Infineon Bluetooth Products

The BlueMoon™ family

HCI chip, HCI module, SPP module

Product selection table



	HCI chip „BMU“	HCI module „Unistone“	SPP module „eUnistone“
Application	All Data and Audio applications	All Data and Audio applications	Serial Port Profile (cable replacement)
Host requirement	Powerful CPU for 3d party Bluetooth Stack* required	Powerful CPU for 3d party Bluetooth Stack* required	Simple AT command set for link setup and data transmission
System requirement	2.1 .. 3.6V UART Antenna 26MHz ref. clock Specific RF balun filter Unique address allocation	2.9 .. 4.1V UART Antenna	2.9 .. 4.1V UART Antenna
Data rates	Up to 1.8Mbit	Up to 1.8Mbit	66kbit/s .. 450kbit/s
BT Qualif.	Tested Component (Reduced RF tests)	Tested Component (Reduced RF tests)	Free
National Certifications	Full certification tests on end product	Certified in USA, Canada, EU	Certified in USA, Canada, EU
Design effort	PCB design with striplines	Reference design available	Reference design available

* Infineon SW partners for BT stack: Cybercom, Mecel, iAnywhere. See next page.

HCI chip and HCI module Bluetooth Stack vendors

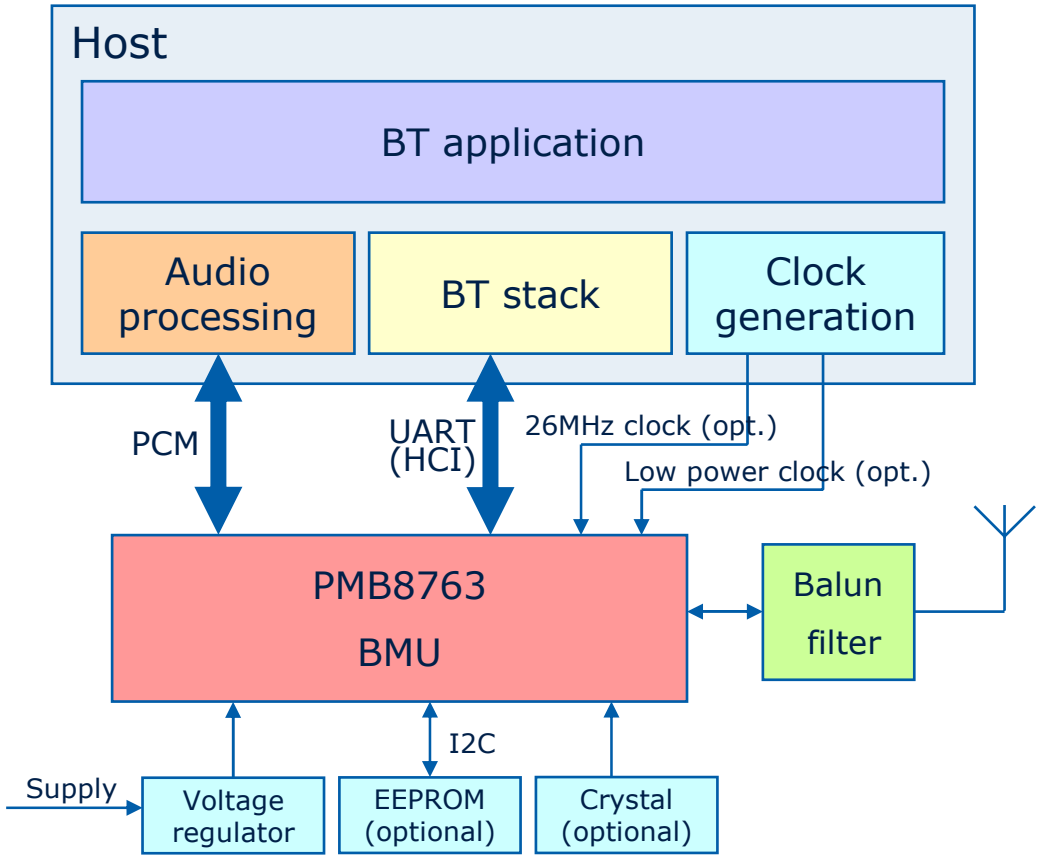
Contact Person: Kristian Palm
Email:kristian.palm@cybercomgroup.com
Web: www.cybercomgroup.com

