

	APPROVAL SHEET FOR SMARTPHONE SPEAKER		
	TOTAL PAGE	12	www.be-star.com

Customer		Model Name	BMS1813F-11C-08H4.5-BBS152
Customer P/N		Product No.	130259
Date	29 May.2019	Issue No.	BS/TES01.1820A0
Page	01 of 12	Issue Date	2019.05.29

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Drawn by	Checked by	Approved by	Customer approved
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BMS1813F-11C-08H4.5-BBS152

1. Test Climatic Condition

- 1.1 Ambient Temperature :15°C~35°C, Preferably at 20°C
- 1.2 Relative Humidity:25% to 75%
- 1.3 Air Pressure:86kPa~106kPa

2. Description

- 2.1 Acoustic component Performance Specification
- 2.2 The present document specifies performance requirements for the acoustic characteristics of speaker

3. Characteristics

3.1 Electrical and Mechanical Characteristics

No.	Item	Specification
1.	Dimension	18 x13 x 4.5(mm)
2.	DC Resistance	6.5 Ω ±20%
3.	AC Impedance	8 Ω ±15%(at 2KHz/0.7W)
4.	Rated Power	0.7W(2.37V/ in 1.0cc box)
5.	Maximum Power	1W(2.83V/ in 1.0cc box)
6.	Resonance Frequency	850Hz ± 20% (in 1.0cc box)
7.	Frequency Response	F0~20KHz
8.	S.P.L	93±3dB/0.1m/0.7W at 2.0KHz(in 1.0cc box)
9.	THD	≤10% at 1KHz/0.7W
10.	Buzzes & Rattles	Must be normal at sine wave
		2.37Vrms(in 1.0cc box) from 200~3400Hz
11.	Polarity	Positive voltage to (+),Diaphragm moves forward
12.	Operating Temperature	-20~+ 70°C
13.	Storage Temperature	-20~+ 70°C
14.	Weight	~2.7g±0.3g

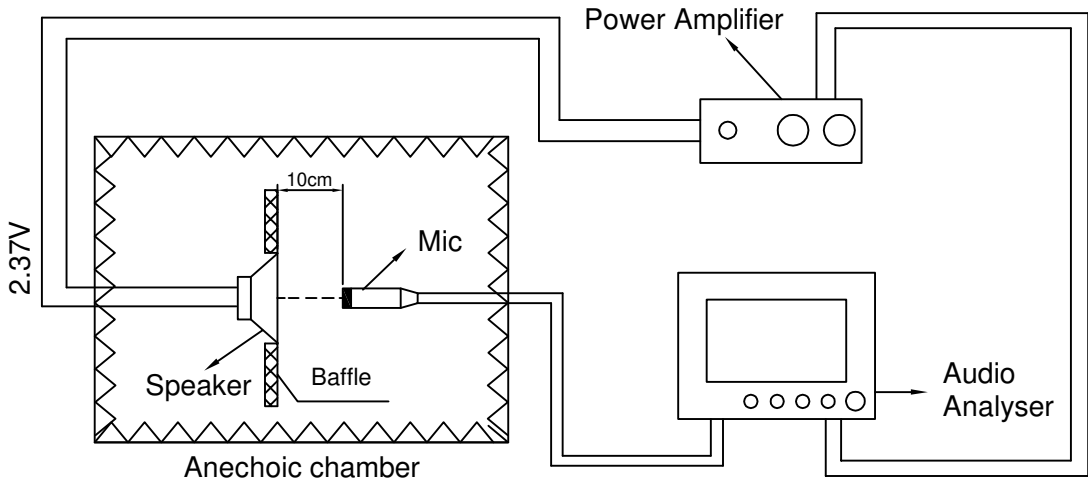
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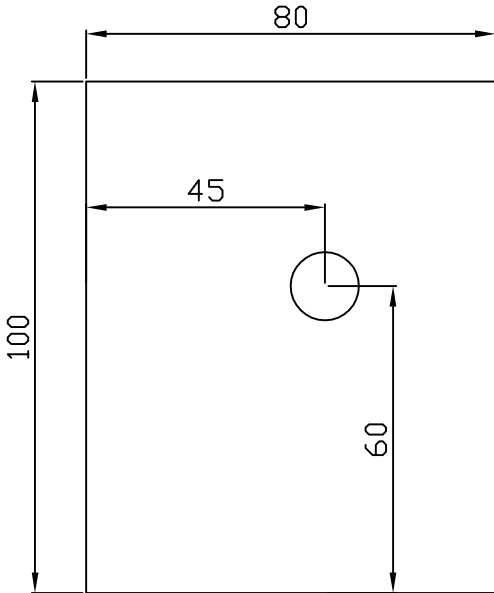
4. Test Setup

