

	Date	06-Nov-2020	SPECIFICATION	OLE WOLFF
	Page	1 / 10		www.owolff.com
	DK	P/N: OWS-525229TA-4		Revision: 03

SPECIFICATION FOR APPROVAL

Speaker

Part Number	OWS-525229TA-4
Note	This item was compliance with the following requirements: 1. RoHS directive 2. REACH
Customer P/N	

Ole Wolff	Signature / Date	Prepared	Checked	Approved
		TANQIANFENG 2020.11.06		

Customer	Signature / Date	Confirmation		

REVISION NOTES:

Date	Rev.	Description of Revision
2020.04.27	00	Initial Release
2020.10.21	01	Add test limit and test condition
2020.10.27	02	Revise the packing Qty
2020.11.06	03	Change test limit

OLE WOLFF ELEKTRONIK A/S Roedengvej 25 4180 Soroe Denmark TEL: +45 57833830 FAX: +45 57820019	OLE WOLFF ELECTRONICS INC. 1525 McCarthy Blvd, Suite 1093 Milpitas, Ca 95035 USA TEL: +1 408 888 8413	OLEWOLFF ELEKTRONIK GmbH Schulstrasse 15A. DE-25451 Quickborn. Germany TEL: +49 (0) 4106 765900 FAX: +49 (0) 4106 627297	OLEWOLFF ELECTRONICS 3 Bedford Street, Woburn, Bedfordshire MK17 9QB, ENGLAND TEL: +44 (0) 1525 290755 FAX: +44 (0) 1525 290855	OLE WOLFF ELEKTRONIK Yliopistonkatu 26 (P.O.BOX 257) FI-40101 Jyväskylä Finland TEL: +358 14 338 3050 FAX: +358 14 338 3059	OLE WOLFF (ASIA) LTD. Unit B, 19/F, Bold Win Ind. Bldg., No. 16-18 Wah Sing St., Kwai Chung, N.T., H.K. TEL: +852 2424 3274 FAX: +852 2424 2219	OLE WOLFF LTD. 5 Floor, Block G, WenTao Industrial Park, YingRenShi, Bao'an District, Shenzhen, PRC TEL: +86 755 82612542 TEL: +86 755 26406156
---	---	--	---	--	---	---

	Date	06-Nov-2020	SPECIFICATION	OLE WOLFF
	Page	2 / 10		www.owolff.com
	DK	P/N: OWS-525229TA-4		Revision: 03

1. SCOPE

THIS SPECIFICATION IS APPLIED FOR A DYNAMIC SPEAKER.

2. TEST CONDITIONS

TEMPERATURE : 18°C ~ 22°C

HUMIDITY : 65% +/-5% (R.H.)

ATMOSPHERE : 860 ~ 1060 hPa

3. GENERAL REQUIREMENTS

OPERATING TEMPERATURE RANGE: -20° C ~ 60° C

STORAGE TEMPERATUR RANGE: -25° C ~ 70° C

4. MECANICAL LAYOUT & DIMENSIONS

DIMENSIONS : SHOWN IN FIGURE.5

NET WEIGHT: approx 69g

5. ELECTRICAL AND ACOUSTICAL CHARACTERISTICS

1	IMPEDANCE	$4 \pm 15\% \Omega$ /1.0KHz/2V
2	SOUND PRESSURE LEVEL	82.5±2 dB(1.0W/1.0M) AVERAGE AT From 2KHZ to 4KHZ MEASUREMENT AS SHOWN IN FIGURE.2 103±2 dB(1W/0.1M @ open air, Production Box) AVERAGE AT From 2KHZ to 4KHZ MEASUREMENT AS SHOWN IN FIGURE.3
3	FREQUENCY RESPONSE	F0~20KHz (FIGURE.2)
4	RESONANCE FREQUENCY	120± 20% Hz /2.0V
5	TOTAL HARMONIC DISTORTION (THD)	As shown in FIGURE.2.
6	BUZZ & RATTLE	DYNAMIC SPEAKER MUST BE FREE AUDIBLE NOISE AT 4.47Vrms, SINE WAVE BETWEEN F0 AND 20KHZ FREQUENCY RANGE.
7	MAGNET	NdFeB φ19 x7mm
8	INPUT POWER	(Nom./Max.): 5.0W / 8.0 W (FO-20KHz)

OLE WOLFF ELEKTRONIK A/S Roedengvej 25 4180 Soroe Denmark TEL: +45 57833830 FAX: +45 57820019	OLE WOLFF ELECTRONICS INC. 1525 McCarthy Blvd, Suite 1093 Milpitas, Ca 95035 USA TEL: +1 408 888 8413	OLEWOLFF ELEKTRONIK GmbH Schulstrasse 15A. DE-25451 Quickborn. Germany TEL: +49 (0) 4106 765900 FAX: +49 (0) 4106 627297	OLEWOLFF ELECTRONICS 3 Bedford Street, Woburn, Bedfordshire MK17 9QB, ENGLAND TEL: +44 (0) 1525 290755 FAX: +44 (0) 1525 290855	OLE WOLFF ELEKTRONIK Yliopistonkatu 26 (P.O.BOX 257) FI-40101 Jyväskylä Finland TEL: +358 14 338 3050 FAX: +358 14 338 3059	OLE WOLFF (ASIA) LTD. Unit B, 19/F, Bold Win Ind. Bldg., No. 16-18 Wah Sing St., Kwai Chung, N.T., H.K. TEL: +852 2424 3274 FAX: +852 2424 2219	OLE WOLFF LTD. 5 Floor, Block G, WenTao Industrial Park, YingRenShi, Bao'an District, Shenzhen, PRC TEL: +86 755 82612542 TEL: +86 755 26406156
---	---	--	---	--	---	---

