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	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

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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)

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6. RELIABILITY TEST REQUIREMENTS.

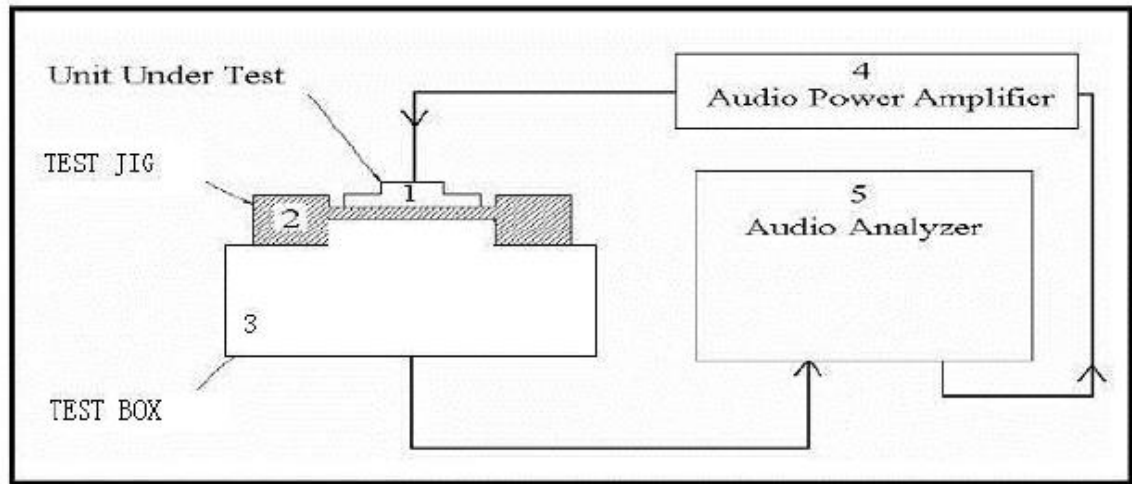
After any following tests the S.P.L should not deviate more than $\pm 3\text{dB}$ from initial value.		
N o.	ITEMS	TEST CONDITION
1.	High Temp. Test	Keep 96 hours at $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
2.	Low Temp. Test	Keep 96 hours at $-25^{\circ}\text{C}\pm 3^{\circ}\text{C}$ 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.

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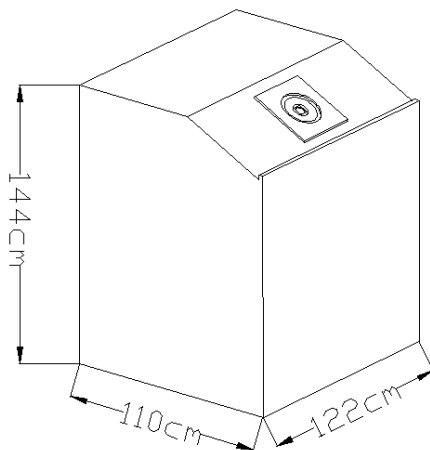
7. ELECTRICAL CHARACTERISTICS MEASUREMENT (FIG.1)

