



# Certificate of Conformity

The products

**EUT : Gooseneck microphone**  
**Trade Name : JTS**  
**Model No. : GM-5212L**  
**Serial Model : GML-5218, GML-5212, GML-5206, GM-5218, GM-5212, GM-5206, GM-5218L, GM-5206L, GM-5218C, GM-5212C, GM-5206C, GM-5218CL, GM-5212CL, GM-5206CL**

which produced by

**Superior Electronics Corporation**

**No. 10, Lane 31, Chongde St., Sinyi District, Taipei City 110, Taiwan (R.O.C.)**

Has been tested by Electronics Testing Center, Taiwan ETC  
And was found to comply with the EMC requirements on the basis of

**EN 61000-6-3:2007**

**EN 61000-6-1:2007**

\_\_\_\_\_  
Signature

Will Yauo

Manager of EMC Testing Department II

Electronics Testing Center, Taiwan

Report Number : 09-10-RBF-166

Date of Issue: Nov. 06, 2009

- Note:
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  3. Together with the applicant's own documented production control, the applicant (or his European authorized representative) could draw up an EC Declaration of Conformity and affix the CE marking.
  4. EC Declaration of Conformity is the responsibility of the manufacturer/ importer.

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# *EMC*

## *TEST REPORT*

Responsible Party : *JTS PROFESSIONAL CO., LTD.*

Manufacturer : *Same as above*

Description of Product : *Gooseneck microphone*

Trade Name : *JTS*

Model No. : *GM-5212L*

Test Report File No. : *09-10-RBF-166*

Date Test Item Received : *Oct. 26, 2009*

Date Test Campaign Completed : *Nov. 04, 2009*

Date of Issue : *Nov. 06, 2009*

Test Performed by

ELECTRONICS TESTING CENTER (ETC) , TAIWAN

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TAIPEI COUNTY, TAIWAN, 24442, R.O.C.

TEL : (02)26023052 FAX : (02)26010910

[http:// www.etc.org.tw](http://www.etc.org.tw); e-mail:emc@etc.org.tw

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Note : 1. The results of the Test Report relate only to the items tested.  
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## 1 TEST REPORT CERTIFICATION

Client : JTS PROFESSIONAL CO., LTD.

Address : No. 148, 9th Industry Road, Ta-Li Industrial Park Ta-Li City, Taiwan,  
R.O.C.

Manufacturer : Same as above

Address : Same as above

EUT : Gooseneck microphone

Trade Name : JTS

Model No. : GM-5212L

Serial Model : GML-5218, GML-5212, GML-5206, GM-5218, GM-5212, GM-5206,  
GM-5218L, GM-5206L, GM-5218C, GM-5212C, GM-5206C,  
GM-5218CL, GM-5212CL, GM-5206CL

Test specifications :

Emissions : IEC CISPR 16-2-3:2006

Immunity : IEC61000-4-2:2008  
IEC61000-4-3:2006/A1:2007

Regulations applied :

Emissions : EN 61000-6-3:2007

Immunity : EN 61000-6-1:2007

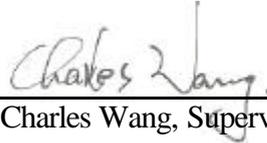
The testing described in this report has been carried out to the best of our knowledge and ability, and our responsibility is limited to the exercise of reasonable care. This certification is not intended to relieve the sellers from their legal and/or contractual obligations. Besides, the "Comment Issues" highlight above is important information for this test report. Responsible must read carefully about the description.

Test Engineer :



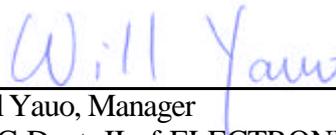
( Tien-Lu Liao, Engineer )

Check By :



( Charles Wang, Supervisor )

Approve &amp; Authorized :

Will Yauo, Manager  
EMC Dept. II of ELECTRONICS  
TESTING CENTER, TAIWAN

Laboratory Introduction: Electronics Testing Center, Taiwan is recognized, filed and mutual recognition arrangement as following:

