

4.0" Midrange

**PURE
SOUND**

Ultra Low Distortion
Midrange



PTT4.0M04-NAC-04 DATA SHEET

KEY SPECIFICATIONS

- ⊙ Dedicated Midrange Driver with Enhanced Efficiency
- ⊙ Negligible Force Factor Modulation
- ⊙ Ultra Low Magnetic Hysteresis Distortion
- ⊙ Utilize PURIFI's Neutral Surround Technology
- ⊙ Designed and Manufactured in Denmark

| | |
|------------------------------|-------------------------|
| Driver size | 4" |
| DC resistance, R_{DC} | 3.4 Ω |
| Resonance freq., f_s | 48 Hz |
| Total Q factor, Q_{ts} | 0.28 |
| Effective piston area | 57 cm ² |
| Equivalent volume, V_{as} | 5.0 L |
| SPL@2.83V _{rms} /1m | 86.1 dB |
| Linear X_{max} | +/- 2.9 mm |
| Mechanical X_{max} | +/- 13.7 mm |
| IEC Power handling | TBD |
| Cone material | Black Anodized Aluminum |

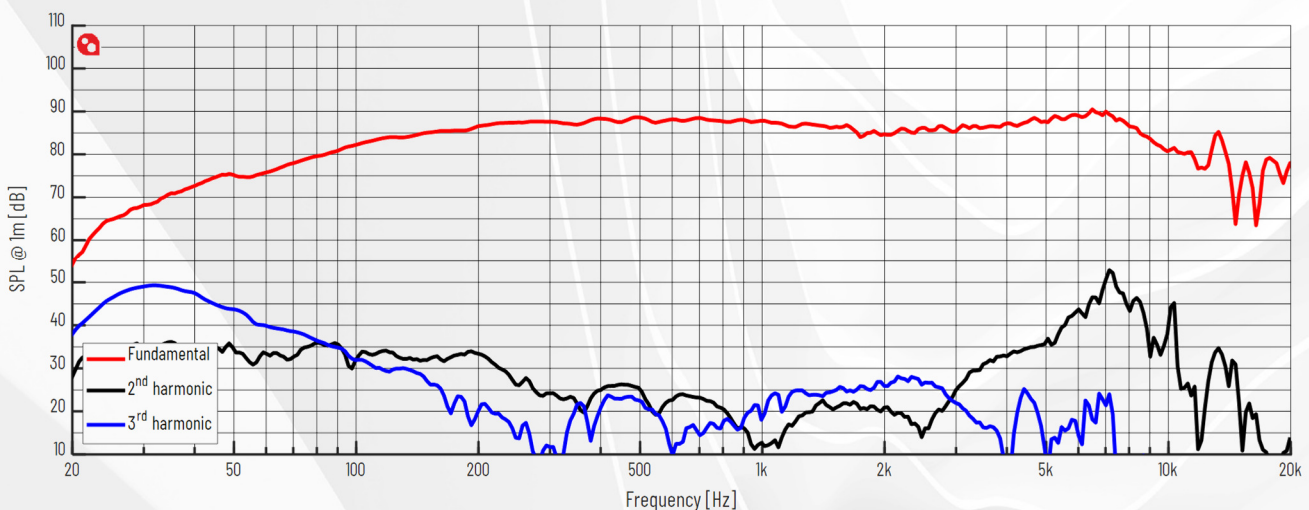


Figure 1 Frequency Response 2.83Vrms @1m

1 Specifications

1.1 Electrical & Acoustical Parameter

| Parameter | | Typ | Unit |
|-----------|---|------|----------|
| Z_n | Nominal impedance | 4 | Ω |
| Z_{min} | Minimum impedance above resonance | 3.7 | Ω |
| f_{min} | Frequency for minimum impedance | 378 | Hz |
| Z_o | Maximum impedance | 51 | Ω |
| R_{DC} | DC resistance | 3.4 | Ω |
| L_e | Voice Coil inductance @ 1kHz 0mm | 0.26 | mH |
| SPL | SPL@2.83V _{rms} /1m, 1000Hz-2800Hz, ref. 20 μ Pa (infinite baffle / 2pi) | 86.1 | dB |
| | SPL@1W(Z_{min})/1m, 1000Hz-2800Hz, ref. 20 μ Pa (infinite baffle / 2pi) | 82.7 | dB |

Table 1 Electrical & Acoustical Parameters

1.2 T/S & Lumped Parameters

| Parameter | | Typ | Unit |
|-----------|---------------------------|------|-----------------|
| f_s | Resonance frequency | 48 | Hz |
| Q_{ms} | Mechanical Q factor | 4.2 | - |
| Q_{es} | Electrical Q factor | 0.30 | - |
| Q_{ts} | Total Q factor | 0.28 | - |
| V_{as} | Equivalent volume | 5.0 | L |
| S_d | Effective piston area | 56.7 | cm ² |
| D | Effective piston diameter | 8.5 | cm |
| Bl | Force factor | 5.9 | N/A |
| R_{ms} | Mechanical resistance | 0.72 | kg/s |
| M_{ms} | Moving mass | 10.1 | g |
| C_{ms} | Suspension compliance | 1.09 | mm/N |

Table 2 T/S & Lumped Parameters

1.3 Mechanical Properties

| Parameter | | Typ | Unit |
|------------------------------|--|---------|------|
| Excursion Properties | | | |
| X_{max} | Linear excursion = (Voice Coil length - Airgap height) / 2 | +/-2.9 | mm |
| | Mechanical excursion | +/-13.7 | mm |
| Physical Dimensions | | | |
| | Basket diameter | 125 | mm |
| | Cutout diameter | 101 | mm |
| | Mounting hole pattern diameter | 115 | mm |
| | Mounting hole diameter | 4.2 | mm |
| | Magnet diameter | 90 | mm |
| | Outer flange height | 3.2 | mm |
| | Build-in depth | 73.5 | mm |
| | Weight | 1.25 | kg |
| Voice Coil Properties | | | |
| | Voice Coil diameter | 30 | mm |
| | Voice Coil length | 9.9 | mm |
| | Voice Coil layers | 4 | - |
| | Airgap height | 4 | mm |
| | Winding material | CCAW | - |

Table 3 Mechanical Properties

1.4 Power Handling

| Parameter | | Typ | Unit |
|-----------|---|-----|------|
| | Long term maximum power (IEC268-5 18.2) | TBD | W |
| | Rated noise power, 100h (IEC268-5 18.4) | TBD | W |

Table 4 Power Handling

1.5 Typical Performance, Graphs

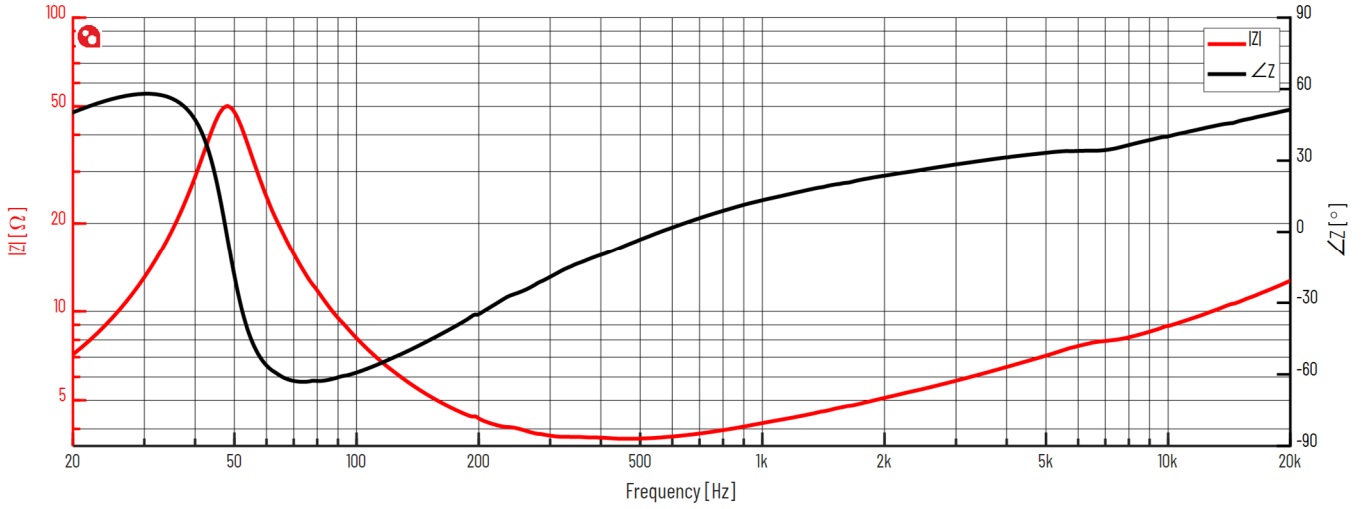


Figure 2 Impedance Response @ 2.83V

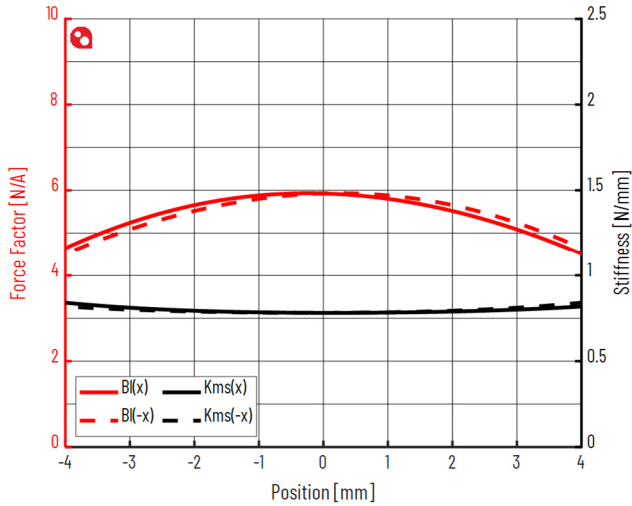


Figure 3 Force Factor and Stiffness vs Voice Coil Position

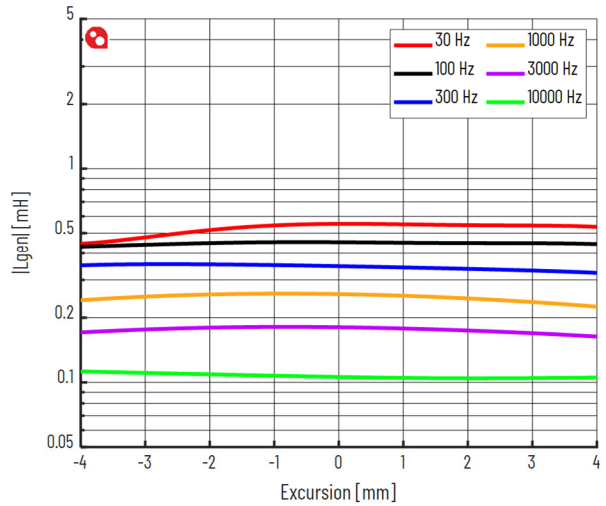


