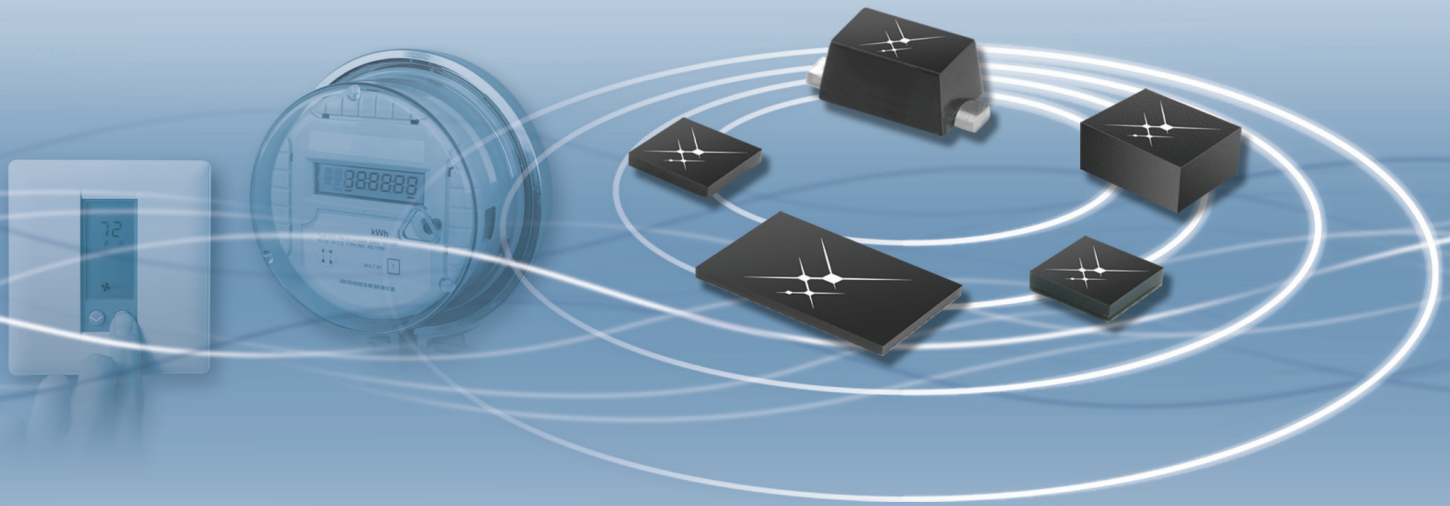




SKYWORKS®

BREAKTHROUGH SIMPLICITY®



Smart Energy Solutions

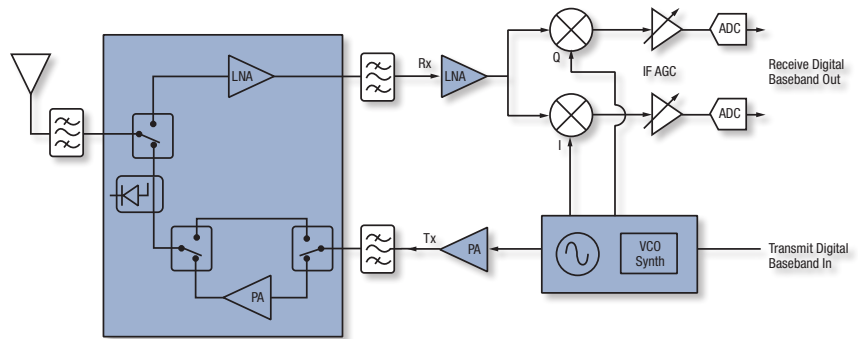
Smart Energy Solutions for the Wireless Home



- Advanced Metering Infrastructure (AMI)
- ZigBee® (IEEE 802.15.4)
- Wireless Local Area Networks (WLAN)
- Industrial and Home Control
- Plug-in Hybrid Electric Vehicles (PHEVs)

Skyworks is committed to supporting designers with leading edge performance products for designs targeted at 450, 900, and 2400 MHz radios. Our key product focus is in the following areas of the radio:

- Power Amplifiers (PAs) and Drivers
- Low Noise Amplifiers (LNAs)
- Switches
- Phase Lock Loops (PLLs)
- Voltage Control Oscillators (VCOs)
- Synthesizers
- Diodes
- Front-End Modules (FEMs)

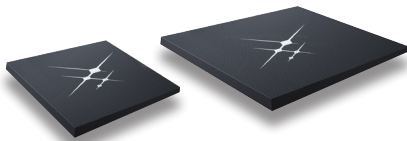


Skyworks Short-Range Radio Block Diagram

These solutions are ideal for applications ranging from wireless local area networks (WLAN), automated metering infrastructure (AMI), automated meter reading (AMR), professional mobile radio (PMR), and other ISM band applications.

