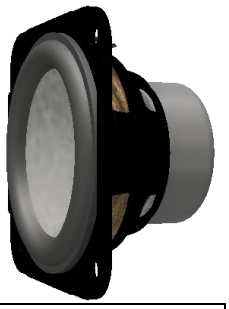
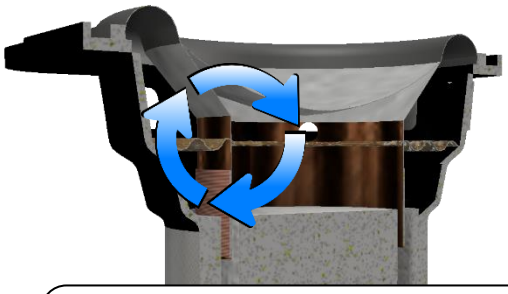


| Data Sheet | AS06504PS-X-R |
|---|---|

PUI Audio's e**X**treme Series speakers are purpose-built for superior performance using Klippel-optimized motor designs. Forced-air vented voice coils combine with a high-grade neodymium motor for extreme power handling, extremely flat frequency response, and a surprising amount of bass when used with tuned-port or passive radiator assisted enclosures.



Air is forced into the magnetic loop on both sides of the voice coil for improved heat dissipation

**Features:**

- Paper cone for warm natural sound and improved ruggedness
- Large voice coil diameter for high power handling
- Convenient mounting frame for easy integration
- Venting in the magnetic motor creates forced-air cooling limiting power compression
- Four-layer copper-clad aluminum wire for great transient response
- Water resistant with optional PUI Audio WR coating process
- Low Qts design for use in ultra-small enclosures without inhibiting performance

## Specifications

| Parameters | Values | Units |
|---|---|---|
| Rated Input Power | 10 | Watts |
| Max Input Power | 20 | Watts |
| Impedance | 4 ± 15% | Ohms |
| SPL @ 1W/0.5m (Average 0.8, 1.0, 1.2, 1.5 kHz) | 88 ± 3 | dB |
| Resonant Frequency | 130 ± 20% | Hz |
| Frequency Range (-10 dB) | 80 ~ 20,000+ | Hz |
| Frame Material | Stamped Steel | - |
| Magnet Material | NdFeB | - |
| Weight | 92 | Grams |
| Ingress Protection Rating | IP65** | **With WR Coating |
| Recommended Sealed Enclosure Volume Range (Qtc ≤ 0.707)* | 0.06 ~ 0.60 | Liters |
| Recommended Vented Enclosure Volume* | 0.60 | Liters |
| Vent Size and Tuning Frequency | 26mm dia. x 350mm L, 88 Hz | - |

*Recommended enclosure volumes do not include volume displaced by speaker or vent

