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Discover our broad portfolio of EEPROMs in WLCSP packages

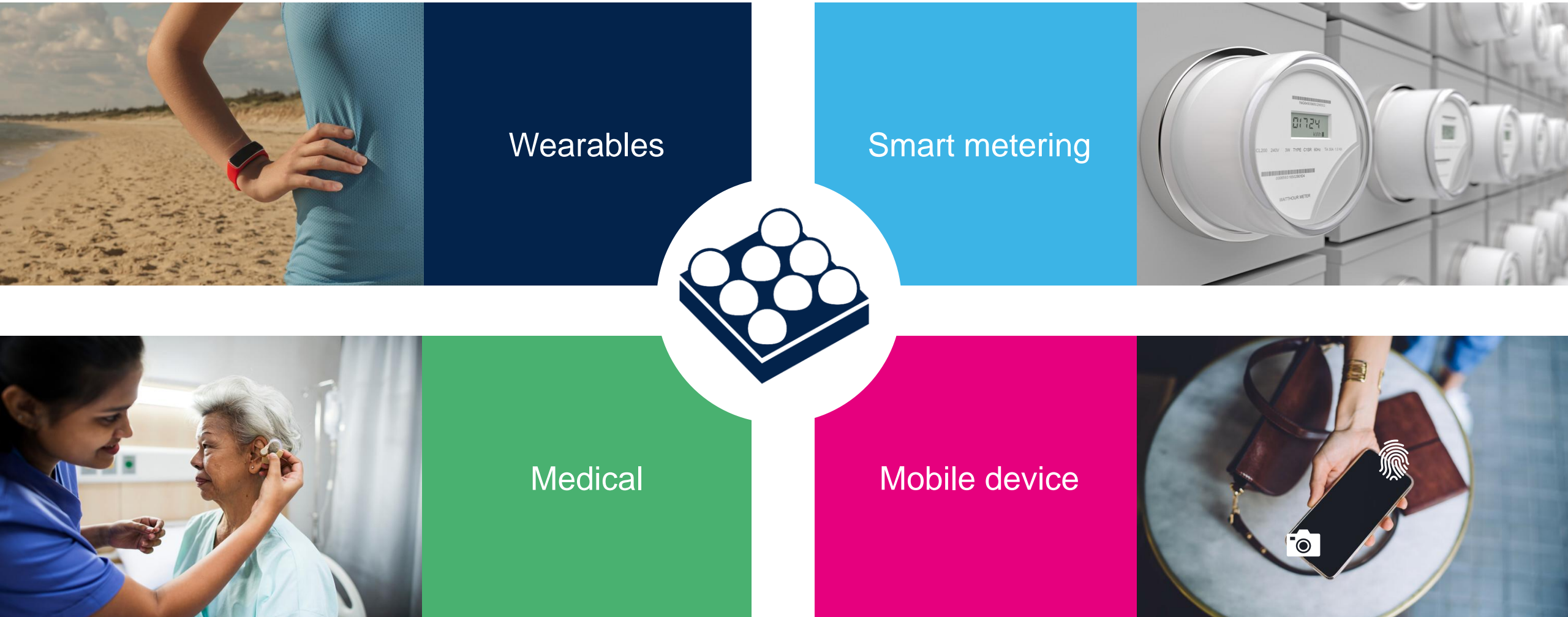
January 2022



EEPROM



Market & application segments



EEPROM WLCSP portfolio





EEPROM

A broad range of ST solutions



I²C 4-ball compatible

Same pin assignment
16Kbit with OTP row

No Write Protection

0.5 to 0.6mm²

8Kbit

16Kbit

64Kbit



I²C 4-ball
SWP &
CDA

Software Write Protect
Configurable Device Address

+ same pin assignment from 64 to
256Kbit

0.6 to 0.8mm²

64Kbit

128Kbit

256Kbit



I²C & SPI
compatible
HWP 5 & 8
balls

Hardware Write Protect

1 to 7mm²

64Kbit

128Kbit

256Kbit

512Kbit

1Mbit

2Mbit

4Mbit



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4-ball WLCSP portfolio



I²C 4-ball compatible

Same pin assignment
16Kbit with OTP row


No Write Protection

0.5 to 0.6mm²

8Kbit

16Kbit

64Kbit



I²C 4-ball SWP & CDA

Software Write Protect
Configurable Device Address

+ same pin assignment from 64 to 256Kbit

0.6 to 0.8mm²

64Kbit

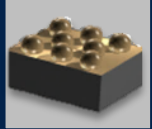
128Kbit

256Kbit

WLCSP series	PN	Mem density	Features	HWP	Dimension (Max X/Y) (mm)		Profile (max) (mm)	Ball size (typ)(mm)	Min pitch (mm)	BSC	Status
4-ball compatible	M24C08-FCT6TP/T	8-Kbit	Fixed address	No	0.723	0.733	0.33	0.185	0.4x0.4	No	Production
	M24C16-DFCU6TP/K	16-Kbit	Fixed address	No	0.745	0.839	0.3	0.185	0.4x0.4	No	Production
	M24C64X-FCU6T/TF	64-Kbit	Fixed address	No	0.731	0.751	0.33	0.18	0.4x0.4	Yes	Production
	M24C64X-FCP6T/TF *	64-Kbit	Fixed address	No	0.731	0.751	0.25	0.18	0.4x0.4	Yes	Production
