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RFMD PRODUCT SELECTION GUIDE

2013-2014



Amplifiers

Attenuators

Modulators

Switches

Upconverters/Downconverters

Voltage-Controlled Oscillators

Synthesizers

CATV Amplifiers and Tuners

High Reliability Components

Components for Cellular Applications

Open Foundry Services



RFMD Product Selection Guide

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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AS9100, ISO 9001: 2008 Certified, ISO 14001: 2004 Certified,
ISO/TS 16949: 2009 Certified, OHSAS 18001: 2007 Certified

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New Products Preview

InGaP Active Bias Gain Blocks

- Cost effective gain block family
- Active bias provides stable performance over temperature

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Small Signal Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
NEW	50	1000	15.1	4.0	18.8	39.3	5.0	82	SOT-89	RFGA0014
NEW	50	1000	20.4	3.5	20.1	37.8	5.0	80	SOT-89	RFGA0024
NEW	50	3000	15.1	4.3	18.8	30.5	5.0	68	SOT-89	RFGA2044
NEW	50	3000	18.8	3.6	20.0	30.5	5.0	68	SOT-89	RFGA2054

Digital Variable Gain Amplifiers

- Wideband digital variable gain amplifier
- Excellent linearity versus DC power

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Number of Bits	Gain (dB)	Step Size (dB)	P1dB (dBm)	OIP3 (dBm)	Channels	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
NEW	400	2700	6	29.5	0.5	25.0	46.0	One	5.0	180.0	MCM	RFDA2125

Voltage-Controlled Attenuators

- RFSA2033 offers lowest insertion loss
- RFSA2113 offers microwave frequency coverage

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Insertion Loss (Min) (dB)	Gain Control Range (dB)	IP1dB (dBm)	IIP3 (dBm)	Supply Voltage (V)	Package	Part Number
NEW	50	6000	1.0	25.0	24.0	40.0	5.0	QFN	RFSA2033
NEW	50	18000	2.5	34.0	29.0	45.0	5.0	MCM	RFSA2113

Linear Power Amplifiers

- Output stages for small-cell base stations
- Improved ACPR with pre-distortion correction
- Good efficiency and gain

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	OP1dB (dBm)	P _{OUT} (dBm)	ACPR (Uncorrected) (dB)	V _{CC} (V)	I _{CC} (mA)	Package	Part Number
NEW	700	2700	36.0	31.4	21.0	-45.0	5.0	305.0	MCM	RFPA2016
NEW	700	2700	38.0	33.0	24.0	-48.0	5.0	623.0	MCM	RFPA2026
NEW	700	2700	15.0	38.0	30.0	-33.0	10.0	275.0	MCM	RFPA2156

High-Linearity Driver Amplifiers

- PA Driver Amplifiers for base station applications

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	OP1dB (dBm)	OIP3 (dBm)	Gain (dB)	NF (dB)	V _{CC} (V)	I _{CC} (mA)	Package	Part Number
NEW	700	2700	33.0	50.0	21.5	4.3	5.0	855.0	QFN	RFPA3805
NEW	700	2700	29.7	45.0	14.1	5.3	5.0	265.0	DFN	RFPA2224
NEW	700	2700	32.8	47.0	13.0	5.0	5.0	455.0	DFN	RFPA2235

High-Power GaN Unmatched Power Transistors

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

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	P _{SAT} (dBm)	Drain Efficiency (%)	V _D (V)	I _{DQ} (mA)	Package	Condition	Part Number
NEW	DC	4000	16.0	35.4	60.0	28.0	44.0	SOIC-8	CW at 2.14GHz	RFHA3960

High-Power GaN Matched Power Transistors

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

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	P _{SAT} (dBm)	Drain Efficiency (%)	V _D (V)	I _D (mA)	Package	Condition	Part Number
NEW	1200	1400	16.0	57.0	55.0	50.0	750.0	RF565-2	100μsec PW 10% DC	RFHA1027
NEW	1200	1400	26.5	52.0	48.0	45.0	350.0	RF565-10	100μsec PW 10% DC	RFHA1028
NEW	3100	3500	26.0	47.5	45.0	50.0	262.0	FRMD-8	100μsec PW 10% DC	RFHA1021U

WiFi and Connectivity High-Power Amplifiers

- Utilizes new DFN package and process for footprint compatible parts

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	P _{OUT} (dBm)	EVM (%)	Gain (dB)	V _{CC} (V)	I _{CC} (mA)	Package	Part Number
NEW	2200	2700	26.0	2.5	13.5	5.0	570.0	DFN	RFPA2226
NEW	4900	5900	25.0	2.5	9.0	5.0	650.0	DFN	RFPA5026

WiFi CPE Front End Modules

- Improved linearity to address 256QAM operation
- Optimized for CPE (Customer Premise Equipment) applications

	Freq Range (GHz)	Functionality	WiFi Standard	Gain (dB)	Linear P _{OUT} (dBm)	EVM (%)	V _{CC} (V)	Current at Po (mA)	Package Style (dim. in mm)	Part Number
NEW	2.4 to 2.5	PA + SP3T + LNA	11b/g/n	26.5	19.5 21.5	2.5	3.3 5.0	210 260	LGA 3.0 x 3.0	RFFM4203
NEW	2.4 to 2.5	PA + SPDT + LNA	11b/g/n	32.0	20.0 21.5	1.8 3.0	3.3	260 295	LGA 4.0 x 4.0	RFFM4205
NEW	2.4 to 2.5	PA + SPDT + LNA	11b/g/n	32.0	24.5 25.5	1.8 3.0	5.0	370 420	LGA 6.0 x 6.0	RFFM4204
NEW	4.9 to 5.85	PA + SPDT + LNA	11a/n/ac	26.0	17.0	2.5	3.3	200	LGA 3.0 x 3.0	RFFM4501
NEW	4.9 to 5.85	PA + SPDT + LNA	11a/n/ac	29.0	18.0 20.0	1.8	3.3 5.0	230 280	LGA 3.0 x 3.0	RFFM4501F

2.4GHz WiFi Front End Modules

- Devices average 18dBm of 11ac 256 QAM linear power capability (40MHz)
- Small packages delivering optimum space and layout savings in today's shrinking form-factor applications
- Mirrored variants allow for alignment with all of the leading chipset provider solutions

	Functionality	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	Part Number
NEW	PA with Harmonic Filter and PDET, SP3T, LNA with Bypass	19.0	22.0	26.0	2.5	11.0	2.5	3.3	230.0	275.0	QFN	RFFM8205
NEW	PA with Harmonic Filter and PDET, SP3T, LNA with Bypass	19.0	22.0	26.0	2.5	11.0	2.5	3.3	230.0	275.0	QFN	RFFM8209

5GHz WiFi Front End Modules

- Devices average 17.5dBm of 11ac 256 QAM linear power capability (80MHz)
- Small packages delivering optimum space and layout savings in today's shrinking form-factor applications
- Mirrored variants allow for alignment with all of the leading chipset provider solutions

	Architecture	WiFi Standard	Freq (GHz)	Gain (dB)	Avg P _{OUT} (dBm)	EVM %	V _{CC} (V)	Current at Po (mA)	Package (dim. in mm)	Part Number
NEW	5GHz FEM, PA, SPDT SW, LNA, LPF, and PDET	11a/n/ac	4.9 to 5.85	29.0	16.0	1.8	3.0 to 4.8	190	QFN 2.5 x 2.5 x 0.40	RFFM8505
18.0					2.5	3.0 to 4.8	210	RFFM8509		
NEW	5GHz FEM, PA, SPDT, HF, and LNA	11a/n/ac	4.9 to 5.85	29.0	16.0	1.4	3.0 to 4.8	210	QFN 2.5 x 2.5 x 0.45	RFFM8506
19.0					3.0	270				

Smart Energy AMI/ZigBee® Power Amplifiers/LNA/Switch Front End Modules

- Highest level of integration for these Industrial, Scientific, Medical (ISM) Band applications
- Best-in-class harmonic performance, simplifying traditional RF layout and design challenges
- Industry leading current consumption for ZigBee/AMI/HAN applications
- Small footprint for targeting low-power consumption form factors

	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 Type	Package	Part Number
NEW	433	470	25.0	30.0	28.5	3.6	1100.0	50.0	15.0	1.9	5.0	SP3T	Module-28	RFFM6403
NEW	868	928	25.0	30.0	28.5	3.6	850.0	52.0	16.0	1.7	5.0	SP3T	Module-28	RFFM6903
NEW	2400	2500	25.0	23.0	23.0	3.3	175.0	45.0	9.0	3.0	7.0	DPDT	Module-24	RFFM6201
NEW	2400	2500	15.0	13.0	13.0	3.0	20.0	50.0	12.0	2.0	4.0	SP3T	QFN-16	RFFM6204

Smart Energy AMI/ZigBee® Power Amplifiers/Switch Front End Modules

- Fully integrated module supporting Southern Europe AMR/AMI/HAN applications
- Small footprint and high integration level with best-in-class harmonics
- Simplifies traditional RF performance and layout challenges

