



SPECIFICATION

CUSTOMER:

PRODUCTS : MICRO SPEAKER

MODEL : XHS171231LN-01-RH

ITEM. NO. :

DATE : 2022-2-21



APPROVER	CHECKER	DESIGNER

CUSTOMER APPROVER

SIGNATURE	IMPRINTMENT

ZHEJIANG HAOSHENG ELECTRONIC TECHNOLOGY CO., LTD

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314112

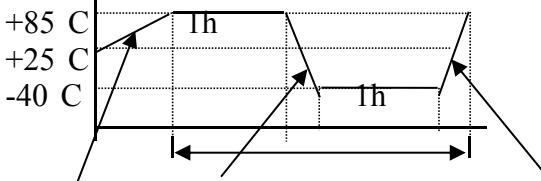
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ZHEJIANG HAOSHENG ELECTRONIC TECHNOLOGY CO., LTD TEL:86-573-84645930 、 84646197 FAX:86-573-84646190 E-mail: services@xh-haosheng.com.			SPECIFICATIONS (1/13)			
			TYPE NO.	XHS171231LN-01-RH		Issue:A/3
Environmental Requirement	HF	✓	RoHS	✓	REACH	✓
Revision						
No	Date	Page	Description			Sign
1	2022.2.17	7/13	UPDATE SPEC			CAI
2	2022.2.18	2/13	UPDATE SPEC			CAI
3	2022.2.21	2,12/13	UPDATE SPEC			CAI
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ZHEJIANG HAOSHENG ELECTRONIC TECHNOLOGY CO., LTD TEL:86-573-84645930 、 84646197 FAX:86-573-84646190 E-mail: services@xh-haosheng.com.		SPECIFICATIONS (2/13)		
		TYPE NO.	XHS171231LN-01-RH	Issue:A/3
1. Product Outline				
1-1. Scope		This specification is a typical speaker unit for telephone handset		
1-2. Dimensions		As shown in figure 1		
1-3. Net Weight		Approx 1.3 grams		
1-4. Operating Temperature Range		-30 C to +70 C without loss of function		
1-5. Storage Temperature Range		-40 C to +85 C (Note: Return to ambient room temperature before using)		
2. Electroacoustic Characteristics				
2-1. Test Setup		Measuring instrument as shown in Figure 3		
2-2. Impedance		8 ±15% ohm (at 2.5 KHz, 2.83V input)		
2-3.Sound Pressure Level		94.5±2 dB SPL /1W/10cm at 2kHz in 0.8cc box Speaker shall be mounted in a baffle with minimum dimensions of 80cm x 100cm. SPL@500Hz CPK>1.33, SPL@2000Hz CPK>1.33.		
2-4.Frequency Response		Test at 2.83Vrms/10cm with the speaker mounted in 0.8cc measure box in a baffle.		
2-5.Bass Resonance Frequency		850±10% Hz in 0.8cc box		
2-6. Iput Power (Rated./Max.)		Rated Power: 1W (in 0.8cc box) Maximum Power: 1.5W (in 0.8cc box)		
2-7.Rub and Buzz:		Using an audio oscillator, 200-3.4kHz at 2.83V, in 0.8cc box, no abnormal sound, 200Hz-600Hz at 3.5V, in 0.8cc box, no abnormal sound.		
2-8.THD		Test at 2.83Vrms/10cm with the speaker mounted in 0.8cc measure box in a baffle.		
2-9.Polarity		When a DC source's “+” polarity is attached to speaker's “+” polarity,“-“ polarity is attached speaker's “-“ polarity ,the membrane will move forward .		

