



# Specification For Approval

## 承認書

客 戶 (Customer)			
品 名 (Product Name)	ECM		
機 種 (Model No.)			
客戶料號 (Customer Parts No.)			
供應商料號 (Supplier Model No.)	PVM9745-EP423S050		
客戶承認簽章 Customer Approval Signature	In Charge	Checked	Approval

Revision History			
Version	Date	Description	Author
V 00	2018.08.06	Creation	VIVIAN

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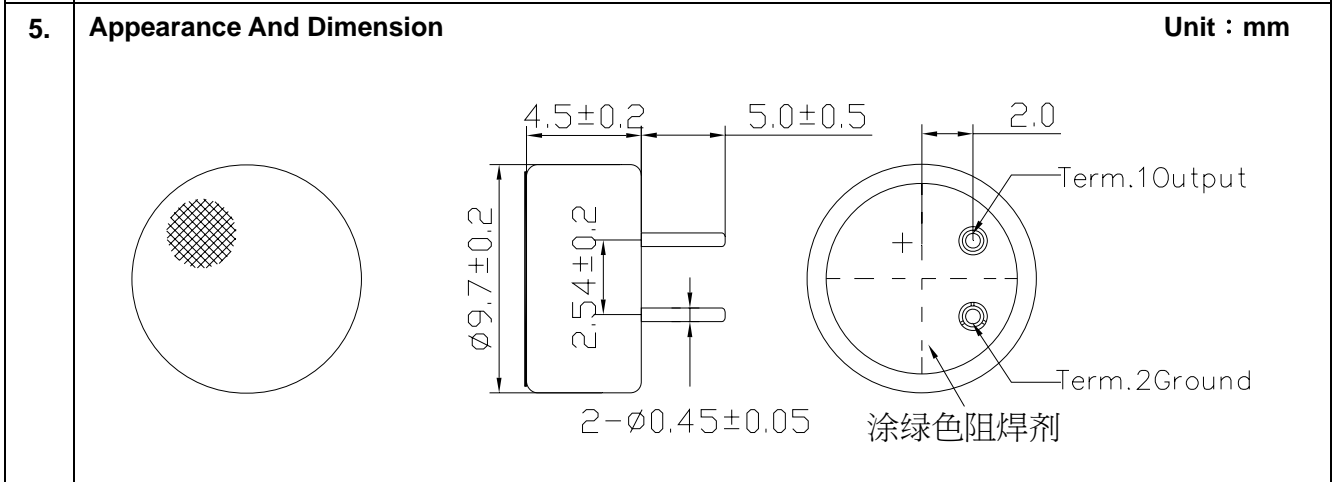
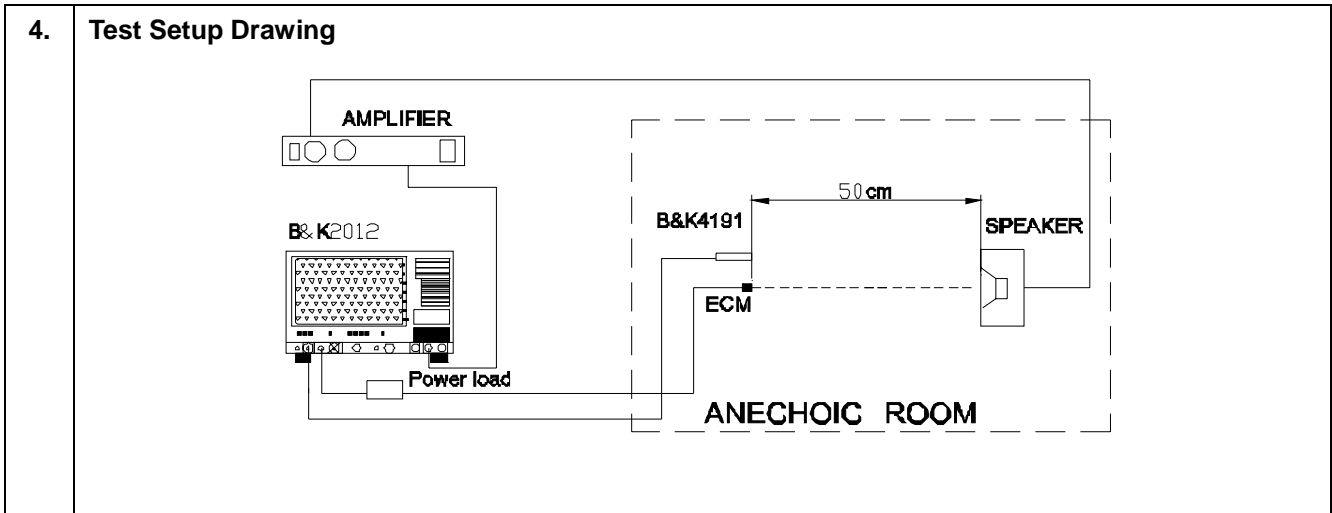
Design :     VIVIAN     Checked :     VIVIAN     Approval :     VIVIAN

# VECO VANSONIC ENTERPRISE CO.,LTD.

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1.	Name :	Omni directional Film Electret Condenser Microphone																																		
2.	Model No.	<b>PVM9745-EP423S050</b>																																		
3.	Scope :	Electrical characteristics (Temp=20±2°C Room Humidity=65±5%)																																		
	No	Parameter	Symbol	Condition	Limits			Unit																												
					Min.	Center	Max.																													
	3.1	Sensitivity	S	0dB=1V/Pa , at 1kHz	-45	-42	-39	dB																												
	3.2	Output impedance	Z out	f=1kHz			2.2	KΩ																												
	3.3	Current Consumption	I <sub>DSS</sub>	V <sub>CC</sub> =3.0V,R <sub>L</sub> =2.2KΩ			500	μA																												
	3.4	Signal to Noise Ratio	S/N	at 1kHz S.P.L=1Pa (A-Weighted Curve)	58			dB																												
	3.5	Decreasing Voltage	ΔS	V <sub>CC</sub> =3.0V to2.0V			-3	dB																												
	3.6	Operating Voltage			1.0		10	V																												
	3.7	Maximum input S.P.L					110	dB																												
	3.8	Typical Frequency Response Curve																																		
		Frequency Response				Microphone Response Tolerance Window																														
						<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Frequency(Hz)</th> <th style="text-align: center;">Lower Limit(dB)</th> <th style="text-align: center;">Upper Limit(dB)</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">50</td><td style="text-align: center;">-6</td><td style="text-align: center;">+3</td></tr> <tr><td style="text-align: center;">100</td><td style="text-align: center;">-3</td><td style="text-align: center;">+3</td></tr> <tr><td style="text-align: center;">800</td><td style="text-align: center;">-3</td><td style="text-align: center;">+3</td></tr> <tr><td style="text-align: center;">1000</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td></tr> <tr><td style="text-align: center;">1200</td><td style="text-align: center;">-3</td><td style="text-align: center;">+3</td></tr> <tr><td style="text-align: center;">3000</td><td style="text-align: center;">-3</td><td style="text-align: center;">+8</td></tr> <tr><td style="text-align: center;">5000</td><td style="text-align: center;">-3</td><td style="text-align: center;">+8</td></tr> <tr><td style="text-align: center;">10000</td><td style="text-align: center;">-8</td><td style="text-align: center;">+8</td></tr> </tbody> </table>				Frequency(Hz)	Lower Limit(dB)	Upper Limit(dB)	50	-6	+3	100	-3	+3	800	-3	+3	1000	0	0	1200	-3	+3	3000	-3	+8	5000	-3	+8	10000	-8	+8
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3000	-3					+8																														
5000	-3	+8																																		
10000	-8	+8																																		
3.9	Measurement Circuit																																			
							R <sub>L</sub> =2.2KΩ																													
							V <sub>s</sub> =3.0V																													
							C=1μF																													



**6. Drawing**

The drawing shows the assembly of the component with numbered parts 1 through 10. The parts are: 1. Felt, 2. Case, 3. Diaphragm, 4. Spacer, 5. Electret Back, 6. Housing Chamber, 7. Copper ring, 8. P.C.B, 9. FET, 10. PIN.

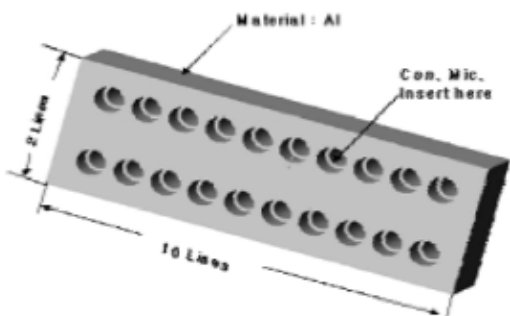
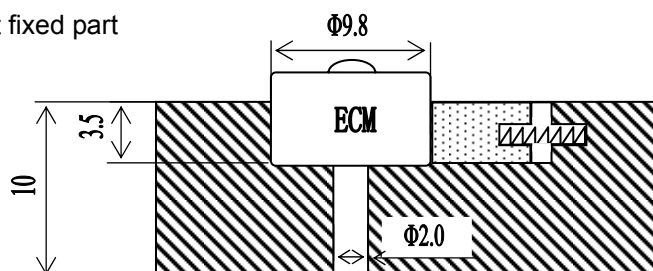
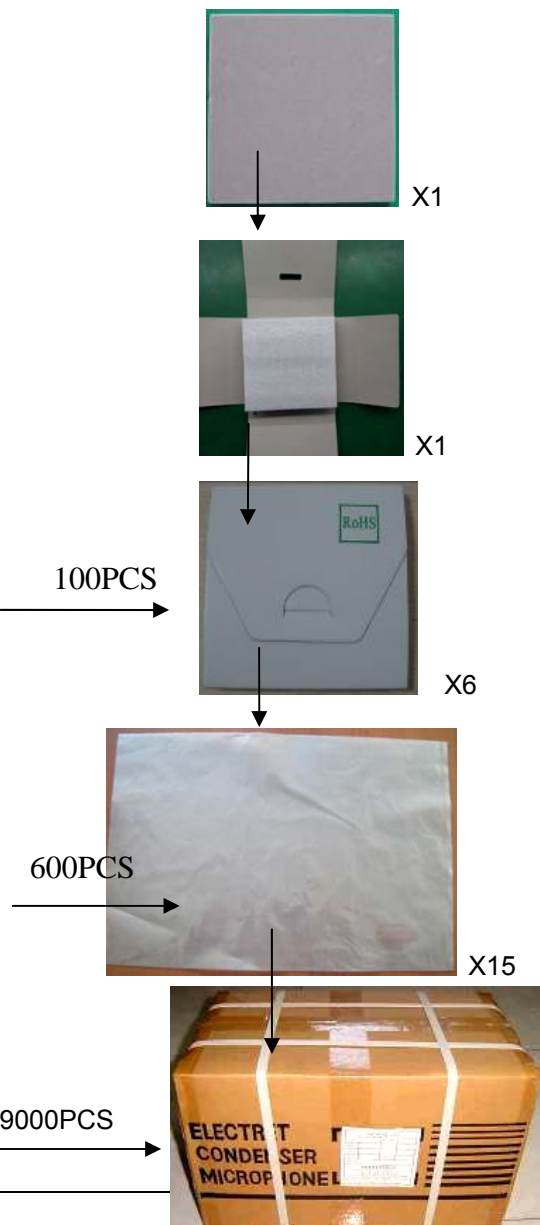
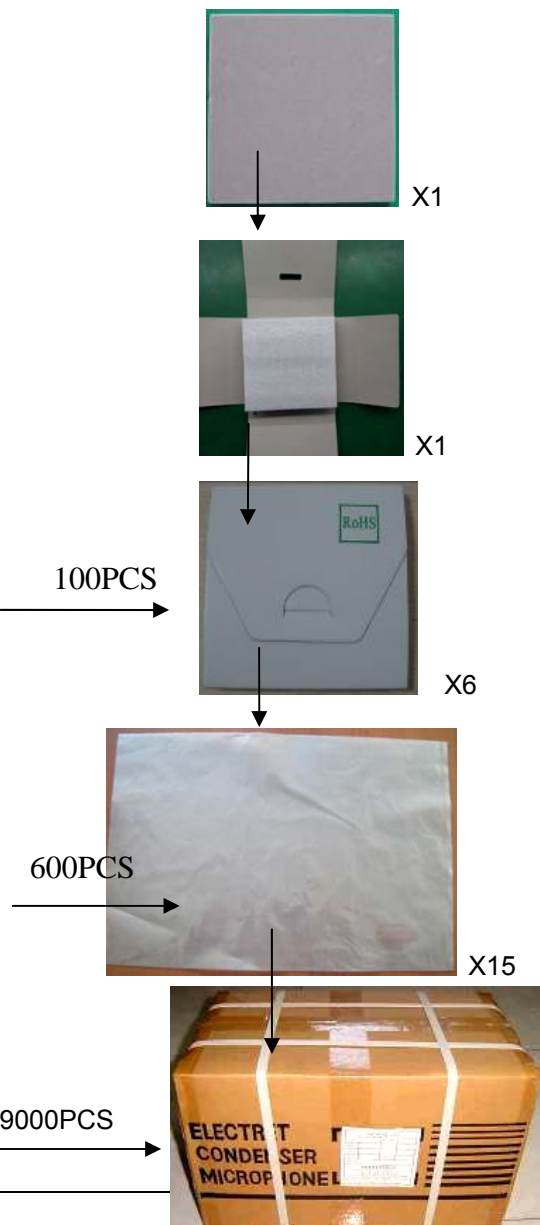
No.	Name	material	QTY	Remark
10	PIN		2	copper
9	FET		1	
8	P.C.B		1	FR-4
7	Copper ring		1	
6	Housing Chamber		1	
5	Electret Back		1	
4	Spacer		1	
3	Diaphragm		1	
2	Case	Al-Mg alloy	1	
1	Felt	Fabric cloth	1	

