

FCC ID : NTU-ERFOLG2

## REPORT OF MEASUREMENTS

Date : November 26, 1998  
Issue in : Tokyo, Japan

JQA APPLICATION NO.: 80-80476

- Applicant : Technit Co., Ltd.  
Technit Bldg. 6-17-2, Kameido,  
Koto-Ku 136-0071, Japan
- Manufacturer : Integrated Display Technology International Ltd.  
41, Man Yue Street Kaiser Estate 9/F Block C  
Hung Hom, Kwloon, Hong Kong
- Description of Equipment : LOVEGETY  
(Transceiver)
  - FCC ID : NTU-ERFOLG2
  - Trade Name : ERFOLG
  - Model No. : LOVEGETY II-2
  - Operating Frequency : 300 MHz
  - Tuning Frequency : 315 MHz
  - Power Supply : 3 VDC
- Applicable Rule : FCC Rules & Regulations Part 15  
Subpart B&C (June 23, 1998)
- Place of Measurement : JQA EMC Engineering Dept.
- Date of Measurement : November 13, 1998(Completed)
- Total Pages of This Report : 13 (including this page)
- I certify that I am authorized to sign for the report and that all the statement in this report and in the exhibits hereto are true and correct to the best my knowledge and belief.

*Shigeru Osawa*  
Shigeru Osawa, Assistant Manager  
Testing Div.  
EMC Engineering Dept.

[Transmitter portion]

- Transmitter Fundamental and Spurious Emission: [§15.231(b)]

### Measurement Method Employed:

Measurements were made under the conditions specified ANSI C63.1. The transmitter under test was operated continuously in its normal operating mode for the purpose of the measurements. In order to secure the continuous operation of the device under test, rewiring in the circuit was down by the manufacturer so as to affect its intended operation. The receiving antenna polarized horizontally was varied from 1 to 4 meters on the field strength meter or on the display of the spectrum analyzer. And also, each emission was to be maximized by changing the orientation of the transmitter under test. The device was tested three orthogonal planes. These measurements were repeated with the receiving antenna polarized vertically.

### Measurement Results:

Operating Frequency : 300 MHz  
Distance of Measurement : 3.0 meters

| Frequency (MHz)    | Antenna Factor (dB) | Amp. Gain (dB) | Meter Reading (dB/μV) | Field Strength (μV/m) |
|--------------------|---------------------|----------------|-----------------------|-----------------------|
| Fundamental        |                     |                |                       |                       |
| 300                | 22.4                | -              | 45.1                  | 41.6                  |
| Harmonic frequency |                     |                |                       |                       |
| 600                | 30.5                | -              | 17.4                  | 248.3                 |
| 900                | 36.0                | -              | 6.5                   | 133.4                 |
| 1200               | 26.1                | -              | < 10.0                | < 63.9                |
| 1500               | 28.9                | -              | < 10.0                | < 87.9                |
| 1800               | 30.6                | -              | < 10.0                | < 106.8               |
| 2100               | 32.4                | -              | < 10.0                | < 106.8               |
| 2400               | 33.6                | -              | < 10.0                | < 106.8               |
| 2700               | 34.6                | -              | < 10.0                | < 106.8               |
| 3000               | 35.8                | -              | < 10.0                | < 106.8               |

Note: 1. The spectrum was checked from 30 MHz to tenth harmonics.  
All emissions not listed were found to be more than 20 dB below the limits.

2. The symbol of "<" means "or less".

3. The cable loss was included in the antenna factor.

4. Sample calculation :  
at 300 MHz

$$10(Af+Mr)/20 = 10(22.4+5.1)/20 = 2371.4 \text{ uV/m}$$

Where,

Af = Antenna Factor including the cable loss.

