
- Excellent phase noise performance
- Monolithic structure provides superior shock/vibration performance



Table 34

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	V _{TUNE} (V)	Phase Noise (dBc/Hz at 10 kHz)	V _{CC} (V)	P _{OUT} (dBm)	Part Number
NEW	4000	8000	0.0 to 18.0	74.0	5.0	3.5	RFVC1802
NEW	4500	5000	0.0 to 10.0	82.0	3.0	3.0	RFVC1821
NEW	5000	10000	0.0 to 18.0	72.0	5.0	3.0	RFVC1801
NEW	5500	5500	0.0 to 10.0	80.0	3.0	3.0	RFVC1822
NEW	6000	9000	0.0 to 18.0	73.0	5.0	3.5	RFVC1803
NEW	6100	6750	0.0 to 10.0	76.0	3.0	3.0	RFVC1823
NEW	6800	7400	0.0 to 10.0	78.0	3.0	10.0	RFVC1829
NEW	7200	8000	0.0 to 10.0	76.0	3.0	10.0	RFVC1824
NEW	7800	8700	0.0 to 10.0	79.0	3.0	10.0	RFVC1825
NEW	8000	12000	0.0 to 18.0	66.0	5.0	4.0	RFVC1800

Signal Source Modules

Voltage-Controlled Oscillators

RFMD offers one of the industry’s largest selections of discrete voltage-controlled oscillator (VCO) modules. The following tables offer a sample of the large family of component designs RFMD provides. If you do not see the device that fits your application, the full family of components is located on the RFMD website (www.rfmd.com). For online custom VCO requests, go to www.rfmd.com/products/vcopll/vcorequestorder or contact RFMD at 1-480-756-6070. All VCOs are RoHS compliant.

Additional Integration and Environmental Options

RFMD can provide additional integration in VCO modules as well as value-added environmental options.

Integration

- Buffer amplifiers
- Voltage regulators
- Dual band VCOs
- Switches
- Frequency doublers

Value-Added Environmental Options

- Conformal coating
 - For high-condensing relative humidity environments
- Foam filling
 - For high-vibration environments



VCO Guide

Freq Range	Resonator	Product Family Series	New Product Family Series	Table No.
10 to 400 MHz	Aircoil	UMJ	RFVC66XX	35
25 to 3500 MHz	Microstrip	UMS	RFVC64XX	36
50 to 4000 MHz	Aircoil or Microstrip	VCO190, 191, 790, 793	RFVC7XXX	37-40
100 to 6000 MHz	Microstrip	UMZ	RFVC2XXX	41
500 to 5000 MHz	Coaxial	UMX	RFVC4XXX	42
800 to 4000 MHz	Microstrip	UMV	RFVC62XX	43
4001 to 8000 MHz	Microstrip	UMZ-T2	RFVC6XXX	44

NOTE: All new VCO designs will have part numbers beginning with RFVC.

RFMD VCO Product Family Capabilities Tables

VCOs for IF Conversion - UMJ Series

- Ultra-low phase noise/low current
- Frequency: 10 to 400 MHz
- Resonator: Aircoil
- PCB: Rogers
- Package size: 0.5 x 0.5 in. (12.75 x 12.75 mm)

Applications

- IF conversion applications
- Low phase noise agile clock applications
- Low phase noise applications

Table 35

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Tuning Voltage (Min) (V)	Tuning Voltage (Max) (V)	K_{VCO} (MHz/V)	P_{OUT} (dBm)	2nd Harmonic (dBc)	Phase Noise at 10 kHz (dBc/Hz)	V_{CC} (V)	Part Number
	50	60	1.0	4.0	4.5	9.0	-25	-124	5.0	UMJ-123-D14-G
	180	190	0.5	4.5	3.6	9.0	-25	-128	5.0	UMJ-967-D16-G
	200	200	0.0	5.0	1.0	9.0	-20	-133	5.0	UMJ-1106-R14-G
	295	296	0.0	10.0	1.25	9.0	-25	-130	10.0	UMJ-1109-D14-G
	400	400	1.0	4.0	4.0	9.0	-20	-125	5.0	UMJ-858-D14-G

Octave Band VCOS - UMS Series

- Octave band tuning
- Frequency: 25 to 3500 MHz
- Resonator: Microstrip
- PCB: Rogers
- Package size: 0.5 x 0.5 in. (12.75 x 12.75 mm)

Applications

- Wide bandwidth applications
- Built-in-test applications
- 1st LO applications
- Frequency synthesizers

Table 36

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Tuning Voltage (Min) (V)	Tuning Voltage (Max) (V)	K_{VCO} (MHz/V)	P_{OUT} (dBm)	2nd Harmonic (dBc)	Phase Noise at 10 kHz (dBc/Hz)	V_{CC} (V)	Part Number
	25	50	1.0	15.0	2.4	9.0	-15	-125	12.0	UMS-50-R16-G
	50	100	1.0	15.0	4.5	9.5	-30	-105	12.0	UMS-100-R16-G
	500	1000	0.5	11.0	55.0	10.0	-20	-103	12.0	UMS-1000-A16-G
	600	1200	0.5	12.0	60.0	12.0	-20	-104	12.0	UMS-1200-A16-G
	2000	3000	1.0	14.0	90.0	10.0	-18	-98	12.0	UMS-3000-R16-G

5 V Narrowband VCOS - VCO190 Series

- Linear tuning/low phase noise
- Multiple supply voltage and package options available
- Low cost/high-volume series
- Frequency: 50 to 4000 MHz
- Resonator: Aircoil or microstrip
- PCB: FR-4
- Package size: 0.5 x 0.5 in. (12.75 x 12.75 mm)

Applications

- Wireless infrastructure
- RFID
- General wireless

Table 37

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Tuning Voltage (Min) (V)	Tuning Voltage (Max) (V)	K_{VCO} (MHz/V)	P_{OUT} (dBm)	2nd Harmonic (dBc)	Phase Noise at 10 kHz (dBc/Hz)	V_{CC} (V)	Part Number
	100	200	1.0	16.0	7.0	0.0	-15	-114	5.0	VCO190-150TY
	600	660	0.5	4.5	22.0	1.0	-13	-112	5.0	VCO190-630TY
	845	875	1.0	4.0	15.0	3.0	-15	-113	5.0	VCO190-860TY
	902	928	1.0	4.0	12.0	5.0	-15	-113	5.0	VCO190-915TY
	3950	4100	1.0	10.0	30.0	5.0	-15	-94	5.0	VCO190-4025TY

3 V Narrowband VCOs - VC0191 Series

Table 38

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Tuning Voltage (Min) (V)	Tuning Voltage (Max) (V)	K_{VCO} (MHz/V)	P_{OUT} (dBm)	2nd Harmonic (dBc)	Phase Noise at 10 kHz (dBc/Hz)	V_{CC} (V)	Part Number
	210	230	1.0	2.9	16.0	0.0	-13	-115	3.0	VC0191-220UY
	760	786	0.4	2.6	18.0	-3.0	-12	-109	3.0	VC0191-773UY
NEW	889	915	0.4	2.6	18.0	-3.0	-14	-108	3.0	VC0191-902UY
	902	928	0.4	2.6	18.0	-3.0	-16	-109	3.0	VC0191-915UY
	2400	2500	0.4	2.7	55.0	-3.0	-15	-93	3.0	VC0191-2450UY

5 V Wideband VCOs - VC0790 Series

Table 39

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Tuning Voltage (Min) (V)	Tuning Voltage (Max) (V)	K_{VCO} (MHz/V)	P_{OUT} (dBm)	2nd Harmonic (dBc)	Phase Noise at 10 kHz (dBc/Hz)	V_{CC} (V)	Part Number
	400	800	0.5	20.0	30.0	5.5	-5	-102	5.0	VC0790-600TY
	950	2150	0.5	20.0	75.0	6.0	-8	-102	5.0	VC0790-1550TY
	1000	2000	0.5	20.0	75.0	6.0	-9	-100	5.0	VC0790-1500TY
	2400	2685	0.9	3.5	217.0	6.0	-21	-92	4.1	VC0790-2560KY
	2865	3065	0.8	3.5	170.0	6.0	-20	-91	4.1	VC0790-2965KY

12 V Wideband VCOs - VC0793 Series

Table 40

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Tuning Voltage (Min) (V)	Tuning Voltage (Max) (V)	K_{VCO} (MHz/V)	P_{OUT} (dBm)	2nd Harmonic (dBc)	Phase Noise at 10 kHz (dBc/Hz)	V_{CC} (V)	Part Number
	500	1000	0.0	20.0	40.0	6.0	-6	-104	12.0	VC0793-750TY
	950	2150	0.5	22.0	75.0	7.0	-8	-98	12.0	VC0793-1550TY
	1000	2000	0.5	20.0	75.0	7.0	-9	-100	12.0	VC0793-1500TY
	2100	2500	0.5	4.5	192.0	3.0	-25	-92	12.0	VC0793-2300TY

Microstrip VCOs to 6000 MHz - UMZ Series

- Ultra-linear tuning/low phase noise
- Frequency: 100 to 6000 MHz
- Resonator: Microstrip
- PCB: Rogers
- Package size: 0.5 x 0.5 in. (12.75 x 12.75 mm)

Applications

- Frequency synthesizers
- Up and down converters
- Instrumentation
- Wideband frequency applications

Table 41

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Tuning Voltage (Min) (V)	Tuning Voltage (Max) (V)	K_{VCO} (MHz/V)	P_{OUT} (dBm)	2nd Harmonic (dBc)	Phase Noise at 10 kHz (dBc/Hz)	V_{CC} (V)	Part Number
	100	100	0.5	4.5	1.0	9.0	-25	-135	5.0	UMZ-1155-R16-G
	1460	1825	0.5	18.0	24.0	0.0	-20	-107	8.0	UMZ-1089-D16-G
	1500	1600	0.5	4.5	36.0	2.0	-20	-108	5.0	UMZ-140-A16-G
	3700	3700	0.5	5.0	50.0	3.0	-15	-102	5.0	UMZ-281-A16-G
	5220	5280	0.0	3.0	70.0	0.0	-20	-85	3.3	UMZ-191-A16-G

Ultra-Low Noise CROs - UMX Series

- Ultra linear tuning/ultra low phase noise
- Frequency: 500 to 5000 MHz
- Resonator: Coaxial
- PCB: Rogers
- Package size: 0.5 x 0.5 in. (12.75 x 12.75 mm)

Applications

- Point-to-Point radio
- DRO/YIG multiplied replacements
- Low phase noise applications
- SAW VCO replacement

Table 42

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Tuning Voltage (Min) (V)	Tuning Voltage (Max) (V)	K_{VCO} (MHz/V)	P_{OUT} (dBm)	2nd Harmonic (dBc)	Phase Noise at 10 kHz (dBc/Hz)	V_{CC} (V)	Part Number
	818	847	3.0	12.0	5.5	6.0	-15	-120	7.0	UMX-870-D16-G
	1045	1055	1.0	11.0	3.0	4.0	-13	-125	5.0	UMX-1035-D16-G
	1780	1780	0.5	4.5	6.0	7.0	-16	-123	8.0	UMX-538-D16-G
	2100	2120	0.5	4.5	9.5	7.0	-12	-120	8.0	UMX-599-D16-G
	4000	4000	0.5	4.5	6.5	0.0	-15	-116	5.0	UMX-806-D16-G

Ultra-Linear Tuning VCOs - UMV Series

- Linear tuning/100 MHz frequency bands
- Frequency: 800 to 4000 MHz
- Resonator: Microstrip
- PCB: Rogers
- Package size: 0.5 x 0.5 in. (12.75 x 12.75 mm)

Applications

- Frequency synthesizers
- Up and down converters
- Narrow V tune and VCC applications

Table 43

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Tuning Voltage (Min) (V)	Tuning Voltage (Max) (V)	K_{VCO} (MHz/V)	P_{OUT} (dBm)	2nd Harmonic (dBc)	Phase Noise at 10 kHz (dBc/Hz)	V_{CC} (V)	Part Number
	900	1000	0.5	4.5	36.0	0.0	-15	-110	5.0	UMV-950-R16-G
	1800	1900	0.5	4.5	36.0	0.0	-20	-107	5.0	UMV-1850-R16-G
	2200	2300	0.5	4.5	36.0	0.0	-20	-106	5.0	UMV-2250-R16-G
	2400	2500	0.5	4.5	36.0	0.0	-20	-105	5.0	UMV-2450-R16-G
	3900	4000	0.5	4.5	45.0	0.0	-15	-102	5.0	UMV-3950-R16-G

VCOs with Internal Doubler - UMZ-T2 Series

- Internal frequency doubler and buffer AMP
- ½ Frequency output provided
- Frequency: 4000 to 8000 MHz
- Resonator: Microstrip
- PCB: Rogers
- Package size: 0.5 x 0.5 in. (12.75 x 12.75 mm)

Applications

- DRO replacements
- Higher frequency applications
- Wide bandwidth applications
- Test instrumentation

Table 44

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Tuning Voltage (Min) (V)	Tuning Voltage (Max) (V)	K_{VCO} (MHz/V)	P_{OUT} (dBm)	2nd Harmonic (dBc)	Phase Noise at 10 kHz (dBc/Hz)	V_{CC} (V)	Part Number
	4200	4400	2.0	10.0	75.0	0.0	-20	-97	5.0	UMZ-T2-1078-016-G
	4460	4615	0.5	4.5	60.0	0.0	-18	-98	5.0	UMZ-T2-1045-016-G
	5200	5800	1.0	12.0	80.0	0.0	-20	-95	8.0	UMZ-T2-1080-016-G
	6525	6525	0.5	4.5	60.0	0.0	-20	-96	5.0	UMZ-T2-397-016-G
	6600	8100	1.0	15.0	130.0	-2.0	-15	-88	5.0	UMZ-T2-447-016-G

Phase Locked Loop Modules

RFMD offers complete phase locked loop (PLL) modules integrating a PLL IC, loop filter components, buffer amplifiers, and optional microcontroller. The following PLL module tables offer a sample of the large family of component designs RFMD provides. If you do not see the device that fits your application, the full family of components is located on the RFMD website (www.rfmd.com). For online custom PLL module requests, go to www.rfmd.com/products/vcopll/pllrequestorder or contact us at 1-480-756-6070. All PLL modules are RoHS compliant.

Additional Integration

RFMD can provide additional integration in PLL modules as well as value-added services.

Integration

- PLL IC
- Loop filter components
- Buffer amplifiers
- Voltage regulators
- Dual-band PLLs
- Switches



PLL Guide				
Freq Range	Resonator	Product Family Series	New Product Family Series	Table No.
100 to 3500 MHz	Aircoil	PLL350	RFPK6XXX	45
500 to 4000 MHz	Microstrip	PNP	RFPK3XXX	46
500 to 4000 MHz	Microstrip or Coaxial	PNP	RFPK4XXX	47
700 to 2500 MHz	Aircoil	PLL400	RFPK7XXX	48

NOTE: All new PLL modules will have part numbers beginning with RFPK.

