

MESSRS.**SPECIFICATION FOR APPROVAL****承 认 书**

Product	DYNAMIC SPEAKER
Part No.	HDK-2008A08W001(RoHS)
Customer Part No.	
Customer Approval	

Approved By	Checked By	Made By
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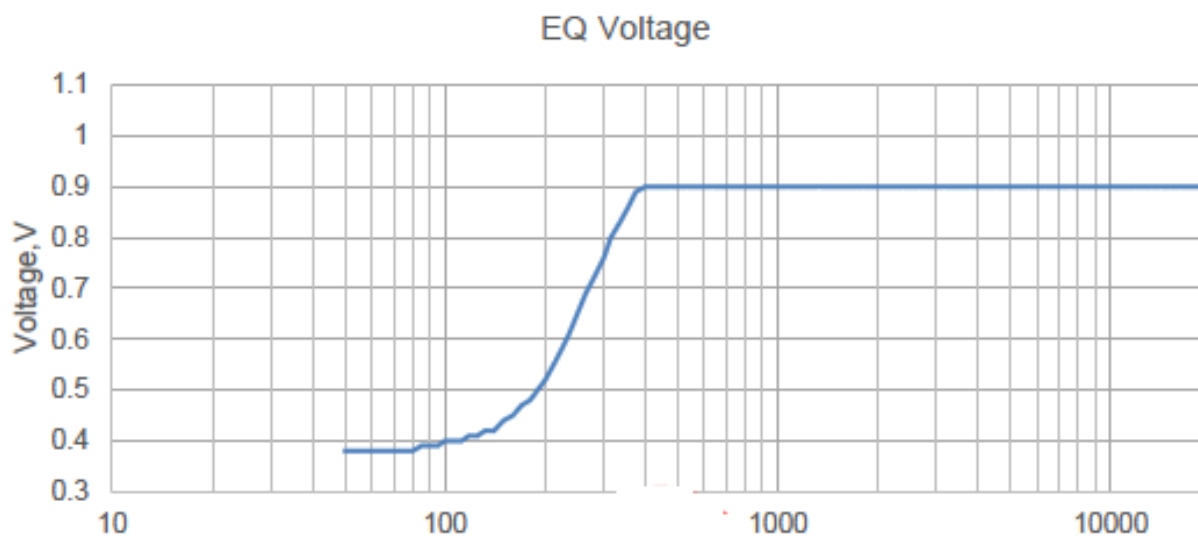
EDITION:1.1

1. Specification

HDK-2008A08W001 (RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 20*8 mm	
03	Rated Input Power	0.1W	
04	Max. Input Power	0.15W	
05	Impedance	7.8 ohm $\pm$ 15% ohm(test at 0.4V/2kHz)	
06	DC RESISTANCE	8 $\pm$ 10% ohm	
07	Resonance Frequency (Fo)	250Hz $\pm$ 50Hz at (0.4V/5cm/baffle)	
08	Sensitivity (S.P.L.)	90 $\pm$ 3 dB	Test at EQ At 2.0KHz/5cm
		80 $\pm$ 3 dB	Test at EQ At 200 KHz/5cm
		66 $\pm$ 3 dB	Test at EQ At 100KHz/5cm
09	Frequency Range	Fo – 0.25KHz	
10	Total Harmonics Distortion	Max 10 % at 1 KHz,0.1W.	
11	Appearance	Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.	
13	Operation Test	Must be normal at program source – 0.1W	
14	Buzz, Rattle, etc.	Should not be audible at 0.88V sine Wave between Fo to 3.4KHz	
15	Polarity	When positive voltage is applied to the terminal marked (+), diaphragm should move to the front.	
16	Terminal Strength	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.	

