



Data Sheet

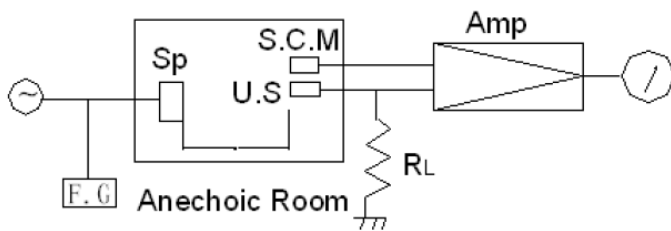
SMUTR-1040K-TT

Specifications

Parameters	Values	Units
Maximum Input Voltage	30	Vrms
Capacitance @ 1kHz	10,000 ± 25%	pF
Nominal Frequency	40 ± 0.7	kHz
Directivity	80 ± 40	°
Transmitting Sensitivity	115 ± 3	dBA
Receiving Sensitivity	-65 ± 3	dBA
Detectable Range	0.2 - 1.5	M
Housing Material	LCP Plastic	-
Terminal Material	Tin Plated Brass	-
Environmental Compliances	ROHS/REACH	-
Operating Temperature	-30 ~ +80	°C
Storage Temperature	-40 ~ +85	°C

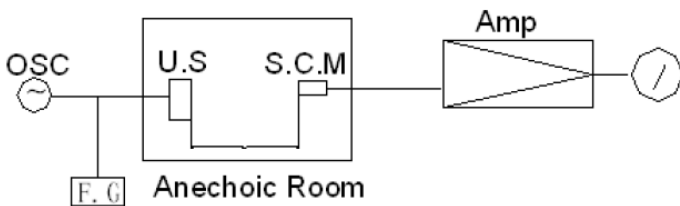
Measurement Method (Temperature: 25 ± 2 °C; Humidity: 45-65%)

Receiver



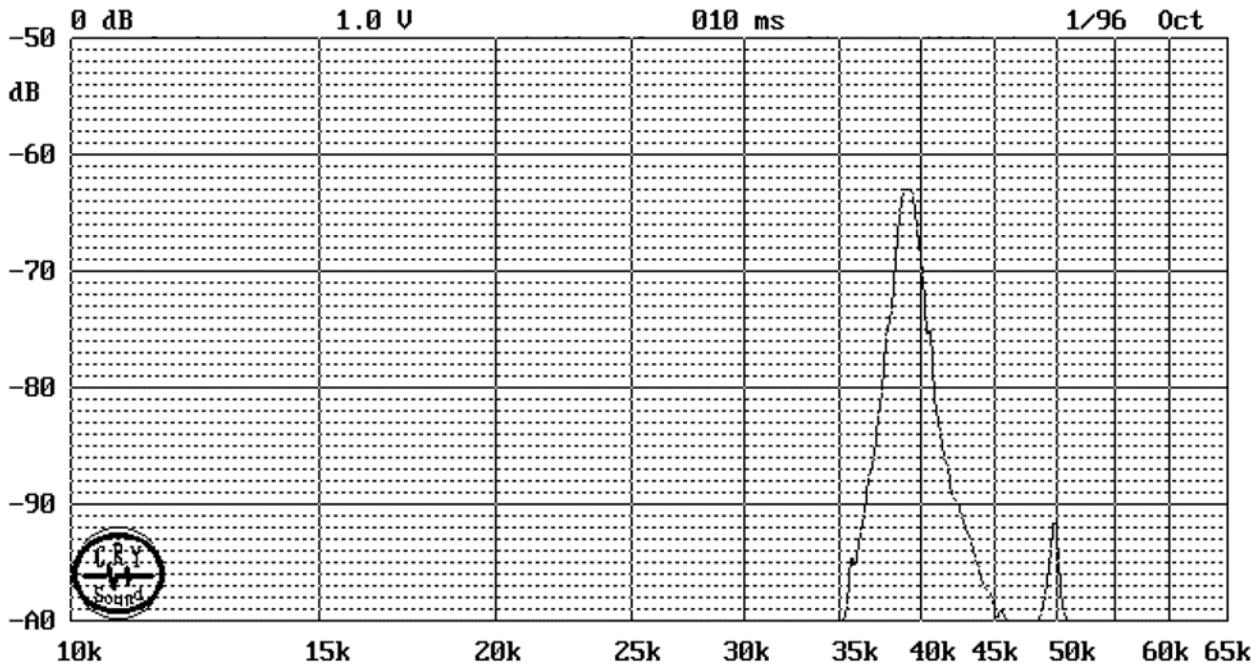
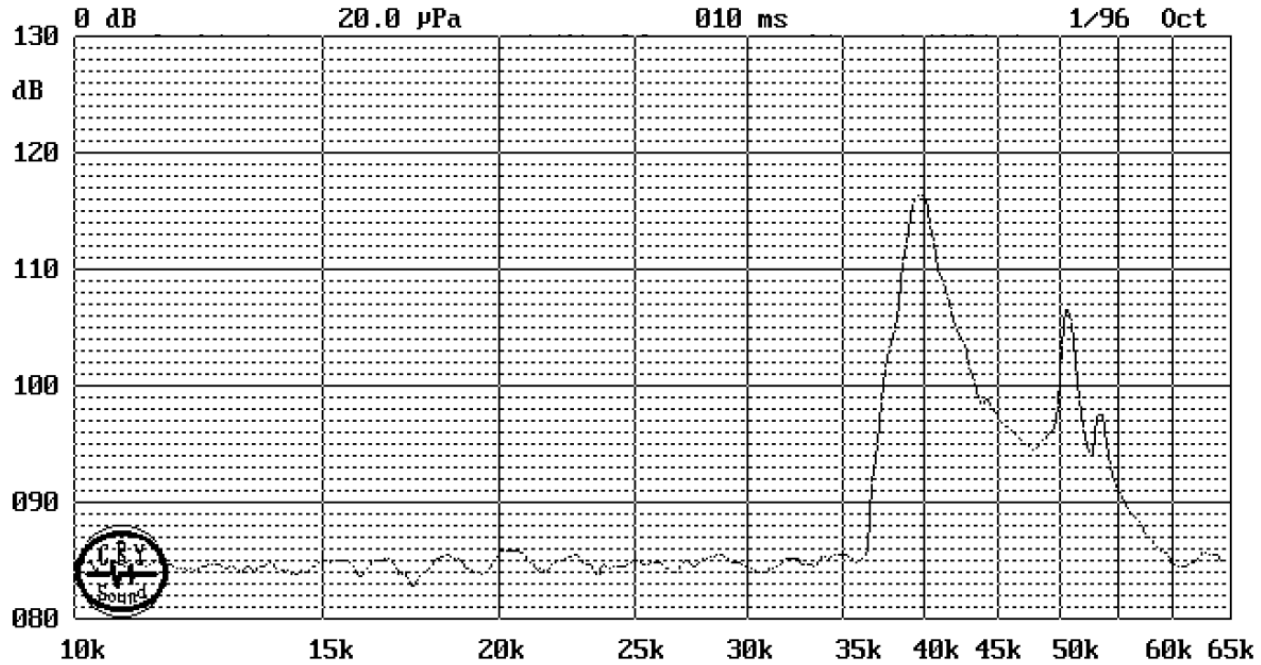
RL: 3.9KΩ
 U.S. :Ultrasonic Sensor
 S.C.M:Standard Cappacitor Microphone
 Amp. :Amplifier
 OSC. :Oscillator
 Sp :Tweeter
 F.C :Frequency Counter