4.1 Speaker Measurement Circuit



4.2 Baffle Drawing

unit:cm
tolerance:±2



4.3 Test Method

The speaker shall be mounted in a baffle of the dimensions 80X100cm show figure 4.2,

The measuring free-field microphone shall be placed 10cm from DUT, on axis.

The test voltage is 1W and swept sine-wave range is 100Hz~20KHz with a R80 of test sequence

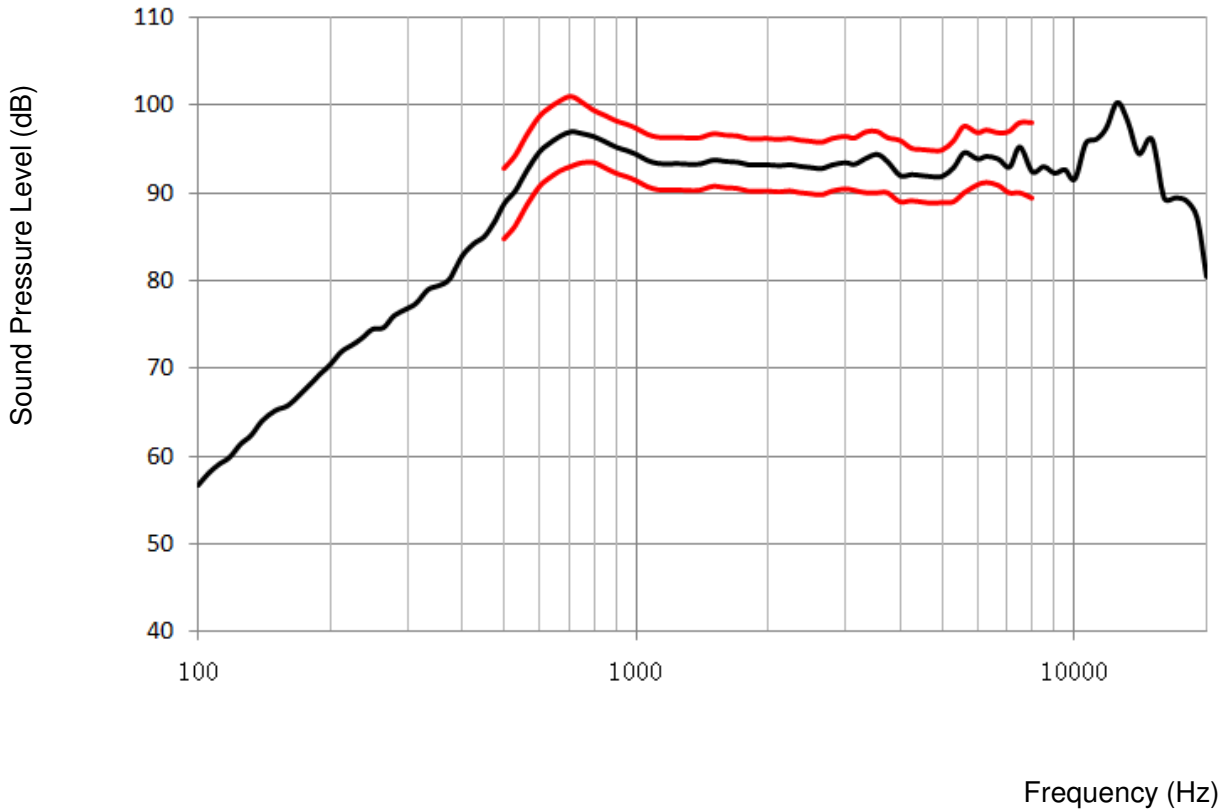
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4.4 Frequency Response Curve (only for reference)

