

## SPECIFICATIONS:

**ANTENNA TYPE: OMNIDIRECTIONAL, SLEEVE DIPOLE ANTENNA**

### 1. ELECTRICAL CHARACTERISTICS:

- 1-1 **LOW LEVEL CONTACT RESISTANCE:** 20 mini- ohms Max.
- 1-2 **PRODUCT VSWR IN 5.15 GHZ TO 5.35 GHZ IN FREE AIR :** 2.0 Max..
- 1-3 **INSULATION RESISTANCE :** 5000 M ohms Min.
- 1-4 **DIELECTRIC WITHSTANDING VOLTAGE :** 500 VAC
- 1-5 **IMPEDANCE :** 50 ohms.
- 1-6 **CONNECTOR VSWR :** 1.5 Max..
- 1-7 **PRODUCT AVERAGE GAIN IN 5.15 TO 5.35 GHZ IN FREE AIR :** -6 dB Min
- 1-8 **PRODUCT PEAK GAIN IN 5.15 TO 5.35 GHZ IN FREE AIR :** 2 dB Max

### 2. MECHANICAL CHARACTERISTICS:

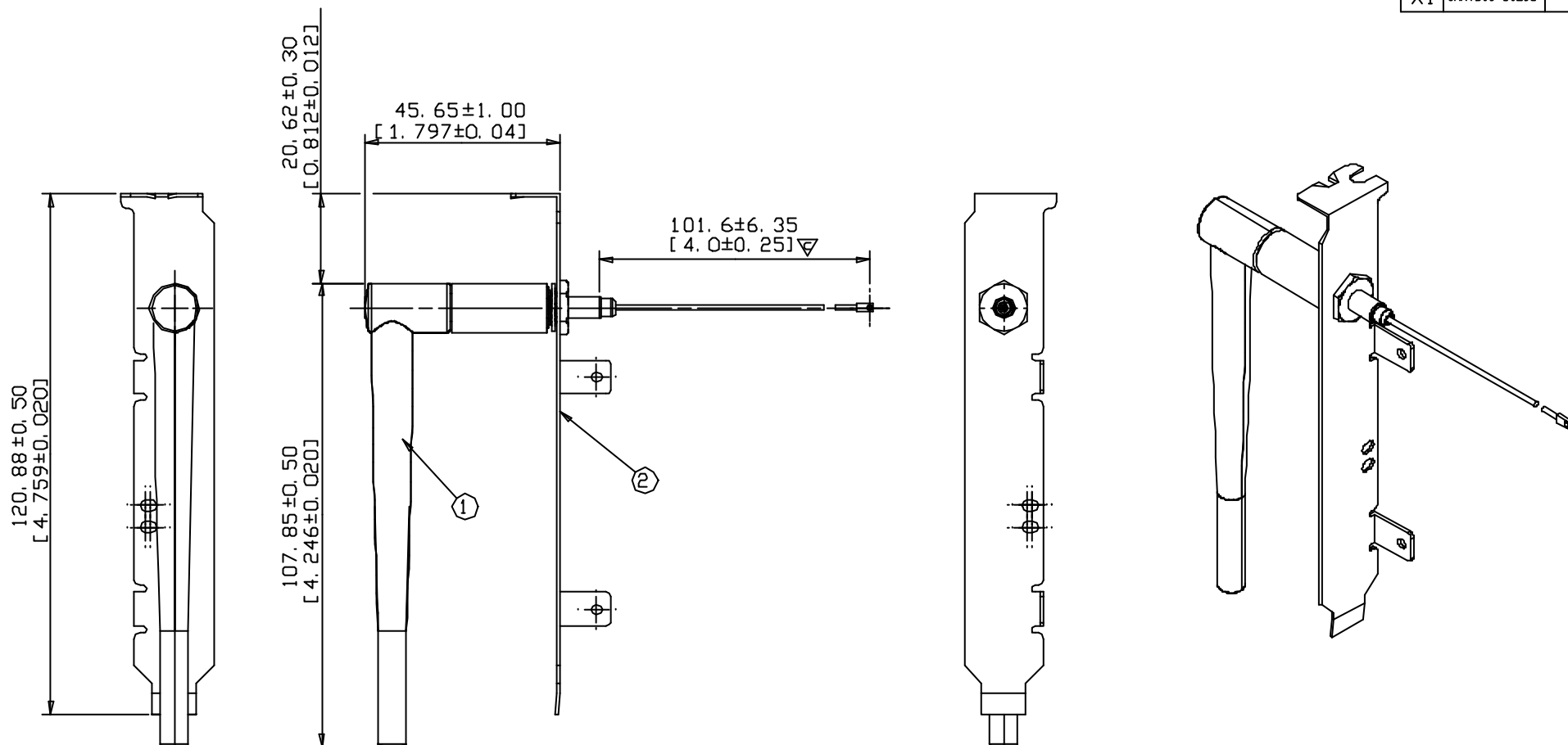
- 2-1 **MECHANICAL SHOCK :** No discontinuity > 1  $\mu$ s per Method EIA-364-27B.
- 2-2 **VIBRATION:** No discontinuity > 1  $\mu$ s per Method EIA-364-28D, Condition V, letter D.
- 2-3 **DURABILITY :** 500 cycles.
- 2-4 **CONNECTOR CRIMP FORCE :** 3 kg Min..

