



SKYWORKS®

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FEM solutions for IoT applications

Skyworks front-end modules (FEM) are designed to enhance the RF performance of a system-on-chip (SoC) by increasing transmit power, improving receive capability, and strengthening overall link reliability. For designers familiar with SoC-based wireless systems, adding a FEM is a simple way to extend range, improve battery efficiency, and adapt performance to real-world deployment conditions. This guide highlights high-efficiency, highly integrated Skyworks FEM solutions for IoT applications—from wearables to Smart City infrastructure—designed to enable scalable, robust wireless performance in compact form factors.

Market Vertical: Hearables

SoC Vendor	NXP	Infineon	Nordic
SoC Product Family	NXH3674	CYW20829	nRF5340
	NXH3680	CYW20820	
		CYW20835	

Skyworks FEM Attach	Technology Space	Frequency Bands	PA	LNA	Tx POUT (dBm)	Package (mm)	Value Proposition
SKY66411-11	BLE, ZigBee, Thread, IEEE 802.15.4, Matter	2.4GHz	✓	✓	8-10	1.32 x 1.32 x 0.35 CSP-9	>40% PAE and 1.7-3.6V Vcc in tiny 1.32 x 1.32 x 0.35mm package
SKY66415-11	BLE, ZigBee, Thread, IEEE 802.15.4, Matter	2.4GHz	✓	✓	11	1.32 x 1.32 x 0.35 CSP-9	>40% PAE and 1.7-2.0V Vcc in tiny 1.32 x 1.32 x 0.35mm package
SKY66409-11	BLE, ZigBee, Thread, IEEE 802.15.4, Matter	2.4GHz	✓	✓	15	1.25 x 1.70 x 0.35 CSP-12	Balance of range and efficiency for space-constrained, battery-powered devices

Market Vertical: Smart City

SoC Vendor	Sequans	Semtech	Silicon Labs	ST Micro	Texas Instruments	NXP	Microchip
SoC Product Family	Monarch2 SQN3430	SX1261	EFR32FG	STM32WL	CC1312	JN5168	SAM R30
		SX1262	EFR32MG		CC1352		
		LR1110			CC1354		
		LR1120					

Skyworks FEM Attach	Technology Space	Frequency Bands	PA	LNA	Tx POUT (dBm)	Package (mm)	Value Proposition
SKY66431-11	5G Massive IoT, LTE CAT-M/ NB-IoT	Low-band: B5, B8, B12, B13, B14, B17, B18, B19, B20, B26, B28, B85 Mid-band: B1, B2, B3, B4, B25, B66	✓	✓	24	8.8 x 10.8 x 0.95 BGA	Integrated transceiver speeds time to market and reduces certification risk and cost
SKY66421-11	Wi-SUN, LoRa, HaLow, wM-Bus	860MHz - 930MHz	✓		27	3.0 x 3.0 x 0.75 MCM-16	High-linearity, low-loss RX path for moderate to dense node deployments
SKY66420-11	Wi-SUN, LoRa, HaLow, wM-Bus	860MHz - 930MHz	✓	✓	27	3.0 x 3.0 x 0.75 MCM-16	TX and RX optimized for maximum link margin and extended range in rural environments
SKY66422-11	Wi-SUN, LoRa, HaLow, wM-Bus	860MHz - 930MHz	✓	✓	22	3.0 x 3.0 x 0.75 MCM-16	Optimized for efficiency in dense network deployments
SKY66423-11	Wi-SUN, LoRa, HaLow, wM-Bus	860MHz - 930MHz	✓	✓	27	3.0 x 3.0 x 0.75 MCM-16	Balanced TX and RX performance for deployment in dense networks

Market Vertical: Smart Home

SoC Vendor	Silicon Labs	Nordic	Texas Instruments	NXP
SoC Product Family	EFR32MG	nRF5340	CC2652	IW612
	EFR32BG	nRF52840	CC2340	RW612
		nRF52833	CC2674	K32W061

Skyworks FEM Attach	Technology Space	Frequency Bands	PA	LNA	Tx POUT (dBm)	Package (mm)	Value Proposition
SKY66403-11	BLE, ZigBee, Thread, IEEE 802.15.4, Matter	2.4GHz	✓	✓	21/16/13	3.5 x 3 x 1.0 MCM-22	Highest output power for maximum link margin and reliability in noisy RF environments
SKY66411-11	BLE, ZigBee, Thread, IEEE 802.15.4, Matter	2.4GHz	✓	✓	8-10	1.32 x 1.32 x 0.35 CSP-9	High efficiency (>40% PAE) and 1.7-3.6V Vcc in tiny 1.32 x 1.32 x 0.35mm package
SKY66408-11	BLE, ZigBee, Thread, IEEE 802.15.4, Matter	2.4GHz	✓	✓	20 (0-20 in 0.7 steps)	3 x 3 x 0.6 MCM-24	Finely programmable output power supporting scalable, reusable designs

Market Vertical: Wearables

SoC Vendor	Nordic	Dialog	Silicon Labs	Realtek
SoC Product Family	nRF52832	DA14531	EFR32BG	RTL8752H
	nRF52833	DA14697		
	nRF52840			

Skyworks FEM Attach	Technology Space	Frequency Bands	PA	LNA	Tx POUT (dBm)	Package (mm)	Value Proposition
SKY66411-11	BLE, ZigBee, Thread, IEEE 802.15.4, Matter	2.4GHz	✓	✓	8-10	1.32 x 1.32 x 0.35 CSP-9	High efficiency (>40% PAE) and 1.7-3.6V Vcc in tiny 1.32 x 1.32 x 0.35mm package
SKY66415-11	BLE, ZigBee, Thread, IEEE 802.15.4, Matter	2.4GHz	✓	✓	11	1.32 x 1.32 x 0.35 CSP-9	>40% PAE and 1.7-2.0V Vcc in tiny 1.32 x 1.32 x 0.35mm package

Explore the [Skyworks IoT FEM portfolio](#)



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