A: Frequency Response Magn 0 dB re 20.00 μ Pa/V 1/12Oct



4.4.1 Sensitivity

SPL is expressed in dB rel 20 μ Pa, computed according to IEC 268-5. Measurement set up according chapter 4.1 and parameters according chapter 4.4.

This test is performed on the production line by 100%.

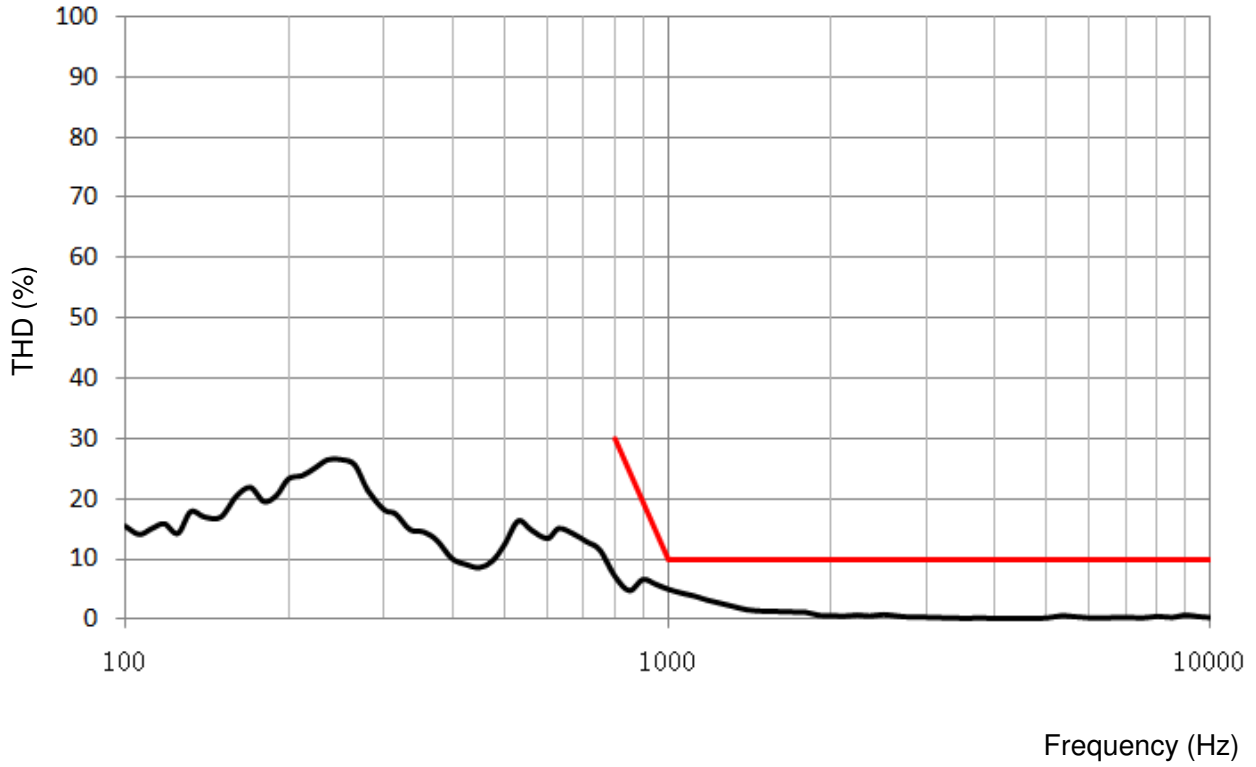
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4.5 Total Harmonic Distortion (only for reference)

