

6.5" Midrange

# PURE SOUND

Ultra Low Distortion  
Midrange



## PTT6.5M08-NAA-07 DATA SHEET

### KEY SPECIFICATIONS

- ⊙ Optimized for Midrange use
- ⊙ Negligible Force Factor Modulation
- ⊙ Ultra Low Magnetic Hysteresis Distortion
- ⊙ Utilize PURIFI's Neutral Surround Technology
- ⊙ Designed and Manufactured in Denmark

Driver size	6.5"
DC resistance, $R_{DC}$	6.2 $\Omega$
Resonance freq., $f_s$	38 Hz
Total Q factor, $Q_{ts}$	0.31
Effective piston area	133 cm <sup>2</sup>
Equivalent volume, $V_{as}$	21.6 L
SPL@2.83V <sub>rms</sub> /1m	87.9 dB
Linear $X_{max}$	+/- 2.9 mm
Mechanical $X_{max}$	+/- 14.5 mm
IEC Power handling	200 W
Cone material	Black Anodized Aluminum

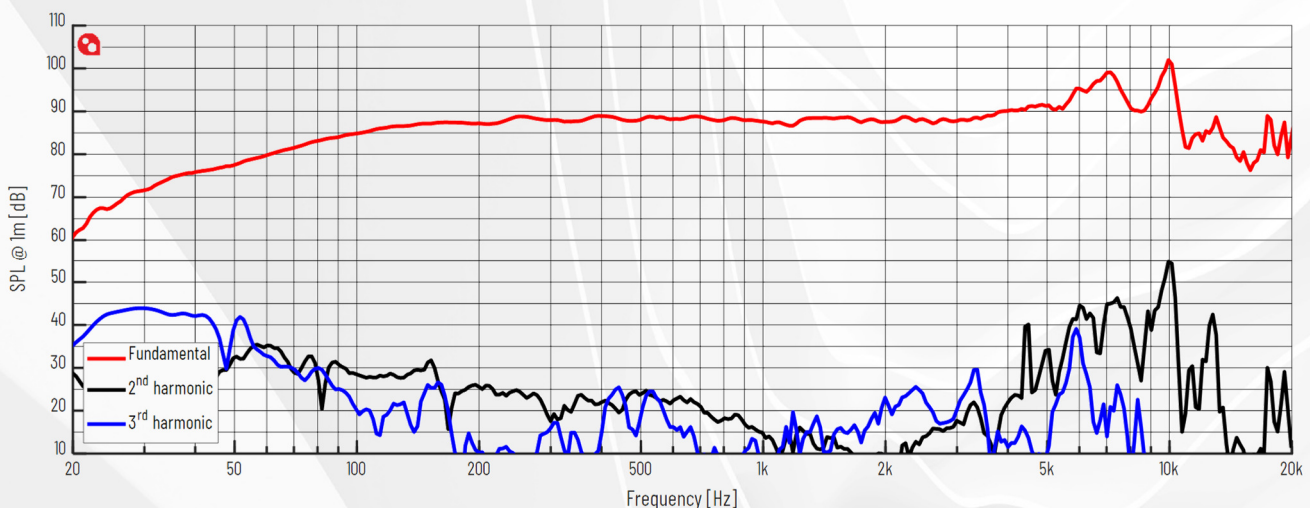


Figure 1 Frequency Response 2.83Vrms @1m

# 1 Specifications

## 1.1 Electrical & Acoustical Parameter

Parameter		Typ	Unit
$Z_n$	Nominal impedance	8	$\Omega$
$Z_{min}$	Minimum impedance above resonance	6.7	$\Omega$
$f_{min}$	Frequency for minimum impedance	341	Hz
$Z_o$	Maximum impedance	132	$\Omega$
$R_{DC}$	DC resistance	6.2	$\Omega$
$L_e$	Voice Coil inductance @ 1kHz 0mm	0.36	mH
SPL	SPL@2.83V <sub>rms</sub> /1m, 1000Hz-2800Hz, ref. 20 $\mu$ Pa (infinite baffle / 2pi)	87.9	dB
	SPL@1W( $Z_{min}$ )/1m, 1000Hz-2800Hz, ref. 20 $\mu$ Pa (infinite baffle / 2pi)	87.1	dB

