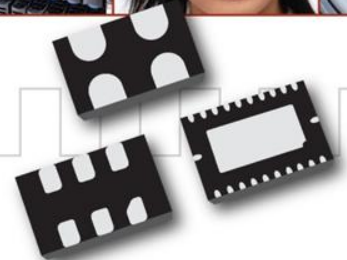




μPower MEMS Oscillator for Wearables, IoT and Mobile

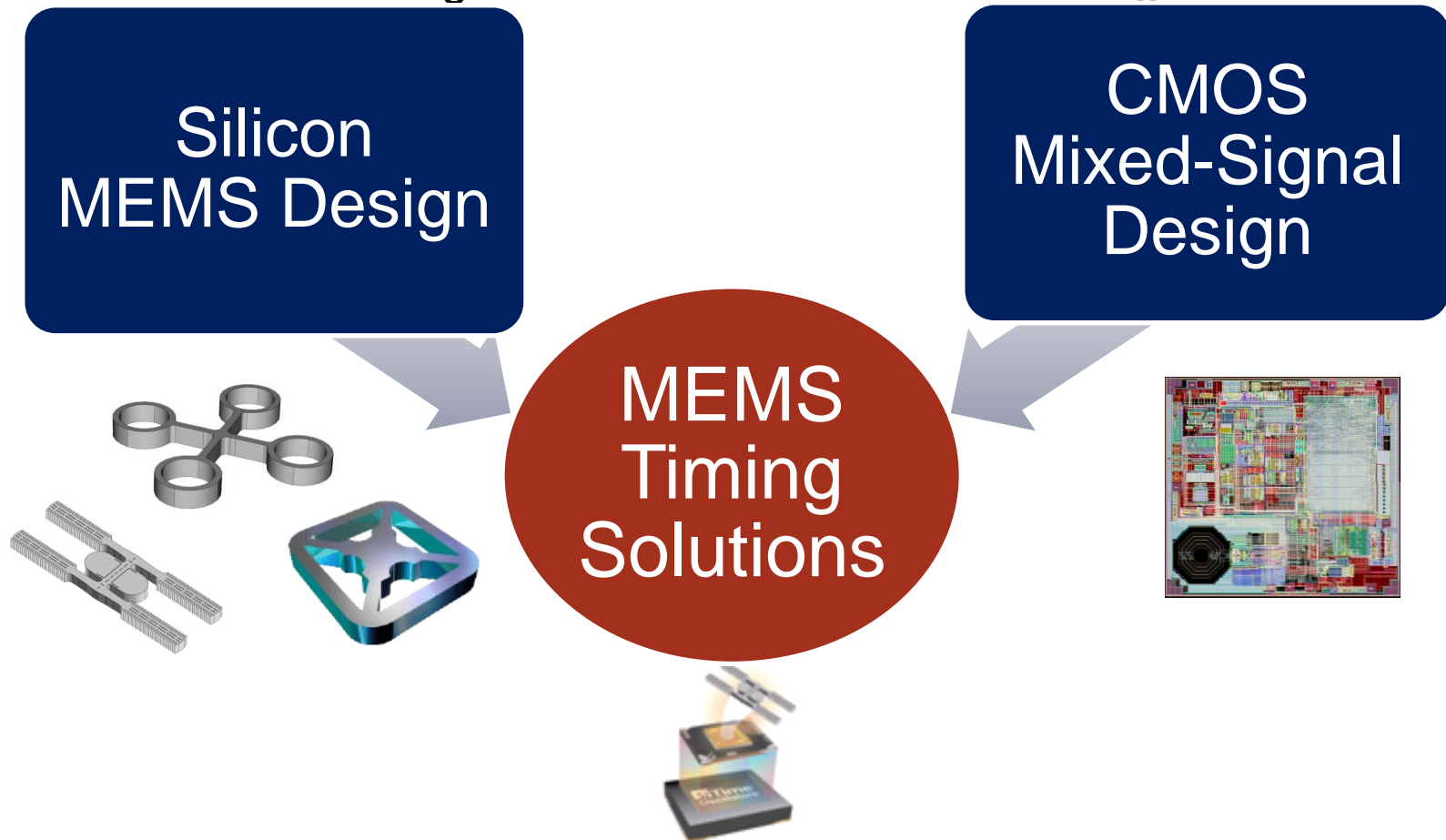
May 2015



The Smart Timing Choice™

SiTime Overview

- Fabless Analog IC company, Founded in 2005
- Mass production since 2007, 270MU shipped to date
- The leader in MEMS-based silicon timing, with 80% market share
- SiTime's mixed-signal and MEMS IP is 100% designed in-house

