Test Report

Product Name ： IPC

Model No. ： On Demand Switch 3 (RODS3-DEFDUDC)
On Demand Switch 3 (RODS3-S1-DEFDUDC)
On Demand Switch 3 (RODS3-S2-DEFDUDC)

Applicant ： Radware Ltd.

Address ： 22 Raoul Wallenberg St. Tel Aviv, lsrael 69710

Date of Receipt ： 2008/09/22

Issued Date ： 2008/10/29

Report No. ： 089327R-ITJPP05V01

Version ： V2.0

Test Report Certification

Issued Date : 2008/10/29
Report No. : 089327R-ITJPP05V01

Product Name	:	IPC
Applicant	:	Radware Ltd.
Address	:	22 Raoul Wallenberg St. Tel Aviv, Israel 69710
Manufacturer	:	NEXCOM International Co., LTD
Model No.	:	On Demand Switch 3 (RODS3-DEFDUDC) On Demand Switch 3 (RODS3-S1-DEFDUDC) On Demand Switch 3 (RODS3-S2-DEFDUDC)
Rated Voltage	:	AC 100V / 50Hz
EUT Voltage	:	DC 48V
Trade Name	:	Radware
Applicable Standard	:	VCCI: 2008-04 Class A
Test Result	:	Complied
Performed Location	:	Quietek Corporation (Linkou Laboratory) No.5-22, Ruei-Shu Valley, Ruei-Ping Tsuen Lin Kuo Shiang, Taipei, 244 Taiwan, R.O.C. TEL:+866-2-8601-3788 / FAX:+886-2-8601-3789

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Approved By :
(Manager / Vincent Lin)

Laboratory Information

We , **QuieTek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted (audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scopes:

Taiwan R.O.C.	**:**	**BSMI, NCC, TAF**
Germany	**:**	**TUV Rheinland**
Norway	**:**	**Nemko, DNV**
USA	**:**	**FCC, NVLAP**
Japan	**:**	**VCCI**

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site :http://tw.quietek.com/modules/enterprise/services.php?item=100
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : http://www.quietek.com/
If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

HsinChu Testing Laboratory :
No.75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan, R.O.C.
TEL:+886-3-592-8858 / FAX:+886-3-592-8859 E-Mail : service@quietek.com

NVLAP Lab Code : 200347-0

1313

LinKou Testing Laboratory :
No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen, Lin-Kou Shiang, Taipei, Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : service@quietek.com

NVLAP Lab Code: 200533-0

0914

Suzhou (China) Testing Laboratory :
No. 99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., Suzhou,China.
TEL : +86-512-6251-5088 / FAX : +86-512-6251-5098 E-Mail : service@quietek.com

NVLAP Lab Code: 200533-0

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1. General Information

1.1. EUT Description

Product Name	IPC
Trade Name	Radware
Model No.	On Demand Switch 3 (RODS3-DEFDUDC) On Demand Switch 3 (RODS3-S1-DEFDUDC) On Demand Switch 3 (RODS3-S2-DEFDUDC)

Component	
CPU	AMD Opteron
Power Cable*2	Non-Shielded, 3.0m
LAN Cable*5	Non-Shielded, 3.0m
Fiber Cable*3	Non-Shielded, 0.4m
Fiber Cable	Non-Shielded, 2.0m
Power Supply	ZIPPY, DMRW-6400F
DDR-RAM	DDR2/ECC/REG
HDD	5V/12V VDC, 1.5A/1.5A
LAN Card	Mekong-4SFP, 20Q0MEK4S00X1
Mother Board	NEXCOM, MEKONG-XGE