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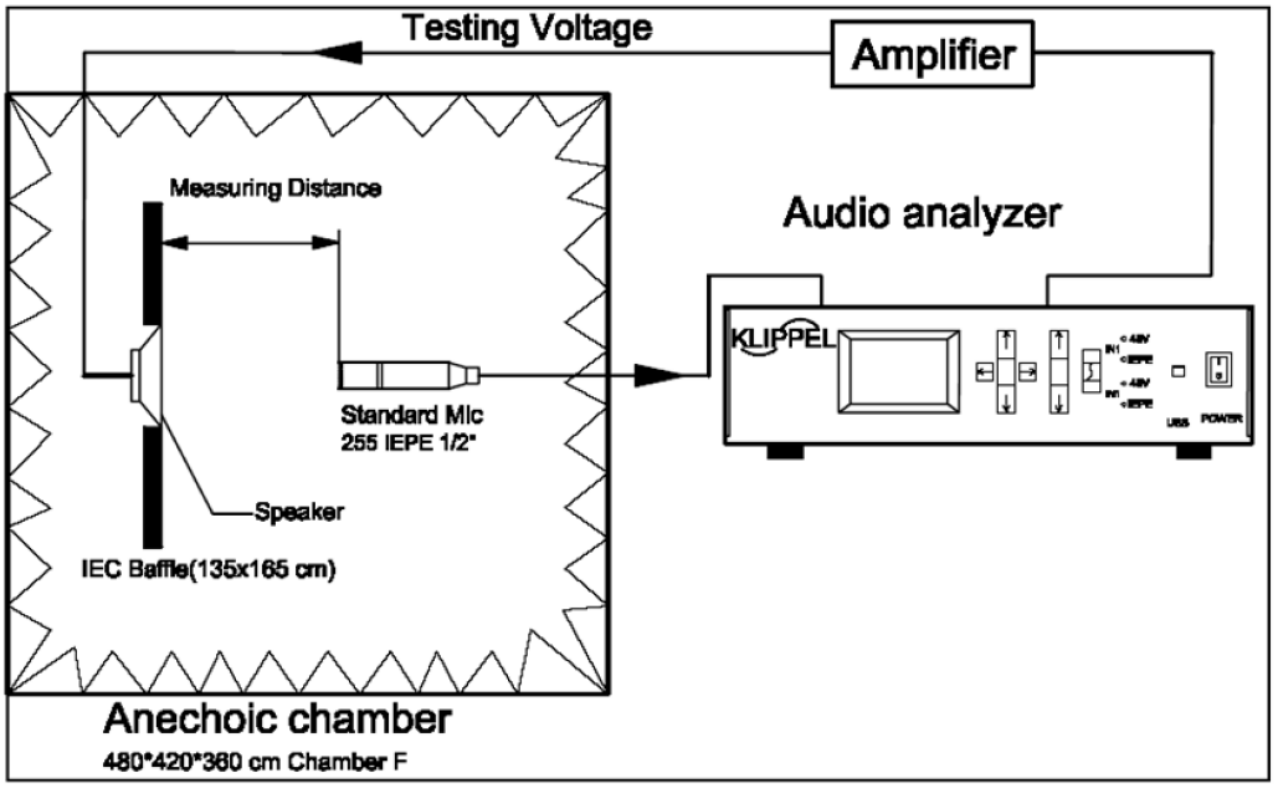
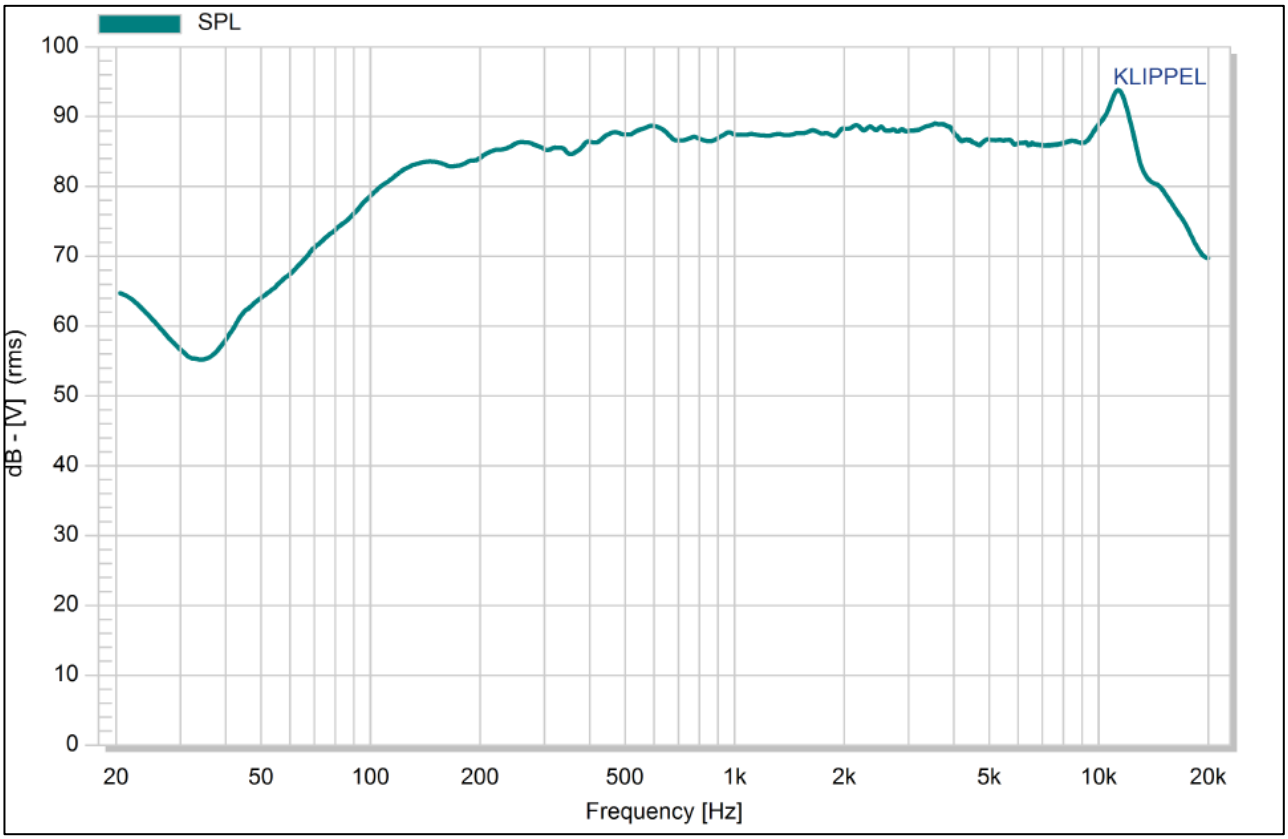
## Speaker Specifications (continued)

