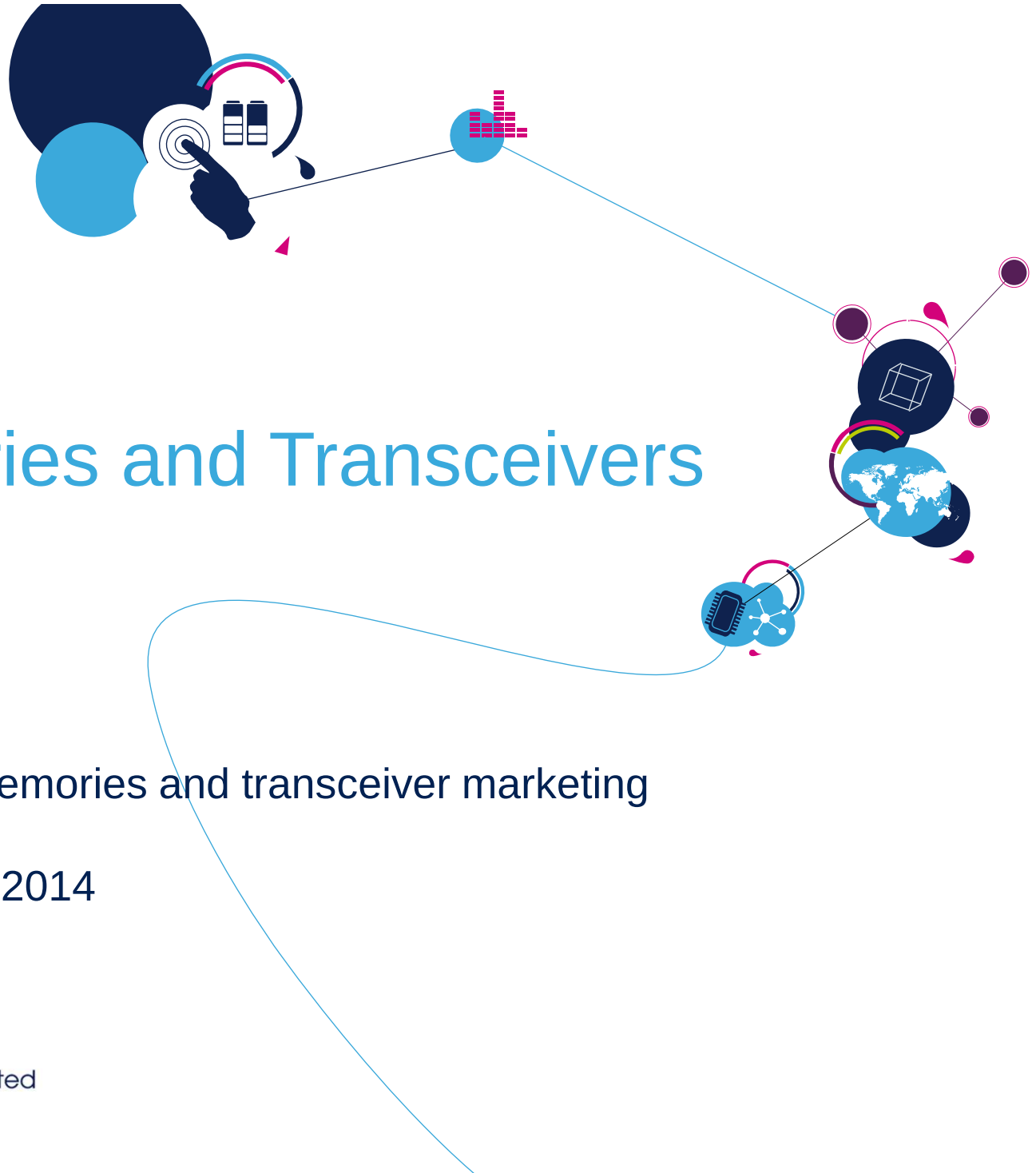




NFC Memories and Transceivers

Distributors meeting

Sylvain Fidelis

MMY Division, RF Memories and transceiver marketing

Castelletto Feb 20th, 2014

« Embedded NFC » use cases

2

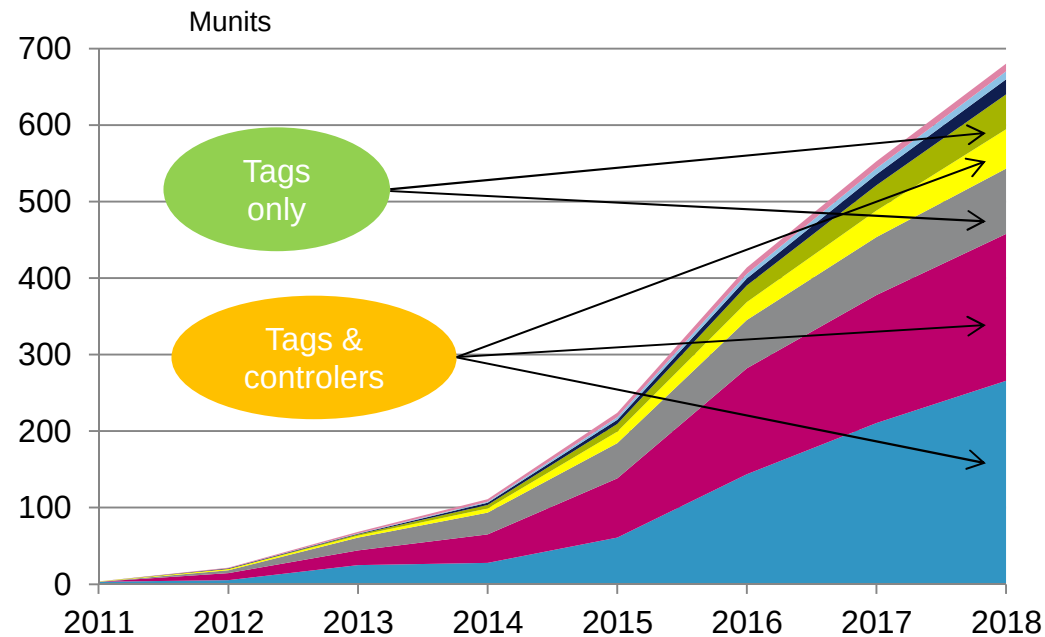
- ST's dynamic NFC tags and transceivers...
... a wide range of use cases, in an affordable and easy-to-use device





TAM NFC for Non Mobile

3



- PCs/Peripherals
- Connected Home
- Health, Fitness, and Medical
- Automobile
- Mobile Devices
- Smart Meters, Automation, Industrial
- Cellular
- Networking

-Dynamics NFC tags applications :

- Home appliances
- Consumer electronics
- Gaming
- PC peripherals
- Healthcare & wellness
- Smart meters
- Automotive

-Estimated 2018 TAM :