	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 Type	Package	Part Number
NEW	168	171	27.0	27.0	25.0	3.6	400.0	55.0	SP2T	Module-32	RFFM6500
NEW	405	475	30.0	30.0	29.0	3.6	750.0	60.0	SP2T	Module-28	RFFM6401

Switches (Packaged)

- General purpose broadband RF switch with low insertion loss and high linearity

	Switch Type	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Insertion Loss (dB)	Isolation (dB)	Switching Speeds (ns)	OP1dB (dBm)	V _{CC} (V)	Package	Part Number
NEW	SPDT	5	6000	0.35	28.0	2000.0	41.0	3.0	QFN	RFSW1012
NEW	SPDT	5	6500	0.55	29.0	300.0	—	3.0	QFN	RFSW8000

≥1GHz Power Doublers

- High output featuring GaN based amplifiers
- Maximum frequency bandwidth up to 1600MHz
- Industry standard SOT-115J or surface mount Multi-Chip-Module (MCM)

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Power Gain at F _{MAX} (Min) (dB)	Current (Max) (mA)	Max NF (dB)	Package	Part Number
NEW	40	1000	22.5	480.0	3.70	SOT-115J	RFPD2940
NEW	40	1600	22.5	450.0	4.00	SOT-115J	RFPD3020
NEW	40	1000	22.5	450.0	4.00	MCM - 8x9	RFCM2680
NEW	40	1000	24.5	450.0	5.00	MCM - 11x8.5	RFCM3050

≥1GHz Push-Pull Hybrid Amplifiers

- Flexible gain control Push Pull amplifiers
- Integrated CATV Head-End EQAM application
- Industry standard SOT-115J or surface mount Multi-Chip-Module (MCM)

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Power Gain at F _{MAX} (Min) (dB)	Current (Max) (mA)	NF (Max) (dB)	Package	Part Number
NEW	40	1000	28.5	270.0	5.0	SOT_115J	RFPP2870
NEW	40	1000	20.0-28.0	410.0	5.0	MCM 11x11	RFAM2790
NEW	40	1000	28.0-34.0	410.0	5.0	MCM 11x11	RFAM3060
NEW	40	1000	28.5	270.0	5.0	MCM 11x8.5	RFCM3080

Reverse Path Hybrid Amplifiers

- Expanded Maximum frequency up to 300 MHz
- High gain and excellent linearity
- Industry standard SOT-115J package

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Power Gain at F _{MAX} (Min) (dB)	Current (Max) (mA)	NF (Max) (dB)	Package	Part Number
NEW	5	100	37.6	160.0	4.2	SOT-115J	RFRP2920
NEW	5	300	30.0	160.0	6.3	SOT-115J	R3005300L
NEW	5	300	35.0	160.0	5.5	SOT-115J	RFRP3120

CATV 75Ω Push-Pull Amplifier ICs

- Leading linearity versus supply current
- Supports both forward and return path amplification

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	CTB (dBc)	CSO (dBc)	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
NEW	5	1000	17.4	4.0	23.0	40.0	-76.0	-80.0	5.0	215.0	SOIC-8	RFCA1008*

* Channel Loading: 34dBmV, 79 channels, flat

CATV 75Ω Single-Ended Linear Amplifiers

- High gain, low distortion MMIC amplifier
- Integrated active bias provides stable gain over temperature and process

	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
NEW	50	1000	21.0	3.0	24.0	41.0	8.0	140.0	SOT-89	RFCA3306

CATV Digital Step Attenuators

- 75Ω digital attenuator with excellent step accuracy and linearity

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Number of Bits	Step Size (dB)	Attenuation Range (dB)	Insertion Loss (dB)	IIP3 (dBm)	V _{cc} (V)	Package	Part Number
NEW	5	2000	6	0.5	31.5	1.3	52.0	5.0	MCM	RFSA2654

CATV Voltage-Controlled Attenuators

- Fully monolithic attenuator with a temperature compensated linear in DB control profile
- Excellent linearity

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain Control Range (dB)	Min. Insertion Loss (dB)	CTB* (dBc)	CSO* (dBc)	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
NEW	50	3000	35.0	2.5	-70.0	-65.0	5.0	1.0	QFN	RFSA3013
NEW	50	3000	35.0	2.7	-70.0	-65.0	3.3	1.0	QFN	RFSA3023

*112 Channel, +39dBmV input flat tilt

High-Reliability Amplifiers

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

	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
NEW	50	6000	20.0	4.2	19.0	35.0	5.0	71.0	2L Gullwing	SBB-5082S

InGaP Active Bias Gain Blocks

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



Table 01

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Small Signal 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	90.0	SOT-89	SBB1089Z
	50	850	20.0	2.7	20.0	43.0	5.0	90.0	SOT-89	SBB2089Z
	50	6000	16.4	3.9	15.2	29.5	5.0	42.0	SOT-89	SBB3089Z
	50	6000	15.5	4.5	19.5	35.0	5.0	80.0	SOT-89	SBB4089Z
	50	6000	20.0	4.2	20.5	35.0	5.0	75.0	SOT-89	SBB5089Z
NEW	50	1000	15.1	4.0	18.8	39.3	5.0	82.0	SOT-89	RFGA0014
NEW	50	1000	20.4	3.5	20.1	37.8	5.0	80.0	SOT-89	RFGA0024
NEW	50	3000	15.1	4.3	18.8	30.5	5.0	68.0	SOT-89	RFGA2044
NEW	50	3000	18.8	3.6	20.0	30.5	5.0	68.0	SOT-89	RFGA2054

InGaP Active Bias Gain Blocks (SBB Series)

- High-linearity InGaP HBT die
- 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)	Small Signal Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
	50	6000	16.4	3.9	15.2	29.5	5.0	42.0	Die	SBB3000
	50	6000	16.0	4.2	19.5	36.5	5.0	82.0	Die	SBB4000
	50	6000	20.5	3.9	20.5	35.0	5.0	75.0	Die	SBB5000

SiGe Active Bias Gain Blocks (SGC Series)

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



Table 03

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Small Signal Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
	50	3500	19.5	2.4	19.2	32.8	5.0	82.0	SOT-89	SGC6489Z
	50	4000	14.0	3.3	15.1	30.0	3.0	55.0	SOT-363	SGC4263Z
	50	4000	12.8	3.7	18.6	34.5	5.0	84.0	SOT-89	SGC6389Z
	50	4000	13.1	3.7	10.1	23.0	3.0	26.0	SOT-363	SGC2363Z
	50	4000	12.7	4.0	12.4	26.5	3.0	54.0	SOT-363	SGC4363Z
	50	4000	14.4	3.5	10.5	23.5	3.0	26.0	SOT-363	SGC2463Z
	50	4000	14.4	3.7	12.9	27.0	3.0	52.0	SOT-363	SGC4463Z
	50	4000	20.5	1.7	15.6	28.5	3.0	48.0	SOT-363	SGC4563Z

SiGe Gain Blocks (SGA Series)

- Industry-leading 50Ω gain blocks
- Wide range of OP1dB, gain, and package styles