- ① ISO9002 : BSMI, TÜV Product Service
- ② ISO/IEC 17025 : BSMI, CNLA, DGT, NVLAP, CCIBLAC, UL, Compliance
- ③ EN45001 : TÜV Rheinland, NEMKO, FIMKO, SGS
- ④ Filing : FCC, Industry Canada, VCCI
- ⑤ MRA : Australia, Hong Kong, New Zealand, Singapore, USA, Japan, Korea, China, APLAC through CNLA

## 2 GENERAL INFORMATIONS

### 2.1 Description of EUT

Capsule type: Electret Condenser (for GM-5000L/GM5200CL series)

Polar pattern: Supercardioid

Sensitivity(at 1000 Hz): -58  $\pm$ dB (0db=1v/mber)

Impedance: 220  $\pm$ 30%

Max. SPL for 1% THD: 125dB

Output connector: XLR(M) type / SCREW: 5.8" X 27

Frequency response: 60 ~ 18000Hz

Power Supply: Phantom 48V

### 2.2 Related Information of EUT

Size of EUT : 21mm x 608mm x 21mm

Power Supply : DC 9Vdc

3PXLr Cable :  Nonshielded  Shielded  None, Length: 1.0 m

\* For more detailed features, please refer to User's Manual.

### 2.3 Tested Configuration

The EUT connected with other devices.

Following peripheral devices and interface cables were connected during the measurement:

Device	Manufacture	Model	Description
Gooseneck microphone*	Same as above	GM-5212L	1.0m Shielded 3PXLr Cable
Universal Gooseneck Mic Base	JTS	ST-5050	----

Remark “\*” means equipment under test.

### 2.4 Deviation Record

No modifications were required. (That is the EUT complied with the requirement as tested.)

### 2.5 Modification Record

No modifications were required. (That is the EUT complied with the requirement as tested.)

### 3 SUMMARY OF TEST RESULTS

#### 3.1 Emissions

##### 3.1.1 Radiated Emissions

**[X] – PASS (Operation Mode -HOR)**

Minimum EMI Margin to the limit: -21.1 dB at 48.97 MHz

**[X] – PASS (Operation Mode -VER)**

Minimum EMI Margin to the limit: -22.7 dB at 94.77 MHz

## 3.2 Immunity

### 3.2.1 Immunity Criteria

The results of all of the immunity tests performed on the EUT were evaluated according to the following criteria, and according to the manufacturer's specifications for the EUT:

**Performance criterion A :** The EUT continued to operate as intended. No degradation of performance or loss of function was allowed below a performance level specified by the manufacturer, when the EUT was used as intended.

**Performance criterion B :** The EUT continued to operate as intended after the test. No degradation of performance or loss of function was allowed below a performance level specified by the manufacturer, when the EUT was used as intended. During the test, degradation of performance was however allowed. No change of actual operating state or stored data was allowed.

**Performance criterion C:** Temporary loss of function was allowed, provided the function was self recoverable or could be restored by the operation of the controls.

### 3.2.2 Electrostatic Discharge Immunity

- No Degradation of Function

- Distortion of Function

- Error of Function

#### Requirement :Criterion B (or better)

- Satisfies Criterion A

- Satisfies Criterion B

- Satisfies Criterion C

### 3.2.3 RF Radiated Fields Immunity

- No Degradation of Function

- Distortion of Function

- Error of Function

#### Requirement :Criterion A

- Satisfies Criterion A

- Satisfies Criterion B

- Satisfies Criterion C

## 4 TEST DATA & RELATED INFORMATIONS

### 4.1 Emissions

#### 4.1.1 Radiated Emissions Test

##### 4.1.1.1 Radiated Emissions Test Data

Operating Conditions of The EUT : Operation Mode

Test Date : Nov. 04, 2009

Test Specification	IEC CISPR 16-2-3:2006			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Test Receiver	Rohde & Schwarz	ESCS 30	2009/02/10	2010/02/09
Amplifier	HP	8447D	2009/05/07	2010/05/06
Spectrum	Advantest	R3162	2009/02/03	2010/02/02
Bi-Log Antenna	Schaffner	CBL 6111	2009/05/06	2010/05/05
Climatic Condition	Ambient Temperature: <u>29</u> °C		Relative Humidity: <u>61</u> %RH	
Power Supply System	DC Power: <u>9</u> Vdc			
Test Set-up	Table-top Equipment			