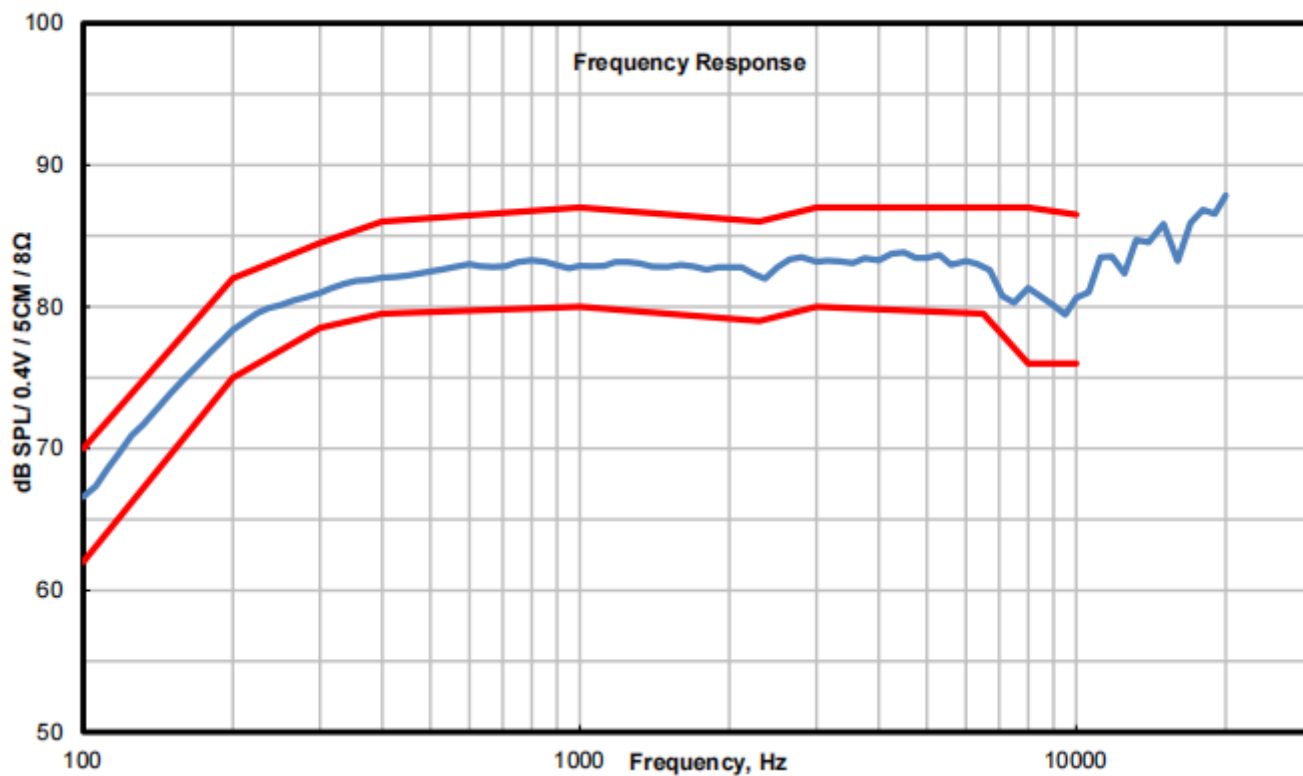
EQ Voltage and excursion cure



Data for EQ voltage

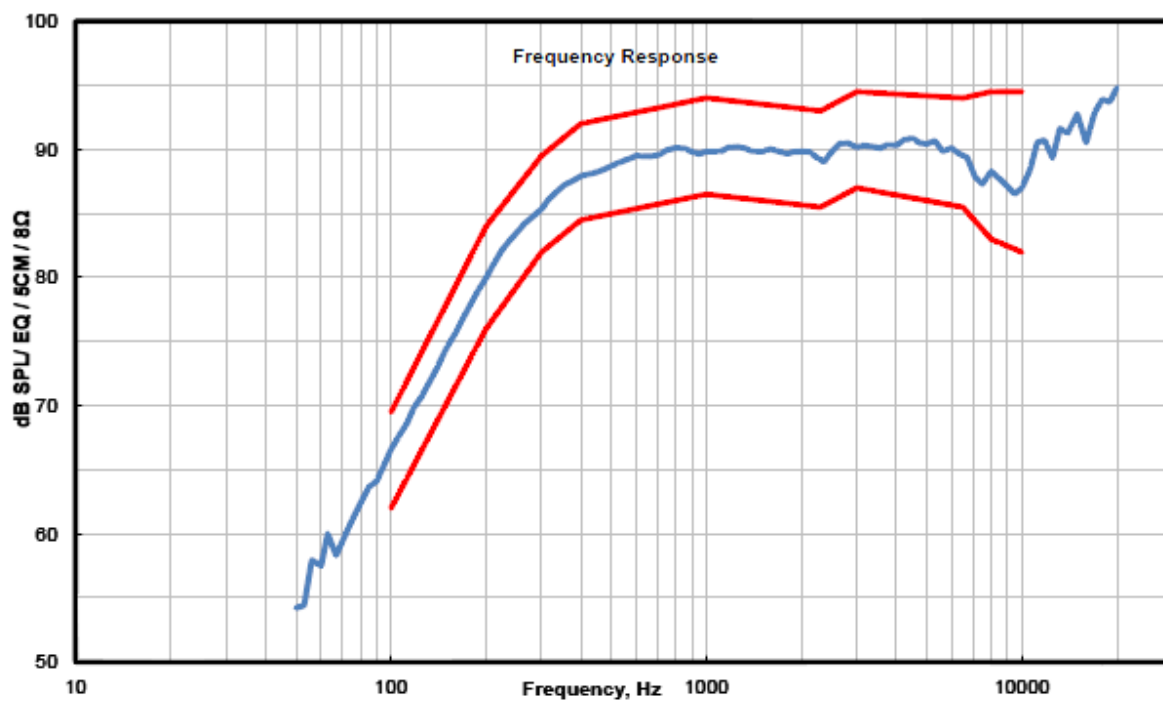
Freq(Hz)	Voltage (Vrms)	Freq(Hz)	Voltage(Vrms)	Freq(Hz)	Voltage (Vrms)
50	0.38	106	0.4	224	0.58
53	0.38	112	0.4	236	0.61
56	0.38	118	0.41	250	0.65
60	0.38	125	0.41	265	0.69
63	0.38	132	0.42	280	0.72
67	0.38	140	0.42	300	0.76
71	0.38	150	0.44	315	0.8
75	0.38	160	0.45	335	0.83
80	0.38	170	0.47	355	0.86
85	0.39	180	0.48	375	0.89
90	0.39	190	0.5	400	0.9
95	0.39	200	0.52	425	0.9
100	0.4	212	0.55	450-20K	0.9