### 3. ENVIRONMENTAL CHARACTERISTICS:

- 3-1 **OPERATING TEMPERATURE:** -40°C TO +125°C
- 3-2 **TEMPERATURE LIFE:** Subject mated samples at 105 $\pm$ 3°C for 1000 hours per Method EIA-364-17B.
- 3-3 **TEMPERATURE HUMIDITY CYCLING:** Subject mated samples to 10 cycles between 25 to 65°C at 95% RH for 240 hours per Method EIA-364-31A, Method III and Condition C unpowered, omitting sub-cycle 7b.
- 3-4 **THERMAL SHOCK:** Subject mated samples to 5 cycles between -40 to 125°C per Method EIA-364-32.

|     |                    |                    |                                                             |                          |                         |               |
|-----|--------------------|--------------------|-------------------------------------------------------------|--------------------------|-------------------------|---------------|
|     |                    |                    | <b>FOXCONN HON HAI PRECISION INDUSTRY CO.,LTD.</b>          |                          |                         |               |
|     |                    |                    | <b>TAIPEI TAIWAN R.O.C.</b>                                 |                          |                         |               |
|     |                    |                    | <b>TITLE:</b><br>XIRCOM RICKSHAW A<br>WHIP WIRELESS ANTENNA |                          | APPD: H.C.YU 12/13/01   |               |
|     |                    |                    |                                                             |                          | CHKD: H.C.YU 12/13/01   |               |
| X1  | SMKTB18 -<br>11206 | H.C.YU<br>12/13/01 | PROD.NO.:                                                   | FX01A88-00               | DR.: H.L.HSIAO 12/13/01 |               |
|     |                    |                    |                                                             | FX01A88-01<br>FX01A88-02 |                         |               |
| REV | ECN.NO.            | APPD.              | DWG. NO.: 389-0000-026                                      |                          | REV.: X1                | SHEET: 1 OF 1 |

| REV. | ECN. NO.      | APPD. |
|------|---------------|-------|
| X1   | SKMTB18-11206 |       |



# NOTES:

- HAND TIGHTEN ANTENNA ASSY TO CABLE ASSY, DON'T USE ANY TOOLS TO TIGHTEN.
- THE ANTENNA AND CABLE CONNECTORS ARE REVERSE THREADED AND REVERSED POLARITY.
- ANTENNA TO BE POSITIONED AS SHOWN AFTER TIGHTENING.
- IMPEDANCE : 50 OHMS.
- VSWR IN 5.15 GHZ TO 5.35 GHZ : 2.0 MAX..
- AVERAGE GAIN IN 5.15 GHZ TO 5.35 GHZ IN FREE AIR SITUATION : -6 dB MIN.
- OPERATING TEMPERATURE : -40° TO 125° ,

