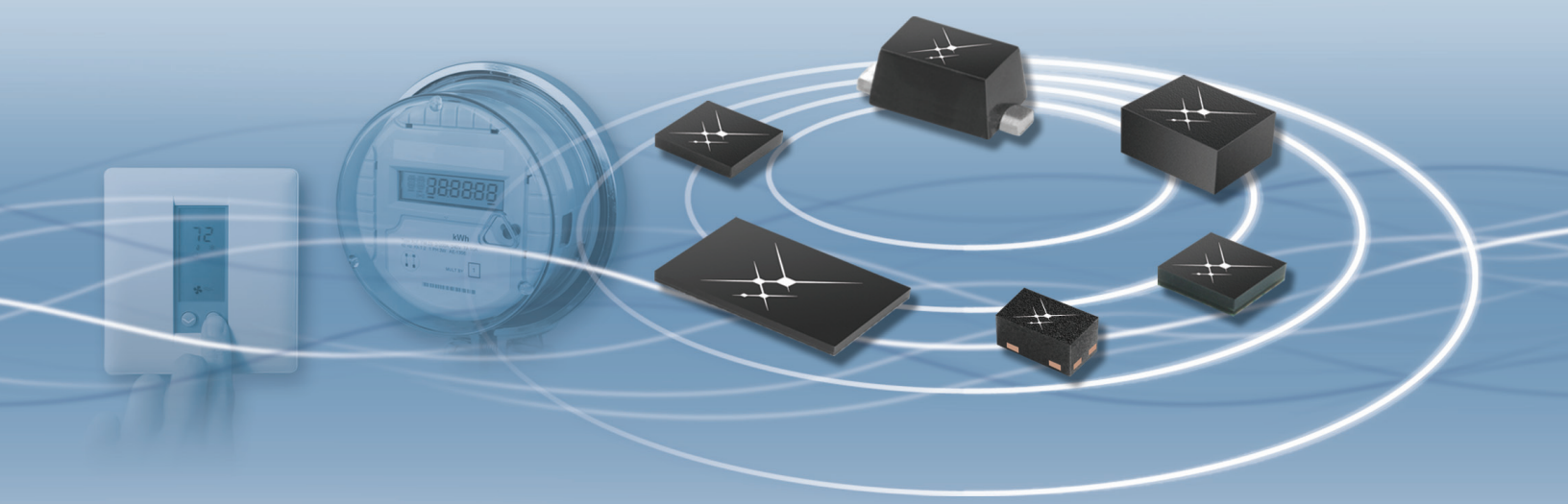
SKYWORKS®

BREAKTHROUGH SIMPLICITY®



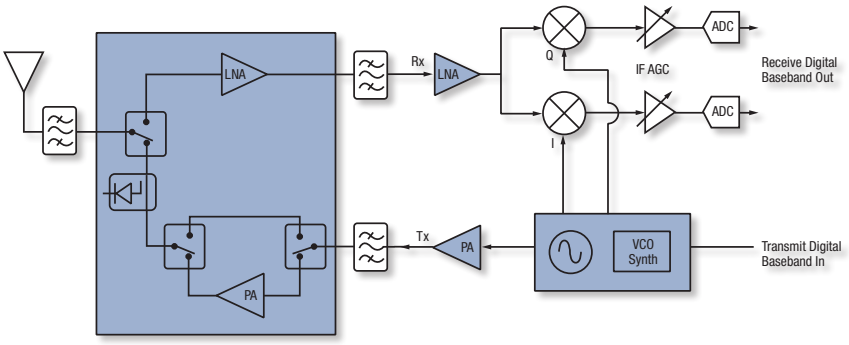
Smart Energy Solutions

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
- Unlicensed Band Radios
- Plug-in Hybrid Electric Vehicles (PHEVs)

Skyworks is committed to supporting designers with leading edge performance products for designs targeted at 450, 915 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)

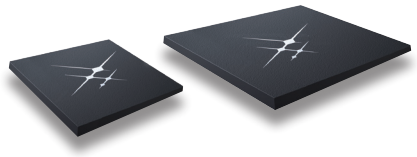


Skyworks Short-Range Radio Block Diagram

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**.

