

BMR54C-2A Datasheet

1. Overview

The BMR54C-2A Balanced Mode Radiator (BMR®) is an audio drive unit with an extended frequency range and wide directivity. Combining the benefits of Tectonic bending-wave technology and pistonic modes of operation, this BMR is ideally suited for products that require a high-performance, low distortion acoustic solution, that delivers full-range, room filling sound.

- Full range: 135 Hz ~ 30 kHz
- Extremely wide directivity
- Nominal Impedance: 2 Ω
- Power Handling: 30 W

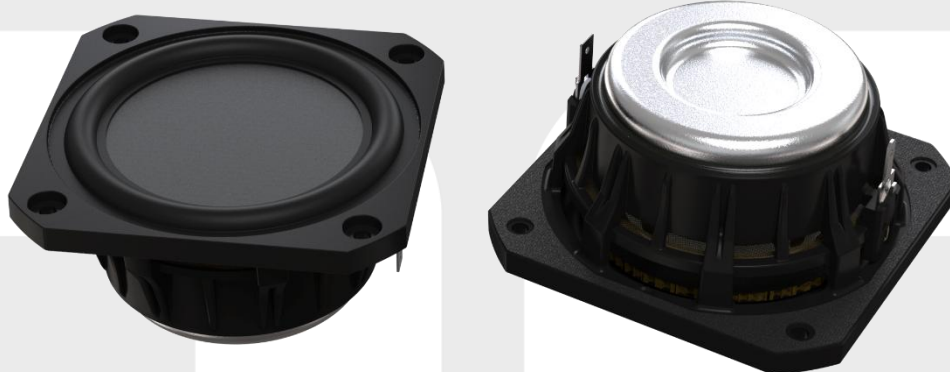


Figure 1.1

**Product code and manufacture date is printed at the back of the return cup*

2. Applications

- Conferencing Systems
- IoT devices
- Bluetooth Audio
- Smart Speakers and TVs
- Ceiling speakers
- Soundbars and monitors

3. Specifications

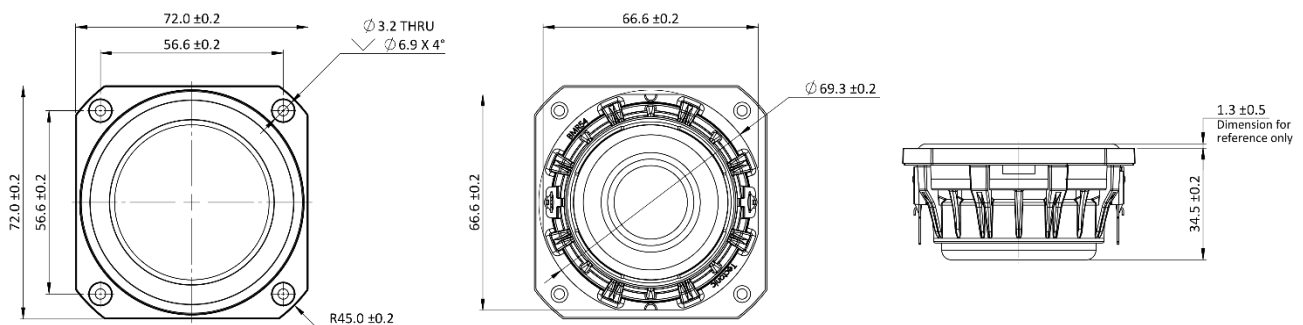
Transducer Characteristics			Parameter	Nominal	Unit
Frequency Response ($\pm 6\text{dB}$)	135 Hz ~ 30 kHz		Fs	135	Hz
Speaker Sensitivity (1 Watt / 1 meter)	84.5	dB	Sd	25.52	cm ²
Rated Maximum SPL (1 Meter)	98	dB	Mms	3.3	g
Speaker Nominal Impedance	2	Ω	Cms	0.41	mm/N
Voice Coil Diameter	38.6	mm	Rms	0.67	kg/s
Voice Coil Material	CCA W		Re	1.96	Ω
Diaphragm Material	Doped Paper Composite		Bl	3.14	Tm
			Le	0.02	mH
			Qts	0.51	