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



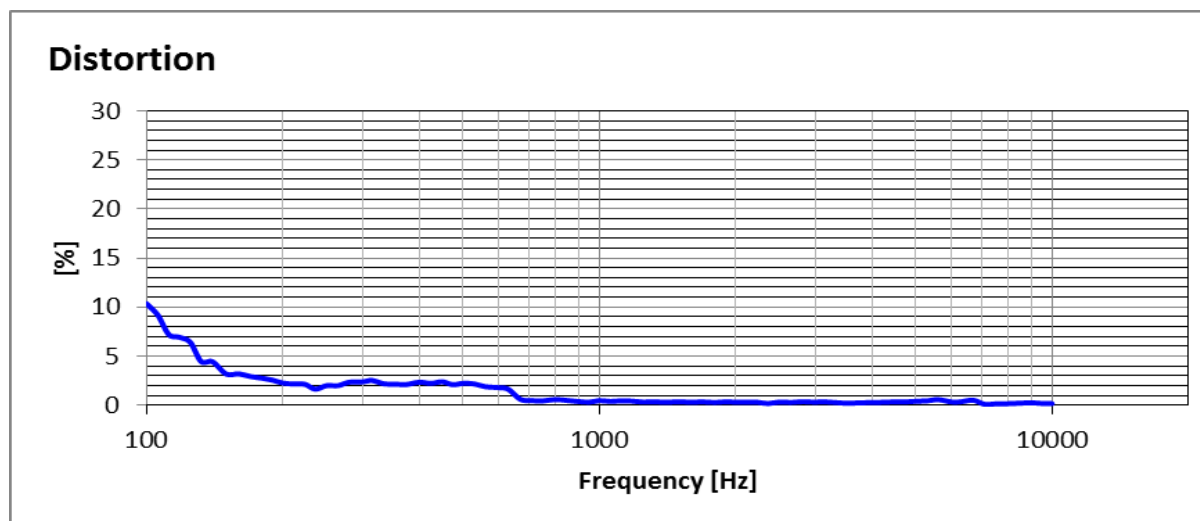
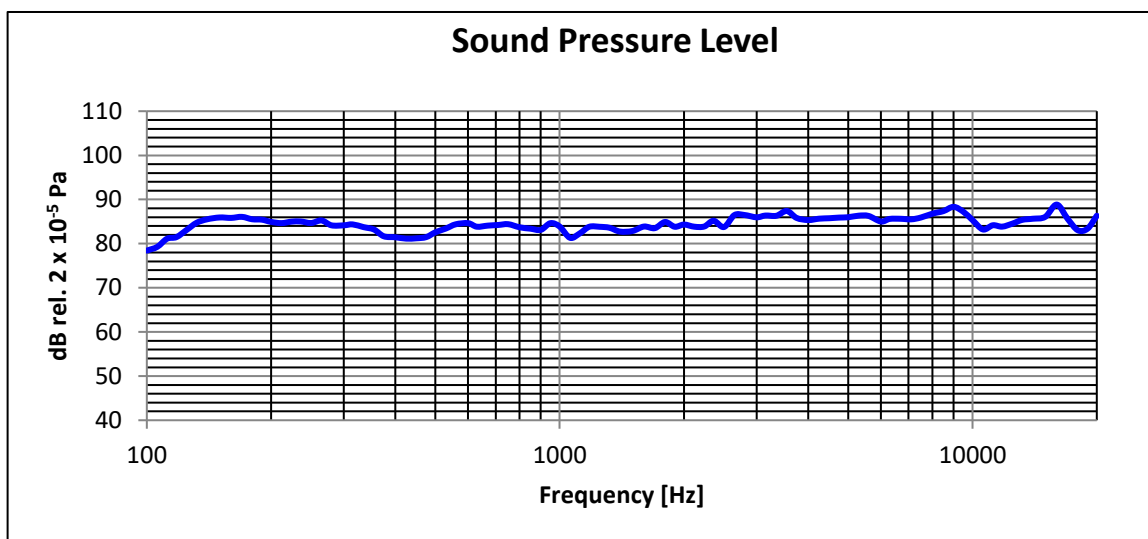
PRODUCTION LINE TEST BOX

