

EMC TEST REPORT  
for  
**Shenzhen Optostar Co.,Ltd**  
SFP  
Model No.: OP-MP

Prepared for : Shenzhen Optostar Co.,Ltd  
Address : A-14,Haide Building,the Intersection of Nanxin  
Road and Haide Second Road Nanshan District  
Shenzhen,P.R.China  
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Report Number : R0317090195E  
Date of Test : Sept. 14~19, 2017  
Date of Report : Sept. 19, 2017

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APPENDIX I (Photos of EUT) (2 Pages)

### TEST REPORT VERIFICATION


Applicant : Shenzhen Optostar Co.,Ltd

Manufacturer : Shenzhen Optostar Co.,Ltd

EUT : SFP

Model No. : OP-MP

Rating : DC 3.3V, 350mA


Trade Mark : 

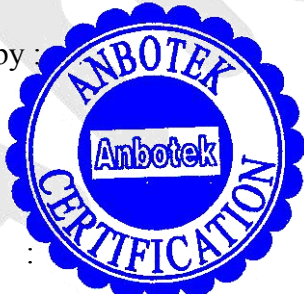
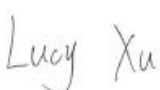
Measurement Procedure Used:  
EN 61000-6-4: 2007+A1: 2011;


The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the EN 61000-6-4 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Test : Sept. 14~19, 2017

Prepared by :   
(Engineer/ Baron Wen)

Reviewer :   
  
(Project Manager/ Lucy Xu)

Approved & Authorized Signer :   
(Manager/ Tom Chen)

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

EUT : SFP

Model Number : OP-MP

Test Power Supply : DC 3.3V

Applicant : Shenzhen Optostar Co.,Ltd  
Address : A-14,Haide Building,the Intersection of Nanxin  
Road and Haide Second Road Nanshan District  
Shenzhen,P.R.China

Manufacturer : Shenzhen Optostar Co.,Ltd  
Address : D Buliding,Technology Business Incubator,  
XinHangGang 2rd Road,Shuangliu District,  
Chengdu,P.R.China

Factory : Shenzhen Optostar Co.,Ltd  
Address : D Buliding,Technology Business Incubator,  
XinHangGang 2rd Road,Shuangliu District,  
Chengdu,P.R.China

## 1.2. Auxiliary Equipment Used during Test

N/A

## 1.3. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

### **FCC-Registration No.: 752021**

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 752021, July 06, 2016.

### **ISED-Registration No.: 8058A-1**

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A-1, June 13, 2016.

### **CNAS - LAB Code: L3503**

Shenzhen Anbotek Compliance Laboratory Limited., Laboratory has been assessed and in compliance with CNAS/CL01: 2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

### **Test Location**

All Emissions tests were performed  
Shenzhen Anbotek Compliance Laboratory Limited. at 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China

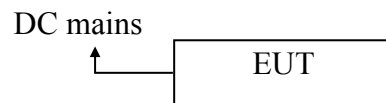
## 1.4. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 4.1dB (Horizontal) Ur = 4.3dB (Vertical)
Conduction Uncertainty	:	Uc =3.4 dB
Disturbance Uncertainty	:	Ud = 2.6 dB

### 1.5. Description of Test Mode

Pretest Mode	Description
Mode 1	On

For Mode Block Diagram of Test Setup



### 1.6. Test Summary

Test Items	Test Mode	Status
Power Line Conducted Emission Test (150KHz To 30MHz)	/	N
Radiated Emission Test (30MHz To 1000MHz)	Mode 1	P

