



Easily create NFC sensing and logging applications

## NTAG<sup>®</sup> SmartSensor portfolio

The latest addition to NXP's industry-leading NFC solutions complements the NTAG<sup>®</sup> portfolio for passive NFC tags and smart electronic devices. NTAG SmartSensors are easy to use in an application—just add an NFC antenna and battery.

### OVERVIEW

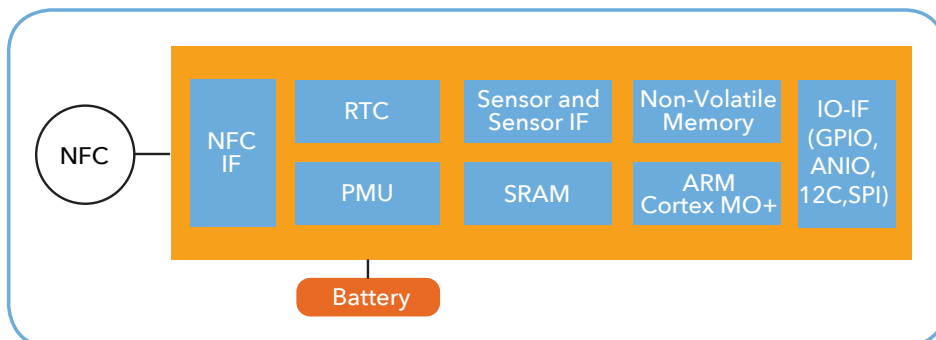
These highly integrated, single-chip solutions combine NFC smartphone connectivity with autonomous sensing, data processing and logging. They are also versatile and can be easily combined with other companion chips like radios or sensor solutions.

Like other NTAG products from NXP, they work seamlessly with our NFC reader ICs, which are used in more than 90% of all NFC-equipped mobile handset models. The NTAG SmartSensor communicates via NDEF-formatted data.

### INTERNET OF THINGS

NTAG SmartSensors are ideal devices for IOT products. Data collected in the application is transferred via NFC reader into the cloud for further treatment and analysis. As most smartphones have an NFC interface, data collection and reading is intuitive using dedicated applications on the phone.

### NTAG SMARTSENSOR BLOCK DIAGRAM



## FEATURES

- ▶ ISO14443 NFC interface, fully NFC Forum tag type 2 compliant
- ▶ Open ARM Cortex M0+ allowing flexibility and application customization
- ▶ LPCXpresso-based SDK with example applications for application development
- ▶ Large non-volatile memory invisible from the NFC interface, allows customers to implement application-specific access control privileges
- ▶ Integrated PMU allows operation from battery or harvested from the NFC interface
- ▶ Low-leakage battery switch controlled in SW, allowing battery connection during production
  - Battery-powered application started with NFC command, no mechanical switch handling needed.
- ▶ Various (multiplexed) IO interfaces available
  - Digital and/or analog GPIO
  - SWD
  - I2C
  - SPI
- ▶ Sensor and Sensor interface options
  - Temperature sensor
  - ADC
  - DAC
  - Current sensor

## TARGET APPLICATIONS

- ▶ Smart packaging
- ▶ Smart logistics
- ▶ Process control
- ▶ Animal tagging
- ▶ Patient and medicine dosage adherence
- ▶ Personal healthcare

## MEDICAL AND PHARMACEUTICAL USE

NHS3100 and NHS3152 are individually temperature calibrated in production and ISO/IEC 17025 calibration certificates with NIST traceability are available.

Temperature characteristics:

- ▶ Absolute accuracy of 0.3°C in the range of 0 to 40°C
- ▶ Absolute accuracy of 0.5°C in the range of -40 to 0°C and 40 to 85°C

Temperature recalibration is not required for application that need either accuracy profile

## NTAG SMARTSENSOR PORTFOLIO

Part Number	Sensors					Multiplexed IO Interfaces					Package
	Digital IO	Temp	ADC	DAC	Current	Digital IO	Analog IO	SWD	I2C	SPI	
NHS3100	√	√				√		√	√	√	HVQFN-24
NHS3100UK	√	√				√		√	√	√	WLCSP-25
NHS3100W8	√	√				√		√			Gold bumps
NHS3152	√	√	√	√	√	√	√	√	√	√	HVQFN-24
NHS3152UK	√	√	√	√	√	√	√	√	√	√	WLCSP-25

## NTAG SMARTSENSOR TOOLS

Part Number	Description
NHS3100-STARTER-KIT	Therapy Adherence starter kit
NHS3100-STARTER-KIT-2	Temperature Monitoring starter kit
NHS3100-SDK	Software Development Kit
NHS3152-STARTER-KIT	General starter kit
NHS3152-STARTER-KIT-2	Therapy Adherence starter kit

[nxp.com/NTAGSmartSensor](http://nxp.com/NTAGSmartSensor)

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