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

@ 1W, 1M in Anechoic chamber

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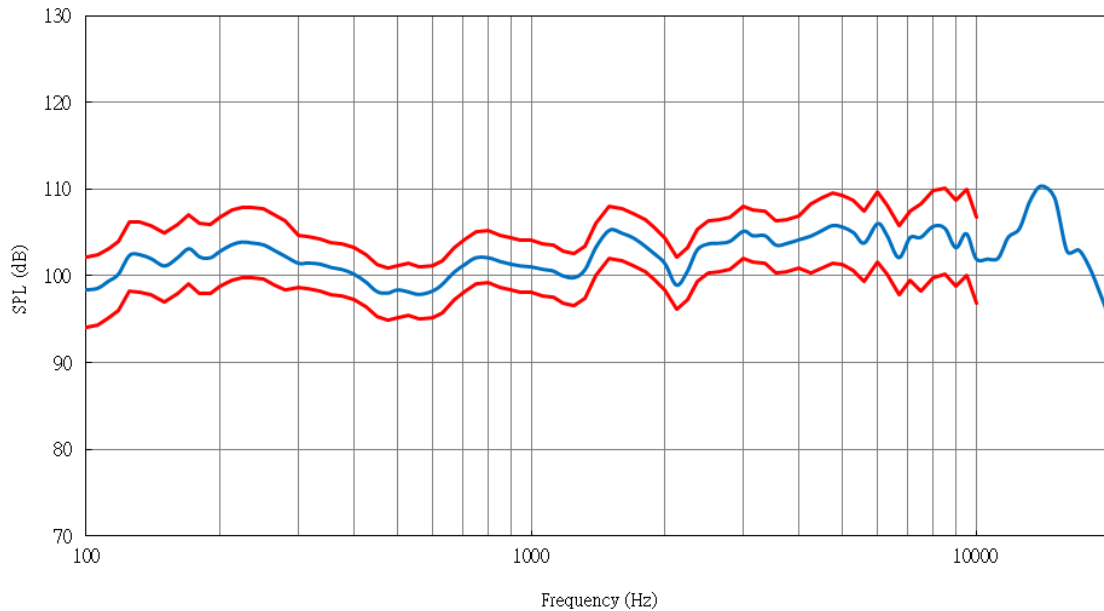
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9.ACOUSTIC RESPONSE WITH LIMITS – PRODUCTION LINE TESTING BOX

Testing condition: input level of 2.0V, 10cm

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

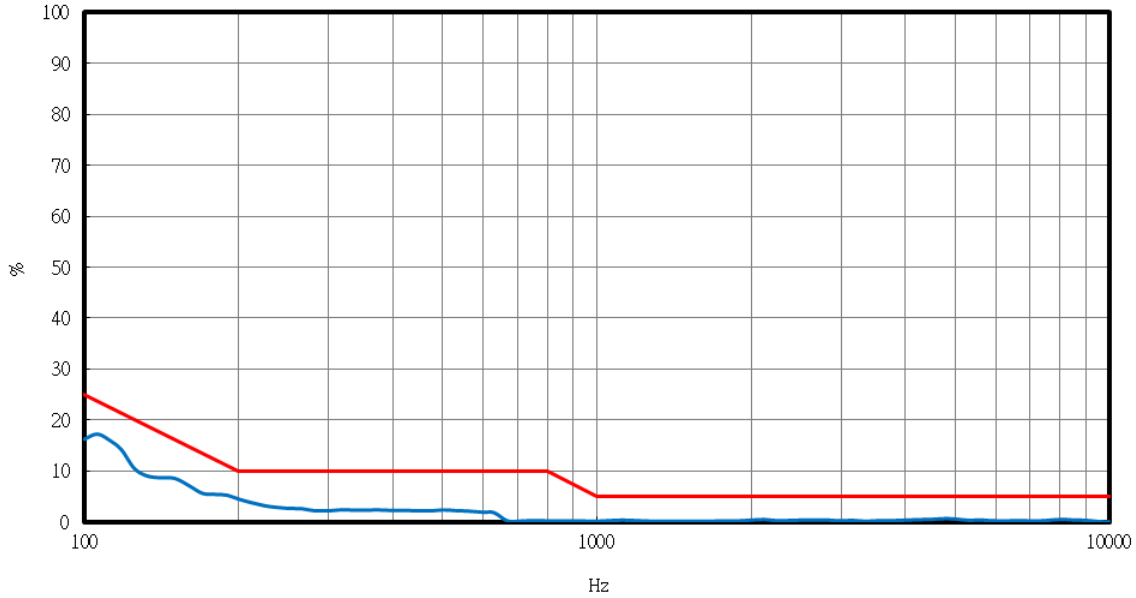


	FR Lower Limit	FR Upper Limit
100-280	-4	+4
300-4000	-3	+3
4250-7100	-4	+4
7500-10000	-5	+5

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• **STANDARD THD CURVE (FIG.4)**