RFMD PLL Product Family Capabilities

PLLs - PLL350 Series

- Low phase noise/fast settling time
- SPI BUS compatible
- Frequency: 100 to 3500 MHz
- Resonator: Aircoil
- PCB: FR-4
- Package: 0.8 x 0.582 in. (20.3 x 14.7 mm)

Applications

- Cellular infrastructure
- RFID
- General wireless

Table 45

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Step Size (Min) (kHz)	Settling Time to <1 kHz (mS)	P _{OUT} (dBm)	Phase Noise at 100 kHz (dBc/Hz)	2nd Harmonic (dBc)	V _{CC1} (V)	V _{CC2} (V)	Part Number
	264	266	2.5	20.0	5.0	-135	-20	5.0	3.3	PLL350-265Y
	869	894	200	0.4	3.0	-123	-25	5.0	3.0	PLL350-881Y
	1090	1150	100	15.0	2.0	-127	-15	5.0	—	PLL350-1120Y
	1230	1290	100	15.0	2.0	-125	-15	5.0	—	PLL350-1260Y
	2940	3048	125	25.0	2.0	-119	-35	5.0	—	PLL350-2944Y

Plug-N-Play Narrowband Synthesizers - PNP Series

- Internal microcontroller
- Programmable START/STOP/Step Size
- SPI BUS compatible
- Frequency: 500 to 4000 MHz
- Resonator: Microstrip
- PCB: Rogers
- Package size: 0.5 x 0.5 in. (12.75 x 12.75 mm)

Applications

- Highly integrated radio designs
- High-performance radios
- Microwave radio IF conversion
- Instrumentation
- Frequency synthesizers

Table 46

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Step Size (Min) (kHz)	Settling Time to <1 kHz (mS)	P _{OUT} (dBm)	Phase Noise at 100 kHz (dBc/Hz)	2nd Harmonic (dBc)	V _{CC1} (V)	V _{CC2} (V)	Part Number
	800	900	25	10000	0.0	-130	-15	5.0	3.0	PNP-850-L22-G
	1100	1200	25	10000	0.0	-130	-18	5.0	3.0	PNP-1150-L22-G
	2400	2500	25	10000	0.0	-125	-18	5.0	3.0	PNP-2450-L22-G
	2500	2600	25	10000	0.0	-125	-18	5.0	3.0	PNP-2550-L22-G
	2700	2800	25	10000	0.0	-126	-18	5.0	3.0	PNP-2750-L22-G
	3900	4000	25	10000	0.0	-122	-18	5.0	3.0	PNP-3950-L22-G

Plug-N-Play Wideband Synthesizers - PNP Series

- Internal microcontroller
- Programmable START/STOP/Step Size
- SPI BUS compatible
- Frequency: 500 to 4000 MHz
- Resonator: Microstrip or coaxial
- PCB: Rogers
- Package: 0.6 x 0.6 in. (15.2 x 15.2 mm)

Applications

- Highly integrated radio designs
- High-performance radios
- Microwave radio IF conversion
- Instrumentation
- Frequency synthesizers

Table 47

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Step Size (Min) (kHz)	Step Size (Max) (kHz)	P _{OUT} (dBm)	Phase Noise at 100 kHz (dBc/Hz)	2nd Harmonic (dBc)	V _{CC1} (V)	V _{CC2} (V)	Part Number
	750	860	1000	10000	0.0	-125	-20	12.0	3.0	PNP-744-P22-G
	1550	1825	5000	10000	0.0	-126	-15	12.0	3.0	PNP-1623-P22-G
	1900	2000	250	10000	0.0	-134	-15	12.0	3.0	PNP-1620-P22-G
	2525	2735	250	10000	3.0	-130	-15	12.5	3.0	PNP-1622-P22-G
	4165	4375	2500	10000	3.0	-120	-15	12.5	3.0	PNP-1617-P22-G

PLLs - PLL400 Series

- Low phase noise/fast settling time
- SPI BUS compatible
- Frequency: 700 to 2500 MHz
- Resonator: Aircoil
- PCB: FR-4
- Package: 0.6 X 0.6 in. (15.2 x 15.2 mm)

Applications

- Cellular infrastructure
- RFID
- General wireless

Table 48

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Step Size (Min) (kHz)	Settling Time to <1 kHz (mS)	P _{OUT} (dBm)	Phase Noise at 100 kHz (dBc/Hz)	2nd Harmonic (dBc)	V _{CC1} (V)	V _{CC2} (V)	Part Number
	750	1000	250	5.0	0.0	-111	-15	5.0	—	PLL400-875Y
	902	928	200	5.0	3.0	-133	-15	5.0	—	PLL400-915AY
	951	977	30	12.0	3.0	-130	-15	5.0	—	PLL400-964AY
	1450	1550	1000	1.0	1.0	-120	-20	5.0	—	PLL400-1500Y
	2000	2400	1000	1.5	0.0	-110	-11	5.0	—	PLL400-2200AY

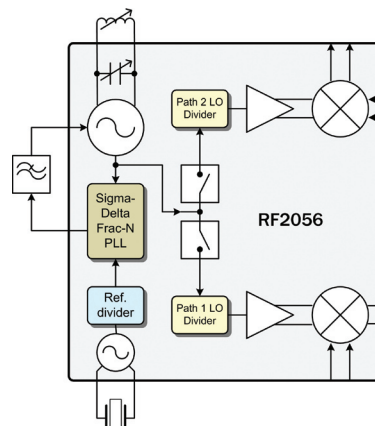
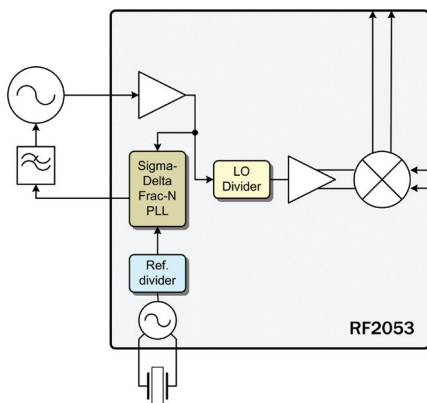
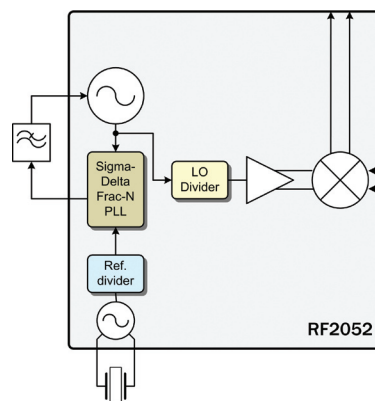
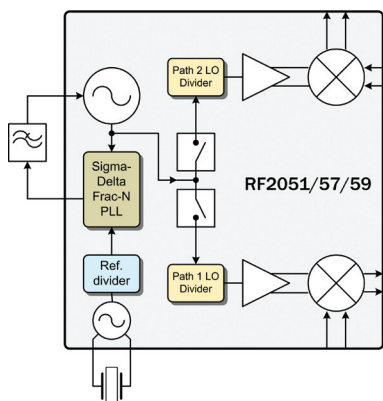
Integrated Synthesizers with Mixers

- Single-placement wideband frequency conversion
- Programmable linearity mixers for power-saving
- Fractional-N PLL for flexibility and optimum spur performance



Table 49

	Description	Mixer RF/IF Freq (Min) (MHz)	Mixer RF/IF Freq (Max) (MHz)	LO Freq (Min) (MHz)	LO Freq (Max) (MHz)	Mixer Conversion Gain (dB)	Mixer IIP3 (dBm)	V _{CC} (V)	I _{CC} (mA)	Package (mm)	Part Number
NEW	High performance RF Synthesizer/VCO with Integrated RF Mixers for UHF applications	30	500	50	500	-2.0	18.0	3.0	65	QFN 5.0 x 5.0	RF2056
	Wideband RF Synthesizer/VCO with Integrated RF Mixers	30	2500	300	2400	-2.0	18.0	3.0	65	QFN 5.0 x 5.0	RF2051
	Wideband RF Synthesizer/VCO with Integrated RF Mixer	30	2500	300	2400	-2.0	18.0	3.0	65	QFN 5.0 x 5.0	RF2052
	Wideband RF Synthesizer with Integrated RF Mixer	30	2500	300	2400	-2.0	18.0	3.0	42	QFN 5.0 x 5.0	RF2053
	RF PLL/VCO with RF Mixers for WLAN Band-Shifters	30	2500	1550	2050	-2.0	18.0	3.0	65	QFN 5.0 x 5.0	RF2059
	RF PLL/VCO with Integrated RF Mixers for Repeaters	30	2500	1900	2400	-2.0	18.0	3.0	65	QFN 5.0 x 5.0	RF2057



Mixers

- Small package size wide bandwidth operation
- High conversion gain



Table 50

	RF Freq (Min) (MHz)	RF Freq (Max) (MHz)	LO Freq (Min) (MHz)	LO Freq (Max) (MHz)	IF Freq (Max) (MHz)	Mixer Conversion Gain (dB)	LO Level (dBm)	P1dB (dBm)	Mixer IIP3 (dBm)	V _{cc} (V)	I _{cc} (mA)	Package (mm)	Part Number
NEW	700	1000	575	1300	300	7.0	0.0	13.0	28.0	5.0	180	QFN 5.0 x 5.0	RFMX0015
NEW	1700	2200	1400	2500	300	7.0	0.0	13.0	28.0	3.0	180	QFN 5.0 x 5.0	RFMX1015

Modulators

- Cellular infrastructure-grade performance
- Low noise floor
- High linearity



Table 51

	RF/LO (Min) (MHz)	RF/LO (Max) (MHz)	OIP3 (dBm)	Broadband Noise Floor (dBm/Hz)	Carrier Suppression (dBc)	Sideband Suppression (dBc)	V _{cc} (V)	I _{cc} (mA)	Package (mm)	Part Number
NEW	700	1000	26.0	-160	40.0	40.0	5.0	185	QFN-24	RFMD0014
	800	2000	20.0	-152	40.0	40.0	3.0	112	QFN-24	RF2705G
	800	2000	20.0	-152	40.0	40.0	3.0	112	QFN-24	RF3854
	1700	2500	20.0	-158	40.0	40.0	5.0	60	QFN-16	RF2850
NEW	1700	2700	26.0	-160	40.0	40.0	5.0	210	QFN-24	RFMD2014

ISM Band Transceiver, Transmitters, and Transverters

- High data rate transceivers integrated with PA and LNA
- 100 MHz transverters
- Low power consumption transmitters for battery-operated applications



Table 52

	Description	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Tx P _{OUT} (dBm)	Rx I _{CC} (mA)	Sensitivity (dBm)	V _{CC} (min) (V)	V _{CC} (max) (V)	Package (mm)	Part Number
	VHF/UHF Transmitter	100	1000	1.0	8.0	1.0	2.25	3.6	LCC 4.0 x 4.0	RF2514
	VHF/UHF Transmitter	100	500	10.0	10.5	10.0	2.25	3.6	QSOP-16	RF2516
	1.5 Mbps FSK Transceiver	902	928	-1.0	50.0	-95.0	2.7	4.5	TQFP-32	ML2722
	1.5 Mbps FSK Transceiver	2400	2485	3.0	55.0	-81.0	2.7	3.3	TQFP-32	ML2724
	2.0 Mbps FSK Transceiver	2400	2485	3.0	55.0	-81.0	2.7	3.3	TQFP-32	ML2726
	2.4 GHz to 5.8 GHz Frequency Translator	2400	5800	5.5	50.0	—	2.8	3.6	LPCC-28	ML5824
	2.4 GHz to 5.8 GHz Frequency Translator	2400	5800	5.5	50.0	—	2.8	3.6	LPCC-28	ML5825
	Variable Data Rate FSK; Transceiver with PA	5725	5850	0.0	65.0	-94.0	2.7	3.6	LPCC-32	ML5800
	5.8 GHz Variable Data Rate FSK Transceiver with Integrated PA	5725	5850	21.0	69.0	-97.0	2.8	3.6	QFN 6.0 x 6.0	ML5805
	Low Power Integrated 5.8 GHz; ASK/FSK Transmitter	5790	5840	4.0	51.0	—	2.9	3.6	QFN 6.0 x 6.0	ML5830
NEW	2.0 Mbps FSK Transceiver	2400	2485	19.0	63.0	-97.0	2.8	3.6	QFN 6.0 x 6.0	ML2730
NEW	5.8 GHz Wireless Solution SiP	5725	5850	12.0	120.0	-80.0	2.8	3.6	"Surface Mount 20.3 x 14.3 x 1.2"	RFSM5805D

SPL6036Z PLL Frequency Synthesizer

- Programmable prescaler (8/16/32/64) and charge pump currents
- Programmable via 3-wire serial interface



Table 53

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Step Size (Min) (kHz)	Step Size (Max) (kHz)	Phase Noise at 100 kHz (dBc/Hz)	2nd Harmonic (dBc)	V _{CC1} (V)	V _{CC2} (V)	Package	Part Number
	500	6000	25	10000	-117	-16.4	5.5	2.7	TSSOP 16L	SPL6036Z

Optical Network Components

- True media converter compliant with ISO/IEC 8802.3; IEEE 802.3; ITA/EIA 785
- Data quantizer compliant with IEEE 802.3; IEEE 802.5

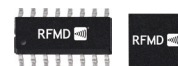


Table 54

	Description	Data Rate (Mbps)	Output Interface	Noise RMS Over Bandwidth (μV)	Standards Supported	V _{CC} (V)	Package (mm)	Part Number
	Fiber Optic Data Quantizer	40	TTL/ECL	25	IEEE 802.3; IEEE 802.5	5.0 to -5.2	SOIC-16	ML4622CSN
	10/100 Mbps Media Converter	10/100	PECL/LVPECL	n/a	ISO/IEC 8802.3; IEEE 802.3; TIA/EIA 785; Auto-negotiation	3.3	LPCC/QFN-44	ML6652CM
	10/100 Mbps Media Converter	10/100	PECL/LVPECL	n/a	ISO/IEC 8802.3; IEEE 802.3; TIA/EIA 785; Auto-negotiation	3.3	TQFP-44	ML6652CH

Circulators

- High isolation and low insertion loss
- Drop-in package providing reliable performance for low-cost solution
- Excellent IMD performance



Table 55

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Insertion Loss (dB)	Isolation (dB)	Return Loss (dB)	IMD (dBc) 2T x 37.5 Watts	Reflected Power (W)	Max Rating (W)	Impedance (Ω)	SWR	Temp (°C)	Package (in)	Part Number
	869	894	<0.2	>25.0	>25.0	-65	200	200	50	1.15	-20 to +85	1" Drop-In	PC0882AG-21H
	920	960	<0.2	>25.0	>25.0	-65	200	200	50	1.15	-20 to +85	1" Drop-In	PC0940AG-21H
	1805	1880	<0.2	>25.0	>25.0	-70	200	200	50	1.15	-40 to +85	1" Drop-In	PC1843AG-21H
	1930	1990	<0.2	>25.0	>25.0	-75	200	200	50	1.15	-40 to +85	1" Drop-In	PC1960AG-21H
	2090	2190	<0.2	>25.0	>25.0	-75	200	200	50	1.15	-40 to +85	1" Drop-In	PC2140AG-21H

Isolators

- Robust construction for high-reliability wireless infrastructure environments
- Designed for applications in high-performance linear power amplifiers
- RoHS compliant



Table 56

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Insertion Loss (dB)	Isolation (dB)	Return Loss (dB)	IMD (dBc) 2T x 37.5 Watts	Reflected Power (W)	Max Rating (W)	Impedance (Ω)	SWR	Temp (°C)	Package (in)	Part Number
	869	894	<0.20	>25.0	>25.0	-65	30	200	50	1.15	-20 to +85	1.0" x 1.0"	PI0882AG-21H
	869	894	<0.20	>25.0	>25.0	-65	100	200	50	1.15	-40 to +85	1.0" x 1.25"	PI0882AA-21H
	920	960	<0.20	>25.0	>25.0	-65	30	200	50	1.15	-20 to +85	1.0" x 1.0"	PI0940AG-21H
	920	960	<0.20	>25.0	>25.0	-65	100	200	50	1.15	-40 to +85	1.0" x 1.25"	PI0940AA-21H
	920	960	<0.35	>58.0	>25.0	-60 Fwd and -90 Rev	100	200	50	1.15	-20 to +85	2.0" x 1.25"	PD0940AQ-21H
	1805	1880	<0.20	>25.0	>25.0	-70	30	200	50	1.15	-40 to +85	1.0" x 1.0"	PI1843AG-21H
	1805	1880	<0.20	>25.0	>25.0	-70	100	200	50	1.15	-40 to +85	1.0" x 1.25"	PI1843AA-21H
	1805	1880	<0.35	>60.0	>25.0	-70 Fwd and -90 Rev	100	200	50	1.15	-20 to +85	2.0" x 1.25"	PD1843AQ-21H
	1930	1990	<0.20	>25.0	>25.0	-75	30	200	50	1.15	-40 to +85	1.0" x 1.0"	PI1960AG-21H
	1930	1990	<0.20	>25.0	>25.0	-75	100	200	50	1.15	-40 to +85	1.0" x 1.25"	PI1960AA-21H
	2090	2190	<0.20	>25.0	>25.0	-75	30	200	50	1.15	-40 to +85	1.0" x 1.0"	PI2140AG-21H
	2090	2190	<0.20	>25.0	>25.0	-75	100	200	50	1.15	-40 to +85	1.0" x 1.25"	PI2140AA-21H