| ITEM | DESCRIPTION               | P/N        |
|------|---------------------------|------------|
| ①    | EXTERNAL ANTENNA ASSEMBLY | FX01A88-01 |
| ②    | INTERNAL CABLE ASSEMBLY   | FX01A88-02 |

|                                                                                                                                                                                                                                       |          |               |                                         |                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------|-----------------------------------------|----------------------------------|
| X. ±                                                                                                                                                                                                                                  | X*. ±    | UNITS mm [in] | NAME (INTENDED USE)                     | FOXCONN                          |
| . X ±                                                                                                                                                                                                                                 | . X* ±   | MAT'L         | XIRCOM RICKSHAW A WHIP WIRELESS ANTENNA | HON HAI PRECISION IND. CO., LTD. |
| . XX ±                                                                                                                                                                                                                                | . XX* ±  | FINISH        | PART NO. (INTENDED USE)                 | TAIPEI, TAIWAN, R. O. C.         |
| . XXX ±                                                                                                                                                                                                                               | . XXX* ± | Q' TY         | FX01A88-00                              | TITLE:                           |
| <small>THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF HON HAI PRECISION IND. CO., LTD. AND SHALL NOT BE REPRODUCED, COPIED OR USED IN ANY MANNER WITHOUT THE PRIOR WRITTEN CONSENT OF HON HAI PRECISION IND. CO., LTD.</small> |          |               | APPD:                                   | CUSTOMER DWG.                    |
|                                                                                                                                                                                                                                       |          |               | CHKD:                                   | DWG NO.:                         |
|                                                                                                                                                                                                                                       |          |               | DR: H. L. HSIAD 12/13/01                | 389-0000-015                     |
|                                                                                                                                                                                                                                       |          |               |                                         | SCALE SHEET REV.                 |
|                                                                                                                                                                                                                                       |          |               |                                         | NONE 1/1 X1                      |

| ITEM | DESCRIPTION                                           | Q'TY    | MATERIAL                                                                                             | TREATMENT                                                           | REMARK |
|------|-------------------------------------------------------|---------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|--------|
| 1    | UMP CONNECTOR<br>CABLE ASSEMBLY                       | 1 PC    | CONNECTOR : COPPER ALLOY<br>AND TEFLON<br>CABLE : COPPER WIRE AND FEP<br>CONNECTOR NO. : 107-003-000 | CONTACT : GOLD PLATED<br>CABLE COLOR : BLACK                        |        |
| 2    | SMA JACK CONNECTOR ;<br>REVERSED THREAD &<br>POLARITY | 1 PC    | COPPER ALLOY AND TEFLON                                                                              | INNER CONTACT :<br>30 u" GOLD PLATED                                |        |
| 3    | BRACKET                                               | 1 PC    | SPCC                                                                                                 | 100u" NICKEL PLATED                                                 |        |
| 4    | SMA JACK CONNECTOR<br>HEAT SHRINKING TUBE             | 11 mm   | POLYOLEFIN                                                                                           | COLOR : BLACK                                                       |        |
| 5    | SMA PLUG CONNECTOR ;<br>REVERSED THREAD &<br>POLARITY | 1 PC    | COPPER ALLOY                                                                                         | INNER CONTACT :<br>30 u" GOLD PLATED                                |        |
| 6    | RF ANTENNA CABLE                                      | 60.5 mm | COPPER WIRE AND FEP                                                                                  | IEEE 802.11A CONFORMED                                              |        |
| 7    | LONG TUBE                                             | 1 PC    | COPPER ALLOY AND TEFLON                                                                              | NONE                                                                |        |
| 8    | MALE HOUSING                                          | 1 PC    | PC-ABS UL 94V-0                                                                                      | COLOR : YACHT BLUE<br>XIRCOM COLOR CHIP<br>XQI-0001-138, GE BL1A090 |        |
| 9    | FEMALE HOUSING                                        | 1 PC    | PC-ABS UL 94V-0                                                                                      | COLOR : YACHT BLUE<br>XIRCOM COLOR CHIP<br>XQI-0001-138, GE BL1A090 |        |
| 10   | SLEEVE                                                | 1 PC    | SILICON                                                                                              | COLOR : YACHT BLUE<br>XIRCOM COLOR CHIP<br>XQI-0001-138, GE BL1A090 |        |

