

CE R&TTE TEST REPORT

according to

EN 300 328-1 V1.3.1 (2001-12)

EN 300 328-2 V1.2.1 (2001-12)

Applicant	TRENDware International, Inc.
Address	3135 Kashiwa Street, Torrance, CA90505 U.S.A.
Equipment	802.11g 54Mbps ADSL Modem Router
Model No.	TEW-435BRM
Trade Name	TRENDware
Power Supply Type	Adapter I/P: 230Vac/50Hz ; O/P: 15Vdc, 1A

- The test result refers exclusively to the test presented test model / sample.
- Without written approval of Exclusive Certification Corp, the test report shall not be reproduced except in full.
- This test report is only applicable to European Community.

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CERTIFICATE OF COMPLIANCE

according to

EN 300 328-1 V1.3.1 (2001-12)

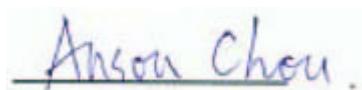
EN 300 328-2 V1.2.1 (2001-12)

Applicant	TRENDware International, Inc.
Address	3135 Kashiwa Street, Torrance, CA90505 U.S.A.
Equipment	802.11g 54Mbps ADSL Modem Router
Model No.	TEW-435BRM

I HEREBY CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **EUROPEAN COUNCIL DIRECTIVE 1999/5/EC**. The equipment was ***passed*** the test performed according to **EN 300 328-2 V1.2.1 (2001-12)**. Testing was carried out on Oct. 24, 2003 at Electronics Testing Center, Taiwan.

Signature



Anson Chou / Manager

1. List of Measurements

Clause	Test Parameter	Remark
Transmitter parameters		
<u>5.2.1/7.2.1</u>	Effective Radiated Power	Passed
<u>5.2.2/7.2.2</u>	Peak Power Density – for FHSS equipment	Not Applicable
<u>5.2.2/7.2.2</u>	Peak Power Density – for DSSS equipment	Passed
<u>5.2.3/7.2.3</u>	Frequency Range – for FHSS equipment	Not Applicable
<u>5.2.3/7.2.4</u>	Frequency Range – for using other forms of modulation	Passed
<u>5.2.4/7.2.5</u>	Transmitter spurious emissions	Passed
Receiver parameters		
<u>5.3.2/7.3.2</u>	Receiver spurious emissions	Passed

2. Feature of Equipment under Test

1. A powerful, true firewall.
2. Content filtering.
3. Auto Sensing and Auto UplinkTM LAN Ethernet connections.
4. Extensive Internet protocol support.
5. Easy, Web-based setup for installation and management.

2.1 History of this test report

The Model No. IP806GA (Report No: ET92R-10-093-01) and Model No. TEW-435BRM (Report No:CR04020701-A) are the same and they only differ from the outside cosmetic. The function and specifications are the same.

3. General Information of Test

Test Site :	ELECTRONICS TESTING CENTER, Taiwan No. 34, Lin 5, Ding Fu Tdun, Linkou Hsiang, Taipei, Taiwan, R.O.C.
Test Voltage :	AC 230V/ 50Hz
Test Condition :	Normal Voltage : 230V Extreme Voltage : 253V and 207V subclause 6.4.2.3 Normal Temperature : 25°C Extreme Temperature : -20°C and 70°C subclause 6.4.1
Test in Compliance with :	ETSI EN 300 328-1 V1.3.1 (2001-12) ETSI EN 300 328-2 V1.2.1 (2001-12)

4. Transmitter Parameters

4.1 Effective Radiated Power (Conducted)

Ambient temperature: 28°C

(SUBCLAUSE 7.2.1)

Relative humidity: 65%

Rated output power (maximum)....15dBm

Antenna: Dipole Antenna

Bandwidth of measurement receiver. .RBW 1 MHz

Bit-Rate: 1Mbps

Gain: 1.8dBi Duty at cycle :x=1.0(see clause 7.2.1step 2) $10 \log(1/x)=0$

Test conditions		Transmitter power (dBm)					
		2412MHz		2441MHz		2472MHz	
		Pear	Ave.	Pear	Ave.	Pear	Ave.
Tnom (25)°C	Vnom (230 Vac)	13.8	11.6	12.5	10.5	12.5	10.4
Tmin (-20)°C	Vnom (207 Vac)	13.4	11.2	12.2	10.2	12.4	10.3
	Vnom (253 Vac)	13.7	11.5	12.1	10.1	12.5	10.4
Tmax (+70)°C	Vnom (207 Vac)	13.4	11.2	12.0	10.0	12.4	10.3
	Vnom (253 Vac)	13.3	11.1	12.0	10.0	12.3	10.2
Maximum deviation from rated output under normal test conditions (dB)		-1.2		-2.5		-2.5	
Measurement uncertainty (dB)		±1.5					

LIMIT SUBCLAUSE 5.2.1

Under all test conditions	20 dBm / -10dBW
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A separate page shall be filled in for each antenna assembly submitted for type testing.