**Test data see the next pages.**

Mode : Operation Mode (HOR)

Emission Frequency (MHz)	Meter Reading (dBuV)	CORR'd Factor (dB)	Results (dBuV/m)	Limit (dBuV/m)	Margins (dB)
	HOR.		HOR.		
35.15	-10.0	17.2	7.2	30.0	-22.8
48.97	-1.2	10.1	8.9	30.0	-21.1
150.00	---	13.2	---	30.0	---
250.00	---	16.2	---	30.0	---
500.00	---	23.0	---	37.0	---
800.00	---	29.0	---	37.0	---

Mode : Operation Mode (VER)

Emission Frequency (MHz)	Meter Reading (dBuV)	CORR'd Factor (dB)	Results (dBuV/m)	Limit (dBuV/m)	Margins (dB)
	VER.		VER.		
40.57	-7.2	14.0	6.8	30.0	-23.2
94.77	-4.0	11.3	7.3	30.0	-22.7
150.00	---	13.2	---	30.0	---
250.00	---	16.2	---	37.0	---
500.00	---	23.0	---	37.0	---
800.00	---	29.0	---	37.0	---

- Notes:
- 1) Place of Measurement: Measuring site of the ETC
  - 2) Measurement Distance: 10 m
  - 3) Height of table on which the EUT was placed: 0.8 m
  - 4) Height of Receiving Antenna: 1 - 4 m
  - 5) Remark "----" means that the emissions level is too low to be measured.
  - 6) The expanded uncertainty of the radiated emission tests is 3.53 dB.

**4.1.1.2 Radiated Emissions Test Setup Photos**



## 4.2 Immunity

### 4.2.1 Electrostatic Discharge Immunity Test

#### 4.2.1.1 Electrostatic Discharge Immunity Test Data

Operating Conditions of The EUT : Operation Mode

Test Date : Nov. 04, 2009

Test Specification	IEC 61000-4-2:2008			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
MiniZAP ESD Simulator	Thermo	MZ-15	2009/07/27	2011/07/25
Climatic Condition	Ambient Temperature: <u>27</u> °C		Relative Humidity: <u>51</u> %RH	
	Atmospheric Pressure : <u>90</u> mbar			
Power Supply System	DC Power: <u>9</u> Vdc			
Test Set-up	Table-top Equipment			

Energy-Storage Capacitor : <u>150</u> pF		Contact Discharge Times : <u>10</u> times/each condition														
Discharge Resistor : <u>330</u> Ω		Air Discharge Times : <u>10</u> times/each condition														
\ Discharge Mode	Contact Discharge								Air Discharge							
\ESD Voltage	<u>2</u> kV		<u>4</u> kV		___ kV		___ kV		<u>2</u> kV		<u>4</u> kV		<u>8</u> kV		___ kV	
\Points\Result\Polarity	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
VCP	A	A	A	A	---	---	---	---	---	---	---	---	---	---	---	---
HCP	A	A	A	A	---	---	---	---	---	---	---	---	---	---	---	---
P1~P10	A	A	A	A	---	---	---	---	---	---	---	---	---	---	---	---

Note : “---“means the test could not be carrier out.

“A” means the EUT function was correct during the test.

TEST POINTS



**4.2.1.2 Electrostatic Discharge Immunity Test Setup Photos**

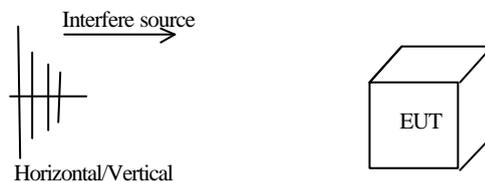
## 4.2.2 RF Radiated Fields Immunity Test

### 4.2.2.1 RF Radiated Fields Immunity Test Data

Operating Conditions of The EUT : Operation Mode

Test Date : Nov. 04, 2009

Test Specification	IEC 61000-4-3:2006/A1:2008			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Antenna	AR	AT5080	N/A	N/A
signal Generator	Aglient	E4421B	2009/08/06	2010/08/05
Amplifier	Ophir	5172	N/A	N/A
Amplifier	Ophir	5127	N/A	N/A
POWER METER	Boonton	4232A	2009/08/11	2010/08/10
Climatic Condition	Ambient Temperature: <u>27</u> °C		Relative Humidity: <u>51</u> %RH	
	Atmospheric Pressure : <u>90</u> mbar			
Power Supply System	DC Power: <u>9</u> Vdc			
Test Set-up	Table-top Equipment			