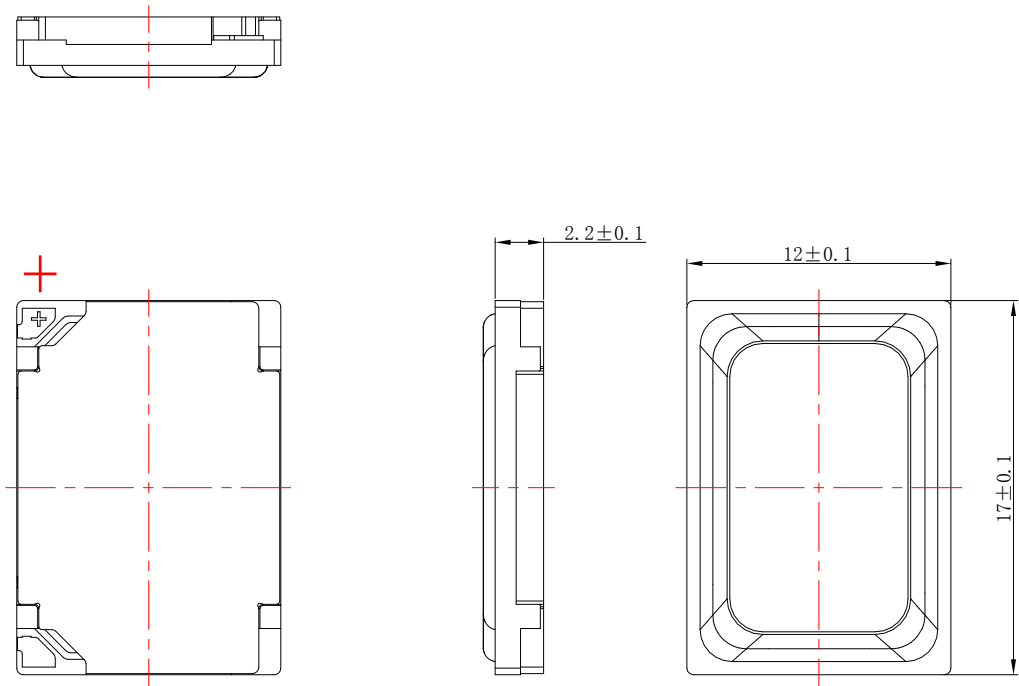
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3. General Reliability				
3-1 General		After any following tests the response at 1 KHz shall not deviate more than 3 dB from the initial value		
3-1 Temperature Shock Test		Temperature: -40 $\pm$ 3 C $\longleftrightarrow$ +85 $\pm$ 3 C Cycle: 10 cycles Duration: 1 hour 1 hour (recovery 2 hours)  (30minutes) (5minutes) 1 cycle (5minutes)		
3-2 Static Humidity Test		Precondition at +25°C for 1 hour. Next expose samples to +55°C with 95% relative humidity for 96 hours with no bias. Finally allow test samples to dry at room ambient temperature for 3 ± 1 hour before taking final measurements.		
3-3 Vibration Test		Secure device using a fixture appropriate for this test. Fixture shall be capable of mounting on vibration table. Vibrate from 10Hz to 2000Hz, 1 octave per minute, 0.06” double amplitude, 2mm displacement ±x, ±y, ±z directions with 15 g’s force for 2 hrs per each plane.		
3-4 Drop Test		Drop samples 1.5 meters three times in each direction along each of the three mutually perpendicular axes for a total of 18 shocks.(Samples shall be mounted in a 100g fixture)		
3-5 Operating Life Test		0.8cc box;25°C;Pink noise;20Hz-20kHz;1W ;Crest factor 3-4;96 H		
3-6.Rated Sweep Power Test		0.8cc box;25°C;Rated Power(1W);650-1050Hz; 1 sec;12 H		
3-7 Max Power Test		0.8cc box;25 °C ;Pink noise;20Hz-20kHz1.5W;1 sec on/60 sec off;60 cycles		
3-8.High Temperature Test		85 +/-2°C;96H;2H Recovery time		
3-9.Low Temperature Test		-40 +/-2°C;96H;2H Recovery time		