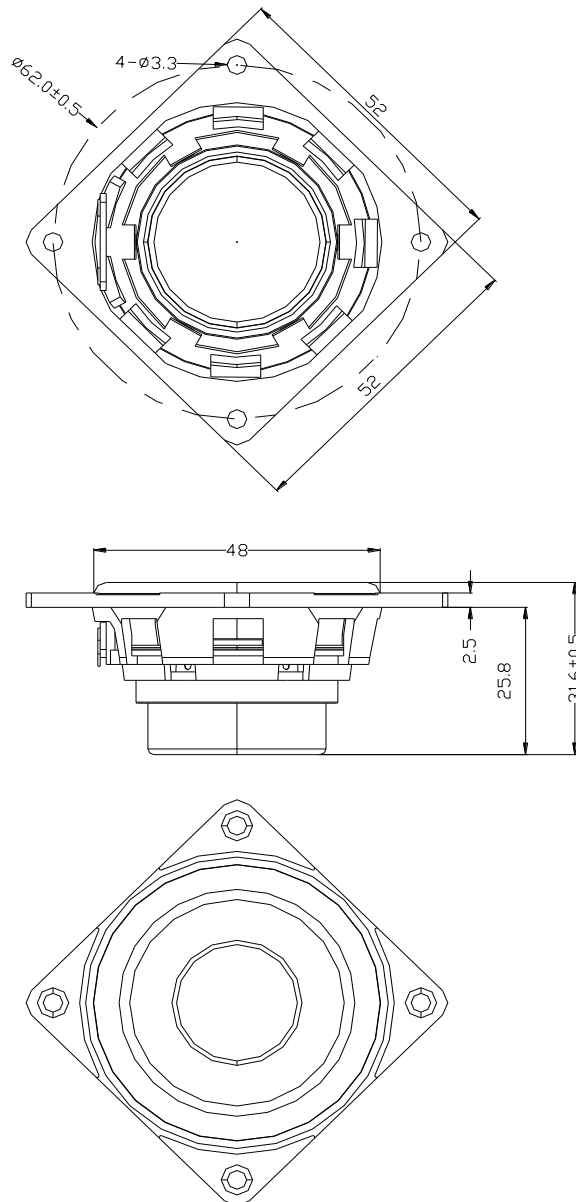
	THD Upper Limit
100	25
200	10
800	10
1000	5
10000	5

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10.OUTVIEW (FIG.5)

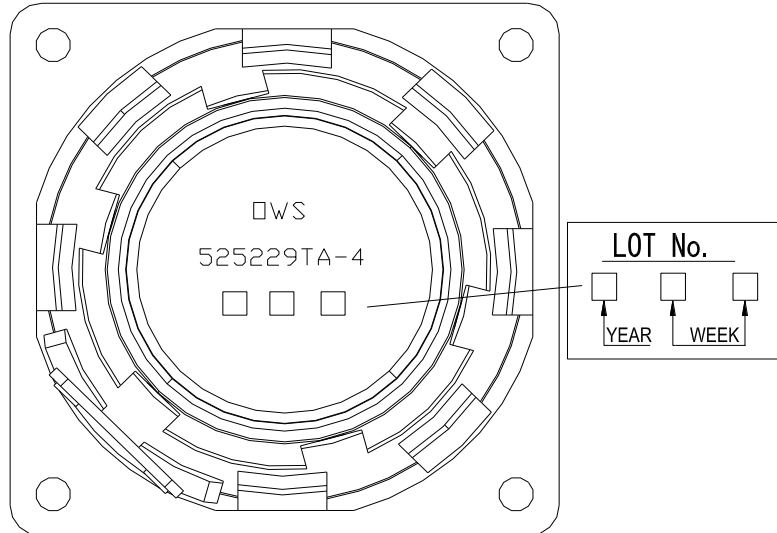
Unless otherwise specified, tolerance: ± 0.5 (unit: mm)



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11.MARKING (FIG.6)