**7. Temperature Conditions** Note: Store in electronic warehouse

Storage Temperature Range	Operation Temperature Range
-40°C ~ +75°C	-40°C ~ +75°C

**8. Terminal Mechanical Strength**  
Terminal mechanical strength to be no interference in operation after pulled the terminal with 1kg strength for 1 minute.

<p><b>9.</b></p>	<p><b>Reliability Test</b></p> <p>After each of following test, the sensitivity of the microphone should be within <math>\pm 3\text{dB}</math> of initial sensitivity after 3 hours of conditioning at <math>20^{\circ}\text{C}</math>.</p> <p>1. <b>Vibration Test</b></p> <p><b>Frequency : 10Hz~55Hz</b>  <b>Amplitude : 1.52mm</b>  <b>Change of Frequency : 1 octave/min</b>  <b>2 hours in each of axes</b></p> <p><b>2. High Temperature Test</b>  <b>+75°C for 240 hours.</b></p> <p><b>3. Low Temperature Test</b>  <b>-40°C for 240 hours.</b></p> <p><b>4. Humidity Test</b>  <b>90%~95%RH,+60°C for 240 hours.</b></p> <p><b>5. Thermal shocking test</b>  <b>-40°C, 30 minutes <math>\leftrightarrow</math> +75°C, 30 minutes, repeated 32 cycles <math>\rightarrow</math> room temperature, 3 hours.</b></p> <p><b>6. Temperature Cycles</b>  <b>-40°C <math>\longleftrightarrow</math> +20°C <math>\longleftrightarrow</math> +75°C <math>\longleftrightarrow</math> +20°C <math>\longleftrightarrow</math> -40°C</b>  <b>(2h) (0.5h) (2h) (0.1h) (2h) (0.5h) (2h) (0.5h) (2h) for 5 cycles.</b></p> <p><b>7. Packing Drop Test</b>  <b>Height : 1.5m</b>  <b>Procedure: 5 times from each of axes</b></p> <p><b>8. Electrostatic discharge</b>  <b>Tested to IEC61000-4-2 level 3 :</b></p> <p>a) <b>Contact discharge</b>  The microphone shall operate normally after 10 discharges to is 6KV DC and the discharge network is 150pF and 330<math>\Omega</math>.</p> <p>b) <b>Air discharge</b>  The microphone shall operate normally after 10 discharges to is 8KV DC and the discharge network is 150pF and 330<math>\Omega</math></p>
<p><b>10.</b></p>	<p><b>Soldering Condition</b></p> <p>1. We suggest using anti-static welding machine which can control soldering temperature automatically.</p> <p>2. Soldering temperature should be controlled under <math>320^{\circ}\text{C}</math> and soldering time for each terminal should be 1~2 sec..</p> <p>3. Microphone should be fixed on the metal block (heat sink), which has high radiation effects, and heat sink shall contact with MIC tightly.</p> <p>4. Microphone may easily be destroyed by the static electricity and the countermeasure for eliminating the static electricity shall be executed (worktable and human body shall be ground connection).</p>