Table 1 Electrical &amp; Acoustical Parameters

## 1.2 T/S & Lumped Parameters

Parameter		Typ	Unit
$f_s$	Resonance frequency	38	Hz
$Q_{ms}$	Mechanical Q factor	6.7	-
$Q_{es}$	Electrical Q factor	0.33	-
$Q_{ts}$	Total Q factor	0.31	-
$V_{as}$	Equivalent volume	21.6	L
$S_d$	Effective piston area	132.7	cm <sup>2</sup>
$D$	Effective piston diameter	13.0	cm
$Bl$	Force factor	9.6	N/A
$R_{ms}$	Mechanical resistance	0.73	kg/s
$M_{ms}$	Moving mass	20.8	g
$C_{ms}$	Suspension compliance	0.87	mm/N

Table 2 T/S &amp; Lumped Parameters

## 1.3 Mechanical Properties

Parameter		Typ	Unit
<b>Excursion Properties</b>			
$X_{max}$	Linear excursion = (Voice Coil length - Airgap height) / 2	+/-2.9	mm
	Mechanical excursion	+/-14.5	mm
<b>Physical Dimensions</b>			
	Basket diameter	176	mm
	Cutout diameter	148	mm
	Mounting hole pattern diameter	166	mm
	Mounting hole diameter	5.1	mm
	Magnet diameter	100	mm
	Outer flange height	3.6	mm
	Build-in depth	85.2	mm
	Weight	1.75	kg
<b>Voice Coil Properties</b>			
	Voice Coil diameter	39	mm
	Voice Coil length	9.8	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)	200	W
	Rated noise power, 100h (IEC268-5 18.4)	80	W
	Crossover: 2nd order high pass Butterworth @ 200Hz	-	-