Table 04

	<i>Freq Range (Min) (MHz)</i>	<i>Freq Range (Max) (MHz)</i>	<i>Small Signal Gain (dB)</i>	<i>NF (dB)</i>	<i>OP1dB (dBm)</i>	<i>OIP3 (dBm)</i>	<i>Min. V_{cc} (V)</i>	<i>I_{cc} (mA)</i>	<i>Package</i>	<i>Part Number</i>
	DC	2500	20.2	2.4	12.8	26.2	6.0	45.0	SOT-363	SGA4563Z
	DC	3000	18.5	3.3	20.0	33.0	7.0	115.0	SOT-89	SGA7489Z
	DC	3500	12.7	3.7	12.5	25.7	6.0	45.0	SOT-363	SGA4263Z
	DC	3500	16.3	3.6	15.0	28.0	6.0	60.0	SOT-86	SGA5486Z
	DC	3500	17.0	2.8	12.3	24.8	6.0	45.0	SOT-363	SGA4463Z
	DC	3500	17.5	3.0	18.7	32.0	6.0	75.0	SOT-89	SGA6489Z
	DC	3500	20.0	3.0	19.0	32.0	6.0	80.0	SOT-89	SGA6589Z
	DC	4000	15.0	2.5	-9.5	1.0	3.6	8.0	SOT-363	SGA1263Z
	DC	4000	14.8	3.1	13.0	25.7	6.0	45.0	SOT-363	SGA4363Z
	DC	4000	17.9	2.4	14.6	27.4	6.0	60.0	SOT-89	SGA5489Z
	DC	4000	18.7	2.6	15.8	28.8	6.0	60.0	SOT-86	SGA5586Z
	DC	4000	18.4	3.1	19.0	32.2	6.0	80.0	SOT-86	SGA6586Z
	DC	4000	17.9	1.9	13.7	27.7	6.0	45.0	SOT-86	SGA4586Z
	DC	4000	20.8	3.4	16.2	29.2	6.0	60.0	SOT-89	SGA5589Z
	DC	4500	12.0	4.6	-1.8	9.8	5.0	8.0	SOT-363	SGA0163Z
	DC	4500	12.6	4.0	15.0	29.3	5.0	60.0	SOT-363	SGA5263Z
	DC	4500	12.6	4.0	17.8	32.0	6.0	75.0	SOT-89	SGA6289Z
	DC	4500	14.0	4.2	18.9	32.6	6.0	80.0	SOT-89	SGA6389Z
	DC	4500	15.4	3.5	15.0	28.1	6.0	60.0	SOT-89	SGA5389Z
	DC	4500	14.6	3.1	13.0	26.9	6.0	45.0	SOT-86	SGA4386Z
	DC	4500	15.9	2.8	12.8	26.7	6.0	45.0	SOT-86	SGA4486Z
	DC	4500	16.4	3.3	18.5	32.0	6.0	75.0	SOT-86	SGA6486Z
	DC	5000	17.2	3.0	2.3	14.0	5.0	11.0	SOT-363	SGA0363Z
	DC	5000	9.2	5.0	12.4	25.5	6.0	45.0	SOT-86	SGA4186Z
	DC	5000	9.3	4.4	6.7	19.6	5.0	20.0	SOT-86	SGA2186Z
	DC	5000	9.8	4.4	6.2	18.0	5.0	20.0	SOT-363	SGA2163Z
	DC	5000	9.7	5.0	12.1	25.4	6.0	45.0	SOT-363	SGA4163Z
	DC	5000	12.7	3.8	14.4	28.1	6.0	60.0	SOT-89	SGA5289Z
	DC	5000	12.0	3.7	13.0	26.5	6.0	45.0	SOT-86	SGA4286Z
	DC	5000	12.0	4.9	14.0	27.2	6.0	60.0	SOT-86	SGA5286Z
	DC	5000	13.0	3.8	11.3	24.8	5.0	35.0	SOT-86	SGA3286Z
	DC	5000	13.5	3.5	6.1	18.0	5.0	20.0	SOT-363	SGA2263Z
	DC	5000	14.0	3.5	7.0	19.4	5.0	20.0	SOT-86	SGA2286Z
	DC	5000	13.6	3.8	10.9	24.1	5.0	35.0	SOT-363	SGA3263Z
	DC	5000	13.5	4.0	19.0	34.0	6.0	80.0	SOT-86	SGA6386Z
	DC	5000	14.9	4.0	14.7	29.0	6.0	60.0	SOT-86	SGA5386Z
	DC	5000	15.3	3.2	7.5	19.5	5.0	20.0	SOT-86	SGA2386Z
	DC	5000	16.1	3.2	7.2	19.0	5.0	20.0	SOT-363	SGA2363Z
	DC	5000	16.7	3.2	7.5	20.8	5.0	20.0	SOT-86	SGA2486Z
	DC	5000	17.1	3.0	7.2	18.0	5.0	20.0	SOT-363	SGA2463Z
	DC	5000	18.0	3.2	12.5	26.9	5.0	35.0	SOT-86	SGA3486Z
	DC	5000	19.0	3.2	11.0	24.6	5.0	35.0	SOT-363	SGA3463Z
	DC	5000	20.0	2.5	12.5	25.0	5.0	35.0	SOT-86	SGA3586Z
	DC	5000	21.5	2.7	12.5	24.5	5.0	35.0	SOT-363	SGA3563Z
	DC	5500	15.9	3.5	10.5	23.1	5.0	35.0	SOT-363	SGA3363Z
	DC	5500	12.4	4.2	17.8	33.0	6.0	75.0	SOT-86	SGA6286Z

GaAs Gain Blocks

- Internally matched input and output
- High frequency performance



Table 05

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Small Signal Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
	DC	6000	12.0	3.7	13.0	26.0	4.8	40.0	SOT-89	RF3378
	DC	6000	15.5	3.0	13.0	25.5	4.5	40.0	SOT-89	RF3377
	DC	6000	18.9	3.5	17.5	32.0	6.0	65.0	SOT-89	RF3374
	DC	6000	18.7	3.5	17.5	32.0	6.0	65.0	QFN	RF3394
	DC	6000	19.8	2.0	11.5	23.4	5.0	35.0	SOT-89	RF3376

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)	Small Signal Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _b (V)	I _{cc} (mA)	Package	Part Number
	DC	500	14.8	3.3	20.1	42.0	>7.5	90.0	SOT-89	SBF4089Z
	DC	500	20.0	2.8	21.0	41.0	>7.5	90.0	SOT-89	SBF5089Z
	DC	4000	19.0	3.2	14.0	26.5	3.9	35.0	Ceramic Micro-X	NBB-500
	DC	4000	19.0	4.0	14.0	23.0	3.9	35.0	Ceramic MPGA	NBB-502
	DC	5000	14.2	4.8	19.0	33.5	>7.5	80.0	SOT-86	SBA4086Z
	DC	5000	14.6	4.8	19.0	33.5	>7.5	80.0	SOT-89	SBA4089Z
	DC	5000	17.2	4.5	19.5	34.0	>7.5	80.0	SOT-86	SBA5086Z
	DC	5000	18.0	4.5	19.5	34.0	>7.5	80.0	SOT-89	SBA5089Z
	DC	6000	16.0	4.1	14.6	29.6	3.9	47.0	Plastic Micro-X	NLB-400
	DC	8000	15.0	4.3	15.4	26.0	3.8	47.0	Ceramic MPGA	NBB-402
	DC	8000	15.5	4.3	14.6	28.1	3.9	47.0	Ceramic Micro-X	NBB-400
	DC	10000	12.0	4.9	14.1	28.6	3.8	50.0	Plastic Micro-X	NLB-300
	DC	10000	12.0	5.0	14.9	28.9	4.6	50.0	Plastic Micro-X	NLB-310
	DC	12000	12.5	4.9	15.2	24.0	4.7	50.0	Ceramic Micro-X	NBB-310
	DC	12000	12.0	5.1	13.8	27.1	3.9	50.0	Ceramic Micro-X	NBB-300
	DC	12000	12.0	5.5	14.8	23.5	3.9	50.0	Ceramic MPGA	NBB-302
	DC	12000	12.5	4.9	15.8	24.0	4.6	50.0	Ceramic MPGA	NBB-312

pHEMT Low Noise Amplifiers

- Low noise figure <1.0dB
- Excellent output power
- Versatile with extended frequency ranges



Table 07

	<i>Freq Range (Min) (MHz)</i>	<i>Freq Range (Max) (MHz)</i>	<i>Small Signal 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>
	50	4000	12.8	0.8	22.7	39.5	5.0	90.0	SOT-89	SPF5189Z
	50	4000	12.9	0.8	22.7	35.0	5.0	46.0	SOT-343	SPF5043Z
	50	4000	12.2	0.7	23.4	40.5	5.0	90.0	QFN	SPF5122Z
	800	4000	24.5	0.8	22.4	39.0	5.0	120.0	QFN	SPF5344Z
	1550	1600	13.5	0.9	13.5	-17.5	2.3	8.0	SMT	RF2815

Low Noise Amplifiers

- Low noise figure <3.0dB, minimal matching components
- Excellent output power
- Versatile with extended frequency ranges



Table 08

	<i>Freq Range (Min) (MHz)</i>	<i>Freq Range (Max) (MHz)</i>	<i>Small Signal 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>
	5	1500	20.5	1.3	25.0	38.0	7.0	120.0	QFN	RF3827
	5	2000	20.0	1.1	2.5	12.9	3.0	5.2	SOT-363	SGL0363Z
	5	4000	23.0	2.0	5.3	11.0	3.0	11.0	QFN	SGL0622Z
	45	2500	15.0	1.5	5.0	19.0	3.0	6.0	QFN	RF2884
	50	4000	19.3	1.1	9.0	27.8	3.0	10.0	SOT-343	SGA8343Z
	150	2500	20.0	1.4	14.0	26.0	3.0	22.0	SOT-23	RF2878
	300	2500	11.7	1.9	16.0	15.0	3.0	8.0	SOIC-8	RF2304
	400	4000	28.0	1.3	>10.0	>20.0	3.3	50.0	SOT-5-Lead	RF2373
	800	3800	14.5	1.3	>10.0	>20.0	3.0	7.0	QFN-8	RF2374*
	900	4000	14.0	1.3	12.0	22.0	3.0	7.0	SOT-6	RF2370*
	900	4000	14.0	1.3	14.0	23.0	3.3	8.5	QFN-16	RF3857
	1550	1600	13.5	0.9	13.5	-17.5	2.3	8.0	SMT	RF2815
	1560	1590	13.8	1.8	—	—	2.7	8.0	Module	RF2817
	1560	1590	14.0	1.55	—	—	2.7	7.0	Module	RF2818
	4900	5900	12.0	1.8	8.0	21.0	3.3	12.0	QFN-8	RF5601*
	4900	5900	11.0	1.7	10.0	22.0	3.3	12.0	QFN-8	RF5515

*Integrated bypass

Analog Variable Gain Amplifiers

- Amplifiers with voltage variable attenuators
- High linearity power control, >20dB range
- Excellent gain flatness