Contact Person: Jonas Norell
Email: jonas.norell@mecel.se
Web: www.mecel.se/products/bluetooth

Contact Person : Brenton Buckley
Email: breton.b@sybase.com
Web:http://www.ianywhere.com/products/sdk.html

HCI chip
PMB8763, BlueMoon™ UniCellular „BMU“

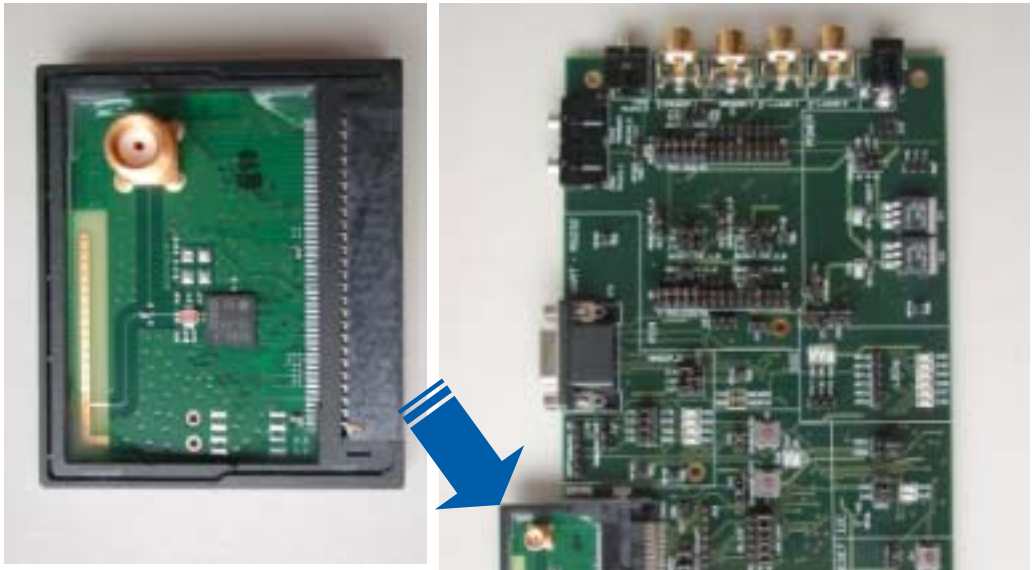
- Highlights
  - Bluetooth 2.1+ Enhanced Data Rate (2Mbit / 3Mbit on air)
  - Bluetooth power class 2 (40m range)
  - HCI-UART or Three-Wire HCI
  - UART baud rate up to 3.25Mbaud
  - Up to 1.8Mbit/s net throughput
  - Two audio links supported
  - Digital audio interface
  - Ultra Low Power Mode
  - FW in Integrated ROM for lowest cost
  - Patch RAM area for easy FW upgrade
- Features
  - Reference clock from external 26MHz clock or from internal crystal oscillator
  - Low power clock from internal oscillator or external low power clock
  - Optional external 8kbit EEPROM for configuration data
  - Supply voltage 2.1V - 3.6V
  - Separate voltage domains for interfaces, down to 1.35V



HCI chip
BMU Evaluation Kit

- Contents
  - 2x BMU PMB8763 CF card
  - 2x BlueMoon Main Board
  - 2x headset, AC adapter, cables
- UART Interface to PC
  - USB to UART converter (up to 3.25Mbit/s)
  - RS232 serial COM port
- Test features
  - Pin headers for all relevant signals
  - On-board PCM codec and audio plugs

    -> Easy to test audio link
  - Low Power Mode control buttons
  - SMA connector for conducted RF measurements
- Power supply options
  - AC adapter
  - USB plug