A: Frequency Response Magn 0 dB re 20.00 μ Pa/V 1/12Oct



4.5.1 THD

THD is measured according test set up in chapter 4.1 and parameters according chapter 4.5

This test is performed on the production line by 100%.

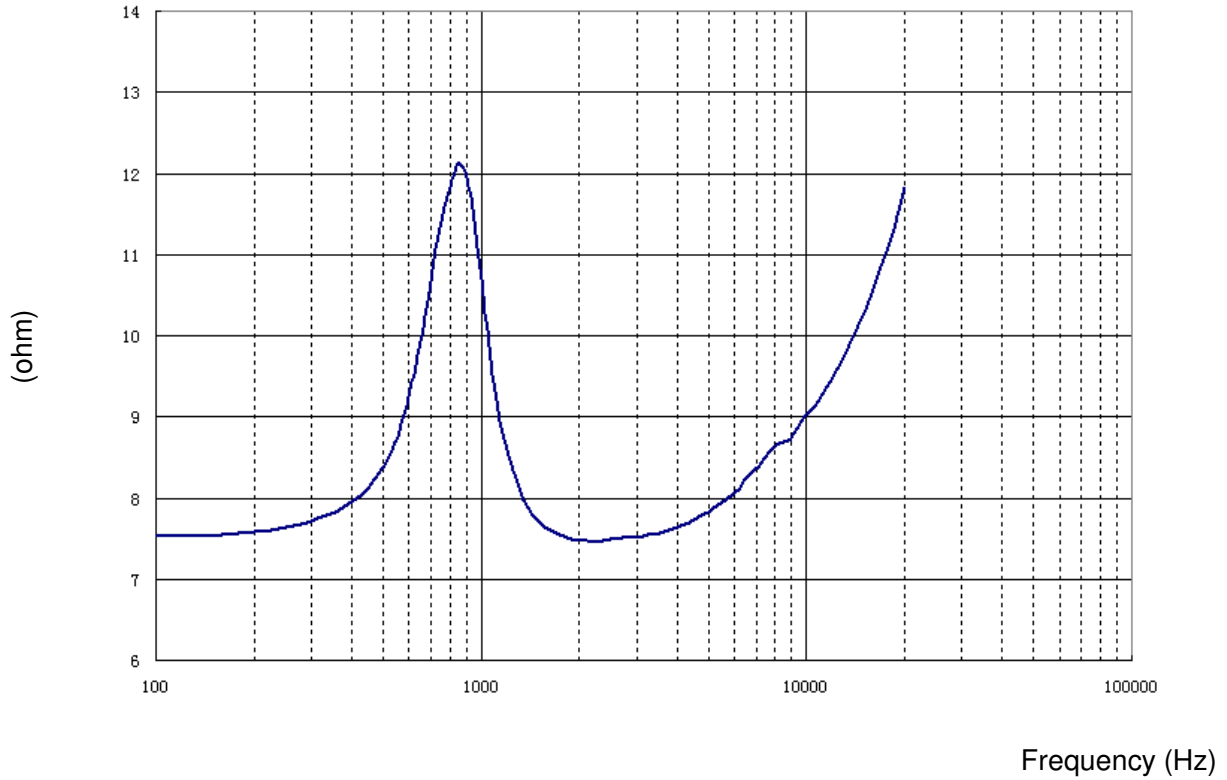
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4.6 F0 Curve (only for reference)

A: Frequency Response Magn 0 dB re 20.00μPa/V 1/12Oct



4.6.1 Resonance Frequency

Resonance frequency is measured according test set up in chapter 4.1 and parameters according chapter 4.6

This test is performed on the production line by 100%.