Table 09

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	P _{OUT} at Rated ACPR (dBm)	Output P1dB (dBm)	OIP3 (dBm)	ACPR (dBc)	V _{CC} (V)	I _{CC} (mA)	Package	Part Number
	400	2700	29.0	10.0	24.0	40.0	-64.0	5.0	185.0	MCM	RFVA0016

Digital Variable Gain Amplifiers

- Amplifiers with digital step attenuators
- Serial and dual channels available
- High linearity power control



Table 10

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Number of Bits	Gain (dB)	Step Size (dB)	P1dB (dBm)	OIP3 (dBm)	Channels	V _{CC} (V)	I _{CC} (mA)	Package	Part Number
	5	1000	6	44.5	0.5	22.0	39.0	One	5.0	230.0	MCM	RFDA0066
	10	850	6	43.0	0.5	19.5	38.0	One	5.0	155.0	MCM	RFDA0045
	50	850	6	18.7	0.5	20.0	42.0	One	5.0	90.0	MCM	RFDA0025
	50	4000	6	17.6	0.5	20.4	37.7	One	5.0	82.0	MCM	RDA1005L
	50	1000	6	38.5	0.5	19.7	42.0	One	5.0	175.0	MCM	RFDA0016
	50	500	5	19.3	1.0	21.0	42.0	Two	5.0	240.0	QFN	RFDA0035
	300	1100	6	36.0	0.5	25.0	44.0	One	5.0	215.0	MCM	RFDA0056
	400	2700	6	13.0	0.5	19.0	39.0	Two	5.0	170.0	MCM	RFDA0047
	400	2700	6	18.5	0.5	19.0	38.0	Two	5.0	155.0	MCM	RFDA0057
	500	2500	6	11.5	0.5	25.0	43.0	One	5.0	115.0	MCM	RFDA2025
	850	1035	6	31.5	0.5	23.8	40.0	One	5.0	192.0	MCM	RFDA0026
	1800	2400	6	32.0	0.5	25.0	42.0	One	5.0	192.0	MCM	RFDA2026
	2000	2800	6	31.5	0.5	28.0	41.0	One	5.0	360.0	MCM	RFDA2046
NEW	400	2700	6	29.5	0.5	25.0	46.0	One	5.0	180.0	MCM	RFDA2125

Digital Step Attenuators

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



Table 11

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Number of Bits	Step Size (dB)	Attenuation Range (dB)	Insertion Loss (dB)	IIP3 (dBm)	Interface	V _{CC} (V)	Package	Part Number
	5	2000	6	0.5	31.5	1.3	52.0	Serial	5.0	MCM	RFSA2654
	50	4000	5	0.5	15.5	1.3	49.0	Serial	5.0	MCM	RFSA2514
	50	4000	5	1.0	31.0	1.3	49.0	Serial	5.0	MCM	RFSA2524
	50	4000	6	0.5	31.5	1.2	48.0	Serial	5.0	MCM	RFSA2644
	50	4000	7	0.25	31.75	1.1	50.0	Serial	5.0	MCM	RFSA2724

Voltage-Controlled Attenuators

- 3V and 5V versions available
- High linearity suitable for wireless and CATV infrastructure applications
- Linear in dB control characteristic



Table 12

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Insertion Loss (Min) (dB)	Gain Control Range (dB)	IP1dB (dBm)	IIP3 (dBm)	Supply Voltage (V)	Package	Part Number
	50	3000	2.5	35.0	30.0	50.0	5.0	QFN	RFSA3013
	50	3000	2.7	35.0	30.0	50.0	3.3	QFN	RFSA3023
	50	4000	2.6	33.2	30.0	50.0	5.0	QFN	RFSA2013
	50	4000	2.6	33.2	30.0	50.0	3.3	QFN	RFSA2023
NEW	50	6000	1.0	25.0	24.0	40.0	5.0	QFN	RFSA2033
NEW	50	18000	2.5	34.0	29.0	45.0	5.0	MCM	RFSA2113

Temperature-Compensating Attenuators

- 3V and 5V versions available
- High linearity suitable for wireless and CATV infrastructure applications
- Selectable attenuation versus temperature slopes



Table 13

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain Range Over Temperature (dB)	Gain Slope (dB/°C)	IP1dB (dBm)	IIP3 (dBm)	Supply Voltage (V)	Package	Part Number
	50	4000	8	0.043-0.066	30.0	55.0	5.0	QFN	RFSA4013
	50	4000	8	0.045-0.066	30.0	55.0	3.3	QFN	RFSA4023

High-Efficiency Power Amplifiers

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



Table 14

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Small Signal Gain (dB)	Efficiency (%)	P _{SAT} (dBm)	V _{CC} (V)	I _{CO} (mA)	Package	Part Number
	100	1000	33.0	54.5	36.3	3.6	390.0	QFN	RF6886
	150	960	34.5	53.0	32.0	3.5	200.0	QFN	RF5110G
	380	960	32.0	65.0	28.0	3.6	230.0	QFN	RFPA0133

Linear Power Amplifiers

- Output stages for small-cell base stations
- Improved ACPR with pre-distortion correction
- Good efficiency and gain



Table 15

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	OP1dB (dBm)	P _{OUT} (dBm)	ACPR (Uncorrected) (dB)	V _{CC} (V)	I _{CC} (mA)	Package	Part Number
NEW	700	2700	36.0	31.4	21.0	-45.0	5.0	305.0	MCM	RFPA2016
NEW	700	2700	38.0	33.0	24.0	-48.0	5.0	623.0	MCM	RFPA2026
NEW	700	2700	15.0	38.0	30.0	-33.0	10.0	275.0	MCM	RFPA2156

High-Linearity Driver Amplifiers

- Pre-driver for base station power amplifiers
- Final LNA stages for wireless infrastructure
- OIP3 >40dBm



Table 16

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	OP1dB (dBm)	OIP3 (dBm)	Gain (dB)	NF (dB)	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
	5	2500	24.5	43.0	17.0	4.7	5.0	135.0	SOT-89	SXB2089Z
	50	2700	24.7	38.5	19.2	3.7	5.0	138.0	SOT-89	RFPA2089
	150	960	36.0	49.0	15.0	3.2	7.0	650.0	SOIC-8	RFPA3800
	200	2200	23.0	40.0	12.5	3.0	5.0	150.0	SOT-89	RF3315
	400	2500	25.0	43.0	13.6	4.8	5.0	115.0	SOT-89	SXA389BZ
	400	2500	27.5	44.5	15.0	3.3	5.0	265.0	SOT-89	SXB4089Z
	400	2700	24.0	42.0	13.7	2.9	5.0	90.0	SOIC-8	RFPA3807
	400	2700	29.0	47.0	12.4	3.1	5.0	275.0	SOIC-8	RFPA3809
	400	2700	27.0	42.5	14.5	2.8	5.0	155.0	SOT-89	RFPA2189
	400	2700	27.0	41.5	15.7	3.8	5.0	165.0	QFN	RFPA2013
	400	2700	22.5	42.0	13.9	3.2	5.0	90.0	DFN	RFPA1012
	700	2200	33.8	45.0	13.7	5.2	5.0	445.0	SOF-26	SPB2026Z
NEW	700	2700	33.0	50.0	21.5	4.3	5.0	855.0	QFN	RFPA3805
NEW	700	2700	29.7	45.0	14.1	5.3	5.0	265.0	DFN	RFPA2224
NEW	700	2700	32.8	47.0	13.0	5.0	5.0	455.0	DFN	RFPA2235

Linear Amplifiers

- Low noise figure
- Small package styles

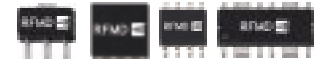


Table 17

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	OP1dB (dBm)	OIP3 (dBm)	Gain (dB)	NF (dB)	V _{cc} (V)	I _{cc} (mA)	Package	Part Number
	DC	2500	18.5	33.0	15.1	4.2	5.5	100.0	SOIC-8	RF2312
	DC	3000	22.0	37.0	14.3	4.9	9.3	180.0	CJ2BAT0	RF2317
	5	65	25.0	37.5	25.4	3.0	12.0	130.0	SOIC-8	CGR-0118Z
	50	3000	22.9	38.5	11.7	3.2	5.0	128.0	SOT-89	SXE1089Z
	50	3000	13.5	35.0	14.5	1.6	3.3	23.0	DFN	RFGA2012

High-Linearity Discrete Transistors

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



Table 18

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Power Gain (dB)	OIP3 (dBm)	OP1dB (dBm)	NF (dB)	V _D (V)	I _D (mA)	Package	Part Number
	50	3500	14.0	34.6	20.6	2.4	3.3	86.0	SOT-343	SGA8543Z
	DC	6000	19.3	27.8	9.0	1.4	3.0	10.0	SOT-343	SGA8343Z
	50	3000	12.2	39.0	25.5	2.6	5.0	180.0	SOT-89	SGA9189Z

