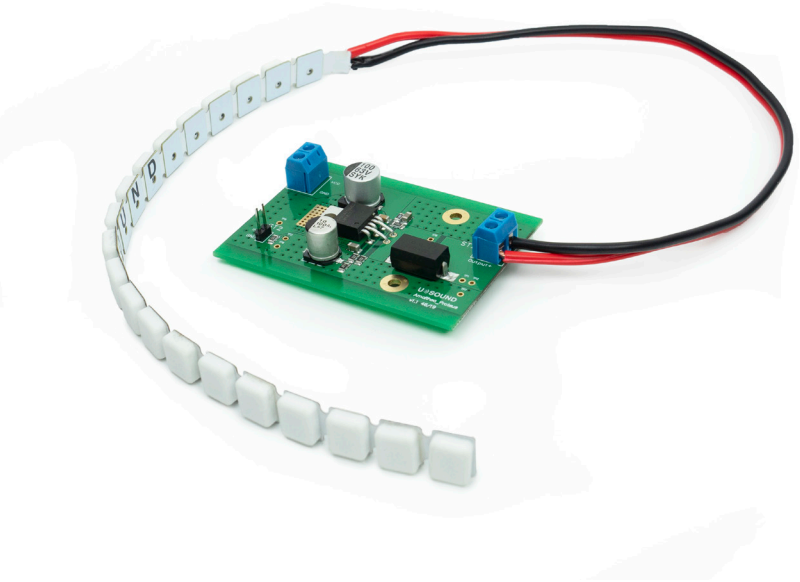
SOUND STRIPE

DIONE MAXI UY-R3020 | DATASHEET



Dione Maxi consists of an array of MEMS speakers and the external amplifier to drive them. The speaker array, which is also referred to as the sound stripe, includes 20 USound Adap speakers connected in parallel. Due to its flexible structure and protective construction, the sound stripe is ideal for applications where audio is added on top of an existing design.

FEATURES SOUND STRIPE

- Bendable speaker array
- Lightweight construction
- Wide audio bandwidth: 2 – 20 kHz
- Hidden speakers for seamless integration
- Inherently protected from mechanical damage
- No magnetic field
- No heat generation

FEATURES AMPLIFIER

- Low distortion
- Frequency range up to 80 kHz
- Based on TI LM1875
- Constant DC output for speaker pre-excursion

DIONE MAXI APPLICATIONS

The Sound Stripe can be used as an audio add-on for existing non-audio devices. It can also act as a tweeter in a typical 2-way system.