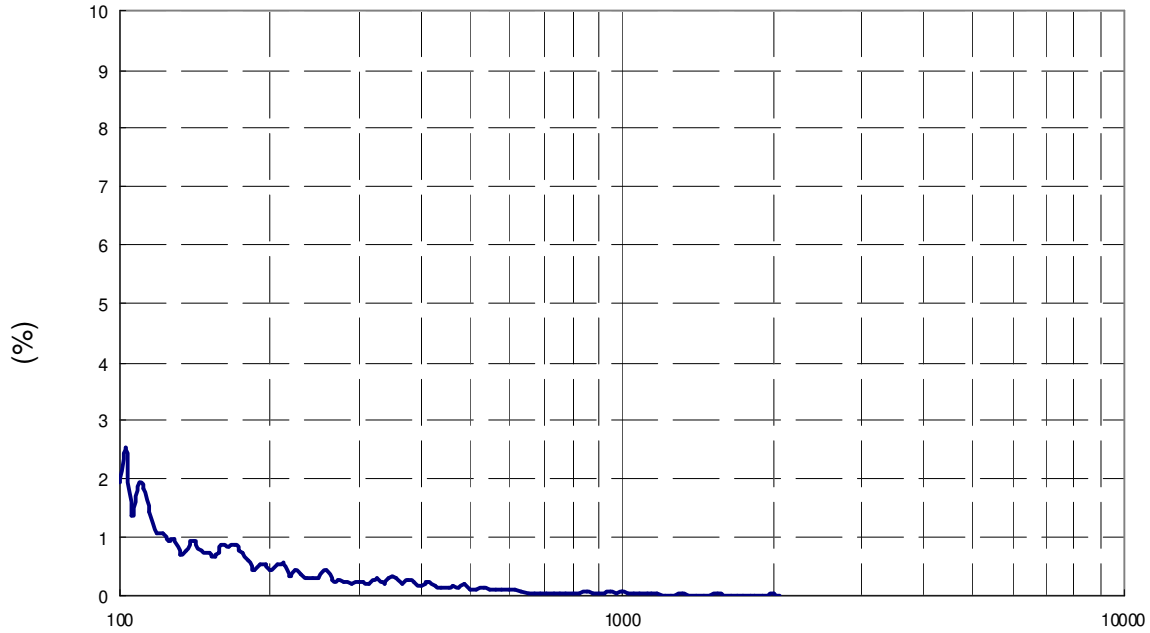
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4.7 R&B Curve (only for reference)

A: Frequency Response Magn 0 dB re 20.00μPa/V 1/12Oct



Frequency (Hz)

Frequency (Hz)

4.7.1 R&B

R&B is measured according test set up in chapter 4.1 and parameters according chapter 4.7

