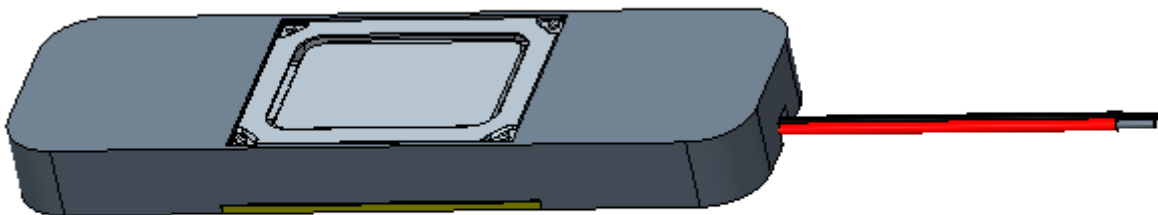


**Speaker Boxes**  
**with one CR1511L030UN8-2 inside**  
**BOX1-18082-2B100**

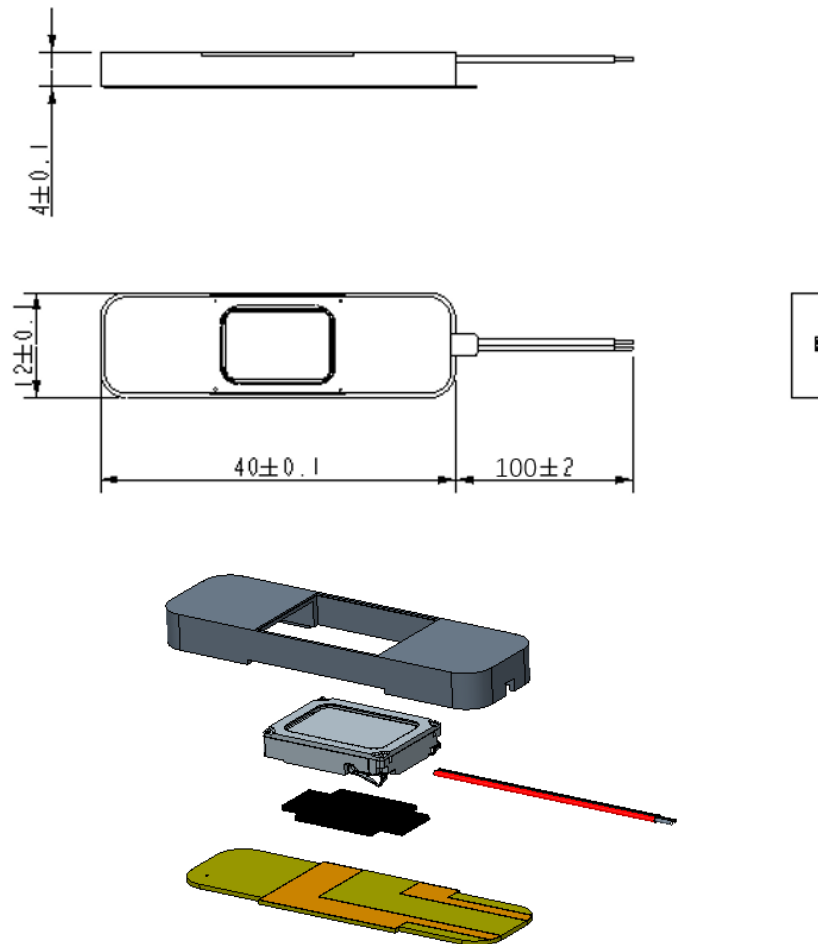


**Revision**

| <b>Date</b> | <b>Version</b> | <b>Status</b> | <b>Changes</b>                    | <b>Approver</b> |
|-------------|----------------|---------------|-----------------------------------|-----------------|
| 2018/09/05  | V0.1           | Draft         | First release                     | Jay             |
| 2018/11/15  | V0.2           | Draft         | Add chapter 1.2 over shoot        | Jay             |
| 2019/01/02  | V0.3           | Draft         | Change overshoot 0.35mm to 0.25mm | Jay             |

## 1. Mechanical Characteristics

### 1.1. Mechanical Drawing (Unit: mm)



### 1.2. Over shoot

Please keep minimum 0.4mm height free space on top of the box as the speaker has 0.25mm overshoot.

