

# USB radio stick deRFusb 13E00 | 13E06 JTAG Datasheet

- The compact designed USB radio stick deRFusb-13E00 contains a powerful Cortex-M3 microcontroller with 256 Kb High-Speed Flash and a sub-GHz ISM band transceiver.
- The transceiver AT86RF212 is intended for ZigBee, IEEE 802.15.4, 6LoWPAN, RF4CE and proprietary ISM applications. It uses a 128-Bit AES encryption.
- With the integrated chip antenna distances of more than 100 m can be reached for line of sight conditions.
- The radio stick is equipped with 3 LEDs for status indication and an optional 10 pin connector for development purposes (JTAG and Debug).
- The stick comes optionally with a 2 Gb NAND on board that can be used as mass storage for user defined data.

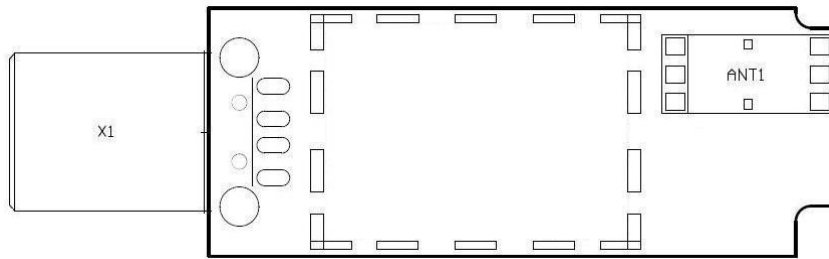


## Technical Data

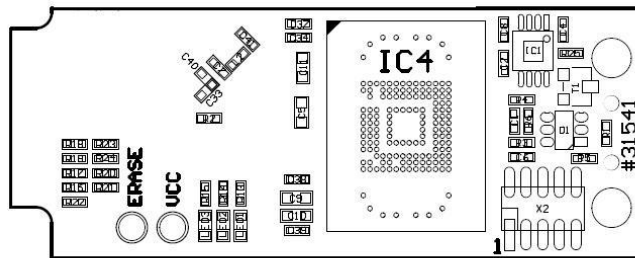
<b>Dimensions</b>	63.5 x 19.0 x 9.5 mm
<b>Operating temperature</b>	-20°C to 70°C
<b>Control and display elements</b>	3x LED (red, yellow, green)
<b>Power supply</b>	USB powered
<b>Power consumption</b>	TX: 65 mA   RX: 64 mA   Idle: 45mA
<b>Connections</b>	USB connector type A 10 pin connector
<b>Antenna</b>	Chip ceramic antenna
<b>Antenna gain</b>	-0.7 dBi (peak)   -2.6 dBi (average)
<b>Antenna diversity</b>	No
<b>Range</b>	>100 m (line of sight)
<b>Frequency range</b>	868 MHz, 915 MHz
<b>Transmitting power</b>	up to +9 dBm @ 915 MHz up to +5dBm @ 868 MHz
<b>Receiver sensitivity</b>	Max. -106 dBm @ 868 MHz Max. -104 dBm @ 915 MHz
<b>Communication standard</b>	IEEE 802.15.4
<b>Data rate</b>	20/100/200/400 kBit/s @ 868 MHz 40/250/500/1000 kBit/s @ 915 MHz
<b>Microcontroller</b>	ATSAM3S4B
<b>Transceiver</b>	AT86RF212
<b>Additional non-volatile memory</b>	None (deRFusb-13E00 JTAG) 2 Gb NAND flash (deRFusb-13E06 JTAG)
<b>Interfaces</b>	USB, JTAG and Debug
<b>Certification</b>	CE, ETSI, FCC pending

## Technical Data

**Board Overlay**



(Top view)



(Bottom view – with 10 pin connector and NAND flash)

**Overlay**

**Scope of delivery**

USB stick deRFusb-13E00 JTAG (with 10pin connector)  
 USB stick deRFusb-13E06 JTAG (with 10pin and NAND)

**Order No.**

BN-033206  
 BN-033207

**Order Information**

**Accessories (optional)**

SAM-ICE adapter

BN-028337

**Board versions**

USB stick deRFusb-13E00 (with case)  
 USB stick deRFusb-13E06 (with case and NAND)  
 USB stick deRFusb-23E00 JTAG (with 10pin connector)  
 USB stick deRFusb-23E06 JTAG (with 10pin and NAND)  
 USB stick deRFusb-23E00 (with case)  
 USB stick deRFusb-23E06 (with case and NAND)  
 Analyzer stick BitCatcher sub-GHz  
 Analyzer stick BitCatcher 2.4 GHz  
 Analyzer stick Perytons 2.4 GHz

BN-031807  
 BN-031539  
 BN-033202  
 BN-033203  
 BN-031805  
 BN-031075  
 BN-600035  
 BN-600034  
 BN-028636

**Variants**

More information about the variants is described in detail in the user manual.  
 Order online: <https://shop.dresden-elektronik.de>