	Date	06-Nov-2020	SPECIFICATION	OLE WOLFF
	Page	3 / 10		www.owolff.com
	DK	P/N: OWS-525229TA-4		Revision: 03

6. RELIABILITY TEST REQUIREMENTS.

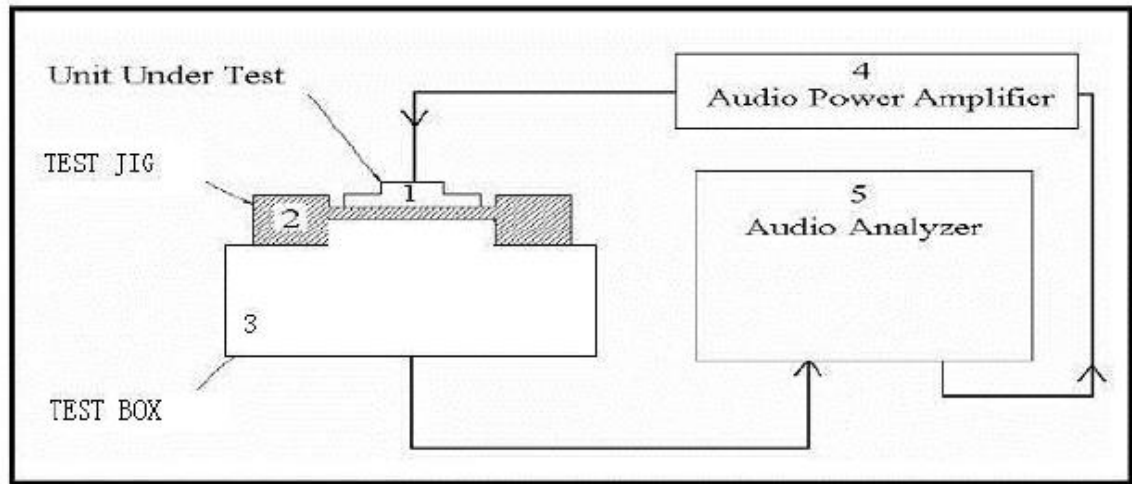
After any following tests the S.P.L should not deviate more than $\pm 3\text{dB}$ from initial value.		
N o.	ITEMS	TEST CONDITION
1.	High Temp. Test	Keep 96 hours at $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
2.	Low Temp. Test	Keep 96 hours at $-25^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
3.	Humidity Test	Keep 96 hours at $+40^{\circ}\text{C}\pm 3^{\circ}\text{C}$ relative humidity 95% and leave 3 hours in normal temperature and then check
4.	Thermal cycle Test	Low temperature: $-25^{\circ}\text{C}\pm 3^{\circ}\text{C}$,High temperature: $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$,cycle:1hour/cycle each, total 5 cycles.
5.	Vibration Test	10~55~10Hz sin-wave sweep 15min.5G(constant);X,Y,Z 3 direction,2hours each, total 6 hours.
6.	Drop Test	Free drop from 100cm height to a board of 20mm thick x,y, z 6 direction. 1 times each, total 6 times.
7.	Load Test	Rated Power white noise is applied for 96 hours
8.	Max Power Test	Max Power 1min on, 2min off, 10cycles.

OLE WOLFF ELEKTRONIK A/S Roedengvej 25 4180 Soroe Denmark TEL: +45 57833830 FAX: +45 57820019	OLE WOLFF ELECTRONICS INC. 1525 McCarthy Blvd, Suite 1093 Milpitas, Ca 95035 USA TEL: +1 408 888 8413	OLEWOLFF ELEKTRONIK GmbH Schulstrasse 15A. DE-25451 Quickborn. Germany TEL: +49 (0) 4106 765900 FAX: +49 (0) 4106 627297	OLEWOLFF ELECTRONICS 3 Bedford Street, Woburn, Bedfordshire MK17 9QB, ENGLAND TEL: +44 (0) 1525 290755 FAX: +44 (0) 1525 290855	OLE WOLFF ELEKTRONIK Yliopistonkatu 26 (P.O.BOX 257) FI-40101 Jyväskylä Finland TEL: +358 14 338 3050 FAX: +358 14 338 3059	OLE WOLFF (ASIA) LTD. Unit B, 19/F, Bold Win Ind. Bldg., No. 16-18 Wah Sing St., Kwai Chung, N.T., H.K. TEL: +852 2424 3274 FAX: +852 2424 2219	OLE WOLFF LTD. 5 Floor, Block G, WenTao Industrial Park, YingRenShi, Bao'an District, Shenzhen, PRC TEL: +86 755 82612542 TEL: +86 755 26406156
---	---	--	---	--	---	---

