

## 31 Device electronic signature

The device electronic signature is stored in the system memory area of the flash memory module, and can be read using the debug interface or by the CPU. It contains factory-programmed identification and calibration data that allow the user firmware or other external devices to automatically match to the characteristics of the STM32C0 series microcontroller.

### 31.1 Unique device ID register (96 bits) (UID)

Base address: 0x1FFF 7550

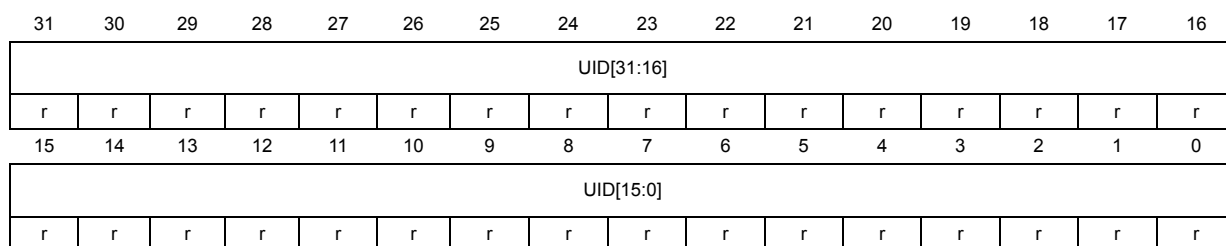
Address offset: 0x00

Reset value: 0XXXXX XXXX (where X is factory-programmed)

The unique device identifier is ideally suited:

- for use as serial numbers (for example USB string serial numbers or other end applications)
- for use as part of the security keys in order to increase the security of code in flash memory while using and combining this unique ID with software cryptographic primitives and protocols before programming the internal flash memory
- to activate secure boot processes, and so on.

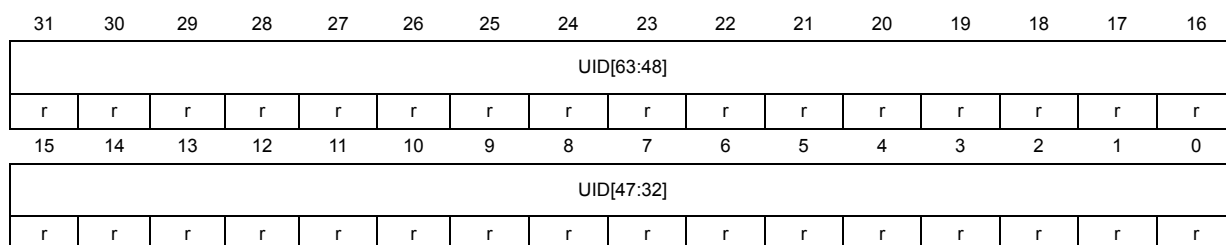
The 96-bit unique device identifier provides a reference number which is unique for any device and in any context. These bits cannot be altered by the user.



Bits 31:0 **UID[31:0]**: X and Y coordinates on the wafer expressed in BCD format

Address offset: 0x04

Reset value: 0XXXXX XXXX where X is factory-programmed



Bits 31:8 **UID[63:40]**: LOT\_NUM[23:0]

Lot number (ASCII encoded)

Bits 7:0 **UID[39:32]**: WAF\_NUM[7:0]

Wafer number (8-bit unsigned number)

Address offset: 0x08

Reset value: 0xFFFF XXXX where X is factory-programmed

31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
UID[95:80]															
r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
UID[79:64]															
r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r

Bits 31:0 **UID[95:64]**: LOT\_NUM[55:24]

Lot number (ASCII encoded)

## 31.2 Flash memory size data register (FSIZER)

Base address: 0x1FFF 75A0

Address offset: 0x00

Reset value: 0xFFFF where X is factory-programmed

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
FLASH_SIZE															
r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r

Bits 15:0 **FLASH\_SIZE[15:0]**: Flash memory size

This bitfield indicates the size of the device flash memory expressed in Kbytes.

As an example, 0x040 corresponds to 64 Kbytes.

## 31.3 Package data register (PCKR)

Base address: 0x1FFF 7500

Address offset: 0x00

Reset value: 0xFFFF where X is factory-programmed

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	Res.	PKG[3:0]			
												r	r	r	r

Bits 15:4 Reserved

Bits 3:0 **PKG[3:0]**: Package type

**Condition: STM32C011xx**

0001: SO8  
0010: WLCSP12  
0011: UFQFPN20  
0100: TSSOP20  
Other: Reserved

**Condition: STM32C031xx**

0010: TSSOP20  
0011: UFQFPN28  
0100: UFQFPN32 / LQFP32  
0101: UFQFPN48 / LQFP48  
Other: Reserved

**Condition: STM32C051xx**

0001: WLCSP15  
0010: TSSOP20  
0011: UFQFPN28  
0100: UFQFPN32 / LQFP32  
0101: UFQFPN48 / LQFP48  
Other: Reserved

**Condition: STM32C071xx**

0001: WLCSP19\_GP  
0010: WLCSP19\_N  
0011: TSSOP20\_GP  
0100: TSSOP20\_N  
0101: UFQFPN28\_GP  
0110: UFQFPN28\_N  
0111: UFQFPN32\_GP / LQFP32\_GP  
1000: UFQFPN32\_N / LQFP32\_N  
1001: UFQFPN48\_GP / LQFP48\_GP  
1010: UFQFPN48\_N / LQFP48\_N  
1011: LQFP64\_GP  
1000: LQFP64\_N  
1101: UFBGA64\_GP  
1110: UFBGA64\_N  
Other: Reserved

**Condition: STM32C091xx/92xx**

0001: TSSOP20  
0010: WLCSP24  
0011: UFQFPN28  
0100: UFQFPN32 / LQFP32  
0101: UFQFPN48 / LQFP48  
0110: UFBGA64 / LQFP64  
Other: Reserved