Table 4 Power Handling

### 1.5 Typical Performance, Graphs

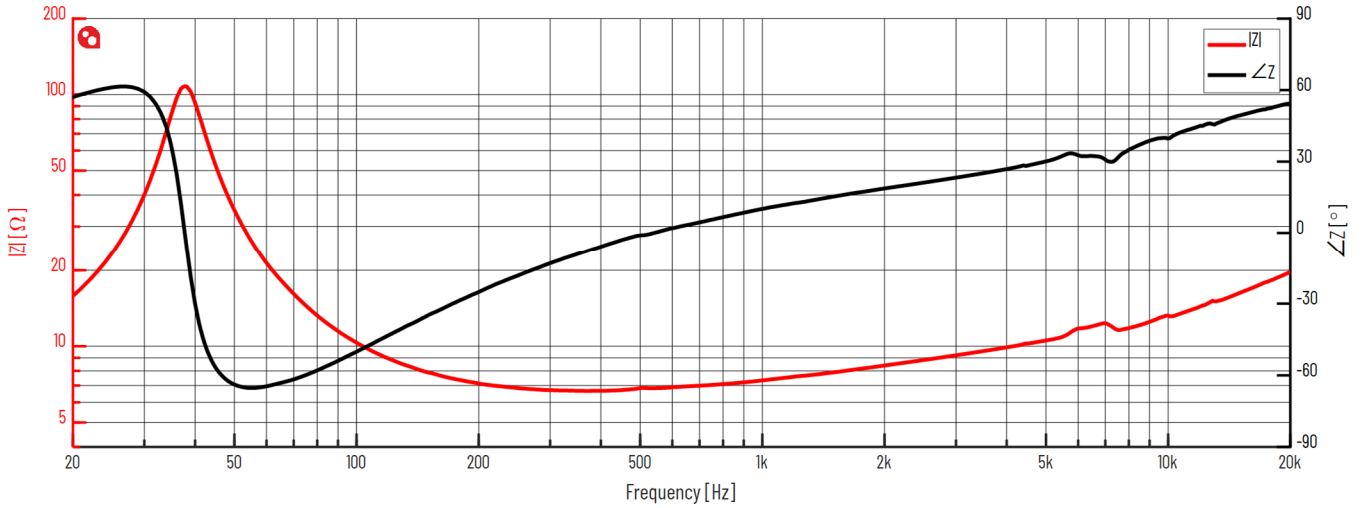


Figure 2 Impedance Response @ 2.83V

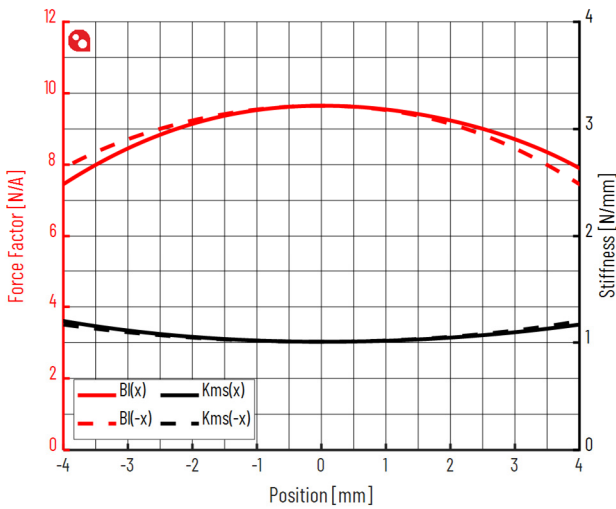


Figure 3 Force Factor and Stiffness vs Voice Coil Position

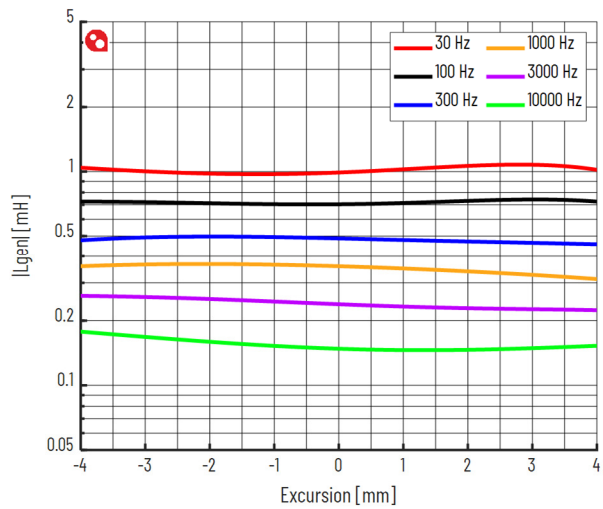