CONTENT

REVISION HISTORY

First preliminary version: December 2019
Second version July 2020

SPECIFICATIONS

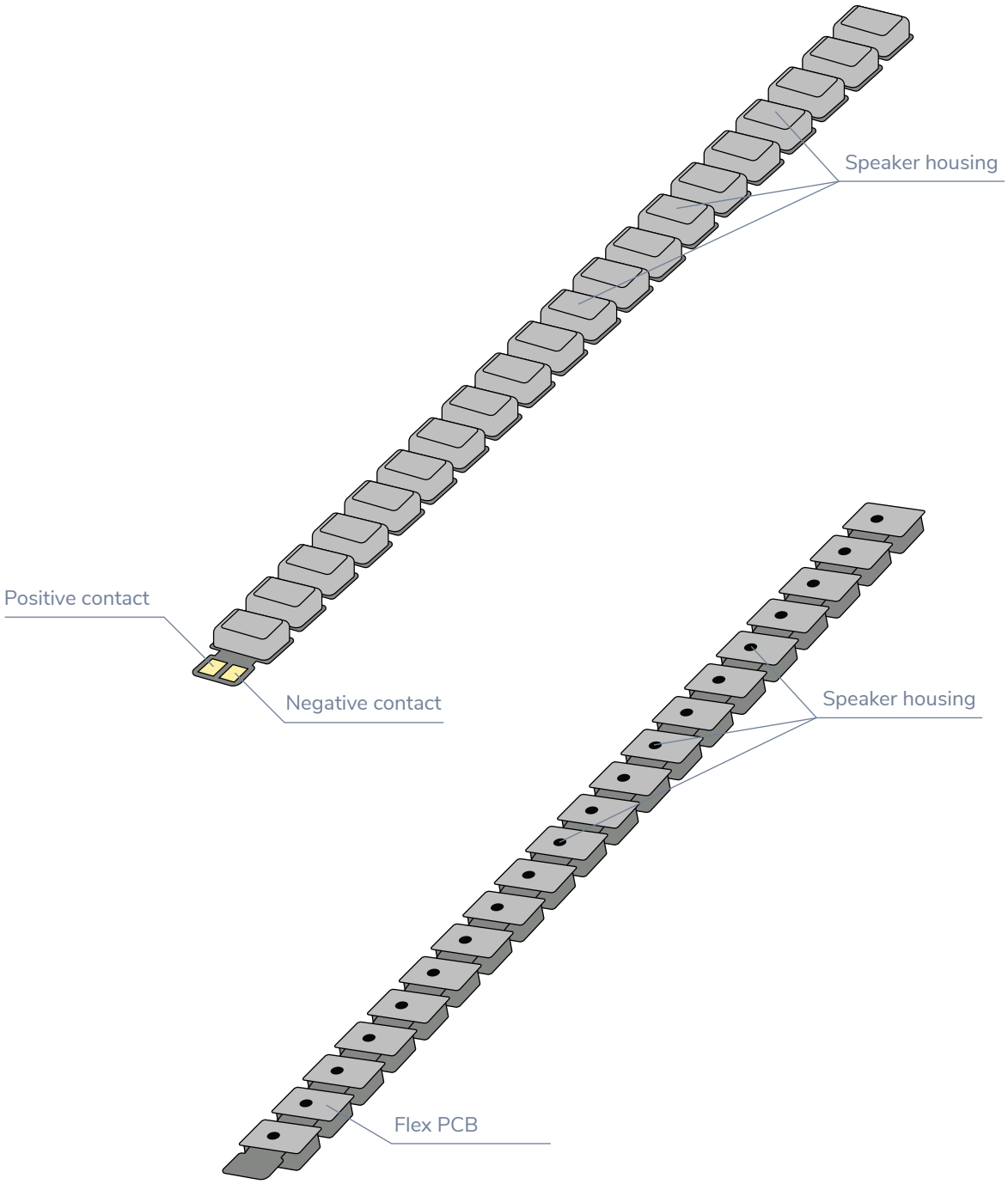
Standard conditions: Supply voltage for amplifier: $30V_{DC}$; nominal audio input voltage: $620mV_{rms}$.

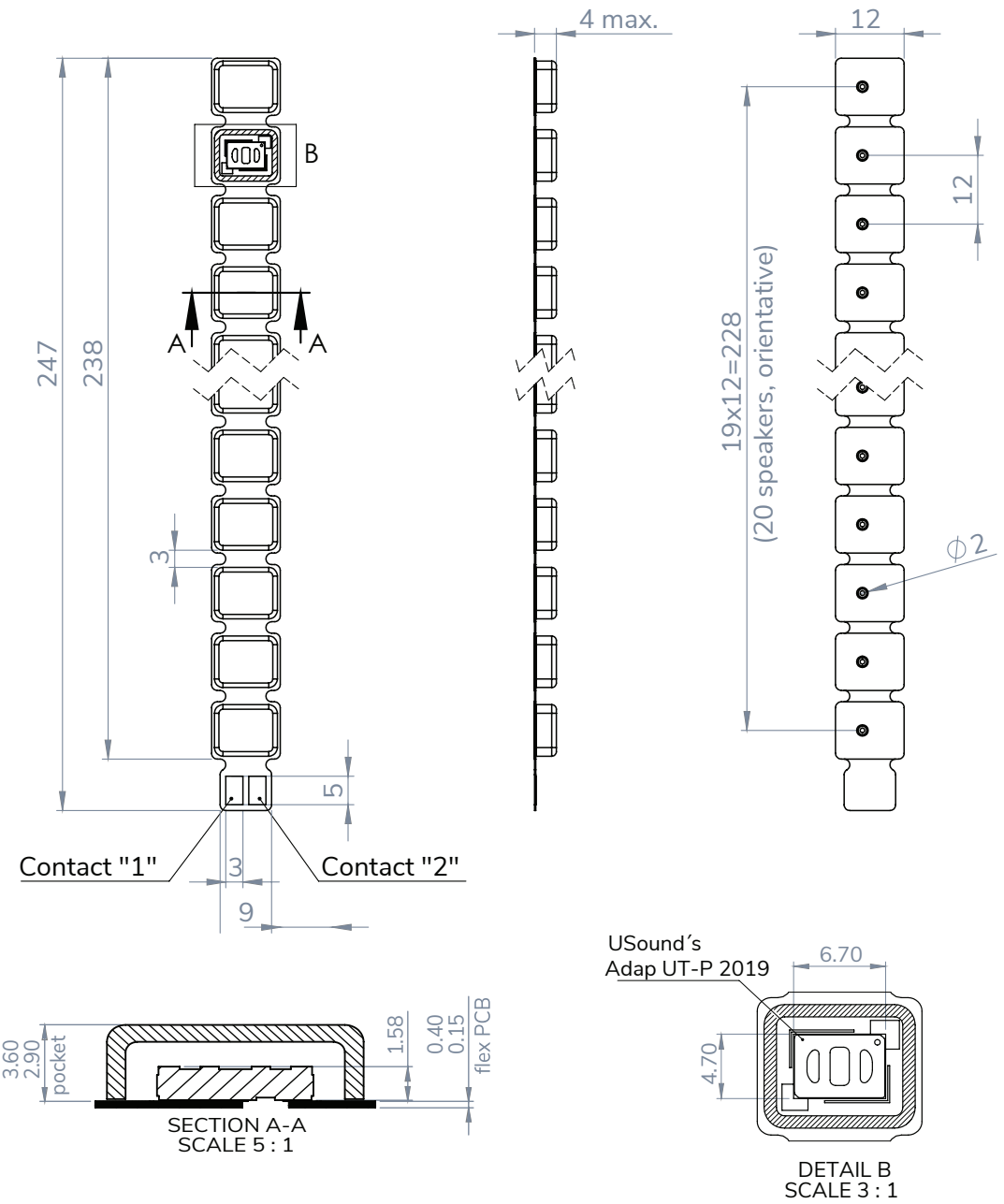
General parameters		
Number of speakers per speaker array	[-]	20
Included back volume per speaker	[mm^3]	100

