

## **APPENDIX C: ANTENNA SPECIFICATIONS**

Please see the following pages.

# APPROVAL SHEET

FOR : SAMSUNG ELECTRONICS CO., LTD

MODEL : Matrix III+ Antenna

0B01WMP240A1 (Microstrip antenna)

SUPPLIER P/N: 0B02WDC240A1 (Dipole antenna)

FILE NO. :

DATE : 19 July 2001

DESCRIPTION : Dipole & Microstrip Antenna

CUSTOMER P/N :

| Manager  | Supervisor | Engineer    |
|----------|------------|-------------|
| Dan Chen | Lee        | Jackson Liu |



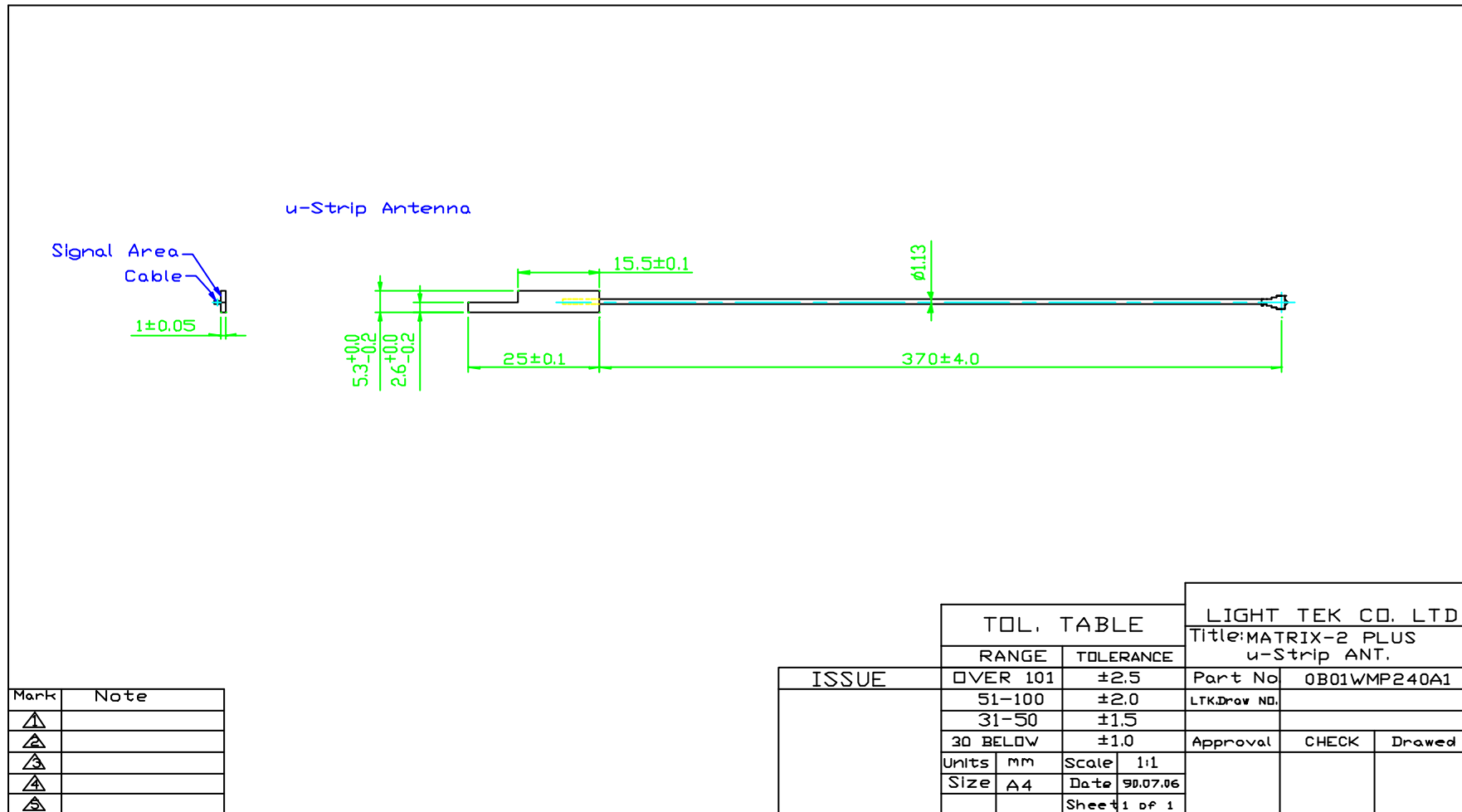
**Light Tek Co., Ltd.**

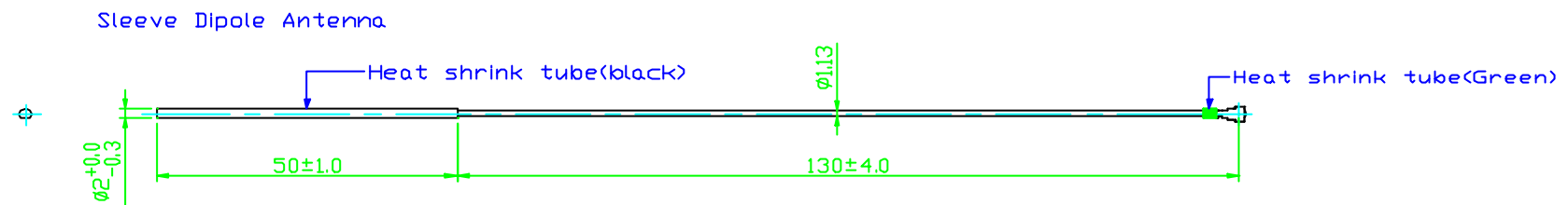
TEL : 886-2-89510688

FAX : 886-2-89510681

2<sup>nd</sup> F , NO.158 , Gan Cheng Rd.,  
Pan Chiao City , Taipei Hsien ,  
Taiwan R.O.C .

