## Over-excursion and IEC 60268-1 cl 18.2

### Aim: Compare audio performance of T3R (prototype version) (type - enclosure/free air) before and after subjecting it to over-excursion and high input power.

### Procedure:

1. Perform measurements at (iLabs/inhouse), these serve as baseline measurements. Measurements considered are (second-order) THD%, Kms, Thiele/Small parameters.
2. Subject speaker to over-excursion:
   1. Frequency: \_\_\_\_\_\_\_\_ Hz/ Type of input signal
   2. Excursion: \_\_\_\_\_\_\_\_ mm
   3. Duration: 10 cycles; 1 minute on/ 2 minutes off, according to IEC 60268-5,cl 18.4
   4. Peak Voltage: \_\_\_\_\_ V → Peak Power: \_\_\_ W
3. Visual inspection of parts for damage.
4. Remeasure at iLabs/inhouse.

### Pass criteria:

1. Maximum excursion not affected by any changes in dimensions or alignment.
2. Increase in THD% at frequencies below 200/300Hz not more than 3%.
3. Change in Kms not more than 10%
4. Change in T/S parameters not more than 10%

### Results:

Prototype Version: \_\_\_\_\_\_\_\_\_\_\_\_

Prototype Number: \_\_\_\_\_\_\_\_\_\_\_\_

#### THD%

| Freq. | Before | After | Change |  | Freq. | Before | After | Change |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 20 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 300 |  |  |  |

#### Kms

| Exc. | Before | After | Change |  | Exc. | Before | After | Change |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 |  |  |  |  | - | - | - | - |
| 2 |  |  |  |  | -2 |  |  |  |
| 4 |  |  |  |  | -4 |  |  |  |
| 6 |  |  |  |  | -6 |  |  |  |
| 8 |  |  |  |  | -8 |  |  |  |
| 10 |  |  |  |  | -10 |  |  |  |

#### T/S Parameters

| Parameter | Before | After | Change |
| --- | --- | --- | --- |
| SPL |  |  |  |
| R(e) |  |  |  |
| F(s) |  |  |  |
| Q(ts) |  |  |  |
| Q(es) |  |  |  |
| Q(ms) |  |  |  |
| L(e) |  |  |  |
| M(ms) |  |  |  |
| V(as)\* |  |  |  |

#### Visual Inspection Anomalies:

(images with text explanation)

### “Raw” Data: