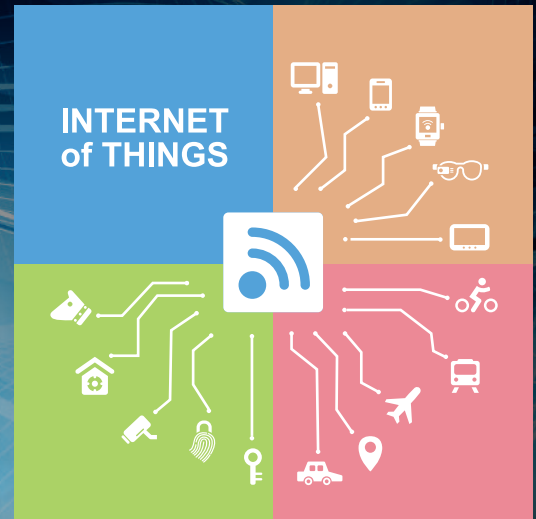




Hong Kong X'tals Ltd
Hong Kong Automotive X'tals Ltd

The Right Timing for Internet of Things



High Precision Crystals for IoT Applications

**Ideal for IoT devices with
 Bluetooth Smart, Bluetooth Low Energy, WiFi, ZigBee and sub-1GHz**

Crystal	Series	Model / Dimension	Frequency Range	Frequency Tolerance	Frequency Stability	Operating Temperature	Features
	1612SX	(CT) 1.6 x 1.2 mm	24MHz ~ 60MHz	±10 ppm	±10 / 20 ppm	-30 ~ +85 °C	Extremely small form factor for wearable devices
	2016SX	(CQ) 2.0 x 1.6 mm	16MHz ~ 72MHz	±10 ppm	±10 / 20 ppm	-30 ~ +85 °C	Small footprint for most advance IoT applications
	3225SX	(C7) 3.2 x 2.5 mm	8MHz ~ 150MHz	±10 ppm	±10 / 20 ppm	-30 ~ +85 °C	Best balance of cost performance in common package size
	2012SX	(MQ) 2.0 x 1.2 mm	32.768KHz	±20 ppm	-0.04 ppm / °C ²	-40 ~ +85 °C	Low frequency standby clock in small footprint
	3215SX	(M8) 3.2 x 1.5 mm	32.768KHz	±20 ppm	-0.04 ppm / °C ²	-40 ~ +85 °C	Most cost effective in famous industry standard package

Other packages and precisions are available upon requests



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IATF16949:2016
 Certificate IATF0310673
 Certificate SGS HK1800172



ISO 14001:2015
 Certificate SGS CN17/31350



ISO 9001:2015
 Certificate HK17/00191



OHSAS 18001:2007
 Certificate SGS CN17/31351



High Precision Crystals for IoT Applications



Specific Crystals for common IoT chips:

IC Manufacturer	IC Number	Frequency	Crystal Series	Model / Dimension	Ordering Code
Nordic Semiconductor	nRF51824 nRF51822 nRF51422	32 MHz	2016SX	 (CQ) 2.0 x 1.6 mm	2016M3200BC9C
		16 MHz	2016SX	 (CQ) 2.0 x 1.6 mm	2016M1600BC9C
	nRF52810	32 MHz	3225SX	 (C7) 3.2 x 2.5 mm	3225M3200BC4C
	nRF24LE1 nRF24LU1 nRF24L01	16 MHz	3225SX	 (C7) 3.2 x 2.5 mm	3225M1600BC9D
	nRF24AP2	16 MHz	3225SX	 (C7) 3.2 x 2.5 mm	3225M1600BC9D
			2016SX	 (CQ) 2.0 x 1.6 mm	2016M1600BC9D
	nRF905 nRF9E5	16 MHz	3225SX	 (C7) 3.2 x 2.5 mm	3225M1600BC9D
	nRF8001 nRF8002	16 MHz	3225SX	 (C7) 3.2 x 2.5 mm	3225M1600BC9D
			2016SX	 (CQ) 2.0 x 1.6 mm	2016M1600BC9A
	nRF51/52/24/80 series	32.768 KHz	3215SX	 (M8) 3.2 x 1.5 mm	3215K3276BC9D
ST Microelectronics	STM32LWP	24 MHz	2016SX	 (CQ) 2.0 x 1.6 mm	2016M2400AK9K
		32.768 KHz	3215SX	 (M8) 3.2 x 1.5 mm	3215K3276BC9D
Texas Instruments	CC2500	26 MHz	3225SX	 (C7) 3.2 x 2.5 mm	3225M2600ANCD
	CC2541	32 MHz	3225SX	 (C7) 3.2 x 2.5 mm	3225M3200AN9F
	CC3200	40 MHz	3225SX	 (C7) 3.2 x 2.5 mm	3225M4000AN5C
		32.768 KHz	3215SX	 (M8) 3.2 x 1.5 mm	3215K3276AN5N
Qualcomm	CSR1010	16 MHz	2016SX	 (CQ) 2.0 x 1.6 mm	2016M1600AH9D
			3225SX	 (C7) 3.2 x 2.5 mm	3225M1600AH9D
	CSR8510	26 MHz	3225SX	 (C7) 3.2 x 2.5 mm	3225M2600AH9D
Marvell	88W8997	40 MHz	3225SX	 (C7) 3.2 x 2.5 mm	3225M4000BP5A
Microchip	MRF89XA	12.8 MHz	3225SX	 (C7) 3.2 x 2.5 mm	3225M1280ACCL
Dragonchip	DC6688WF	25 MHz	3225SX	 (C7) 3.2 x 2.5 mm	3225M2500AD5D

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