## 1. Antenna Mechanical Dimensions :



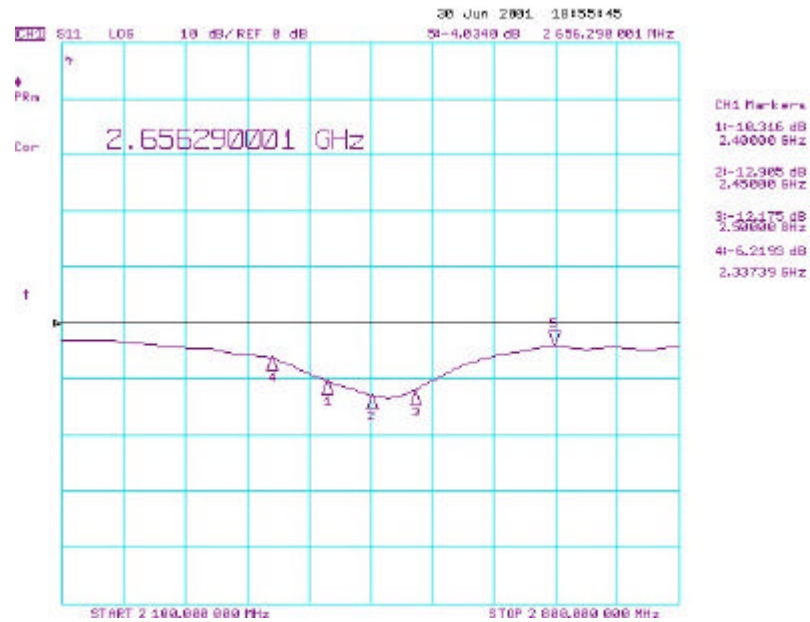


| Mark | Note |
|------|------|
|      |      |
|      |      |
|      |      |
|      |      |
|      |      |

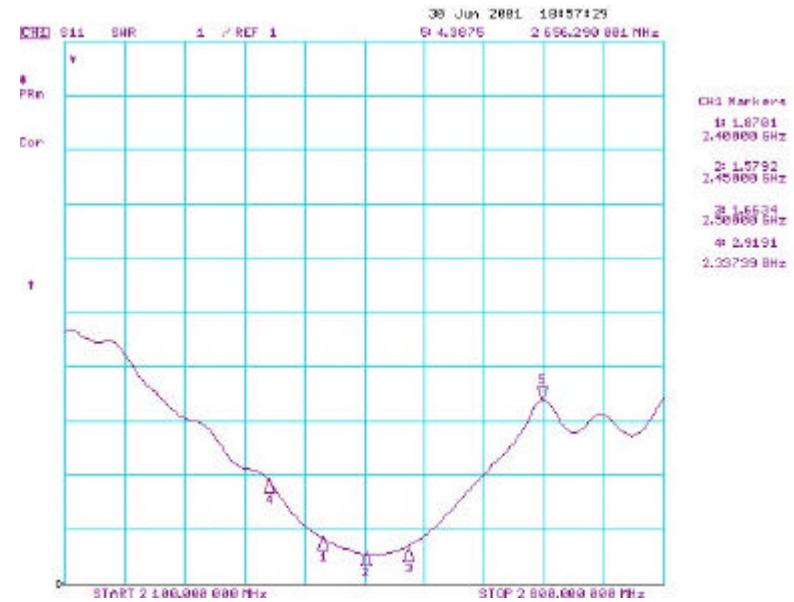
| TOL. TABLE |          |     |           | LIGHT TEK CO. LTD                |              |        |
|------------|----------|-----|-----------|----------------------------------|--------------|--------|
| ISSUE      | RANGE    |     | TOLERANCE | Title: MATRIX-2 PLUS Dipole ANT. |              |        |
|            | OVER     | 101 | $\pm 2.5$ | Part No                          | 0B02WDC240A1 |        |
|            | 51-100   |     | $\pm 2.0$ | LTK Draw NO.                     |              |        |
|            | 31-50    |     | $\pm 1.5$ |                                  |              |        |
|            | 30 BELOW |     | $\pm 1.0$ | Approval                         | CHECK        | Drawed |
|            | Units    | mm  | Scale     | 1:1                              |              |        |
|            | Size     | A4  | Date      | 90.07.06                         |              |        |
|            |          |     | Sheet     | 1 of 1                           |              |        |