Frequency Range: <u>80</u> MHz ~ <u>1000</u> MHz	Field Strength: <u>3</u> V/m	Modulation (AM 400Hz 80%)	
Sweep Rate : $\leq 1.5 \times 10^{-3}$ decades/s	Step Size : $\leq 1\%$ of preceding frequency value	Dwell time : 2.9 s	
Frequency Range (MHz)	Antenna-Polarization	Direction of Device	Test Result
80~1000	Horizontal	front	A
		rear	A
		left	A
		right	A
80~1000	Vertical	front	A
		rear	A
		left	A
		right	A

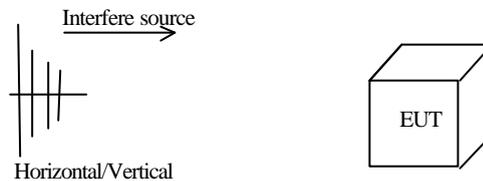
Note : "A" means the EUT function was correct during the test .

	Before Test	During	After Test
SINAD Value	34.5	31.9	34.5

## Operating Conditions of The EUT : Operation Mode

Test Date : Nov. 04, 2009

Test Specification	IEC 61000-4-3:2006			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Antenna	AR	AT5080	N/A	N/A
signal Generator	Aglient	E4421B	2009/08/06	2010/08/05
Amplifier	Ophir	5172	N/A	N/A
Amplifier	Ophir	5127	N/A	N/A
POWER METER	Boonton	4232A	2009/08/11	2010/08/10
Climatic Condition	Ambient Temperature: <u>27</u> °C		Relative Humidity: <u>51</u> %RH	
	Atmospheric Pressure : <u>90</u> mbar			
Power Supply System	DC Power: <u>9</u> Vdc			
Test Set-up	Table-top Equipment			



Frequency Range: <u>1400</u> MHz ~ <u>2000</u> MHz	Field Strength: <u>3</u> V/m	Modulation (AM 400Hz 80%)	
Sweep Rate : $\leq 1.5 \times 10^{-3}$ decades/s	Step Size : $\leq 1\%$ of preceding frequency value	Dwell time : 2.9 s	
Frequency Range (MHz)	Antenna-Polarization	Direction of Device	Test Result
1400~2000	Horizontal	front	A
		rear	A
		left	A
		right	A
1400~2000	Vertical	front	A
		rear	A
		left	A
		right	A

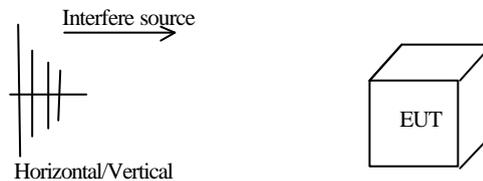
Note : “A” means the EUT function was correct during the test .

	Before Test	During	After Test
SINAD Value	34.5	31.9	34.5

## Operating Conditions of The EUT : Operation Mode

Test Date : Nov. 04, 2009

Test Specification	IEC 61000-4-3:2006			
Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Antenna	AR	AT5080	N/A	N/A
signal Generator	Aglient	E4421B	2009/08/06	2010/08/05
Amplifier	Ophir	5172	N/A	N/A
Amplifier	Ophir	5127	N/A	N/A
POWER METER	Boonton	4232A	2009/08/11	2010/08/10
Climatic Condition	Ambient Temperature: <u>27</u> °C		Relative Humidity: <u>51</u> %RH	
	Atmospheric Pressure : <u>90</u> mbar			
Power Supply System	DC Power: <u>9</u> Vdc			
Test Set-up	Table-top Equipment			