| | | |
|---|---|---|
| Acceptable Soldering Methods | Hand Solder | - |
| Buzz, Rattle, etc. | Should not be audible with 6.32V sine wave from 90 Hz to 20 kHz | - |
| Environmental Compliances | RoHS 2015/863/EU, REACH 197 | - |
| Polarity | Cone shall move forward when a positive voltage is applied to the positive terminal | - |
| Operating Temperature | -25 ~ +60 | ℃ |

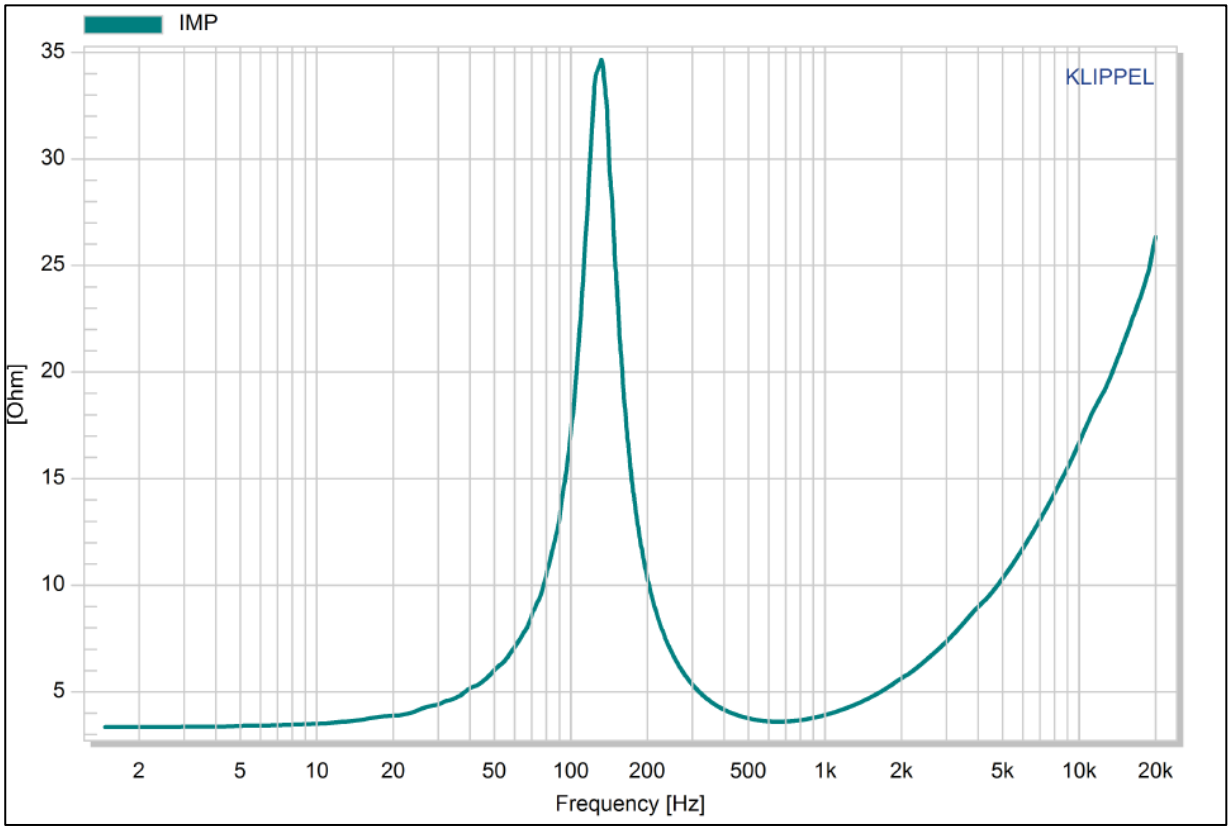
## Measurement Method (1W input power with microphone spaced at 50cm)