Figure 4 Inductance vs Voice Coil Position

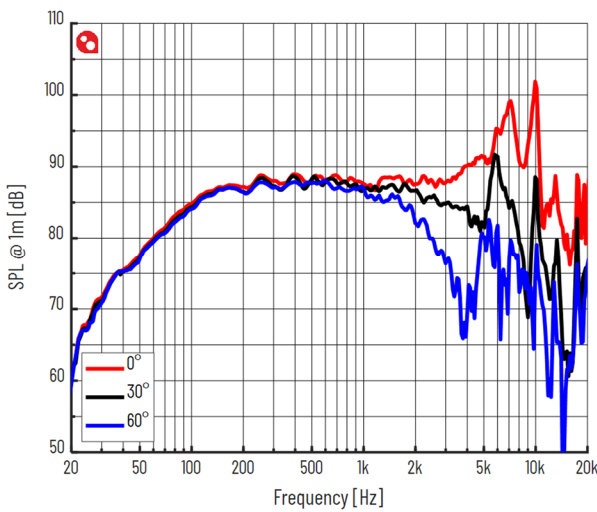


Figure 5 Axial Frequency Response @ 1m, 2.83Vrms

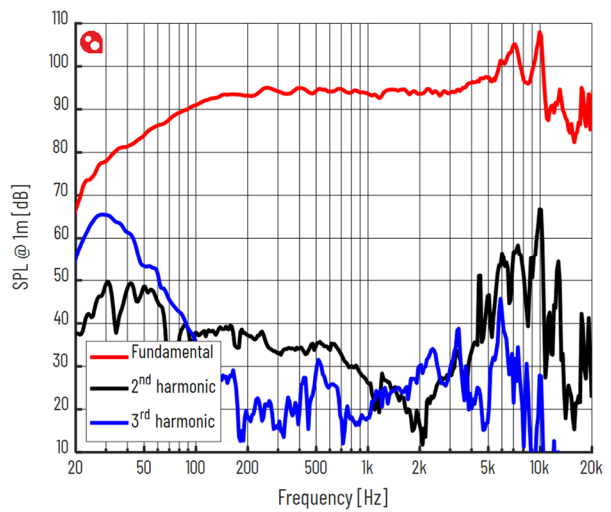


Figure 6 Frequency Response @ 1m, 94dB

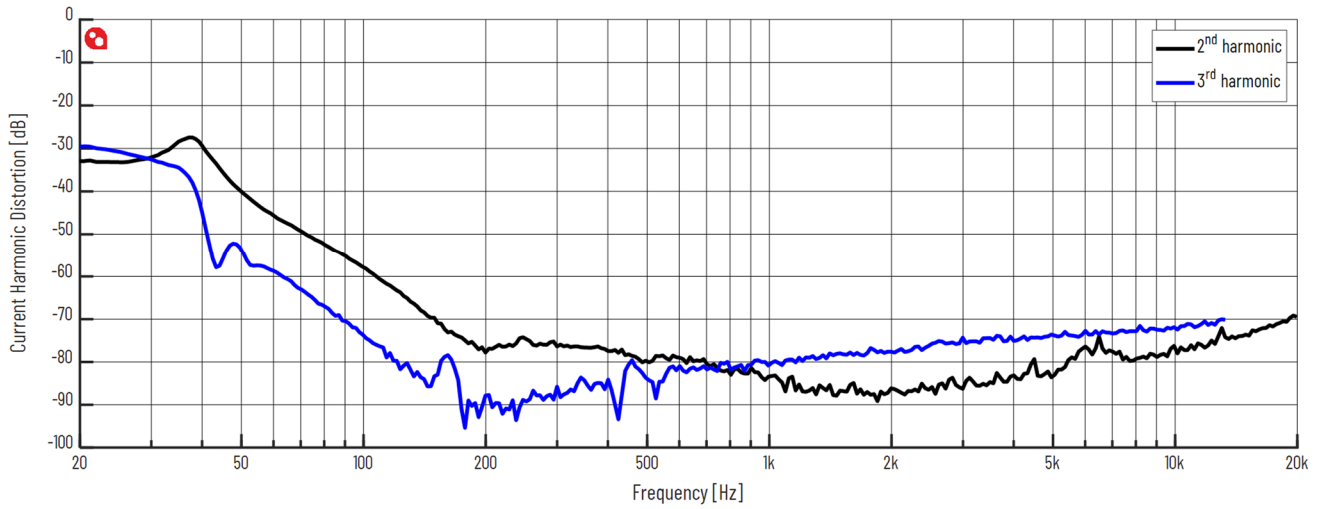


Figure 7 Current Harmonic Distortion @ 2.83Vrms