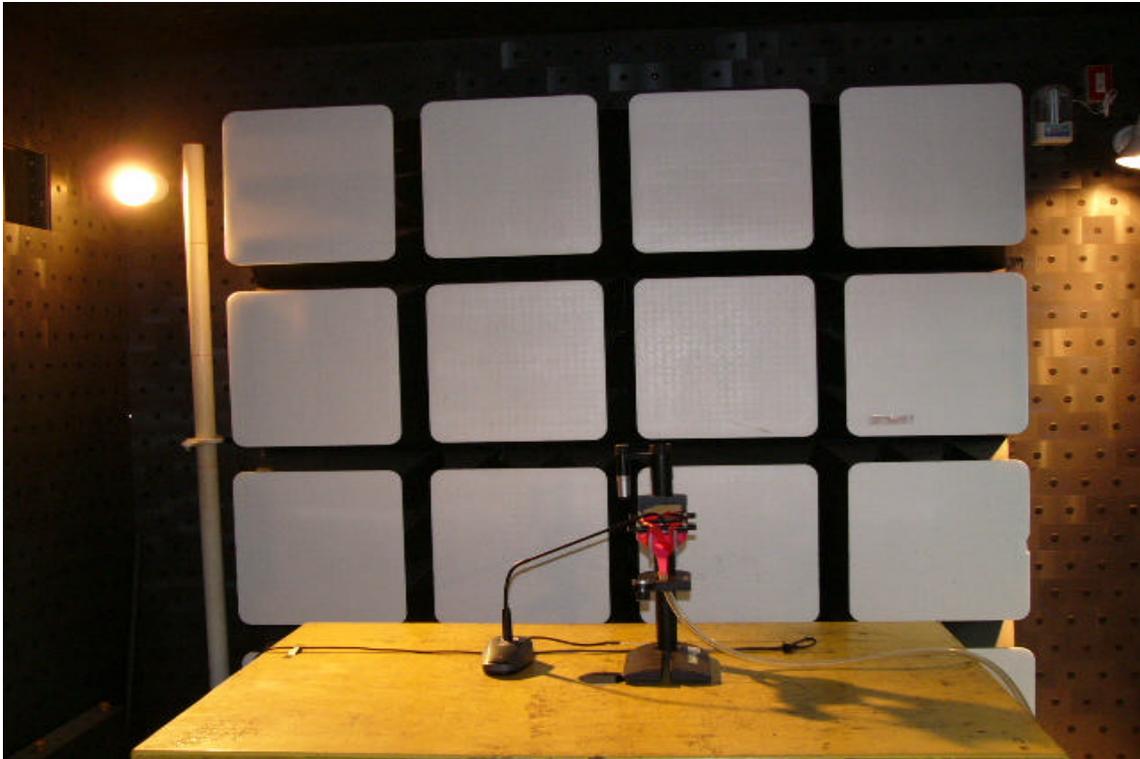


Frequency Range: <u>2000</u> MHz ~ <u>2700</u> MHz	Field Strength: <u>1</u> V/m	Modulation (AM 400Hz 80%)	
Sweep Rate : $\leq 1.5 \times 10^{-3}$ decades/s	Step Size : $\leq 1\%$ of preceding frequency value	Dwell time : 2.9 s	
Frequency Range (MHz)	Antenna-Polarization	Direction of Device	Test Result
2000~2700	Horizontal	front	A
		rear	A
		left	A
		right	A
2000~2700	Vertical	front	A
		rear	A
		left	A
		right	A

Note : “A” means the EUT function was correct during the test .