1.2. Mode of Operation

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

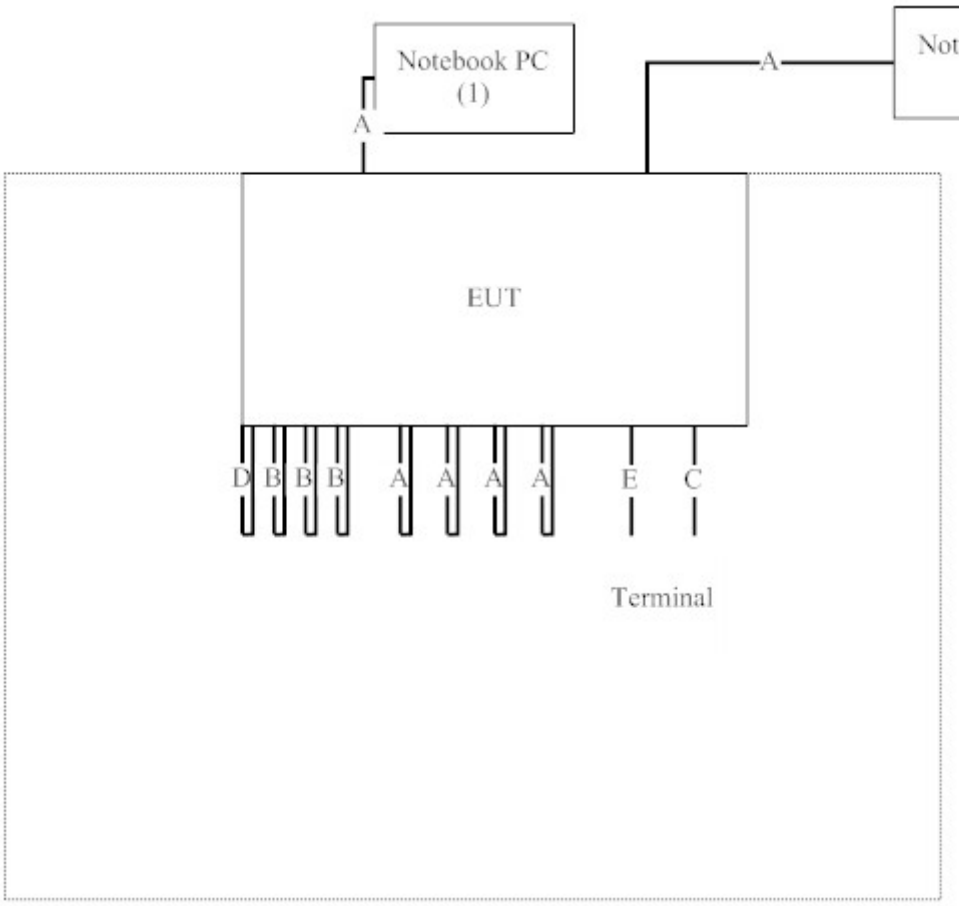
Pre-Test Mode	
Mode 1: Normal Operation	
Final Test Mode	
Emission	Mode 1: Normal Operation

1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	PPT	N/A	Non-Shielded, 1.8m
2	Notebook PC	DELL	PP04X	2D2ZM1S	Non-Shielded, 1.8m

1.4. Configuration of Tested System

Connection Diagram


Signal Cable Type		Signal cable Description
A	LAN Cable	Non-Shielded, 3m, six PCS.
B	Fiber Cable	Non-Shielded, 0.4m, three PCS.
C	RS-232 Cable	Shielded, 1.5m
D	Fiber Cable	Non-Shielded, 2m
E	USB Cable	Shielded, 1.5m

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on 1.4.
2	Turn on the power of all equipment.
3	Boot the PC from Hard Disk.
4	Data will communicate between personal computer and partner personal computer through EUT.
5	The personal computer's and partner computer's monitor will show the transmitting and receiving characteristics when the communication is success.
6	Repeat the above procedure (4) to (5).

2. Technical Test

2.1. Summary of Test Result

☒ No deviations from the test standards

☐ Deviations from the test standards as below description:

Emission			
Performed Item	Normative References	Test Performed	Deviation
Conducted Emission	VCCI: 2008-04 Class A	Not Applicable	No
Radiated Emission	VCCI: 2008-04 Class A	Yes	No

2.2. List of Test Equipment

Radiated Emission / Site2

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Bilog Antenna	Schaffner Chase	CBL6112B	2921	2008/09/15
Broadband Horn Antenna	Schwarzbeck	BBHA9170	208	2008/07/25
EMI Test Receiver	R&S	ESCS 30	100123	2008/03/23
Horn Antenna	Schwarzbeck	BBHA9120D	305	2008/08/10
Pre-Amplifier	QTK	N/A	N/A	2008/01/03
Spectrum Analyzer	Advantest	R3162	120300652	2008/04/06

2.3. Measurement Uncertainty

Radiated Emission

The measurement uncertainty is evaluated as ± 3.19 dB.