Mr = Meter Reading

6. Measuring Instrument Setting:

Field Strength Meter: (<1000 MHz)

Detector function : C:SPR Quasi-Peak

IF Bandwidth : 120 kHz

Spectrum Analyzer: (>1000 MHz)

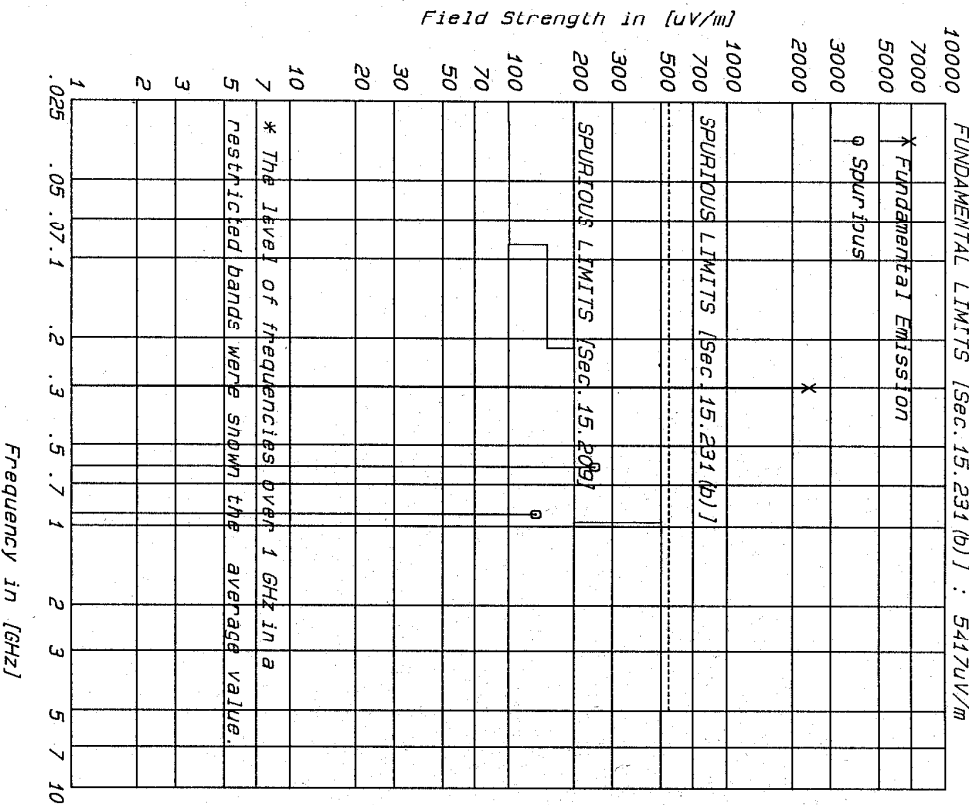
Detector function : Peak

Resolution Bandwidth : 1 MHz

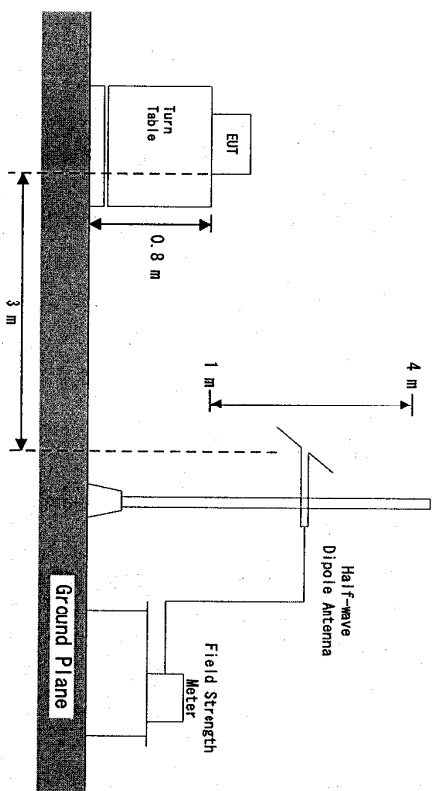
### Radiated Fundamental & Spurious Emissions

FCC ID : NTU-ERFOLG2  
Operating Frequency : 300 MHz

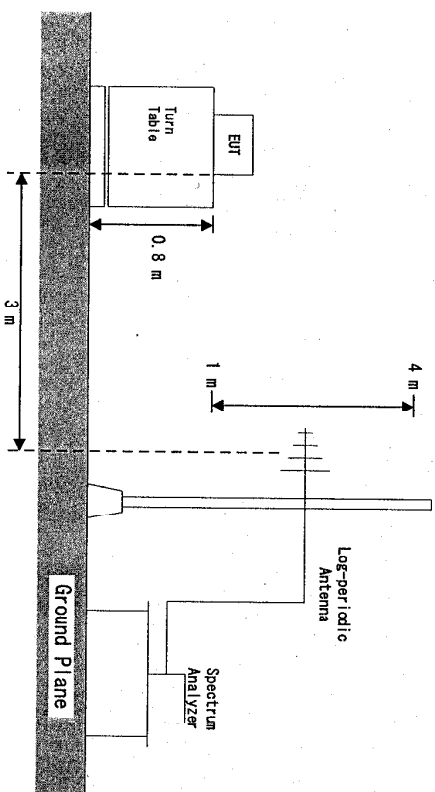
FUNDAMENTAL LIMITS [Sec. 15.231(b)] : 5417uV/m