# REMARK

[1] PRODUCT NO :

FX01A8800

R/F

EXTENSION CODE

ANTENNA ASSEMBLY

XIRCOM RICKSHAW A ANTENNA

**FOXCONN HON HAI PRECISION INDUSTRY CO.,LTD.**  
**TAIPEI TAIWAN R.O.C.**

|     |                   |                    |
|-----|-------------------|--------------------|
|     |                   |                    |
| X2  | SMKTB18<br>-11207 | H.C.YU<br>12/14/01 |
| X1  | SMKTB18<br>-11206 | H.C.YU<br>12/13/01 |
| REV | ECN.NO.           | APPD.              |

|                                                      |                         |               |
|------------------------------------------------------|-------------------------|---------------|
| TITLE:<br>XIRCOM RICKSHAW A<br>WHIP WIRELESS ANTENNA | APPD: H.C.YU 12/14/01   |               |
|                                                      | CHKD: H.C.YU 12/14/01   |               |
| PROD.NO.: FX01A88-00                                 | DR.: H.L.HSIAO 12/14/01 |               |
| DWG. NO.: 389-0000-024                               | REV.: X2                | SHEET: 1 OF 3 |

| ITEM | DESCRIPTION                                           | Q'TY    | MATERIAL                | TREATMENT                                                           | REMARK |
|------|-------------------------------------------------------|---------|-------------------------|---------------------------------------------------------------------|--------|
| 1    | SMA PLUG CONNECTOR ;<br>REVERSED THREAD &<br>POLARITY | 1 PC    | COPPER ALLOY            | INNER CONTACT :<br>30 u" GOLD PLATED                                |        |
| 2    | RF ANTENNA CABLE                                      | 60.5 mm | COPPER WIRE AND FEP     | IEEE 802.11A CONFORMED                                              |        |
| 3    | LONG TUBE                                             | 1 PC    | COPPER ALLOY AND TEFLON | NONE                                                                |        |
| 4    | MALE HOUSING                                          | 1 PC    | PC-ABS UL 94V-0         | COLOR : YACHT BLUE<br>XIRCOM COLOR CHIP<br>XQI-0001-138, GE BL1A090 |        |
| 5    | FEMALE HOUSING                                        | 1 PC    | PC-ABS UL 94V-0         | COLOR : YACHT BLUE<br>XIRCOM COLOR CHIP<br>XQI-0001-138, GE BL1A090 |        |
| 6    | SLEEVE                                                | 1 PC    | SILICON                 | COLOR : YACHT BLUE<br>XIRCOM COLOR CHIP<br>XQI-0001-138, GE BL1A090 |        |

# REMARK

[1] PRODUCT NO :