3.1. Operating Conditions

Rated Noise Power (24 hours) <i>IEC268 Pink noise with 2nd order high-pass filter at 130Hz, 6dB crest factor, transducer in free air, ambient conditions – normal temperature and pressure</i>	: 30 W
Operating Ambient Temperature Range	: -20 to +55 °C
Max Linear Excursion*	: 4.8 mm Peak to peak
Mechanical Excursion Limit	: 9.2 mm Peak to peak
Max Surround Frontal Movement	: 2.6 mm

*From Klippel LSI

3.2. Product Dimension



Note:

- Volume Displacement: 60 cc
- All dimensions are in mm

Figure 3.2.1 – External product dimensions

3.3. On-Axis SPL and Impedance (Measured)

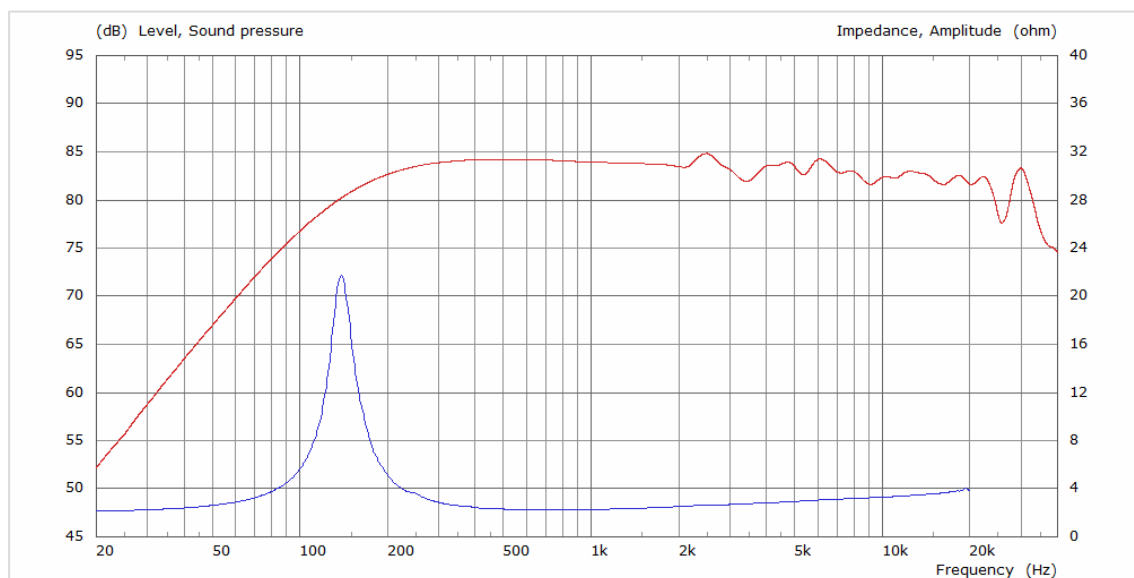


Figure 3.3.1 – Red: On-Axis SPL at 1W/1m (1/3-octave smoothed/spliced*/anechoic). Blue: Electrical Impedance

