Fujitsu Frontech Limited
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October 29, 2020

Re: Safety of Fujitsu WT-A522/A531/A533/A533HT/A533G/A543 UHF RFID tags in MRI Environments

To Whom It May Concern,

The Fujitsu UHF RFID linen tags WT-A522/A531/A533/A533HT/A533G/A543, manufactured by Fujitsu Frontech Limited conform to EPC Gen2 (EPC global UHF Class 1 Generation 2). These tags do not contain any type of battery or power source. The WT-A522/A531/A533/A533HT/A533G/A543 tags are passive in nature and do not emit radio frequency signals independently. The tags can ONLY OPERATE when used with an EPC Gen2 UHF RFID reader, which emits an RF signal in the range of 860MHz to 960MHz. Furthermore, the tag will only reflect RF signals from an authenticated UHF RFID reader using a specific digital identification protocol, called Reader-Talks-First (RTF) and these tags will not respond in any way to a random UHF radio frequency.

Additionally, the WT-A522/A531/A533/A533HT/A533G/A543 UHF RFID linen tags are made of materials that are non-ferrous, non-magnetizing materials. The antenna is made of a proprietary silver paste deposited on a PET laminate substrate (similar to Mylar). These tags cannot be magnetized, nor retain a permanent magnetic field. Furthermore, due to their construction and selection of materials, the tags are unaffected by the electromagnetic field associated with magnetic resonance imaging (MRI) technology.

The tags were tested by Shellock R & D Services, Inc. and reported to be MR Conditional as follows:

Non-clinical testing demonstrated that the WT-A522/A531/A533/A533HT/A533G/A543 UHF RFID Tag for linens is MR Conditional. This device can be scanned safely under the following conditions:

- Static magnetic field of 1.5-Tesla and 3-Tesla only
- Maximum spatial gradient magnetic field of 4000-gauss/cm (40-T/m)(extrapolated)
- Maximum MR system reported, whole body averaged specific absorption rate (SAR) of 4-W/kg for 15 minutes of scanning (i.e., per pulse sequence) in the First Level Controlled Operating Mode

Under the scan conditions defined, the WT-A522/A531/A533/A533HT/A533G/A543 UHF RFID Tag for Linens is expected to produce a maximum temperature rise of 3.0°C after 15-minutes of continuous scanning (i.e., per pulse sequence).

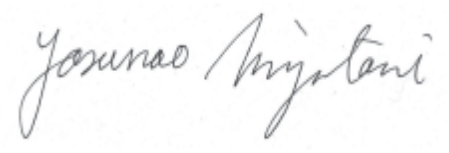
In non-clinical testing, the image artifact caused by the WT-A522/A531/A533/A533HT/ A533G/A543 UHF RFID Tag for Linens extends approximately 2-mm from this device when imaged using a gradient echo pulse sequence and a 3-Tesla MR system.

Important Note: Because the Fujitsu WT-A522/A531/A533/A533HT/A533G/A543 UHF Linen Tag uses the same RFID Tag components as other families of products, which have no additional metallic or conducting materials, the findings of the MRI tests pertain to the following:
Fujitsu WT-A54x UHF RFID Linen Tag
Fujitsu WT-A53x UHF RFID Linen Tag
Fujitsu WT-A52x UHF RFID Linen Tag

The Fujitsu WT-A52x/WT-A53x/WT-A54x tags are currently listed on the website, www.MRIsafety.com.

The MR Conditional MRI labeling is available on our website at:
https://www.fujitsu.com/jp/group/frontech/en/solutions/business-technology/intelligent-society/rfid/

Best Regards,



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