Transmitter

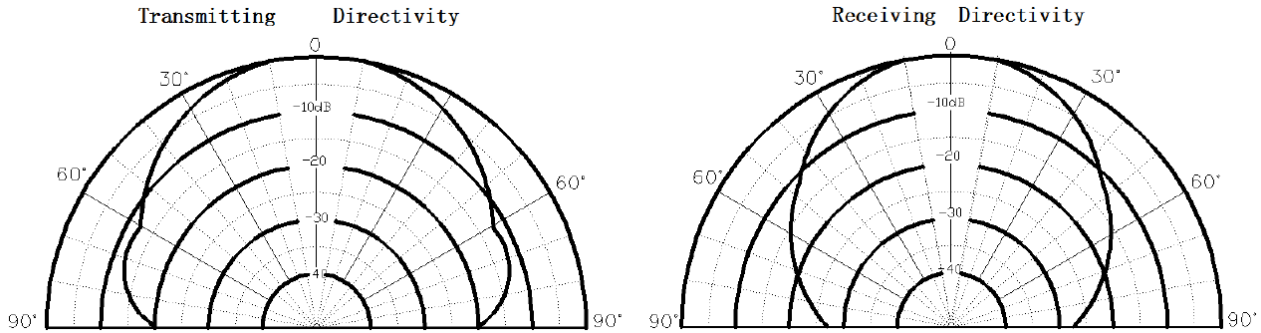


U.S. :Ultrasonic Sensor
 S.C.M:Standard Cappacitor Microphone
 Amp. :Amplifier
 Input voltage:10Vrms
 F.C :Frequency Counter