FX01A 88 - 00

PRELIMINARY

ANTENNA ASSEMBLY

EXTERNAL ANTENNA  
ASSEMBLY

XIRCOM RICKSHAW A ANTENNA

## FOXCONN HON HAI PRECISION INDUSTRY CO.,LTD. TAIPEI TAIWAN R.O.C.

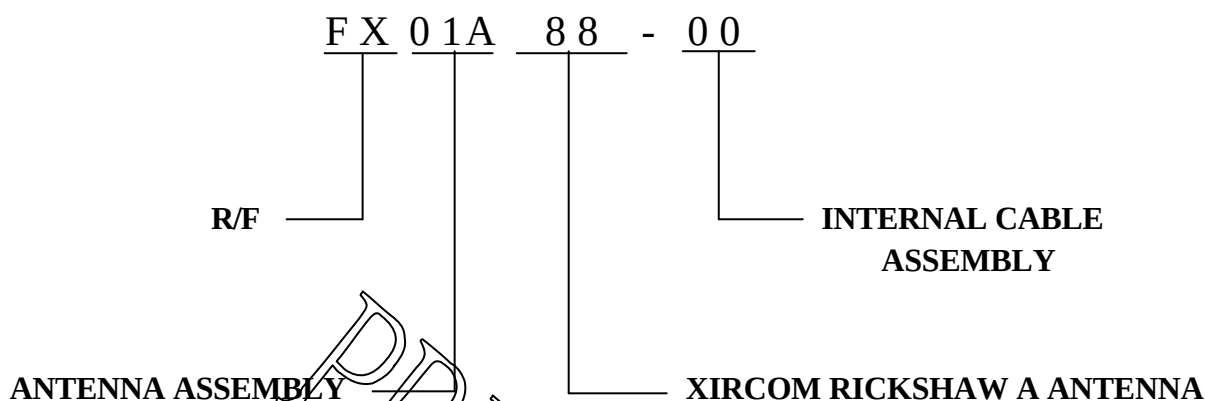
|     |                   |                    |
|-----|-------------------|--------------------|
|     |                   |                    |
| X2  | SMKTB18<br>-11207 | H.C.YU<br>12/14/01 |
| X1  | SMKTB18<br>-11206 | H.C.YU<br>12/13/01 |
| REV | ECN.NO.           | APPD.              |

|                                                          |                         |               |
|----------------------------------------------------------|-------------------------|---------------|
| TITLE:<br>XIRCOM RICKSHAW A<br>EXTERNAL ANTENNA ASSEMBLY | APPD: H.C.YU 12/14/01   |               |
|                                                          | CHKD: H.C.YU 12/14/01   |               |
| PROD.NO.: FX01A88-00                                     | DR.: H.L.HSIAO 12/14/01 |               |
| DWG. NO.: 389-0000-024                                   | REV.: X2                | SHEET: 2 OF 3 |

| ITEM | DESCRIPTION                                           | Q'TY  | MATERIAL                                                                                             | TREATMENT                                    | REMARK |
|------|-------------------------------------------------------|-------|------------------------------------------------------------------------------------------------------|----------------------------------------------|--------|
| 1    | UMP CONNECTOR<br>CABLE ASSEMBLY                       | 1 PC  | CONNECTOR : COPPER ALLOY<br>AND TEFLON<br>CABLE : COPPER WIRE AND FEP<br>CONNECTOR NO. : 107-003-000 | CONTACT : GOLD PLATED<br>CABLE COLOR : BLACK |        |
| 2    | SMA JACK CONNECTOR ;<br>REVERSED THREAD &<br>POLARITY | 1 PC  | COPPER ALLOY AND TEFLON                                                                              | INNER CONTACT :<br>30 u" GOLD PLATED         |        |
| 3    | BRACKET                                               | 1 PC  | SPCC                                                                                                 | 100u" NICKEL PLATED                          |        |
| 4    | SMA JACK CONNECTOR<br>HEAT SHRINKING TUBE             | 11 mm | POLYOLEFIN                                                                                           | COLOR : BLACK                                |        |

# REMARK

[1] PRODUCT NO :



## FOXCONN HON HAI PRECISION INDUSTRY CO.,LTD. TAIPEI TAIWAN R.O.C.

|     |                   |                    |                                                        |                         |               |
|-----|-------------------|--------------------|--------------------------------------------------------|-------------------------|---------------|
|     |                   |                    | TITLE:<br>XIRCOM RICKSHAW A<br>INTERNAL CABLE ASSEMBLY | APPD: H.C.YU 12/14/01   |               |
| X2  | SMKTB18<br>-11207 | H.C.YU<br>12/14/01 |                                                        | CHKD: H.C.YU 12/14/01   |               |
| X1  | SMKTB18<br>-11206 | H.C.YU<br>12/13/01 | PROD.NO.: FX01A88-00                                   | DR.: H.L.HSIAO 12/14/01 |               |
| REV | ECN.NO.           | APPD.              | DWG. NO.: 389-0000-024                                 | REV.: X2                | SHEET: 3 OF 3 |