2.4. Test Environment

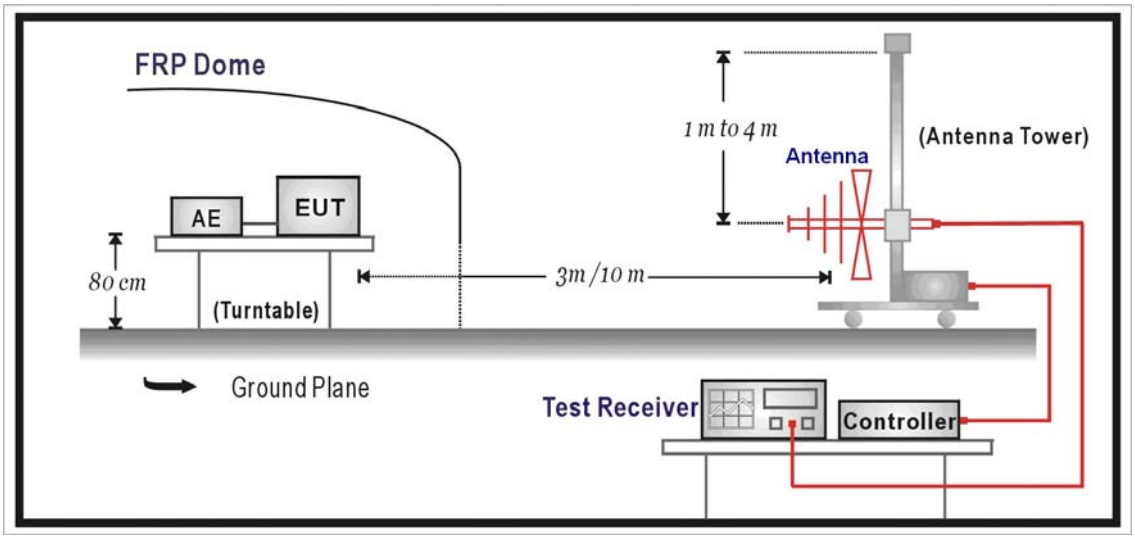
Performed Item	Items	Required	Actual
Radiated Emission	Temperature (°C)	15-35	25
	Humidity (%RH)	25-75	50
	Barometric pressure (mbar)	860-1060	950-1000

3. Radiated Emission

3.1. Test Specification

According to EMC Standard : VCCI

3.2. Test Setup



3.3. Limit

Limits		
Frequency (MHz)	Distance (m)	dBuV/m
30 – 230	10	40
230 – 1000	10	47

Remark:

1. The tighter limit shall apply at the edge 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 device or system.

3.4. Test Procedure

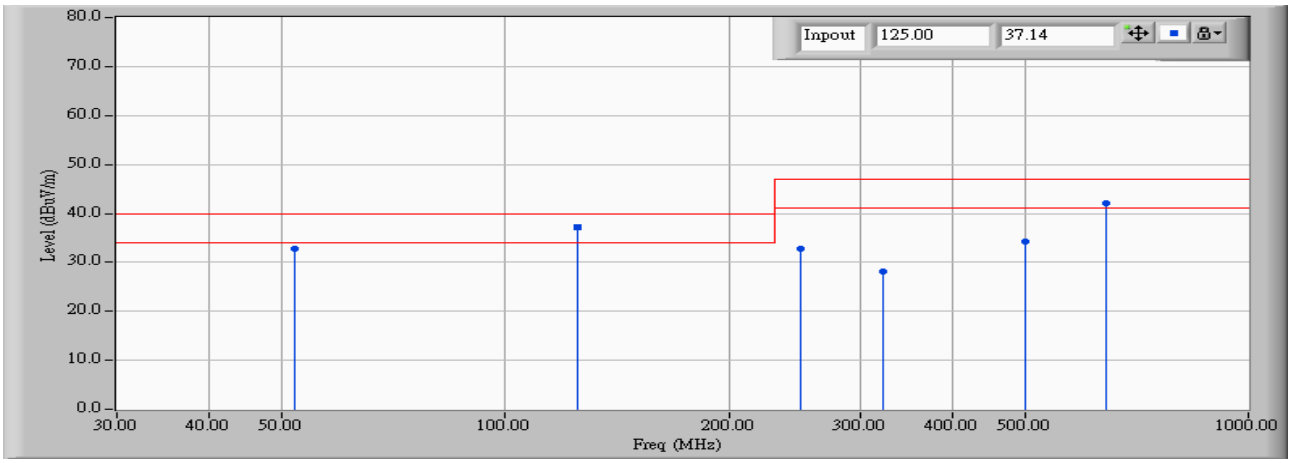
The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 10 meters. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.
All cable leaving the table-top EUT for a connection outsidethe test site (for example, mains cable, telephone lines, connections to auxiliary equipment located outside the test area) shall be fitted with ferrite clamps placed on the floor at the point where the cable reached the floor.
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to VCCI on radiated measurement.
Radiated emissions were invested over the frequency range from 30MHz to1GHz using a receiver bandwidth of 120kHz. Radiated was performed at an antenna to EUT distance of 10 meters.

3.5. Deviation from Test Standard

No deviation.