2. Antenna Electrical Characteristics :

## Return Loss



## VSWR



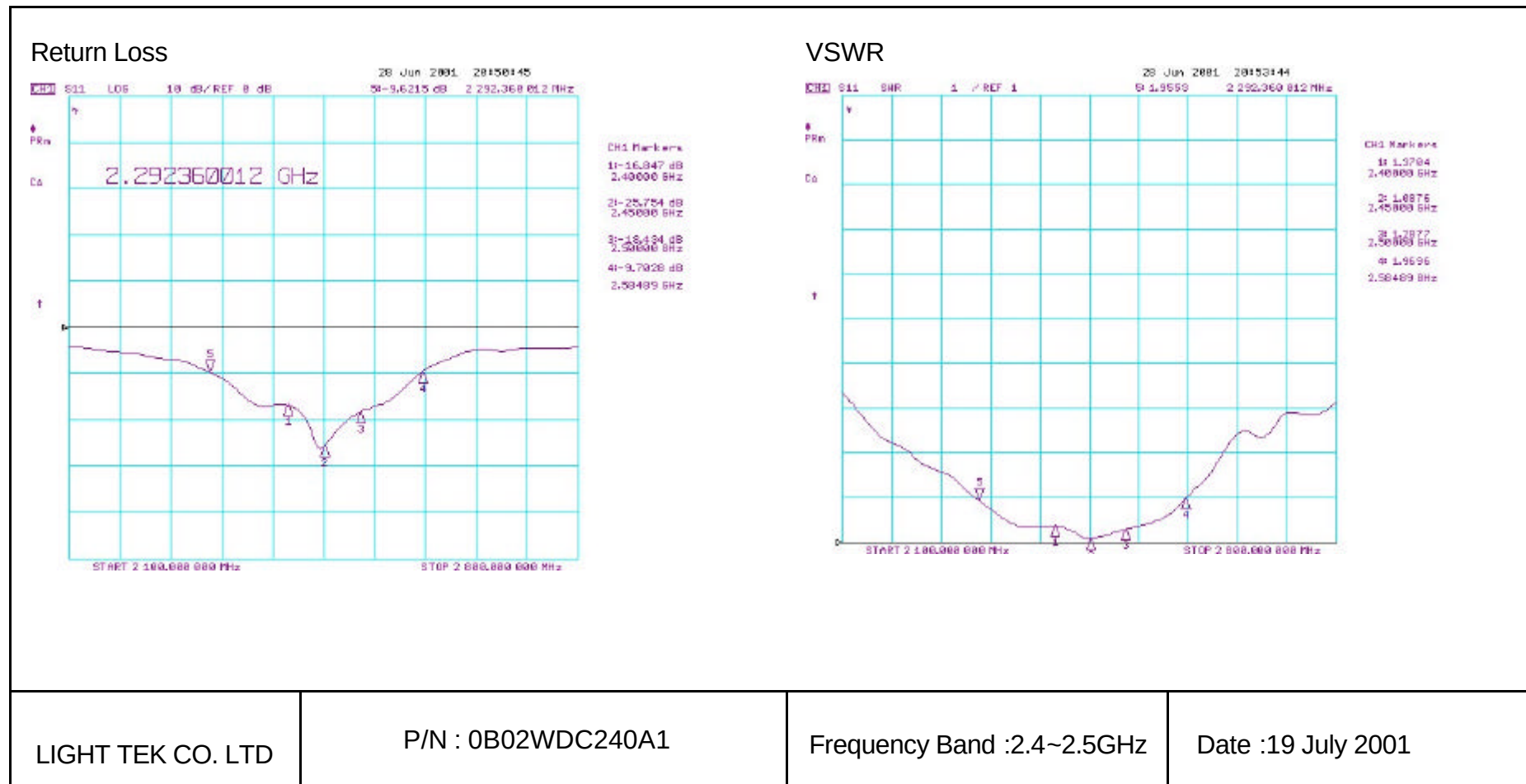
LIGHT TEK CO. LTD

P/N : 0B01WMP240A1

Frequency Band :2.4~2.5GHz

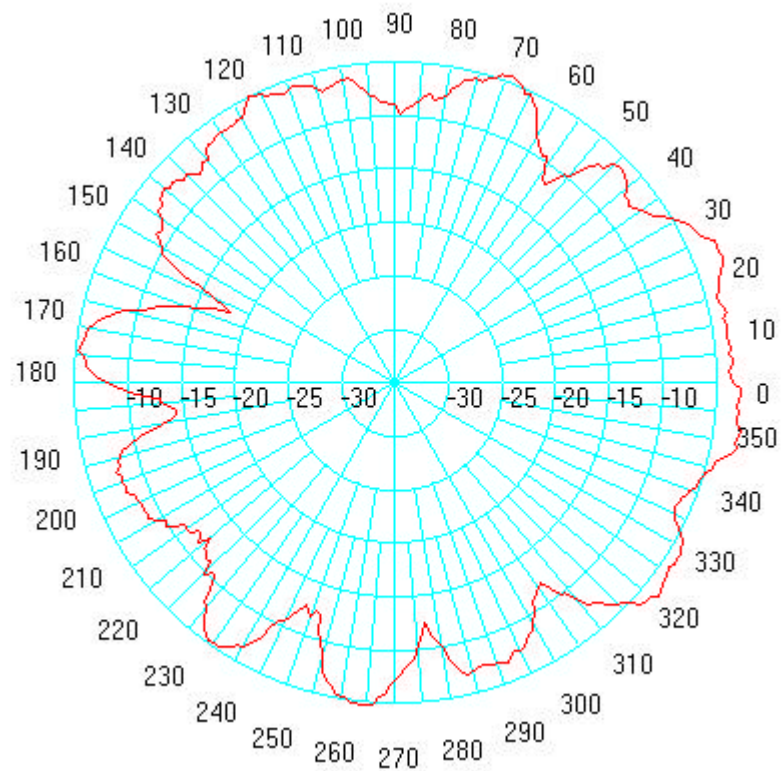
Date :19 July 2001

## 2-1. Antenna Electrical Characteristics :



## 3 .Antenna Radiation Pattern :

Microstrip antenna  
 Date : 30 Jun. 2001  
 Matrix III+  
 LCD open  
 Synthetic (H+V)  
 X-Y plane  
 Peak gain = -2.1826dBi  
 Average gain = -7.3256dBi  
 jackson