# Radiation Pattern Gain Test Report

Part Name: Xircom Rickshaw A RF Antenna

Part No: FX01A88-00

Spec: Minimum average gain in 5.15 to 5.25 GHz under free air situation: -6 dB

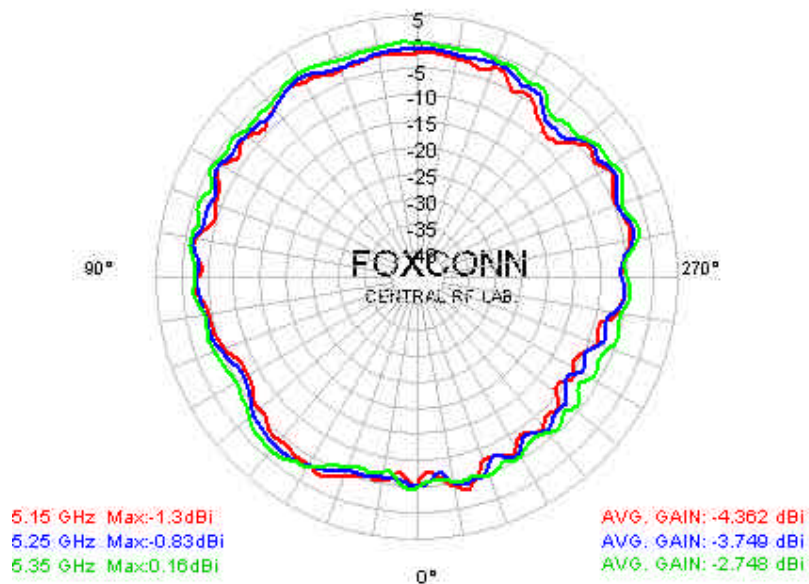
Maximum peak gain in 5.15 to 5.25 GHz under free air situation: 2 dB

Date: 12/24/2001

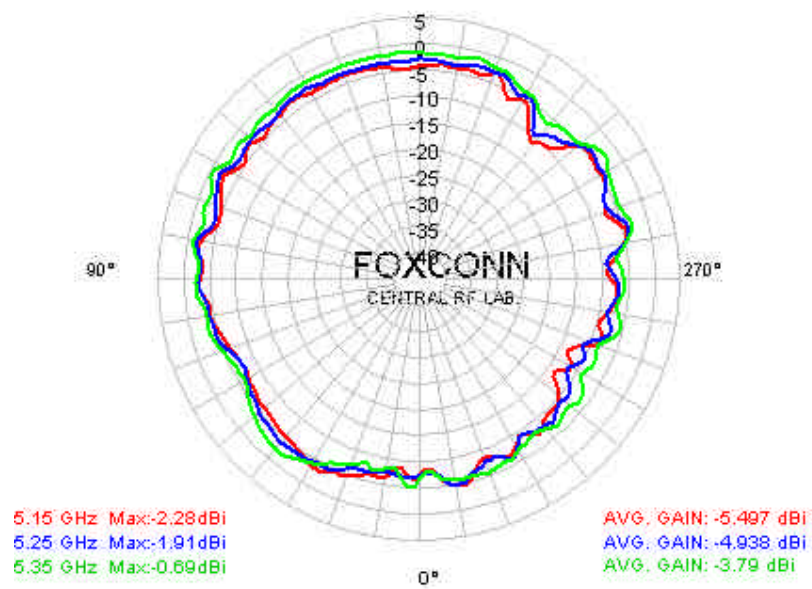
|          | MIN. Average gain @5.15~5.25 GHz | Result |
|----------|----------------------------------|--------|
| Sample 1 | -4.362                           | OK     |
| Sample 2 | -4.748                           | OK     |
| Sample 3 | -5.497                           | OK     |
| Sample 4 | -5.402                           | OK     |
| Sample 5 | -5.314                           | OK     |

|          | MAX. Peak gain @5.15~5.25 GHz | Result |
|----------|-------------------------------|--------|
| Sample 1 | 0.16                          | OK     |
| Sample 2 | -0.39                         | OK     |
| Sample 3 | -0.69                         | OK     |
| Sample 4 | -0.72                         | OK     |
| Sample 5 | -0.83                         | OK     |