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SPECIFICATIONS
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TYPE NO.	XHS171231LN-01-RH	Issue:A/3
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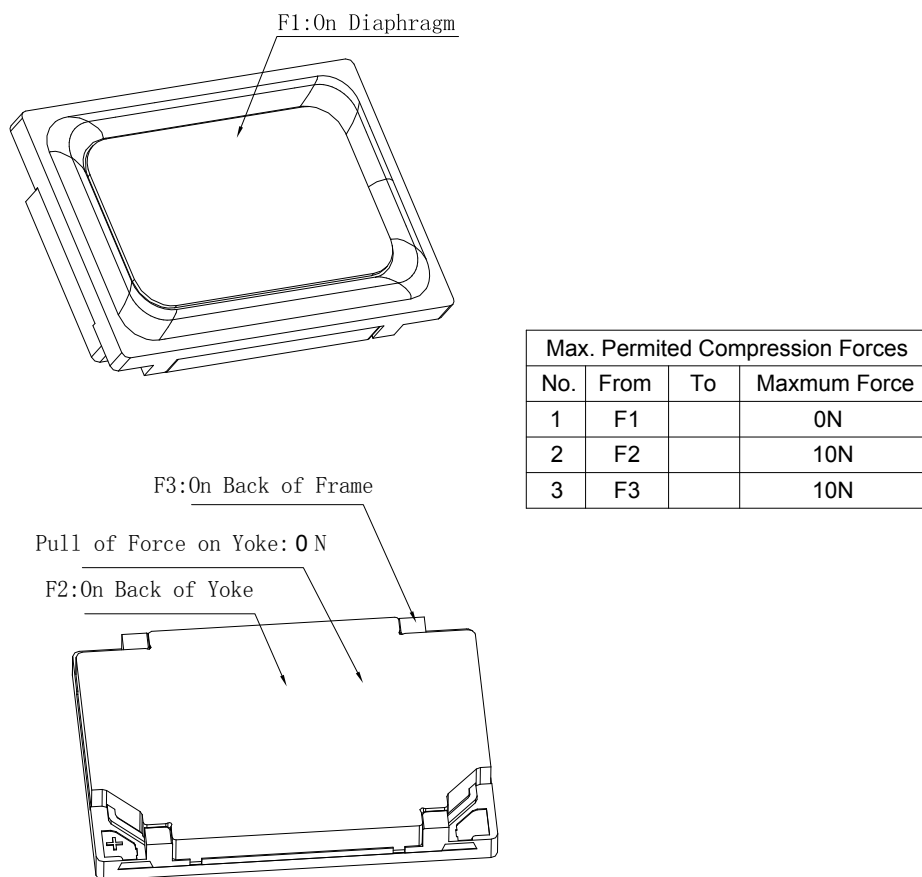
4. Mechanical Layout and Dimensions
4.1 Mechanical Layout



Notes:
1、 General unless otherwise noted $\pm 0.15\text{mm}$.
(Figure 1)

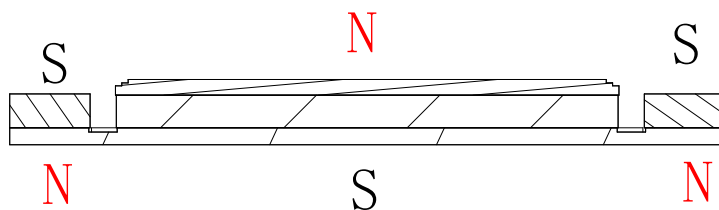
8	Dome	PMI	1	
7	Diaphragm	PEEK	1	
6	FPC	PI+CU	1	
5	Voice Coil	DHT-3DS	1	
4	Frame	PPA	1	
3	Pole piece	SPCC	1	
2	Magnet	NdFeB	5	
1	Yoke	SPCC	1	
No.	Part Name	Material	Q'TY	Remark

4.2. Permitted Force to Speaker



(Figure 2)

4.3 Magnetic Polarity



(Figure 3)