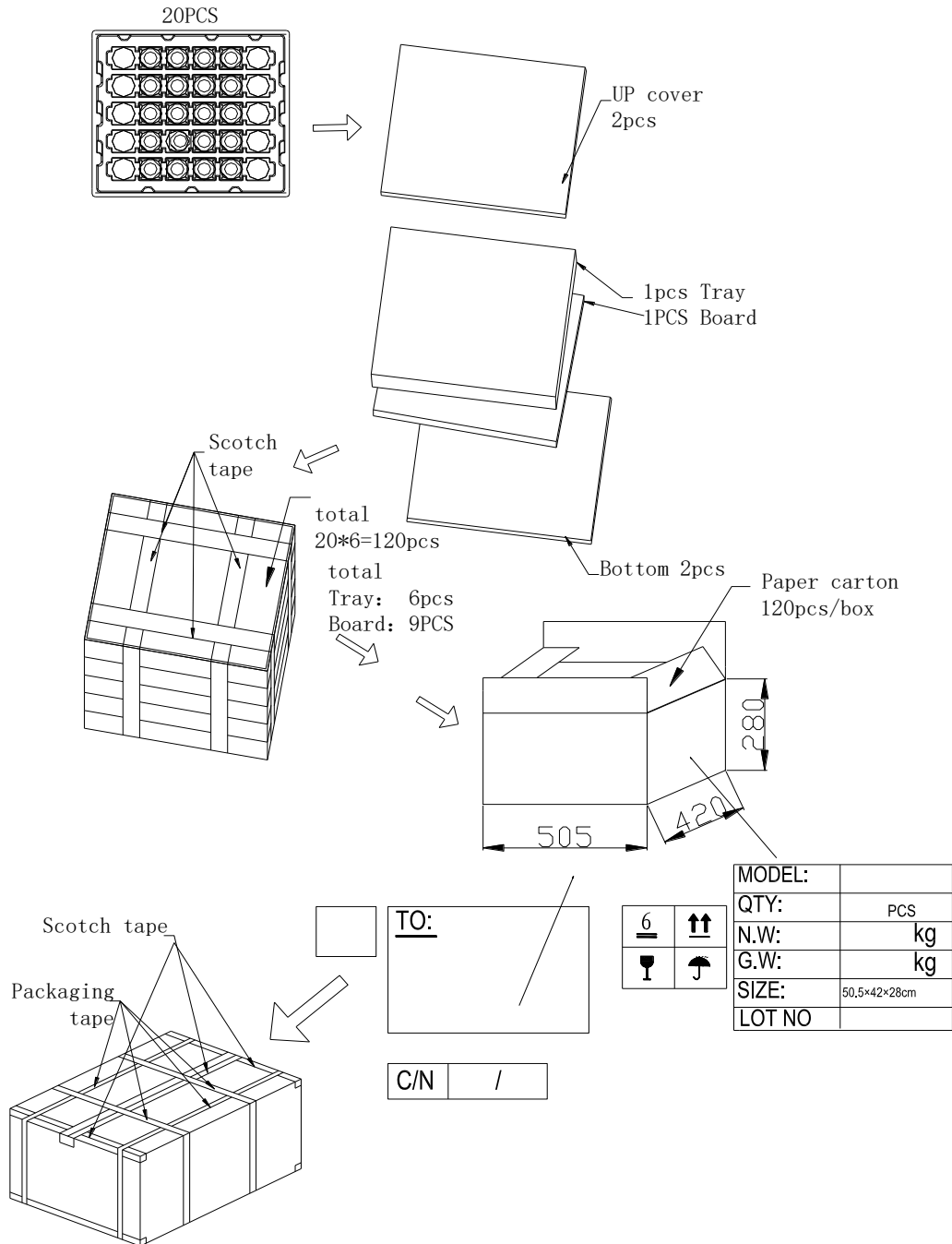


YEAR		WEEK	
year	marking	week	marking
2015	5	1	01
2016	6	2	02
2017	7	3	03
2018	8	4	04
2019	9	5	05
2020	0	↓	↓
2021	1		
2022	2		
		50	50
		51	51
		52	52
		53	53

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12.PACKING(FIG.7)



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