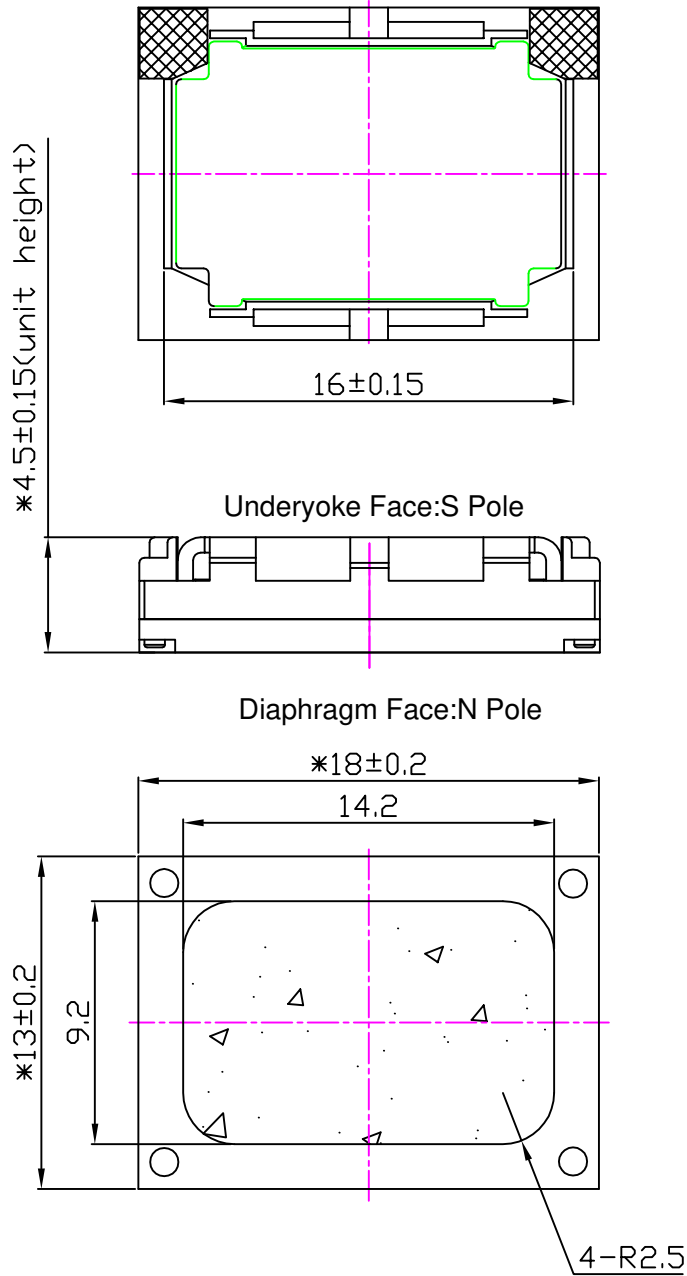
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5. Drawing

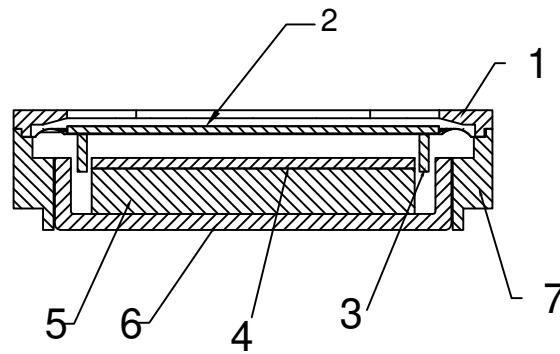


unit:mm
tolerance:±0.2

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No	Description of the part	Material
1	Front Cover	PC
2	Diaphragm	PEEK+AL
3	Coil	CCAW
4	Polar piece	SPCC
5	Magnet	Nd-Fe-B
6	Under Yoke	SPCC
7	Frame	PPA

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6. Reliability Test

6.1 Load Test

Power (Nom) 0.7W(with white noise in 1cc box 20Hz~10KHz)
Duration 96hrs

6.2 High Temperature Test

Temperature $+70\pm 3^{\circ}\text{C}$
Duration 96hrs

6.3 Low Temperature Test

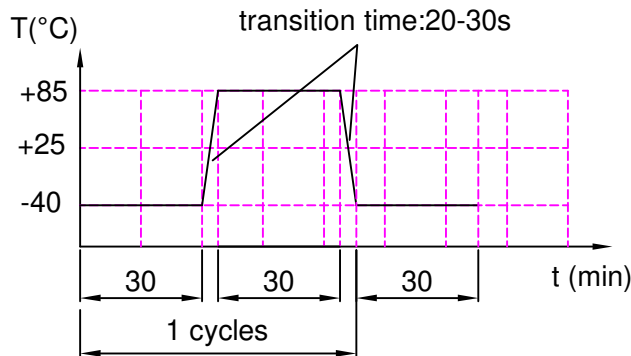
Temperature $-20\pm 3^{\circ}\text{C}$
Duration 96hrs