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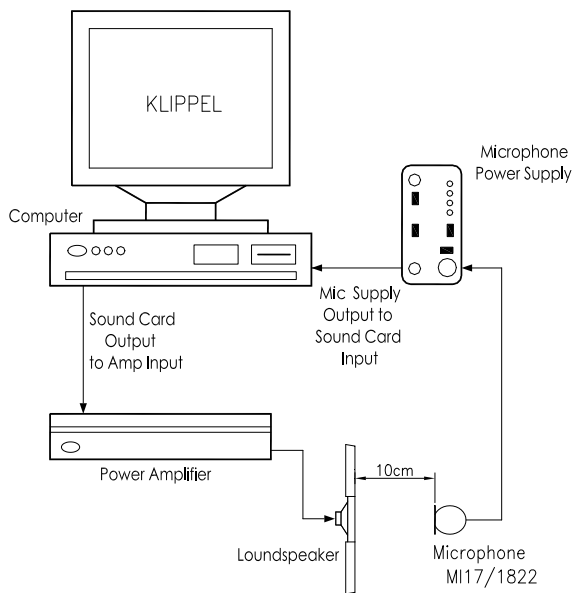
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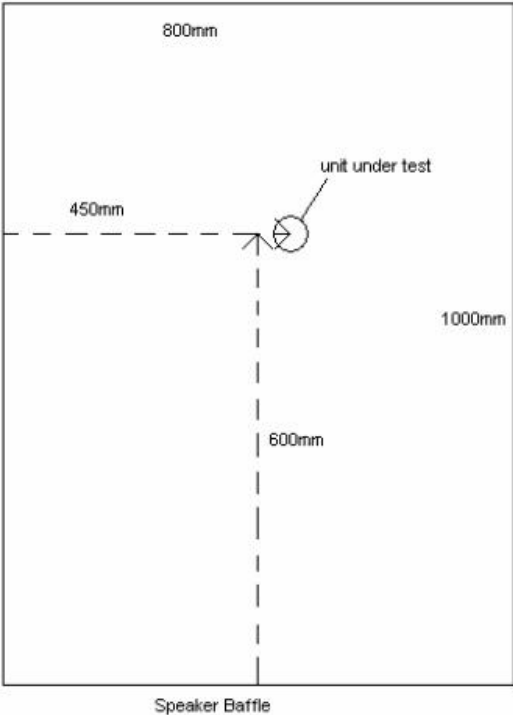
Issue:A/3

5. Measuring Setup



(Figure 4)

Baffle



(Figure 5)

SPECIFICATIONS

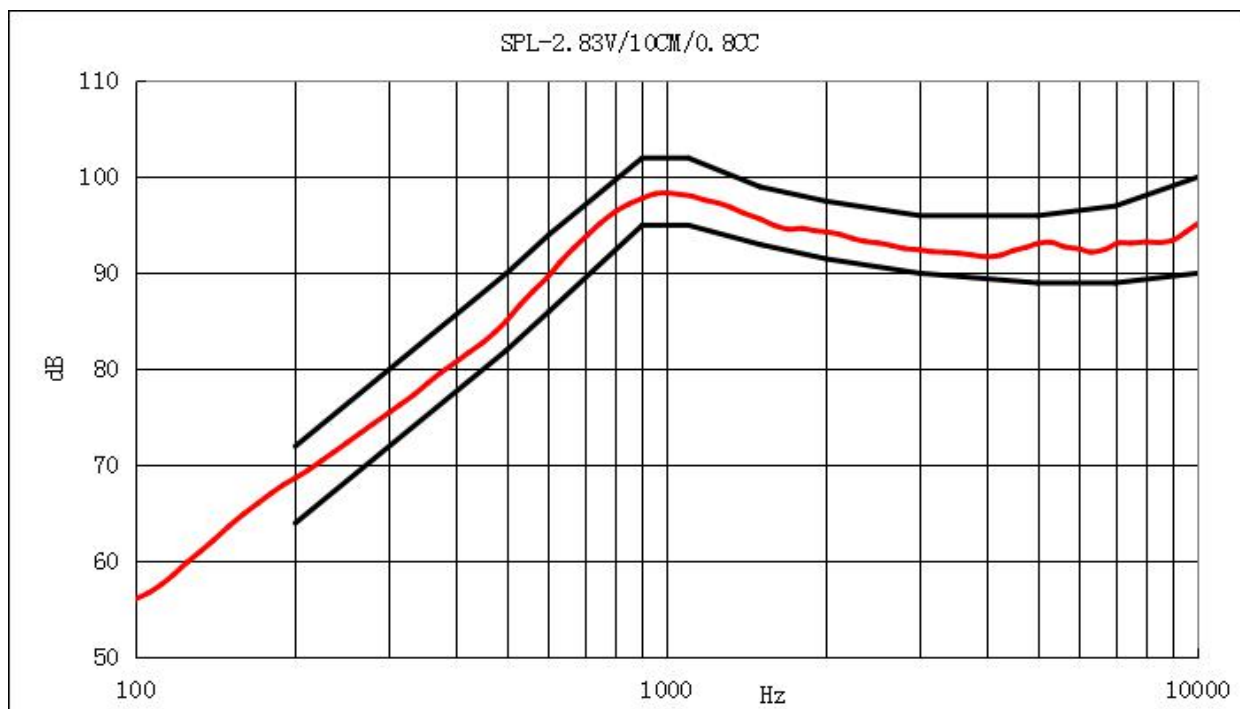
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6. Frequency Response