For complete product specifications and our latest product offering, please visit our Web site at www.skyworksinc.com.

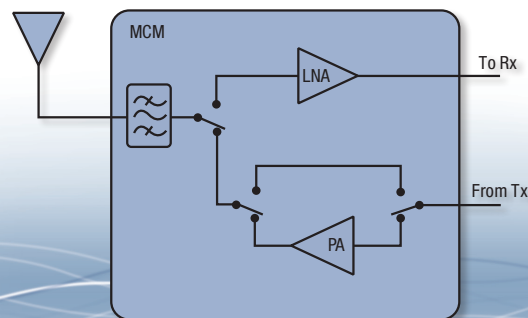
Custom Front-End Modules



Skyworks custom FEMs allow for significant size and cost reduction. In addition, many of Skyworks FEMs are designed to allow for "plug and play" functionality, thus drastically reducing the design time for new products. Customized FEMs can be created depending on transceiver implementation requirements. Various modules are being targeted at 450, 900, and 2400 MHz frequency bands.

Possibilities for Integration Include:

- T/R Switches
- Power Amplifiers
- Low Noise Amplifiers (LNAs)
- Mixers
- Harmonic Filters



Custom Front-End Module (FEM) Block Diagram

Front-End Modules (FEMs)

Part Number	Function	P _{Out} (dBm)	Tx Gain (dB)	I _{CC} (mA)	Frequency Band (MHz)		
					450	900	2400
SKY65326	Tx / Rx Front-End Module	30	34	615	•		
SKY65338	Tx / Rx Front-End Module	27	32	315	•		
SKY65342	Tx / Rx Front-End Module	29	34	650	•		
SKY65329	Tx / Rx Front-End Module with LNA	24.5	28	180		•	
SKY65346	Tx / Rx Front-End Module with LNA	26	34	200		•	
SKY65336	Tx / Rx Front-End Module with LNA	20	17	140			•
SKY65337	Tx / Rx Front-End Module	20	17	140			•
SKY65343	Tx / Rx Front-End Module	20	19.5	110			•
SKY65344	Tx / Rx Front-End Module with LNA	20	19.5	110			•
SKY65352	Tx / Rx Front-End Module with LNA	20	19	115			•
SKY65266	Tx / Rx Front-End Module with LNA	20	25	150			•
SKY65296	WLAN Front-End Module	21	24	210			•
SKY65249	WLAN Front-End Module	18	25	180			•

Power Amplifiers

Part Number	Function	Gain (dB)	P _{1dB} (dBm)	I _{CO} (mA)	Package (mm)	Frequency Band (MHz)		
						450	900	2400
SKY65116	2-Stage Power Amplifier	33.0	33.0	320	MCM 8 x 8	•		
SKY65111	3-Stage Power Amplifier	39.5	29.5	250	QFN 3 x 3		•	
SKY65146	3-Stage Power Amplifier	38.7	35.0	329	MCM 10 x 14		•	
SKY65006	3-Stage Power Amplifier	27.5	23.4	50	QFN 3 x 3			•
SKY65131	2-Stage Power Amplifier	26.0	28.0	150	MCM 4 x 4			•
SKY65132	3-Stage Power Amplifier	33.0	30.0	330	MCM 6 x 6			•
SKY65135	3-Stage Power Amplifier	33.0	33.0	400	MCM 6 x 6			•
SKY65037	2-Stage LNA	23-16 dB @ 900 MHz	18.0	60	QFN 2 x 2		•	
SKY65040	2-Stage LNA	23-16 dB @ 2400 MHz	18.0	60	QFN 2 x 2			•
SKY65028	Single Stage Driver	22.0	24.0	125	SOT-89	•	•	•
SKY65009	Single Stage Driver	17.0	25.0	110	SOT-89	•	•	•
SKY65045	Single Stage Driver	14 dB @ 900 MHz	25.0	60	SOT-89	•	•	

Low Noise Amplifiers

Part Number	Function	Gain (dB)	NF (dB)	I _{CC} (mA)	IP _{1dB}	Package (mm)	Frequency Band (MHz)		
							450	900	2400
SKY65050-372LF	LNA Discrete, 250–6000 MHz	16 dB @ 900 MHz	0.60	10	-9	SC-70 4L	•	•	•
SKY65047	LNA with Shutdown Mode	16.5 dB @ 915 MHz	0.85	7.8	-7	QFN 2 x 2	•	•	•
SKY65405-11	LNA with Shutdown Mode	14	1.00	12	-3	QFN 1.5 X 1.5			•