Couplers

- High directivity
- Low insertion loss
- Excellent return loss and coupling flatness



Table 57

	Characteristic Impedance (Ω)	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Nominal (±0.5) Coupling (dB)	Coupling Flatness (dB)	Typical Mainline Loss (dB)	Typical Directivity (dB)	Min Return Loss (dB)	Package	Part Number
	50	5	500	10.0	± 0.5	0.8	30.0	15.0	S06	CPA-0501-510H
	50	5	1000	6.5	± 0.5	1.9	15.0	12.0	S06	CPA-1001-56H
	50	5	1000	10.0	± 0.5	1.2	25.0	14.0	S06	CPA-1001-510H
	75	5	1000	8.5	± 0.5	1.7	20.0	14.0	S06	CPA-1001-708H
	75	5	1000	10.0	± 0.5	1.2	14.0	14.0	S06	CPA-1001-710H
	75	5	1000	10.0	± 0.5	1.2	25.0	14.0	S01	CPK-1001-710H
	75	5	1000	16.0	± 0.5	0.6	30.0	14.0	S06	CPA-1001-716H
	75	5	1000	16.0	± 0.5	0.6	30.0	14.0	S01	CPK-1001-716H
	75	5	1000	20.5	± 0.7	0.4	20.0	17.0	S06	CPA-1001-720H
	75	5	1000	20.5	± 0.5	0.4	20.0	17.0	S01	CPK-1001-720H
NEW	75	5	1200	10.0	± 0.5	1.5	14.0	11.0	S18	RFSP5742
NEW	75	5	1200	10.0	± 0.5	1.5	14.0	14.0	S20	RFSP5743
NEW	75	5	1200	16.0	± 0.5	0.6	20.0	14.0	S18	RFSP5762
NEW	75	5	1200	16.0	± 0.5	0.8	20.0	14.0	S20	RFSP5763

2 Way Splitters

- High isolation, low insertion loss
- Excellent phase and amplitude balance
- Superior return loss



Table 58

	Characteristic Impedance (Ω)	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Min Return Loss (dB)	Typical Isolation (dB)	Typical Insertion Loss (dB)	Package	Part Number
	50	1	500	14.0	25.0	0.4	S06	SPA-0501-25H
	50	1	650	14.0	25.0	0.4	S06	SPA-0701-25H
	50	5	1000	9.6	16.0	0.4	S06	SPA-1002-25H
NEW	50	5	1200	14.0	22.0	1.0	S18	RFSP5522
	50	800	980	17.7	23.0	0.2	S06	SPA-1001-25H
	50	1600	2000	11.0	18.0	0.4	S10	SPC-2001-25H
	50	1700	2500	9.6	24.0	0.5	S06	SPA-2501-25H
	50	1800	2200	11.0	23.0	0.5	S10	SPC-2201-25H
	75	5	65	20.0	35.0	0.2	S06	SPA-0101-27H
	75	5	1000	17.7	30.0	0.5	S06	SPA-1002-27H
NEW	75	5	1200	12.0	28.0	0.8	S18	RFSP5722
	75	30	1000	20.0	30.0	0.5	S06	SPA-1003-27H

3 Way Splitters

- High isolation, low insertion loss
- Excellent phase and amplitude balance



Table 59

	Characteristic Impedance (Ω)	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Min Return Loss (dB)	Typical Isolation (dB)	Typical Insertion Loss (dB)	Package	Part Number
NEW	75	5	200	21.0	30.0	0.35	S04	RFSP2731
NEW	75	20	1200	14.0	25.0	1.5	S04	RFSP5731

Transformers

- Variety of impedance ratios and wiring configurations
- Low insertion loss and good balance
- Usable in 50- and 75-ohm applications



Table 60

	Type	Impedance Ratio	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Package	Part Number
	Balanced - Balanced	1:1	0.008	100	S06	XFA-0101-1BH
	Balanced - Balanced	1:4	0.1	240	S06	XFA-0301-4BH
	Unbalanced - Balanced	1:1	0.05	300	S06	XFA-0301-1WH
	Unbalanced - Balanced	1:1	3.0	200	S03	XFM-0201-1WH
NEW	Unbalanced - Balanced	1:1	3.0	3000	S20	RFXF9503
	Unbalanced - Balanced	1:1	5.0	200	S20	RFXF2713
NEW	Unbalanced - Balanced	1:1	5.0	1200	S18	RFXF5702
	Unbalanced - Balanced	1:1	5.0	1200	S20	RFXF5703
NEW	Unbalanced - Balanced	1:1	5.0	1200	S21	RFXF5704
NEW	Unbalanced - Balanced	1:1	5.0	1200	S18	RFXF5712
NEW	Unbalanced - Balanced	1:1	5.0	1200	S18	RFXF5792
NEW	Unbalanced - Balanced	1:1	5.0	1200	S20	RFXF5793
NEW	Unbalanced - Balanced	1:1	5.0	1200	S21	RFXF5794
NEW	Unbalanced - Balanced	1:1	5.0	3000	S21	RFXF9504
	Unbalanced - Balanced	1:4	1.0	1000	S03	XFM-1001-4WH
	Unbalanced - Balanced	1:4	3.5	700	S03	XFM-0701-4WH
	Unbalanced - Balanced	1:4	5.0	1000	S09	XFP-1001-4WH
	Unbalanced - Balanced	1:4	5.0	1200	S20	RFXF5753
	Unbalanced - Balanced	1:4	8.0	900	S01	XFK-0901-4WH
NEW	Unbalanced - Balanced	1:4	10.0	1900	S20	RFXF6553
	Unbalanced - Balanced	1:4	500.0	2500	S03	XFM-2501-4WH
NEW	Unbalanced - Balanced	1:4	500.0	2500	S20	RFXF8553
	Unbalanced - Balanced	1:8	0.05	125	S06	XFA-0201-8WH
	Unbalanced - Balanced	1:16	13.0	200	S01	XFK-0201-16WH
	Unbalanced - Unbalanced	1:1	1.0	400	S06	XFA-0401-1UH
	Unbalanced - Unbalanced	1:1	1.0	2500	S09	XFP-2501-1UH
	Unbalanced - Unbalanced	1:1	2.5	2000	S01	XFK-2001-1UH
	Unbalanced - Unbalanced	1:1	5.0	1000	S09	XFP-1001-1UH
	Unbalanced - Unbalanced	1:1	5.0	3000	S03	XFM-3001-1UH
	Unbalanced - Unbalanced	1:1	15.0	1003	S03	XFM-1001-1UH
	Unbalanced - Unbalanced	1:1	40.0	1000	S06	XFA-1001-1UH
	Unbalanced - Unbalanced	1:1	40.0	1000	S01	XFK-1001-1UH
	Unbalanced - Unbalanced	1:1	40.0	1000	S03	XFM-1002-1UH
	Unbalanced - Unbalanced	1:1	800.0	1900	S03	XFM-1901-1UH
	Unbalanced - Unbalanced	1:1	5.0	3000	S03	XFM-3001-1UH
	Unbalanced - Unbalanced	1:2.5	0.011	100	S06	XFA-0101-25UH
	Unbalanced - Unbalanced	1:4	0.05	220	S06	XFA-0301-4UH
	Unbalanced - Unbalanced	1:16	0.165	75	S06	XFA-0101-16UH

≥1 GHz Power Doublers

- High-output and low-current products featuring GaN technology
- Extremely low distortion and superior return loss
- Industry-standard SOT115J package



Table 61

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Min Power Gain (dB at Max Freq)	Max Current (mA)	Max NF (dB)	Package	Part Number
	40	1000	19.0	375	6.5	SOT-115J	D10040180GT
	40	1000	19.0	440	6.5	SOT-115J	D10040180GTH
	40	1000	20.0	375	6.5	SOT-115J	D10040200GT
	40	1000	20.0	440	6.5	SOT-115J	D10040200GTH
	45	1000	20.0	380	4.0	SOT-115J	D10040200PL1*
	45	1000	20.0	450	4.0	SOT-115J	D10040200PH1*
	40	1000	22.5	375	6.5	SOT-115J	D10040220GT
	40	1000	22.5	440	6.5	SOT-115J	D10040220GTH

Continued on page 28.

≥1 GHz Power Doublers continued

Table 61 continued

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Min Power Gain (dB at Max Freq)	Max Current (mA)	Max NF (dB)	Package	Part Number
	45	1000	22.5	380	4.0	SOT-115J	D10040230PL1 *
	45	1000	22.5	450	4.0	SOT-115J	D10040230PH1 *
	40	1000	24.0	375	6.0	SOT-115J	D10040240GT
	40	1000	24.0	440	6.0	SOT-115J	D10040240GTH
	40	1000	24.5	375	5.5	SOT-115J	D10040250GT
	40	1000	24.5	440	5.5	SOT-115J	D10040250GTH
	40	1000	27.0	325	5.0	SOT-115J	D10040270GTL
	40	1000	27.0	375	5.0	SOT-115J	D10040270GT
	40	1000	27.0	440	5.0	SOT-115J	D10040270GTH
	40	1000	30.5	440	4.5	SOT-115J	D10040300GTH
NEW	45	1200	22.5	450	4.5	SOT-115J	RFPD2580 *

* Uses GaN technology for outstanding linearity

870 MHz Power Doublers

- Extremely low distortion
- Superior return loss
- Industry-standard SOT115J package



Table 62

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Min Power Gain (dB) at 870 MHz	Max Current (mA)	Max NF (dB)	Package	Part Number
	40	870	18.5	375	6.5	SOT-115J	D8740180GT
	40	870	18.5	440	6.5	SOT-115J	D8740180GTH
	40	870	20.5	375	6.5	SOT-115J	D8740200GT
	40	870	20.5	440	6.5	SOT-115J	D8740200GTH
	40	870	22.0	375	6.5	SOT-115J	D8740220GT
	40	870	22.0	440	6.5	SOT-115J	D8740220GTH
	40	870	24.0	375	6.0	SOT-115J	D8740240GT
	40	870	24.0	440	6.0	SOT-115J	D8740240GTH
	40	870	25.0	375	5.5	SOT-115J	D8740250GT
	40	870	25.0	440	5.5	SOT-115J	D8740250GTH
	40	870	27.0	375	5.0	SOT-115J	D8740270GT
	40	870	27.0	440	5.0	SOT-115J	D8740270GTH
	40	870	30.5	440	4.5	SOT-115J	D8740300GTH
	40	870	32.0	375	4.5	SOT-115J	D8740320GT
	40	870	32.0	440	4.5	SOT-115J	D8740320GTH

≥1 GHz Push-Pull Hybrid Amplifiers

- Extremely low distortion
- Superior return loss
- Industry-standard SOT115J package



Table 63

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Min Power Gain (dB at Max Freq)	Max Current (mA)	Max NF (dB)	Package	Part Number
	40	1000	14.0	260	5.5	SOT-115J	S10040140P1
	40	1000	18.0	260	4.0	SOT-115J	S10040180P1
	40	1000	20.0	260	4.5	SOT-115J	S10040200P
	40	1000	22.0	270	3.5	SOT-115J	S10040220P
	40	1000	23.0	240	6.2	SOT-115J	S10040220GT
	40	1000	23.5	250	6.0	SOT-115J	S10040230GT
	40	1000	24.0	255	3.5	SOT-115J	S10040240P
	40	1000	28.0	260	5.0	SOT-115J	S10040280GT
	40	1000	34.5	280	4.5	SOT-115J	S10040340
NEW	45	1200	23.0	240	6.5	SOT-115J	RFPD2590

870 MHz Push-Pull Hybrid Amplifiers

- Extremely low distortion
- Superior return loss
- Industry-standard SOT115J package



Table 64

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Min Power Gain (dB) at 870 MHz	Max Current (mA)	Max NF (dB)	Package	Part Number
	40	870	18.5	240	5.0	SOT-115J	S8740190
	40	870	18.7	240	7.5	SOT-115J	S8740180GT
	40	870	20.0	260	4.5	SOT-115J	S8740200P
	40	870	22.0	255	3.5	SOT-115J	S8740220P
	40	870	22.7	240	6.2	SOT-115J	S8740220GT
	40	870	23.5	255	3.5	SOT-115J	S8740240P
	40	870	23.5	450	3.5	SOT-115J	S8740240P12 *
	40	870	24.2	240	6.5	SOT-115J	S8740240GT
	40	870	26.0	240	5.5	SOT-115J	S8740260GT
	40	870	28.0	260	5.0	SOT-115J	S8740280GT
	40	870	34.5	280	4.0	SOT-115J	S8740340
	40	870	34.5	300	4.0	SOT-115J	S8740340PT

* Operates at 12 V

Reverse Path Hybrid Amplifiers

- Extremely low distortion
- Superior return loss
- Industry-standard SOT115J package



Table 65

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Min Power Gain (dB) at F _{MAX}	Max Current (mA)	Max NF (dB)	Package	Part Number
	5	65	24.3	140	3.0	SOT-115J	R0605250L
	5	65	24.7	200	3.0	SOT-115J	R0605250
	5	65	29.3	140	3.0	SOT-115J	R0605300L
	5	65	29.3	200	2.5	SOT-115J	R0605300
	5	65	40.0	160	4.5	SOT-115J	R0605400L
	5	100	24.6	140	3.4	SOT-115J	R1005250L
	5	100	29.3	140	3.0	SOT-115J	R1005300L
	5	200	19.5	360	5.0	SOT-115J	R2005200P12 *
	5	200	23.5	360	5.0	SOT-115J	R2005240P12 *
	5	200	23.7	235	3.5	SOT-115J	R2005240
	5	200	27.3	140	3.0	SOT-115J	R2005280L
	5	200	29.3	140	3.0	SOT-115J	R2005300L
	5	200	34.5	160	5.0	SOT-115J	R2005350L
	5	300	24.2	140	3.5	SOT-115J	R3005250L
	5	300	29.1	160	6.3	SOT-115J	R3005300L

* Operates at 12 V

Optical Receivers (Forward Path)

- Extremely low distortion and superior return loss
- Low EINC
- Industry-standard SOT115J package



Table 66

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Max Current (mA)	EINC (pA/sqrt (Hz))	Part Number
	40	870	225	7.5 (40 to 750 MHz), 8.0 (750 to 870 MHz)	OS8740230W
	40	1000	255	7.5 (40 to 1000 MHz)	OS10040280GW
	40	1000	260	5.0 (40 to 400 MHz), 5.5 (400 to 1000 MHz)	OS10040320PW
NEW	45	1200	260	5.0 (50 to 400 MHz), 5.5 (400 to 1000 MHz), 6.3 (1000 to 1200 MHz)	RFOS601X

Optical Receivers (Reverse Path)

- Extremely low distortion and superior return loss
- Low EINC
- Industry-standard SOT115J package



Table 67

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Max Current (mA)	EINC (pA/sqrt (Hz))	Part Number
	5	300	190	7.5 (10 MHz to 300 MHz)	OR3005230W
	5	85	105	2.2 (5 MHz to 85 MHz)	RFOS501X *

* Operates at 12 V

CATV 75 Ω Push-Pull Amplifier ICs

- Push-pull topology for excellent CSO
- 12 V amplification performance at 5 V supply voltage
- Positive gain slope available on some models



Table 68

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Min CSO (dBc)	Min CTB (dBc)	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
	5	65	25.0	3.0	25.0	37.5	-75, 7 Ch Flat +50 dBmV out	-62, 7 Ch Flat +50 dBmV out	5.0 to 12.0	138	ESOP-8	CGR-0118Z
	5	210	17.0	4.0	24.0	42.0	-80, 7 Ch Flat +50 dBmV out	-62, 7 Ch Flat +50 dBmV out	5.0	217	ESOP-8	CGR-0218Z
	5	870	12.5	4.5	20.0	38.0	-70, 79 Ch Flat +34 dBmV out	-68, 79 Ch Flat +34 dBmV out	8.0	150	ESOP-8	CGA-3318Z
	48	1002	15.0	4.5	20.0	37.0	-77, 79 Ch Flat +34 dBmV out	-70, 79 Ch Flat +34 dBmV out	5.0	150	ESOP-8	CGA-1518Z
	48	1002	17.0	4.0	23.0	41.0	-80, 79 Ch Flat +34 dBmV out	-78, 79 Ch Flat +34 dBmV out	5.0	215	ESOP-8	CGA-7718Z
	50	1000	13.8	5.3	21.0	40.0	-81, 79 Ch Flat +34 dBmV out	-70, 79 Ch Flat +34 dBmV out	8.0	150	ESOP-8	CGA-6618Z