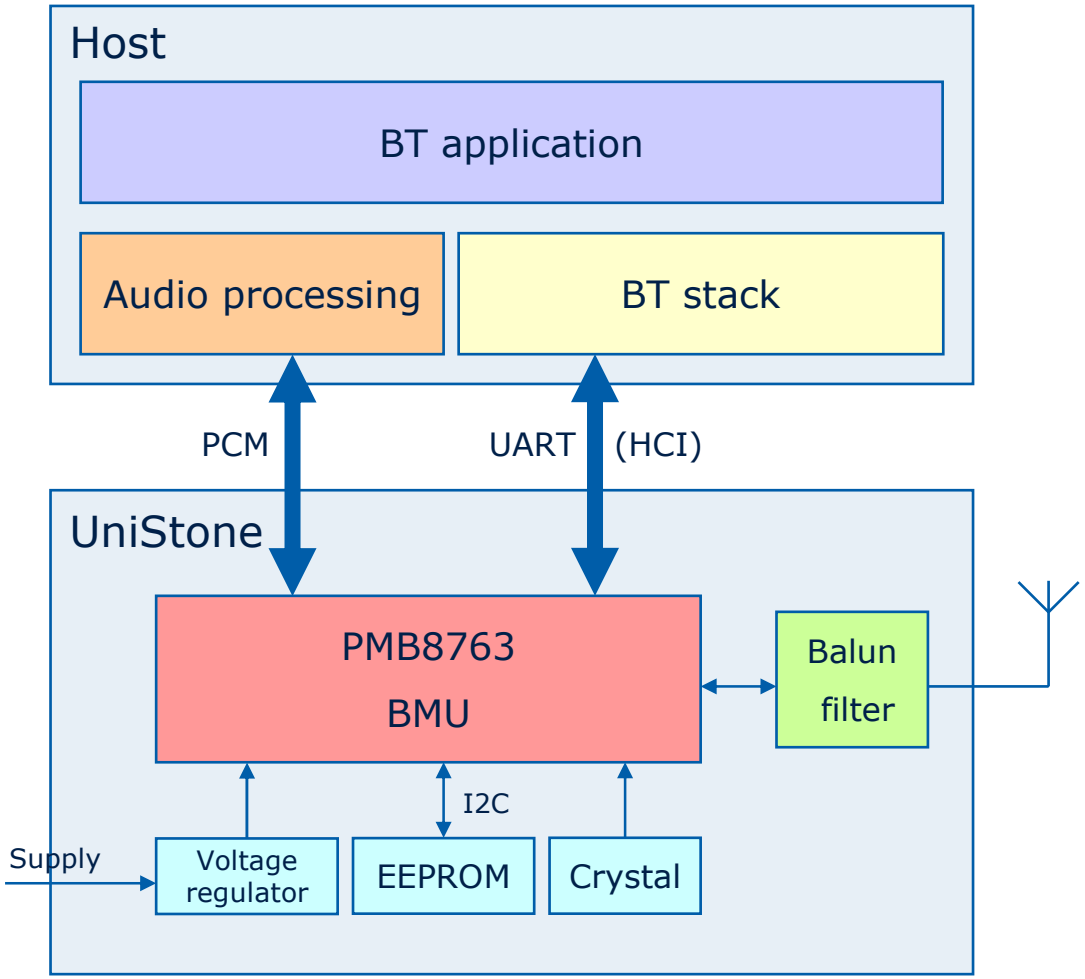
Order information:
BT BMU 2.1 KIT
SP000515202
1500€

HCI chip
BT Qualification and National Certification

- Bluetooth Qualification
  - BT qualified as „Component“
  - Bluetooth Listing required
    - Combined listing using BMU QDID and BT stack QDID
      - QDID for BT2.1+EDR: B014539
    - RF tests needed
    - Application specific interoperability tests needed
    - Listing fee (10k€ for Bluetooth SIG Adopter Members)
- National certification
  - EMC and Security tests need to be done on each end product