Frequency (Hz)	Upper Limits (dB)	Lower Limits (dB)
200	72	64
500	90	82
600	94	86
900	102	95
1100	102	95
1500	99	93
2000	97.5	91.5
3000	96	90
5000	96	89
7000	97	89
10000	100	90

(Figure 6)

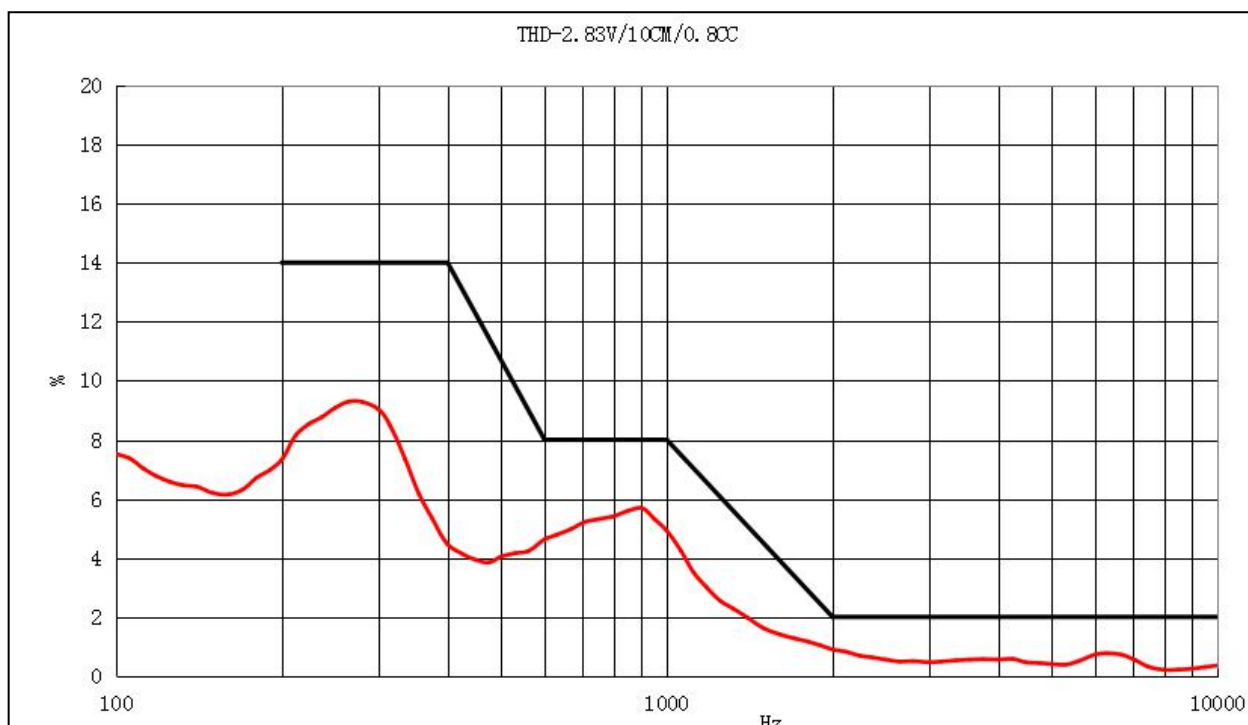
SPECIFICATIONS (8/13)

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7. Total Harmonic Distortion



Frequency(Hz)	Limits
200	14
400	14
600	8
1000	8
2000	2
10000	2

(Figure 7)