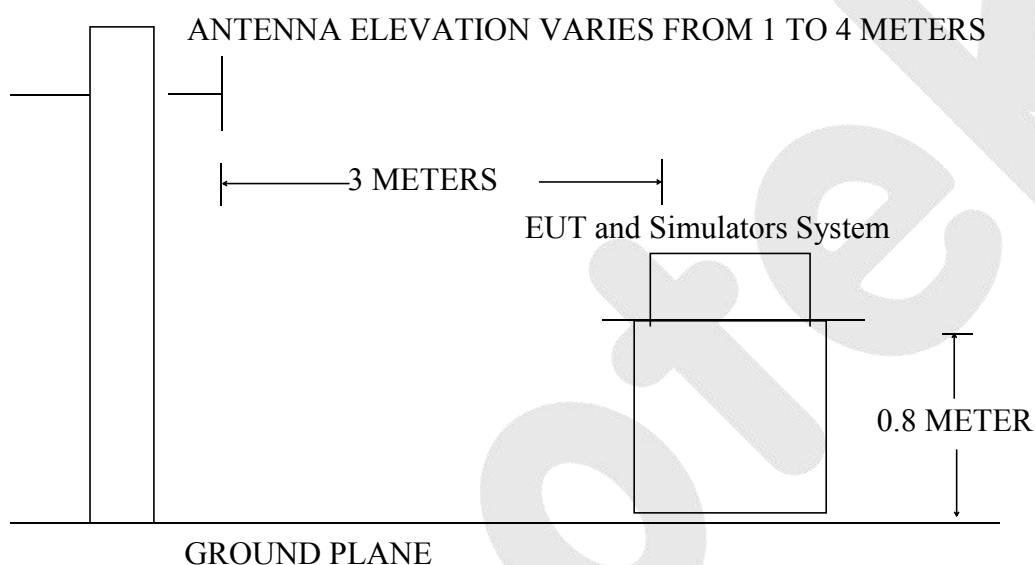
P) Indicates that the through the test.

N) Don't test.

## 2. RADIATED EMISSION TEST

### 2.1. Block Diagram of Test

#### 2.1.1. Block diagram of test setup (In chamber)



### 2.2. Measuring Standard

EN 61000-6-4

### 2.3. Radiated Emission Limits

All emanations from a device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMIT (dB $\mu$ V/m)
30 ~ 230	3	50
230 ~ 1000	3	57

- Note: (1) The smaller limit shall apply at the combination point between two frequency bands.  
(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.

## 2.4. EUT Configuration on Test

The EN 61000-6-4 regulations test method must be used to find the maximum emission during radiated emission measurement.

## 2.5. Operating Condition of EUT

2.5.1. Setup the EUT as shown on Section 2.1.

2.5.2. Turn on the power of all equipments.

2.5.3. After that, let the EUT work in test mode measure it.

## 2.6. Test Procedure

The EUT is placed on a turn table which is 0.8 meter high above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Bilog antenna (calibrated by Dipole Antenna) is used as a receiving antenna. Both horizontal and vertical polarization of the antenna are set on test.

The bandwidth of the Receiver (ESCI) is set at 120kHz.

The EUT is tested in 9\*6\*6 Chamber.

The test results are listed in Section 2.8.

## 2.7. Test Equipment

The following test equipments are used during radiated emission measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESPI	101604	May 27, 2017	1 Year
2.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	May 31, 2017	1 Year
3.	Pre-amplifier	SONOMA	310N	186860	May 27, 2017	1 Year
4.	Software Name EZ-EMC	Ferrari Tchnology	ANB-03A	N/A	N/A	N/A