## Typical Frequency Response (Tested at 1W/50cm)




## Typical Impedance Response

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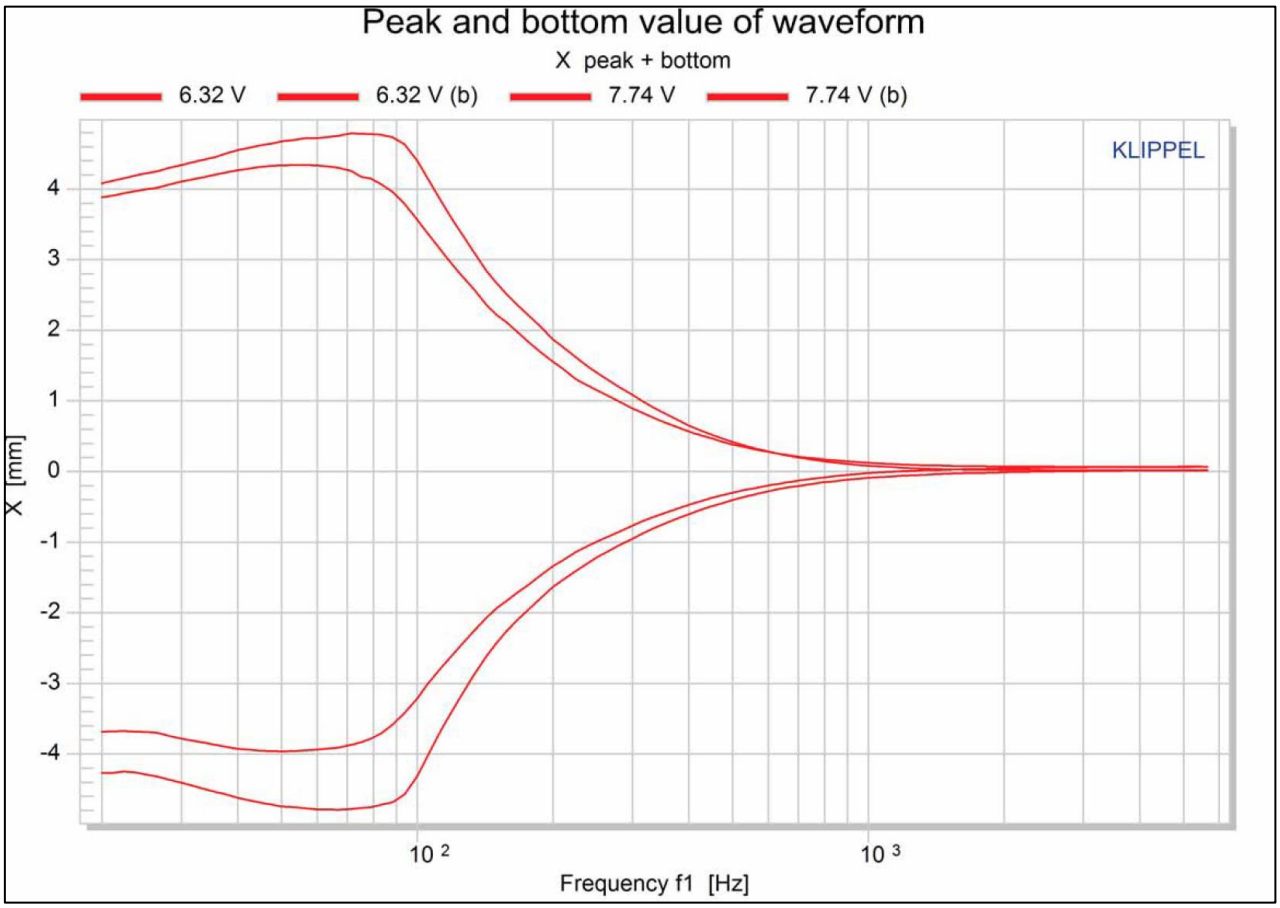
## Typical Thiele-Small Parameters (based on Golden Sample, up to 20% variance is normal)

| Specification | Value | Description |
|---|---|---|
| Re | 3.32 Ohms | DC resistance |
| Le | 0.202 mH | Inductance @ 10 kHz |
| Fs | 132 Hz | Resonant Frequency |
| Mms | 2.658 grams | Moving Mass |
| Bl | 4.283 N/A | Magnet Force Factor |
| Qms | 3.617 | Mechanical Q-factor |
| Qes | 0.417 | Electrical Q-factor |
| Qts | 0.374 | Total Q-factor |
| Vas | 0.188 liters | Equivalent Air Volume of Suspension |
| Xmax | 4.75 mm | One-Way Voice Coil Travel @ 15W Input |