	Date	06-Nov-2020	SPECIFICATION	OLE WOLFF
	Page	4 / 10		www.owolff.com
	DK	P/N: OWS-525229TA-4		Revision: 03

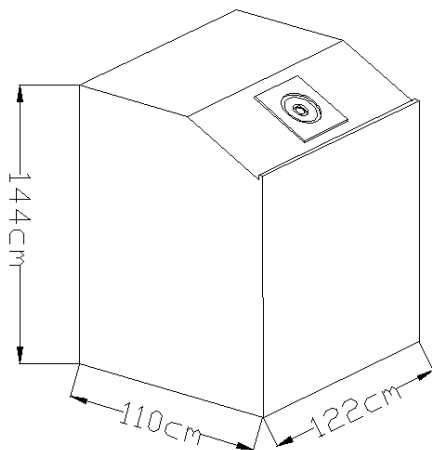
7. ELECTRICAL CHARACTERISTICS MEASUREMENT (FIG.1)

MEASUREMENT CIRCUIT FOR DYNAMIC SPEAKER



MEASURING EQUIPMENT

NO	EQUIPMENT	REMARKS
1.0	UNIT UNDER TEST	SPEAKER
2.0	TEST JIG	
3.0	TEST BOX	OLE WOLFF STANDARD BOX
4.0	AUDIO POWER AMPLIFIER	AmpConnect TM
5.0	ANALYZER	Soundcheck



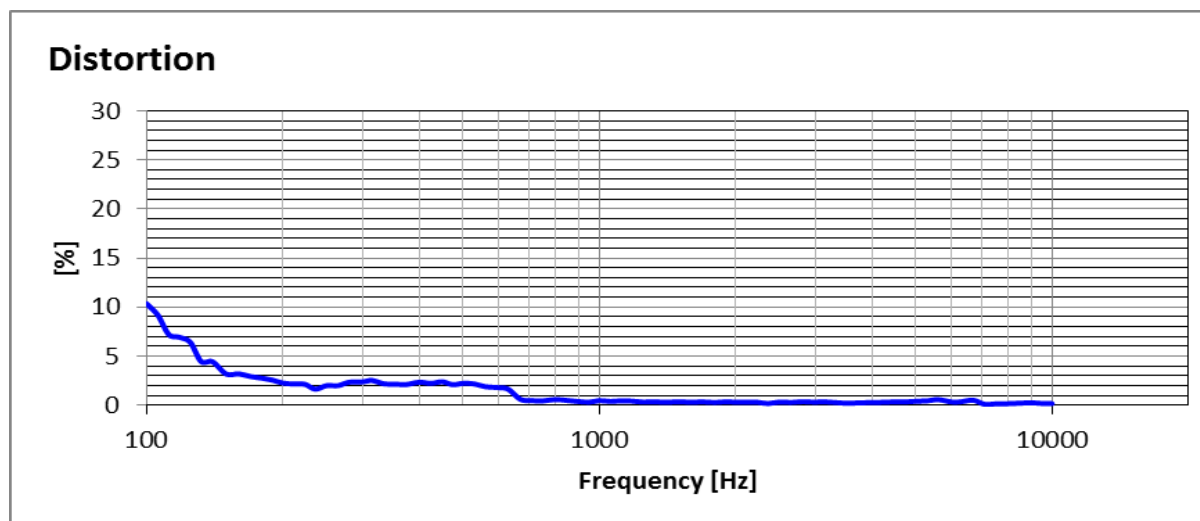
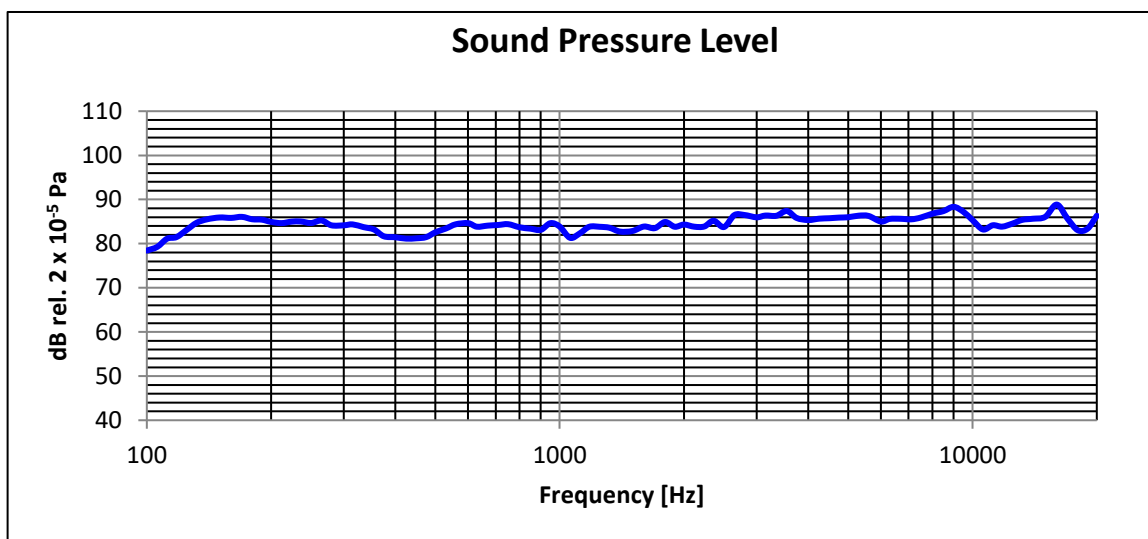
PRODUCTION LINE TEST BOX

