



Embedded Security

infineon

MI maxim
integrated™

MICROCHIP

NXP

ST
life.augmented

Embedded Security

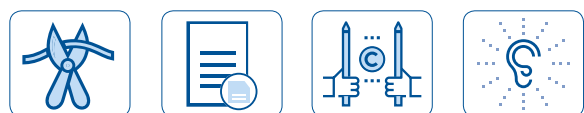
The advancements within semiconductor technologies and the increasing amount of connected objects create the necessity for embedded security.

MARKETS

Security affects every market and application that uses connectivity to send and receive data. Main differences regarding the level of protection and measures are based on the risk resulting from hacks as well as the legal framework and requirements.



THREATS



- **Sabotage** – deliberate, destructive force used to prevent a system from working as intended. (DDOS (Distributed Denial of Service), Ransom ware, etc.)
- **Reverse engineering** – extracting information from a device or system in order to reproduce or copy it. Can also be used to access data on similar devices based on the knowledge gained during the reverse engineering process.
- **HW counterfeit** – Copy of a device, system or consumable; often difficult to distinguish from original and low quality.
- **Eavesdropping/ Man-in-the-middle** – Breach of communication or data exchange in order to obtain information.

IMPACT



- Damaged reputation
- Financial loss
- Decreased customer experience
- Intellectual Property (IP)/ Data loss
- Ransom
- Legal consequences
- Failure of functional safety systems
- Physical impact, injuries

The implementation and investment in effective security enables you to:




- Build reliable products
- Comply with data protection and safety requirements (e.g. EU-DSGVO/GDPR)
- Protect IP, Products, Quality and Revenue
- Prevent legal issues
- Stay in control of products, add-ons, extensions and consumables



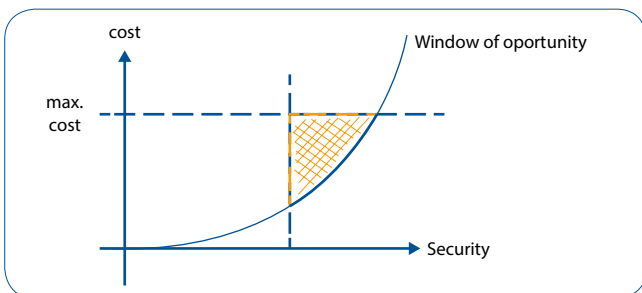
EBV is a trusted partner for security design and supports you throughout every phase of the development process of the best suited security solution for your individual requirements.

	 	
Design Support	Supply Chain	Long Term Commitment
Assess the level of security required	Secure programming and reliable logistics	Constant support and access to state-of-the-art security technology
Selection and integration of components	Personalized hardware and certificates	Support through specialized and skilled experts

All security implementations are based on three essential security principles.

		
Authenticity	Integrity	Confidentiality
Do I talk to a valid partner or device? <ul style="list-style-type: none"> • ECC based asymmetric authentication (ECDSA) • Symmetric authentication (HMAC, SHA, AES) 	Is the data or code correct or modified? <ul style="list-style-type: none"> • System characteristic measurement (Measured boot) <ul style="list-style-type: none"> • Conditional key access • Message signing (MAC) 	Is the message encrypted and decrypted securely? <ul style="list-style-type: none"> • Session key agreement (ECDH) • Data encryption (AES 128, AES 256)

The key to successful security implementations: Finding the balanced solution in your window of acceptable security



There is no “absolute” level of security – however there is a window of opportunity which makes hacking the device economically uninteresting. The maximum cost and the minimum expenses to achieve this level of protection define this window.

Note: Security cannot be implemented into applications retrospectively, but has to be included in the design from the very beginning. A security flaw is never an isolated mistake but a system solution shortcoming.

Use Cases

- Login token (e.g. to cloud application)
- Prevent hardware copy
- Detect fake firmware
- Identify connected device
- Lifecycle management
- Enforce original hardware in safety applications
- Privacy protection
- Data protection
- Remote device configuration / maintenance
- Secure data channel

Applications

- Router / Switch
- PLC
- Industrial computer
- Medical / Healthcare
- Accessories
- Spare parts / Option boards
- Batteries
- Consumables
- IoT device
- Smart Home & Building
- Lighting
- Cash register /POS
- Commercial vehicle
- Infotainment
- Smart Grid / Metering



EBV EUROPEAN HEADQUARTERS

EBV Elektronik GmbH & Co. KG | DE-85586 Poing | Im Technologiepark 2-8 | Phone: +49 8121 774 0 | www.ebv.com

EBV REGIONAL OFFICES | Status July 2017

AUSTRIA

AT-1120 Wien
Grünbergstraße 15 / Stiege 1 / 7. OG
Phone: +43 1 89152 0
Fax: +43 1 89152 30

BELGIUM

BE-1831 Diegem
Kouterveldstraat 20
Phone: +32 2 716001 0
Fax: +32 2 72081 52

BULGARIA

BG-1505 Sofia
48 Sitnyakovo Blvd., Serdika
offices, 10th floor, Unit 1006
Phone: +359 2 9264 337
Fax: +359 2 9264 133