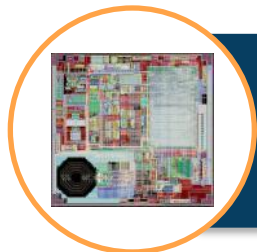


SiTime – The Leader in MEMS Timing



Market Leader

270 MU Shipped, 100 Major OEMs
80% Share of MEMS Timing



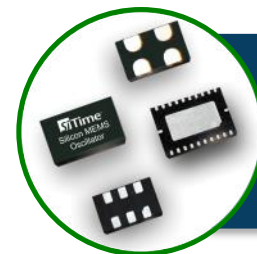
Technology Leader

100 Patents – MEMS, Analog, Packaging
2 Year Lead



Quality Leader

1.6 DPPM, Lifetime Warranty
Zero MEMS Failures



Product Leader

Programmable – 200K Part Numbers
Best Size, Stability, Power

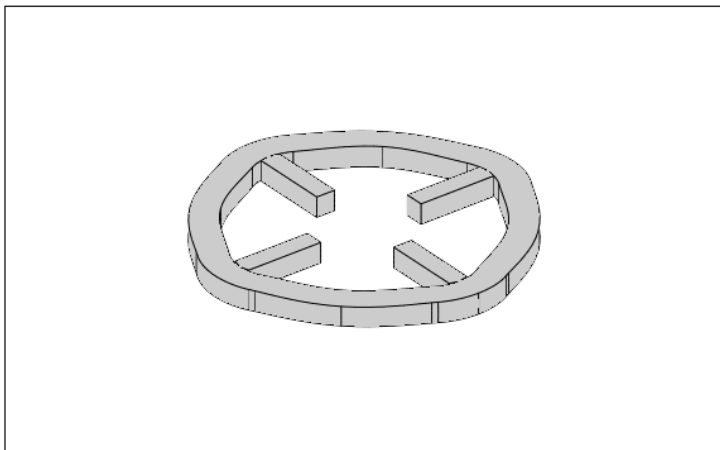
SiTime Uses Existing Global Semiconductor Infrastructure



- Locations
- Fabrication (MEMS: Bosch, Tower-Jazz, Analog: TSMC)
- Assembly (Carsem, UTAC, ASE)
- Direct Sales

