



 **Kilopass**  
The Source for Logic Non-Volatile Memory

**Craig Rawlings**  
Director of Marketing

# Rapid Growing Customer Base

50+ Customers and Counting





# XPM (X-tra Permanent Memory) Customer Praise



"After evaluating a number of alternatives, we chose Kilopass' XPM memory technology since it provides the best standard logic CMOS solution for our **secure software storage**,"  
- Rudy Bruce, EVP of Marketing and Sales,



"Our engineering team selected Kilopass over other non-standard CMOS technologies such as Flash due to its **ease of integration** and manufacturing, and **low manufacturing cost**."  
-David Auld, VP Technology



"With this **qualification**, Kilopass Technology's XPM memory adds a valuable new IP resource for IC designers seeking a **low-cost alternative** to solutions based on current embedded Flash memory technology." -- Ed Wan, Director Product Marketing, TSMC's Design Services Div.

# Kilopass Foundry Partners

- Kilopass is the industry leader in Standard Logic CMOS Non-Volatile Memory IP called XPM™
- XPM™ IP supports from 180nm down to 40nm
  - 16-bit to 64-bit OTP Register Product
  - 1K-bit to 1M-bit OTP Memory Product
- Foundries supported
  - Chartered
  - Dongbu
  - IBM
  - Magnachip
  - SMIC
  - **TSMC**



# XPM IP Products

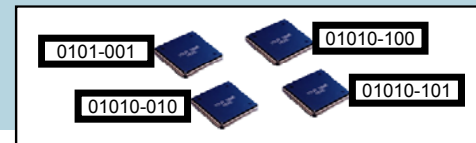
Node	Eval & Char	HTOL 1000Hr	DRB 1000 Hr	Number Lots	Finish Date	Cust. T/O	Volume Prod'n
T-180G	√	√	√	3	√ 2005	√	√
T-130G	√	√	√	3	√ 2006	√	√
T-90LP	√	√	√	3	√ 2008	√	√
T-90G	√	√	√	3	√ 2008	√	√
T-80GC	√	√	√	1	√ 2008	√	√
T-65LP	In Qualification			3	est. 7/08	√	
T-65GP	In Qualification			3	est. 9/08	√	
T-45LP	R/D	→					
T-40LP	R/D	→					



# Logic NVM SoC / ASSP Applications

## Security

Chip ID, Encryption Keys,  
Anti-piracy codes, Certificates,  
etc.



## Configuration

Tuning, firmware & parameter  
storage, MUX select, & LUT



## Manufacturability & Usability

LCD Display calibration, and  
Mixed Signal trim & calibration



# Customer Applications

**Customer A –**



Programmable HDCP keys  
for video processor and control chip

**Customer B –**

Oscillator calibration  
for digital clock chip replacement for crystal oscillator

**Customer C –**



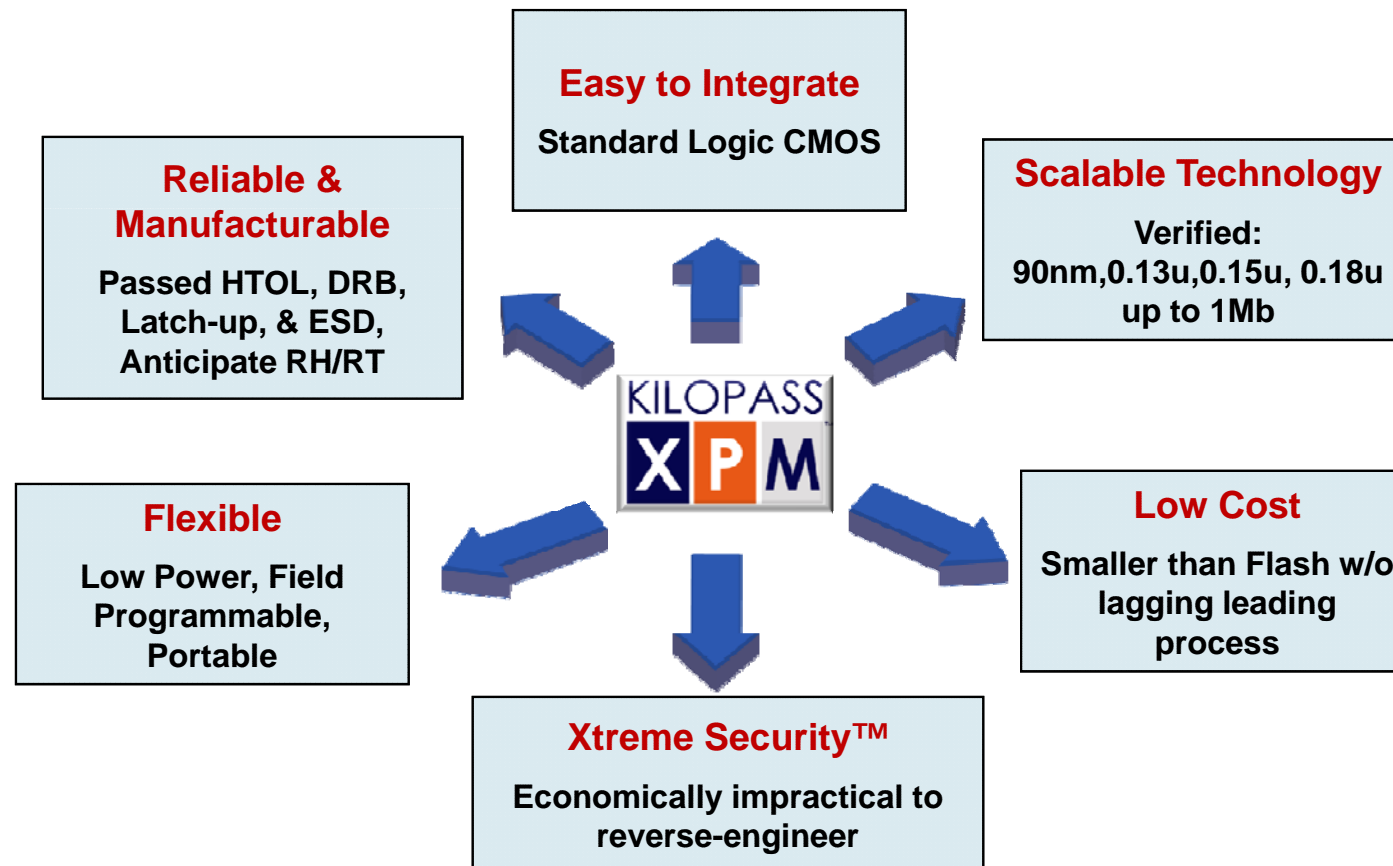
Sensor & ADC calibration  
for HVAC control chip