High-Power GaN Unmatched Power Transistors

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



Table 19

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	P _{SAT} (dBm)	Drain Efficiency (%)	V _D (V)	I _{DQ} (mA)	Package	Condition	Part Number
	DC	3500	14.0	46.5	65.0	48.0	130.0	RF360-2	CW at 2.14GHz	RF3931
	DC	3500	14.0	48.7	66.0	48.0	220.0	RF360-2	CW at 2.14GHz	RF3932
	DC	3500	13.5	49.5	65.0	48.0	300.0	RF360-2	CW at 2.14GHz	RF3933
	DC	3500	13.0	51.46	60.0	48.0	440.0	RF360-2	CW at 2.14GHz	RF3934
	DC	4000	13.0	51.46	60.0	48.0	440.0	Die	CW at 2.14GHz	RF3934D
	DC	4000	13.5	49.5	65.0	48.0	300.0	Die	CW at 2.14GHz	RF3933D
	DC	4000	14.0	46.5	65.0	48.0	130.0	Die	CW at 2.14GHz	RF3931D
	DC	4000	14.0	48.75	66.0	48.0	220.0	Die	CW at 2.14GHz	RF3932D
	DC	4000	14.5	47.8	60.0	48.0	540.0	RF360-2	CW at 2.14GHz	RFHA3944
	DC	4000	15.0	45.5	56.0	48.0	300.0	RF360-2	CW at 2.14GHz	RFHA3942
	DC	4000	19.0	42.0	70.0	48.0	55.0	Die	CW at 2.14GHz	RF3930D
	DC	10000	16.0	36.3	60.0	28.0	44.0	Die-on-Carrier	CW at 2.14GHz	RFHA1101
	DC	10000	16.0	36.3	60.0	28.0	44.0	Die	CW at 2.14GHz	RFHA1101D
NEW	DC	4000	16.0	35.4	60.0	28.0	44.0	SOIC-8	CW at 2.14GHz	RFHA3960

High-Power GaN Matched Power Transistors

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



Table 20

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	P _{SAT} (dBm)	Drain Efficiency (%)	V _D (V)	I _D (mA)	Package	Condition	Part Number
	960	1215	17.0	54.5	55.0	50.0	440.0	RF565-2	100µsec PW 10% DC	RFHA1025
	1200	1400	15.0	53.52	58.0	36.0	440.0	RF565-2	100µsec PW 10% DC	RFHA1023
	1200	1400	15.0	54.5	55.0	50.0	440.0	RF565-2	100µsec PW 10% DC	RFHA1020
NEW	1200	1400	16.0	57.0	55.0	50.0	750.0	RF565-2	100µsec PW 10% DC	RFHA1027
NEW	1200	1400	26.5	52.0	48.0	45.0	350.0	RF565-10	100µsec PW 10% DC	RFHA1028
NEW	3100	3500	26.0	47.5	45.0	50.0	262.0	FRMD-8	100µsec PW 10% DC	RFHA1021U
	2800	3400	12.0	54.5	52.0	50.0	440.0	RF565-2	100µsec PW 10% DC	RF3928
	2800	3400	13.0	55.8	50.0	65.0	440.0	RF565-2	100µsec PW 10% DC	RF3928B

High-Power GaN Broadband Power Transistors

- Ideal for linear and pulse applications
- Excellent broadband power performance
- Optimal for Doherty or envelope tracking



Table 21

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	OP1dB (W)	Linear Drain Efficiency (%)	V _o (V)	I _b (mA)	Package	Part Number
	700	1000	20.0	180.0	39.0	48.0	600.0	RF400-2	RFG1M09180
	700	1000	20.0	90.0	38.0	48.0	300.0	RF400-2	RFG1M09090
	1800	2200	15.0	180.0	36.6	48.0	600.0	RF400-2	RFG1M20180
	1800	2200	15.5	90.0	35.0	48.0	300.0	RF400-2	RFG1M20090

High-Power GaN Power ICs

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



Table 22

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	OP3dB (dBm)	Power-Added Efficiency (%)	V _o (V)	I _b (mA)	Package	Condition	Part Number
	30	2500	11.0	39.0	40.0	28.0	55.0	AIN SOIC-8	CW Instantaneous BW	RF3826
	30	512	19.0	39.5	70.0	28.0	55.0	AIN SOIC-8	CW Instantaneous BW	RFHA10Q3
	50	1000	16.0	41.3	53.0	28.0	88.0	AIN SOIC-8	CW Instantaneous BW	RFHA1000
	225	1215	16.5	39.5	57.0	28.0	88.0	AIN SOIC-8	CW Instantaneous BW	RFHA1006

WiFi and Connectivity High-Power Amplifiers

- High gain, high P_{OUT} performance
- Optimized for CPE (Customer Premise Equipment) applications
- Improved linearity targeting all WiFi standards



Table 23

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	P _{OUT} (dBm)	EVM (%)	Gain (dB)	V _{CC} (V)	I _{CC} (mA)	Package	Part Number
	2000	2700	22.0	3.0	25.0	5.0	300.0	QFN	SZA2044Z
NEW	2200	2700	26.0	2.5	13.5	5.0	570.0	DFN	RFPA2226
	2300	2700	23.5	2.5	34.0	3.3	350.0	QFN	RF5602
	2300	2700	27.0	2.5	36.0	6.0	900.0	QFN	SZM2166Z
	2300	2700	28.0	2.5	36.0	5.0	950.0	QFN	RF5632
	2300	3800	30.0	3.0	11.0	6.0	900.0	QFN	RF5643
	2300	2700	30.0	2.5	35.0	5.0	1400.0	QFN	RF5652
	2400	2500	27.0	2.5	33.0	5.0	470.0	Laminate Package	RFPA5200
	2400	2500	29.0	2.5	33.5	5.0	850.0	Laminate Package	RFPA5201E
	2400	2700	26.5	2.5	34.0	5.0	710.0	QFN	SZM2066Z
	2700	3800	24.0	2.5	25.0	5.0	340.0	QFN	SZA3044Z
	3300	3800	26.0	3.0	30.0	5.0	500.0	QFN	RF5603
	3300	3800	26.0	3.0	30.0	5.0	480.0	QFN	RF5623
	3300	3800	26.0	2.5	34.0	5.0	760.0	QFN	SZM3066Z
	3300	3800	26.0	2.5	12.0	5.0	580.0	SOF-26	SZP3026Z
	3300	3800	27.0	2.5	35.0	5.2	900.0	QFN	SZM3166Z
	3300	3800	28.0	2.5	34.0	5.0	1050.0	QFN	RF5633
	4900	5900	22.0	3.0	28.0	5.0	270.0	QFN	SZA5044Z
	4900	5900	25.0	2.5	17.0	5.0	800.0	QFN	SZM5066Z
NEW	4900	5900	25.0	2.5	9.0	5.0	650.0	DFN	RFPA5026
	4900	5900	24.5	2.5	34.0	5.0	450.0	QFN	RF5626

WiFi CPE Front End Modules

- Improved linearity to address 256QAM operation
- Optimized for CPE (Customer Premise Equipment) applications



Table 24

	Freq Range (GHz)	Functionality	WiFi Standard	Gain (dB)	Linear P _{OUT} (dBm)	EVM (%)	V _{CC} (V)	Current at Po (mA)	Package Style (dim. in mm)	Part Number
NEW	2.4 to 2.5	PA + SP3T + LNA	11b/g/n	26.5	19.5 21.5	2.5	3.3 5.0	210 260	LGA 3.0 x 3.0	RFFM4203
NEW	2.4 to 2.5	PA + SPDT + LNA	11b/g/n	32.0	20.0 21.5	1.8 3.0	3.3	260 295	LGA 4.0 x 4.0	RFFM4205
NEW	2.4 to 2.5	PA + SPDT + LNA	11b/g/n	32.0	24.5 25.5	1.8 3.0	5.0	370 420	LGA 6.0 x 6.0	RFFM4204
	2.4 to 2.5	PA + SPDT	11b/g/n	34.0	25.5	2.5	5.0	435	LGA 6.0 x 6.0	RFFM4200
	2.4 to 2.5	PA + SPDT	11b/g/n	34.0	25.5	2.5	5.0	435	LGA 6.0 x 6.0	RFFM4201
	2.4 to 2.5	PA + SPDT	11b/g/n	34.0	27.5	2.5	5.0	925	LGA 6.0 x 6.0	RFFM4202
	2.4 to 2.5	PA + SPDT	11b/g/n	34.0	27.0	2.5	5.0	900	LGA 6.0 x 6.0	RF5605
	2.5 to 2.7	PA + SPDT	11b/g/n	34.0	27.0	2.5	5.0	825	LGA 6.0 x 6.0	RFFM7600
NEW	4.9 to 5.85	PA + SPDT + LNA	11a/n/ac	26.0	17.0	2.5	3.3	200	LGA 3.0 x 3.0	RFFM4501
NEW	4.9 to 5.85	PA + SPDT + LNA	11a/n/ac	29.0	18.0 20.0	1.8	3.3 5.0	230 280	LGA 3.0 x 3.0	RFFM4501F

WiFi and Connectivity High-Power Amplifier Reference Designs

- High efficiency and linear output power
- Gerber files and evaluation layout available