Typical Frequency Response



Directivity

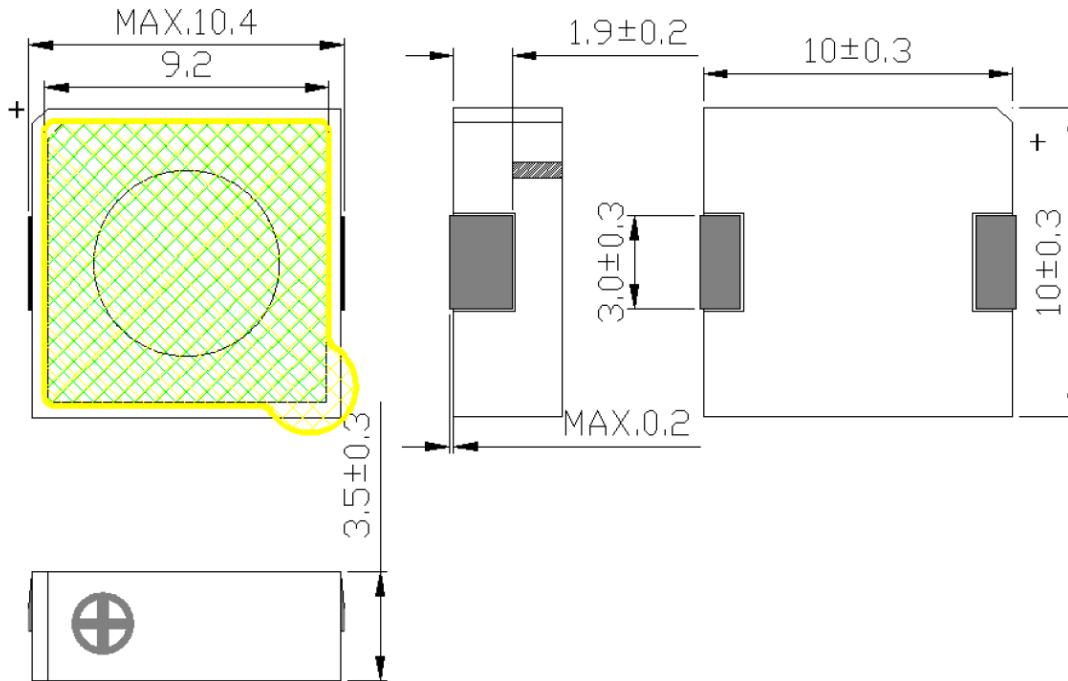


Reliability Testing

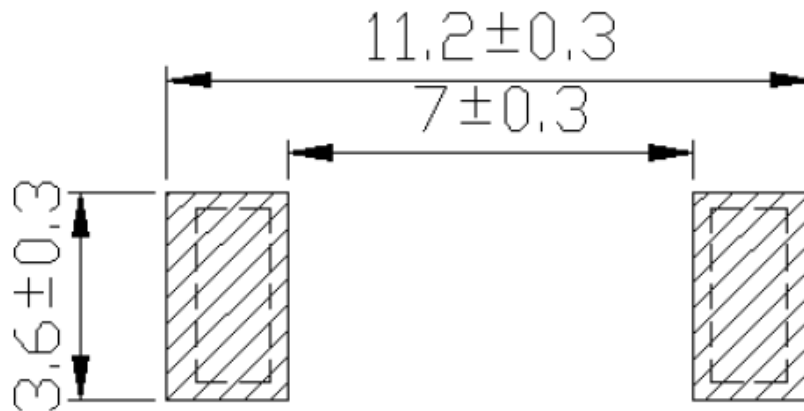
Type of Test	Test Specifications
High Temperature Test	100 hours at $85 \pm 2^\circ\text{C}$
Low Temperature Test	100 hours at $-40 \pm 2^\circ\text{C}$
Humidity Test	100 hours at $60 \pm 2^\circ\text{C}$ with relative humidity at 90-95%
Temperature Cycle Testing	<p>The part is subject to 50 cycles consisting of:</p> <p>The diagram illustrates a temperature cycle profile. It starts at -40°C for a 0.5-hour hold. It then ramps up to $+25^\circ\text{C}$ over 0.5 hours, holds at $+25^\circ\text{C}$ for 0.25 hours, ramps up to $+85^\circ\text{C}$ over 0.5 hours, holds at $+85^\circ\text{C}$ for 0.5 hours, ramps down to $+25^\circ\text{C}$ over 0.5 hours, and finally holds at $+25^\circ\text{C}$ for 0.25 hours. The total duration of one cycle is 3 hours.</p>
Vibration Test	After being applied vibration of amplitude of 1.5mm with 10 to 55 Hz band of vibration frequency to each of 3 perpendicular directions for 2 hours.
Drop Test	Drop on a hard wood board of 4cm thick, any directions ,6 times, at the height of 75cm.