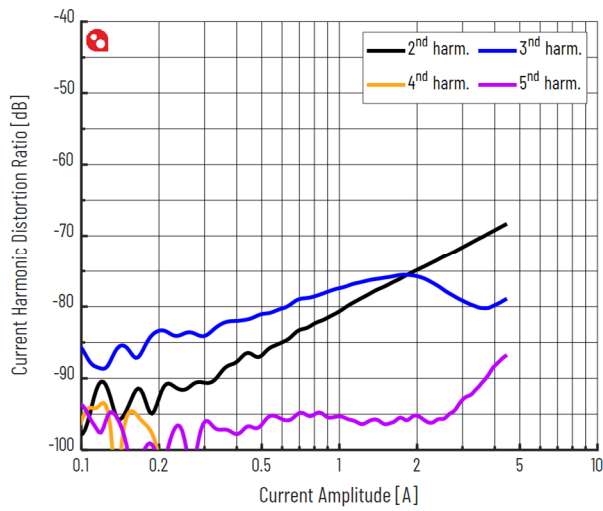


Figure 8 Current Harmonic Distortion @ 1kHz, 0-28.3Vrms

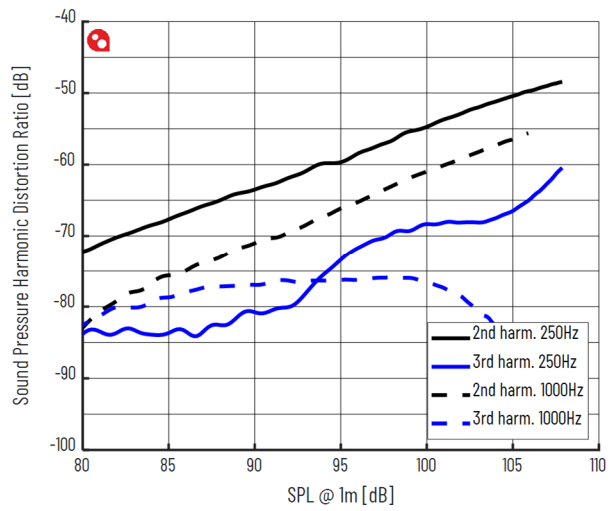


Figure 9 Sound Pressure Harmonic Distortion @ 1m, 0-28.3Vrms

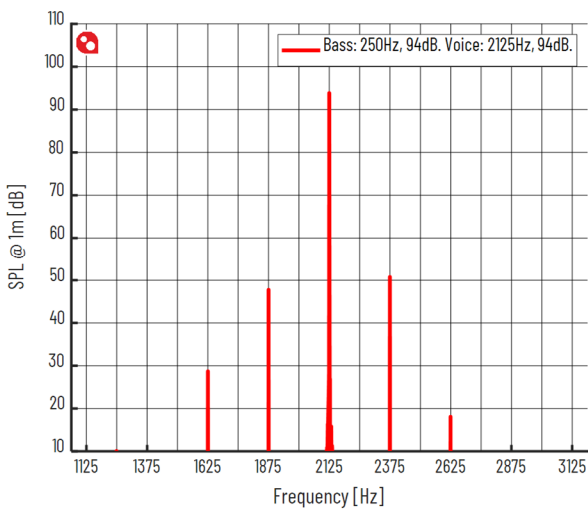