Table 25

	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
	2300	2400	29.0	3.0	32.0	5.0	1000.0	2-RF5602	RF5602HWB
	2300	2500	>30.0	2.5	35.0	6.0	1400.0	SZA-2044 and RF5643	RF5643WDA
	2400	2500	29.0	3.0	32.0	5.0	1000.0	2-RF5602	RF5602HWL
	2500	2700	29.0	3.0	31.0	5.0	1200.0	2-RF5602	RF5602HWM
	2500	2700	>30.0	2.5	35.0	6.0	1400.0	SZA-2044 and RF5643	RF5643WDB
	2700	2900	>30.0	2.5	35.0	6.0	1500.0	SZA-3044 and RF5643	RF5643WDC
	3300	3800	29.0	2.5	32.0	5.0	1500.0	SZA-3044 and SZP-3026	SZP3026HWD
	3300	3800	>30.0	2.5	35.0	6.0	1500.0	SZA-3044 and RF5643	RF5643WDD
	3300	3600	29.0	3.0	30.0	5.0	1000.0	2-RF5623	RF5623HL
	3600	3800	29.0	3.0	30.0	5.0	1200.0	2-RF5623	RF5623HH
	5100	5850	25.0	2.5	32.0	5.0	1000.0	STA-5063 and SZM-5066	SZM5066WD

Low-Noise Amplifier + Switch

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



Table 26

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Switch Type	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Switch Insertion Loss (dB)	IIP3 (dBm)	V _{CC} (V)	I _{CC} (mA)	Package	Part Number
	2400	2500	SP3T	11.5	1.8	5.0	19.0	0.6	7.0	3.3	9.0	QFN	RF5501
	2400	2500	SP3T	11.5	1.9	5.0	19.0	0.6	7.0	3.3	9.0	QFN	RF5521
	2400	2500	SP3T	11.0	2.2	5.0	19.0	0.8	7.0	3.3	9.0	QFN	RF5611
	4900	5850	SPDT	13.0	2.3	8.0	16.0	0.7	3.0	3.3	10.0	QFN	RF5540

2.4GHz WiFi Front End Modules

- Linear Power supporting 256 QAM operation
- Antenna sharing *Bluetooth*® and WLAN operation
- Efficiency targeting mobile applications



Table 27

	Functionality	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	Part Number
	PA, SP3T, Rx Balun, 2170 MHz and 2 Fo Filter	16.0	20.5	33.0	3.0	—	—	3.3	150.0	190.0	QFN	RF3482E
	PA, SP3T, 2 Fo Rejection	17.0	20.0	27.0	3.0	—	—	3.3	130.0	160.0	QFN	RF5325
	PA, SP3T, LNA, 2170 MHz and 20 Rejection	17.0	20.0	25.0	3.3	10.5	2.8	3.3	150.0	200.0	QFN	RF5345
	2.5GHz Amplifier, SP3T, Power Detector Coupler	18.0	21.0	25.0	2.5	—	—	3.3	170.0	210.0	QFN	RF5365
	2.5GHz Amplifier, SP3T, Power Detector Coupler	18.0	21.0	25.0	4.0	—	—	3.3	150.0	210.0	QFN	RF5375
	PA, SP3T, LNA, and 2 Fo Rejection	17.0	20.0	26.0	3.0	13.0	2.1	3.3	130.0	190.0	QFN	RF5725
	PA, SP3T, LNA, and 2 Fo Rejection	19.0	22.0	30.0	3.3	18.0	2.1	3.3	200.0	250.0	QFN	RF5755
	PA, LNA, SP3T Switch, and PDC	19.0	22.0	30.0	3.3	18.0	2.1	3.3	200.0	250.0	QFN	RF5765
	PA, SP3T, Rx Balun	17.0	20.0	30.0	3.0	—	—	3.3	180.0	240.0	QFN	RF5924
	PA, SP3T Switch, and POUT	20.0	23.0	25.0	3.0	—	—	3.3	250.0	300.0	QFN	RF5385
	PA, SP3T Switch, and POUT	20.0	23.0	25.0	3.0	—	—	3.3	250.0	300.0	QFN	RF5395
	PA, SP3T Switch, LNA LPF, and POUT	19.0	22.0	30.0	3.0	14.0	2.2	3.3	200.0	250.0	QFN	RF5565
	PA, SP3T, LNA, and 2 Fo Rejection	19.0	22.0	30.0	—	18.0	2.1	3.3	200.0	250.0	QFN	RFFM5765Q
	PA, SP3T, Rx Balun	16.0	21.0	33.0	—	—	—	3.3	150.0	190.0	QFN	RFFM3482Q
	PA, SP3T, LNA, and 2 Fo Rejection	18.0	22.0	24.0	2.0	13.0	2.0	3.3	185.0	210.0	Laminate Module	RFFM8200
	PA, SP3T, LNA, and 2 Fo Rejection	18.0	21.0	24.0	3.0	13.0	1.5	3.3	160.0	190.0	QFN	RFFM8202
	PA, SP3T, and 2 Fo Rejection	19.0	21.0	24.0	—	—	—	3.3	160.0	190.0	QFN	RFFM8204
NEW	PA with Harmonic Filter and PDET, SP3T, LNA with Bypass	19.0	22.0	26.0	2.5	11.0	2.5	3.3	230.0	275.0	QFN	RFFM8205
NEW	PA with Harmonic Filter and PDET, SP3T, LNA with Bypass	19.0	22.0	26.0	2.5	11.0	2.5	3.3	230.0	275.0	QFN	RFFM8209

5GHz WiFi Front End Modules

- High linear output power supporting 11ac 80MHz standard
- Integrated harmonic filter and core functions for complete front-end solution
- Efficiency targeting mobile applications



Table 28

	Architecture	WiFi Standard	Freq (GHz)	Gain (dB)	Avg P _{OUT} (dBm)	EVM %	V _{CC} (V)	Current at Po (mA)	Package (dim. in mm)	Part Number
NEW	5GHz FEM, PA, SPDT SW, LNA, LPF, and PDET	11a/n/ac	4.9 to 5.85	29.0	16.0	1.8	3.0 to 4.8	190	QFN 2.5 x 2.5 x 0.40	RFFM8505
NEW					18.0	2.5	3.0 to 4.8	210		RFFM8509
NEW	5GHz FEM, PA, SPDT, HF, and LNA	11a/n/ac	4.9 to 5.85	29.0	16.0	1.4	3.0 to 4.8	210	QFN 2.5 x 2.5 x 0.45	RFFM8506
					19.0	3.0	3.0 to 4.8	270		
	5GHz FEM, PA, SPDT, and HF	11a/n/ac	4.9 to 5.85	29.0	16.0	1.4	3.0 to 4.8	210	QFN 2.5 x 2.5 x 0.45	RFFM8504
	5GHz FEM, PA, SPDT, and HF	11a/n/ac	4.9 to 5.85	29.0	19.0	3.0	3.0 to 4.8	270	QFN 2.5 x 2.5 x 0.45	
	5GHz FEM, PA, SPDT SW, LNA, LPF, and PDET	11a/n	4.9 to 5.85	29.0	17.5	3.0	3.0 to 4.8	210	QFN 2.5 x 2.5 x 0.45	RFFM8502
	5GHz FEM, PA, SPDT SW, LNA, LPF, and PDET	11a/n	4.9 to 5.85	30.0	16.0	2.0	3.0 to 4.8	200	Laminate 3 x 3 x 1.1	RFFM8500
	5GHz FEM, PA, SW, LNA, LPF, and PDET	11a/n	4.9 to 5.85	32.0	15.5	2.5	3.0 to 4.8	175	QFN 3 x 3 x 0.5	RF5516
	5GHz FEM, PA, SW, LNA, LPF, and PDET	11a/n	4.9 to 5.85	32.0	15.5	2.5	3.0 to 4.8	175	QFN 3 x 3 x 0.5	RF5506
	5GHz FEM, PA, SW, LPF, and PDET	11a/n	4.9 to 5.85	27.0	15.5	3.0	3.0 to 4.8	150	QFN 3 x 3 x 0.5	RF5836

Dual-Band WiFi Front End Modules

- High efficiency
- High linear output power
- Fully integrated front end for both low band and high band



Table 29

	Functionality	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 (%)	V _{CC} (V)	11g/n Operating Current (mA)	11a/n Operating Current (mA)	Package	Part Number
	2.4GHz PA, SP3T, Rx Balun 5.0GHz PA, SPDT, Rx Balun	17.0	16.5	33.0	32.0	2.4	2.4	3.3	170.0	170.0	QFN	RF3688
NEW	2.4GHz PA, SP3T, LNA 5.0GHz PA, SPDT, LNA	19.0	17.5	24.0	28.0	2.5	3.0	3.3	190.0	215.0	Laminate	RFFM8800

