



Benefits of advanced features of badge style noise dosimetry



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Advances in badge style noise dosimeters

- 1 Historical developments
- 2 Recent developments
- 3 Latest features
- 4 The future

 **dBadge2**



The last 20 years

- Cable dosimeter to cable free
- Form factor – belt to shoulder worn
- Limited parameters – measure all
- Improved memory
- Improved battery life
- Lower cost
- Analogue to digital technology



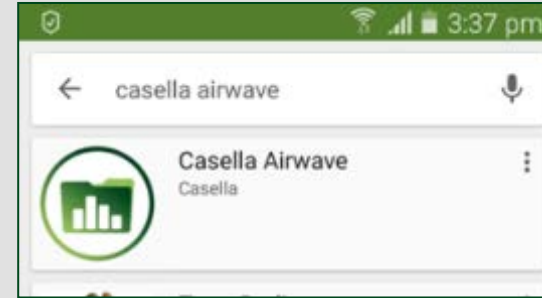
Recent years

- Bluetooth
- Octave
- Audio
- IP Rating
- Colour screen
- Motion sensing



dBadge2 – Casella Airwave

- Download from your App store
- Connects via Android or iOS
- Press 'Scan' to find dBadge2
- Finds all units in Bluetooth range
- Select dBadge2 for more detailed information
- Start and stop dBadge2 remotely



dBadge2 – Casella Airwave



- Send directly to email inbox
- Enter sample info
- Gives location data

The diagram illustrates the data flow from the dBadge2 app. On the left, the app's main screen shows a list of metrics for 'dBadge2(4)'. A 'Send via eMail...' menu is open, with options to 'Copy to Clipboard', 'Settings', and 'About'. An arrow points to the middle screen, which is the 'Enter Details' form. This form has fields for 'Worker Name', 'Location', 'Task', 'Sample ID', and 'Shift Breaks', each with a corresponding value. 'Send' and 'Cancel' buttons are at the bottom. An arrow points from this form to a text box on the right containing the following data:

```
Worker Name:  
Location:  
Task:  
Sample ID:  
Shift Breaks:  
  
Status STOPPED  
Battery Hours Remaining 34  
Memory Free 92%  
Start Time 2017-01-09,10:06:49  
Run Duration 0:07:05  
OSHA PEL T90,C90,Q5  
LAS ---, -dB  
LZPk 110.7dB  
LASmx 100.4dB  
Motion Index 11%  
LAVG 64.3dB  
TWA 8Hrs 33.9dB  
Projected TWA 8Hrs 64.3dB  
Dose 0.1%  
Proj. Dose 8.9%  
OSHA HC T80,C90,Q5  
LAVG 67.4dB  
TWA 8Hrs 37.0dB  
Projected TWA 8Hrs 67.4dB  
Dose 0.0%  
Proj. Dose 2.4%  
ACGIH T80,C85,Q3  
LAVG 77.7dB  
TWA 8Hrs 59.3dB  
Projected TWA 8Hrs 77.7dB  
Dose 0.3%  
Proj. Dose 18.4%
```

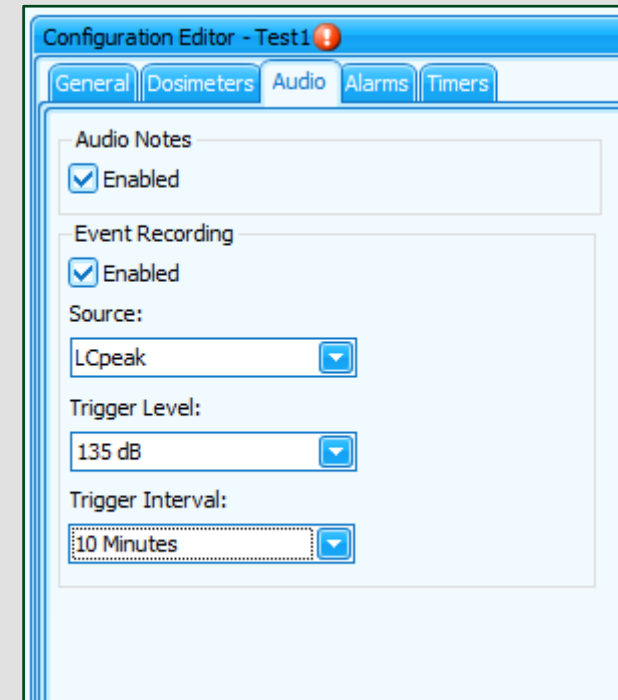
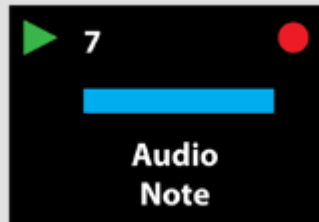
Below the data is the address: 2 Wolseley Road, MK42 Bedford, England, United Kingdom, and a Google Maps link: http://maps.google.com/maps?q=52_10552234_-0.50071922. An arrow points from this text box to a map on the right, which shows the location of Casella, Arqadia, and Polycote UK, with a red pin marking the specific location.

dBadge2 – Events and Audio

- Event mode (detail is set on Insight)
 - Switches events on/off
 - Can set trigger parameter (L_{AF} , L_{Cpeak} , L_{Zpeak} , L_{AFmax} , L_{ASmax})
 - Set trigger level (60-140dB)
 - Trigger interval (30s-20min)