**MESUREMENT SET-UP FOR UP TO 1 GHz**



**MESUREMENT SET-UP FOR ABOVE 1 GHz**



**2. Emission Limitation: [§15.231(c)]**

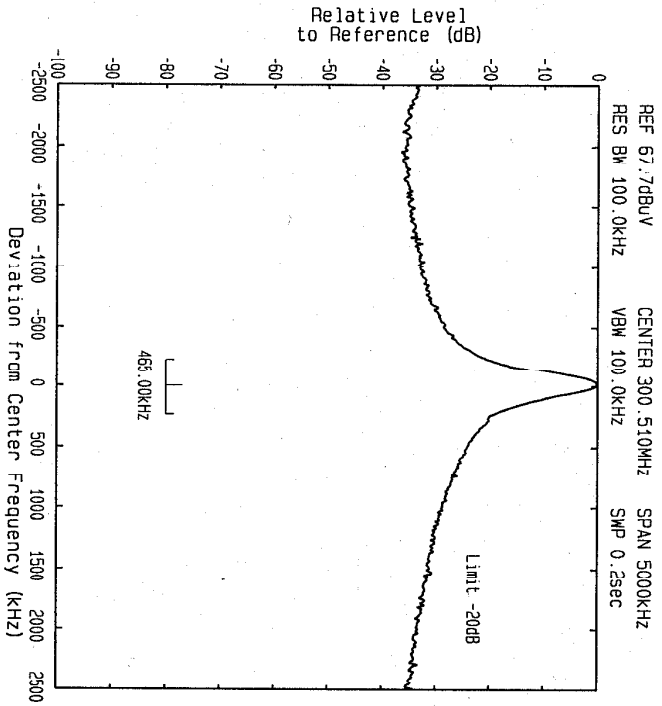
**Measurement Method Employed:** By using a spectrum analyzer with a vertical antenna for picking up the signal, the measurements of the fundamental frequency were made under the following transmitting modes of the EUT.

**Measurements Results.:**  
Specified Limits: (±25 % of the Fundamental Frequency  
300 MHz x 0.0025 = 750 KHz  
Refer to the attached graphs.