LIGHT TEK CO. LTD

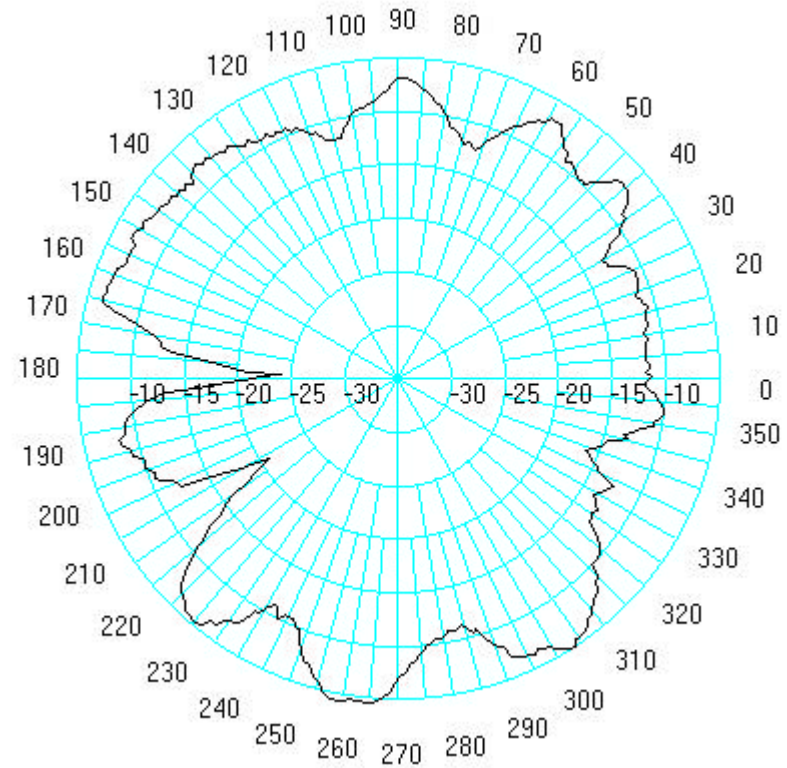
Testing Condition : Anechoic chamber

P/N : 0B01WMP240A1

Date : 19 July 2001

### 3-3 .Antenna Radiation Pattern :

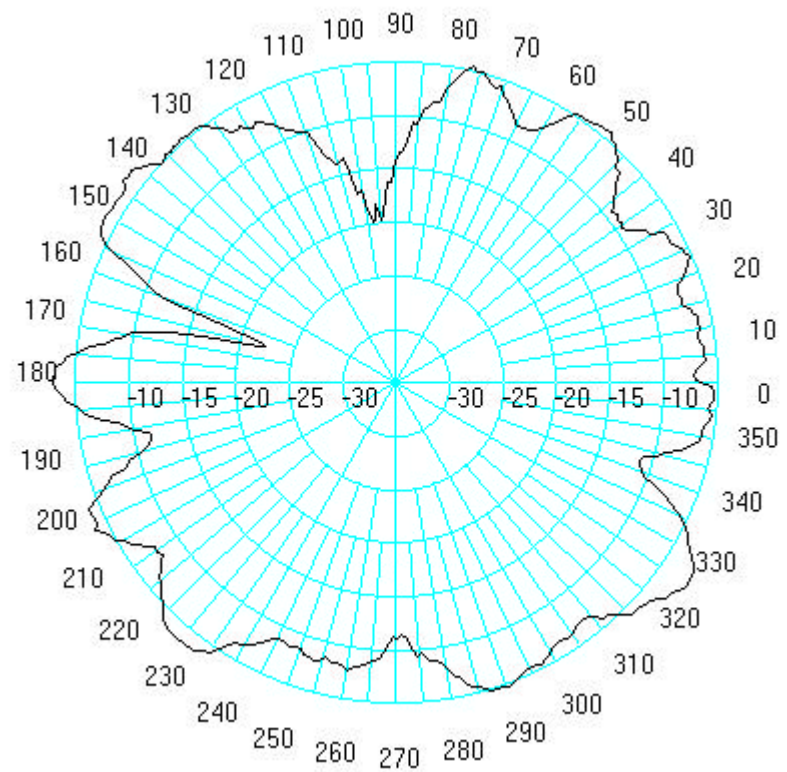
Date : 30 Jun. 2001  
 Matrix III+  
 Micorstrip antenna  
 LCD closed  
 Vertical  
 X-Y plane  
 jackson



|                   |                                      |                    |                     |
|-------------------|--------------------------------------|--------------------|---------------------|
| LIGHT TEK CO. LTD | Testing Condition : Anechoic chamber | P/N : 0B01WMP240A1 | Date : 19 July 2001 |
|-------------------|--------------------------------------|--------------------|---------------------|

### 3-4 .Antenna Radiation Pattern :

Date : 30 Jun. 2001  
 Matrix III+  
 Micorstrip antenna  
 LCD closed  
 Horizontal  
 X-Y plane  
 jackson