Figure 4 Inductance vs Voice Coil Position

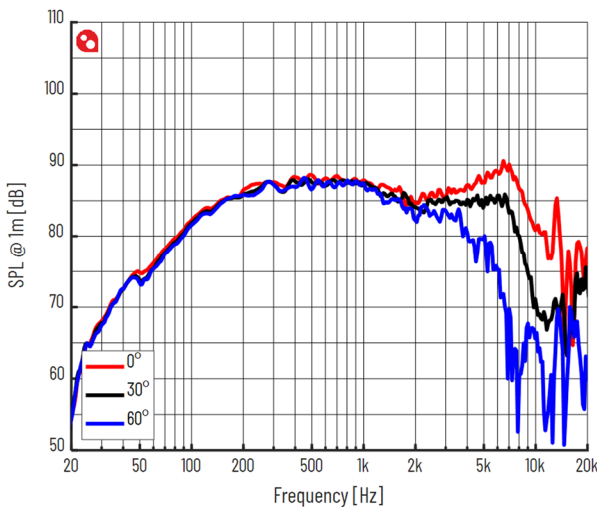


Figure 5 Axial Frequency Response @ 1m, 2.83Vrms

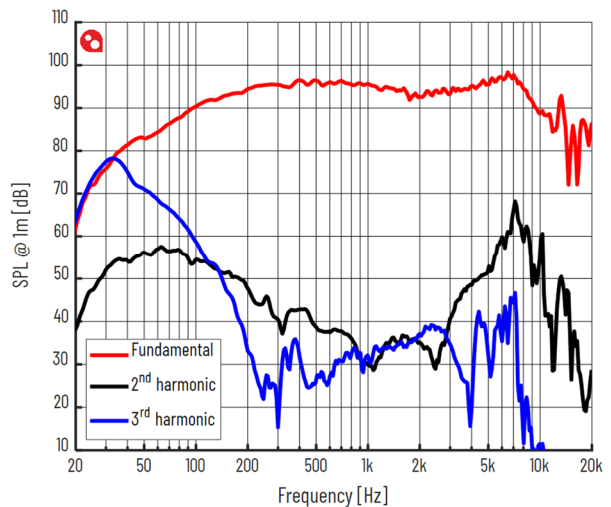


Figure 6 Frequency Response @ 1m, 94dB

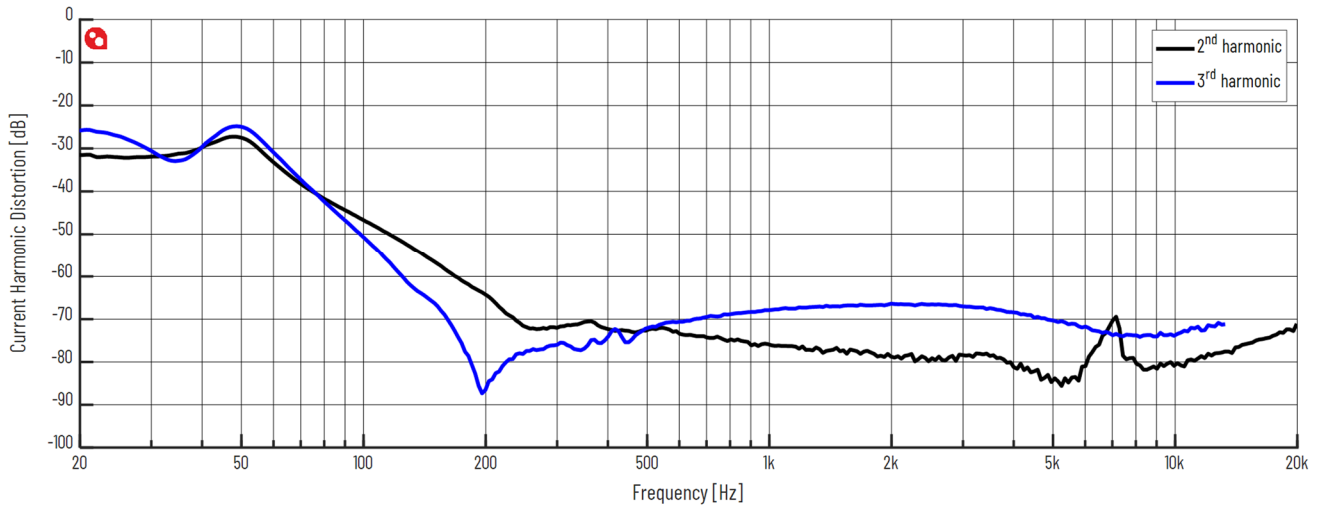