3.4. Sound Power Response (Measured over 0 – 90°)

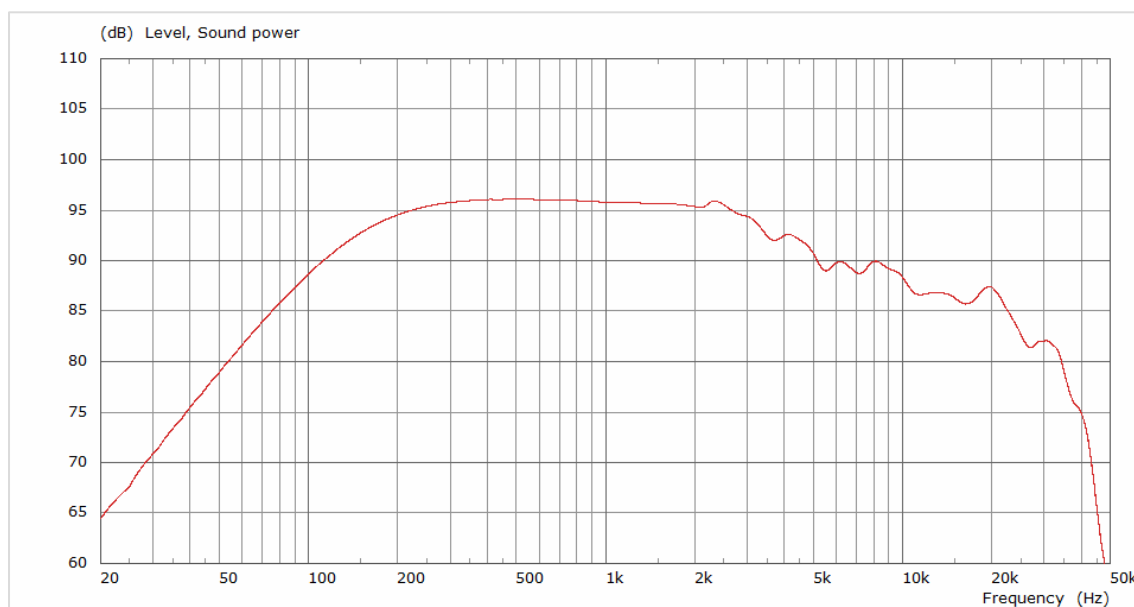


Figure 3.4.1 – Sound power calculated from SPL measurements, 1W/1m (1/3-octave smoothed)

**Anechoic acoustic measurement spliced to low frequency response derived from diaphragm scan using Polytec PSV500 scanning vibrometer*

3.5. Polar Response (Measured)

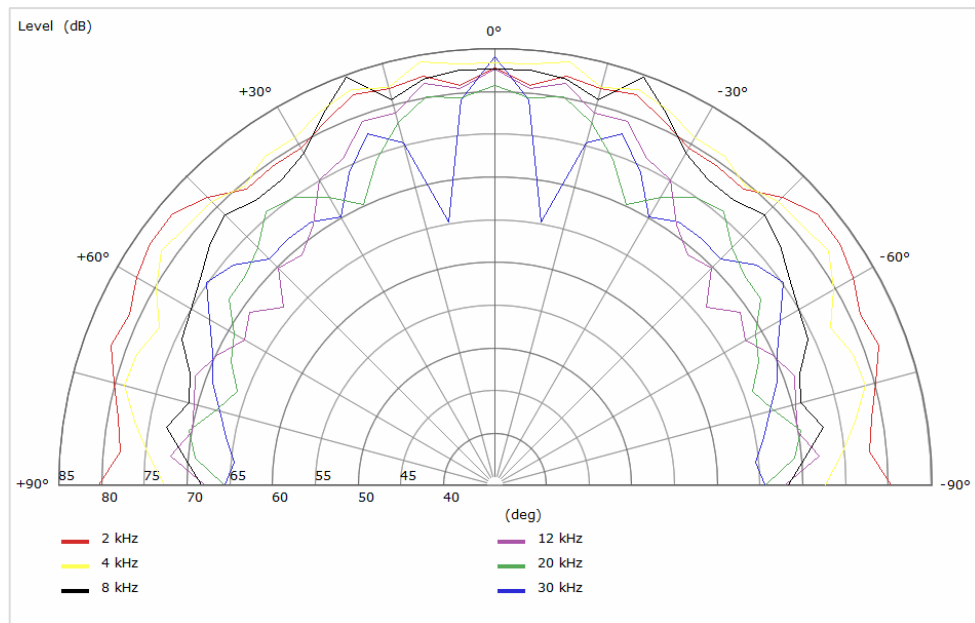


Figure 3.5.1 – Polar response, angle/ dB SPL, 1W/1m (1/3-octave smoothed / anechoic)