Switches

Part Number	Function	Insertion Loss (dB)	Isolation (dB)	P _{1dB}	Input IP3 (dBm)	Package (mm)	Frequency Band (MHz)		
							450	900	2400
SKY13268-344LF	SPDT Switch, Low Loss	0.30	25	30	50	SOT-666 1.5 x 1.2	•	•	•
SKY13309-370LF	SP3T Switch, Low Loss	0.50	25	29	–	QFN-8 2 x 2	•	•	•
SKY13314-374LF	SPDT Switch, Low Loss	0.25	25	31	48	QFN-6 1.5 x 1.5	•	•	•
AS179-92LF	SPDT Switch, Low Loss	0.30	25	30	48	SC-88 2.2 x 2	•	•	•
AS214-92LF	SPDT Switch, Low Loss	0.30	30	20	40	SC-88 2.2 x 2	•	•	•
SKY13318-321LF	DPDT Switch, Low Loss	0.90	22	34	57	QFN12L 3 x 3 x 0.75	•	•	•
SKY13270-92LF	SPDT Switch, Low Loss	0.35	24	>37	56	SC-88	•	•	•
AS193-73LF	SPDT Switch, Low Loss	0.35	24	37	55	SOT-6	•	•	•

Synthesizers

Part Number	Function	Phase Noise (dBc/Hz)	Direct Modulation	I _{DD} (mA)	Package (mm)	Frequency Band (MHz)		
						450	900	2400
SKY72300-21	Dual Frac-N Synthesizer	-91	FSK, FM, GMSK	12.5	TSSOP 9.7 x 6.4	•	•	
SKY72300-362	Dual Frac-N Synthesizer	-91	FSK, FM, GMSK	12.5	QFN 4 x 4	•	•	
SKY72301	Dual Frac-N Synthesizer	-96	FSK, FM, GMSK	11.0	TSSOP 9.7 x 6.4	•	•	
SKY72302	Dual Frac-N Synthesizer	-80	FSK, FM, GMSK	18.0	TSSOP 9.7 x 6.4	•	•	•
SKY72310	Single Frac-N Synthesizer	-91	FSK, FM, GMSK	12.5	QFN 4 x 4	•	•	



Voltage Controlled Oscillators (VCOs)

Part Number	Function	Phase Noise (dBc/Hz)	Output Power (dBm)	I _{DD} (mA)	Package (mm)	Frequency Band (MHz)		
						450	900	2400
SKY73120	CMOS VCO	-110 @ 25 kHz Offset	0	26	MCM 6 x 6		•	

Varactor Diodes

Part Number	Function	Capacitance (C _v)	Capacitance Ratio (C _r)	Series Resistance (R _s)/Quality Factor	Package (mm)	Frequency Band (MHz)		
						450	900	2400
SMV1405-079LF	VCO Tuning	1.8 pF @ 1 V	C ₁₀ /C _{T30} = 4.1	Q @ 4 V 50 MHz = 3200	SC-79 1.6 x 0.8	•	•	•
SMV1413-079LF	VCO Tuning	6.4 pF @ 1 V	C ₁₀ /C _{T30} = 4.2	Q @ 4 V 50 MHz = 2400	SC-79 1.6 x 0.8	•	•	•
SMV1408-001LF	VCO Tuning	2.9 pF @ 1 V	C ₁₀ /C _{T30} = 4.1	Q @ 4 V 50 MHz = 2900	SOT-23 2.9 x 2.35	•	•	•
SMV1247-011LF	VCO Tuning	7 pF @ 0.3 V	C _{10.3} /C _{T4.7} = 10	Q @ 3 V 50 MHz = 1500	SOD-323 2.5 x 1.25	•	•	•
SMV1249-079LF	VCO Tuning	31 pF @ 0.3 V	C _{10.3} /C _{T4.7} = 12.1	R _s @ 3 V 500 MHz = 2.2 Ω	SC-79 1.6 x 0.8	•	•	•
SMV1251-001LF	VCO Tuning	42 pF @ 0.3 V	C _{10.3} /C _{T4.7} = 12.2	R _s @ 3 V 500 MHz = 1.6 Ω	SOT-23 2.9 x 2.35	•	•	•
SMV1253-079LF	VCO Tuning	53 pF @ 0.3 V	C _{10.3} /C _{T4.7} = 12.3	R _s @ 3 V 500 MHz = 1.4 Ω	SC-79 1.6 x 0.8	•	•	•
SMV1255-011LF	VCO Tuning	64 pF @ 0.3 V	C _{10.3} /C _{T4.7} = 12.3	R _s @ 3 V 500 MHz = 1.3 Ω	SOD-323 2.5 x 1.25	•	•	•
SMV1233-011LF	VCO Tuning	3.3 pF @ 1 V	C ₁₁ /C _{T3} = 1.5	R _s @ 3 V 500 MHz = 1.2 Ω	SOD-323 2.5 x 1.25	•	•	•
SMV1236-004LF	VCO Tuning	17 pF @ 1 V	C ₁₁ /C _{T3} = 1.6	R _s @ 3 V 500 MHz = 0.5 Ω	SOT-23 2.9 x 2.35	•	•	•
SMV1763-079LF	VCO Tuning	5.2 pF @ 1 V	C _{10.5} /C _{T2.5} = 2.5	R _s @ 1 V 500 MHz = 0.7 Ω	SC-79 1.6 x 0.8	•	•	•
SMV1142-011LF	VCO Tuning	8.2 pF @ 1 V	C ₁₁ /C _{T3} = 1.5	R _s @ 3 V 500 MHz = 0.7 Ω	SOD-323 2.5 x 1.25	•	•	•
SMV1235-079LF	VCO Tuning	11.5 pF @ 1 V	C ₁₁ /C _{T3} = 1.8	R _s @ 3 V 500 MHz = 0.6 Ω	SC-79 1.6 x 0.8	•	•	•