CATV 75 Ω Single-Ended Linear Amplifiers

- Excellent linearity
- Low power consumption
- Small footprint



Table 69

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Min CSO (dBc)	Min CTB (dBc)	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
	DC	3000	15.0	5.3	25.5	47.0	-64 133 Ch flat +25 dBmV out	-83 133 Ch Flat +25 dBmV out	9.0 to 12.0	180	CJ2BAT0	RF2317
	48	1000	16.0	3.5	18.0	35.0	-65 79 Ch Flat +25 dBmV out	-77 79 Ch Flat +25 dBmV out	5.0	80	SOT-89	CGB-1089Z
	48	1002	16.3	3.0	18.5	36.0	-64 79 Ch Flat +25 dBmV out	-86 79 Ch Flat +25 dBmV out	5.0	110	SOT-89	RF2389
	50	1200	13.0	3.0	18.5	38.5	-66 110 Ch Flat +28 dBmV out	-84 110 Ch Flat +28 dBmV out	5.0	110	SOT-89	CXE-1089Z

75 Ω Low Noise Amplifier

- Excellent linearity
- Low noise figure
- Small footprint



Table 70

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{cc} (V)	I _{cc} (mA)	Package (mm)	Part Number
	5	1500	20.5	1.5	24.0	39.0	5.0 to 9.0	110	QFN 3.0 x 3.0	RF3827
	5	1500	20.5	1.5	24.0	39.0	5.0 to 9.0	110	SOT-89	CXE-2089Z
	5	1500	20.0	1.2	24.0	33.7	7.0	120	SOP-16	RF-2360
	48	1000	17.5	1.2	1.3	17.5	2.7 to 3.3	20	QFN 2.0 x 2.0	CXE-2022Z

CATV Set-Top Application-Specific ICs

- Diverse RFICs for set-top specific applications



Table 71

	Description	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	NF (dB)	V _{cc} (V)	I _{cc} (mA)	Package (mm)	Part Number
	Upstream Programmable Amplifier	5	65	-32.0 to 31.0	10.0	3.3	70 to 143	QFN 4.0 x 4.0	S518324-44Z *
	AGC Amplifier	30	100	12.0 to 69.0	13.0	3.3	78	MSOP-8	S510069-28Z
	Out-of-Band Tuner	50	150	77.0	13.0	3.3	95	QFN 3.0 x 3.0	RFFC0085
	Out-of-Band Tuner	50	150	82.0	13.0	3.3	117	QFN 5.0 x 5.0	S510065-55Z
	3-way Active CATV Splitter	50	870	2.0 to 8.0	7.0	5.0	150	TSSOP-16	CGA-0116Z
	Broadband MoCA PA	300	3000	19.0	3.0	5.0	100	SOT-89	RF3315
	IF LNA/Mixer	0	700	70.0	5.0	5.0	24	QFN 4.0 x 4.0	RF3334

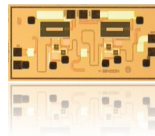
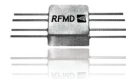
* Operates at DOCSIS 3.0 capable up to 54 dBmV output

High-Reliability Components for Space and Military

Standard and custom products available

Wide range of testing capability to meet your needs

- AS9100 Certified
- DOD Cleared
- Class 10000 Clean Room, Class 100 Laminar Flow Hoods



Standard	Application
MIL-PRF-38534 Class H and K	Hybrids
MIL-PRF-38535 Class H and K	Die
MIL-STD-883 Class S and B	Environmental Test Procedures
MIL-STD-202	Environmental Test Procedures
MIL-DTL-28837	Mixers
MIL-DTL-23971	Power Dividers
MIL-T-55631/MIL-STD-202	Transformers
MIL-HDBK-1547	DOD Electronic Parts, Materials, and Process for Space Vehicles
MIL-STD-5011	MIL-STD-5011
	<ul style="list-style-type: none"> • Potting Material is STYCAST EFF-15, Emerson & Cumming • Non Conductive Epoxy Ablebond 84-3



- Complete reliability and analysis lab
- Assembly and test in Class 100 environment
- Full in-house production and test capabilities

High-Reliability VCOs

- Low phase noise
- Optimized tuning sensitivity
- Custom products available



Table 72

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Phase Noise (dBc/Hz) at 10 kHz	Phase Noise (dBc/Hz) at 100 kHz	P _{OUT} (dBm)	Package	Part Number
	25	50	-115.0	-135.0	12.5	TO-8	VCO-102 / VCO-102TC
	25	50	-115.0	-135.0	12.5	SMT	VCO-102SMT / VCO-102TCSMT
NEW	25	50	-115.0	-135.0	12.5	SMA Conn Module	VCO-102S / VCO-102TCS
	40	809	-115.0	-133.0	12.5	TO-8	VCO-113 / VCO-113TC
	40	809	-115.0	-133.0	12.5	SMT	VCO-113SMT / VCO-113TCSMT
NEW	40	809	-115.0	-133.0	12.5	SMA Conn Module	VCO-113S / VCO-113TCS
	50	100	-109.0	-128.0	12.5	TO-8	VCO-103 / VCO-103TC
	50	100	-109.0	-128.0	12.5	SMT	VCO-103SMT / VCO-103TCSMT
NEW	50	100	-109.0	-128.0	12.5	SMA Conn Module	VCO-103S / VCO-103TCS
	60	120	-110.0	-130.0	12.5	TO-8	VCO-114 / VCO-114TC
	60	120	-110.0	-130.0	12.5	SMT	VCO-114SMT / VCO-114TCSMT
NEW	60	120	-110.0	-130.0	12.5	SMA Conn Module	VCO-114S / VCO-114TCS
	100	200	-99.0	-122.0	12.5	TO-8	VCO-104 / VCO-104TC
	100	200	-99.0	-122.0	12.5	SMT	VCO-104SMT / VCO-104TCSMT
NEW	100	200	-99.0	-122.0	12.5	SMA Conn Module	VCO-104S / VCO-104TCS
	100	200	-112.0	-135.0	13.0	TO-8	VCO-204 / VCO-204TC
	100	200	-112.0	-135.0	13.0	SMT	VCO-204SMT / VCO-204TCSMT
NEW	100	200	-112.0	-135.0	13.0	SMA Conn Module	VCO-204S / VCO-204TCS
	150	300	-100.0	-120.0	12.5	TO-8	VCO-116 / VCO-116TC
	150	300	-100.0	-120.0	12.5	SMT	VCO-116SMT / VCO-116TCSMT
NEW	150	300	-100.0	-120.0	12.5	SMA Conn Module	VCO-116S / VCO-116TCS
	150	300	-110.0	-130.0	13.0	TO-8	VCO-216 / VCO-216TC
	150	300	-110.0	-130.0	13.0	SMT	VCO-216SMT / VCO-216TCSMT
NEW	150	300	-110.0	-130.0	13.0	SMA Conn Module	VCO-216S / VCO-216TCS
	200	400	-97.0	-120.0	12.5	TO-8	VCO-105 / VCO-105TC
	200	400	-97.0	-120.0	12.5	SMT	VCO-105SMT / VCO-105TCSMT
NEW	200	400	-97.0	-120.0	12.5	SMA Conn Module	VCO-105S / VCO-105TCS
	200	400	-105.0	-130.0	12.0	TO-8	VCO-205 / VCO-205TC
	200	400	-105.0	-130.0	12.0	SMT	VCO-205SMT / VCO-205TCSMT
NEW	200	400	-105.0	-130.0	12.0	SMA Conn Module	VCO-205S / VCO-205TCS
	200	400	-102.0	-125.0	11.0	TO-8	VCO-305 / VCO-305TC
	200	400	-102.0	-125.0	11.0	SMT	VCO-305SMT / VCO-305TCSMT
NEW	200	400	-102.0	-125.0	11.0	SMA Conn Module	VCO-305S / VCO-305TCS
	250	500	-100.0	-123.0	13.0	TO-8	VCO-118 / VCO-118TC
	250	500	-100.0	-123.0	13.0	SMT	VCO-118SMT / VCO-118TCSMT
NEW	250	500	-100.0	-123.0	13.0	SMA Conn Module	VCO-118S / VCO-118TCS

Continued on page 33.

High-Reliability VCOs continued

Table 72 continued

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Phase Noise (dBc/Hz) at 10 kHz	Phase Noise (dBc/Hz) at 100 kHz	P _{OUT} (dBm)	Package	Part Number
	300	600	-100.0	-122.0	13.0	TO-8	VCO-117 / VCO-117TC
	300	600	-100.0	-122.0	13.0	SMT	VCO-117SMT / VCO-117TCSMT
NEW	300	600	-100.0	-122.0	13.0	SMA Conn Module	VCO-117S / VCO-117TCS
	400	800	-95.0	-120.0	12.5	TO-8	VCO-106 / VCO-106TC
	400	800	-95.0	-120.0	12.5	SMT	VCO-106SMT / VCO-106TCSMT
NEW	400	800	-95.0	-120.0	12.5	SMA Conn Module	VCO-106S / VCO-106TCS
	400	800	-100.0	-125.0	15.0	TO-8	VCO-206 / VCO-206102TC
	400	800	-100.0	-125.0	15.0	SMT	VCO-206SMT / VCO-206TCSMT
NEW	400	800	-100.0	-125.0	15.0	SMA Conn Module	VCO-206S / VCO-206TCS
	500	1000	-92.0	-117.0	13.5	TO-8	VCO-107 / VCO-107TC
	500	1000	-92.0	-117.0	13.5	SMT	VCO-107SMT / VCO-107TCSMT
NEW	500	1000	-92.0	-117.0	13.5	SMA Conn Module	VCO-107S / VCO-107TCS
	600	1200	-90.0	-113.0	13.0	TO-8	VCO-120 / VCO-120TC
	600	1200	-90.0	-113.0	13.0	SMT	VCO-120SMT / VCO-120TCSMT
NEW	600	1200	-90.0	-113.0	13.0	SMA Conn Module	VCO-120S / VCO-120TCS
	700	1400	-88.0	-115.0	13.0	TO-8	VCO-121 / VCO-121TC
	700	1400	-88.0	-115.0	13.0	SMT	VCO-121SMT / VCO-121TCSMT
NEW	700	1400	-88.0	-115.0	13.0	SMA Conn Module	VCO-121S / VCO-121TCS
	800	1600	-92.0	-115.0	13.0	TO-8	VCO-108 / VCO-108TC
	800	1600	-92.0	-115.0	13.0	SMT	VCO-108SMT / VCO-108TCSMT
NEW	800	1600	-92.0	-115.0	13.0	SMA Conn Module	VCO-108S / VCO-108TCS
	900	1800	-90.0	-112.0	12.5	TO-8	VCO-109 / VCO-109TC
	900	1800	-90.0	-112.0	12.5	SMT	VCO-109SMT / VCO-109TCSMT
NEW	900	1800	-90.0	-112.0	12.5	SMA Conn Module	VCO-109S / VCO-109TCS
	1000	2000	-88.0	-112.0	13.0	TO-8	VCO-110 / VCO-110TC
	1000	2000	-88.0	-112.0	13.0	SMT	VCO-110SMT / VCO-110TCSMT
NEW	1000	2000	-88.0	-112.0	13.0	SMA Conn Module	VCO-110S / VCO-110TCS
	1500	2725	-78.0	-100.0	12.0	TO-8	VCO-111 / VCO-111TC
	1500	2725	-78.0	-100.0	12.0	SMT	VCO-111SMT / VCO-111TCSMT
NEW	1500	2725	-78.0	-100.0	12.0	SMA Conn Module	VCO-111S / VCO-111TCS
	2000	3200	-85.0	-105.0	12.5	TO-8	VCO-112 / VCO-112TC
	2000	3200	-85.0	-105.0	12.5	SMT	VCO-112SMT / VCO-112TCSMT
NEW	2000	3200	-85.0	-105.0	12.5	SMA Conn Module	VCO-112S / VCO-112TCS
	2500	4000	-84.0	-106.0	0.5	TO-8	VCO-215 / VCO-215TC
	2500	4000	-84.0	-106.0	0.5	SMT	VCO-215SMT / VCO-215TCSMT
NEW	2500	4000	-84.0	-106.0	0.5	SMA Conn Module	VCO-215S / VCO-215TCS
	2700	3200	-90.0	-115.0	1.0	TO-8	VCO-500 / VCO-500TC
	2700	3200	-90.0	-115.0	1.0	SMT	VCO-500SMT / VCO-500TCSMT
NEW	2700	3200	-90.0	-115.0	1.0	SMA Conn Module	VCO-500S / VCO-500TCS
	3000	4800	-67.0	-97.0	13.0	TO-8	VCO-119 / VCO-119TC
	3000	4800	-67.0	-97.0	13.0	SMT	VCO-119SMT / VCO-119TCSMT
NEW	3000	4800	-67.0	-97.0	13.0	SMA Conn Module	VCO-119S / VCO-119TCS
	3000	4800	-81.0	-103.0	0.5	TO-8	VCO-219 / VCO-219TC
	3000	4800	-81.0	-103.0	0.5	SMT	VCO-219SMT / VCO-219TCSMT
NEW	3000	4800	-81.0	-103.0	0.5	SMA Conn Module	VCO-219S / VCO-219TCS
	3490	3510	-100.0	-122.0	0.5	TO-8	VCO-3500 / VCO-3500TC
	3490	3510	-100.0	-122.0	0.5	SMT	VCO-3500SMT / VCO-3500TCSMT
NEW	3490	3510	-100.0	-122.0	0.5	SMA Conn Module	VCO-3500S / VCO-3500TCS
	4490	5510	-98.0	-120.0	1.5	TO-8	VCO-4500 / VCO-4500TC
	4490	5510	-98.0	-120.0	1.5	SMT	VCO-4500SMT / VCO-4500TCSMT
NEW	4490	5510	-98.0	-120.0	1.5	SMA Conn Module	VCO-4500S / VCO-4500TCS
	4700	5100	-81.0	-105.0	0.0	TO-8	VCO-510 / VCO-510TC
	4700	5100	-81.0	-105.0	0.0	SMT	VCO-510SMT / VCO-510TCSMT
NEW	4700	5100	-81.0	-105.0	0.0	SMA Conn Module	VCO-510S / VCO-510TCS
	4900	5900	-77.0	-102.0	-1.0	TO-8	VCO-520 / VCO-520TC
	4900	5900	-77.0	-102.0	-1.0	SMT	VCO-520SMT / VCO-520TCSMT
NEW	4900	5900	-77.0	-102.0	-1.0	SMA Conn Module	VCO-520S / VCO-520TCS
	5490	5510	-96.0	-118.0	0.5	TO-8	VCO-5500 / VCO-5500TC
	5490	5510	-96.0	-118.0	0.5	SMT	VCO-5500SMT / VCO-5500TCSMT
NEW	5490	5510	-96.0	-118.0	0.5	SMA Conn Module	VCO-5500S / VCO-5500TCS
	5700	6700	-74.0	-99.0	-1.0	TO-8	VCO-530 / VCO-530TC
	5700	6700	-74.0	-99.0	-1.0	SMT	VCO-530SMT / VCO-530TCSMT
NEW	5700	6700	-74.0	-99.0	-1.0	SMA Conn Module	VCO-530S / VCO-530TCS