Acoustics in baffle (IEC 60318-5)		
SPL_{30cm} @ 1 kHz / 620 mV_{rms}	[dB]	64
SPL_{30cm} @ 4 kHz / 620 mV_{rms}	[dB]	83
SPL_{30cm} @ 10 Hz / 620 mV_{rms}	[dB]	77
THD @ 2 kHz / 620 mV_{rms}	[%]	15
THD @ 4 kHz / 620 mV_{rms}	[%]	10
THD @ 10 Hz / 620 mV_{rms}	[%]	10

Electronics		
Supply voltage of amplifier	[V_{dc}]	30
Maximal Input voltage (AC)	[mV_{rms}]	625
Gain @ 1kHz	[V/V]	15
Low Frequency limit (±3 dB)	[Hz]	25
High Frequency limit (±3 dB)	[kHz]	80
$THD_{typical}$ 100 Hz – 20 kHz (bandwidth 22.4 kHz)	[%]	<0.01
THD_{max} 100 Hz – 20 kHz (bandwidth 22.4 kHz)	[%]	<0.1
Capacity of the speaker array	[nF]	480

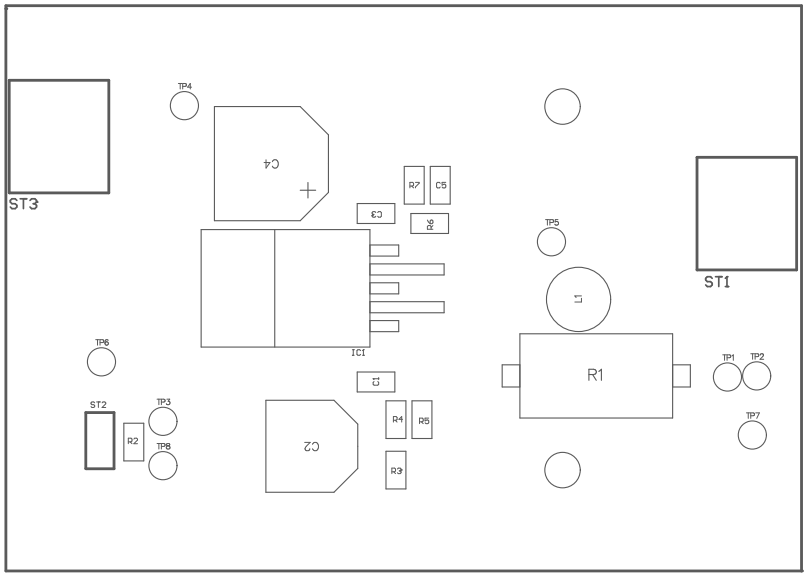
SOUND STRIPE MECHANICAL DIMENSIONS





Mechanics		
Length (incl. solder pads)	[mm]	247
Width	[mm]	12
Hight	[mm]	4
Total weight	[g]	5.8
Minimum bending radius of the stripe	[mm]	2
Maximum bending angle per element in direction of the speaker housings	[°]	55