## 2.8. Measuring Results

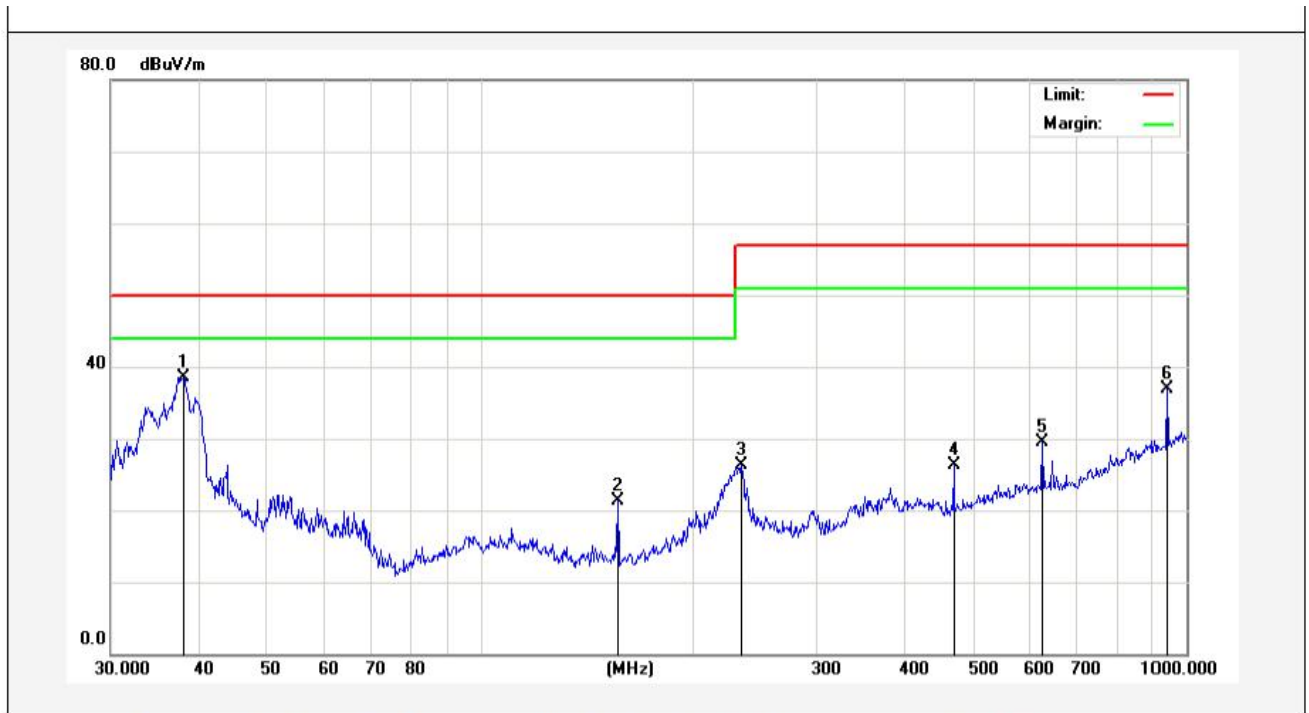
**PASS**

The frequency range from 30MHz to 1000MHz is investigated.

Test data see the following pages.



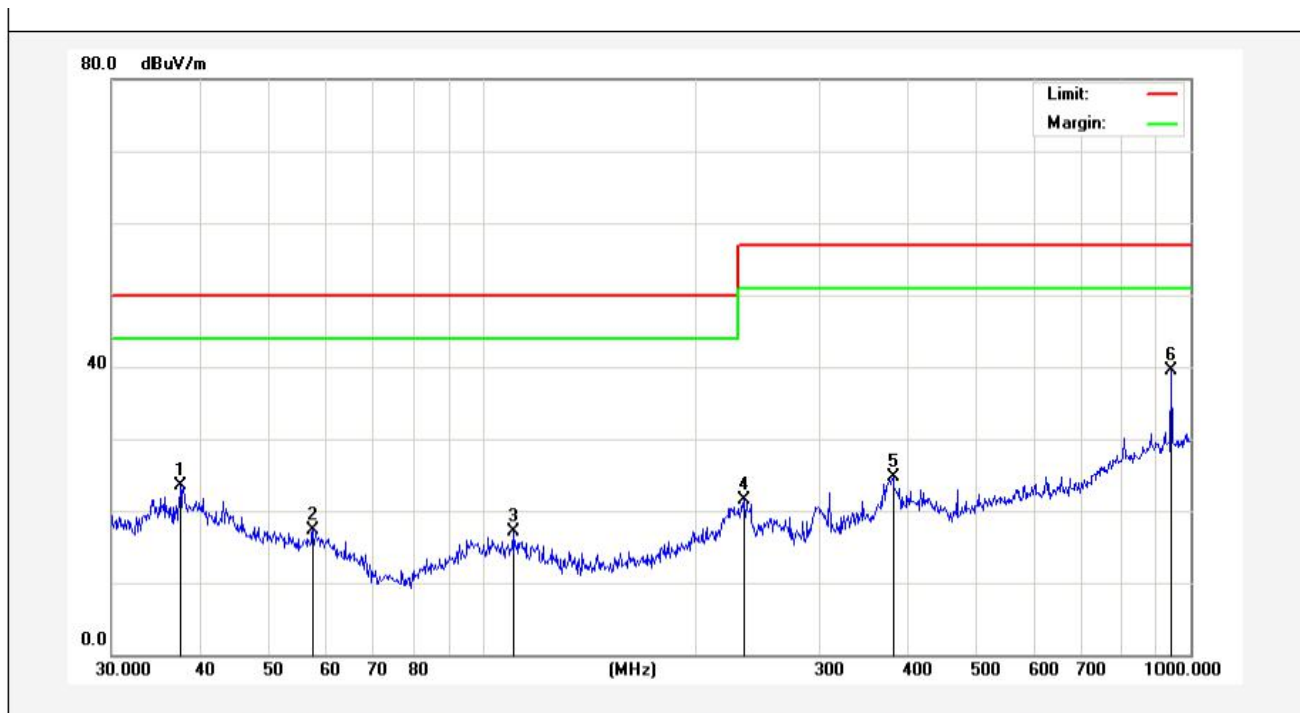
**Test item:** Radiation Test      **Polarization:** Vertical  
**Standard:** (RE)EN61000-6-4      **Power Source:** DC 3.3V  
**Distance:** 3m      **Temp.(°C)/Hum.(%RH):** 24.3( °C)/55%RH  
**Note:**