High-Reliability Mixers

- Wide bandwidth, low conversion loss
- Rugged packaging

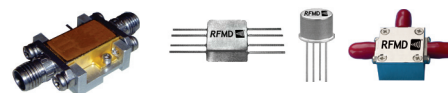


Table 73

					Conversion		Isolation (dB)	Package	Part Number
	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	IF Freq Range (Min) (MHz)	IF Freq Range (Max) (MHz)	Loss (dB)	IIP3 (dBm)			
	0.4	400	DC	100	5.3	10.0	30.0	TO-5	DBM-141
	0.5	500	DC	100	7.5	13.0	25.0	SMT	CM-1
	0.5	500	DC	400	7.0	25.0	30.0	SMT	CM-1H8
NEW	0.5	500	DC	500	7.0	13.0	45.0	BNC Conn Module	DBM-100B
	0.5	450	DC	100	6.0	30.0	25.0	SMT	DBM-188
NEW	1.0	3000	10	500	9.0	10.0	20.0	SMA Conn Module	DBM-400
	1.0	3500	50	800	8.5	17.0	20.0	SMA Conn Module	DBM-700
	1.0	3500	50	800	8.5	20.0	15.0	Flatpack	DBM-700H
	1.0	3500	50	800	8.5	17.0	20.0	TO-8	DBM-701
NEW	1.0	3500	50	800	8.5	17.0	20.0	SMA Conn Module	DBM-701S
	2.0	3000	5	100	8.0	20.0	20.0	Flatpack	DBM-184
	10.0	1000	DC	200	7.5	13.0	20.0	SMT	CM-2
	10.0	1000	DC	500	7.0	25.0	25.0	SMT	CM-2H8
	10.0	1000	DC	1000	7.5	10.0	30.0	Flatpack	DBM-142
	10.0	1000	DC	250	9.0	7.0	15.0	Flatpack	DBM-190
	5.0	1500	DC	300	5.8	25.0	30.0	TO-8	DBM-176
	5.0	1500	DC	500	5.9	10.0	35.0	TO-8	DBM-177
	10.0	1500	DC	1000	8.5	10.0	35.0	Flatpack	DBM-143
	10.0	1500	DC	500	7.2	12.0	30.0	Flatpack	DBM-145
	10.0	1500	DC	500	6.3	25.0	30.0	Flatpack	DBM-178
	10.0	4000	50	400	8.5	20.0	30.0	Flatpack	DBM-183
	10.0	4000	50	1000	8.5	17.0	15.0	TO-8	DBM-186
NEW	50.0	13000	5	5000	8.0	15.0	25.0	SMA Conn Module	DBM-1200
NEW	200.0	18000	5	6000	9.0	16.0	25.0	SMA Conn Module	DBM-1800
	250.0	5000	5	400	9.5	20.0	15.0	Flatpack	DBM-600
NEW	300.0	1500	DC	700	6.0	12.0	30.0	BNC Conn Module	DBM-300B
	500.0	8000	5	1000	10.5	16.0	17.0	Flatpack	DBM-601
NEW	500.0	8000	5	1000	10.5	16.0	17.0	SMA Conn Module	DBM-601S
	600.0	2000	DC	500	7.1	13.0	35.0	Flatpack	DBM-182
	600.0	2000	DC	1000	7.5	11.0	15.0	TO-5	DBM-185
NEW	1700.0	4200	DC	100	6.5	8.0	10.0	SMA Conn Module	DBM-500

High-Reliability Power Dividers

- Low insertion loss
- Outstanding amplitude and phase balance
- Miniature flatpack packaging style

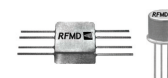


Table 74

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Insertion Loss (dB)	Isolation (dB)	VSWR	Package	Type	Part Number
		1.00	300	0.90	17.0	1.75:1	Leaded	Impedance Transformer
	0.50	150	0.80	20.0	1.75:1	Leaded	Impedance Transformer	HYB-3
	0.25	200	0.65	20.0	1.75:1	TO-5	Impedance Transformer	HYB-11
	1.00	200	0.50	25.0	1.5:1	Flatpack	Impedance Transformer	HYB-16
	10.00	500	0.30	35.0	1.2:1	Flatpack	2-Way Power Divider	PS-2-500F
	5.00	1000	0.30	35.0	1.2:1	Flatpack	2-Way Power Divider	PS-2-1000F
	5.00	2000	0.40	25.0	1.3:1	Flatpack	2-Way Power Divider	PS-2-2000F
	20.00	2000	1.00	25.0	—	Flatpack	2-Way Power Divider	PS-2-2000AF
NEW	5.00	2000	0.75	15.0	1.75:1	SMA Connectorized Module	2-Way Power Divider	PS-2-2000S
	20.00	4000	0.40	25.0	1.3:1	Flatpack	2-Way Power Divider	PS-2-4000F
NEW	20.00	4000	0.80	23.0	1.3:1	SMA Connectorized Module	2-Way Power Divider	PS-2-4000S
	1.00	500	0.30	30.0	1.3:1	Flatpack	3-Way Power Divider	PS-3-500F
NEW	25.00	550	0.50	25.0	1.75:1	SMA Connectorized Module	3-Way Power Divider	PS-3-500S
	10.00	1000	0.40	30.0	1.3:1	Flatpack	3-Way Power Divider	PS-3-1000F
NEW	25.00	1000	0.50	17.0	1.75:1	SMA Connectorized Module	3-Way Power Divider	PS-3-1000S
	1.00	500	0.30	30.0	1.3:1	Flatpack	4-Way Power Divider	PS-4-500F
	25.00	1000	0.50	25.0	1.5:1	Flatpack	4-Way Power Divider	PS-4-1000F
NEW	10.00	1000	0.50	15.0	1.75:1	SMA Connectorized Module	4-Way Power Divider	PS-4-1000S

High-Reliability Transformers

- Outstanding for harsh environmental conditions
- Low insertion loss with high VSWR

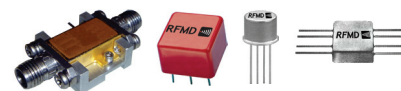


Table 75

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Insertion Loss (dB)	VSWR	Package	Part Number
	0.25	400	0.50	1.75:1	Flatpack	DP-312
	0.50	500	1.00	2:1	Flatpack	DP-322
	0.50	150	0.75	1.5:1	Flatpack	DP-330
	1.00	500	0.50	1.3:1	Flatpack	FP-504
	1.00	1000	0.75	1.5:1	Flatpack	FP-510
	1.00	1200	0.75	1.3:1	Flatpack	FP-512
	1.00	500	0.50	1.3:1	Flatpack	FP-514
	1.00	750	0.50	1.3:1	Flatpack	FP-518
	2.00	750	1.00	1.3:1	Flatpack	FP-522
	1.00	250	0.75	1.3:1	Flatpack	FP-528
	1.00	100	0.50	1.3:1	Flatpack	FP-530
	1.00	80	1.00	2:1	Flatpack	FP-532
	0.50	1000	0.75	2.5:1	Leaded	HF-102
	0.10	500	0.50	2:1	Flatpack	HF-110
	0.15	600	0.75	2:1	Leaded	HF-112
	0.50	400	0.75	2.5:1	Leaded	HF-118
	1.00	700	1.20	1.5:1	Leaded	HF-122
	0.50	200	1.00	2.5:1	Leaded	HF-128
	0.10	80	1.25	2:1	Leaded	HF-130
	0.10	100	1.50	1.5:1	Leaded	HF-132
	0.01	100	0.50	1.5:1	Leaded	LF-402
	0.01	100	0.50	2:1	Leaded	LF-410
	0.01	25	0.50	1.5:1	Leaded	LF-412
NEW	0.01	25	0.50	1.5:1	SMA Conn Module	LF-412S
	0.01	100	0.50	2:1	Leaded	LF-418
NEW	0.01	100	0.50	2:1	SMA Conn Module	LF-418S
	0.01	80	0.75	1.3:1	Leaded	LF-422
NEW	0.01	80	0.75	1.3:1	SMA Conn Module	LF-422S
	0.01	50	1.00	1.5:1	Leaded	LF-428
NEW	0.01	50	1.00	1.5:1	SMA Conn Module	LF-428S
	0.01	25	0.75	1.5:1	Leaded	LF-432
NEW	0.01	25	0.75	1.3:1	SMA Conn Module	LF-432S
	0.01	10	0.75	2:1	Leaded	LF-452
	0.10	5	1.00	2.5:1	Leaded	LF-454
	0.50	650	0.50	1.75:1	TO-5	TO-212
	0.50	500	0.75	2.25:1	TO-5	TO-218
	0.50	450	1.25	2.25:1	TO-5	TO-222
	0.25	200	0.75	2:1	TO-5	TO-228
	0.50	100	0.75	2.5:1	TO-5	TO-230
	0.50	100	0.75	2.25:1	TO-5	TO-232

High-Reliability Amplifiers

- Wide bandwidth, low voltage amplifiers
- Packaged and tested for harsh environments

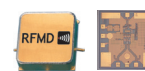


Table 76

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
	50	850	20.1	2.9	19.5	40.3	5.0	81	SMT 2	SBB-2082S
	50	6000	15.6	4.6	19.1	37.0	5.0	77	SMT 2	SBB-4082S
	50	6000	16.0	3.9	15.0	29.0	5.0	42	SMT 2	SBB-3082S
	700	2200	14.4	6.0	32.4	50.5	5.0	435	Die	SPB-2054S

2G Cellular Power Amplifier Based Products

- Low current, complete power control solution
- Multiple-band PA components
- No external components or routing required



Table 77

Description	Transmit Band	Number of Receive Ports	Package (mm)	Typical Output Power (Low Band) (dBm)	Typical Output Power (High Band) (dBm)	Nominal Battery Voltage	Part Number
Dual-Band GSM900/DCS Power Amp Module	Dual-Band EU	—	Module 6.0 x 6.0	34.5	32.0	3.5	RF3166D
Quad-Band GSM850/GSM900/DCS/PCS Power Amp Module	Quad-Band	—	Module 6.0 x 6.0	35.0	33.0	3.5	RF3166
Quad-Band GSM850/GSM900/DCS/PCS Power Amp Module	Quad-Band	—	Module 6.0 x 6.0	34.8	32.7	3.5	RF3196
Quad-Band GSM850/GSM900/DCS/PCS EDGE Power Amp Module	Quad-Band	—	Module 6.0 x 6.0	35.0	33.0	3.6	RF3158
Quad-Band GSM850/GSM900/DCS/PCS EDGE Power Amp Module	Quad-Band	—	Module 6.0 x 6.0	35.0	33.5	3.6	RF3159
Quad-Band GSM850/GSM900/DCS/PCS EDGE Power Amp Module	Quad-Band	—	Module 5.0 x 5.0 x 1.0	35.0	33.0	3.6	RF3189
Quad-Band GSM850/GSM900/DCS/PCS LS Polar Mod Power Amp Module	Quad-Band	—	Module 6.0 x 6.0	35.0	33.0	3.6	RF3161
Quad-Band GSM850/EGSM900/DCS1800/PCS1900 LS Polar Mod Tx, Quad-Band Rx Module with 2 WCDMA Ports	Quad-Band	4 Rx, 2 TRx	Module 7.0 x 6.0 x 1.0	33.5	31.0	3.6	RF3171
Dual-Band GSM900/DCS1800 Tx, Dual-Band Rx Module	Dual-Band EU	2 Rx	Module 6.63 x 5.24 x 1.0	33.7	31.5	3.5	RF7166
Dual-Band GSM850/PCS1900 Tx, Dual-Band Rx Module	Dual-Band AM	2 Rx	Module 6.63 x 5.24 x 1.0	33.7	31.5	3.5	RF7167
Dual-Band GSM900/DCS1800 Tx, Dual-Band Rx Module	Dual-Band EU	2 Rx	Module 6.63 x 5.24 x 1.0	33.7	31.5	3.5	RF7168
Dual-Band GSM850/PCS1900 Tx, Dual-Band Rx Module	Dual-Band AM	2 Rx	Module 6.63 x 5.24 x 1.0	33.7	31.5	3.5	RF7169
Quad-Band GSM850/EGSM900/DCS1800/PCS1900 Tx, Dual-Band Rx Module	Quad-Band	2 Rx	Module 6.63 x 5.24 x 1.0	33.7	31.5	3.5	RF7170
Quad-Band GSM850/EGSM900/DCS1800/PCS1900 Tx, Dual-Band RX Module	Quad-Band	2 Rx	Module 6.63 x 5.24 x 1.0	33.7	31.5	3.5	RF7171
Quad-Band GSM850/EGSM900/DCS1800/PCS1900 Tx, Dual-Band Rx Module	Quad-Band	2 Rx	Module 6.63 x 5.24 x 1.0	33.7	31.5	3.5	RF7172
Dual-Band GSM900/DCS1800/EDGE Tx, Dual-Band Rx Module	Dual-Band EU	2 Rx	Module 6.63 x 5.24 x 1.0	33.7	31.0	3.6	RF9801
Dual-Band GSM900/DCS1800 Transmit Module with WCDMA Port	Dual-Band EU	2 Rx, 1 TRx	Module 6.63 x 5.24 x 1.0	33.8	31.2	3.5	RF3231
Quad-Band GSM850/GSM900/DCS/PCS TxM with Integrated Receive SAW Filters	Quad-Band	4 Rx	Module 6.63 x 7.25 x 1.0	33.7	31.5	3.5	RF7178

3G Cellular Handset Application Components

- High-power, high-efficiency, linear PA modules
- Optimally designed for 3 V handheld solutions



Table 78

Description	Transmit Band	Package (mm)	High Band Output Power (dBm)	Low Band Output Power (dBm)	V _{CC} (V)	Part Number
3 V W-CDMA Linear Power Amp Module with Integrated Coupler	1 (with 20 dB coupler)	QFN 3.0 x 3.0 x 0.85	28.0	—	3.4	RF3267
3 V W-CDMA Linear Power Amp Module with Power Detector	1 (TD-SCDMA-capable 33 and 34)	QFN 3.0 x 3.0 x 0.85	28.0	—	3.4	RF3266
3 V W-CDMA Linear Power Amp Module	5, 8	QFN 3.0 x 3.0 x 0.85	28.0	—	3.4	RF6266
3 V 1950 MHz UMTS Linear Quadrature Power Amp Module	1, 2	Module 4.0 x 4.0 x 1.0	27.0	—	3.4	RF6281
3 V Multi-Band UMTS Linear Quadrature Power Amp Module	1, 2, 5, 8	Module 5.5 x 6.0 x 1.0	27.0	—	3.4	RF6285
3 V WCDMA and TD-SCDMA	WCDMA 1 TD-SCDMA 33 and 34	Module 3.0 x 3.0 x 1.0	28.0 27.5.0	19.0	3.4	RF7234
3 V W-CDMA Band 1 Linear PA Module with Integrated Coupler	1	Module 3.0 x 3.0 x 1.0	28.0	—	3.4	RF7200
3 V W-CDMA Band 3/4 Linear PA Module with Integrated Coupler	3, 4	Module 3.0 x 3.0 x 1.0	28.0	—	3.4	RF7203
3 V W-CDMA Band 2 Linear PA Module with Integrated Coupler	2	Module 3.0 x 3.0 x 1.0	28.5	—	3.4	RF7206
3 V W-CDMA Band 11/21 Linear PA Module with Integrated Coupler	11, 21	Module 3.0 x 3.0 x 1.0	28.0	—	3.4	RF7211
3 V W-CDMA Dual Band 1/8 Linear PA Module with Integrated Coupler	1, 8	Module 4.0 x 5.0 x 1.0	28.0	28.5	3.4	RF7201
3 V W-CDMA Dual Band 2/5 Linear PA Module with Integrated Coupler	2, 5	Module 4.0 x 5.0 x 1.0	28.5	28.0	3.4	RF7202
3 V W-CDMA Dual Band 1/5 Linear PA Module with Integrated Coupler	1, 5	Module 4.0 x 5.0 x 1.0	28.0	28.0	3.4	RF7205

Cellular Power Management Products

- Used in conjunction with power amplifiers in 3 V handheld systems
- Automatic bypass mode
- Variable output voltage



Table 79

Switching Freq (MHz)	Max I _{CC} (mA)	Voltage Range (V)	Efficiency (%)	Package (mm)	Part Number
2.5	650	3.7	96	15-Bump WLCSP (4.0 x 4.0 array), 2.0 x 2.0	RF6280

NOTE: Cellular LNAs are located in Table 7, page 6. Cellular Switches are located in Table 32, page 15.