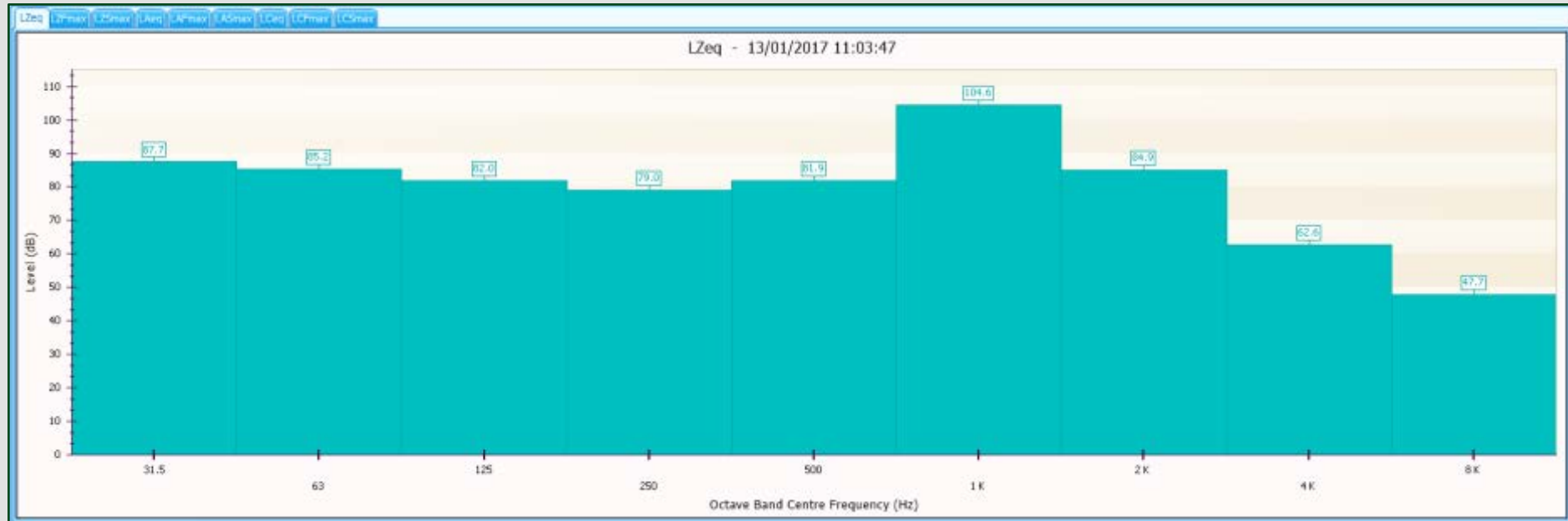


- Audio note
 - If enabled will prompt to record
 - Stores up to 15s of audio
 - Playback via software



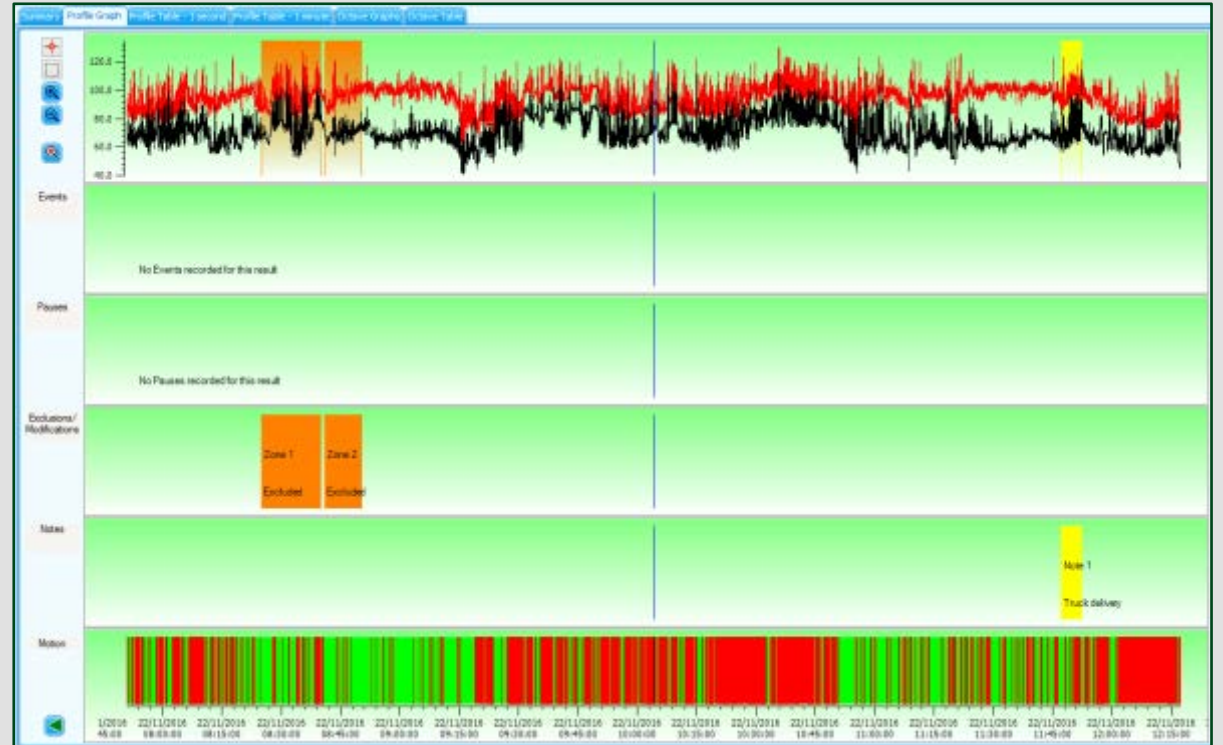
dBadge2 – Octave Band Analysis

- Octave band analysis
 - Cumulative measurement
 - L_{eq} and L_{max}
 - Selection of hearing protection



Motion

- Was the dosimeter worn
- Built in accelerometer



- Smaller form factor
- Lower cost – mass deployment?
- Real time connectivity
- Visual data – e.g. automatic noise mapping

Questions?

**Feedback: See me at the Casella Stand
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