SEMICO Research Corporation

- Data
- Analysis
- Knowledge

NFC: Security at Hand

October 2012

MP106-12

©Copyright Semico Research, 2012. All rights reserved.

Reproduction in whole or part is prohibited without permission of Semico.

The contents of this report represent the interpretation and analysis of statistics and information that is generally available to the public or released by responsible agencies or individuals, but is not guaranteed as to its accuracy or completeness.

Table of Contents

Table of Contents i

List of Tables iii

List of Figures iii

Executive Summary 1

What is NFC? 3

Security Issues 4
Other Wireless Technologies 6
Bluetooth 4.0 6
TransferJet 6
NFC Trends 7

NFC Chip Companies 9

ams 9
Broadcom 9
Infineon 10
INSIDE Secure 11
Marvell 12
MStar 13
NXP 13
Qualcomm 14
Renesas 14
Samsung 15
Sony 16
STM 17
TI 17

NFC Applications 18

Mobile Payments 18
Access Control 23
Quick Connections 23
Transportation 23

NFC-Enabled Devices 24

Mobile Phones 24
Computers, Tablets and eReaders 25
Automotive 26
Energy Meters/Smart Grid 26
Consumer Electronics 26
Home Appliances 27
Gaming/Toys 27
Marketing/Promotional Items 29
NFC Branding 30
Smart Posters 30
Stickers 31
Semico NFC Forecast by End Market 31

2012©Semico Research Corp. All Rights Reserved.

NFC Ecosystem.....35

2012©Semico Research Corp. All Rights Reserved.

List of Tables

Table 1: Differences Between RFID and NFC 4
Table 2: Comparison of NFC, Bluetooth 4.0 and TransferJet 7
Table 3: Unit TAM for NFC Products 32
Table 4: Adoption Rate for NFC in Target Markets 33
Table 5: Unit TAM for NFC Products 34
Table 6: NFC Market Players 35

List of Figures

Figure 1: NFC Unit Growth 2
Figure 2: Comparison of Various Wireless Technologies 4
Figure 3: Memristor Circuit Random Number Generator 5
Figure 4: NFC Chip and Antenna in an Inlay 8
Figure 5: Infineon's NFC Products 11
Figure 6: INSIDE Secure SiP Solution 12
Figure 7: NXP's NFC Design Wins 14
Figure 8: Wireless Charging System Block Diagram 15
Figure 9: Samsung NFC Architecture 16
Figure 10: Samsung TecTile in Use in a Vehicle 16
Figure 11: NFC Forum Supported Tags 17
Figure 12: EMV Cards, Worldwide Deployment, 3Q10-4Q11 21
Figure 13: EMV Terminals, Worldwide Deployment, 3Q10-4Q11 21
Figure 14: EMV Adoption Rates by Region 22
Figure 15: EMV Card and Terminal Adoption Rate, Worldwide Average, 3Q10-4Q11 22
Figure 16: Typical Mobile Phone Block Diagram with NFC 25
Figure 17: Skylanders Game System 28
Figure 18: Skylander Giant with Light Core 28
Figure 19: NFC business card 30
Figure 20: NFC Forum's N-Mark brand logo 30
Figure 21: iPhone with NFC Payment Sticker from Barclay 31

2012©Semico Research Corp. All Rights Reserved.