## Klippel Tested Excursion

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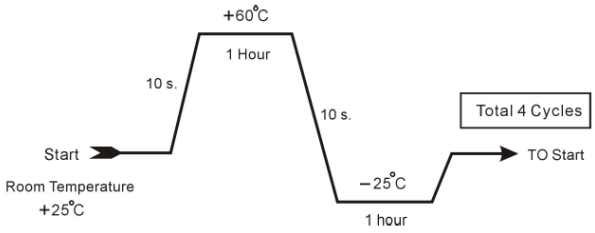
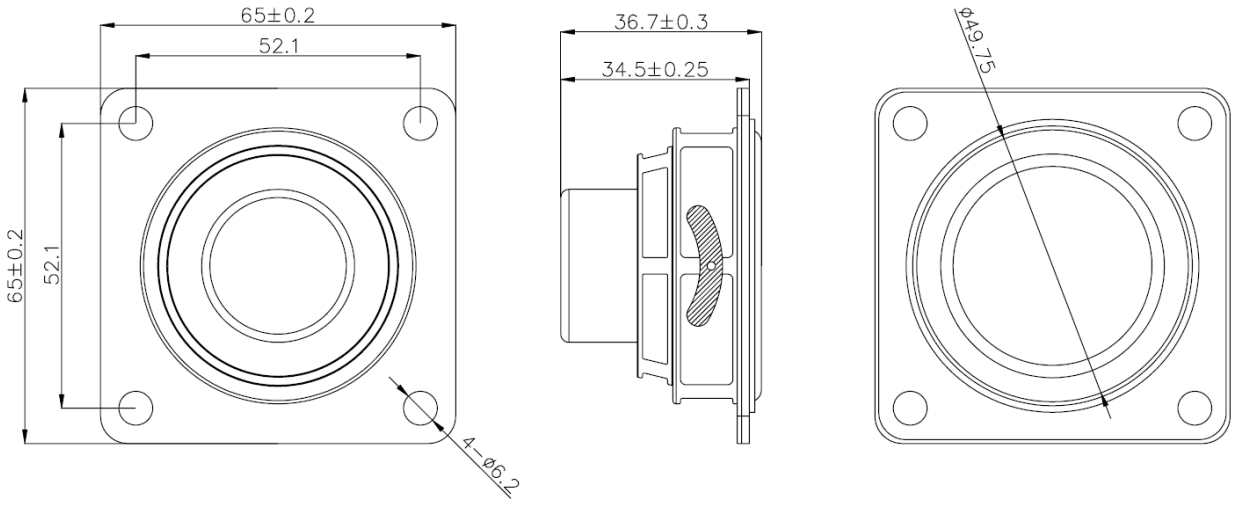
## Reliability Testing

| Type of Test | Test Specifications |
|---|---|
| High Temperature Test | 96 hours at +60°C ± 2°C followed by three hours in normal room temperature |
| Low Temperature Test | 96 hours at -20°C ± 3°C followed by three hours in normal room temperature |
| Humidity Test | 96 hours at +40°C ± 2°C with relative humidity between 90% and 95% followed by 6 hours in normal room temperature |
| Temperature Cycle Testing |   |
| Vibration Test | Frequency 30±15 Hz, Amplitude 1.5 mm for 3 Hours. After test, SPL shall not deviate by ±3 dB from pre-test measurement |
| Drop Test | 75 cm free falling on concrete floor, 10 times. |
| Load Test | Speaker should not fail after applying 20 Hz ~ 20 kHz pink noise with HPF rated power input (RMS), 96 hours. |

**After each test, SPL shall not deviate by more than ±3 dB from pre-test measurement.**

## Dimensions **(Left, larger terminal is positive and is indicated by + on the terminal board)**




Note: Recommended speaker baffle opening is 53.6mm. Always test-fit prior to closing mechanical design. Please maintain at least 7mm distance between top of frame and next surface.