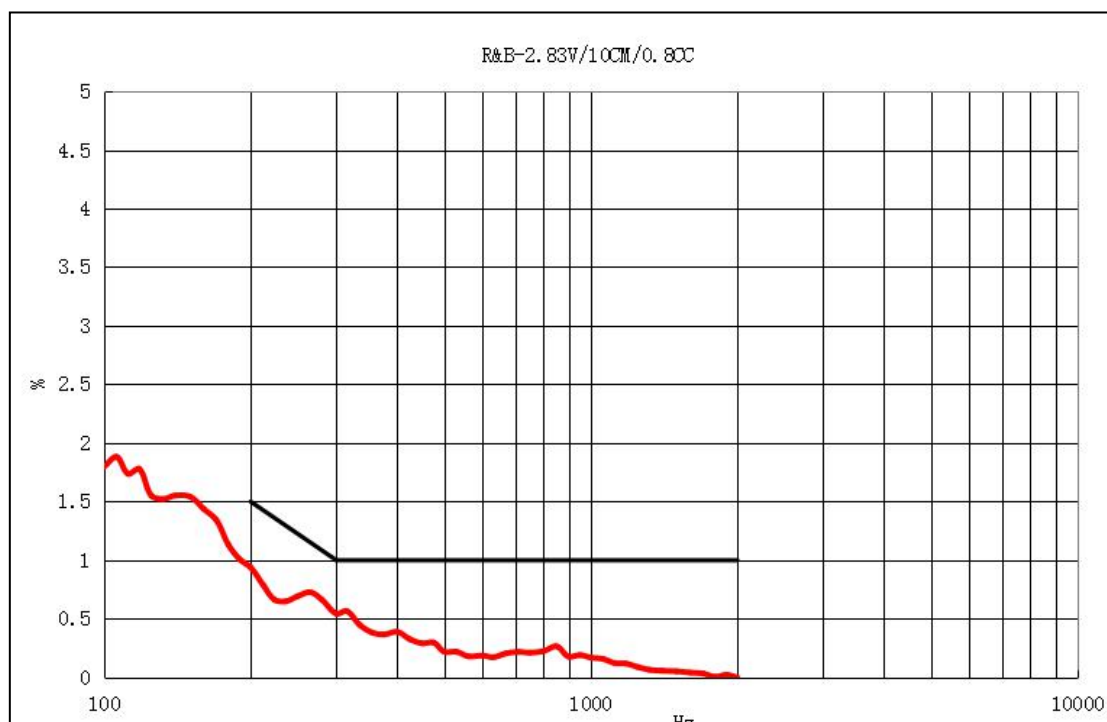
SPECIFICATIONS (9/13)

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8. R&B



Frequency (Hz)	Limits
200	1.5
300	1
2000	1

(Figure 8)