8. STANDARD FREQUENCY RESPONSE AND THD CURVES-Anechoic chamber (FIG.2)

@ 1W, 1M in Anechoic chamber

OLE WOLFF ELEKTRONIK A/S Roedengvej 25 4180 Soroe Denmark TEL: +45 57833830 FAX: +45 57820019	OLE WOLFF ELECTRONICS INC. 1525 McCarthy Blvd, Suite 1093 Milpitas, Ca 95035 USA TEL: +1 408 888 8413	OLEWOLFF ELEKTRONIK GmbH Schulstrasse 15A. DE-25451 Quickborn. Germany TEL: +49 (0) 4106 765900 FAX: +49 (0) 4106 627297	OLEWOLFF ELECTRONICS 3 Bedford Street, Woburn, Bedfordshire MK17 9QB, ENGLAND TEL: +44 (0) 1525 290755 FAX: +44 (0) 1525 290855	OLE WOLFF ELEKTRONIK Yliopistonkatu 26 (P.O.BOX 257) FI-40101 Jyväskylä Finland TEL: +358 14 338 3050 FAX: +358 14 338 3059	OLE WOLFF (ASIA) LTD. Unit B, 19/F, Bold Win Ind. Bldg., No. 16-18 Wah Sing St., Kwai Chung, N.T., H.K. TEL: +852 2424 3274 FAX: +852 2424 2219	OLE WOLFF LTD. 5 Floor, Block G, WenTao Industrial Park, YingRenShi, Bao'an District, Shenzhen, PRC TEL: +86 755 82612542 TEL: +86 755 26406156
---	---	--	---	--	---	---

	Date	06-Nov-2020	SPECIFICATION	OLE WOLFF
	Page	5 / 10		www.owolff.com
	DK	P/N: OWS-525229TA-4		Revision: 03



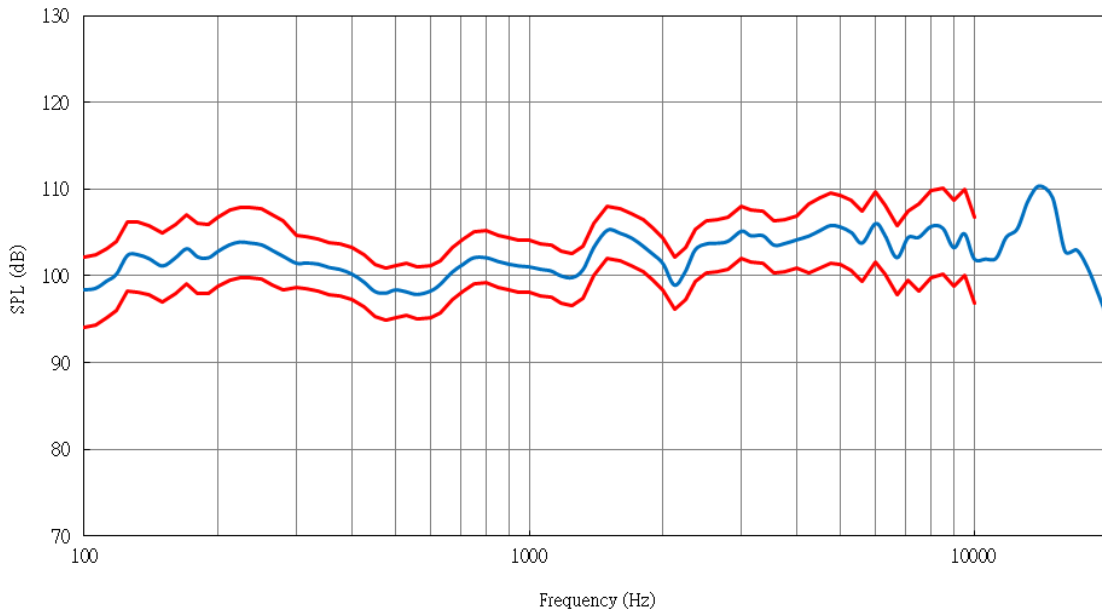
<p>OLE WOLFF ELEKTRONIK A/S Roedengvej 25 4180 Soroe Denmark</p> <p>TEL: +45 57833830 FAX: +45 57820019</p>	<p>OLE WOLFF ELECTRONICS INC. 1525 McCarthy Blvd, Suite 1093 Milpitas, Ca 95035 USA</p> <p>TEL: +1 408 888 8413</p>	<p>OLEWOLFF ELEKTRONIK GmbH Schulstrasse 15A, DE-25451 Quickborn, Germany</p> <p>TEL: +49 (0) 4106 765900 FAX: +49 (0) 4106 627297</p>	<p>OLEWOLFF ELECTRONICS 3 Bedford Street, Woburn, Bedfordshire MK17 9QB, ENGLAND</p> <p>TEL: +44 (0) 1525 290755 FAX: +44 (0) 1525 290855</p>	<p>OLE WOLFF ELEKTRONIK Yliopistonkatu 26 (P.O.BOX 257) FI-40101 Jyväskylä Finland</p> <p>TEL: +358 14 338 3050 FAX: +358 14 338 3059</p>	<p>OLE WOLFF (ASIA) LTD. Unit B, 19/F, Bold Win Ind. Bldg., No. 16-18 Wah Sing St., Kwai Chung, N.T., H.K.</p> <p>TEL: +852 2424 3274 FAX: +852 2424 2219</p>	<p>OLE WOLFF LTD. 5 Floor, Block G, WenTao Industrial Park, YingRenShi, Bao'an District, Shenzhen, PRC</p> <p>TEL: +86 755 82612542 TEL: +86 755 26406156</p>
---	---	--	---	---	---	---