- 450Munits
- 150M\$

Source : MMY Marketing

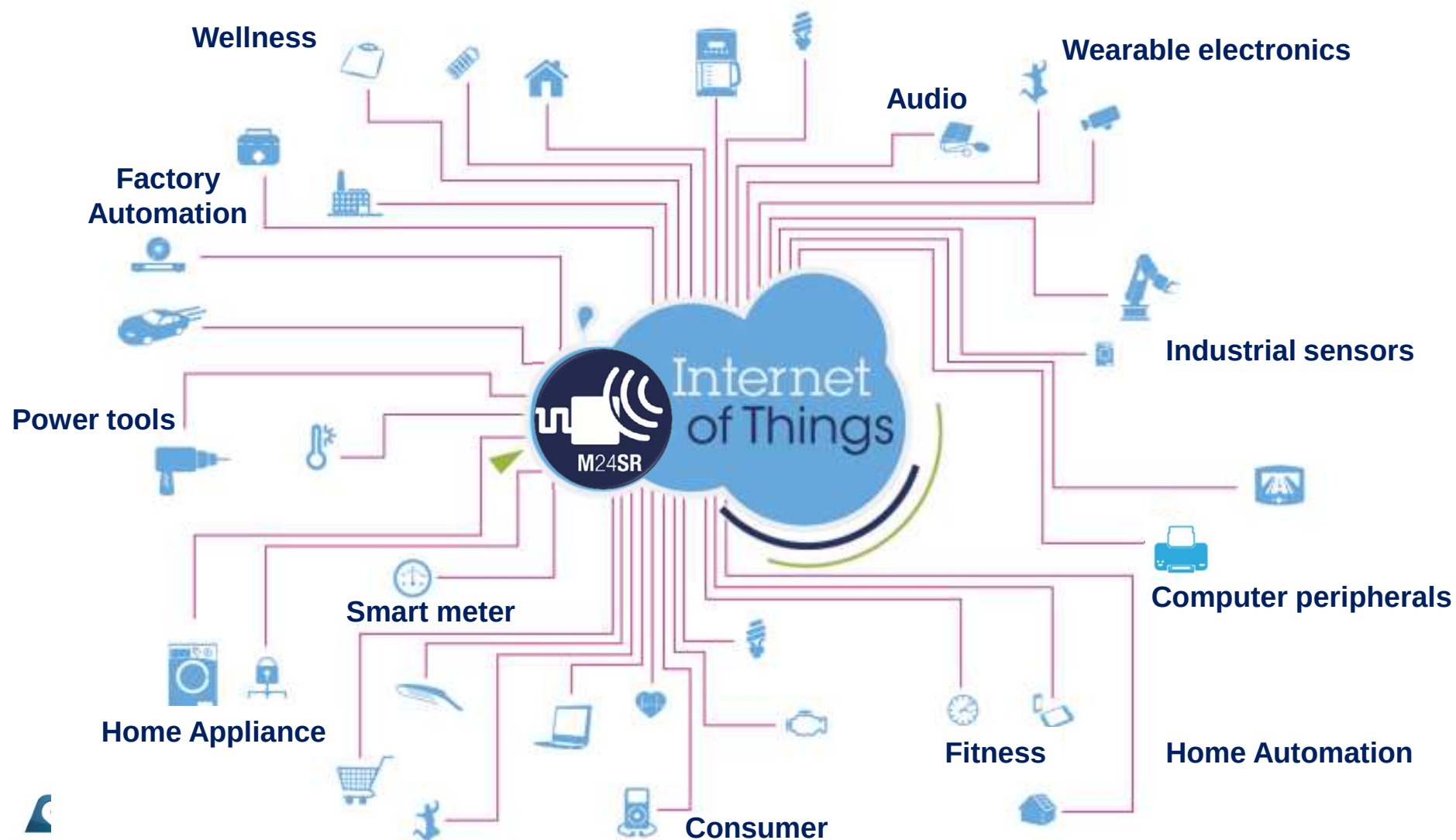


Source : ABI Research, March2013



ST NFC memories and transceivers at the heart of Internet of Things,

5



NFC technology 6

- Near Field Communication, a short range wireless technology operating at 13.56MHz
- Interactive and zero power, enabling convenient connection to the Internet of Things
- Enables contactless transactions, data exchange, and simplifies setup of more complex communications such as Bluetooth and Wi-Fi
- Fast growing deployment in Mobile
 - 2014 will see 500 Million NFC handsets in use (source ABIResearch)
 - By 2015, 50% of smartphones compatible with NFC (source Gartner)





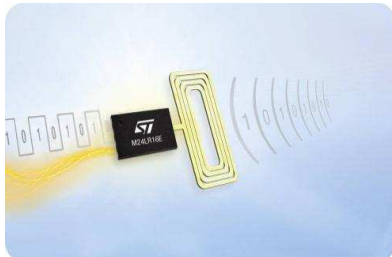
Product offering

Portfolio evolution

8

... to RF memories and transceivers

From
Dual
Interface
EEPROM...