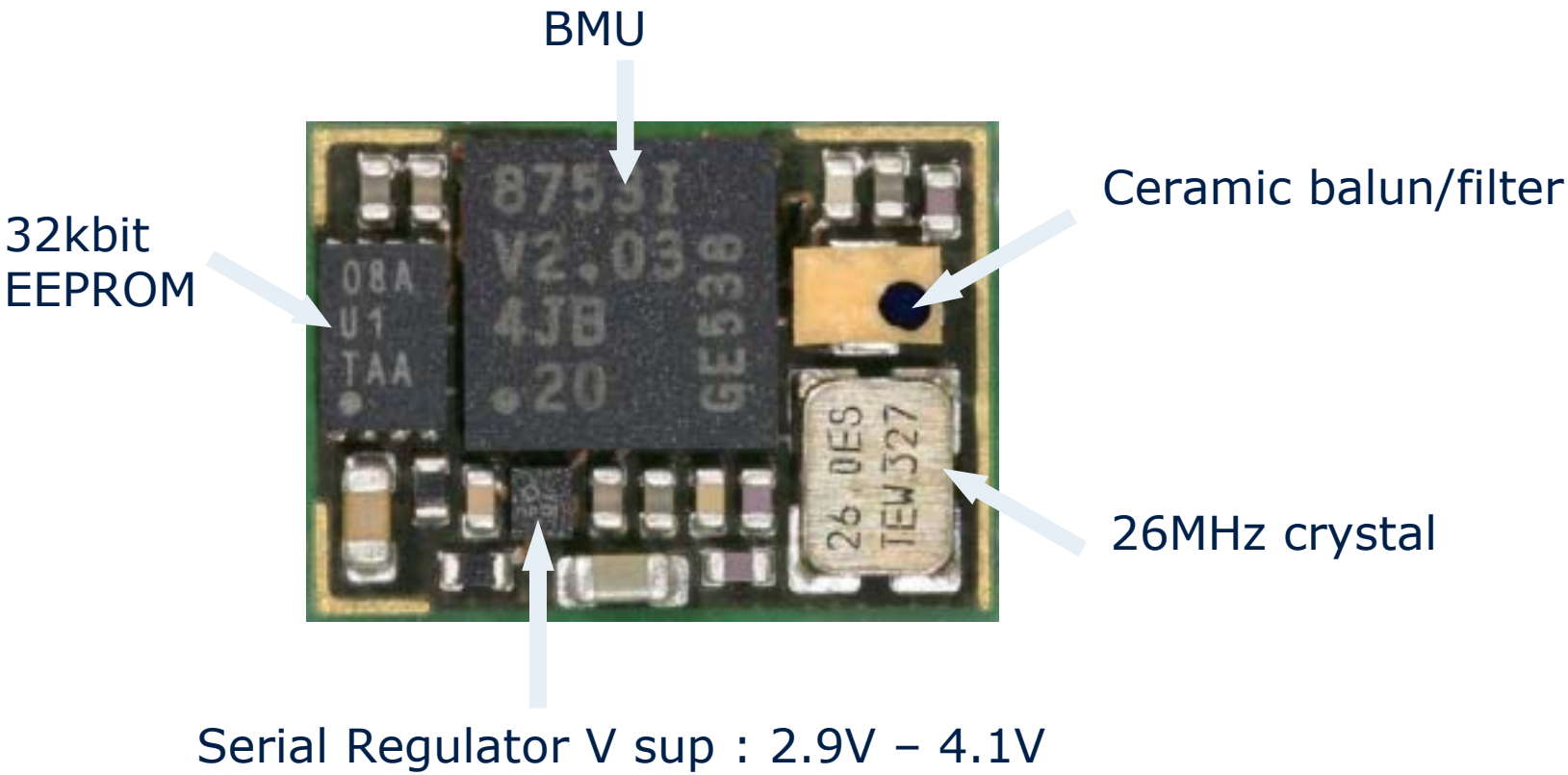
HCI module
PBA31308 v2.01 „Unistone”