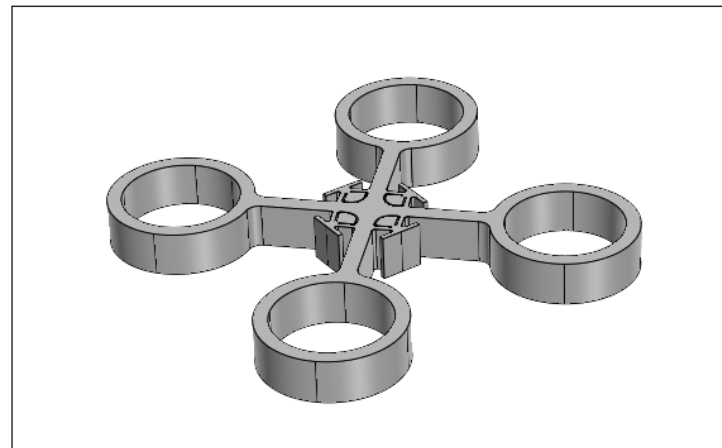
MEMS Resonators For All Clocking

5 MHz Resonator



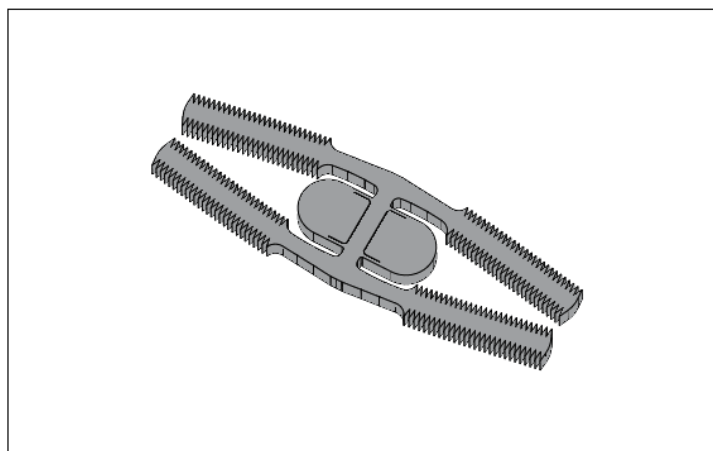
- 5MHz resonator
- In Production since 2007