**Customer D –**

Secure ID  
for Cell Phone including CDRM-based applications



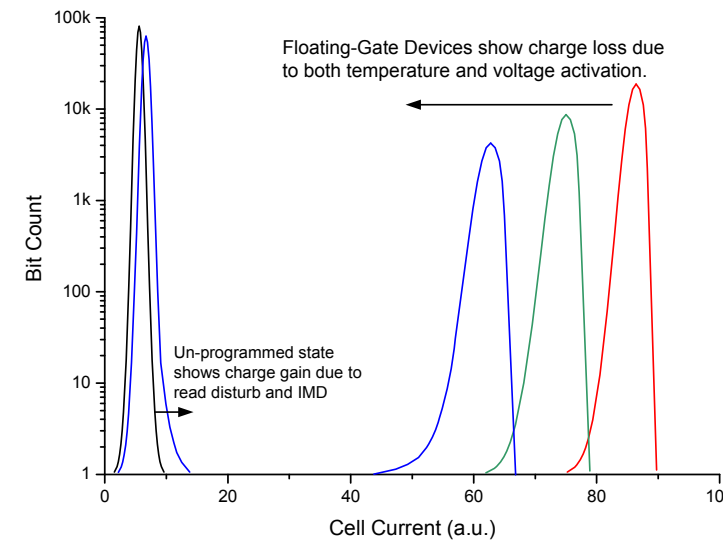
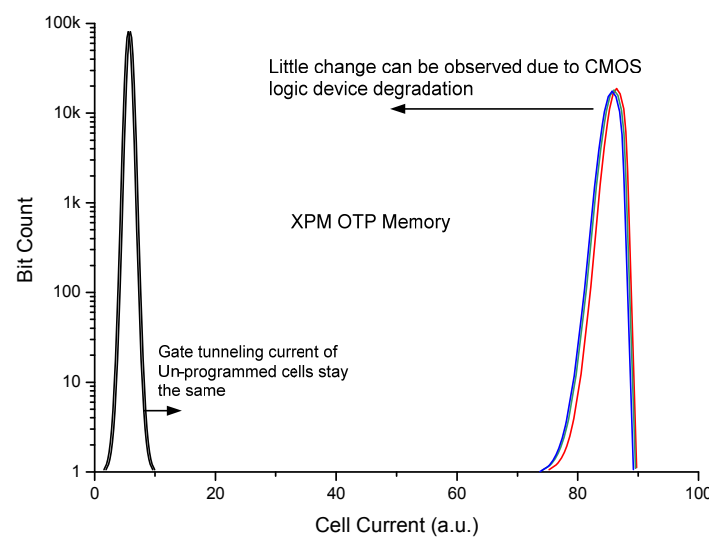
# Kilopass Advantages & Benefits



# XPM Embedded in Over 30 Million Customer Product Devices

## High Temperature Operation Life (HTOL):

- HTOL – A standard accelerated test for both thermal and voltage activated failure mechanisms through the use of high temperature (125C) and elevated voltage (+15%)
- XPM OTP shows little or no change in cell current after 2KHrs at 125C.
- FG devices will have decreasing read margin due charge loss and disturb



# Thank you

- Explore Kilopass IP at [ChipEstimate.com](http://ChipEstimate.com)
- Use Kilopass IP to plan your next chip!
- Please stay and talk with Craig for more information!