LIGHT TEK CO. LTD

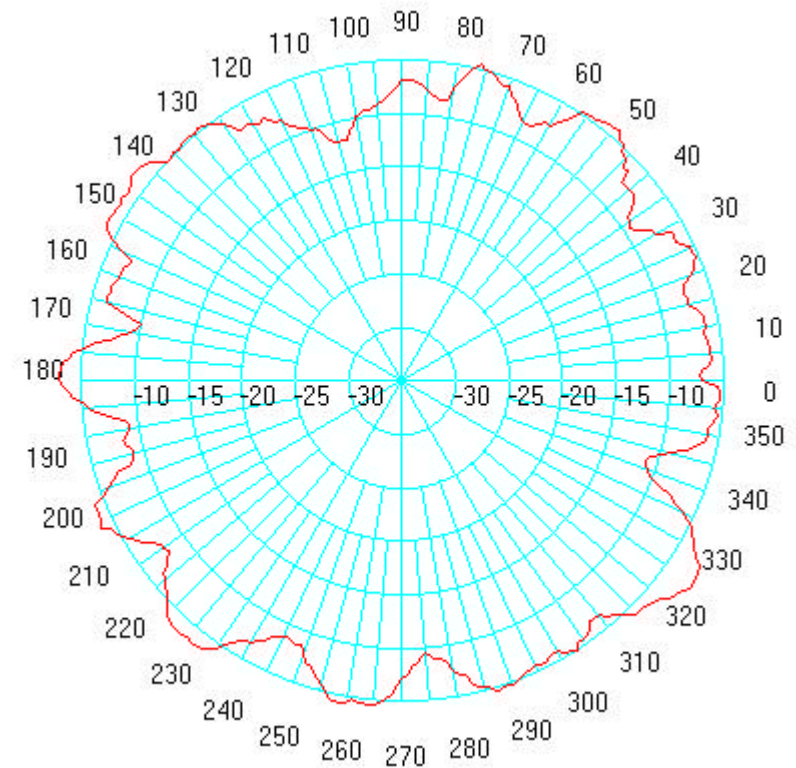
Testing Condition : Anechoic chamber

P/N : 0B01WMP240A1

Date : 19 July 2001

### 3-5 .Antenna Radiation Pattern :

Microstrip antenna  
 Date : 30 Jun. 2001  
 Matrix III+  
 LCD closed  
 Synthetic (H+V)  
 X-Y plane  
 Peak gain = -1.8237dBi  
 Average gain = -6.269dBi  
 jackson



LIGHT TEK CO. LTD

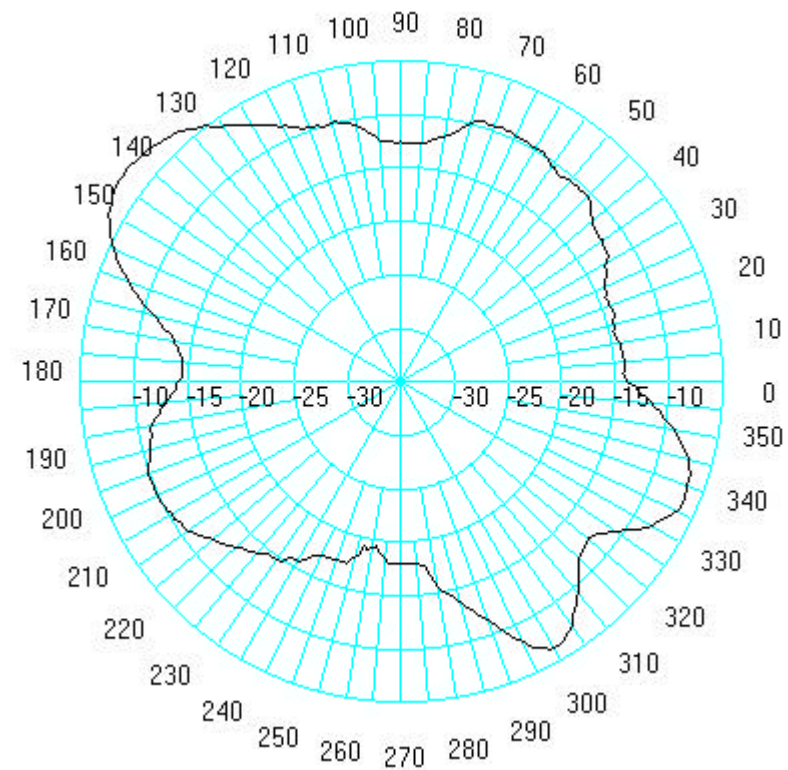
Testing Condition : Anechoic chamber

P/N : 0B01WMP240A1

Date : 19 July 2001

### 3-6 .Antenna Radiation Pattern :

Date : 28 Jun. 2001  
 Matrix III+  
 Dipole antenna  
 LCD OPEN  
 Vertical  
 X-Y plane  
 jackson