	Before Test	During	After Test
SINAD Value	34.5	31.9	34.5

#### 4.2.2.2 RF Radiated Fields Immunity Test Setup Photos

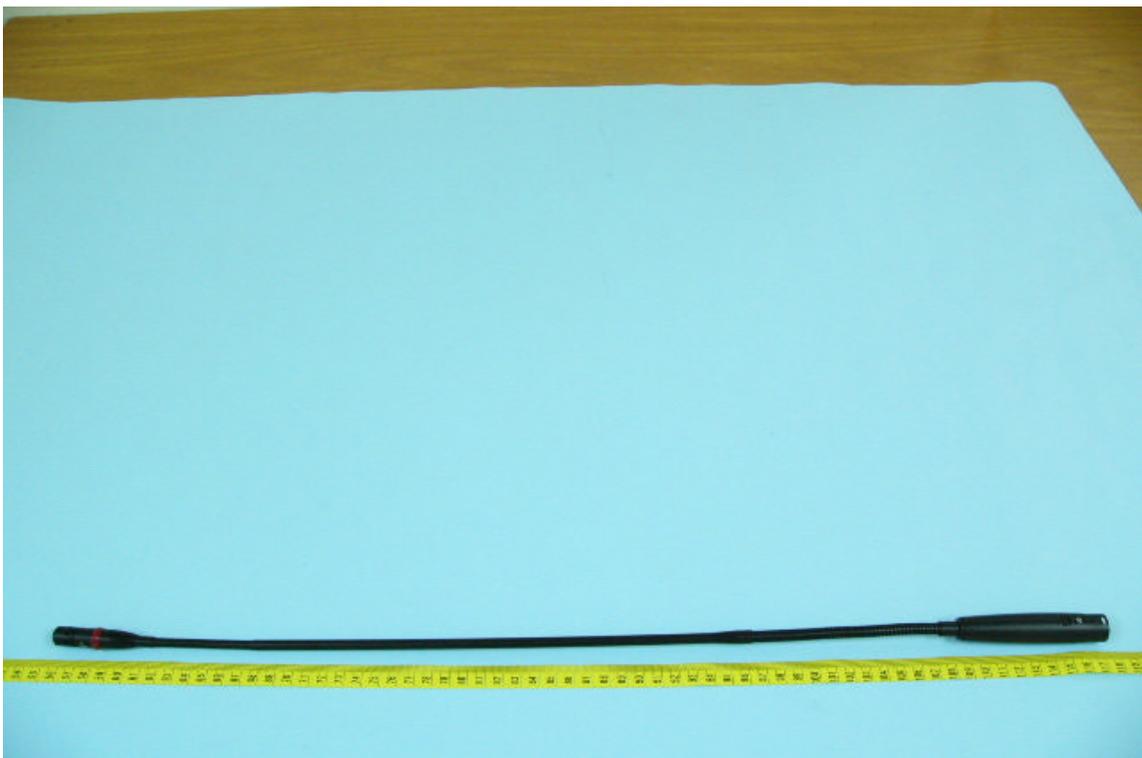


**CONSTRUCTED PHOTOS of EUT**

## 1. Front View of EUT

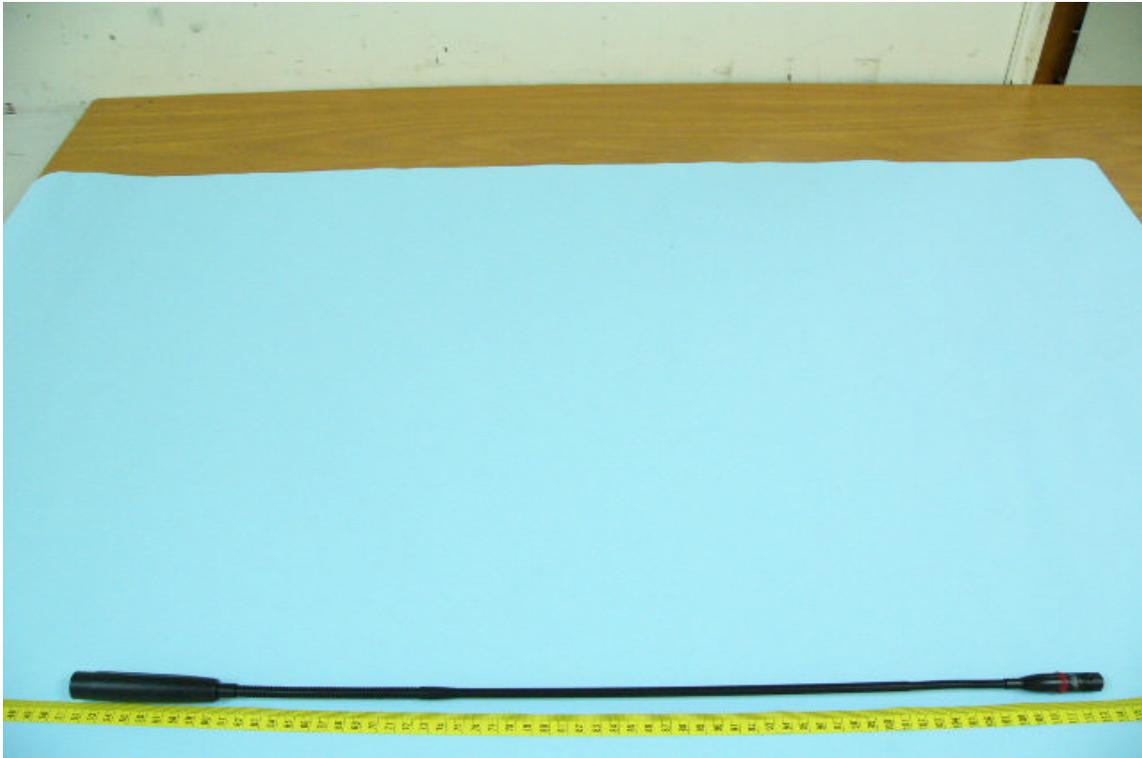