4. Appendix

4.1. Klippel LSI

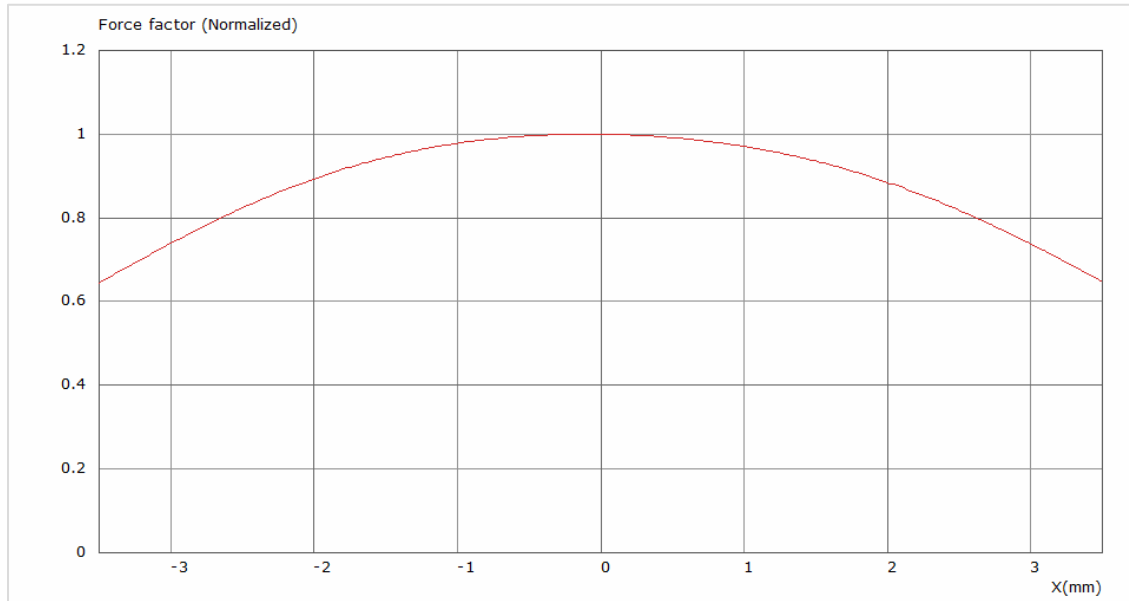


Figure 4.1.1 – Normalized BL (x)

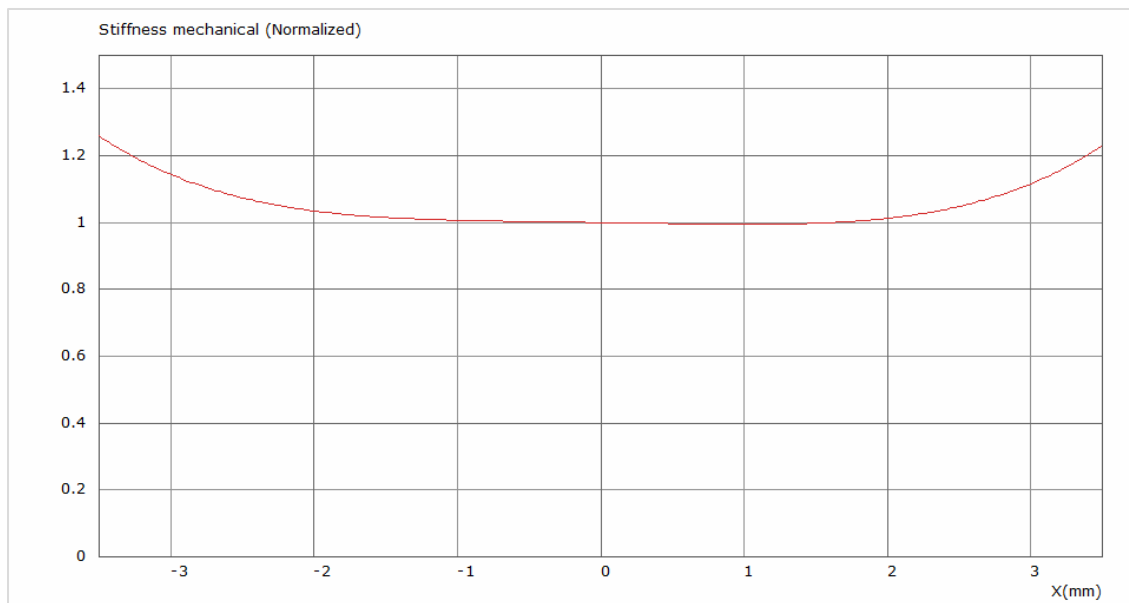


Figure 4.1.2 – Normalized Kms (x)