LIGHT TEK CO. LTD

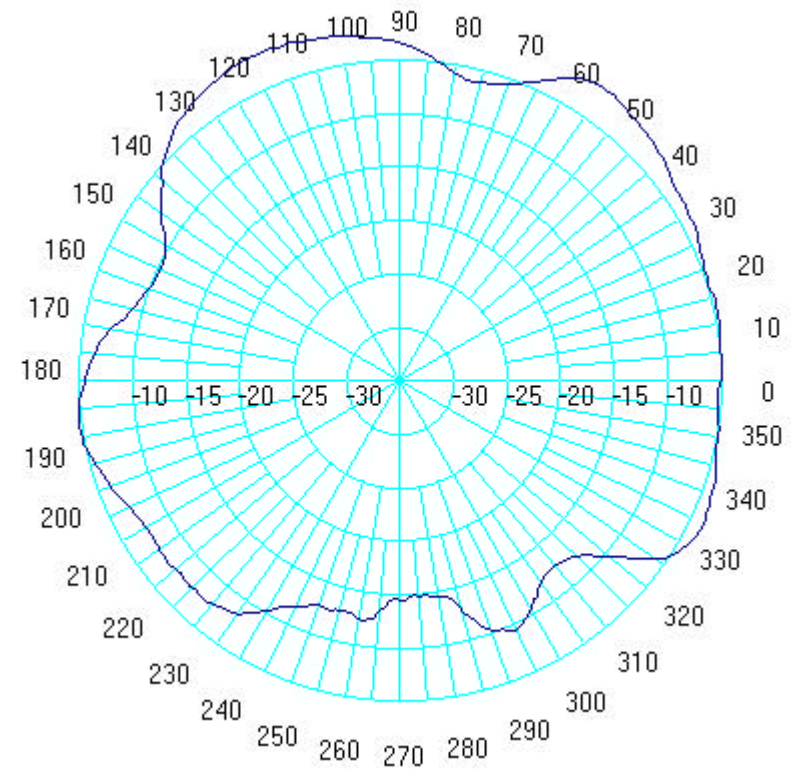
Testing Condition : Anechoic chamber

P/N : 0B02WDC240A1

Date : 19 July 2001

### 3-7 .Antenna Radiation Pattern :

Date : 28 Jun. 2001  
 Matrix III+  
 Dipole antenna  
 LCD OPEN  
 Horizontal  
 X-Y plane  
 jackson



LIGHT TEK CO. LTD

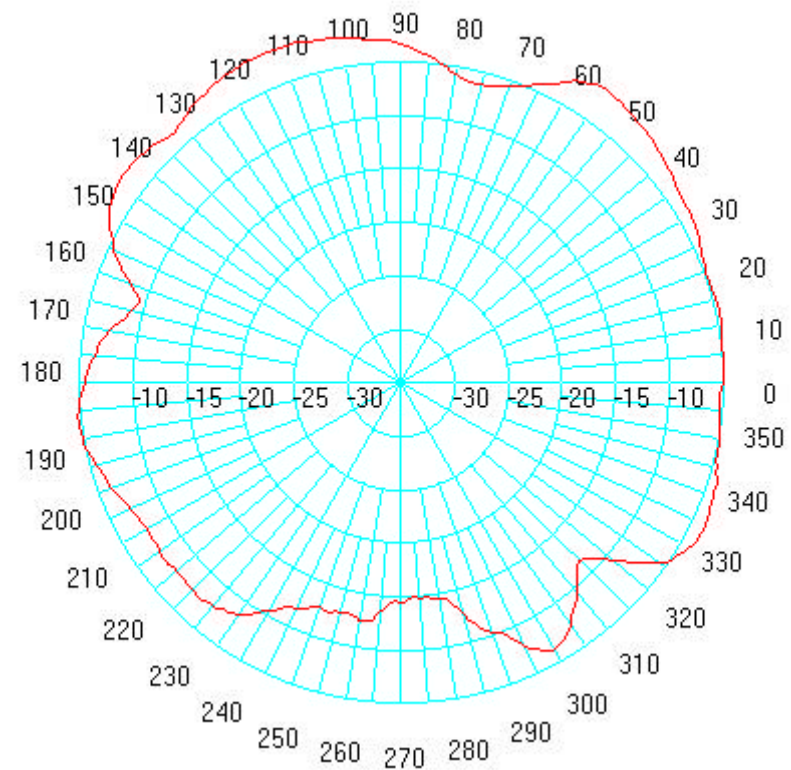
Testing Condition : Anechoic chamber

P/N : 0B02WDC240A1

Date : 19 July 2001

### 3-8 .Antenna Radiation Pattern :

Transmitting pattern  
 Dipole antenna  
 Date : 28 Jun. 2001  
 Matrix III+  
 LCD open  
 Synthetic (H+V)  
 X-Y plane  
 Peak gain = -1.5927dBi  
 Average gain = -6.1867dBi  
 jackson



LIGHT TEK CO. LTD

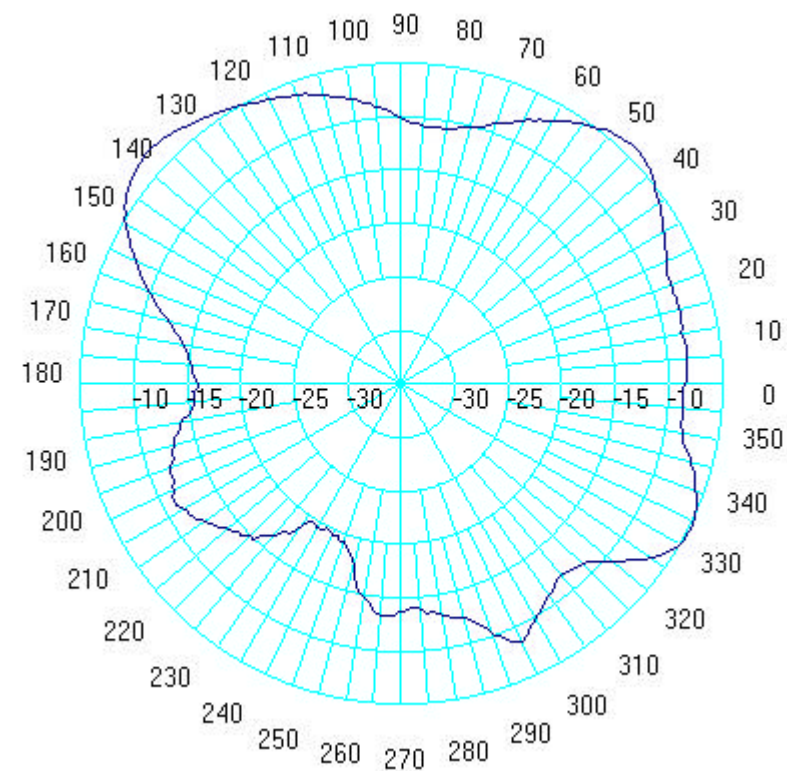
Testing Condition : Anechoic chamber

P/N : 0B02WDC240A1

Date : 19 July 2001

### 3-9 .Antenna Radiation Pattern :

Date : 28 Jun. 2001  
 Matrix III+  
 Dipole antenna  
 LCD closed  
 Vertical  
 X-Y plane  
 jackson