- Highlights
  - Bluetooth 2.1+ Enhanced Data Rate (2Mbit / 3Mbit on air)
  - Bluetooth power class 2 (40m range)
  - HCI-UART or Three-Wire HCI
  - UART baud rate up to 3.25Mbaud
  - Up to 1.8Mbit/s net throughput
  - Two audio links supported
  - Digital audio interface
  - Ultra Low Power Mode
  - FW in Integrated ROM for lowest cost
  - Patch RAM area for easy FW upgrade
- Features
  - Reference clock generated from internal oscillator with on-module crystal
  - Low power clock from internal oscillator or external low power clock
  - On-module integrated EEPROM with pre-programmed configuration data
  - On-module integrated balun filter
  - On-module voltage regulator, external supply 2.9 - 4.1 V
  - Separate voltage domains for interfaces, down to 1.35V



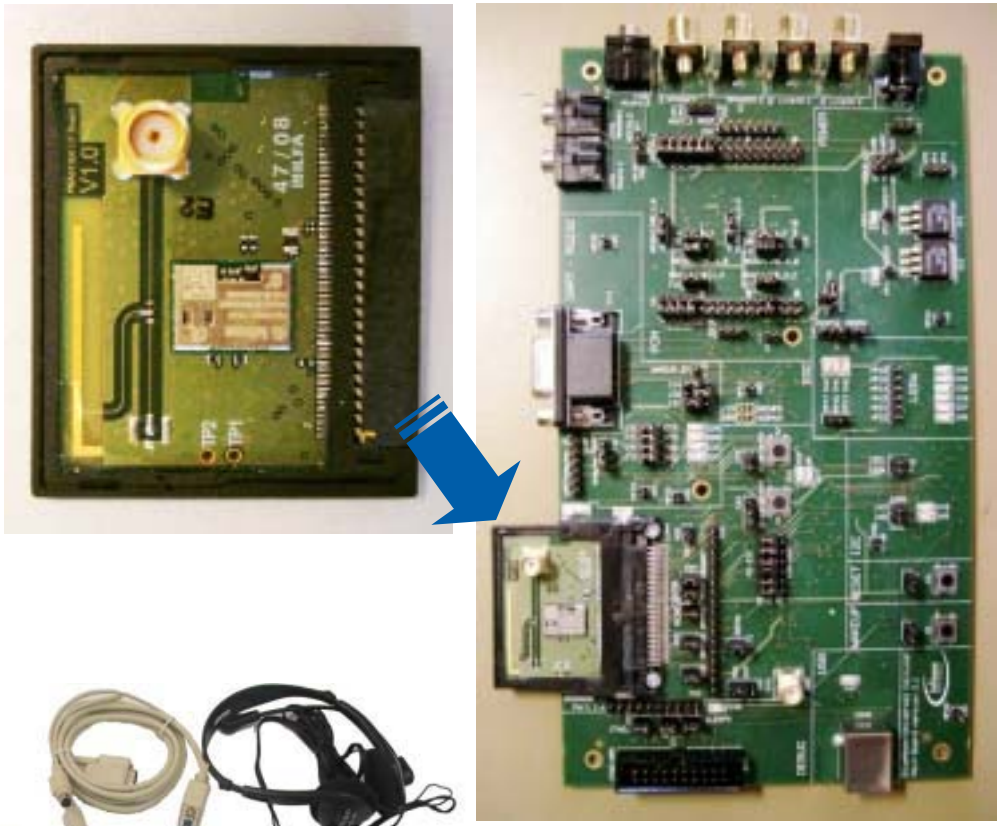
HCI module
Unistone from inside

- Total size 8.7mm x 11.6 mm including shield



HCI module
Unistone Evaluation Kit

- Contents
  - 2x or UniStone PBA31308 CF card
  - 2x BlueMoon Main Board
  - 2x headset, AC adapter, cables
- UART Interface to PC
  - USB to UART converter (up to 3.25Mbit/s)
  - RS232 serial COM port
- Test features
  - Pin headers for all relevant signals
  - On-board PCM codec and audio plugs
    - -> Easy to test audio link
  - Low Power Mode control buttons
  - SMA connector for conducted RF measurements
- Power supply options
  - AC adapter
  - USB plug