	Date	06-Nov-2020	SPECIFICATION	OLE WOLFF
	Page	6 / 10		www.owolff.com
	DK	P/N: OWS-525229TA-4		Revision: 03

9.ACOUSTIC RESPONSE WITH LIMITS – PRODUCTION LINE TESTING BOX

Testing condition: input level of 2.0V, 10cm

- **STANDARD FREQUENCY RESPONSE(FIG.3)**

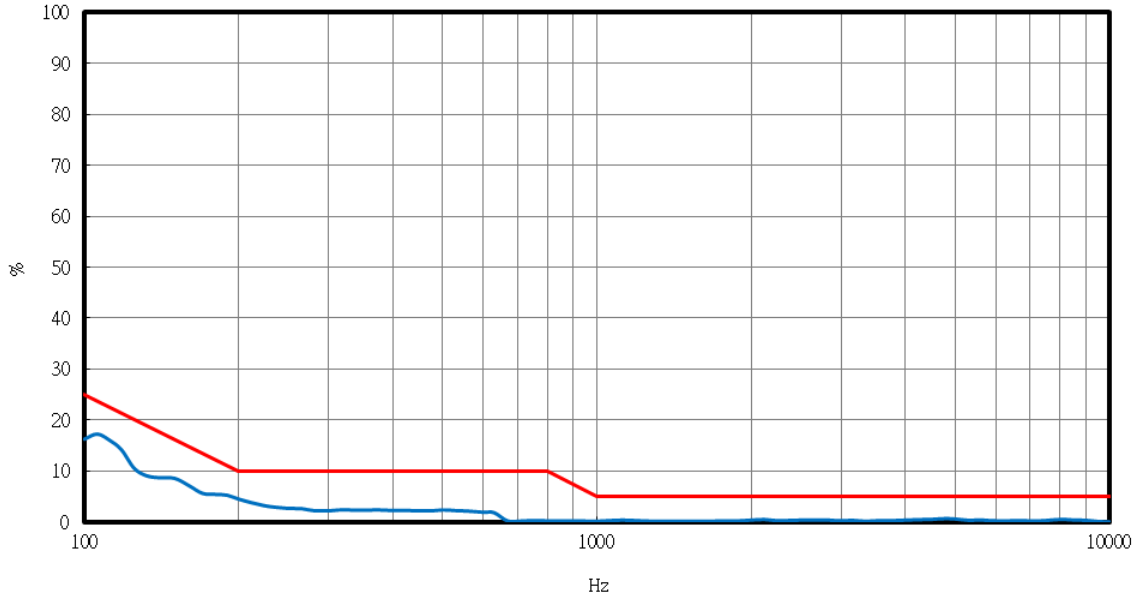


	FR Lower Limit	FR Upper Limit
100-280	-4	+4
300-4000	-3	+3
4250-7100	-4	+4
7500-10000	-5	+5

OLE WOLFF ELEKTRONIK A/S Roedengvej 25 4180 Soroe Denmark TEL: +45 57833830 FAX: +45 57820019	OLE WOLFF ELECTRONICS INC. 1525 McCarthy Blvd, Suite 1093 Milpitas, Ca 95035 USA TEL: +1 408 888 8413	OLEWOLFF ELEKTRONIK GmbH Schulstrasse 15A. DE-25451 Quickborn. Germany TEL: +49 (0) 4106 765900 FAX: +49 (0) 4106 627297	OLEWOLFF ELECTRONICS 3 Bedford Street, Woburn, Bedfordshire MK17 9QB, ENGLAND TEL: +44 (0) 1525 290755 FAX: +44 (0) 1525 290855	OLE WOLFF ELEKTRONIK Yliopistonkatu 26 (P.O.BOX 257) FI-40101 Jyväskylä Finland TEL: +358 14 338 3050 FAX: +358 14 338 3059	OLE WOLFF (ASIA) LTD. Unit B, 19/F, Bold Win Ind. Bldg., No. 16-18 Wah Sing St., Kwai Chung, N.T., H.K. TEL: +852 2424 3274 FAX: +852 2424 2219	OLE WOLFF LTD. 5 Floor, Block G, WenTao Industrial Park, YingRenShi, Bao'an District, Shenzhen, PRC TEL: +86 755 82612542 TEL: +86 755 26406156
---	---	--	---	--	---	---