CZECH REPUBLIC

Amazon Court
Karolinska 661/4
CZ-18600 Prague
Czech Republic
Phone: +420 2 34091 011
Fax: +420 2 34091 010

DENMARK

DK-8230 Åbyhøj
Ved Lunden 10-12, 1. sal
Phone: +45 8 6250 466
Fax: +45 8 6250 660

DK-2730 Herlev
Lyskær 9, 1. sal
Phone: +45 39 6905 11
Fax: +45 39 6905 04

ESTONIA

EE-10414 Tallinn
Niine 11
Phone: +372 62 5799 0
Fax: +372 62 5799 5
Cell: +372 513 2232

FINLAND

FI-02240 Espoo
Pihatörmä 1 a
Phone: +358 9 2705279 0
Fax: +358 9 2705498

FI-90100 Oulu
Nahkatehtaankatu 2
Phone: +358 8 4152627 0
Fax: +358 8 4152627 5

FRANCE

FR-13856 Aix-en-Provence
1330 Rue G.G. de la Lauziere
Europarc Pichaury, Bâtiment A2
Phone: +33 442 3965 40
Fax: +33 442 3965 60

FR-92184 Antony Cedex (Paris)
2-6 Place Du General De Gaulle -
CS70046
Phone: +33 1 409630 00
Fax: +33 1 409630 30

FR-35510 Cesson Sévigné (Rennes)
35, av. des Peupliers
Phone: +33 2 998300 50
Fax: +33 2 998300 60

FR-67400 Illkirch Grafenstaden
35 Rue Gruningier
Phone: +33 3 904005 92
Fax: +33 3 886511 25

FR-31500 Toulouse
8 chemin de la terrasse
Parc de la plaine
Phone: +33 5 610084 61
Fax: +33 5 610084 74

FR-69693 Venissieux (Lyon)
Parc Club du Moulin à Vent
33, Av. du Dr. Georges Lévy
Phone: +33 4 727802 78
Fax: +33 4 780080 81

GERMANY

DE-85609 Aschheim-Dornach
Einsteinring 7
Phone: +49 89 38882 351
Fax: +49 89 38882 444

DE-10587 Berlin
Englische Straße 28
Phone: +49 30 747005 0
Fax: +49 30 747005 55

DE-30938 Burgwedel
Burgdorfer Straße 2
Phone: +49 5139 8087 0
Fax: +49 5139 8087 70

DE-59439 Holzwickede
Wilhelmstraße 1
Phone: +49 2301 94390 0
Fax: +49 2301 94390 30

DE-41564 Kaarst
An der Gumpgesbrücke 7
Phone: +49 2131 9677 0
Fax: +49 2131 9677 30

DE-71229 Leonberg
Neue Ramtelstraße 4
Phone: +49 7152 3009 0
Fax: +49 7152 759 58

DE-90471 Nürnberg
Lina-Ammon-Straße 19B
Phone: +49 911 817669 0
Fax: +49 911 817669 20

DE-04435 Schkeuditz
Airport Business Center Leipzig
Frankfurter Straße 2
Phone: +49 34204 4511 0
Fax: +49 34204 4511 99

DE-78048 VS-Villingen
Marie-Curie-Straße 14
Phone: +49 7721 99857 0
Fax: +49 7721 99857 70

DE-65205 Wiesbaden
Borsigstraße 36
Phone: +49 6122 8088 0
Fax: +49 6122 8088 99

HUNGARY

HU-1117 Budapest
Budafoki út 91-93, West Irodaház
Phone: +36 1 43672 29
Fax: +36 1 43672 20

IRELAND

IE-Dublin 12
Calmount Business Park
Unit 7, Block C
Phone: +353 1 40978 02
Fax: +353 1 45685 44

ISRAEL

IL-40600 Tel Mond
Drorim South Commercial Center
P.O. Box 149
Phone: +972 9 77802 60
Fax: +972 3 76011 15

ITALY

IT-20092 Cinisello Balsamo (MI)
Via C. Fropa, 34
Phone: +39 02 660962 90
Fax: +39 02 660170 20

IT-50019 Sesto Fiorentino (FI)
EBV Elektronik Srl
Via Lucchese, 84/B
Phone: +39 05 543693 07
Fax: +39 05 542652 40

IT-41126 Modena (MO)
Via Scaglia Est, 33
Phone: +39 059 292 4211
Fax: +39 059 292 9486

IT-80128 Napoli (NA)
Via G. Capaldo, 10
Phone: +39 081 193016 03
Fax: +39 081 198061 24
Cell: +39 335 83905 31

IT-00155 Roma (RM)
Via Edoardo D'Onofrio 212
Phone: +39 06 4063 665/778
Fax: +39 06 4063 777

IT-35030 Sarmeola di Rubano (PD)
Piazza Adelaide Lonigo, 8/11
Phone: +39 049 89747 01
Fax: +39 049 89747 26

IT-10144 Torino (TO)
Via Treviso, 16
Phone: +39 011 26256 90
Fax: +39 011 26256 91