## 2. Side View of EUT



**CONSTRUCTED PHOTOS of EUT**

## 3. Side View of EUT

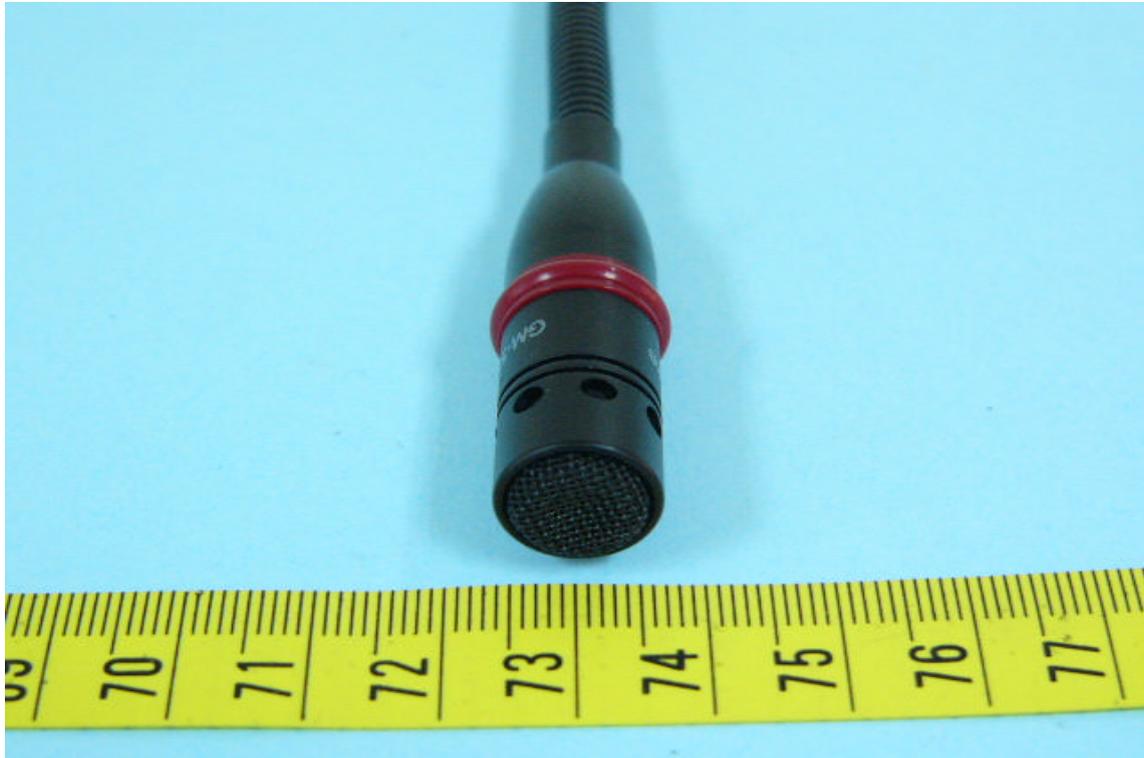


## 4. Bottom View of EUT



**CONSTRUCTED PHOTOS of EUT**

## 5. Total View of Microphone



## 6. Total View of 3P Panel Jack