LIGHT TEK CO. LTD

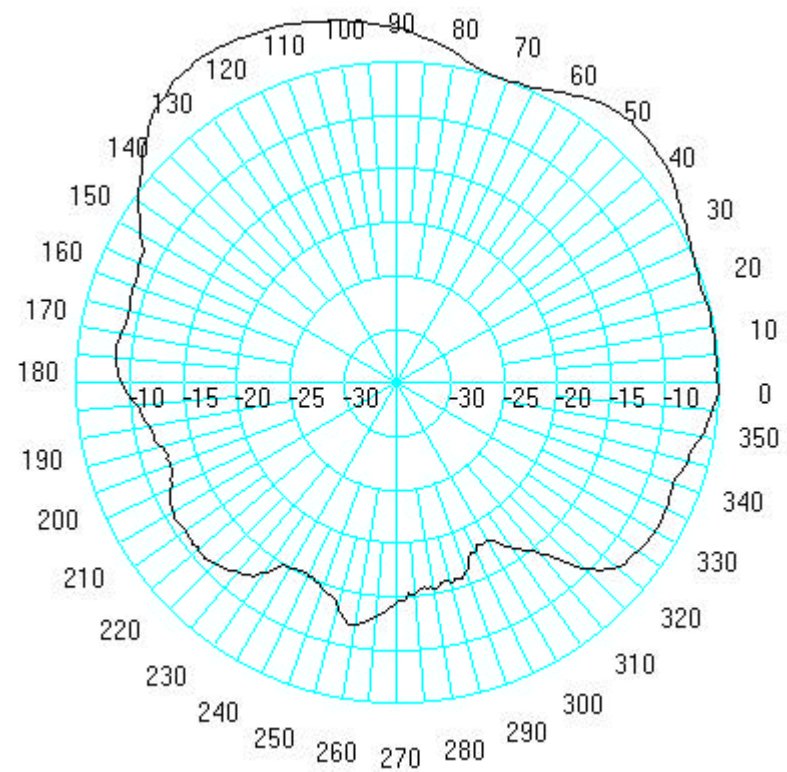
Testing Condition : Anechoic chamber

P/N : 0B02WDC240A1

Date : 19 July 2001

3-10 .Antenna Radiation Pattern :

Date : 28 Jun. 2001  
 Matrix III+  
 Dipole antenna  
 LCD closed  
 Horizontal  
 X-Y plane  
 jackson



LIGHT TEK CO. LTD

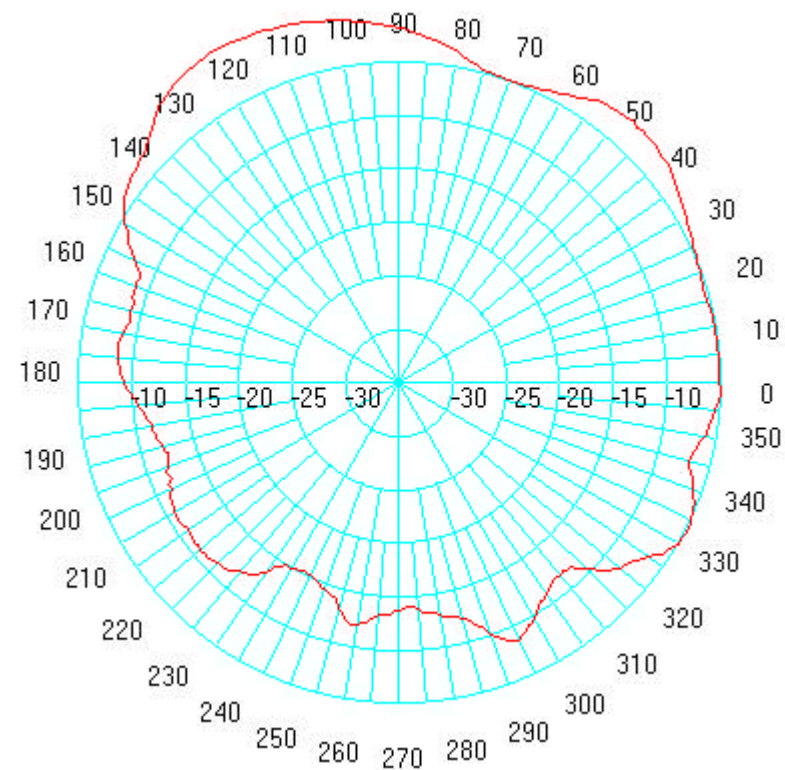
Testing Condition : Anechoic chamber

P/N : 0B02WDC240A1

Date : 19 July 2001

### 3-11 .Antenna Radiation Pattern :

Transmitting pattern  
 Dipole antenna  
 Date : 28 Jun. 2001  
 Matrix III+  
 LCD closed  
 Synthetic (H+V)  
 X-Y plane  
 Peak gain =0.5586dBi  
 Average gain =-7.108dBi  
 jackson