	Date	06-Nov-2020	SPECIFICATION	OLE WOLFF
	Page	7 / 10		www.owolff.com
	DK	P/N: OWS-525229TA-4		Revision: 03

• **STANDARD THD CURVE (FIG.4)**



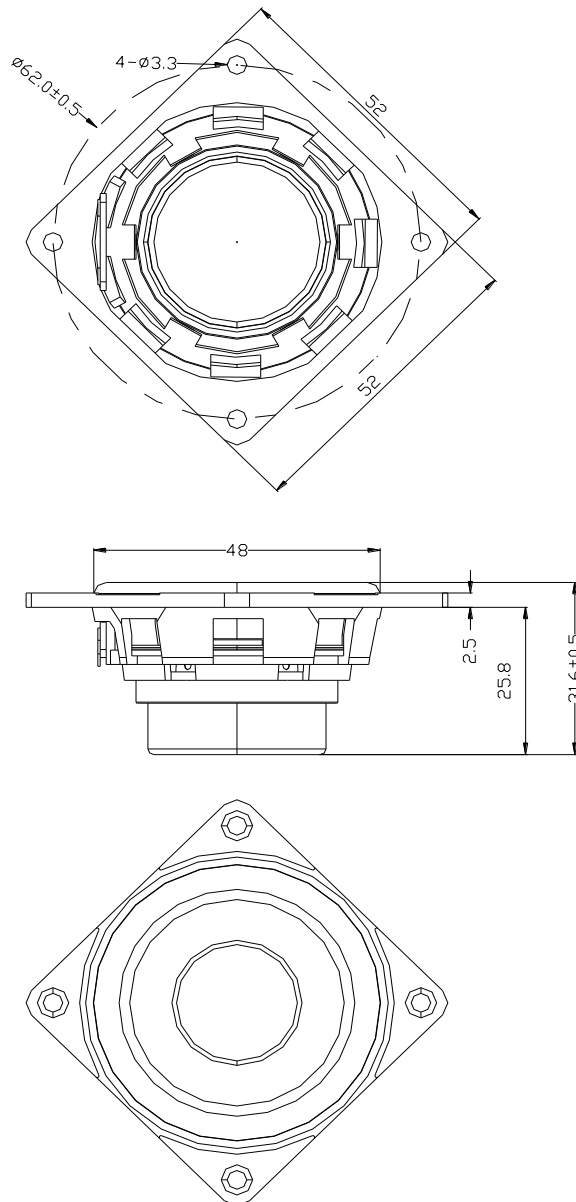
	THD Upper Limit
100	25
200	10
800	10
1000	5
10000	5

OLE WOLFF ELEKTRONIK A/S Roedengvej 25 4180 Soroe Denmark TEL: +45 57833830 FAX: +45 57820019	OLE WOLFF ELECTRONICS INC. 1525 McCarthy Blvd, Suite 1093 Milpitas, Ca 95035 USA TEL: +1 408 888 8413	OLEWOLFF ELEKTRONIK GmbH Schulstrasse 15A, DE-25451 Quickborn, Germany TEL: +49 (0) 4106 765900 FAX: +49 (0) 4106 627297	OLEWOLFF ELECTRONICS 3 Bedford Street, Woburn, Bedfordshire MK17 9QB, ENGLAND TEL: +44 (0) 1525 290755 FAX: +44 (0) 1525 290855	OLE WOLFF ELEKTRONIK Yliopistonkatu 26 (P.O.BOX 257) FI-40101 Jyväskylä Finland TEL: +358 14 338 3050 FAX: +358 14 338 3059	OLE WOLFF (ASIA) LTD. Unit B, 19/F, Bold Win Ind. Bldg., No. 16-18 Wah Sing St., Kwai Chung, N.T., H.K. TEL: +852 2424 3274 FAX: +852 2424 2219	OLE WOLFF LTD. 5 Floor, Block G, WenTao Industrial Park, YingRenShi, Bao'an District, Shenzhen, PRC TEL: +86 755 82612542 TEL: +86 755 26406156
---	---	--	---	--	---	---

	Date	06-Nov-2020	SPECIFICATION	OLE WOLFF
	Page	8 / 10		www.owolff.com
	DK	P/N: OWS-525229TA-4		Revision: 03

10.OUTVIEW (FIG.5)