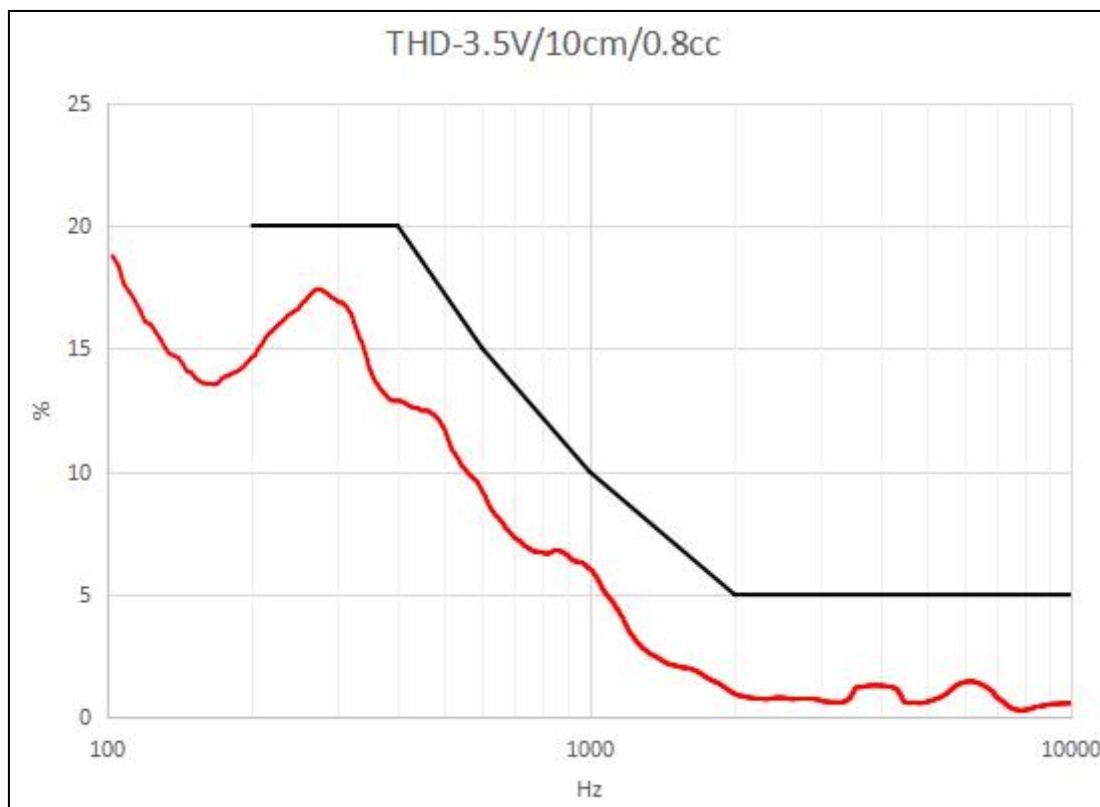
SPECIFICATIONS (10/13)

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9. 3.5V Total Harmonic Distortion



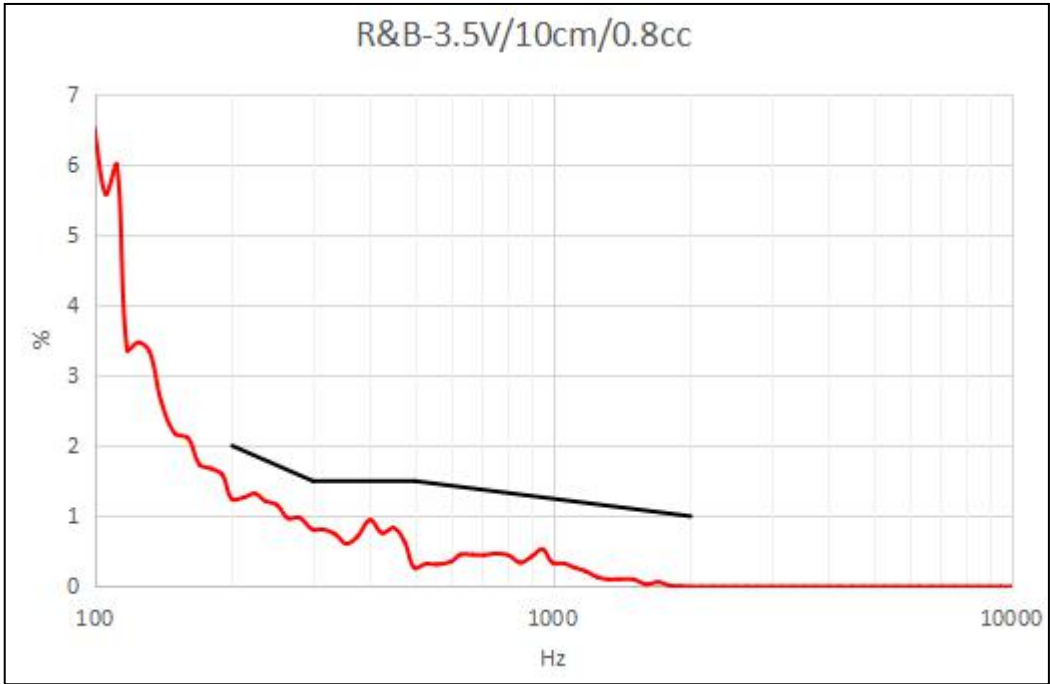
Frequency (Hz)	Limits
200	20
400	20
600	15
1000	10
2000	5
10000	5