After each test, the SPL shall be ± 6 dB of the original SPL after 2 hours of rest in normal conditions

Dimensions

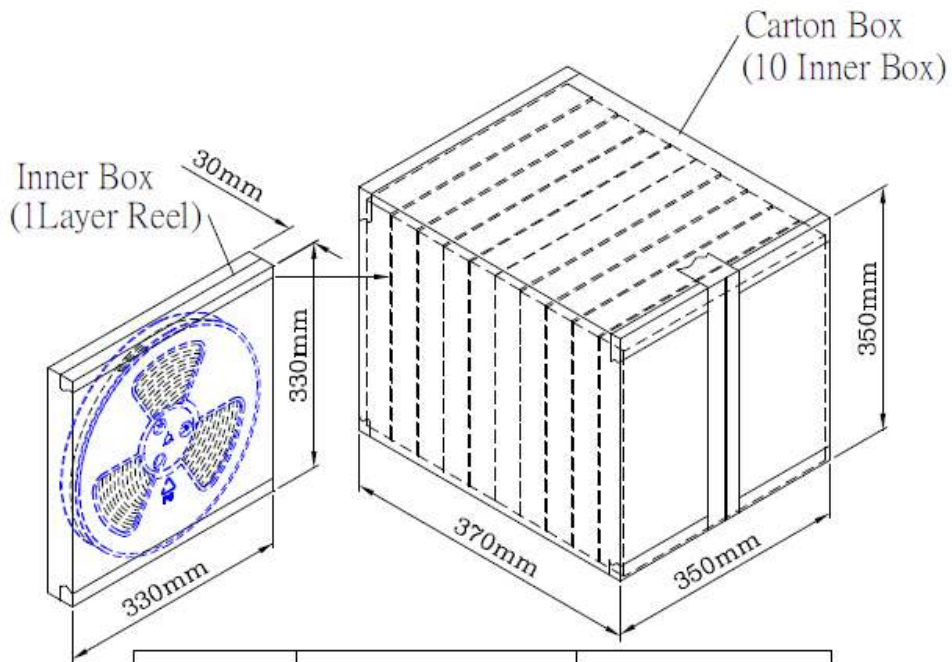
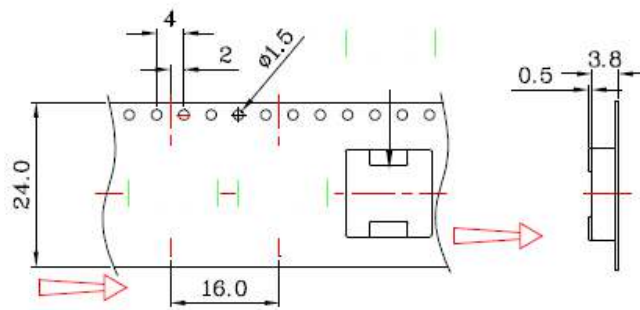
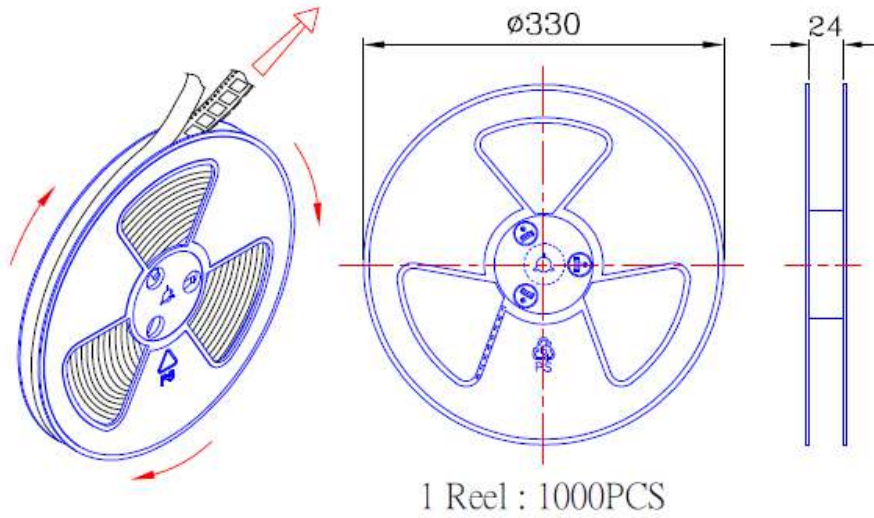


Suggested Land Pattern*



*This land pattern is advisory only and its use or adaptation is entirely voluntary. PUI Audio disclaims all liability of any kind associated with the use, application, or adaptation of this land pattern.

Packaging



Inner Box	330mmx330mmx30mm	1x1000PCS=1000PCS
Carton Box	350mmx350mmx370mm	10x1000PCS=10,000PCS

Specifications Revisions

Revision	Description	Date
A	Released from Engineering	9/30/2022
B	Revised Sensitivity, Capacitance, and Temperature	10/24/2022

Note:

1. Unless otherwise specified:
 - A. All dimensions are in millimeters.
 - B. Default tolerances are $\pm 0.5\text{mm}$ and angles are $\pm 3^\circ$.
2. Specifications subject to change or withdrawal without notice.