High-Power GaN Unmatched Power Transistors

- Using an advanced 0.5 μm GaN process
- Excellent peak drain efficiency
- Excellent gain flatness over broadband frequency

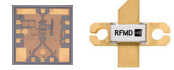


Table 80

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	SS Gain (dB)	OP3dB (dBm)	Drain Eff (%)	V _D (V)	I _{DQ} (mA)	Package	Condition	Part Number
NEW	DC	3000	15.0	46.5	65.0	48	130	RF360-2	CW at 2.1GHz	RF3931
NEW	DC	3000	14.0	48.5	65.0	48	220	RF360-2	CW at 2.1GHz	RF3932
NEW	DC	3000	14.0	50.0	60.0	48	310	RF360-2	CW at 2.1GHz	RF3933
NEW	DC	3000	13.0	50.8	55.0	48	440	RF360-2	CW at 2.1GHz	RF3934
NEW	DC	3000	15.0	41.5	65.0	48	90	Die	CW at 2.1GHz	RF3930D
NEW	DC	3000	15.0	46.5	65.0	48	130	Die	CW at 2.1GHz	RF3931D
NEW	DC	3000	14.0	48.5	60.0	48	220	Die	CW at 2.1GHz	RF3932D
NEW	DC	3000	14.0	50.0	60.0	48	310	Die	CW at 2.1GHz	RF3933D
NEW	DC	3000	13.0	50.8	55.0	48	440	Die	CW at 2.1GHz	RF3934D

High-Power GaN Matched Power Transistors

- High peak pulsed power
- High peak drain efficiency
- Optimized I/O match for broadband performance



Table 81

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	SS Gain (dB)	OP3dB (dBm)	Drain Eff (%)	V _D (V)	I _{DQ} (mA)	Package	Condition	Part Number
NEW	2800	3400	13.0	54.8	50.0	48	440	RF565-2	100 μsec PW 10% DC	RF3928
NEW	1200	1400	15.0	55.4	60.0	48	440	RF565-2	100 μsec PW 10% DC	RFHA1020

High-Power GaN Power IC

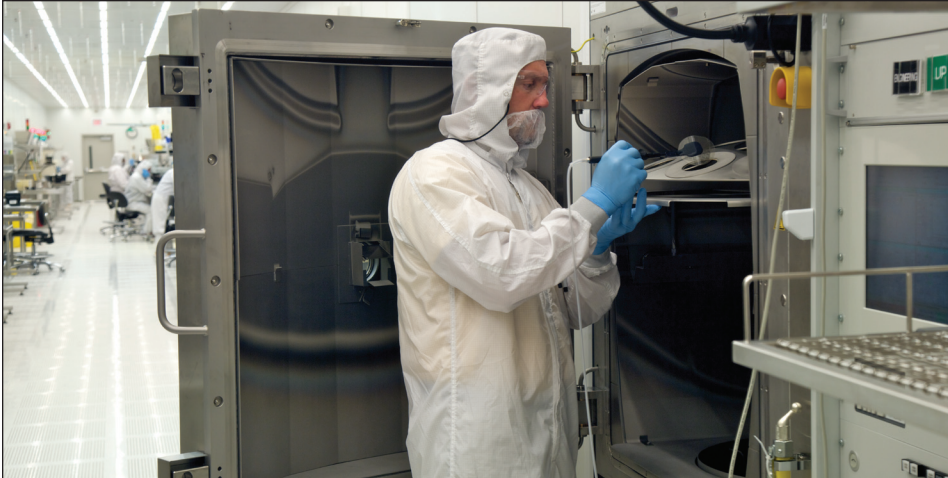
- Excellent broadband power performance
- High peak power added efficiency
- Small form factor, 50-ohm input match



Table 82

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	SS Gain (dB)	OP3dB (dBm)	Power-Added Eff (%)	V _D (V)	I _{DQ} (mA)	Package	Condition	Part Number
NEW	30	2500	11.0	39.5	40.0	28	55	AIN SOIC-8	CW Instantaneous BW	RF3826
NEW	50	1000	18.0	42.0	60.0	28	88	AIN SOIC-8	CW Instantaneous BW	RFHA1000
NEW	30	512	19.0	39.5	70.0	28	55	AIN SOIC-8	CW Instantaneous BW	RFHA1003
NEW	30	2100	13.0	44.0	45.0	48	88	RF270-10	CW Instantaneous BW	RF3833

RFMD® GaN Foundry Services



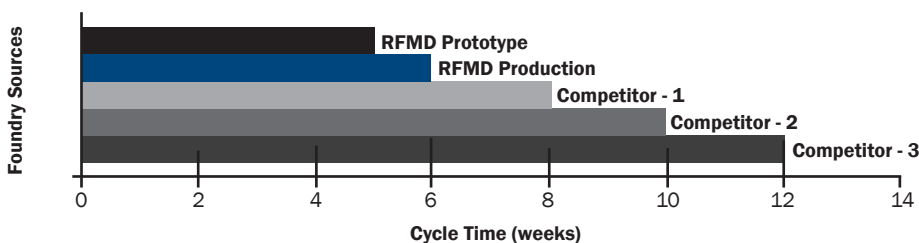
RFMD develops and manufactures unmatched compound semiconductor technologies and is now offering foundry services for our industry-leading 0.5 μm GaN on SiC process. RFMD's world-class manufacturing scale, supported by the largest III-V factory in the world, enables best-in-class cycle times backed by our on-time shipment pledge. RFMD's track record as a high-volume, reliable supplier has earned us "preferred partner" status with the industry's top OEMs while our extraordinary level of customer service continues to set us apart from the competition.

Applications benefiting from RFMD GaN technology

- Wireless Infrastructure
- Broadband Communications
- Defense Communications and Systems
- CATV Distribution
- SATCOM

RFMD GaN is production ready. It's a mature, robust technology with extraordinary reliability. Compared to GaAs and Si, RFMD GaN has much higher breakdown voltage and power densities, enabling applications not possible with competing technology. RFMD's GaN high power density also allows for smaller devices, reducing the capacitance while enabling high impedances, wider bandwidths, and reduced cost. Additional benefits include reduced circuit complexity, industry-leading efficiency of operation, reduced cooling requirements, and lighter weight.

RFMD's GaN industry-leading cycle time accelerates time-to-market



Prototype and shuttle lot cycle time: 5 weeks (37.5% less than industry average)

Production lots cycle time: 6 weeks (25% less than industry average)



For a discussion of RFMD's robust technology roadmap and opportunities, contact our Foundry Services Team: RFMDFoundryServices@rfmd.com

RFMD Leading with Excellence

- **Process design kits** available for both ADS and Microwave Office
- **Multi-project wafer shuttle** runs available monthly and dedicated mask sets at customer's convenience
- **Secure customer e-business website**
- **Dedicated Foundry Team** provides rigorous firewall between Foundry customers and product lines
- **Committed, robust roadmap** expanding the suite of services and technologies available to foundry customers

RFMD GaN Multiple Efficiency Benefits

- **Scale**
GaN built in existing fabs — scale-driven cost
- **Linearity and Bandwidth**
Improved performance — especially for LTE/WiMAX
- **Green**
More power efficient per mW of RF power
- **Power and Size**
More RF power per mm^2
- **Opex/Capex**
BOM and running costs reduced — minimized total cost of ownership

RFMD MIMIC Technologies

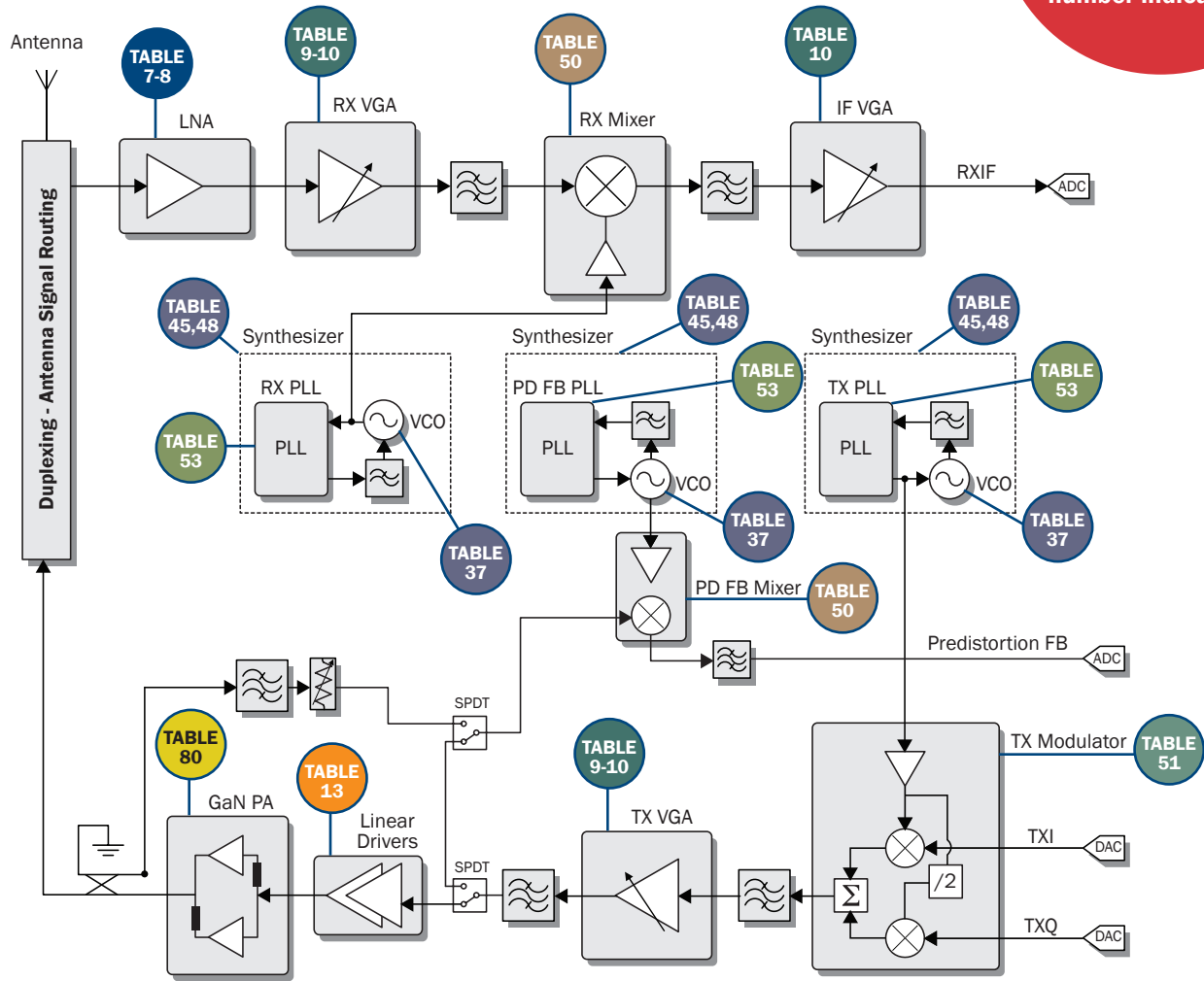
- **GaN 1**
Gallium Nitride, 48 V, 7.5 W/mm, up to 6 GHz, MTTF > 1.1×10^7 hours at $T_{\text{channel}} = 200^\circ\text{C}$
- **GaN 2**
Gallium Nitride, 28 V, 5 W/mm, up to 6 GHz, MTTF > 1.7×10^7 hours at $T_{\text{channel}} = 200^\circ\text{C}$
- **IPC3**
Integrated Passives, 3-layer metal, up to 5 μm thick Au, 135 or 430 pF/ mm^2 capacitance density
- **Options**
 - Backside vias
 - AuSn back metal



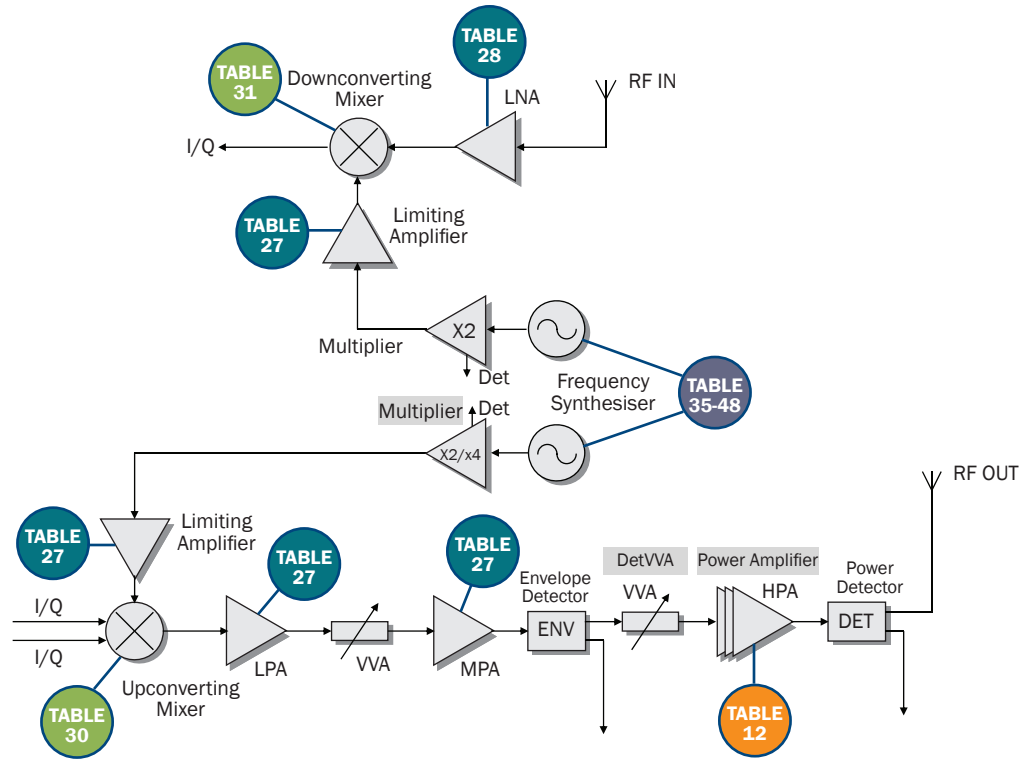
Wireless Infrastructure

Cellular Infrastructure Base Station

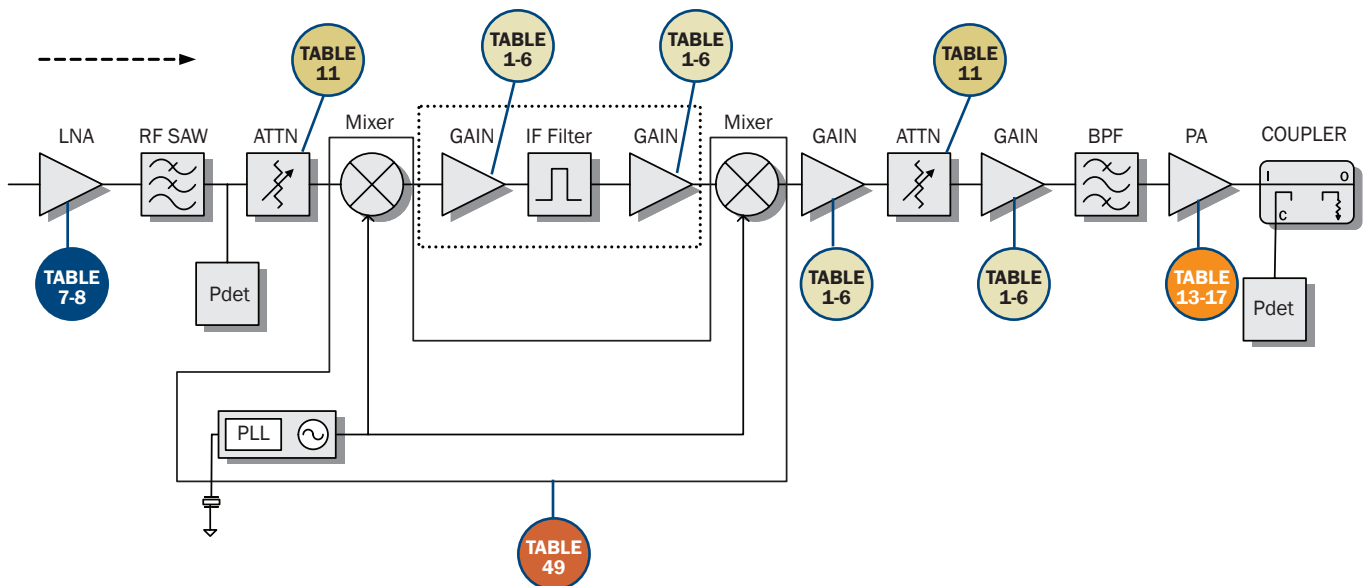
Parts shown in the diagrams in this section can be cross-referenced throughout the product guide using the table number indications.



