

The consumer electronics industry is growing rapidly as technology continues to advance, with 5G becoming more widespread and 6G on the horizon. Through this advancement, data transfer rates are getting faster, with less lag and more stability. This is great news for the consumer.

Because of IoT technology, all devices can now connect seamlessly, making for smarter, more automated operations. As AI and edge computing become more prevalent, the ability to solve more complex problems increases, making life more efficient. These technological advancements create a need for high-quality frequency control devices that offer industry leading stability and accuracy.

## Where Crystals & Oscillators Fit

### Smartphones and Tablets

Crystals are needed in mobile devices for the necessary timing reference and temperature compensation that improve reference frequency accuracy, enabling integrated features like internet access, navigation, camera and Bluetooth. Crystals are also used in the latest smart phones for features like face recognition that use AI-enabled chipsets.



### Smart Homes, Smart Cities, Image Recognition

Frequency control devices are extremely important for any wireless smart communications network regardless of protocol, including ZigBee, Z-Wave, UWB and WiFi. These systems include monitoring, cameras and sensors connected to a display unit or a device for monitoring or control. They are used to monitor and control lighting, climate, entertainment systems, appliances and security.

### Smart Wearables

Compact crystal oscillators are designed for use in very low power wearable applications, including smart watches, glasses and other digital imaging devices to monitor health and wellness, motion and fitness, as well as location.

## Virtual Reality (VR) and Augmented Reality (AR)

Due to their ultra-small size and low load capacitance that minimizes energy use, quartz crystals are ideal for use with virtual reality electronics, including VR and AR devices.



## Consumer Video and Audio Systems

Crystals and oscillators are used in consumer video and audio systems, like smart TVs, Bluetooth headphones, HD streaming devices, projectors, smart speakers, wireless earphones and hearing aids, which require low power frequency control to ensure optimal operation.

## Solutions for Consumer Electronics

AKER's consumer electronics products provide customized frequency control solutions for all your devices. With our wide range of products, extensive customer support and superior supply chain management, we've got you covered for all your consumer electronics needs.

### XTAL • SMD • Seam Seal Package

Model	Dimension (mm)	Frequency
CXAN-321	3.2×2.5×0.75	8MHz~150MHz
CXAN-221	2.5×2.0×0.65	12MHz~133MHz
CXAN-211	2.0×1.6×0.5	16MHz~96MHz
CXAN-161	1.6×1.2×0.4	24MHz~60MHz

### XO • HCMOS

Model	Dimension (mm)	Frequency
SMAN-321	3.2×2.5×1.20	0.032768MHz 1MHz~156.25MHz
SMAN-221	2.5×2.0×0.95	0.032768MHz 2MHz~125MHz
SMAN-211	2.0×1.6×0.8	0.032768MHz 2MHz~50MHz