SRTAG-D

NFC/RFID tags
Tags everywhere



M24LR

Dynamic NFC/RFID tags
Optimized for range and
energy harvesting



95HF

NFC transceivers
supporting all NFC
modes
Optimized for fast
data transfer

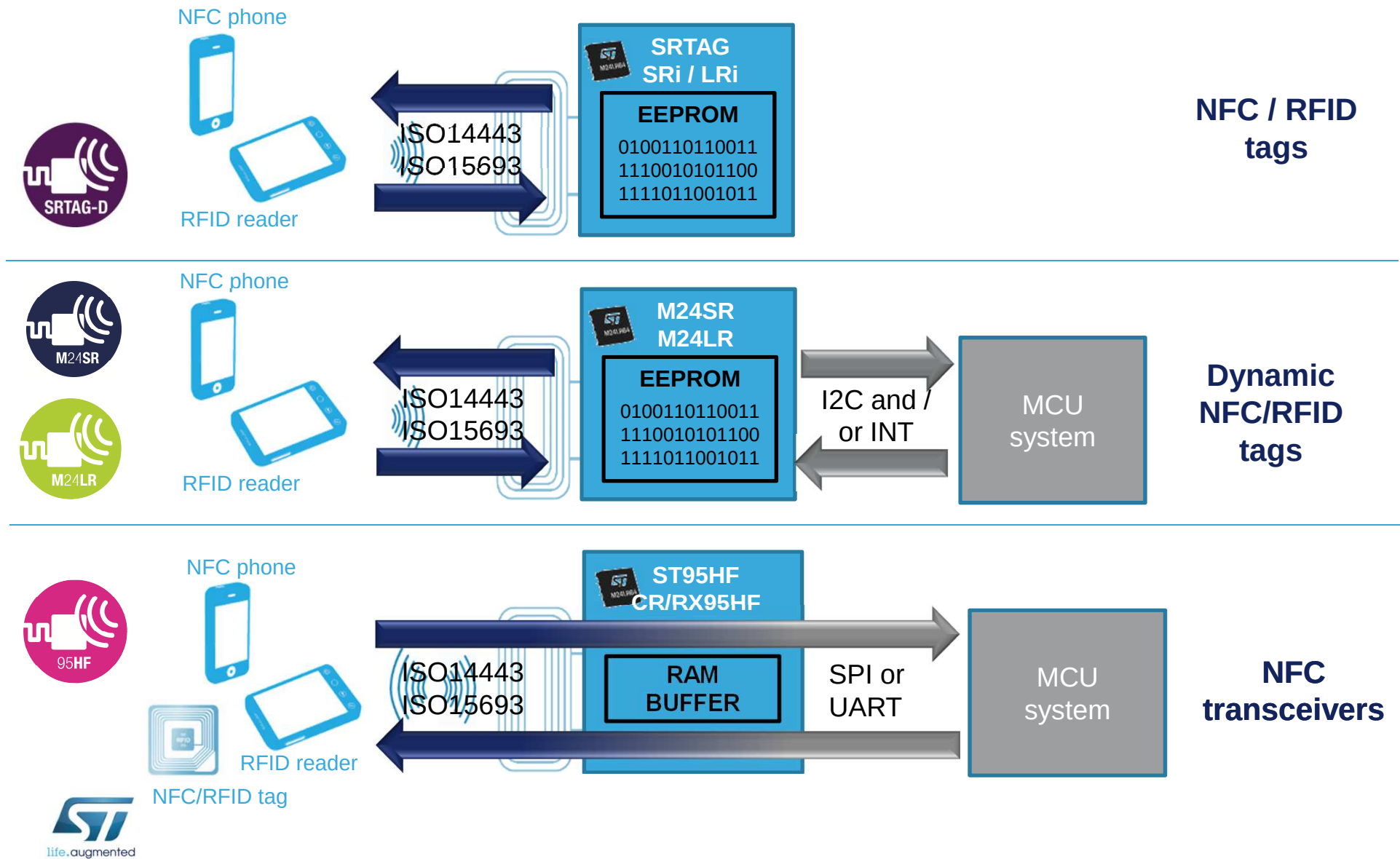


M24SR

Dynamic NFC/RFID tags
Optimized for
speed and auto
infotainment

ST solutions for NFC / RFID

9



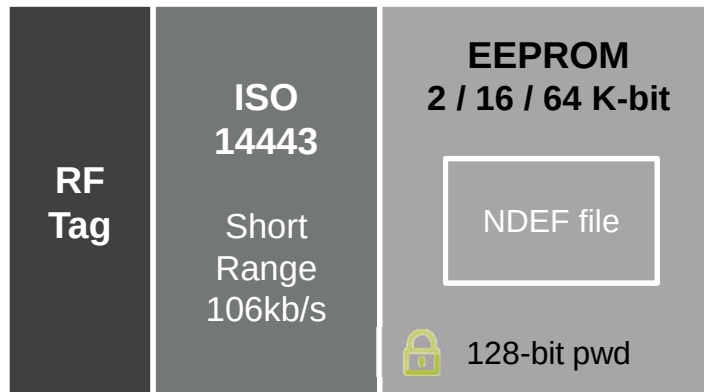
SRTAG NFC / RFID tags

10

ES: Mar'14
Production: Apr'14



SRTAGxx



• Use cases

- Smart poster, Gaming
- NFC token
- NFC business card (name card, vcard)

• Key benefits

- NFC type 4 (ISO14443 Type A)
- High speed operations (106kb/s)
- Large memory (up to 64Kbit)
- NDEF memory format

• ST's competitive advantage