3.6. Test Result

Site : OATS-2	**Time : 2008/10/27 - 16:10**
Limit : CISPR_A_10M_QP	**Margin : 6**
EUT : IPC	**Probe : 2007_Site2(2921) - HORIZONTAL**
Power : DC 48V	**Note : Mode 1**

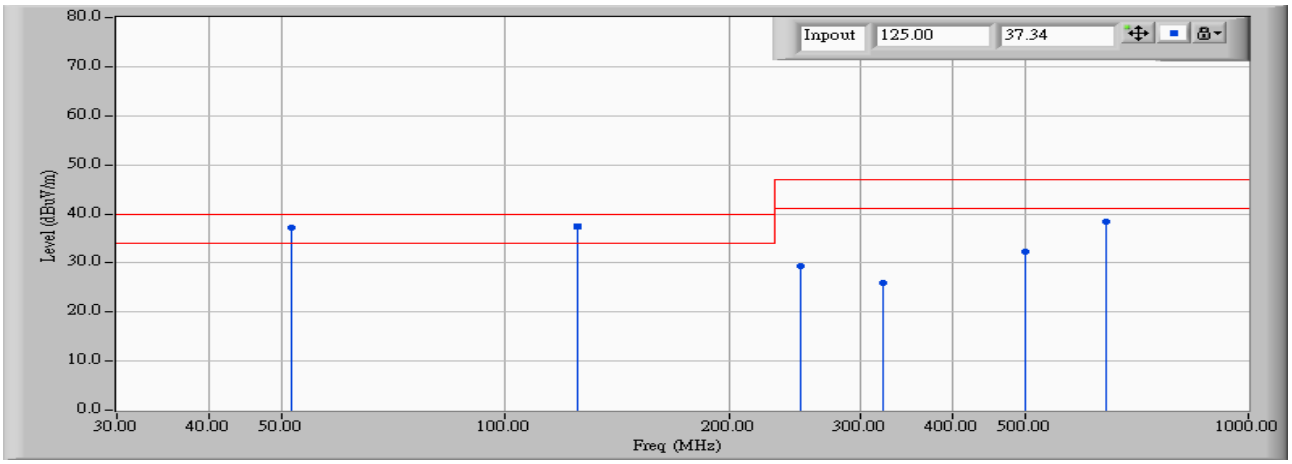


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		51.960	9.944	22.730	32.675	-7.325	40.000	QUASIPEAK
2	*	125.000	14.741	22.400	37.141	-2.859	40.000	QUASIPEAK
3		250.000	15.948	16.750	32.698	-14.302	47.000	QUASIPEAK
4		322.280	17.766	10.350	28.116	-18.884	47.000	QUASIPEAK
5		500.038	21.906	12.330	34.236	-12.764	47.000	QUASIPEAK
6		644.561	23.952	18.210	42.161	-4.839	47.000	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : OATS-2	**Time : 2008/10/27 - 16:10**
Limit : CISPR_A_10M_QP	**Margin : 6**
EUT : IPC	**Probe : 2007_Site2(2921) - VERTICAL**
Power : DC 48V	**Note : Mode 1**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		51.480	10.088	27.150	37.238	-2.762	40.000	QUASIPEAK
2	*	125.000	14.741	22.600	37.341	-2.659	40.000	QUASIPEAK
3		250.000	15.948	13.500	29.448	-17.552	47.000	QUASIPEAK
4		322.280	17.766	8.200	25.966	-21.034	47.000	QUASIPEAK
5		500.000	21.905	10.500	32.405	-14.595	47.000	QUASIPEAK
6		644.560	23.952	14.400	38.351	-8.649	47.000	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3.7. Test Photograph