10.	<p>5. Shape of heat sink</p> 				
	<p>Shape of hole at fixed part</p> 				
11.	<table border="1"> <thead> <tr> <th data-bbox="204 824 782 873">Packing Introduction</th> <th data-bbox="782 824 1465 873">Packing chart</th> </tr> </thead> <tbody> <tr> <td data-bbox="204 873 782 2072"> <p><b>DIMENSION:(LENGTH*WIDTH *HEIGHT)</b></p> <p>a) CASING SPONGE 98mm*98mm*10mm</p> <p>b) SMALL PACKET 100mm*100mm*20mm</p> <p>c) CASING SPONGE 98mm*98mm*5mm</p> <p>d) PLASTIC BAG: 200mm*300mm*50mm</p> <p>e) PAPER CASE: 500mm*300mm*285mm</p> <p><b>EQUIPMENT</b></p> <p>f) ADHENSIVE TAPE MACHINE</p> <p>g) AUTO PACKER</p> <p><b>PACKING INTRODUCTION</b></p> <p>h) 100PCS/ SMALL PACKET</p> <p>i) 600PCS/MID PACKET</p> <p>j) 9000PCS/PAPER CASE</p> <p><b>QUANTITY INTRODUCTION</b></p> <p>k) 1PC=0.7g</p> <p>l) NET WEIGHT : 6.3 kg GROSS WEIGHT : 9.3kg</p> <p><b>LABEL STIPULATION</b></p> <p>LABELEDEVERY BOXES (SEE THE CHART)</p> <p>DIMENSIONSSHOULDBESEEN EASILY.</p> </td> <td data-bbox="782 873 1465 2072">  </td> </tr> </tbody> </table>	Packing Introduction	Packing chart	<p><b>DIMENSION:(LENGTH*WIDTH *HEIGHT)</b></p> <p>a) CASING SPONGE 98mm*98mm*10mm</p> <p>b) SMALL PACKET 100mm*100mm*20mm</p> <p>c) CASING SPONGE 98mm*98mm*5mm</p> <p>d) PLASTIC BAG: 200mm*300mm*50mm</p> <p>e) PAPER CASE: 500mm*300mm*285mm</p> <p><b>EQUIPMENT</b></p> <p>f) ADHENSIVE TAPE MACHINE</p> <p>g) AUTO PACKER</p> <p><b>PACKING INTRODUCTION</b></p> <p>h) 100PCS/ SMALL PACKET</p> <p>i) 600PCS/MID PACKET</p> <p>j) 9000PCS/PAPER CASE</p> <p><b>QUANTITY INTRODUCTION</b></p> <p>k) 1PC=0.7g</p> <p>l) NET WEIGHT : 6.3 kg GROSS WEIGHT : 9.3kg</p> <p><b>LABEL STIPULATION</b></p> <p>LABELEDEVERY BOXES (SEE THE CHART)</p> <p>DIMENSIONSSHOULDBESEEN EASILY.</p>	
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