Emission Limitation

FCC ID : N7U-ERFOLG2  
Model : LOVEGETY II-2

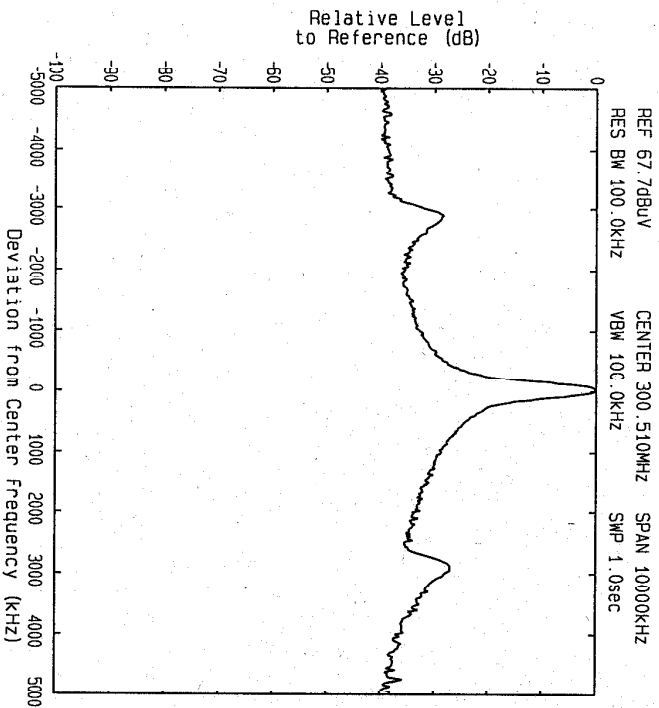
Mode of EUT : Transmit



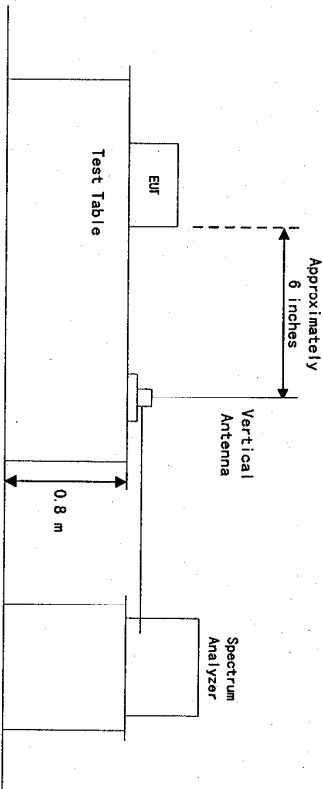
Emission Limitation

FCC ID : N7U-ERFOLG2  
Model : LOVEGETY II-2

Mode of EUT : Transmit



# MESUREMENT SET-UP FOR BAND WIDTH



[Receiver portion]

3. Radiated Spurious Emissions: [§15.109(a)]

## Measurement Method Employed.

Measurements were made under the conditions specified ANSI C63.4. The field strength measurements of the equipment under test were made at the distance of 3 meters away from the device which was placed on the wooden turntable 0.8 meter in height. The receiving antenna polarized horizontally was varied from 1 to 4 meters and the wooden turntable was rotated through 360 degrees to obtain the highest reading in the field strength meter. The device was tested three orthogonal planes. These measurements were repeated with the receiving antenna polarized vertically.

## Measurement Results:

Tuning Frequency : 315 MHz  
Distance of Measurement : 3.0 meters

| Frequency (MHz) | Antenna Factor (dB) | Meter Reading Horizontal (dB/uV) | Meter Reading Vertical (dB/uV) | Field Strength at 3 m Horizontal (uV/m) | Field Strength at 3 m Vertical (uV/m) |
|-----------------|---------------------|----------------------------------|--------------------------------|-----------------------------------------|---------------------------------------|
| 318.770         | 23.1                | 13.7                             | 10.2                           | 69.2                                    | 46.2                                  |
| 500.000         | 28.1                | < -5.0                           | < -5.0                         | < 14.3                                  | < 14.3                                |
| 700.000         | 32.6                | < -5.0                           | < -5.0                         | < 24.0                                  | < 24.0                                |
| 1000.000        | 37.4                | < -5.0                           | < -5.0                         | < 41.7                                  | < 41.7                                |

Note: 1. The spectrum was checked from 30 MHz to 1000 MHz

All emissions not listed were found to be more than 20 dB below the limits.

2. The symbol of "<" means "or less".

3. The cable loss was included in the antenna factor.

4. Sample calculation :

At 318.770 MHz

$$10(Af+Mr)/20 = 10(23.1+13.7)/20 = 69.2 \text{ uV/m}$$

Where,

Af = Antenna Factor including the cable loss.