Test Mode : Mode 1: Normal Operation

Description : Front View of Radiated Test

Test Mode : Mode 1: Normal Operation

Description : Back View of Radiated Test

4. Attachment

➢ EUT Photograph

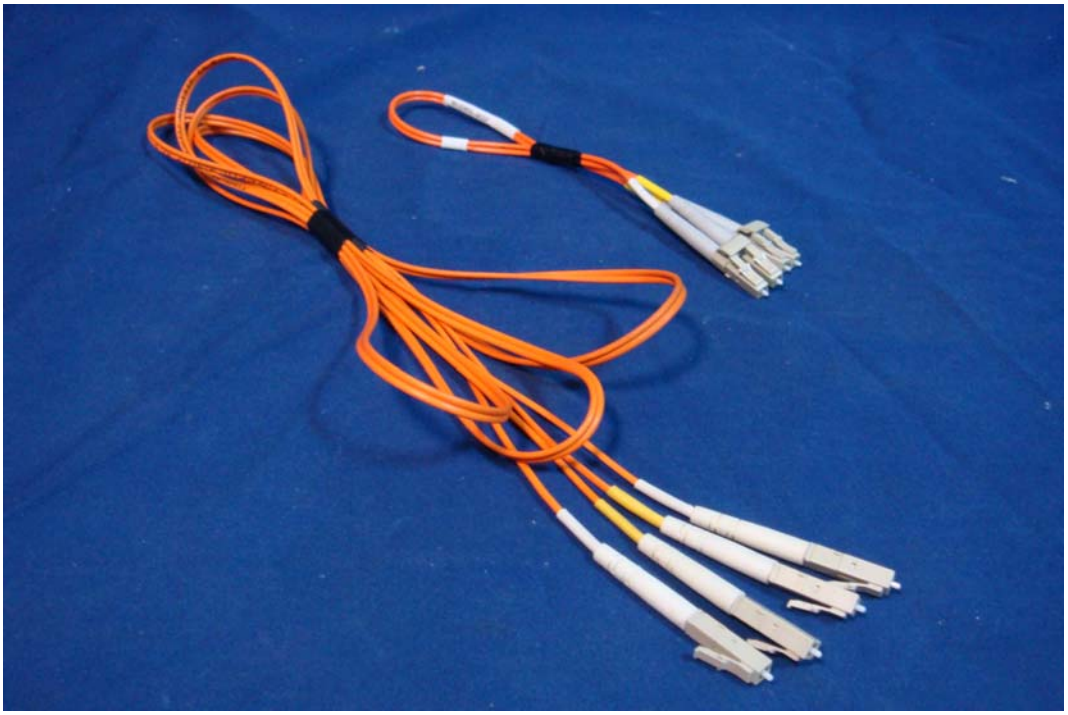
(1) EUT Photo

(2) EUT Photo

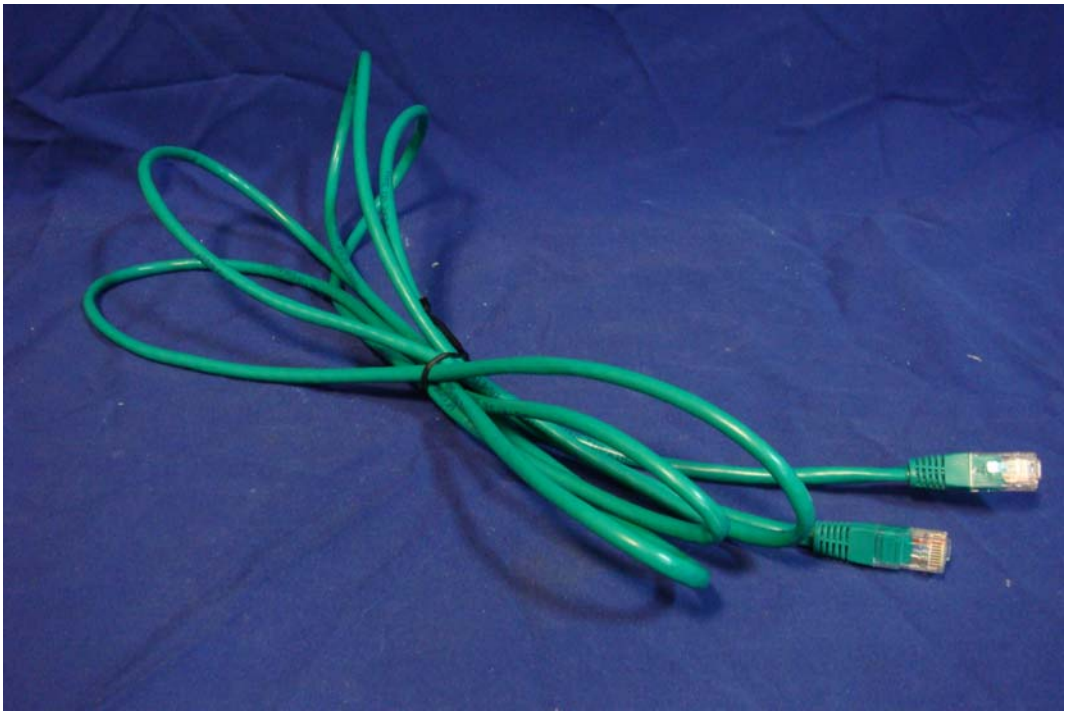
(3) EUT Photo

(4) EUT Photo

(5) EUT Photo



(6) EUT Photo



(7) EUT Photo