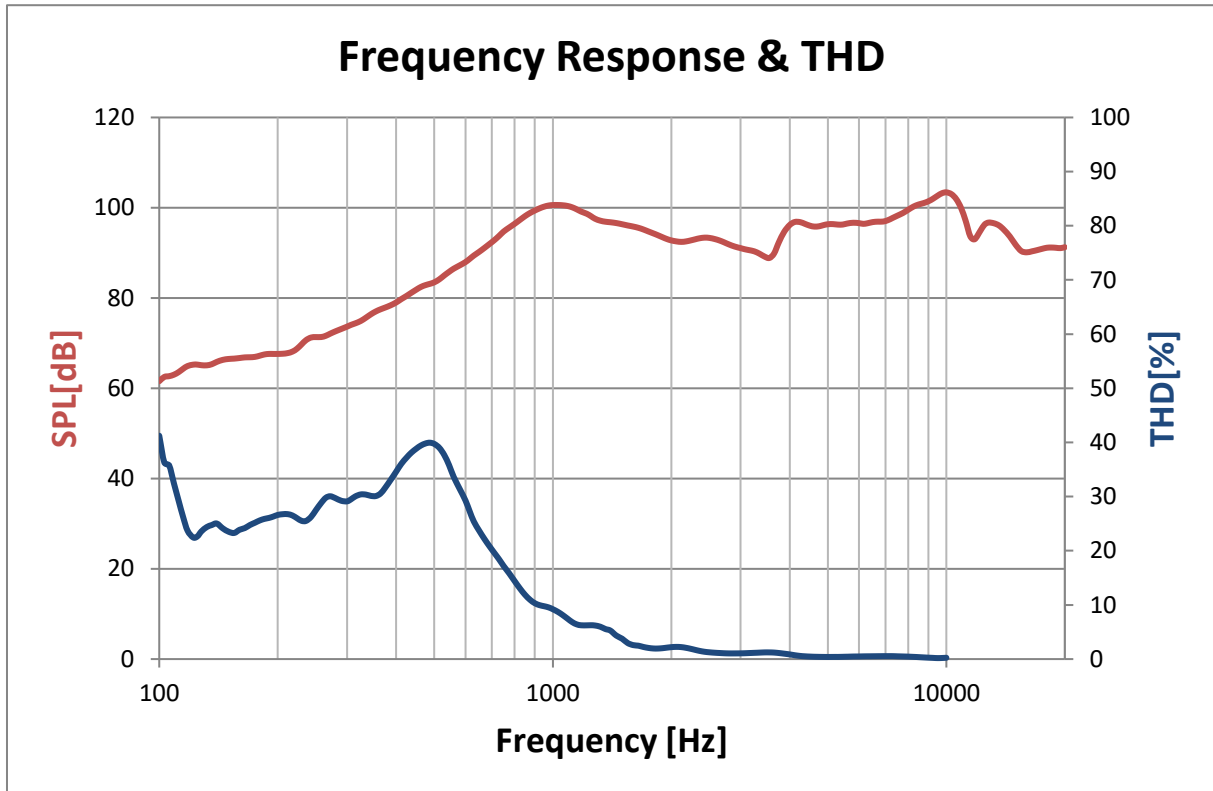
### 1.3. Material List

|            |                   |
|------------|-------------------|
| 1. Cover   | ABS               |
| 2. Speaker | CR1511L030UN8-2   |
| 3. Bottom  | PCB               |
| 4. Wire    | 32AWG od<0.6MM    |
| 5. Pad     | rubber 60A, 3M467 |

## 2. Electro-acoustic characteristics

### 2.1. Frequency Response & THD

Typical frequency response measured in free field according to chapter 2.4  
( $d=3.16\text{cm}$ ,  $P=0.8\text{W}$ )



## 2.2. Electro-Acoustic Parameters

Speaker box measured in free field according to chapter 2.4 per channel.