LIGHT TEK CO. LTD

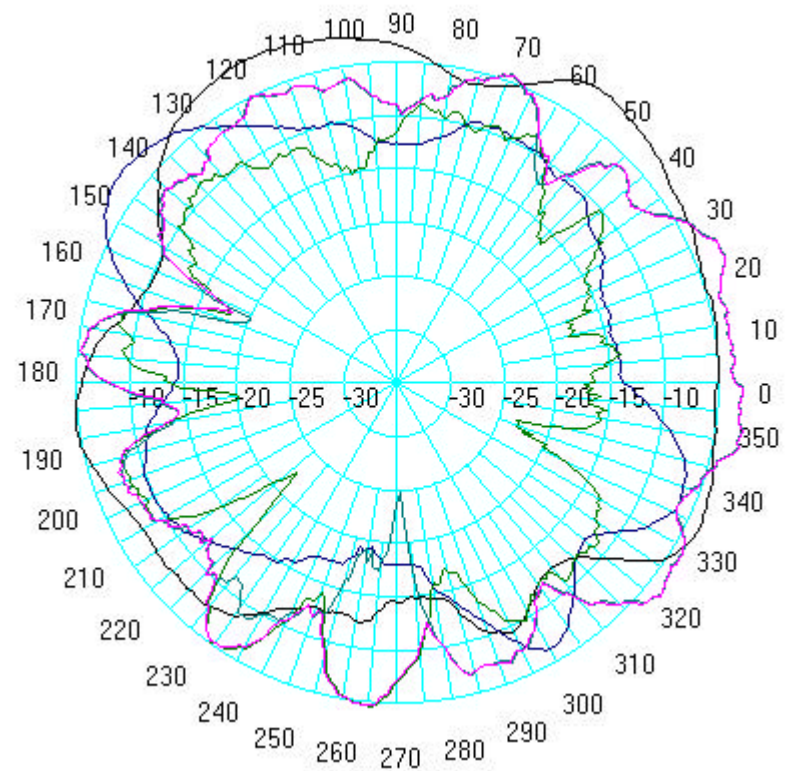
Testing Condition : Anechoic chamber

P/N : 0B02WDC240A1

Date : 19 July 2001

### 3-12 .Antenna Radiation Pattern :

Receiving pattern  
 Dipole +Microstrip antenna  
 Date : 30 Jun. 2001  
 Matrix III+  
 LCD open  
 Synthetic (H+V)  
 X-Y plane  
 jackson



LIGHT TEK CO. LTD

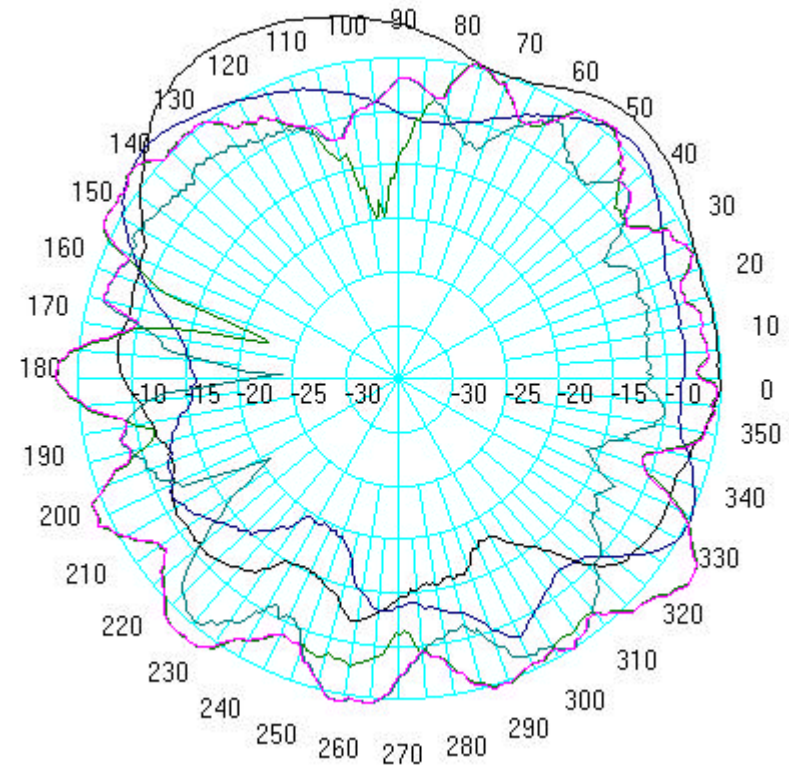
Testing Condition : Anechoic chamber

P/N : 0B01WMP240A1  
 0B02WDC240A1

Date : 19 July 2001

### 3-13 .Antenna Radiation Pattern :

Receiving pattern  
 Dipole +Microstrip antenna  
 Date : 30 Jun. 2001  
 Matrix III+  
 LCD closed  
 Synthetic (H+V)  
 X-Y plane  
 jackson



LIGHT TEK CO. LTD

Testing Condition : Anechoic chamber

P/N : 0B01WMP240A1  
 0B02WDC240A1

Date : 19 July 2001

#### 4. SPECIFICATIONS:

##### ● Electrical Properties

Frequency Range..... 2.4~2.5GHz

Impedance..... 50 Ohms nominal

VSWR..... <2.0

Peak Gain..... -5Bi < peak gain < 3dBi

Standard Connector..... HIROSE Female Connector

#### 5. IEEE .802.11 and BLUETOOTH Antenna Testing Conditions :

## NoteBook Placement :