PIN Diodes

Part Number	Function	Voltage Breakdown (V _B)	Capacitance (C _T)	Series Resistance (R _s)	Package (mm)	Frequency Band (MHz)		
						450	900	2400
SMP1345-518	Antenna Switch	50 V @ 10 μA	0.18 pF @ 5 V	R _s @ 10 mA = 1.5 Ω	LGA 1.2 x 1.4	•	•	•
SMP1340-040LF	TR Switch	50 V @ 10 μA	0.20 pF @ 5 V	R _s @ 10 mA = 0.9 Ω	0402 1.0 x 0.6	•	•	•
SMP1340-079LF	Antenna Switch	50 V @ 10 μA	0.20 pF @ 5 V	R _s @ 10 mA = 0.9 Ω	SC-79 1.6 x 0.8	•	•	•
SMP1321-508	Antenna Switch	100 V @ 10 μA	0.25 pF @ 30 V	R _s @ 10 mA = 2.0 Ω	LGA 1.2 x 1.4	•	•	•
SMP1322-017LF	TR Switch	50 V @ 10 μA	1.0 pF @ 30 V	R _s @ 10 mA = 0.5 Ω	SOT-143 2.37 x 2.92	•	•	•
SMP1320-079LF	TR Switch	50 V @ 10 μA	0.30 pF @ 30 V	R _s @ 10 mA = 0.9 Ω	SC-79 1.6 x 0.8	•	•	•
SMP1302-079LF	Attenuator Switch	200 V @ 10 μA	0.30 pF @ 30 V	R _s @ 10 mA = 3.0 Ω	SC-79 1.6 x 0.8	•	•	•

Schottky Diodes

Part Number	Function	Voltage Breakdown (V _B)	Capacitance (C _T)	Forward Voltage (V _F)	Package (mm)	Frequency Band (MHz)		
						450	900	2400
SMS7630-040LF	Detector	1 V @ 10 μA	0.30 pF @ 0.15 V	V _F @ 0.1 mA = 60–120 mV	SC-79 1.6 x 0.8	•	•	•
SMS7630-079LF	Detector	1 V @ 10 μA	0.30 pF @ 0.15 V	V _F @ 0.1 mA = 60–120 mV	0402 1.0 x 0.6	•	•	•
SMS7630-061	Detector	1 V @ 10 μA	0.30 pF @ 0.15 V	V _F @ 0.1 mA = 60–120 mV	0201 0.60 x 0.30	•	•	•
SMS7621-040LF	Detector/Mixer	2 V @ 10 μA	0.18 pF @ 0.15 V	V _F @ 1.0 mA = 260–320 mV	0402 1.0 x 0.6	•	•	•
SMS7621-079LF	Detector/Mixer	2 V @ 10 μA	0.18 pF @ 0.15 V	V _F @ 1.0 mA = 260–320 mV	SC-79 1.6 x 0.8	•	•	•
SMS7621-060	Detector/Mixer	2 V @ 10 μA	0.18 pF @ 0.15 V	V _F @ 1.0 mA = 260–320 mV	0201 0.60 x 0.30	•	•	•
SMS3926-023LF	Low Drive Mixer	2 V @ 10 μA	0.30 pF @ 0 V	V _F @ 1.0 mA = 200–270 mV	SOT-143 2.37 x 2.92	•	•	•
SMS3927-023LF	Medium Drive Mixer	2 V @ 10 μA	0.30 pF @ 0 V	V _F @ 1.0 mA = 310–370 mV	SOT-143 2.37 x 2.92	•	•	•
SMS3928-023LF	High Drive Mixer	4 V @ 10 μA	0.30 pF @ 0 V	V _F @ 1.0 mA = 520–580 mV	SOT-143 2.37 x 2.92	•	•	•

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