Figure 7 Current Harmonic Distortion @ 2.83Vrms

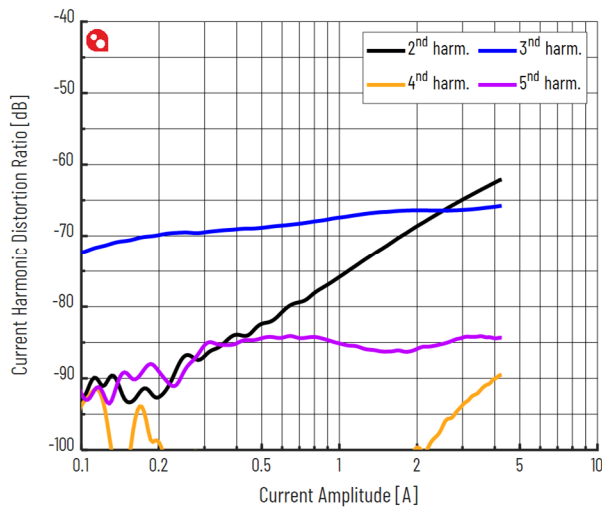


Figure 8 Current Harmonic Distortion @ 1kHz, 0-14.1Vrms

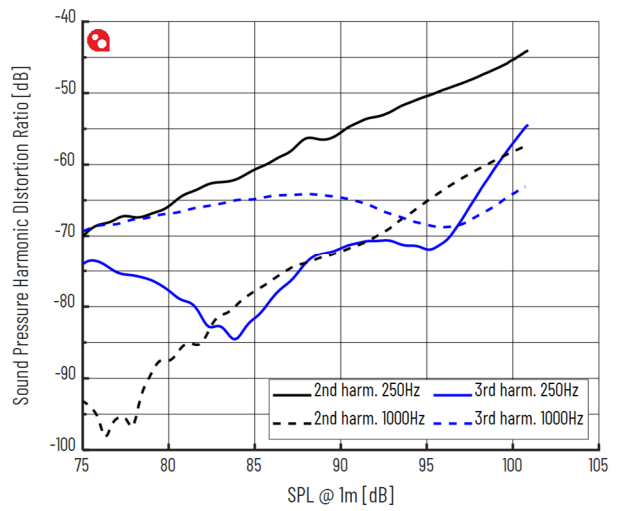


Figure 9 Sound Pressure Harmonic Distortion @ 1m, 0-14.1Vrms

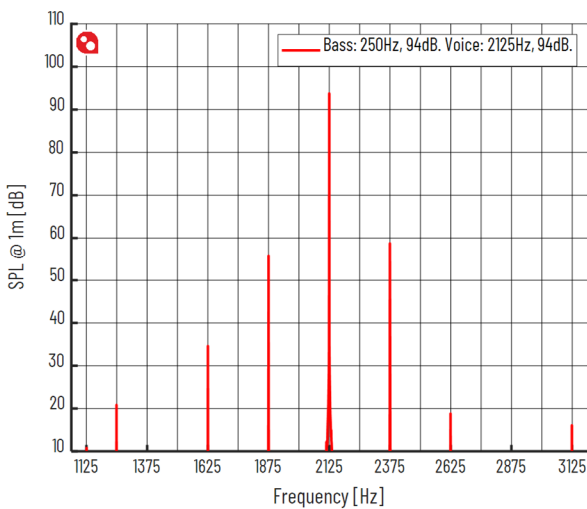