Mr = Meter Reading

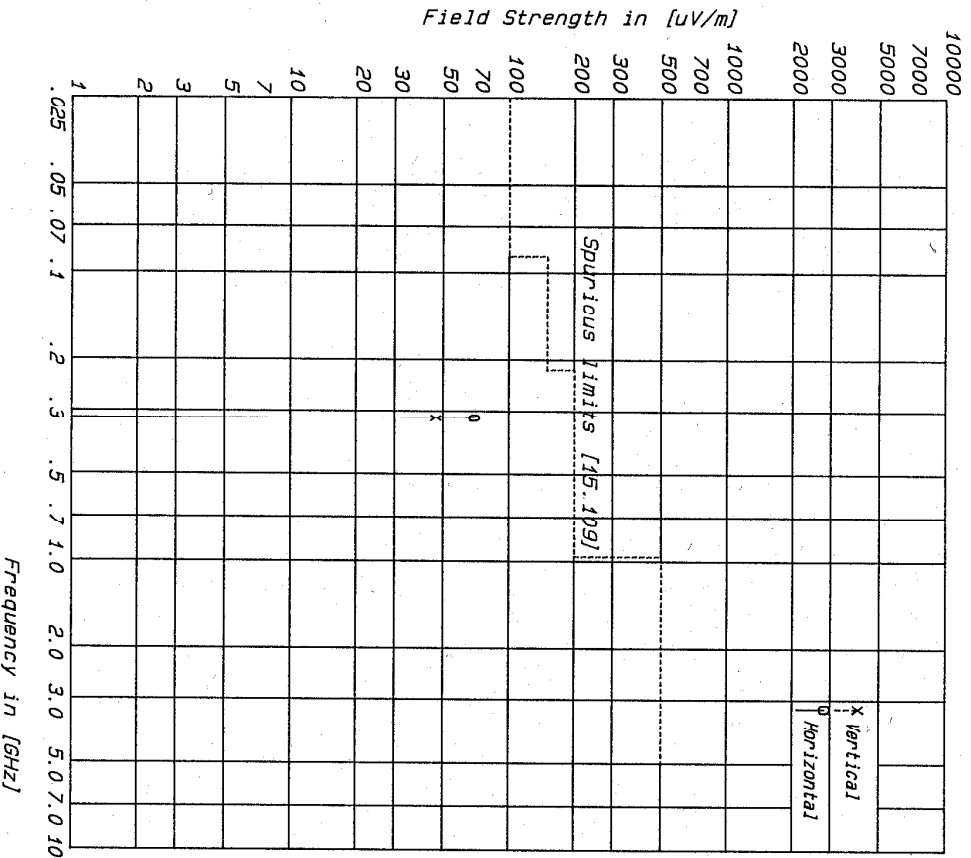
6. Measuring Instrument Setting:

Detector function : CISPR quasi-peak

IF Bandwidth : 120 KHz

Radiated Spurious Emission Measurement

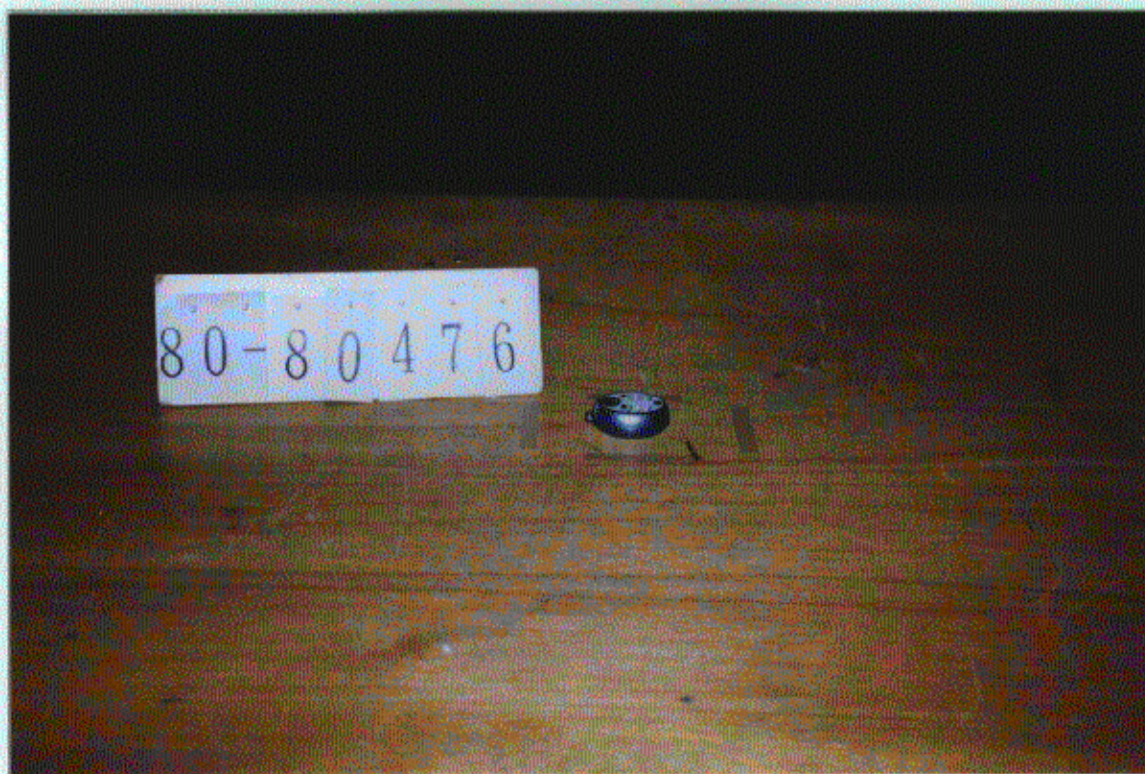
RX FCC ID : None  
Tuning Frequency: 315.000 MHz