WiFi Power Amplifiers

- High efficiency PA
- Optimized for battery applications



Table 30

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	P _{OUT} (dBm)	EVM (%)	V _{CC} (V)	I _{CC} (mA)	Package	Part Number
	400	2500	28.0	10.0	3.0	3.3	55.0	QFN	RF5373
	1800	2800	26.0	>18.0	4.0	3.0 to 5.0	500.0	QFN-16	RF5117
	2400	2500	28.0	>21.0	3.0	3.3 to 5.0	210.0	QFN	RF5112
	2400	2500	25.5	18.0	2.5	3.3	120.0	QFN	RF5122
	2400	2500	28.0	>21.0	3.0	3.3 to 5.0	210.0	QFN	RF5125
	2400	2500	34.0	18.0	3.0	3.3	130.0	QFN	RF5152
	2400	2500	25.0	>18.0	<4.0	3.0 to 5.0	220.0	QFN-12	RF5189
	2400	2500	31.0	17.0	3.0	3.6	125.0	QFN	RF5222
	2400	2500	25.5	18.0	2.5	3.3	120.0	QFN	RF5322
	2400	2500	30.0	18.0	3.0	3.3	95.0	QFN	RF5622*
	2400	2500	25.5	18.0	2.5	3.3	120.0	QFN	RF5722*
	3300	6200	10.0	4.0	14.0	3.3	52.0	SOT-363	STA5063Z
	4900	5850	30.0	18.0	4.0	4.0	265.0	QFN	RF5300
	4900	5850	28.0	17.0	3.0	3.3	140.0	QFN	RF5355
	4900	5850	29.0	>19.0	<3.0	3.3	200.0	QFN	RF5616*

*Integrated 2nd harmonic filter

Smart Energy AMI/ZigBee® Power Amplifiers

- High efficiency
- High output power



Table 31

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	P _{OUT} (dBm)	OP1dB (dBm)	V _{CC} (V)	I _{CC} (mA)	Efficiency (%)	Package	Part Number
	150	960	33.0	35.0	35.0	3.6	1500.0	57.0	QFN-16	RF5110G
	400	2500	28.0	20.0	22.0	3.6	90.0	45.0	QFN-8	RF5373
	868	2500	0 to 28.0	23.5	25.0	3.6	145.0	45.0	QFN-16	RF2172
	2400	2500	25.0	30.0	32.0	5.0	220.0	45.0	QFN-12	RF5189

Smart Energy AMI/ZigBee® Power Amplifiers/LNA/Switch Front End Modules

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



Table 32

	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 Type	Package	Part Number
NEW	433	470	25.0	30.0	28.5	3.6	1100.0	50.0	15.0	1.9	5.0	SP3T	Module-28	RFFM6403
	868	928	27.0	31.5	32.0	3.6	970.0	40.0	21.0	1.3	12.0	DPDT	Module-32	RF3858
	868	928	29.0	30.0	26.0	3.6	740.0	54.0	18.0	2.4	12.0	SP3T	Module-32	RF6509
	868	928	30.0	26.0	27.0	4.2	225.0	45.0	17.0	1.5	10.0	DPDT	Module-28	RF6519
	868	928	27.0	26.5	26.5	4.2	214.0	68.0	17.0	1.5	10.0	DPDT	Module-32	RF6549
	868	928	42.0	28.0	26.5	4.2	340.0	57.0	32.0	1.8	8.0	SPDT	Module-28	RF6559
	868	928	30.0	30.0	30.5	4.0	600.0	62.0	17.0	1.5	8.0	DPDT	Module-32	RFFM6901
	868	928	30.0	33.5	30.0	4.0	700.0	65.0	21.0	1.3	12.0	DPDT	Module-32	RFFM6904
NEW	868	928	25.0	30.0	28.5	3.6	850.0	52.0	16.0	1.7	5.0	SP3T	Module-28	RFFM6903
	2400	2500	27.0	23.0	26.0	3.3	220.0	35.0	12.5	2.2	10.0	SP3T	QFN-16	RF5745
	2400	2500	28.0	22.0	22.0	3.6	200.0	30.0	13.5	2.5	7.0	DPDT	QFN-20	RF6525
	2400	2500	28.0	23.0	23.0	3.3	240.0	35.0	11.5	3.0	8.0	DPDT	QFN-20	RF6535
	2400	2500	25.0	18.0	20.0	3.0	70.0	48.0	11.5	2.5	8.0	DPDT	Module-24	RF6555
	2400	2500	28.0	27.0	27.0	3.6	550.0	35.0	10.0	2.2	7.0	DPDT	QFN-20	RF6505
	2400	2500	28.0	22.0	22.0	3.3	200.0	35.0	11.5	2.5	8.0	DPDT	QFN-20	RF6575
	2400	2500	30.0	22.0	27.0	3.3	220.0	35.0	13.0	1.9	10.0	SP3T	QFN-16	RF5755
NEW	2400	2500	25.0	23.0	23.0	3.3	175.0	45.0	9.0	3.0	7.0	DPDT	Module-24	RFFM6201
NEW	2400	2500	15.0	13.0	13.0	3.0	20.0	50.0	12.0	2.0	4.0	SP3T	QFN-16	RF6M204

Smart Energy AMI/ZigBee® Power Amplifiers/Switch Front End Modules

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



Table 33

	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 Type	Package	Part Number
NEW	168	171	27.0	27.0	25.0	3.6	400.0	55.0	SP2T	Module-32	RF6M6500
NEW	405	475	30.0	30.0	29.0	3.6	750.0	60.0	SP2T	Module-28	RFFM6401
	433	470	15.0	30.0	28.0	3.6	650.0	55.0	SP2T	Module-28	RF6504
	470	510	15.5	31.0	28.0	3.6	800.0	55.0	SP2T	Module-28	RF6514
	868	928	16.5	22.0	22.0	3.6	120.0	40.0	DPDT	Module-28	RF6539
	868	928	15.0	30.0	29.0	3.6	680.0	60.0	SP2T	Module-28	RF6569
	868	928	14.0	26.0	25.5	3.6	215.0	68.0	DPDT	Module-28	RF6599
	2400	2500	28.0	20.0	22.0	3.3	180.0	30.0	SP2T	QFN-20	RF6515
	2400	2500	28.0	22.0	22.0	3.3	200.0	35.0	DPDT	QFN-20	RF6545
	2400	2500	26.0	20.0	22.0	3.3	170.0	35.0	SP3T	QFN-16	RF5325

High-Frequency pHEMT Amplifiers

- Monolithically matched high OIP3 broadband pHEMT MMIC
- Low noise efficient amplifiers
- Broadband performance



Table 34

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	V _o (V)	I _o (mA)	Package	Part Number
	DC	20000	9.5	4.8	13.7	24.3	5.0	46.0	QFN	SUF1033
	DC	20000	10.5	4.5	14.0	26.0	5.0	46.0	Die	SUF1000

High-Frequency GaAs pHEMT Distributed Amplifiers (SDA Series)

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



Table 35

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Gain (dB)	OIP3 (dBm)	OP1dB (dBm)	OP3dB (dBm)	NF (dB)	I _{cc} (mA)	V _{cc} (V)	Package	Part Number
	DC	20000	14.5	36.0	25.0	26.5	4.0	8.0	300.0	Die	SDA1000
	DC	22000	12.0	38.0	24.0	25.0	6.0	8.0	410.0	Die	SDA2000
	DC	24000	16.8	32.0	23.0	25.0	2.1	8.0	160.0	Die	SDA3000
	DC	32000	14.5	27.0	18.0	22.0	3.2	5.0	160.0	Die	SDA4000
	DC	35000	11.8	25.0	15.0	17.5	4.0	6.5	100.0	Die	SDA5000
	DC	50000	8.0	24.0	14.5	16.5	5.0	5.0	80.0	Die	SDA6000
	DC	40000	11.0	32.0	21.0	23.0	5.0	5.0	200.0	Die	SDA7000

High-Frequency Power Amplifiers

- Designed for use in high-frequency transmitters such as Point-to-Point and satellite communication
- >25dB of small-signal gain
- Optimized for linear operation with an output third order intercept point (OIP3) of ≥ +40dBm



Table 36

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Small Signal Gain (dB)	OIP3 (dBm)	V _o (V)	I _o (mA)	Package	Part Number
	17700	19700	25.0	40.0	5.5	1.3A	QFN	RFPA1702

Direct Quadrature Modulators

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



Table 37

	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	OIP3 (dBm)	Broadband Noise Floor (dBm/Hz)	Carrier Feedthrough (dBc)	Sideband Suppression (dBc)	V _{CC} (V)	I _{CC} (mA)	Package	Part Number
	700	1000	26.0	-160.0	-40.0	-40.0	5.0	185.0	QFN	RFMD0014
	1450	2700	26.0	-160.0	-40.0	-40.0	5.0	210.0	QFN	RFMD2014
	45	2700	18.0	-150.0	-45.0	-45.0	3.0	155.0	QFN	RFMD2080**
	45	2700	17.0	-162.0	-40.0	-45.0	3.0	135.0	QFN	RFMD2081*

* With integrated wideband fractional-N PLL/VCO

** With integrated baseband interface including baseband input biasing, baseband filtering, and gain control

Switches (Packaged)