- Data protection (128-bit password)
- Same RF antenna design as M24SR product



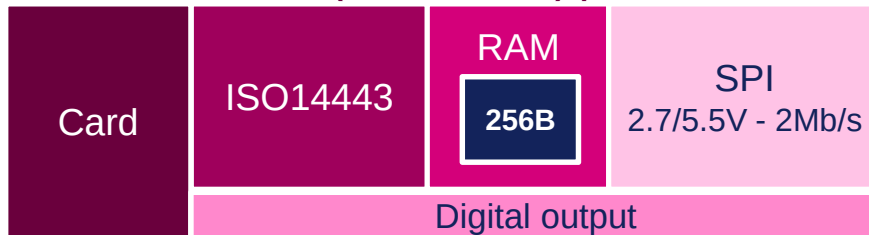
Dynamic NFC / RFID tags

11

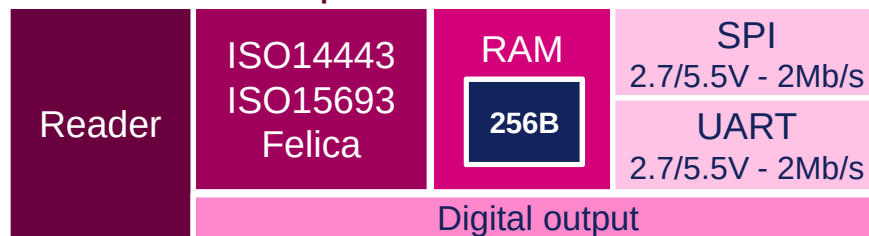
	M24LR series	M24SR series	SRTAG-D series
Contactless Interface	ISO15693 NFC Compatible	ISO14443A NFC Type 4	
RF range	Long range Up to 100cm	Short range Up to 10cm	
RF speed	26kbps	106kbps	
Serial Interface	I2C @400kHz	I2C @1MHz	NA
Extra features	MCU wake-up & Energy Harvesting	MCU wake-up & RF Disable	MCU or chip wake-up
Memory format	EEPROM data	NDEF file	
Memory size	4 / 16 / 64-kbit	2 / 4 / 16 / 64-kbit	2 / 4-kbit
Data protection	Password 32-bit	Password 128-bit	
Package	SO8 / TSSOP8 / MLP8	SO8 / TSSOP8 / MLP8	MLP8