Order information:

BT UNISTONE 2.1 KIT
SP000515216
1500€

HCI module
UniStone Low Cost Kit

- Contents
  - 2x UniStone PBA31308 USB dongles
- UART Interface to PC
  - USB to UART converter (up to 3.25Mbit/s)
- Test features
  - Pin headers for most relevant signals
- Limitations
  - No on-board PCM codec and audio plugs
    -> Not possible to test audio link
  - No Low Power Mode control
  - No conducted RF measurements
  - Only most relevant pins available

Order information:

BT UNISTONE 2.01 DONGLES
SP000515220
300€

HCI Module
BT Qualification and National Certification

- Bluetooth Qualification
  - BT qualified as „Component“
  - Bluetooth Listing required
    - Combined listing using Unistone QDID and BT stack QDID
      - QDID for BT2.1+EDR: B014999
    - Basic RF tests needed
    - Application specific interoperability tests needed
    - Listing fee (10k€ for Bluetooth SIG Adopter Members)
- National certifications can be reused
  - Reference design with PCB antenna (or antenna from data sheet)
  - USA: FCC, Canada: IC, EU: R&TTE

Chip versus module

HCI chip "BMU"

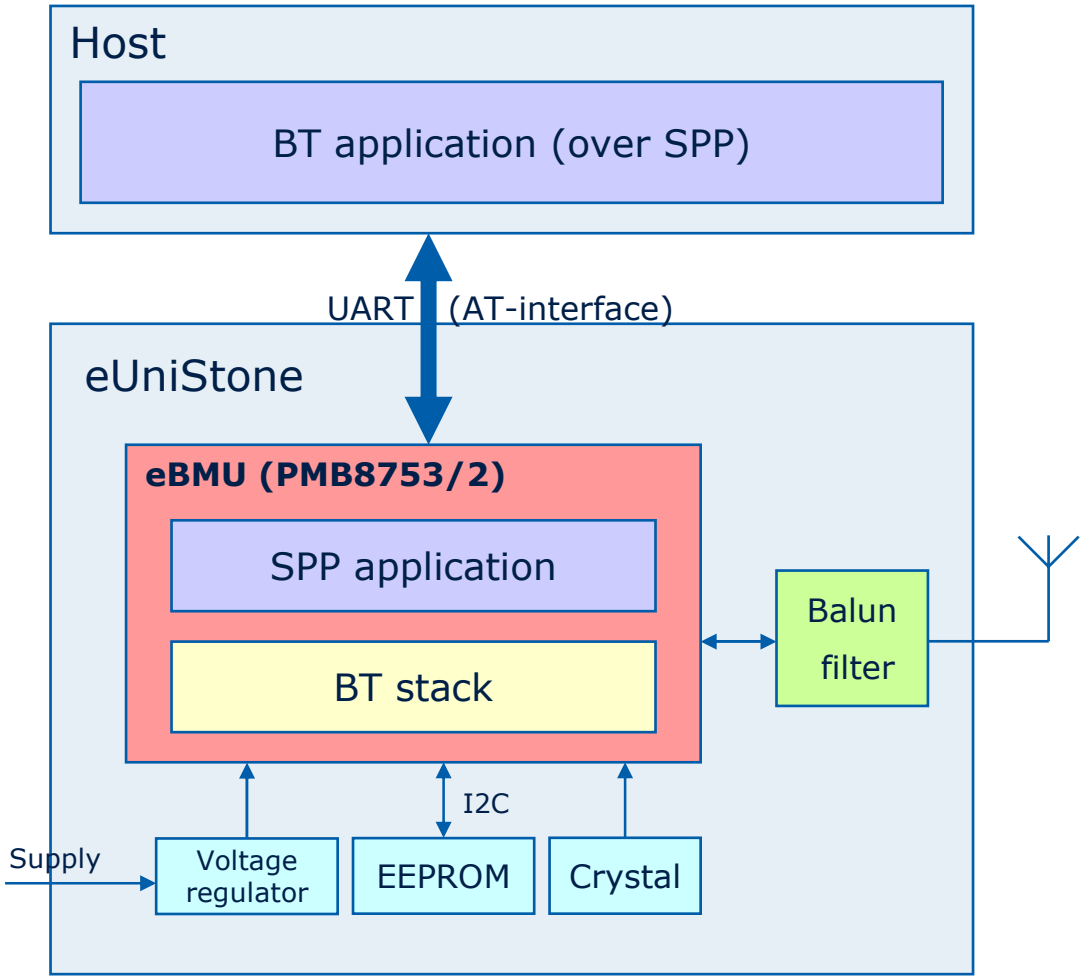
- BOM
  - Specific RF Balun filter TDK DEA202450BT-7076C1
  - 26MHz clock or crystal
- Development
  - PCB with striplines and RF tuning
  - BT RF qualification required
  - Full certification required
- Production process
  - Assign Unique BD Address
  - If crystal is used: 26MHz tuning