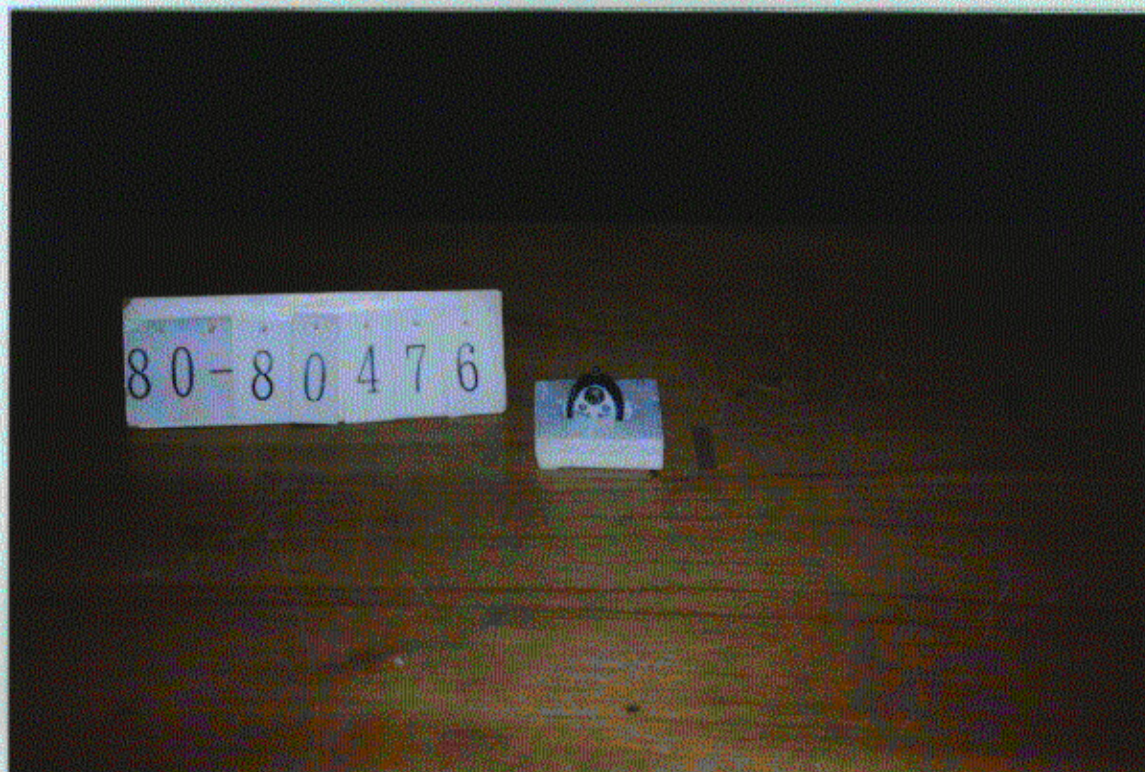
LIST OF MEASUREMENT EQUIPMENT

| Equipment (Model No.)   | Manufacturer                      | Date of Cal.  |
|-------------------------|-----------------------------------|---------------|
| 1. Field Strength Meter |                                   |               |
| ESVP                    | Rohde & Schwarz                   | May 1998      |
| 2. Spectrum Analyzer    |                                   |               |
| 8566B                   | Hewlett Packard Inc.              | April 1998    |
| 3. Tuned Dipole Antenna |                                   |               |
| KBA-511                 | Kyoritsu Electrical Works         | November 1998 |
| KBA-611                 | Kyoritsu Electrical Works         | November 1998 |
| 4. Vertical Antenna     |                                   |               |
| 91972-2                 | Stoddard Aircraft Radio Co., Ltd. | -             |
| 5. Log-periodic Antenna |                                   |               |
| HL 025                  | Rohde & Schwarz                   | November 1998 |





for Horizontal Plane



for Vertical Plane