Figure 10 Intermodulation Distortion @ 250Hz 94dB, 2125Hz 94dB

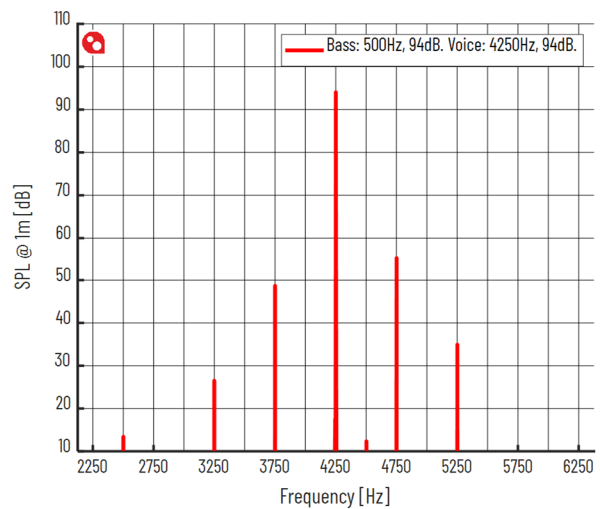
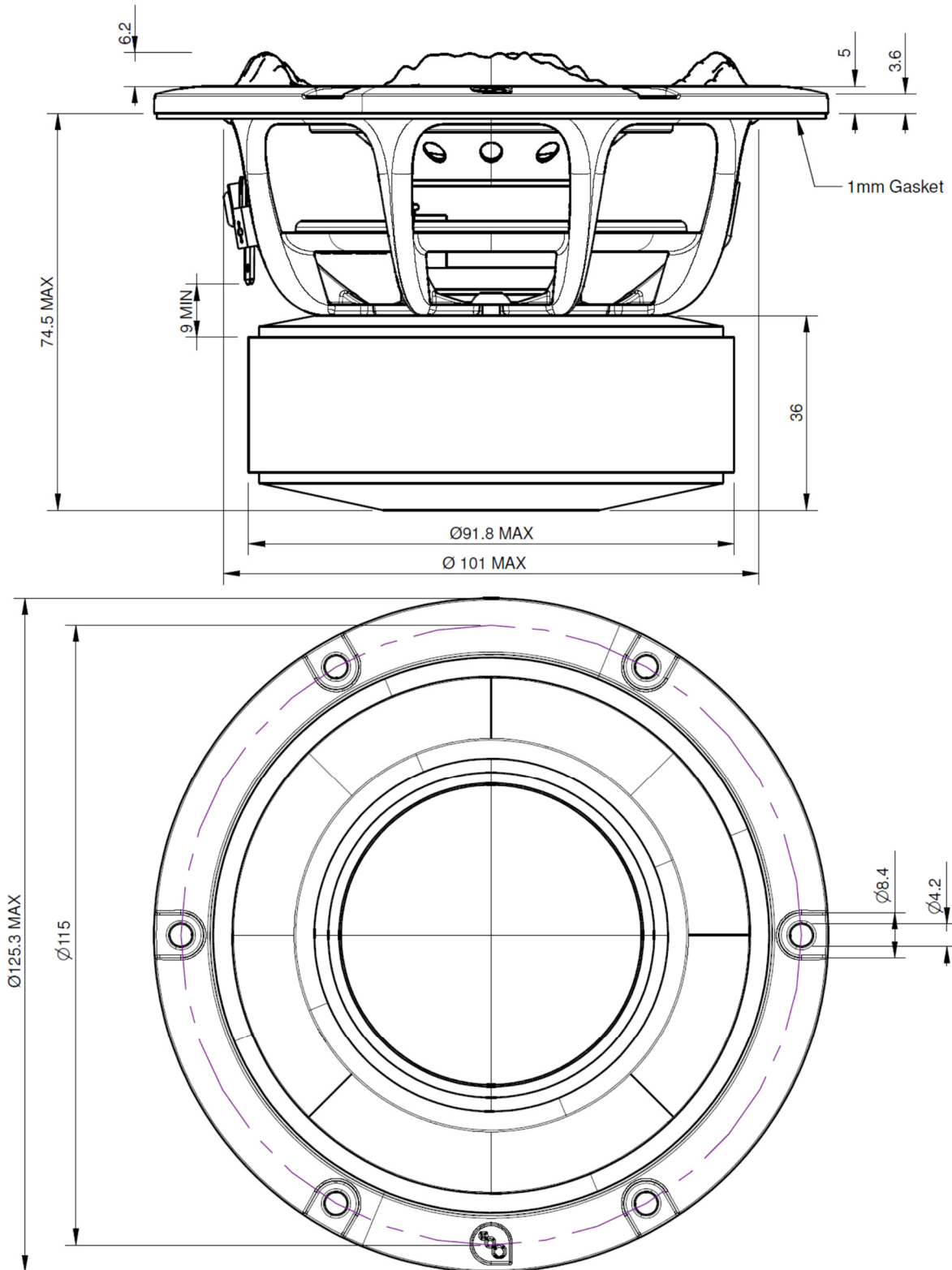


Figure 11 Intermodulation Distortion @ 500Hz 94dB, 4205Hz 94dB

2 Drawings



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