Point-to-Point



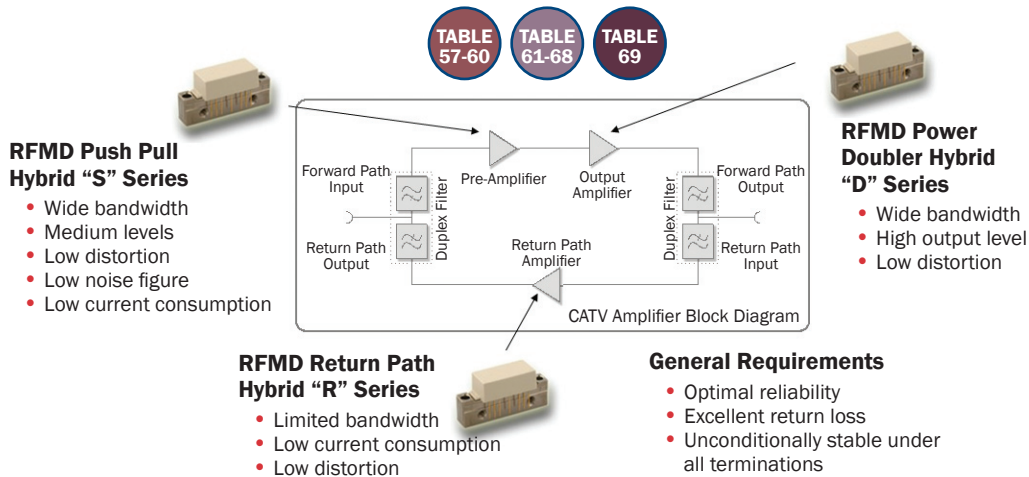
Wireless Repeater



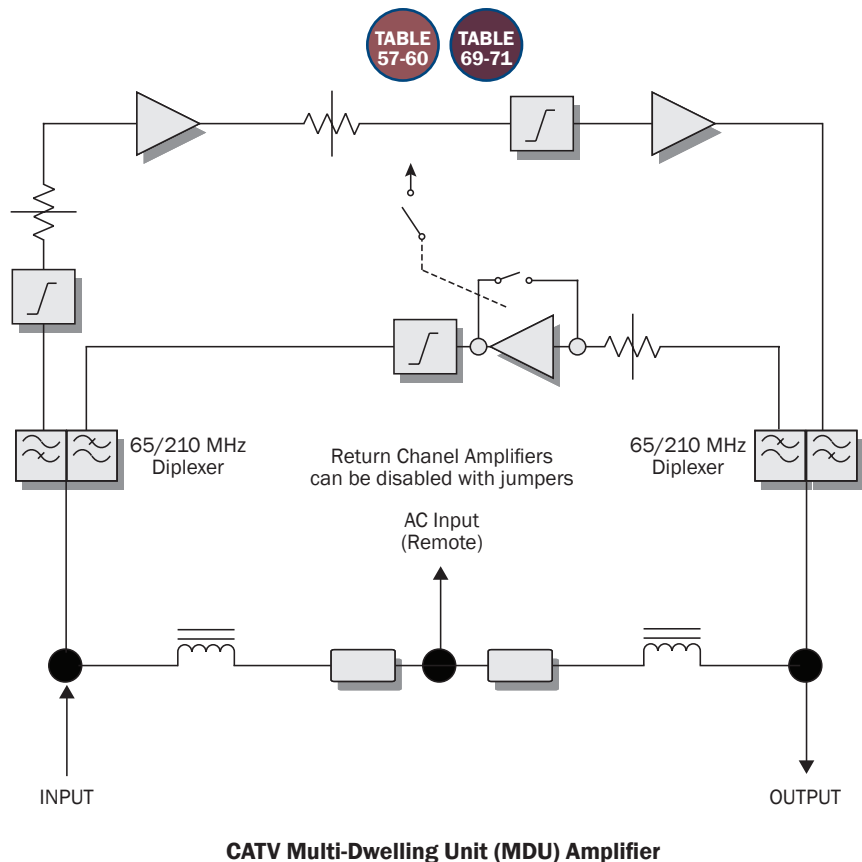
Broadband

CATV Transmission

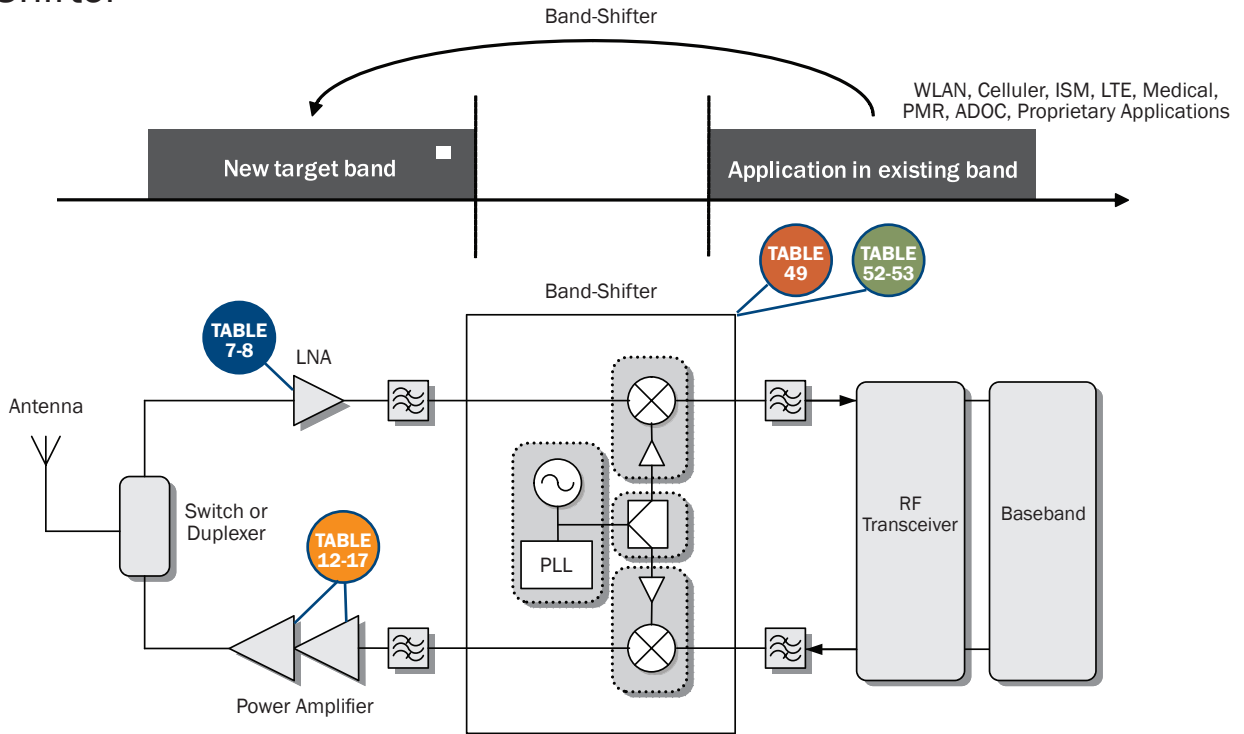
CATV Line Extender Amplifier Block Diagram Using RFMD Hybrid CATV Amplifier Modules



Broadband Customer Premise Equipment (CPE)