(Figure 9)

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10. 3.5V R&B



Frequency (Hz)	Limits
200	2
300	1.5
500	1.5
2000	1

(Figure 10)

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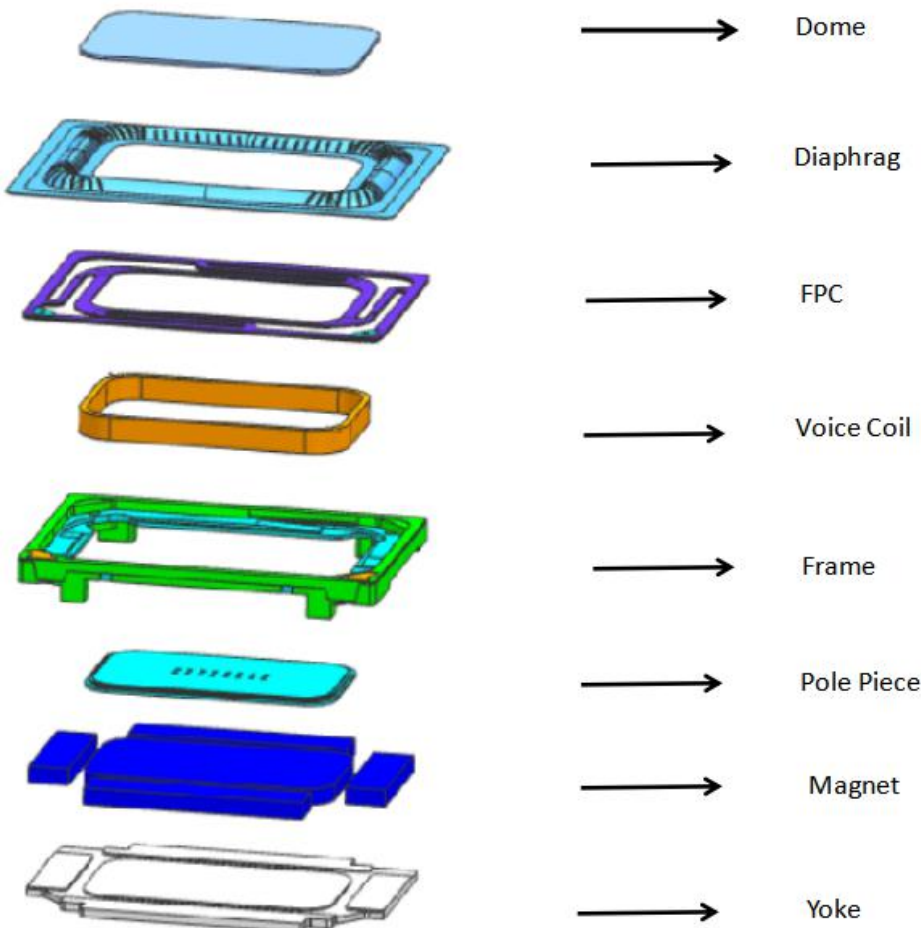
11.TS

Re (ohms)	6.76
Le (mH)	0.045
BL (T*m)	0.907
Mm (g)	0.107
Cm (mm/N)	0.985
Rm (mech ohms)	0.109
F0 (Hz)	490.8
Qms	3.028
Vas (l)	0.0024
Xmax (mm)	0.4
Sd (mm ²)	130
Tmax (°C)	100
Tcoef	0.00393

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12.Explosive View



(Figure 11)

8	Yoke	XH171204-21P-RH	1	SPCC	自制
7	Magnet	XH171202-46、47、48P-RH	5	NdFeB	有研
6	Pole piece	XH171203-35P-RH	1	SPCC	自制
5	Frame	XH171201-34A-RH	1	PPA	自制
4	Voice Coil	XH171206-32P-RH	1	DHT-3DS	大黑
3	FPC	XHM171215-54P-N-RH	1	PI+CU	众盛
2	Diaphragm	XH171205-86P-RH	1	PEEK	自制
1	Dome	XH171205-87P-J-RH	1	PMI	英德昌
No.	Part Name	Trade Name	Q'TY	Material	Brand