TECHNOLOGY SOLUTIONS UK LTD

USER GUIDE:
USING THE EPC FILTER IN TSL'S MOBILE APPS

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Design • Development • Manufacture

OVERVIEW

TSL's mobile Apps now provide a feature to restrict the tags that are detected and displayed when performing an RFID scan. This can be used to ensure that only tags of interest to the user are detected and counted - for example, if the EPC value encodes the product type then the EPC filter can be used to restrict a scan to products of a certain type.

Users can specify a *filter pattern* and only tags with EPC values matching this pattern will be displayed. The *filter pattern* is specified by:

1. Scanning a tag that has the correct pattern to set the *template EPC*
2. Specifying which part of the *template EPC* value must be matched
3. Deciding if matching tag EPCs must also have the same length as the *template EPC*

ACCESSING THE EPC FILTER

The EPC filter is available in:

RFID Explorer for iOS - From the *Inventory* screen: tap the *Filter:* button

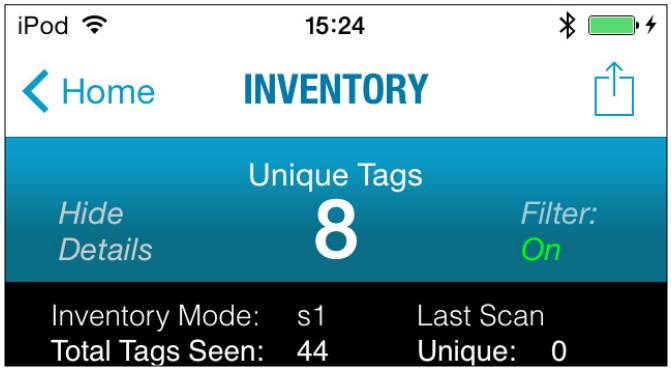

FIGURE 1 - ACCESSING THE EPC FILTER ON IOS

RFID Tag Finder for Android - From the *Scan for Identifier* screen: tap the *Set* button. Note that this is only available when Hex or ASCII Target Identifier encodings are selected in the App settings.

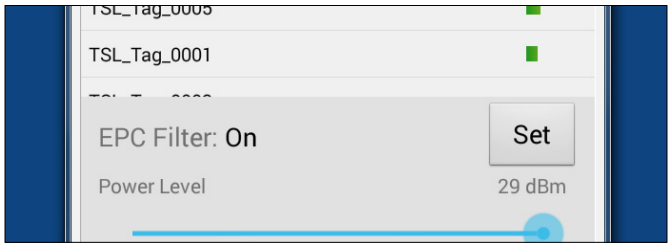

FIGURE 2 - ACCESSING THE EPC FILTER ON ANDROID

TURNING THE EPC FILTER ON AND OFF

The current On/Off state of the EPC filter is displayed on the parent screen as shown in Figure 1 & Figure 2. The EPC Filter configuration screen has an On/Off switch that quickly enables or disables the feature (see Figure 3) while retaining the current configuration values. The configuration is also preserved across App launches.

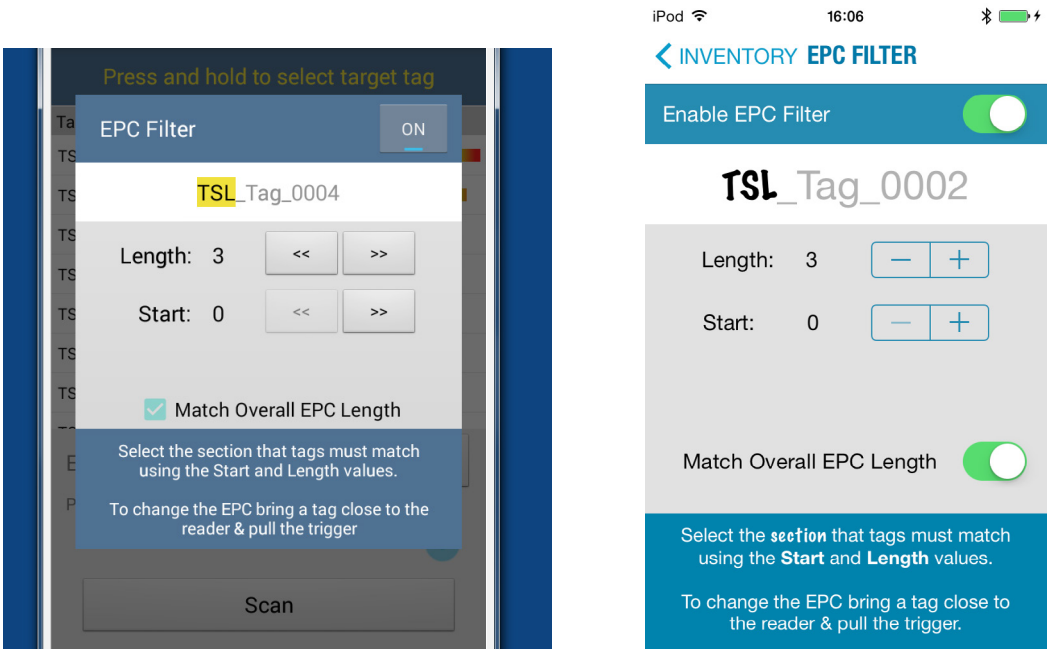

FIGURE 3 - FILTER CONFIGURATION FOR ANDROID (LEFT) AND IOS (RIGHT)

SPECIFYING THE *TEMPLATE EPC* VALUE

The *template EPC* value is displayed below the On/Off switch and is used to show the *filter pattern*. Select a tag that contains an appropriate EPC value to be matched by the filter. Bring the tag close to the front of the reader and pull the trigger to scan the tag. The displayed *template EPC* value will use the current data format preference setting and be displayed either as *Hex* or *ASCII*.