HCI module "Unistone"

- BOM
  - Integrated RF filter
  - Integrated 26MHz crystal
  - Preconfigured EEPROM
- Development
  - Reference design provided
    - Unbal. antenna output
    - PCB antenna
  - Reduced RF testing
  - Certification can be reused for US, Canada, EU
- Production process
  - Preconfigured BD Address
  - Change UART baudrate (default 115200bit/s)

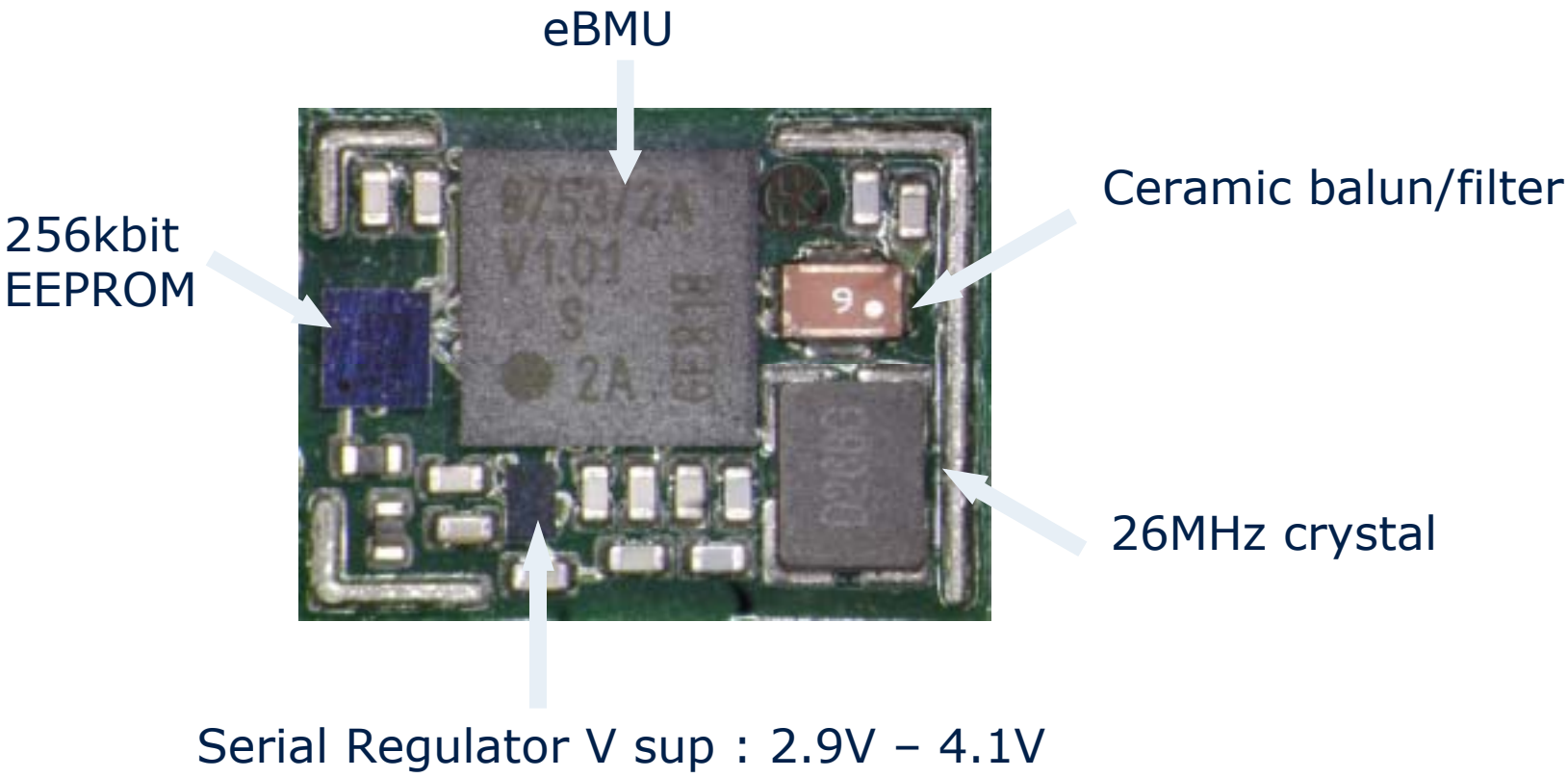
SPP module
PBA31308/2 v1.11 „eUniStone”

