

# Which Medical Device Sterilization Methods are Compatible with Passive RFID Tags?

Summary of  
 “Sterilization methods and impact on electronics in medical devices,”  
 as published on [EE Times](#)

JADAK’s take,  
 with respect to RFID

Sterilization Method	Problematic Parameters [of the sterilization method]	Compatibility [of the sterilization method with electronics]	Implication for Passive RFID Tags
Autoclave steam	High temperature, Humidity	Can affect floating-gate memory cells (EEPROM); reduces the lifetime of embedded batteries (if any).	Should use tags specifically indicated for use with autoclave or tags with temperature tolerance above +148°C and high humidity tolerance
Ethylene oxide	Flammability, carcinogen	The vacuum can affect embedded batteries.	Okay for Passive RFID Tags
Chlorine dioxide	None	There are no adverse effects on electronics or batteries.	Okay for Passive RFID Tags
Vaporized hydrogen peroxide	Vacuum	The vacuum can affect embedded batteries.	Okay for Passive RFID Tags
Hydrogen peroxide plasma	Vacuum, plasma discharge	The vacuum can affect embedded batteries; the RF energy required to generate the plasma may not be compatible to semiconductors.	Not recommended for use with RFID at this time. The large amount of RF energy may affect the performance of RFID tags
Gamma ray	Radiation, nuclear waste	The radiation can damage semiconductors.	Should use tags specifically indicated for use with Gamma.
Electron beam	Radiation	The radiation can damage semiconductors.	Should use tags specifically indicated for use with E-beam.

Source: [http://www.eetimes.com/document.asp?doc\\_id=1278906](http://www.eetimes.com/document.asp?doc_id=1278906)



RFID



2d



1d



flexpoint HS-1R and flexpoint HS-2R RFID/Barcode scanners

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 12.13.16



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