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	37.9450	50.86	-12.39	38.47	50.00	-11.53	peak			
2	156.4578	39.31	-18.04	21.27	50.00	-28.73	peak			
3	234.1684	40.71	-14.39	26.32	57.00	-30.68	peak			
4	468.8762	38.08	-11.85	26.23	57.00	-30.77	peak			
5	625.0780	38.54	-9.05	29.49	57.00	-27.51	peak			
6	938.8326	40.15	-3.15	37.00	57.00	-20.00	peak			

**Note:** Result=Reading+Factor      Over Limit=Result-Limit

Test item: Radiation Test Polarization: Horizontal  
 Standard: (RE)EN61000-6-4 Power Source: DC 3.3V  
 Distance: 3m Temp.(°C)/Hum.(%RH): 24.3( °C)/55%RH  
 Note:

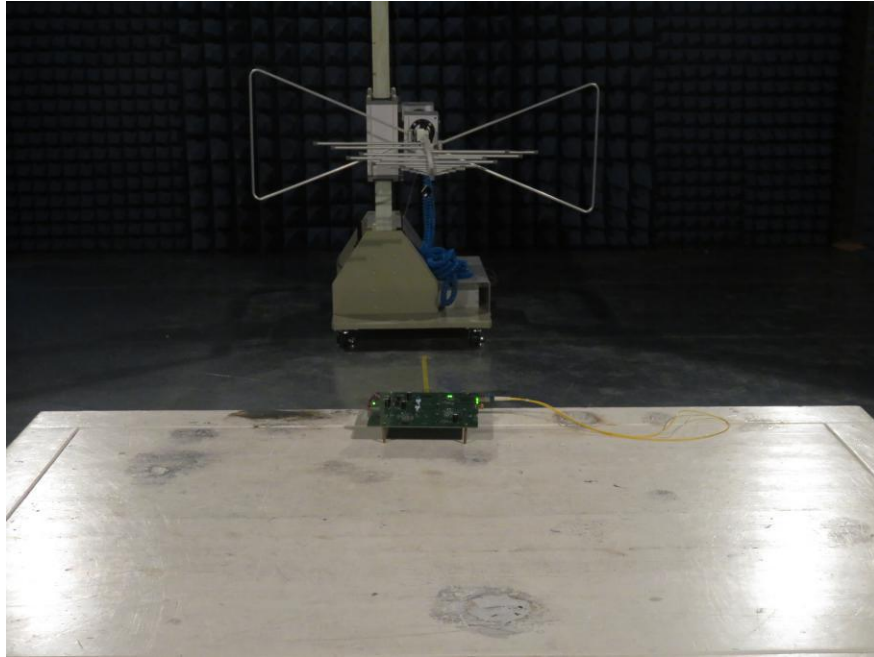


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	37.4165	36.24	-12.76	23.48	50.00	-26.52	peak			
2	57.5939	32.44	-15.17	17.27	50.00	-32.73	peak			
3	110.5687	37.75	-20.66	17.09	50.00	-32.91	peak			
4	234.1684	40.11	-18.68	21.43	57.00	-35.57	peak			
5	379.9141	37.88	-13.27	24.61	57.00	-32.39	peak			
6	938.8326	43.66	-4.15	39.51	57.00	-17.49	peak			