48 MHz Resonator



- <1ps phase jitter
- In production since 2011

524 kHz Resonator



- For timekeeping, RTC, μ Power MHz
- In Production since 2010

MEMS Timing is a Perfect Fit for Wearables, IoT, Mobile



The First μ Power MHz Oscillator for Wearables, IoT, Mobile

**90% Lower Power
40% Smaller
70% Lighter**

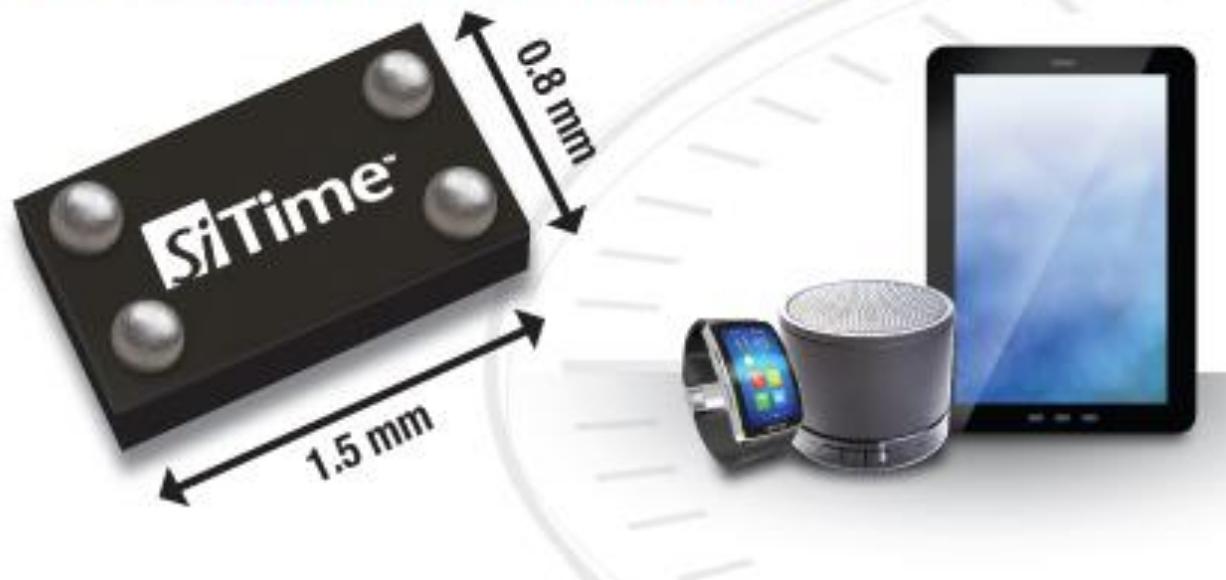
Compared to quartz

SiT8021 – World's Smallest, Lowest Power MHz Oscillator



μPower MHz Oscillator

40% SMALLER • 90% LOWER POWER



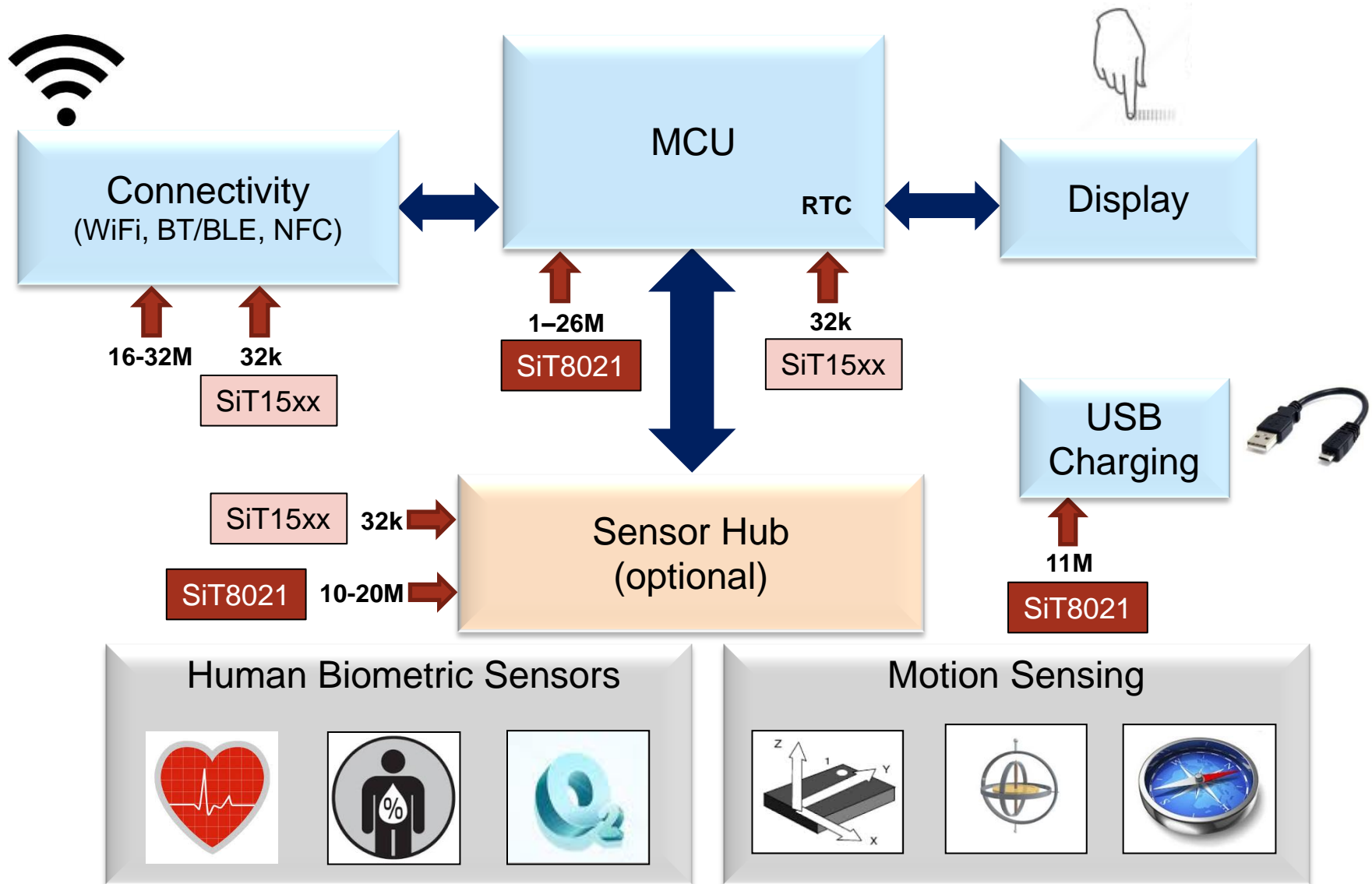
Frequency Range	Frequency Stability	Supply Voltage	Package	Temp. Range	Active Current	Resume Time	Output
1 - 26 MHz	100 PPM	1.8 V ±10%	1.5 x 0.8mm CSP	-40 to +85 C	100 μA @ 3.072 MHz	5 ms	LVCMOS

MEMS Solves Pain Points in Wearables, Mobile, IoT – Not Possible from Quartz

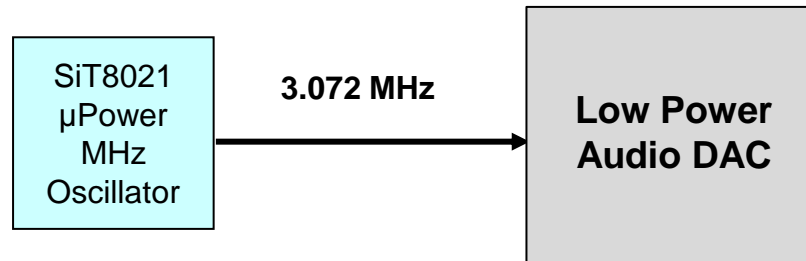


Customer Requirements	MEMS Features
Lowest Power	100 μ A – 90% lower than MHz quartz XO
Smallest Size	1.5 x 0.8 mm CSP – 40% smaller than quartz
Low frequencies for MCU power savings	< 5 MHz output in small packages Not available from quartz
Lightweight	70% lighter than quartz
Minimize number of components	Programmable drive strength for driving multiple loads
Shortest lead time supply continuity	Semiconductor supply chain