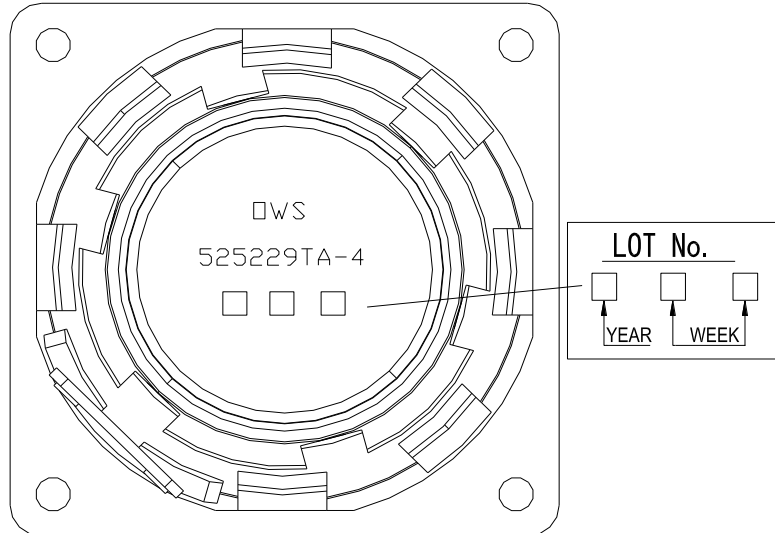
Unless otherwise specified,tolerance: ± 0.5 (unit:mm)



OLE WOLFF ELEKTRONIK A/S Roedengvej 25 4180 Soroe Denmark TEL: +45 57833830 FAX: +45 57820019	OLE WOLFF ELECTRONICS INC. 1525 McCarthy Blvd, Suite 1093 Milpitas, Ca 95035 USA TEL: +1 408 888 8413	OLEWOLFF ELEKTRONIK GmbH Schulstrasse 15A. DE-25451 Quickborn. Germany TEL: +49 (0) 4106 765900 FAX: +49 (0) 4106 627297	OLEWOLFF ELECTRONICS 3 Bedford Street, Woburn, Bedfordshire MK17 9QB, ENGLAND TEL: +44 (0) 1525 290755 FAX: +44 (0) 1525 290855	OLE WOLFF ELEKTRONIK Yliopistonkatu 26 (P.O.BOX 257) FI-40101 Jyväskylä Finland TEL: +358 14 338 3050 FAX: +358 14 338 3059	OLE WOLFF (ASIA) LTD. Unit B, 19/F, Bold Win Ind. Bldg., No. 16-18 Wah Sing St., Kwai Chung, N.T., H.K. TEL: +852 2424 3274 FAX: +852 2424 2219	OLE WOLFF LTD. 5 Floor, Block G, WenTao Industrial Park, YingRenShi, Bao'an District, Shenzhen, PRC TEL: +86 755 82612542 TEL: +86 755 26406156
---	---	--	---	--	---	---

	Date	06-Nov-2020	SPECIFICATION	OLE WOLFF
	Page	9 / 10		www.owolff.com
	DK	P/N: OWS-525229TA-4		Revision: 03

11.MARKING (FIG.6)