6.4 Damp Heat

Temperature $40\pm 3^{\circ}\text{C}$
Relative Humidity 90%-95%RH
Duration 96hrs

6.5 Temperature Cycle Test

Cycles 10



6.6 Drop Test

Height 1.0m
Drop face thick ness wooden board (20mm)
Times 10
(three times in each direction)

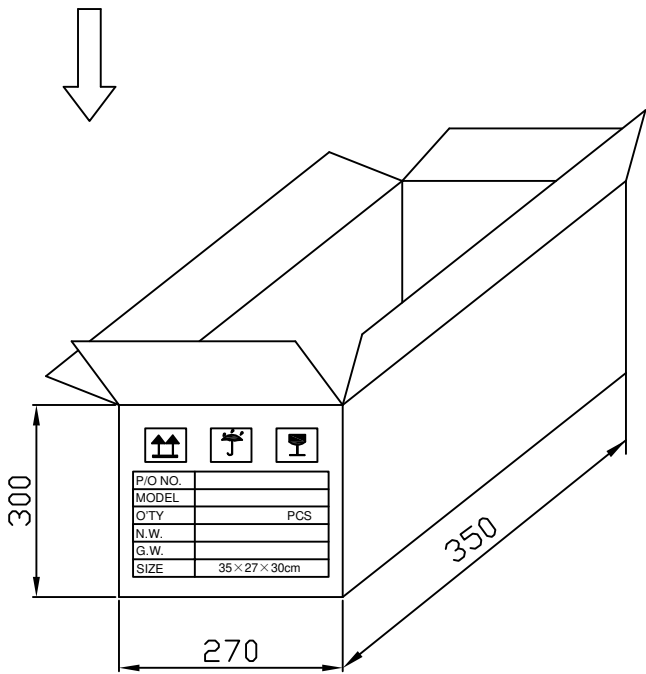
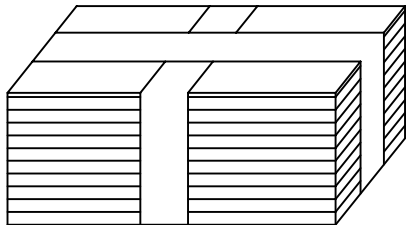
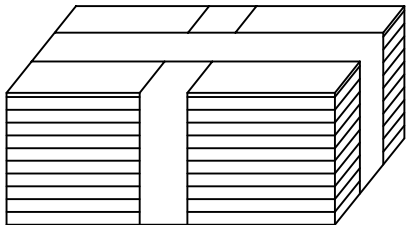
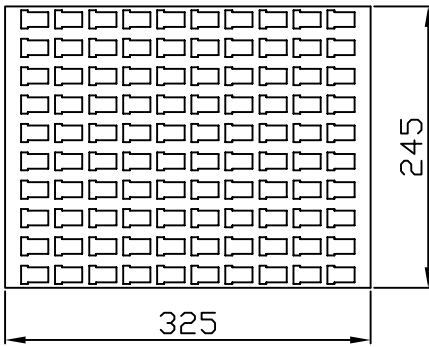
Notice:

- 1.Immediately after reliability test,the samples shall be stored under climatic conditions such as normally exist in ordinary rooms or laboratories.Unless otherwise noted,the recovery period shall be 4hrs at least before performance testing.
2. After reliability test ,all samples must be meet the requirements specified
- 3.Sensitivity difference at 2~5KHz shall be within $\pm 3\text{dB}$ from initial value after test.

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7. Packing



Remark:
 100 pcs per tray
 10 trays for unit
 1000 pcs per carton
 2 carton per box
 Total 2000pcs per box
 Size: 35×27×30(cm)

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8. History Change Record

version No.	Change Items		Date	Drawn	Approved
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