Figure 10 Intermodulation Distortion @ 250Hz 94dB, 2125Hz 94dB

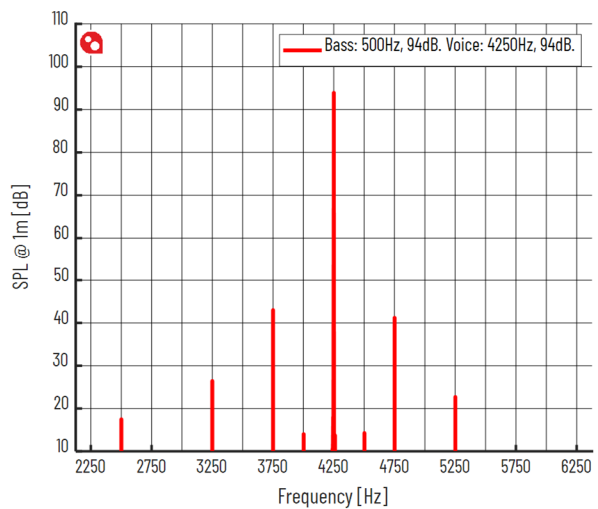
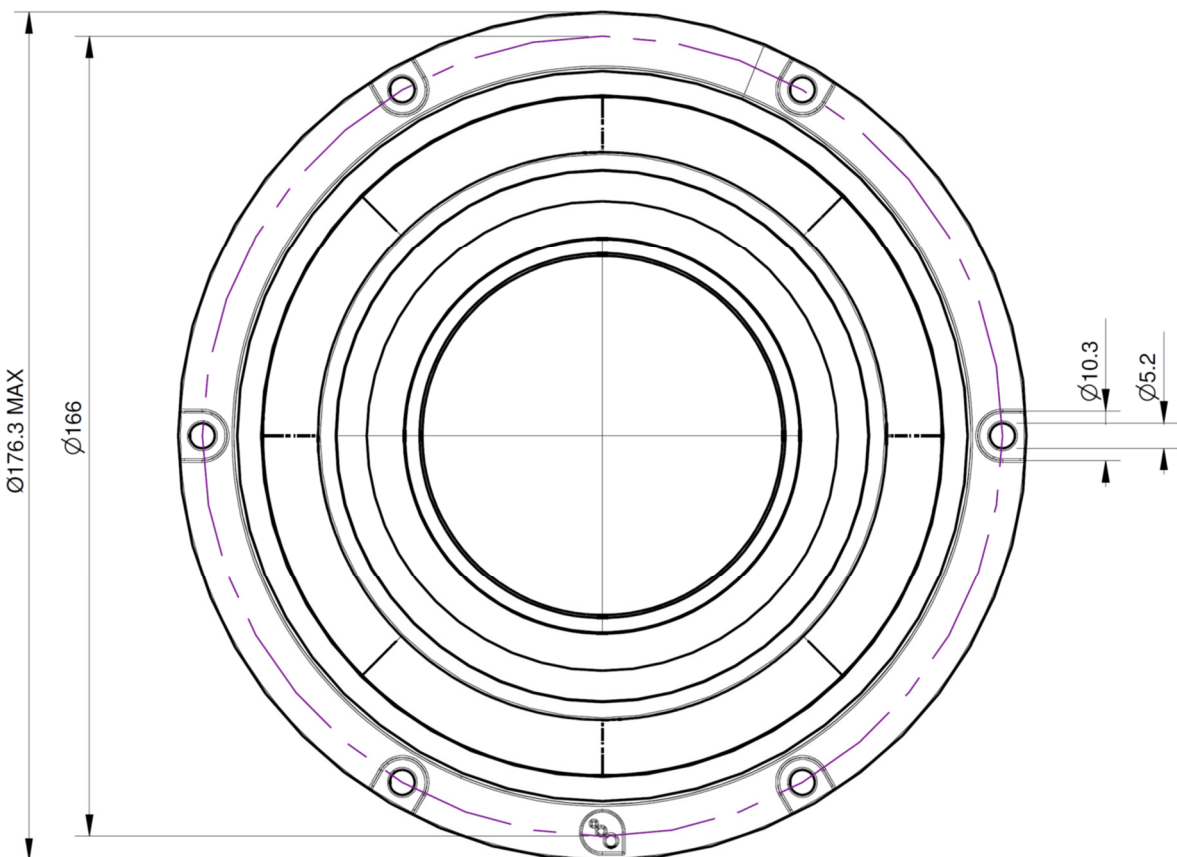
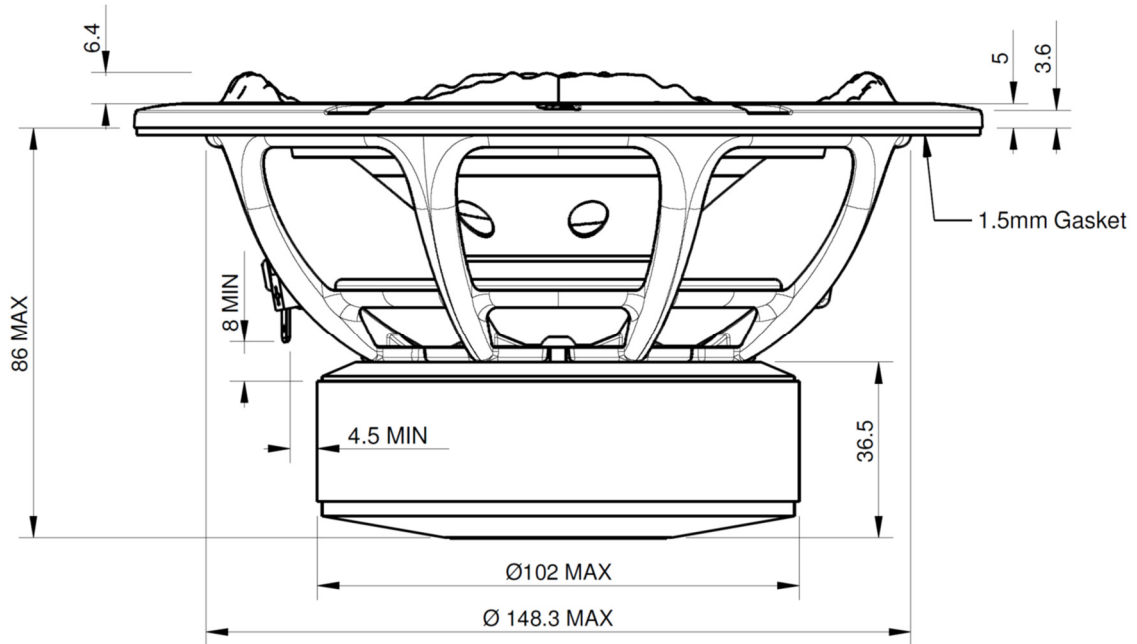


Figure 11 Intermodulation Distortion @ 500Hz 94dB, 4250Hz 94dB

## 2 Drawings



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