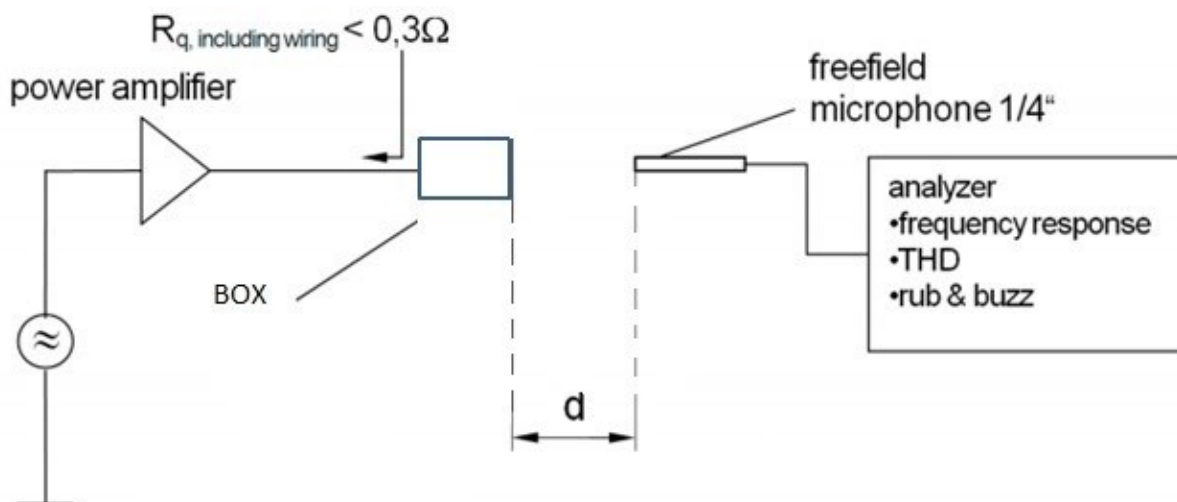
- |   |                  |                       |
|---|------------------|-----------------------|
| 1. Rated impedance  | Z:               | 8Ω                    |
| 2. Resonance frequency                                      | f <sub>0</sub> : | 1000Hz ± 15%          |
| 3. Measured characteristic sensitivity (3.16cm, 0.8W, 1kHz) |                  | 100±3dB               |
| 4. THD  |                  | according chapter 2.1 |
| 5. Rub & buzz   |                  | no audible noise      |

All acoustic measurements at 23 ± 2°C

## 2.3. Power handling per channel

- |                |   |
|----------------|---|
| Input Voltage: | 2.38V <sub>rms</sub> in 1cc back cavity   |
| Input Source:  | Simulated program signal (IEC 268-5) with a peak to RMS ratio of 1.8 to 2.2 in rated frequency range. |
| Duration:      | 96 hours  |

## 2.4. Measurement setup (Acoustics) per channel



## 2.5. Measured Parameters per channel

### Sensitivity

SPL is expressed in dB ref 20  $\mu$  Pa, computed according to IEC 268-5.

Measurement setup according to chapter 2.4.

This test is performed 100% of products in production line.

### Frequency response

Frequency response is measured according to measurement setup in chapter 2.4 and checked against the tolerance window defined in chapter 2.1. This test is performed 100% of products in production line.

### Total Harmonic Distortion (THD)

THD is measured according to IEC 268-5(2<sup>nd</sup> to 5<sup>th</sup> harmonics) and measurement setup in chapter 2.4 and checked against the tolerance window defined in chapter 2.1. This test is performed 100% of products in production line.

## 2.6. Rub & Buzz

Rub & Buzz will be measured in the Inline-measuring device with a sinusoidal sweep. Rub & Buzz is defined as the maximum level of no harmonic energy, expressed as signal to non-harmonic content ratio, in a certain frequency-range. This test is performed for 100% of products in the production line.