Frequency Response Curve (0.4V/5cm/on the baffle)



Freq.(Hz)	Lower(dB)	Upper(dB)
100	62	70
200	75	82
300	78.5	84.5
400	79.5	86
1000	80	87
2300	79	86
3000	80	87
6500	79.5	87
8000	76	87
10000	76	86.5

(EQ|5cm|on the baffle)



Tolerance limits data for FR

Freq.(Hz)	Lower(dB)	Upper(dB)
100	62	70
200	76	84
300	82	89.5
400	84.5	92
1000	86.5	94
2300	85.5	93
3000	87	94.5
6500	85.5	94
8000	83	94.5
10000	82	94.5

Typical THD curve

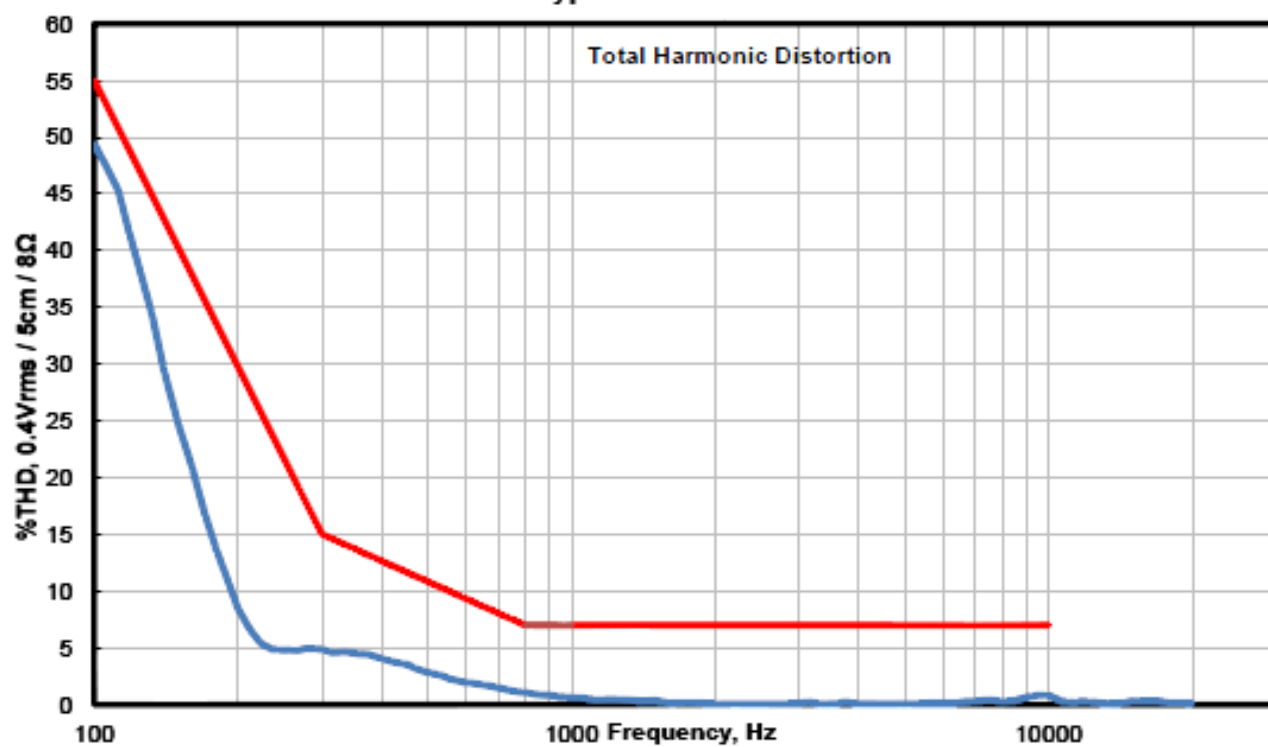
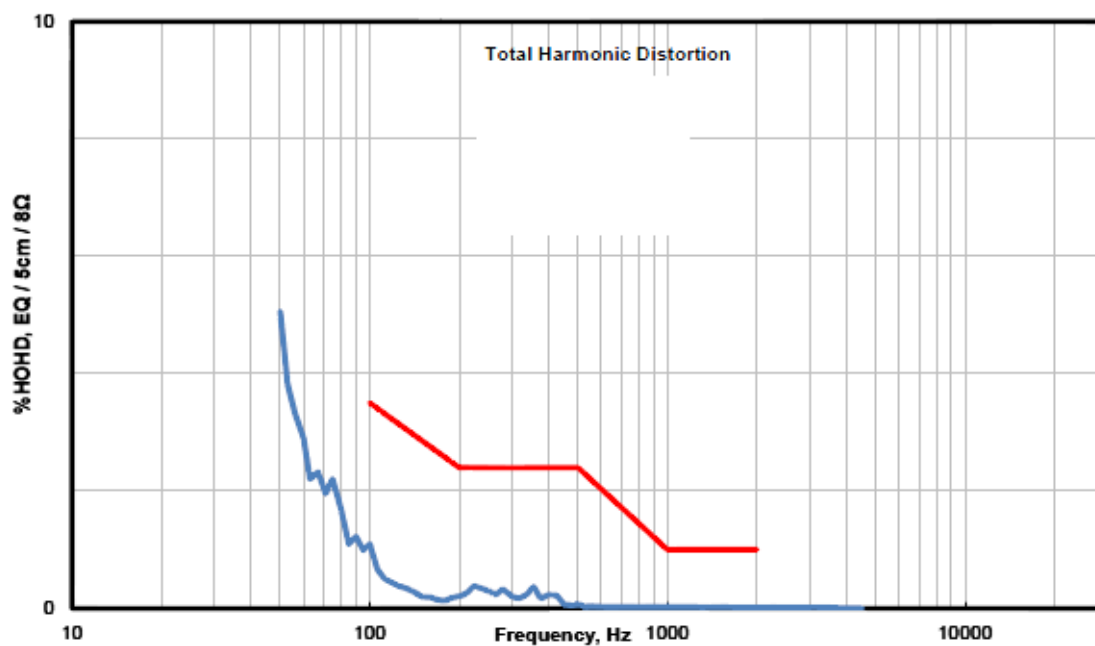