Note: Result=Reading+Factor Over Limit=Result-Limit

### 3. PHOTOGRAPHS

#### 3.1. Photo of Radiated Emission Test



**APPENDIX I**  
**(Photos of EUT)**

Figure 1  
The EUT- Front View

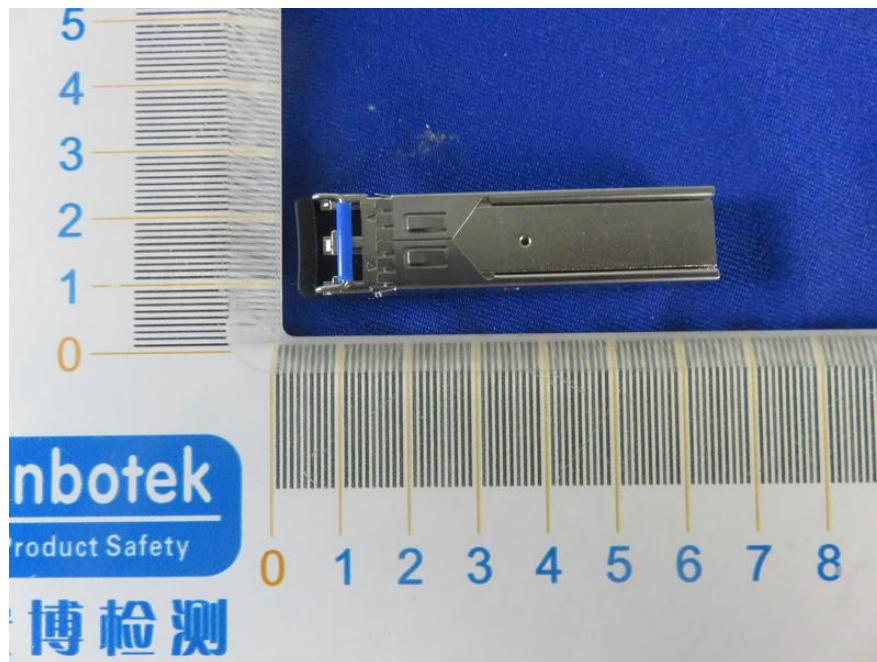


Figure 2  
The EUT- Back View

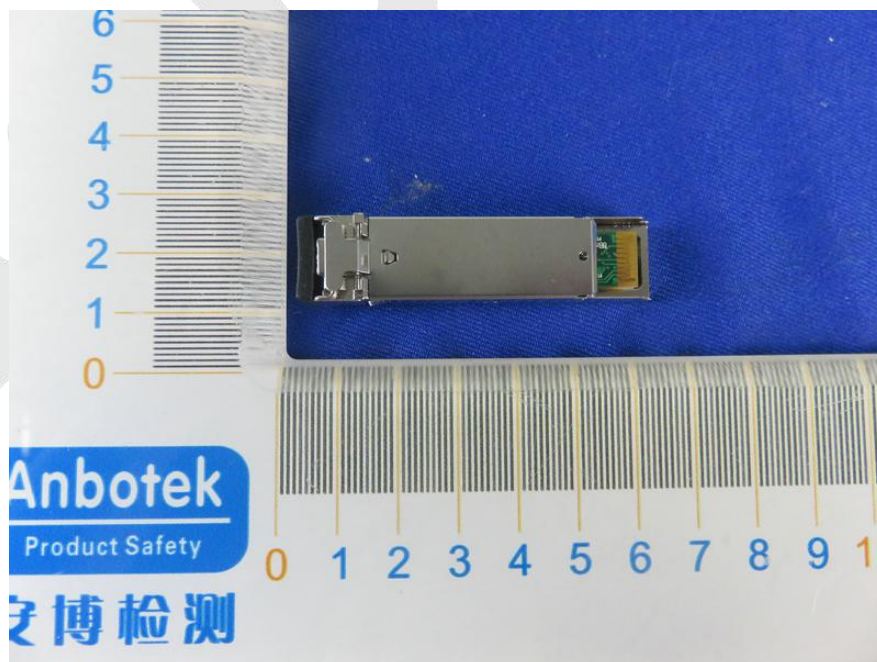




Figure 3  
The EUT- Side View

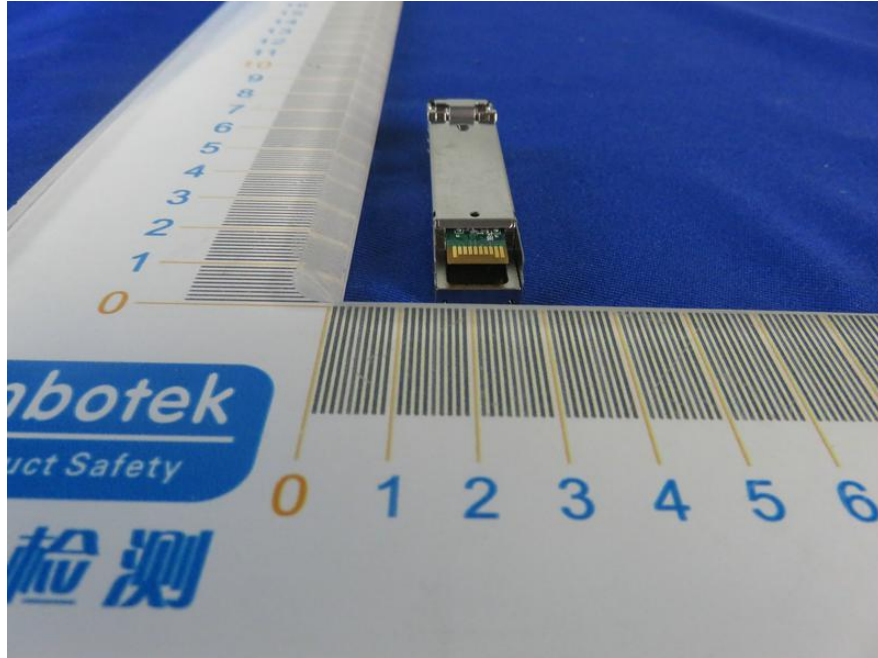
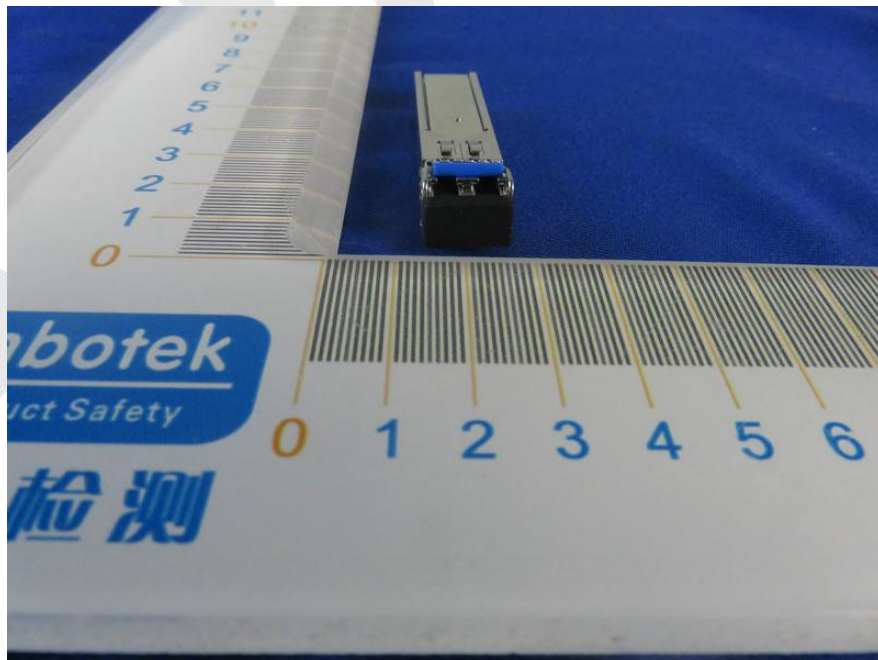


Figure 4  
The EUT- Side View



### **CE Label**

1. The CE conformity marking must consist of the initials 'CE' taking the following form:  
If the CE marking is reduced or enlarged, the proportions given in the above graduated drawing must be respected.
2. The CE marking must have a height of at least 5 mm except where this is not possible on account of the nature of the apparatus.
3. The CE marking must be affixed to the product or to its data plate. Additionally it must be affixed to the packaging, if any, and to the accompanying documents.
4. The CE marking must be affixed visibly, legibly and indelibly.  
It must have the same height as the initials 'CE'.

\*\*\*End of report\*\*\*