

**TEBM46C20N-4B Balanced Mode Radiator**

✓RoHS  
COMPLIANT



**Features**

- Wide bandwidth and wide directivity
- Impedance: 4 ohm
- Dimensions: 68mm x 68mm
- Thickness: 34.65mm
- Mass: 194g

**Applications**

- Sound bars
- Portable speakers
- Internet radios
- Docking stations
- Wireless speakers

**Description**

The TEBM46C20N-4B Balanced-Mode Radiator (BMR) is an audio drive unit with an extended frequency response and wide directivity compared with a conventional drive unit. It combines the benefits of Tectonic bending-wave technology and pistonic modes of operation. It is ideally suited for compact audio applications that require a full-range, high performance acoustic solution.

**Parameters**

Parameter	Description	min	typ	max	Units
<b>R<sub>e</sub></b>	DC resistance	-10%	3.94	+10%	Ω
<b>L<sub>e</sub></b>	Inductance (10 kHz)	-10%	0.03	+10%	mH
<b>BL</b>	Force factor	-10%	4.49	+10%	Tm
<b>f<sub>s</sub></b>	Resonance frequency	-20%	170	+20%	Hz
<b>SPL</b>	Sound Pressure Level @ 1W, 1m	83	85	86	dB
<b>dDrv</b>	Voice coil diameter	-	32	-	mm
<b>M<sub>ms</sub></b>	Moving mass	-10%	2.26	+10%	g
<b>C<sub>ms</sub></b>	Compliance	-12%	0.39	+12%	mmN <sup>-1</sup>
<b>R<sub>ms</sub></b>	Suspension Loss	-15%	0.16	+15%	Nsm <sup>-1</sup>
<b>S<sub>d</sub></b>	Radiating Area	-	19.6	-	cm <sup>2</sup>
<b>X<sub>mech max</sub></b>	Maximum coil excursion (p-p)	-	8.0	-	mm
<b>V<sub>AS</sub></b>	Equivalent volume	-	0.32	-	L
<b>Q<sub>ms</sub></b>	Mechanical quality factor	-15%	15.16	+15%	
<b>Q<sub>es</sub></b>	Electrical quality factor	-15%	0.47	+15%	
<b>Q<sub>ts</sub></b>	Total quality factor	-20%	0.46	+20%	

**Operating conditions**

Condition	Value
Continuous power handling (weighted pink noise, 150Hz HP filter)	20W
Operating temperature range	-20 to 55° C
Audio frequency range	100Hz to 20kHz

**Measured response – on axis SPL**

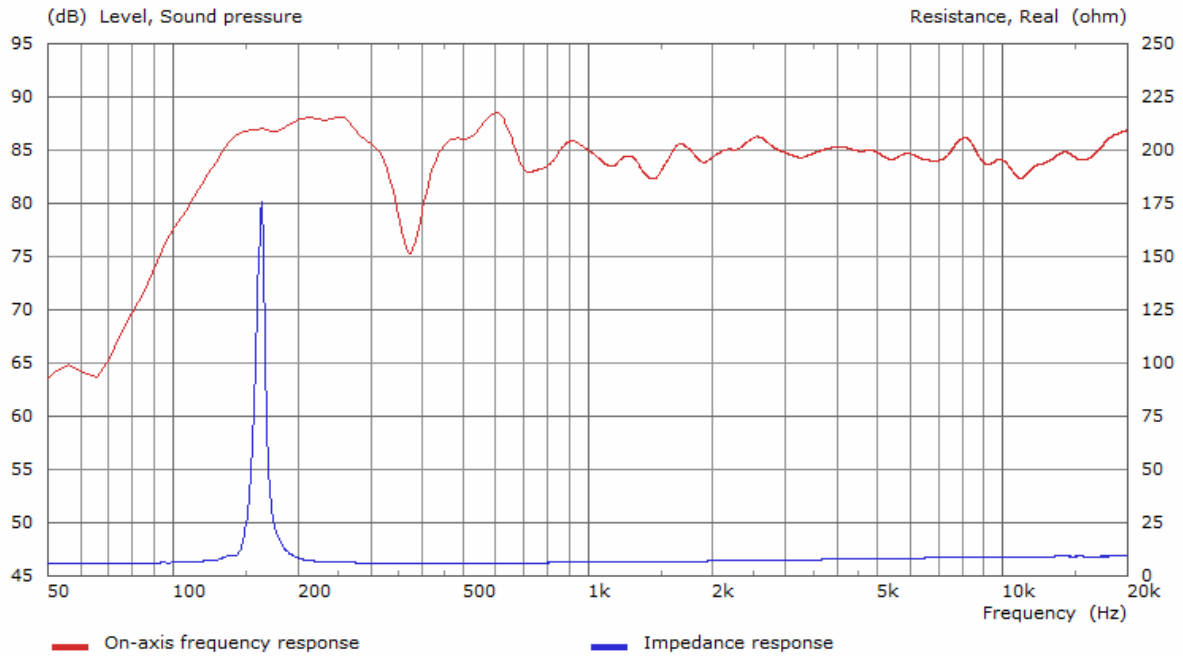


Fig. 1: Red – On-axis frequency response, 1/3rd octave smoothed, corrected to 1W/1m. Drop at 370Hz due to baffle dimensions. Blue – Impedance response.