Table 5 Tolerance Limits Data for THD

Freq.(Hz)	Upper(dB)
100	55
300	15
800	7
1000	7
10000	7

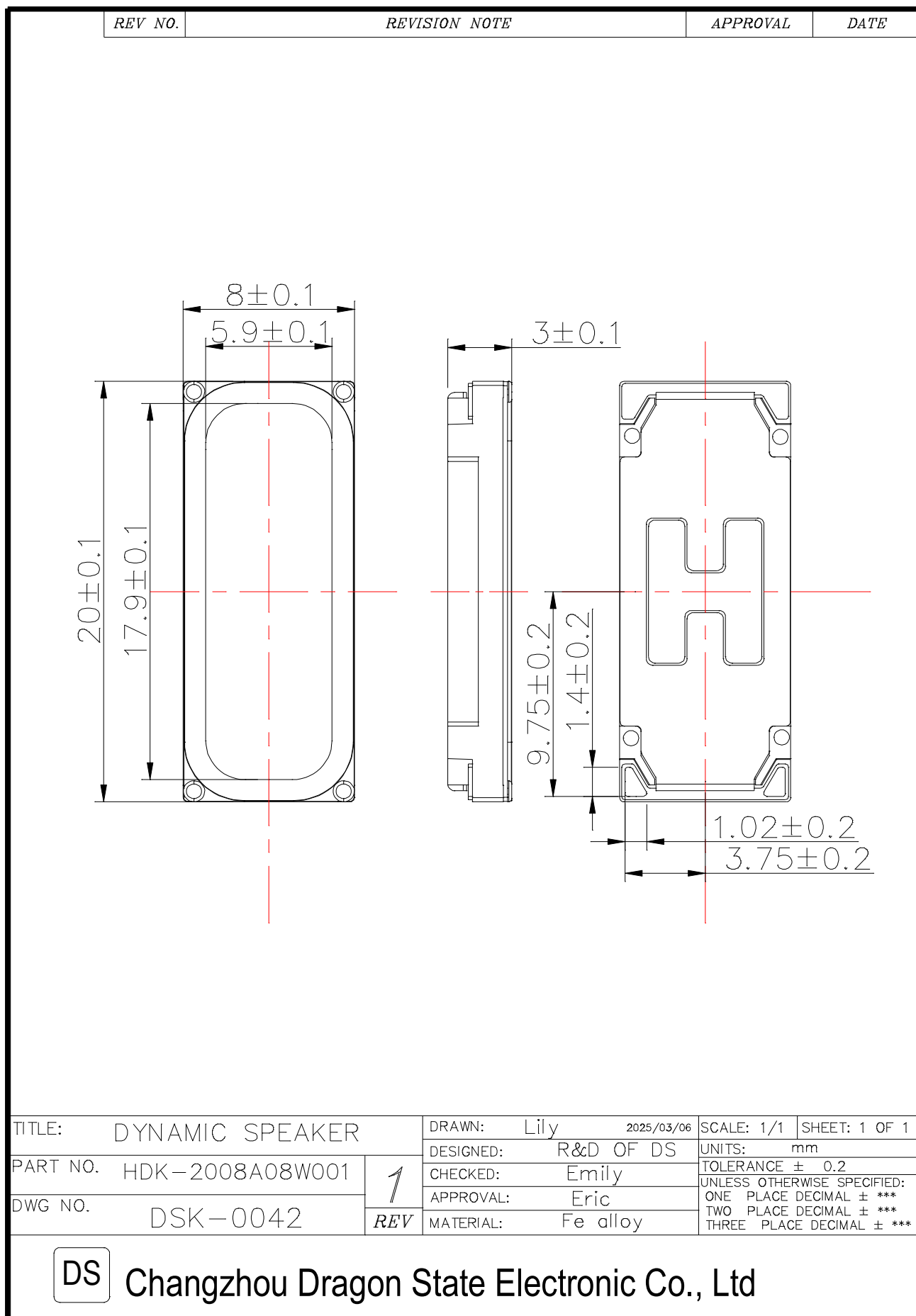
Typical HOHD 10-35 curve



Tolerance Limits Data for HOHD 10~35th

Freq.(Hz)	Upper(dB)
100	3.5
200	2.4
500	2.4
1000	1
2000	1

3.Dimension



4. Reliability Test

Items.		Specifications
01	High temp. Test	Keep 72 hours at $+70^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
02	Low temp. Test	Keep 72 hours at $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
03	Humidity test	Keep 72 hours at $+65^{\circ}\text{C} \pm 3^{\circ}\text{C}$ relative humidity 95% and leave 3 hours in normal temperature and then checked.
05	Thermal cycle test.	Low temperature: $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$, temperature: $+70^{\circ}\text{C} \pm 3^{\circ}\text{C}$, cycle: 0.5 hour/cycle each, and then keep 100 cycles in a room.
06	Fix drop test	Fix on jig. Then drop from 150cm height to the concrete floor X, y, z 6 direction. 5 times each, total 28 times.
08	Rated Power test	Rated Power white noise is applied for 72 hours
09	Max Power test	Max power 1 min on – 2 min off 30 cycles.
Criterion: After these test, the change of S.P.L shall be within ± 3 dB.		

Soldering Condition

Recommend using constant branding iron in **15 ~ 30W**, and in temperature range **$350 \pm 10^{\circ}\text{C}$** .

Soldering time not over **3** seconds.

[illegible]