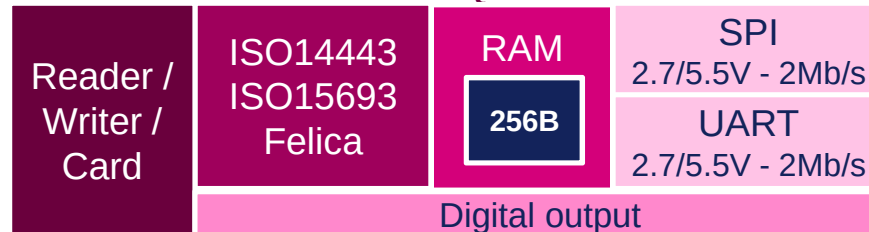
RX95HF Receiver (card emulation): production



CR95HF Reader: production



ST95HF NFC Transceiver: Q2'14



95HF transceivers

12

• Use cases

- Convenient wireless pairing (Bluetooth, Wifi)
- Dynamic data exchange between phone and application
 - User settings update, information log download,...

• Key benefits

- All NFC modes supported (ISO14443, ISO15693, Felica)
- Fast data transfer
- Low power modes



• ST's competitive advantage

- Simple implementation / limited BOM
- Easy-to-use evaluation / development kits
- Reference designs, application notes



NFC / RFID portfolio

13

NFC / RFID tags

ISO14443A (NFC)



SRTAG2K
SRTAG16K

Dynamic NFC / RFID tags

ISO14443A & I2C



M24SR02
M24SR04
M24SR16
M24SR64

SRTAG2K-D

ISO15693 & I2C



M24LR04E
M24LR16E
M24LR64E

NFC transceivers



RX95HF

CR95HF
Reader

ST95HF
Transceiver



Consumer, Peripherals, Industrial, Metering, Healthcare, Gaming, Automotive, Smart poster

Multi-market approach

17

Visibility / awareness
at customers

Comprehensive portfolio

Competitive
pricing

Technical
support



Availability

Visible product launch

Best-in-class website

Ease of design

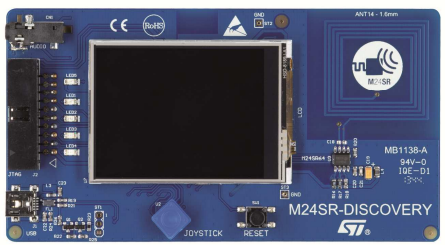
Your NFC design made easy

NFC Android App

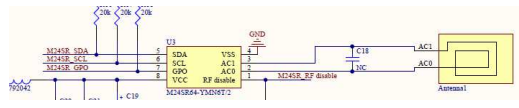


Evaluation boards

M24SR discovery



Technical documentation

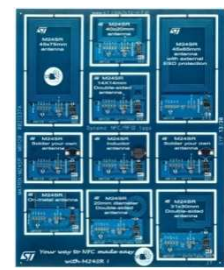


e2e community

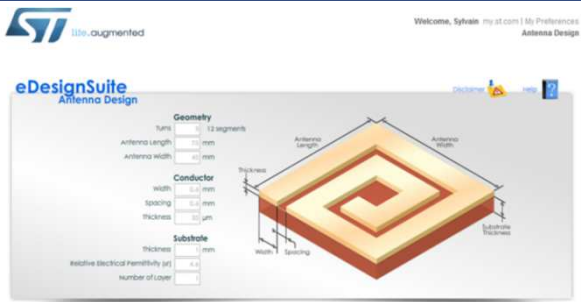


Home	Products	Applications	Support	Sample & Buy
Dynamic NFC / RFID Tags				
Home > ST e2e Community > Resources > Dynamic NFC / RFID Tags				
New Actions				
Subject	Created By			
Demo CR93HF-A ISO 15963 max range	new		peretti.andrea	
[M24LR16] - Question about the WDP-RF-BUSY output pin	new		porcarelli.dani.001	
M24LR16-R Dual EEPROM information	new		guimaraes.joao	
I2C routine to write NDEF message into M24LR16	new		yvan.kamari	

Reference antennas



Antenna Design Suite



MCU drivers

```
/* Wait till HSE is ready */
HSEStartUpStatus =
RCC_WaitForHSEStartUp();
```

IBIS model





Thank You !