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



Table 38

	Switch Type	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Insertion Loss (dB)	Isolation (dB)	Switching Speeds (ns)	OP1dB (dBm)	V _{CC} (V)	Package	Part Number
	DPDT	10	6000	0.65	33.0	35.0	30.5	3.0	QFN	RFSW6223
	SP3T	DC	6000	0.5	27.0	25.0	27.0	3.0	DFN	RFSW6131
	SP3T	2400	2500	0.6	25.0	—	—	3.0 to 4.5	QFN	RF5570
	SP3T	2400	2500	0.6	23.0	—	—	3.0 to 4.5	QFN	RF5840
NEW	SPDT	5	6000	0.35	28.0	2000.0	41.0	3.0	QFN	RFSW1012
	SPDT	50	6000	0.75	70.0	150.0	—	5.0	QFN	RFSW6124
	SPDT	0.3	4000	0.3	26.0	40.0	28.0	2.5 to 5.0	SC70	RF3023
	SPDT	0.3	4000	0.3	26.0	40.0	28.0	2.5 to 5.0	SC70	RF3024
	SPDT	10	6000	0.6	58.0	120.0	30.0	3.0 to 5.0	QFN	RF3021
	SPDT	10	6000	0.5	52.0	120.0	30.0	3.0 to 5.0	QFN	RF3025
NEW	SPDT	5	6500	0.55	29.0	300.0	—	3.0	QFN	RFSW8000
	Transmit/Receive	DC	2500	1.0	24.0	12.0	—	3.0	SOT-23	RF2436

Discrete Switches

- Versatility of operation over broad range of frequency bands
- Excellent insertion loss and isolation performance
- Primary path and diversity options



Table 39

Switch Type	Part Number	Freq (MHz)	Control Lines	Control Voltage (V)	P0.1dB Max Power Handling (dBm)	Insertion Loss (dB)	Isolation (dB)	Switching Speed (μ/b)	IIP2 (dBm)	IIP3 (dBm)	Package (mm)	Notes
SPDT	RF1200	DC to 2500	2	0/+2.6	37.0	0.30	26.0	0.55	118.0	73.0	2.0 x 2.0 x 0.85	—
	RF1201	DC to 2500	2	0/+2.6	41.0	0.30	26.0	0.55	118.0	73.0	2.0 x 2.0 x 0.85	—
	RF1602	DC to 3500	1	0/+1.8	37.0	0.26	40.0	2.00	125.0	74.0	2.0 x 2.0 x 0.55	No DC blocks required
	RF1126	DC to 6000	2	0/+3.0	23.0	0.26	27.0	0.25	96.0	62.0	2.0 x 1.3 x 0.38	—
	RF1127	DC to 3500	1	0/+1.8	23.0	0.45	29.0	0.30	100.0	65.0	2.0 x 1.3 x 0.38	—
	RF1128	DC to 3500	2	0/+2.85	32.0	0.35	27.0	0.35	111.0	67.0	2.0 x 1.3 x 0.38	—
SP3T	RF1130	DC to 2500	2	0/+1.8	38.0	0.30	29.0	1.00	114.0	70.0	3.0 x 3.0 x 0.55	No DC blocks required
	RF1131	DC to 2500	3	0/+2.6	37.0	0.30	32.0	0.80	—	62.0	2.0 x 2.0 x 0.55	—
	RF1132	DC to 2500	3	0/+2.6	37.0	0.48	30.0	0.80	—	67.0	2.0 x 2.0 x 0.55	—
	RF1136	DC to 3500	2	0/+1.8	29.0	0.25	28.0	0.55	110.0	63.0	2.5 x 2.5 x 0.55	No DC blocks required
	RF1603A*	DC to 3500	2	0/+1.8	37.0	0.40	35.0	2.00	120.0	73.0	2.5 x 2.5 x 0.55	No DC blocks required
SP4T	RF1450	DC to 2500	2	0/+1.8	38.0	0.40	29.0	1.00	128.0	—	3.0 x 3.0 x 0.9	—
	RF1140	DC to 2500	2	0/+1.8	38.0	0.30	28.0	1.00	110.0	70.0	3.0 x 3.0 x 0.55	No DC blocks required
	RF1146	DC to 2500	2	0/+1.8	29.0	0.30	29.0	0.55	106.0	63.0	3.0 x 3.0 x 0.45	No DC blocks required
	RF1147	DC to 3500	2	0/+1.8	29.0	0.30	29.0	0.55	106.0	63.0	3.0 x 3.0 x 0.45	No DC blocks required
	RF1604*	DC to 3500	2	0/+1.8	37.0	0.40	35.0	2.00	115.0	73.0	2.5 x 2.5 x 0.55	No DC blocks required
SP5T	RF1156	DC to 2500	3	0/+1.8	28.0	0.35	29.0	0.55	108.0	60.0	3.0 x 3.0 x 0.85	No DC blocks required
DP4T	RF1226	DC to 2500	2	0/+2.6	26.0	0.22	27.0	0.35	106.0	68.0	2.0 x 2.0 x 0.55	—
	RF1622*	DC to 2500	1	0/+1.8	37.0	0.25	35.0	2.00	111.0	73.0	2.0 x 2.0 x 0.55	No DC blocks required
	RF1623	DC to 2700	1	0/+1.8	23.0	0.3	28.0	1.50	—	—	1.6 x 1.6 x 0.55	—
DP6T	RF1236	DC to 3500	3	0/+2.6	26.0	0.30	27.0	0.40	106.0	68.0	2.0 x 2.0 x 0.55	—
	RF1633*	DC to 2500	2	0/+1.8	32.0	0.35	26.0	2.00	111.0	73.0	2.0 x 2.0 x 0.55	No DC blocks required

* ESD enhanced > 2kV HBM

High-Power GaN Switches

- DC-6GHz wideband operation
- Low insertion loss and high isolation
- Hot switchable



Table 40

	Switch Type	Freq Range (Min) (MHz)	Freq Range (Max) (MHz)	Insertion Loss (dB)	Isolation (dB)	Switching Speed (ns)	OP0.1dB (dBm)	Package	Part Number
	SPDT	30	6000	0.45	35.0	40.0	46.0	QFN	RFSW2100
	SPDT	30	6000	0.25	40.0	40.0	46.0	Die	RFSW2100D

ASM/SFM/SDM Switches

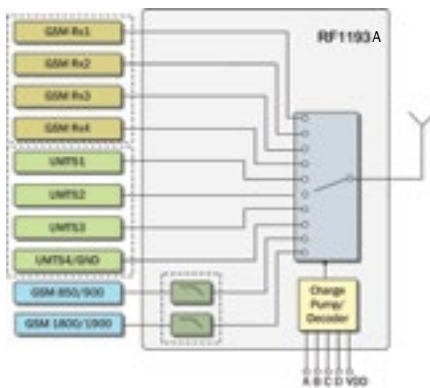
- Excellent insertion loss and isolation performance
- Best-in-class linearity performance
- Various ASM, SFM, and SDM options from SP8T to SP10T



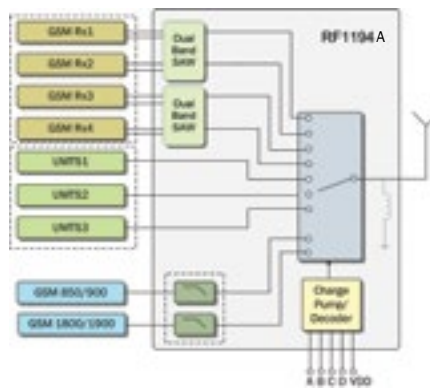
Table 41

	Description	Band Coverage	Switch Type	V _{cc} (V)	Number of GSM Rx Ports	Number of Generic TRx Ports	Package (mm)	Part Number
	Antenna Switch Module	QB GSM, QB UMTS	SP10T	2.5 to 3.3	4	4	3.0 x 3.8 x .85	RF1193A
	Antenna Switch Module	QB GSM, TB UMTS	SP9T	2.5 to 3.3	4	3	3.0 x 3.8 x .85	RF1193B
	Antenna Switch Module	TB GSM, PB UMTS	SP10T	2.5 to 3.3	3	5	3.0 x 3.8 x .85	RF8888
	Antenna Switch Module	TB GSM, PB UMTS	SP10T	2.4 to 3.3	3	5	3.0 x 3.8 x .85	RF8889A
	Antenna Switch Module	QB/TB GSM, QB/PB UMTS capable	SP10T	—	—	8	3.2 x 3.2 x 1.0	RF1291
	Antenna Switch Module	QB/TB GSM, DB/TB UMTS capable	SP8T	—	—	6	3.2 x 2.5 x 1.0	RF1292
	Switch Filter Module	QB GSM, TB UMTS	SP9T	2.5 to 3.3	4	3	4.5 x 4.5 x 1.0	RF1194A
	Switch Filter Module	QB GSM, TB UMTS	SP9T	2.5 to 3.3	4	3	4.5 x 4.5 x 1.0	RF1194B
	Switch Filter Module	QB GSM, QB UMTS	SP10T	2.5 to 3.3	4	4	4.5 x 4.5 x 1.0	RF1195
	Switch Filter Module	TB GSM, Penta band UMTS capable	SP10T	—	3	5	3.2 x 3.5 x 1.1	RF1293
	Switch Duplexer Module (Band 1)	QB GSM, TB UMTS	—	2.4 to 3.0	4	2	4.5 x 4.5 x 1.0	RF1196

Antenna Switch Module



Switch Filter Module



Switch Duplexer Module