NETHERLANDS

NL-3606 AK Maarssenbroek
Planetenbaan 116
Phone: +31 346 5830 10
Fax: +31 346 5830 25

NORWAY

Postboks 101, Manglerud
Ryensvingen 3B
NO-0681 Oslo
Phone: +47 22 67178 0
Fax: +47 22 67178 9

POLAND

PL-80-833 Gdansk
Targ Rybny 11/12
Phone: +48 58 30781 00

PL-02-674 Warszawa
Ul. Marynarska 11
Phone: +48 22 25747 06

PL-50-062 Wrocław
Pl. Solny 16
Phone: +48 71 34229 44
Fax: +48 71 34229 10

PORTUGAL

Unipessoal LDA
Edifício Tower Plaza
Rotunda Eng.º Edgar Cardoso, 23 - 14ºG
PT-4400-676 Vila Nova de Gaia
Phone: +351 22 092026 0
Fax: +351 22 092026 1

ROMANIA

4C Gara Herastrai Street
Building B, 2nd Floor - 2nd District
Bucharest
RO 014472
Phone: +40 21 52816 12
Fax: +40 21 52816 01

RUSSIA

RU-620028 Ekaterinburg
Tatischeva Street 49A
Phone: +7 343 31140 4
Fax: +7 343 31140 46

RU-127486 Moscow
Korovinskoye Shosse 10,
Build 2, Off.28
Phone: +7 495 730317 0
Fax: +7 495 730317 1

RU-195197 St. Petersburg
Plustrovsky Prospect 43,
Office 421
Phone: +7 812 635706 3
Fax: +7 812 635706 4

SERBIA

Balkanska 2
XS-11000 Belgrade
Phone: +381 11 40499 01
Fax: +381 11 40499 00
Mobile: +381 63 204506
Mobile: +381 62 780012

SLOVAKIA

SK-82109 Bratislava
Turčianska 2
Green Point Offices
Phone: +421 2 3211114 1
Fax: +421 2 3211114 0

SLOVENIA

SI-1000 Ljubljana
Dunajska 167
Phone: +386 1 5609 778
Fax: +386 1 5609 877

SOUTH AFRICA

ZA-8001 Foreshore, Cape Town
1 Mediterranean Street
5th Floor MSC House
Phone: +27 21 402194 0
Fax: +27 21 4196256

ZA-3629 Westville
Forest Square, 11 Derby Place
Suite 4, Bauhinia Building
Phone: +27 31 27926 00
Fax: +27 31 27926 24

ZA-2157 Woodmead,
Johannesburg
Woodlands Office Park
141 Western Service Road
Building 14-2nd Floor
Phone: +27 11 23619 00
Fax: +27 11 23619 13

SPAIN

ES-08014 Barcelona
c/Tarragona 149 - 157 Planta 19 1º
Phone: +34 93 47332 00
Fax: +34 93 47363 89

ES-39005 Santander (Cantabria)
Racing nº 5 bajo
Phone: +34 94 22367 55
Phone: +34 94 23745 81

ES-28760 Tres Cantos (Madrid)
Centro Empresarial Euronova
C/Ronda de Poniente, 4
Phone: +34 91 80432 56
Fax: +34 91 80441 03

SWEDEN

SE-191 62 Sollentuna
Glimmervägen 14, 7 tr
Phone: +46 859 47023 0
Fax: +46 859 47023 1

SWITZERLAND

CH-8953 Dietikon
Bernstrasse 394
Phone: +41 44 74561 61
Fax: +41 44 74561 00

CH-1010 Lausanne
Av. des Boveresses 52
Phone: +41 216 5401 01
Fax: +41 216 5401 00

TURKEY

Canan Residence
Hendem Cad. No: 54 Ofis A2
Serifali Umraniye
TR-34775 Istanbul
Phone: +90 216 528831 0
Fax: +90 216 528831 1

Armada Is Merkezi
Eskisehir Yolu No: 6 , Kat: 1406
Ofis No: 1406
Sogutozu
TR-06520 Ankara
Phone: +90 312 2956 361
Fax: +90 312 2956 200

UKRAINE

UA-03040 Kiev
Vasilovskaya str. 14
off. 422-423
Phone: +380 44 496222 6
Fax: +380 44 496222 7

UNITED KINGDOM

South East
2, The Switchback
Gardner Road
Maidenhead
GB-Berkshire, SL6 7RJ
Phone: +44 16 28778556
Fax: +44 16 28783811

South West & Wales
12 Interface Business Park
Binknoll Lane
Royal Wootton Bassett
GB-Wiltshire, SN4 8SY
Phone: +44 17 93849933
Fax: +44 17 93859555

North
Manchester International
Office Centre, Suite 3E (MIOC)
Styal Road
GB-Manchester, M22 5WB
Phone: +44 16 149934 34
Fax: +44 16 149934 74

Scotland
1st Floor
180 St. Vincent Street
GB-Glasgow, G2 5SG
Phone: +44 141 242482 0
Fax: +44 141 2211916