**Measured response – adjusted power response over frontal hemisphere**

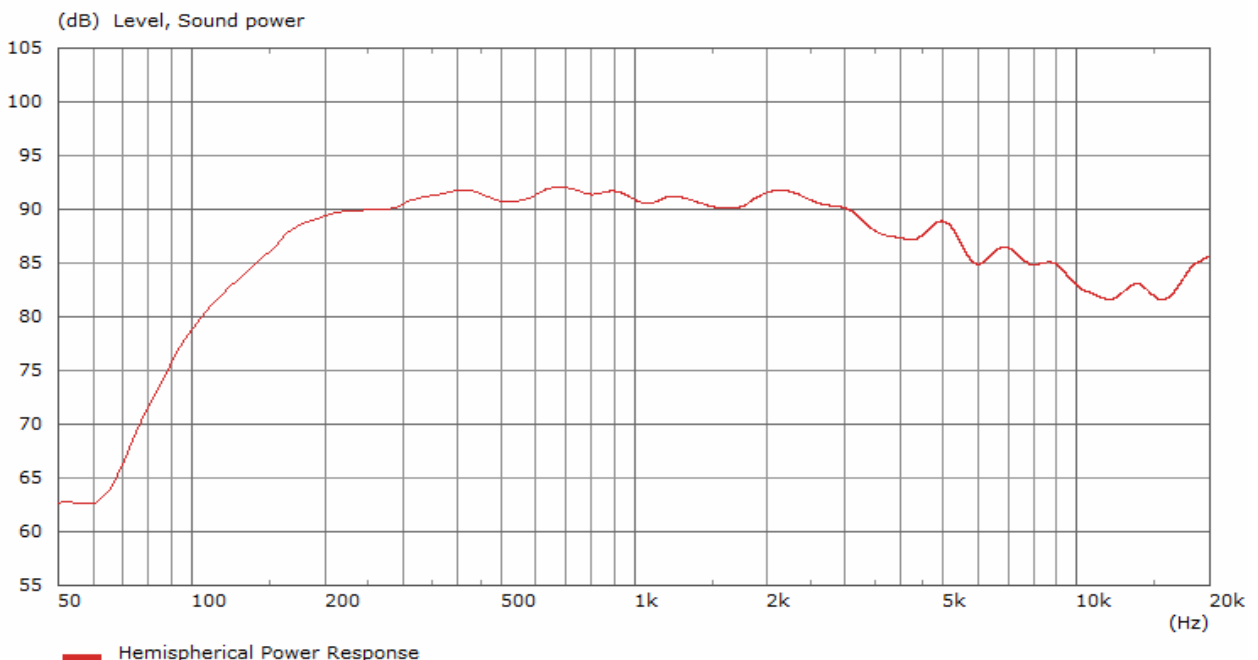


Fig. 2: Hemispherical power response, 1/3rd octave smoothed, corrected to 1W/1m.

## Outline Drawing

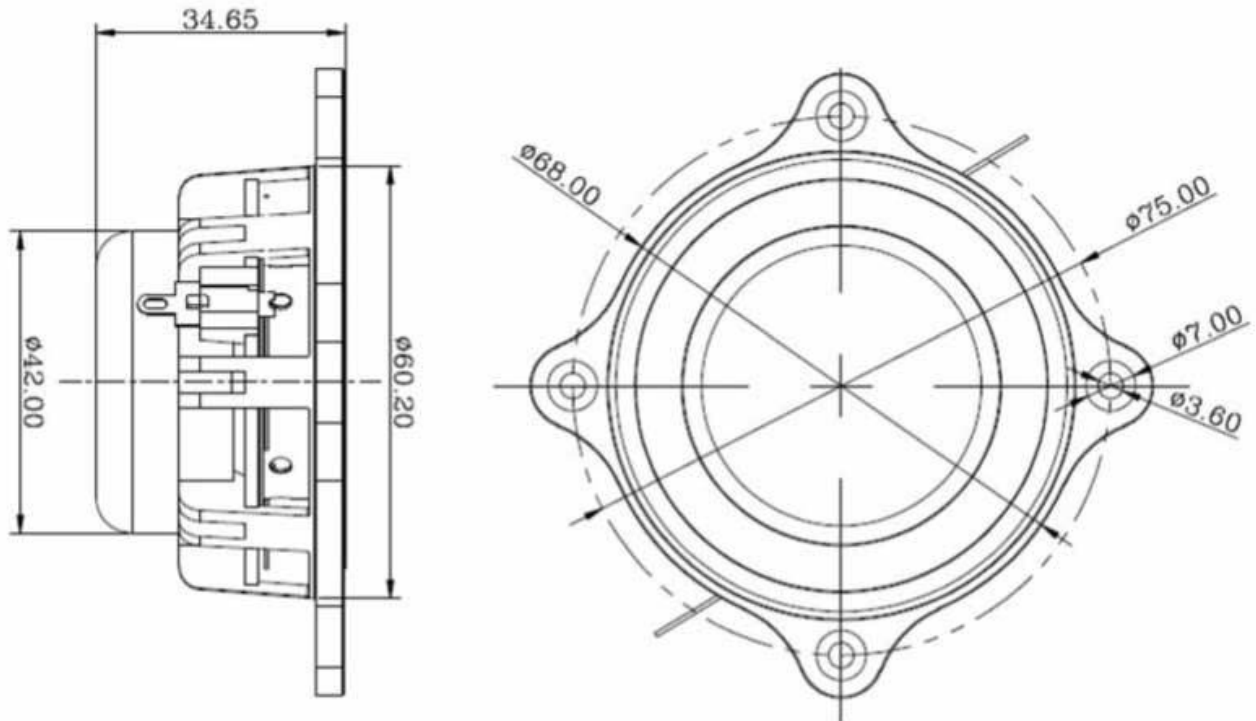


Figure 5: Nominal dimensions

*Disclaimer: The information in this Data Sheet is subject to change without notification*

*Please see [www.tectonicaudiolabs.com](http://www.tectonicaudiolabs.com) for Terms and Conditions of Sale*