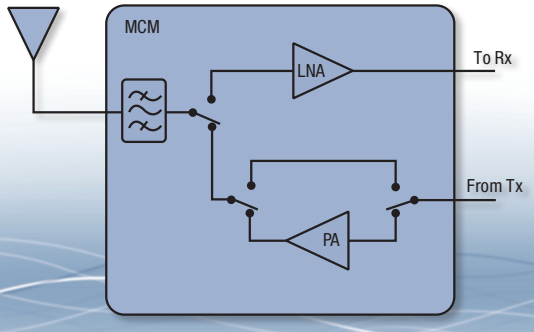
Custom Front-End Modules



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, 915 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)	Package (mm)	Frequency Band (MHz) 450	915	2400
SKY65338	Tx / Rx Front-End Module	27	32	315	MCM 8 x 8	•		
SKY65342	Tx / Rx Front-End Module	29	34	650	MCM 8 x 8	•		
SKY65346	Tx / Rx Front-End Module with LNA	26	35	200	MCM 5 x 5		•	
SKY65313	Tx / Rx Front-End Module with LNA	30.5	28	695	MCM 6 x 6		•	
SKY65336	Tx / Rx Front-End Module with LNA	20	17	140	MCM 8 x 8			•
SKY65337	Tx / Rx Front-End Module	20	17	140	MCM 8 x 8			•
SKY65343	Tx / Rx Front-End Module	20	19.5	105	MCM 6 x 6			•
SKY65344	Tx / Rx Front-End Module with LNA	20	19.5	105	MCM 6 x 6			•
SKY65352	Tx / Rx Front-End Module with LNA	20	19.5	110	MCM 6 x 6			•
SKY65348	Tx / Rx Front-End Module with LNA	27	26	380	MCM 8 x 8			•
SKY65296	WLAN Front-End Module	21	24	210	MCM 4 x 4			•

Power Amplifiers

Part Number	Function	Gain (dB)	$P_{1\ dB}$ (dBm)	I_{CQ} (mA)	Package (mm)	Frequency Band (MHz) 450	915	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		•	
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			•
SKY65009	Single Stage Driver	17.0	25.0	110	SOT-89 4.5 x 2.4	•	•	•
SKY65045	Single Stage Driver	14 dB @ 900 MHz	25.0	60	SOT-89 4.5 x 2.4	•	•	
SKY65162-70LF	Single Stage Driver	20.0	29.0	185	SOT-89 4.5 x 2.4	•	•	•

Low Noise Amplifiers

Part Number	Function	Gain (dB)	NF (dB)	Icc (mA)	$IP_{1\ dB}$	Package (mm)	Frequency Band (MHz) 450	915	2400
SKY65050-372LF	LNA Discrete, 250–6000 MHz	16 dB @ 900 MHz	0.60	10	-9	SC-70 2.2 x 1.35	•	•	•
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			•
SKY67101-396LF	LNA, High Linearity	17.9	0.50	56	+2.6	DFN 2 x 2		•	

Switches

Part Number	Function	Insertion Loss (dB)	Isolation (dB)	$P_{1\ dB}$	Input IP3 (dBm)	Package (mm)	Frequency Band (MHz) 450	915	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 2 x 2	•	•	•
SKY13314-374LF	SPDT Switch, Low Loss	0.25	25	31	48	QFN 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	QFN 3 x 3	•	•	•
SKY13270-92LF	SPDT Switch, Low Loss	0.35	24	>37	56	SC-88 2.1 x 2.0	•	•	•
AS193-73LF	SPDT Switch, Low Loss	0.35	24	37	55	SOT-6 2.8 x 2.9	•	•	•

Synthesizers

Part Number	Function	Phase Noise (dBc/Hz)	Direct Modulation	I_{DD} (mA)	Package (mm)	Frequency Band (MHz) 450	915	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	•	•	

Skyworks Green™ products are compliant to all applicable materials legislation and are halogen-free. For additional information, refer to Skyworks Definition of Green™, document number SQ04-0074.