4-ball SWP & CDA	M24C64X-FCU6T/TF	64-Kbit	CDA + SWP 1/1	No	0.731	0.751	0.33	0.18	0.4x0.4	Yes	Production
	M24C64X-FCP6T/TF *	64-Kbit	CDA + SWP 1/1	No	0.731	0.751	0.25	0.18	0.4x0.4	Yes	Production
	M24128X-FCU6T/TF	128-Kbit	CDA + SWP 1/1	No	0.871	0.871	0.33	0.185	0.4x0.5	Yes	Production
	M24256X-FCU6T/TF	256-Kbit	CDA + SWP 4/4	No	0.727	1.001	0.33	0.185	0.4x0.5	Yes	Production

* WLCSP height at 250µm enabled with electroplated bumping technology

5-ball & 8-ball WLCSP portfolio



I²C & SPI
compatible
HWP 5 & 8
balls

Hardware Write Protect
1 to 7mm²

64Kbit

128Kbit

256Kbit

512Kbit

1Mbit

2Mbit

4Mbit

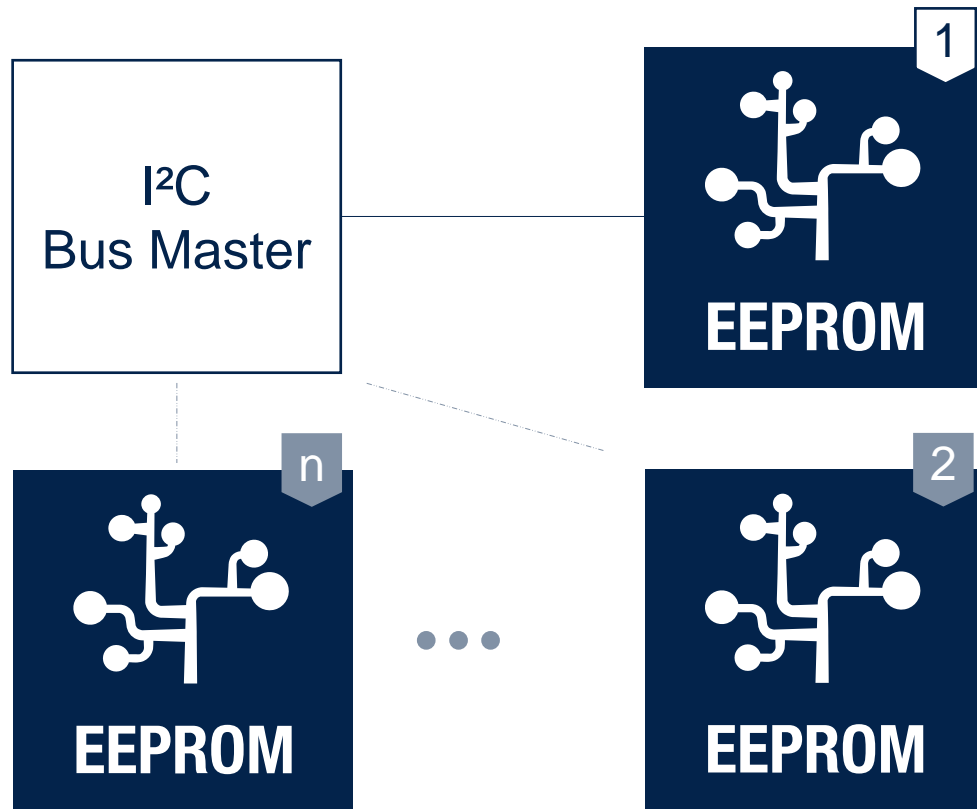
WLCSP	Part number	Memory density	Dimension (max X/Y) (mm)		Profile (max) (mm)	Ball size (typ) (mm)	Pinout compatibility	Bump number	
HWP 5&8 balls	I²C bus								
		M24C64-FCS6TP/K	64-Kbit	1.074	1.168	0.635	0.27	-	5
		M24C64-DFCT6TP/K	64-Kbit	1.093	0.979	0.33	0.16	-	8
		M24128-DFCS6TP/K	128-Kbit	1.309	1.119	0.580	0.27	M24256	8
		M24256-DFCS6TP/K	256-Kbit	1.309	1.399	0.580	0.27	M24128	8
		M24512-DFCS6TP/K	512-Kbit	1.309	1.975	0.580	0.27	M24M01	8
		M24M01-DFCS6TP/K	1-Mbit	1.736	2.598	0.580	0.27	M24512	8
		M24M02-DRCS6TP/K	2-Mbit	3.576	2.031	0.580	0.27	-	8
	SPI bus								
		M95640-DFCT6TP/K	64-Kbit	1.093	0.979	0.330	0.16	-	8
		M95128-DFCS6TP/K	128-Kbit	1.309	1.119	0.580	0.27	M95256	8
		M95256-DFCS6TP/K	256-Kbit	1.309	1.396	0.580	0.27	M95128	8
		M95512-DFCS6TP/K	512-Kbit	1.309	1.975	0.580	0.27	M95M01	8
		M95M01-DFCS6TP/K	1-Mbit	2.598	1.736	0.580	0.27	M95512	8
		M95M02-DRCS6TP/K	2-Mbit	3.576	2.031	0.580	0.27	-	8
		M95M04-DRCS6TPVF	4-Mbit	1.883	2.829	0.580	0.27	-	8