Sample 1 Radiation Pattern Figure



Sample 2. Radiation Pattern Figure



Approved By : Landy Hsiao 12/24 ' 2001      Prepared By : Hawk Cheng 12/24 ' 2001

# VSWR Test Report for Rickshaw A RF Antenna

Part No : FX01A88-00

Dwg No : 389-0000-015

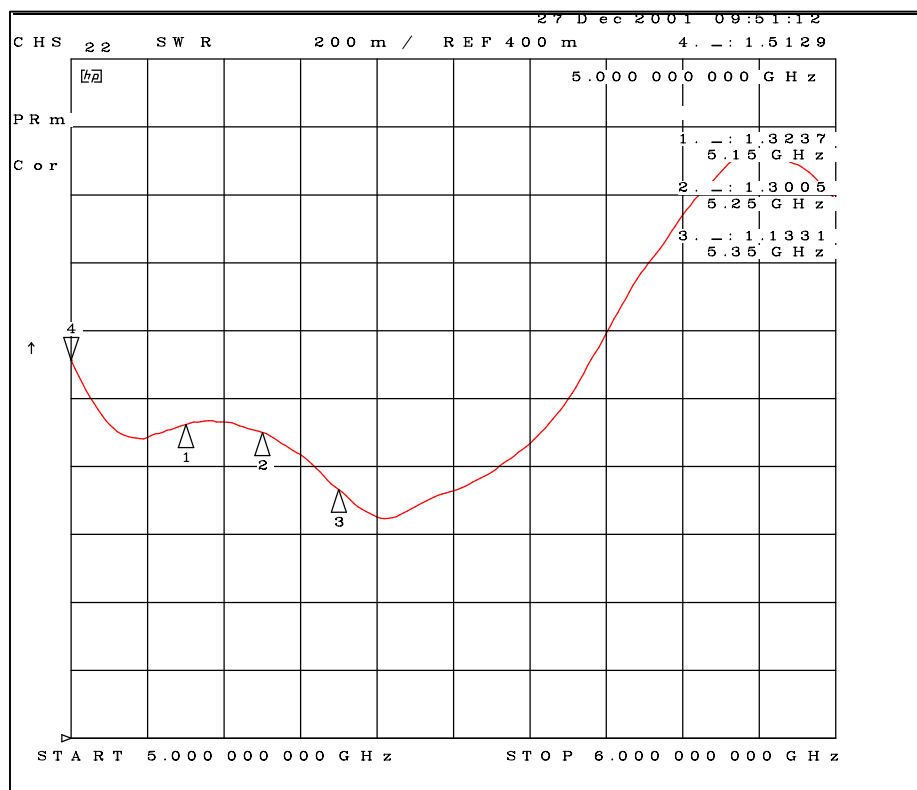
Rev : A

**VSWR Test Spec : 2.0 Max in 5.15GHz ~ 5.35GHz**

Date : 12/24' 2001

| Sample No | 5.15GHz | 5.25GHz | 5.35GHz | Result |
|-----------|---------|---------|---------|--------|
| 1         | 1.324   | 1.301   | 1.133   | OK     |
| 2         | 1.344   | 1.335   | 1.171   | OK     |
| 3         | 1.616   | 1.613   | 1.593   | OK     |
| 4         | 1.172   | 1.197   | 1.121   | OK     |
| 5         | 1.346   | 1.451   | 1.549   | OK     |

VSWR testing figure on Network Analyzer show below:



Approved By : Landy Hsiao 12/24 ' 2001

Prepare By : Hawk Cheng 12/24 ' 2001