Voltage Controlled Oscillators (VCOs)

Part Number	Function	Phase Noise (dBc/Hz)	Output Power (dBm)	I_{DD} (mA)	Package (mm)	Frequency Band (MHz) 450	915	2400
SKY73120	CMOS VCO	-110 @ 25 kHz Offset	0	26	MCM 6 x 6		•	

Varactor Diodes

Part Number	Function	Capacitance (C_T)	Capacitance Ratio (C_R)	Series Resistance (R_S)/ Quality Factor	Package (mm)	Frequency Band (MHz) 450	915	2400
SMV1405-079LF	VCO Tuning	1.8 pF @ 1 V	$C_{T0}/C_{T30} = 4.1$	Q @ 4 V 50 MHz = 3200	SC-79 1.6 x 0.8	•	•	•
SMV1413-079LF	VCO Tuning	6.4 pF @ 1 V	$C_{T0}/C_{T30} = 4.2$	Q @ 4 V 50 MHz = 2400	SC-79 1.6 x 0.8	•	•	•
SMV1408-001LF	VCO Tuning	2.9 pF @ 1 V	$C_{T0}/C_{T30} = 4.1$	Q @ 4 V 50 MHz = 2900	SOT-23 2.9 x 2.35	•	•	•
SMV1247-011LF	VCO Tuning	7 pF @ 0.3 V	$C_{T0.3}/C_{T4.7} = 10$	Q @ 3 V 50 MHz = 1500	SOD-323 2.5 x 1.25	•	•	•
SMV1247-040LF	VCO Tuning	7 pF @ 0.3 V	$C_{T0.3}/C_{T4.7} = 10$	Q @ 3 V 50 MHz = 1500	0402 1.0 x 0.6	•	•	•
SMV1249-040LF	VCO Tuning	31 pF @ 0.3 V	$C_{T0.3}/C_{T4.7} = 12.1$	R_S @ 3 V 500 MHz = 1.2 Ω	0402 1.0 x 0.6	•	•	•
SMV1249-079LF	VCO Tuning	31 pF @ 0.3 V	$C_{T0.3}/C_{T4.7} = 12.1$	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	$C_{T0.3}/C_{T4.7} = 12.2$	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	$C_{T0.3}/C_{T4.7} = 12.3$	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	$C_{T0.3}/C_{T4.7} = 12.3$	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	$C_{T1}/C_{T3} = 1.5$	R_S @ 3 V 500 MHz = 1.2 Ω	SOD-323 2.5 x 1.25	•	•	•
SMV1236-004LF	VCO Tuning	17 pF @ 1 V	$C_{T1}/C_{T3} = 1.6$	R_S @ 3 V 500 MHz = 0.5 Ω	SOT-23 2.9 x 2.35	•	•	•
SMV1763-040LF	VCO Tuning	5.2 pF @ 1 V	$C_{T0.5}/C_{T2.5} = 2.3$	R_S @ 1 V 900 MHz = 0.7 Ω	0402 1.0 x 0.6	•	•	•
SMV1763-079LF	VCO Tuning	5.2 pF @ 1 V	$C_{T0.5}/C_{T2.5} = 2.5$	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	$C_{T1}/C_{T3} = 1.5$	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	$C_{T1}/C_{T3} = 1.8$	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	915	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 uA	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	•	•	•
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	•	•	•
SMP1320-040LF	TR Switch	50 V @ 10 µA	0.25 pF @ 30 V	R_S @ 10 mA = 0.9 Ω	0402 1.0 x 0.6	•	•	•
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	915	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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