SPECIFYING THE EPC SECTION TO BE MATCHED

Once the *template EPC* value has been set, the section of the EPC that must be matched is specified by providing the start point and the number of characters to match. So, for example, to match the letters "`TSL`" at the start of the EPC in ASCII mode set the *length* to 3 and *start* to 0.

Length and *Start* values are adjusted with the stepper buttons. As the *Length* and *Start* are adjusted the section to be matched will be highlighted on the *template EPC* – with non-matching sections of the EPC shown in grey (see Figure 3).

MATCHING THE OVERALL EPC LENGTH

To help further restrict the tags detected the user can choose to require that the scanned tag also matches the length of the *template EPC* – this will remove from the list tags which match the pattern but have longer or shorter EPC values.

For example, with a *template EPC* of "`TSL_Tag_0004`" and a match to characters "`TSL`" specified at the start of the EPC, setting the switch to "*On*" will require a match on overall length:

`TSL01234` – will not be displayed as it is too short

`TSL_Tag_0001` – will be displayed as it has the same length as the *template EPC*.

If the switch is set to not match length then both tags will be displayed

THE EPC FILTER IN USE

With the configuration complete the App can be used as before but now with only relevant tags being detected and counted. Figure 4 shows the effect, in *RFID Explorer for iOS*, of scanning for tags with the filter off (left image) and on (right image).

Note: with the EPC filter enabled the reader requests responses only from tags that match the pattern. So, even in tag dense environments the relevant, filtered tags will be rapidly detected.

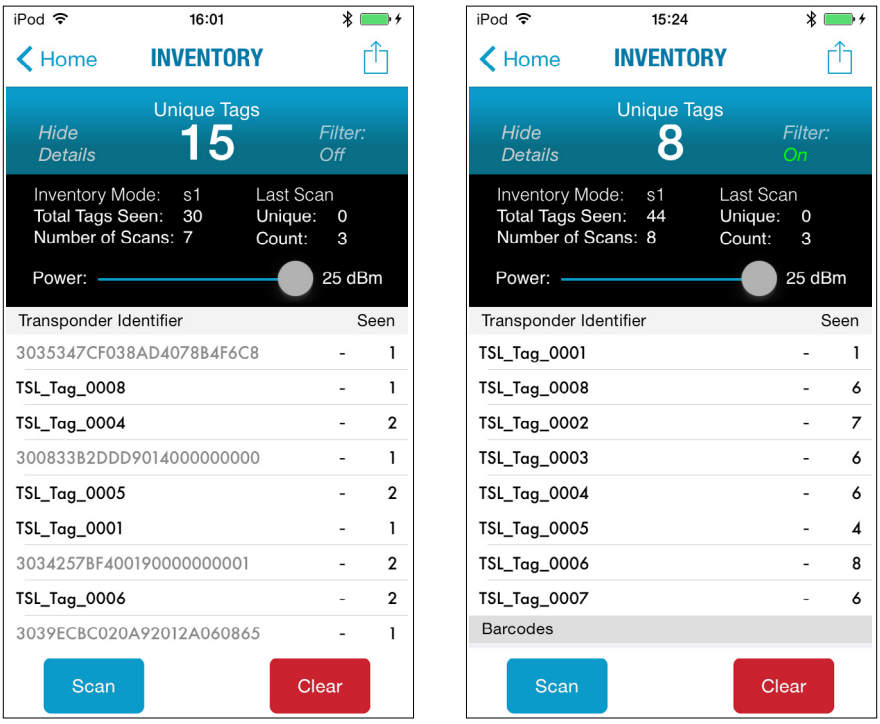

FIGURE 4 - RFID SCANS WITH FILTER OFF (LEFT) AND FILTER ON (RIGHT)

ABOUT TSL

ABOUT

TSL designs and manufactures both standard and custom embedded, snap on and standalone peripherals for handheld computer terminals. Embedded technologies include:

- RFID - Low Frequency, High Frequency & UHF
- *Bluetooth*® wireless technology
- Contact Smartcard
- Fingerprint Biometrics
- 1D and 2D Barcode Scanning
- Magnetic Card Readers
- OCR-B and ePassport

Utilizing class leading Industrial design, TSL develops products from concept through to high volume manufacture for Blue Chip companies around the world. Using the above technologies TSL develops innovative products in a timely and cost effective manner for a broad range of handheld devices.

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