A SiTime Oscillator for Every Block in Wearables and IoT



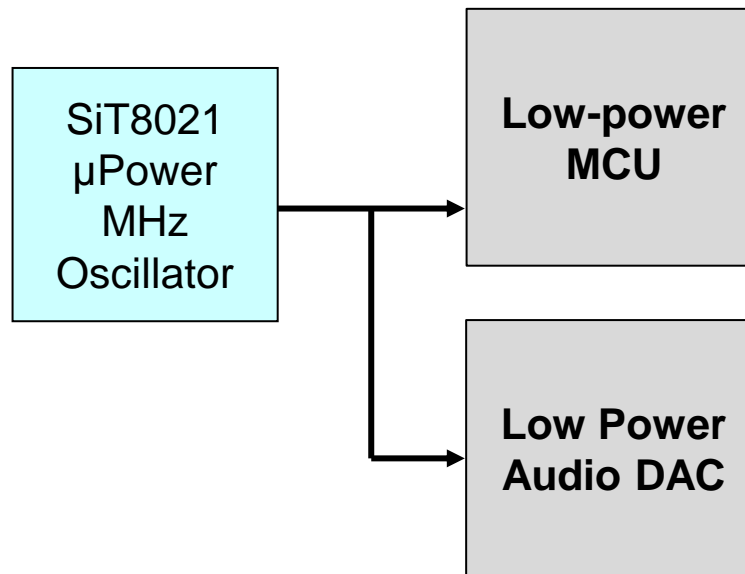
SiT8021 Extends Battery Power by 24 Hours in Portable Audio Applications



	SiT8021	Quartz XO
Active IDD - Oscillator	100 μA	2.5 mA
Power consumption – DAC + Oscillator + Amp	30 mW	34 mW
Effective battery life	202 hour	177 hours

Note: This assumes 2000 mAH Li-Ion battery typically used in portable devices

SiT8021 Drives Multiple Loads and Reduces BOM



- SiTime's SiT8021 drives 2 loads and eliminates 2nd XO or XTAL
- Saves space, cost

Complete MEMS Timing Portfolio for Mobile, Wearable and IoT



Intro Year → 2013

2014

2015

2012

32 kHz XO
and XTAL
Replacement

32 kHz
TCXO

μPower
XO

Low
Power
XO

SiT1532
32.768 kHz
1508 CSP
1.2 to 3.63V

SiT1552
32.768 kHz
1.5 to 3.63V

SiT8021
1-26 MHz
100-200 μA

SiT1602
3.75-77.76 MHz
3.1-4.9 mA

SiT1533
32.768 kHz
2012 SMD
1.2 to 3.63V

SiT8008
1-137 MHz
3.1-5.9 mA

SiT1534
1 Hz-32.768 kHz
1.2 to 3.63V

SiT8003XT
0.25mm thin
1-110 MHz
3.1-6.6 mA



NanoDrive™ output for
lowest power



LVCMOS
output

Tens of Millions of MEMS Oscillators to Ship in 2015 in Wearables, IoT, Mobile



MHz for Tablet



kHz TCXO
for Smart Watch



kHz & MHz for Fitness
and Health Monitoring



kHz & MHz for
Portable Audio



kHz for IoT
Chipsets



kHz and MHz for
Wireless IPCAM

- First μ Power MHz oscillator for Wearables, Mobile and IoT
 - 90% lower power
 - 40% smaller
 - 70% lighter
- Expands MEMS timing portfolio for Wearables, Mobile, IoT
- Silicon MEMS Quality and Reliability
 - 1.6 DPPM failure rate, 30x better than quartz
 - 20k g shock resistance, 70 g vibration resistance



LIFETIME
WARRANTY