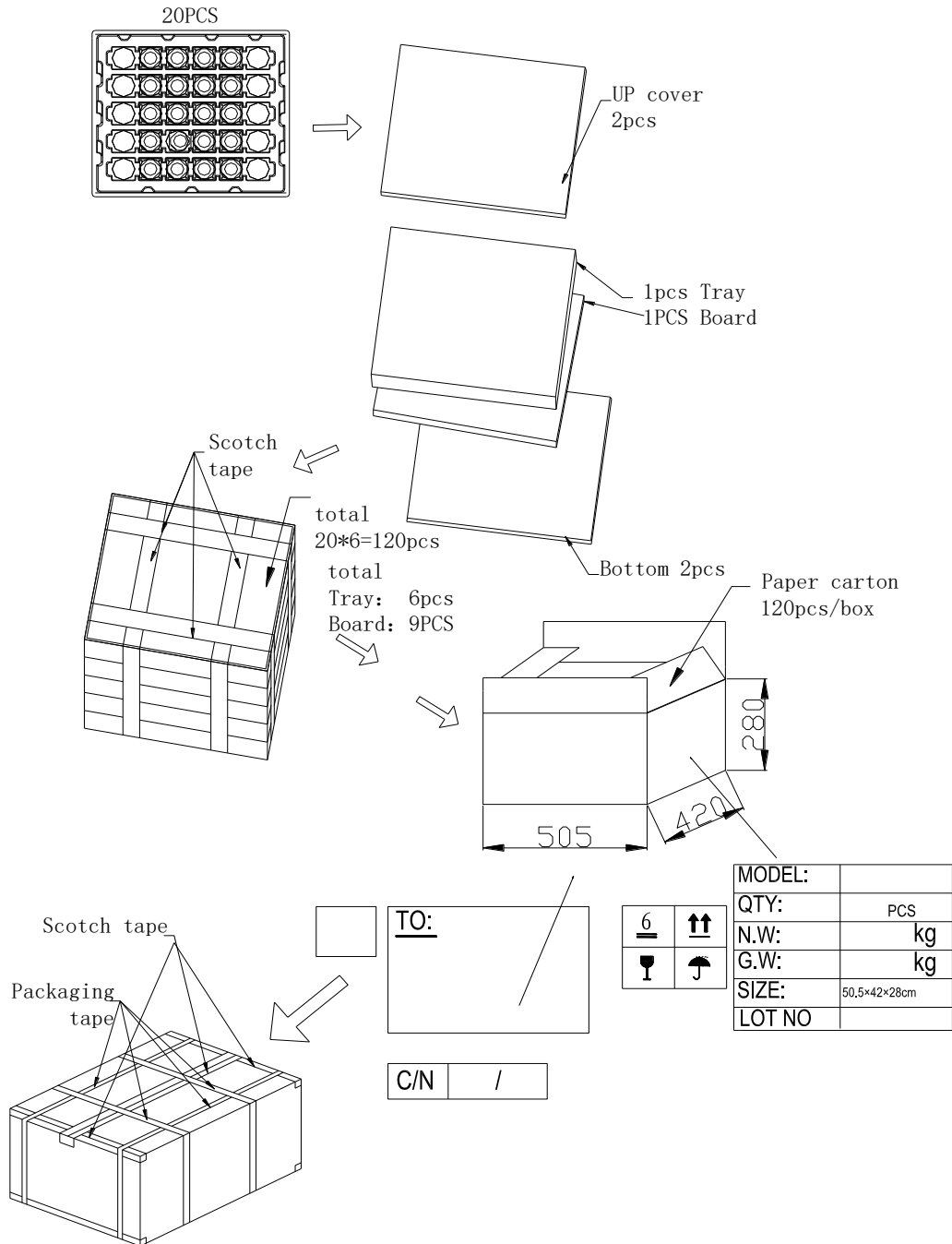


YEAR		WEEK	
year	marking	week	marking
2015	5	1	01
2016	6	2	02
2017	7	3	03
2018	8	4	04
2019	9	5	05
2020	0	↓	↓
2021	1		
2022	2		
		50	50
		51	51
		52	52
		53	53

OLE WOLFF ELEKTRONIK A/S Roedengvej 25 4180 Soroe Denmark TEL: +45 57833830 FAX: +45 57820019	OLE WOLFF ELECTRONICS INC. 1525 McCarthy Blvd, Suite 1093 Milpitas, Ca 95035 USA TEL: +1 408 888 8413	OLEWOLFF ELEKTRONIK GmbH Schulstrasse 15A. DE-25451 Quickborn. Germany TEL: +49 (0) 4106 765900 FAX: +49 (0) 4106 627297	OLEWOLFF ELECTRONICS 3 Bedford Street, Woburn, Bedfordshire MK17 9QB, ENGLAND TEL: +44 (0) 1525 290755 FAX: +44 (0) 1525 290855	OLE WOLFF ELEKTRONIK Yliopistonkatu 26 (P.O.BOX 257) FI-40101 Jyväskylä Finland TEL: +358 14 338 3050 FAX: +358 14 338 3059	OLE WOLFF (ASIA) LTD. Unit B, 19/F, Bold Win Ind. Bldg., No. 16-18 Wah Sing St., Kwai Chung, N.T., H.K. TEL: +852 2424 3274 FAX: +852 2424 2219	OLE WOLFF LTD. 5 Floor, Block G, WenTao Industrial Park, YingRenShi, Bao'an District, Shenzhen, PRC TEL: +86 755 82612542 TEL: +86 755 26406156
---	---	--	---	--	---	---

	Date	06-Nov-2020	SPECIFICATION	OLE WOLFF
	Page	10 / 10		www.owolff.com
	DK	P/N: OWS-525229TA-4		Revision: 03

12.PACKING(FIG.7)



OLE WOLFF ELEKTRONIK A/S Roedengvej 25 4180 Soroe Denmark TEL: +45 57833830 FAX: +45 57820019	OLE WOLFF ELECTRONICS INC. 1525 McCarthy Blvd, Suite 1093 Milpitas, Ca 95035 USA TEL: +1 408 888 8413	OLEWOLFF ELEKTRONIK GmbH Schulstrasse 15A. DE-25451 Quickborn. Germany TEL: +49 (0) 4106 765900 FAX: +49 (0) 4106 627297	OLEWOLFF ELECTRONICS 3 Bedford Street, Woburn, Bedfordshire MK17 9QB, ENGLAND TEL: +44 (0) 1525 290755 FAX: +44 (0) 1525 290855	OLE WOLFF ELEKTRONIK Yliopistonkatu 26 (P.O.BOX 257) FI-40101 Jyväskylä Finland TEL: +358 14 338 3050 FAX: +358 14 338 3059	OLE WOLFF (ASIA) LTD. Unit B, 19/F, Bold Win Ind. Bldg., No. 16-18 Wah Sing St., Kwai Chung, N.T., H.K. TEL: +852 2424 3274 FAX: +852 2424 2219	OLE WOLFF LTD. 5 Floor, Block G, WenTao Industrial Park, YingRenShi, Bao'an District, Shenzhen, PRC TEL: +86 755 82612542 TEL: +86 755 26406156
---	---	--	---	--	---	---