AMPLIFIER: BOARD MECHANICAL DIMENSIONS



Mechanics		
Lenght	[mm]	72
Width	[mm]	51
Hight	[mm]	15

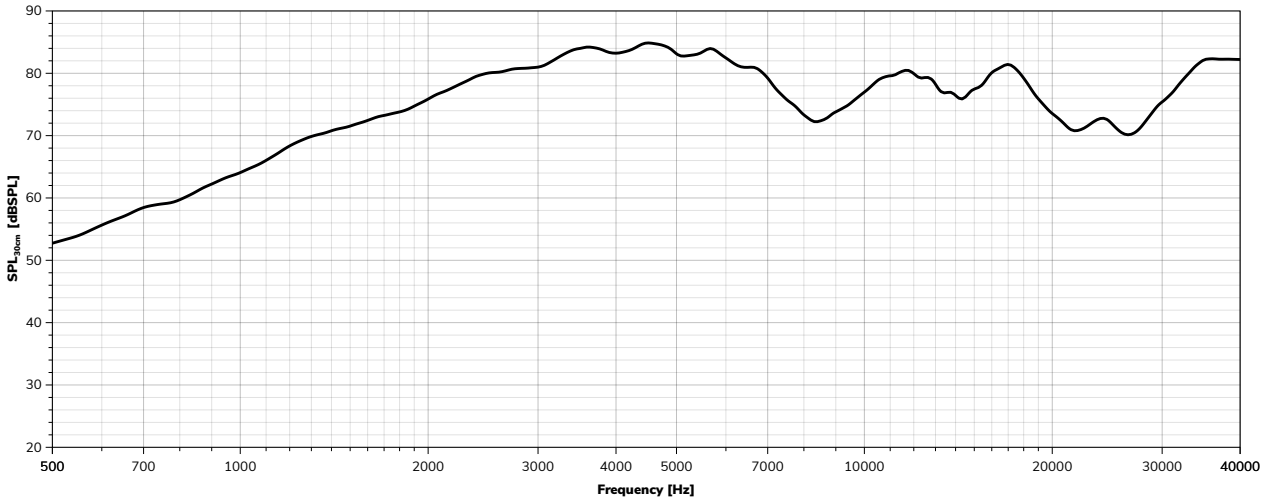
TEST CONDITIONS

ACOUSTICS

General	
Measurement system	Audio Precision APx
Measurement signal	Exp. Sweep
Voltage level at amplifier	620 mV_{rms}

Baffle	
Baffle type	IEC 60268-5
Mic distance	30 cm
Microphone	GRAS 46AC
Microphone diameter	1/2"

ACOUSTIC PERFORMANCE IN BAFFLE (IEC 60318-5)



RELATED DOCUMENTATION

Dione Maxi UY-R3020 Datasheet
Dione Maxi UY-R3020 Quick User Manual

COMPATIBLE PRODUCTS OVERVIEW

Product name	Description
Adap UT-P2019	MEMS speaker for free field applications
Helike UA-E3010	Evaluation board for MEMS speakers

IMPORTANT NOTICE AND DISCLAIMER

USound GmbH ("USound") makes no warranties for the use of USound products, other than those expressly contained in USound's applicable General Terms of Sale, located at www.usound.com. USound assumes no responsibility for any errors which may have crept into this document, reserves the right to change devices or specifications detailed herein at any time without notice, and does not make any commitment to update the information contained herein. No license to patents or other intellectual property rights of USound are granted in connection with the sale of USound products, neither expressly nor implicitly.

In respect of the intended use of USound products by the customer, the customer is solely responsible for observing existing patents and other intellectual property rights of third parties and for obtaining, as the case may be, the necessary licenses. For more information about USound patents visit https://www.usound.com/patents/.

Important note: The use of USound products as components in medical devices and/or medical applications, including but not limited to, safety and life supporting systems, where malfunctions of such USound products might result in damage to and/or injury or death of persons is expressly prohibited, as USound products are neither destined nor qualified for use as components in such medical devices and/or medical applications. The prohibited use of USound products in such medical devices and/or medical applications is exclusively at the risk of the customer.