- Highlights
  - Bluetooth 2.0+ Enhanced Data Rate
  - Simple AT command interface over UART, configurable from 9600 baud up to 3.25 MBaud
  - Integrated Serial Port Profile
    - Single point-to-point link
    - Bidirectional: 66kbit/s standard, up to 450kbit/s
- Features
  - Reference clock generated from internal oscillator with on-module crystal
  - Low power clock from internal oscillator or external low power clock
  - On module integrated EEPROM for application code and configuration data
  - On-module voltage regulators, external supply 2.9 - 4.1 V
  - Separate voltage domains for interfaces, down to 1.35V



SPP module
eUnistone from inside

- Total size 8.7mm x 11.6 mm including shield



SPP module
eUniStone Low Cost Kit

- Contents
  - 2x eUniStone PBA31308/2 USB dongles
- UART Interface to PC
  - USB to UART converter (up to 3.25Mbit/s)
- Test features
  - Pin headers for most relevant signals

Order information:

BT EUNISTONE DONGLES
SP000523478
215€

SPP module
BT Qualifcation and National Certification

- Bluetooth Qualification
  - BT qualified as „End Product“
  - End Product Listing required
    - Online End Product Listing required
      - Use „Create EPL“ link of QDID B014433
      - Download product picture and short description
    - No additional tests needed
    - No listing fee (Adopter Membership is for free)
- National certifications can be reused
  - Reference design with PCB antenna (or antenna from data sheet)
  - USA: FCC, Canada: IC, EU: R&TTE

More information on request

- Register on www.infineon.com
- Ask your contact person for access to the „Bluetooth Library"
- Visit your „MyInfineon" page
- Download documentation

	HCI chip „BMU"	HCI module „Unistone"	SPP module „eUnistone"
Introduction	Product Overview	Product Overview	Product Brief
Appl.Note	BMU Design Guide	Unistone Design Guide	eUnistone Design Guide
Electrical char. Package info	User's Manual HW	User's Manual HW	User's Manual HW
Command Interface	User's Manual SW	User's Manual SW	User's Manual SW

Yellow fields: NDA required for HCI chip and module

ENERGY EFFICIENCY
COMMUNICATIONS
SECURITY

Innovative semiconductor solutions for energy efficiency, communications and security.