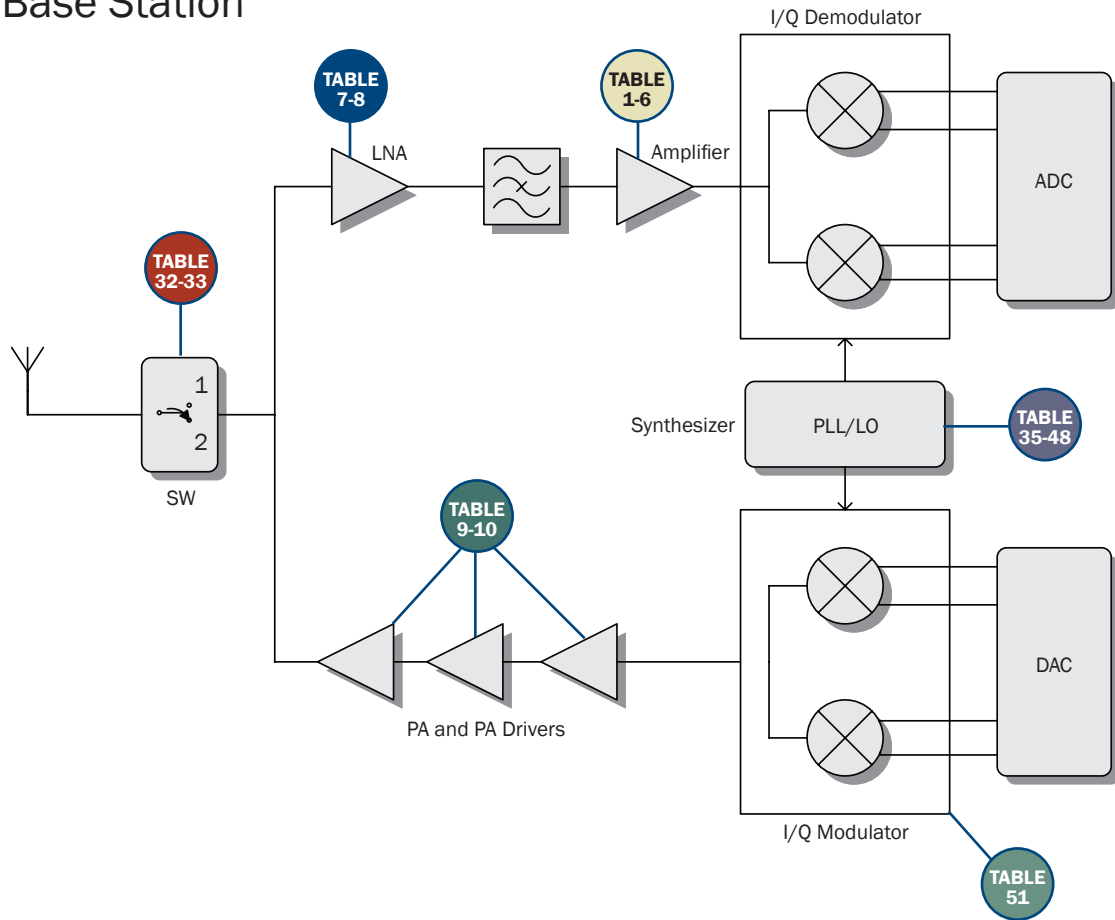


Band-Shifter

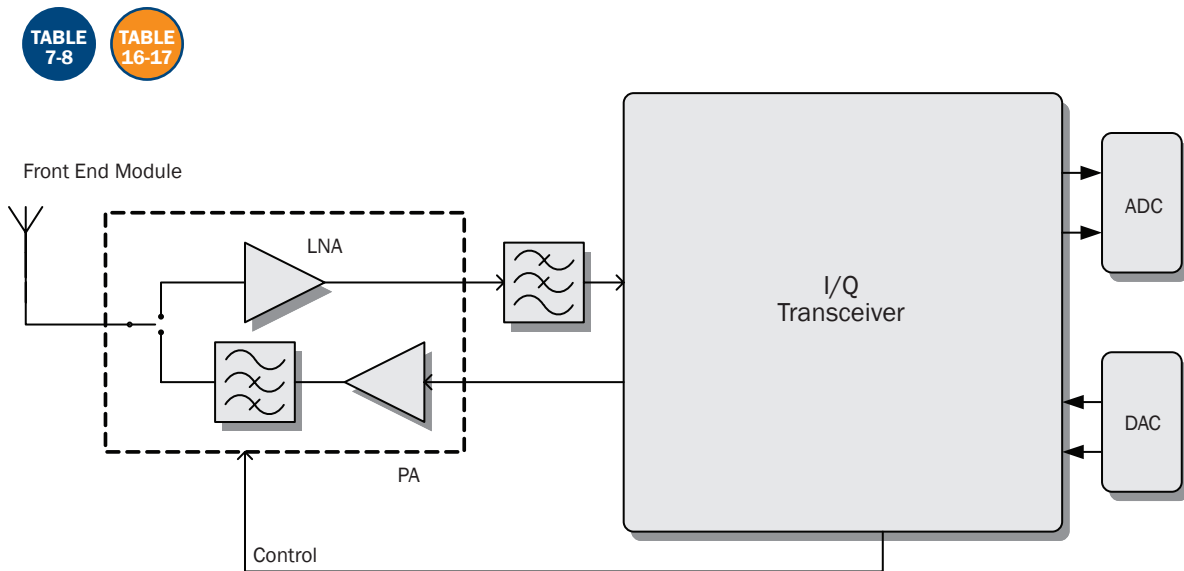


WiFi, WiMAX, ZigBee®, and Bluetooth®

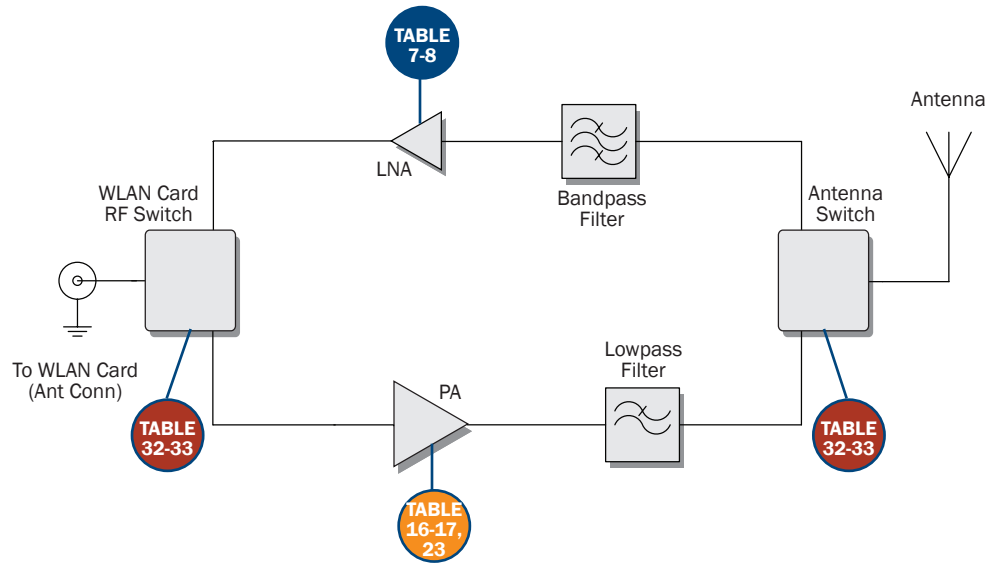
WiMAX Base Station



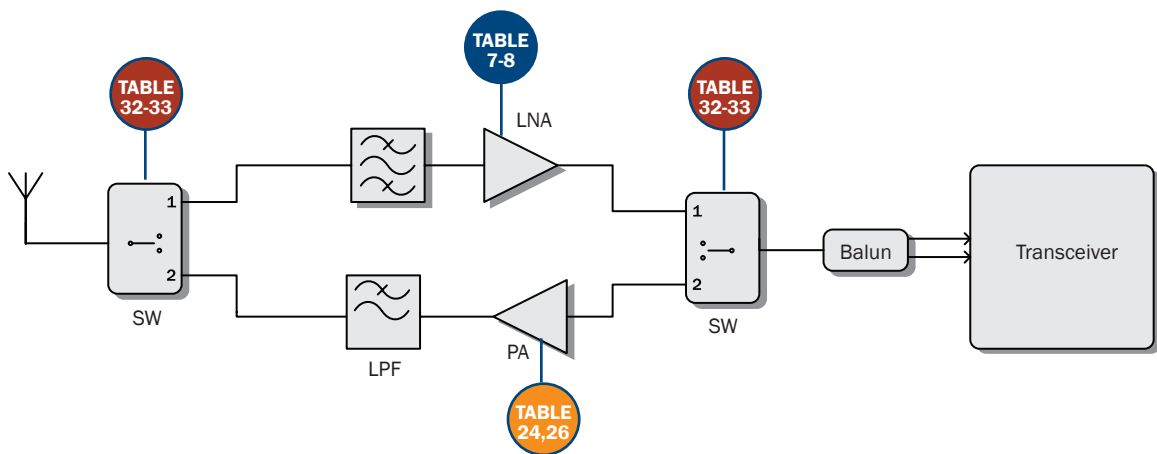
WiFi



WiFi Booster



SmartEnergy AMI



PACKAGE INFORMATION

					
QFN/LPCC	Ceramic Micro-X	P70	SOT-363/SC70	SOT-343	SOT-86
					
SOT-89	SOT-23	S01	S06	S10	S20
					
S21	SOT-115J	DFN	Ceramic MPGA	SOIC-8	MSOP-8
					
SOP Batwing	CJBATO	TSSOP	Circulator	Isolator	RF565-2
					
PLL	VCO	Optical Receiver	Module	SOF	TO-5
					
LQFP/TQFP	Flatpack	TO-8/SMA	LF	MMIC VCO	DBM

CONVERSION TABLES

VSWR / Return Loss Conversion Table

Return Loss (dB)	VSWR	Return Loss (dB)	VSWR	Return Loss (dB)	VSWR	Return Loss (dB)	VSWR	Return Loss (dB)	VSWR
46.064	1.01	13.842	1.51	9.485	2.01	7.327	2.51	5.999	3.01
40.086	1.02	13.708	1.52	9.428	2.02	7.294	2.52	5.970	3.02
36.607	1.03	13.577	1.53	9.372	2.03	7.262	2.53	5.956	3.03
34.151	1.04	13.449	1.54	9.317	2.04	7.230	2.54	5.935	3.04
32.256	1.05	13.324	1.55	9.262	2.05	7.198	2.55	5.914	3.05
30.714	1.06	13.201	1.56	9.208	2.06	7.167	2.56	5.893	3.06
29.417	1.07	13.081	1.57	9.155	2.07	7.135	2.57	5.872	3.07
28.299	1.08	12.964	1.58	9.103	2.08	7.105	2.58	5.852	3.08
27.318	1.09	12.849	1.59	9.051	2.09	7.074	2.59	5.832	3.09
26.444	1.10	12.736	1.60	8.999	2.10	7.044	2.60	5.811	3.10
25.658	1.11	12.625	1.61	8.949	2.11	7.014	2.61	5.791	3.11
24.943	1.12	12.518	1.62	8.899	2.12	6.984	2.62	5.771	3.12
24.289	1.13	12.412	1.63	8.849	2.13	6.954	2.63	5.751	3.13
23.686	1.14	12.308	1.64	8.800	2.14	6.925	2.64	5.732	3.14
23.127	1.15	12.207	1.65	8.752	2.15	6.896	2.65	5.712	3.15
22.607	1.16	12.107	1.66	8.705	2.16	6.867	2.66	5.693	3.16
22.120	1.17	12.009	1.67	8.657	2.17	6.839	2.67	5.674	3.17
21.664	1.18	11.913	1.68	8.611	2.18	6.811	2.68	5.654	3.18
21.234	1.19	11.818	1.69	8.565	2.19	6.783	2.69	5.635	3.19
20.828	1.20	11.725	1.70	8.519	2.20	6.755	2.70	5.617	3.20
20.443	1.21	11.634	1.71	8.474	2.21	6.728	2.71	5.598	3.21
20.079	1.22	11.545	1.72	8.430	2.22	6.700	2.72	5.579	3.22
19.732	1.23	11.457	1.73	8.386	2.23	6.673	2.73	5.561	3.23
19.401	1.24	11.370	1.74	8.342	2.24	6.646	2.74	5.542	3.24
19.085	1.25	11.285	1.75	8.299	2.25	6.620	2.75	5.524	3.25
18.783	1.26	11.202	1.76	8.257	2.26	6.594	2.76	5.506	3.26
18.493	1.27	11.120	1.77	8.215	2.27	6.567	2.77	5.488	3.27
18.216	1.28	11.039	1.78	8.173	2.28	6.541	2.78	5.470	3.28
17.949	1.29	10.960	1.79	8.138	2.29	6.516	2.79	5.452	3.29
17.690	1.30	10.881	1.80	8.091	2.30	6.490	2.80	5.435	3.30
17.445	1.31	10.804	1.81	8.051	2.31	6.465	2.81	5.417	3.31
17.207	1.32	10.729	1.82	8.011	2.32	6.440	2.82	5.400	3.32
16.977	1.33	10.654	1.83	7.972	2.33	6.415	2.83	5.383	3.33
16.755	1.34	10.581	1.84	7.933	2.34	6.390	2.84	5.365	3.34
16.540	1.35	10.509	1.85	7.894	2.35	6.366	2.85	5.348	3.35
16.332	1.36	10.437	1.86	7.856	2.36	6.341	2.86	5.331	3.36
16.131	1.37	10.367	1.87	7.818	2.37	6.317	2.87	5.315	3.37
15.936	1.38	10.298	1.88	7.781	2.38	6.293	2.88	5.298	3.38
15.747	1.39	10.230	1.89	7.744	2.39	6.270	2.89	5.281	3.39
15.563	1.40	10.163	1.90	7.707	2.40	6.246	2.90	5.265	3.40
15.385	1.41	10.097	1.91	7.671	2.41	6.223	2.91	5.248	3.41
15.211	1.42	10.032	1.92	7.635	2.42	6.200	2.92	5.232	3.42
15.043	1.43	9.968	1.93	7.599	2.43	6.177	2.93	5.216	3.43
14.879	1.44	9.904	1.94	7.564	2.44	6.154	2.94	5.200	3.44
14.719	1.45	9.842	1.95	7.529	2.45	6.131	2.95	5.184	3.45
14.564	1.46	9.780	1.96	7.494	2.46	6.109	2.96	5.168	3.46
14.412	1.47	9.720	1.97	7.460	2.47	6.086	2.97	5.152	3.47
14.264	1.48	9.660	1.98	7.426	2.48	6.064	2.98	5.137	3.48
14.120	1.49	9.601	1.99	7.393	2.49	6.042	2.99	5.121	3.49
13.979	1.50	9.542	2.00	7.360	2.50	6.021	3.00	5.105	3.50

dBm to Watts Conversion Table

dBm	Watts	dBm	Watts	dBm	Watts
0	1.0 mW	16	40 mW	32	1.6 W
1	1.3 mW	17	50 mW	33	2.0 W
2	1.6 mW	18	63 mW	34	2.5 W
3	2.0 mW	19	79 mW	35	3 W
4	2.5 mW	20	100 mW	36	4 W
5	3.2 mW	21	126 mW	37	5 W
6	4 mW	22	158 mW	38	6 W
7	5 mW	23	200 mW	39	8 W
8	6 mW	24	250 mW	40	10 W
9	8 mW	25	316 mW	41	13 W
10	10 mW	26	398 mW	42	16 W
11	13 mW	27	500 mW	43	20 W
12	16 mW	28	630 mW	44	25 W
13	20 mW	29	800 mW	45	32 W
14	25 mW	30	1.0 W	46	40 W
15	32 mW	31	1.3 W	47	50 W

PART NUMBER INDEX CROSS REFERENCE

P/N	Pg. #	P/N	Pg. #	P/N	Pg. #	P/N	Pg. #
CGA-0116Z	31	DBM-178	34	HF-110	35	PS-2-1000F	34
CGA-1518Z	30	DBM-1800	34	HF-112	35	PS-2-2000AF	34
CGA-3318Z	8	DBM-182	34	HF-118	35	PS-2-2000F	34
CGA-3318Z	30	DBM-183	34	HF-122	35	PS-2-2000S	34
CGA-6618Z	30	DBM-184	34	HF-128	35	PS-2-4000F	34
CGA-7718Z	30	DBM-185	34	HF-130	35	PS-2-4000S	34
CGB-1089Z	31	DBM-186	34	HF-132	35	PS-2-500F	34
CGR-0118Z	8	DBM-188	34	HYB-1	34	PS-3-1000F	34
CGR-0118Z	30	DBM-190	34	HYB-11	34	PS-3-1000S	34
CGR-0218Z	30	DBM-300B	34	HYB-16	34	PS-3-500F	34
CM-1	34	DBM-400	34	HYB-3	34	PS-3-500S	34
CM-1H8	34	DBM-500	34	LF-402	35	PS-4-1000F	34
CM-2	34	DBM-600	34	LF-410	35	PS-4-1000S	34
CM-2H8	34	DBM-601	34	LF-412	35	PS-4-500F	34
CPA-0501-510H	26	DBM-601S	34	LF-412S	35	RO605250	29
CPA-1001-510H	26	DBM-700	34	LF-418	35	RO605250L	29
CPA-1001-56H	26	DBM-700H	34	LF-418S	35	RO605300	29
CPA-1001-708H	26	DBM-701	34	LF-422	35	RO605300L	29
CPA-1001-710H	26	DBM-701S	34	LF-422S	35	RO605400L	29
CPA-1001-716H	26	DP-312	35	LF-428	35	R1005250L	29
CPA-1001-720H	26	DP-322	35	LF-428S	35	R1005300L	29
CPK-1001-710H	26	DP-330	35	LF-432	35	R2005200P12	29
CPK-1001-716H	26	FMA219	6	LF-432S	35	R2005240	29
CPK-1001-720H	26	FMA246	13	LF-452	35	R2005240P12	29
CXE-1089Z	31	FMA3007	13	LF-454	35	R2005280L	29
CXE-2022Z	6	FMA3008	13	ML2722	24	R2005300L	29
CXE-2022Z	31	FMA3011	13	ML2724	24	R2005350L	29
CXE-2089Z	31	FMA3014	13	ML2726	24	R3005250L	29
D10040180GT	27	FMA3051	13	ML2730	24	R3005300L	29
D10040180GTH	27	FMA3058	13	ML4622CSN	24	RDA1005L	7
D10040200GT	27	FMS 2020-001	15	ML5800	24	RDA1005L	7
D10040200GTH	27	FMS 2023	15	ML5805	24	RDA2032Z	7
D10040200PH1	27	FMS 2024	15	ML5824	24	RDA2032Z	7
D10040200PL1	27	FMS 2027	15	ML5825	24	RFOX501	30
D10040220GT	27	FMS 2028	15	ML5830	24	RF1126	15
D10040220GTH	27	FMS 2029-000	15	ML6652CH	24	RF1127	15
D10040230PH1	28	FMS2014-001	15	ML6652CM	24	RF1128	15
D10040230PL1	28	FMS2016-001	15	NBB-300	5	RF1130	15
D10040240GT	28	FMS2016-005	15	NBB-302	5	RF1131	15
D10040240GTH	28	FMS2031-001	15	NBB-310	5	RF1132	15
D10040250GT	28	FP-504	35	NBB-312	5	RF1136	15
D10040250GTH	28	FP-510	35	NBB-400	5	RF1140	15
D10040270GT	28	FP-512	35	NBB-402	5	RF1146	15
D10040270GTH	28	FP-514	35	NBB-500	5	RF1147	15
D10040270GTL	28	FP-518	35	NBB-502	5	RF1156	15
D10040300GTH	28	FP-522	35	NLB-300	5	RF1200	15
D8740180GT	28	FP-528	35	NLB-310	5	RF1201	15
D8740180GTH	28	FP-530	35	NLB-400	5	RF1450	15
D8740200GT	28	FP-532	35	OR3005230W	30	RF1480	15
D8740200GTH	28	FPD1050	13	OS10040280GW	30	RF1603	15
D8740220GT	28	FPD1500	13	OS10040320PW	30	RF2051	22
D8740220GTH	28	FPD1500SOT89	6	OS8740230W	30	RF2052	22
D8740240GT	28	FPD200	13	PC0882AG-21H	25	RF2053	22
D8740240GTH	28	FPD200P70	6	PC0940AG-21H	25	RF2056	22
D8740250GT	28	FPD2250	13	PC1843AG-21H	25	RF2057	22
D8740250GTH	28	FPD2250SOT89	6	PC1960AG-21H	25	RF2059	22
D8740270GT	28	FPD3000	13	PC2140AG-21H	25	RF2172	12
D8740270GTH	28	FPD3000SOT89	6	PD0940AQ-21H	25	RF2304	6
D8740300GTH	28	FPD6836	13	PD1843AQ-21H	25	RF2312	8
D8740320GT	28	FPD6836P70	6	PI0882AA-21H	25	RF2314	6
D8740320GTH	28	FPD6836SOT343	6	PI0882AG-21H	25	RF2317	8
DBM-100B	34	FPD750	13	PI0940AA-21H	25	RF2317	31
DBM-1200	34	FPD750SOT343	6	PI0940AG-21H	25	RF2320	8
DBM-141	34	FPD750SOT89	6	PI1843AA-21H	25	RF2360	8
DBM-142	34	FPD7612	13	PI1843AG-21H	25	RF-2360	31
DBM-143	34	FPD7612P70	6	PI1960AA-21H	25	RF2370	6
DBM-145	34	FPM21500QFN	6	PI1960AG-21H	25	RF2374	6
DBM-176	34	FPM2750QFN	6	PI2140AA-21H	25	RF2389	31
DBM-177	34	HF-102	35	PI2140AG-21H	25	RF2436	15

PART NUMBER INDEX CROSS REFERENCE

P/N	Pg. #	P/N	Pg. #	P/N	Pg. #	P/N	Pg. #
RF2442	6	RF5122	12	RF7206	37	RFVC1822	16
RF2472	6	RF5125	12	RF7211	37	RFVC1823	16
RF2514	24	RF5152	12	RF7234	37	RFVC1824	16
RF2516	24	RF5222	12	RF9801	36	RFVC1825	16
RF2705G	23	RF5225	10	RFCP5742	26	RFVC1829	16
RF2815	6	RF5300	12	RFCP5743	26	RFXF2713	27
RF2850	23	RF5322	12	RFCP5762	26	RFXF5702	27
RF2878	6	RF5325	10	RFCP5763	26	RFXF5703	27
RF2884	6	RF5345	10	RFCV-1801	16	RFXF5704	27
RF3021	15	RF5355	12	RFDA0015	7	RFXF5712	27
RF3023	15	RF5365	10	RFDA0015	7	RFXF5753	27
RF3024	15	RF5373	12	RFDA0016	7	RFXF5792	27
RF3025	15	RF5388	11	RFDA0016	7	RFXF5793	27
RF3158	36	RF5389	11	RFDA0025	7	RFXF5794	27
RF3159	36	RF5501	10	RFDA0025	7	RFXF6553	27
RF3161	36	RF5506	11	RFDA0026	7	RFXF8553	27
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Apr 20-23, 2010

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Newark, NJ
Apr 30, 2010

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Anaheim, CA
May 2-6, 2010

Reliability of Compound Semiconductors Workshop (ROCS)

Portland, OR
May 17, 2010

CS Mantech

Portland, OR
May 17-20, 2010

IEEE IMS MTT-S

Anaheim, CA
May 25-27, 2010

Wireless Japan

Tokyo, Japan
July 14-16, 2010

Electronics System Integration Technology Conference

Berlin, Germany
Sep 13-16, 2010

IEEE Power Amplifier Symposium

Tempe, AZ
Sep 13-14, 2010

Compound Semiconductor IC Symposium (CSICS)

Monterey, CA
Oct 3-6, 2010

Electrostatic Discharge Symposium

Reno, NV
Oct 3-8, 2010

Ultrasonics Symposium

San Diego, CA
Oct 11-14, 2010

Bipolar/BiCMOS Circuits & Technology Meeting (BCTM)

Austin, TX
Oct 12-14, 2010

SCTE Cable-Tec Expo

New Orleans, LA
Oct 17-19, 2010

PT/Expo Comm

Beijing, China
Oct 19-23, 2010

iMAPS

Raleigh, NC
Oct 31- Nov 4, 2010

Electronica

Munich, Germany
Nov 9-12, 2010

Wireless Innovative Forum

Washington, DC
Nov 30-Dec 3, 2010

Asia-Pacific Microwave Conference

Pacifico Yokohama, Japan
Dec 8-10, 2010

Int'l Symposium on Microwaves (ISM)

Bangalore, India
Dec 11-14, 2010

2011 DATES

Radio & Wireless Week

Phoenix, AZ
Jan 16-20, 2011

Mobile World Congress

Barcelona, Spain
Feb 14-17, 2011

International Solid-State Circuits Conference (ISSCC)

San Francisco, CA
Feb 20-24, 2011

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May 16-18, 2011

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