Key features

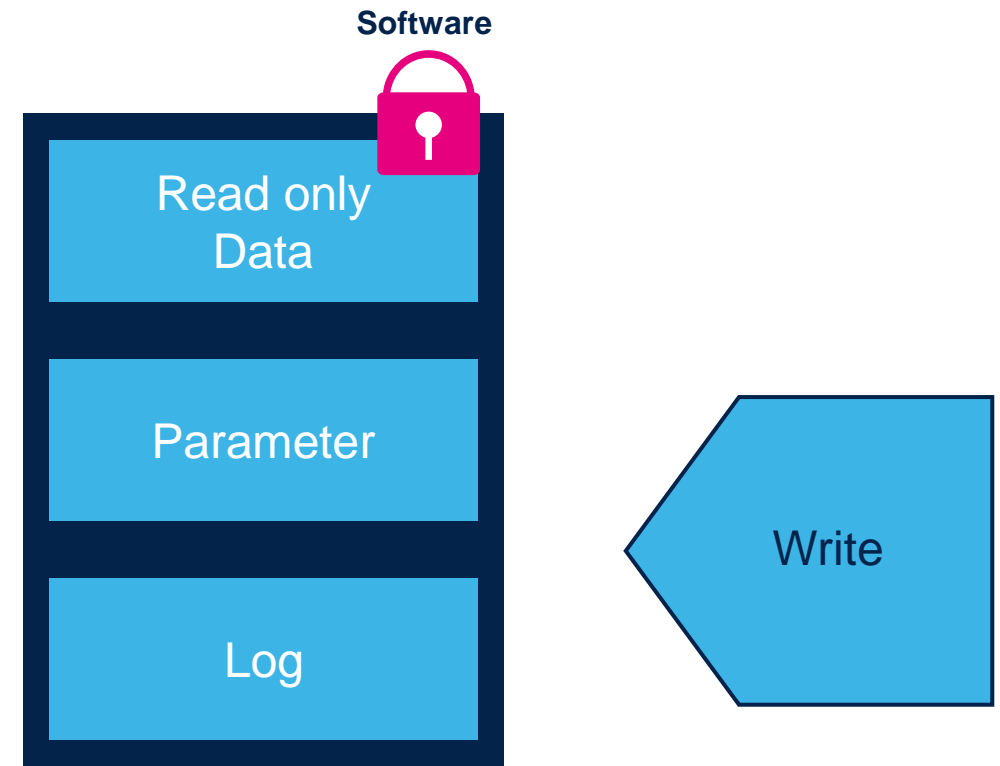


Two main design requirements

1. Multiple EEPROM on same bus

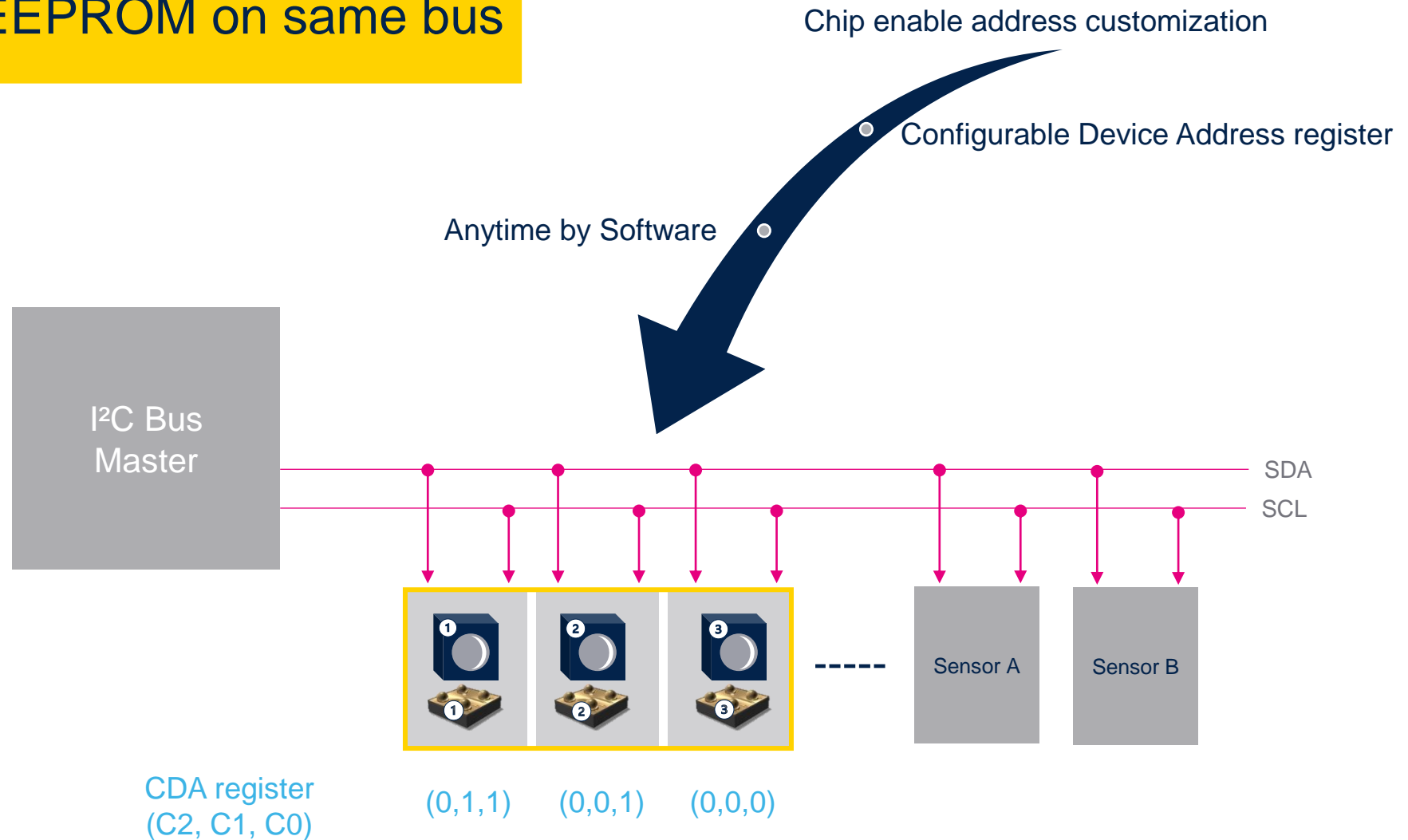


2. Software write protection



Configurable device address

1. Multiple EEPROM on same bus



Software write protection

WLCSP series	PN	Mem density	Features
4-ball SWP & CDA	M24C64X-FCU6T/TF	64-Kbit	CDA + SWP 1/1
	M24C64X-FCP6T/TF	64-Kbit	CDA + SWP 1/1
	M24128X-FCU6T/TF	128-Kbit	CDA + SWP 1/1
	M24256X-FCU6T/VF	256-Kbit	CDA + SWP 4/4

2. Software write protection

Partial or complete memory array lock



Not activated



Activated



SWP 4/4 register (b2,b1)

(0,0)

(0,1)

(1,0)

(1,1)

Our technology starts with You



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