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED (for reference see test equipment listing)

7, 14, 15, 16, 17

.....

4.2 Effective Radiated Power (Radiated)

Ambient temperature: 28°C

(SUBCLAUSE 7.2.1)

Relative humidity: 65%

Rated output power (maximum)....15dBm

Antenna: Dipole Antenna

Bandwidth of measurement receiver. .RBW 1 MHz

Bit-Rate: 1Mbps

Test conditions		Transmitter power (dBm)		
		2412MHz	242MHz	2472MHz
Tnom (25)°C	Vnom (230 Vac)	8.0	7.2	6.8
	Vnom (207 Vac)	7.4	6.4	5.8
	Vnom (253 Vac)	7.3	6.5	5.7
Maximum deviation from rated output under normal test conditions (dB)		-7.7	-8.6	-9.3
Measurement uncertainty (dB)		±2.0		

LIMIT SUBCLAUSE 5.2.1

Under all test conditions	20 dBm / -10dBW
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A separate page shall be filled in for each antenna assembly submitted for type testing.

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED (for reference see test equipment listing)

4, 9, 12, 16, 17

.....

4.3 Peak Power Density – for DSSS modulation

Ambient temperature: 28°C

(CLAUSE 7.2.2)

Relative humidity: 65%

Rated radiated power dBm/MHz.

Bit-Rate: 1Mbps

Tests	Measured Power Density		
	Lowest frequency 2412MHz	Middle frequency 2442MHz	Highest frequency 2472MHz
Measured power density	-8.83dBm/MHz	-9.50dBm/MHz	-11.67dBm/MHz
Measurement uncertainty	±3.0		

LIMITS: Clause 5.2.2

Under normal test conditions only	-20dBW/MHz 10dBm/1MHz
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Is Tx on Time < 10 microseconds ?

If yes, then the test method used is that agreed between the National Regulatory Authority, the appointed test house, the accreditation authority and the applicant;

the test method reference is as follows:

.....

and the basic description of the method of measurement is as follows:

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED (for reference see test equipment listing)

7, 14, 15, 16, 17

.....

4.4 Frequency range – for DSSS equipment

Ambient temperature: 28°C

(clause 7.2.3)

Relative humidity: 65%

Applicants declared operating frequency band

Lowest frequency: 2.400 GHz Highest frequency: 2.4835 GHz Modulated

Tests conditions		Frequency MHz	
		FL	FH
Tnom(25) °C	Vnom(230 Vac)	2402.330	2482.170
Tnom(-15) °C	Vnom(207Vac)	2402.335	2482.183
	Vnom(253 Vac)	2402.340	2482.192
Tnom(+60) °C	Vnom(207 Vac)	2402.344	2482.205
	Vnom(253 Vac)	2402.351	2482.215
Measurement uncertainty Hz		±1500	

Where FL Lowest frequency at the appropriate spurious emission level

FH Highest frequency at the appropriate spurious emission level

Band edge limits FL = 2402.330MHz (measured) and FH = 2482.215MHz (measured)

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED (for reference see test equipment listing)

7, 14, 15, 16, 17

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4.5 Spurious emissions Transmitter operating – Conducted

Ambient temperature: 28°C

Relative humidity: 65%

Rated output power15dBm

Power supplied: 230Vac/50Hz

Transmitter Operating @2412 MHz with maximum output power

Frequency static

Bit-Rate: 1Mbps

Frequency (MHz)	Measuring receiver bandwidth (MHz)	Spurious emissions level (dBm)
4824.000	1	-44.1
7236.000	1	---
9648.000	1	---
12060.000	1	---
14472.000	1	---
16884.000	1	---
19296.000	1	---
21708.000	1	---
24120.000	1	---
Measurement uncertainty ± 2 (dB)		

Remark" ---" means the emission level is greater than 20 dB below the limit or can not be detected.

LIMIT SUBCLAUSE 5.2.4

State	30MHz to 1GHz	Above 1GHz to 12.75GHz	1.8GHz to 1.9GHz 5.15GHz 5.3GHz
Operating	-36dBm	-30dBm	-47dBm
Standby	-57dBm	-47dBm	-47dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED (for reference see test equipment listing)

9, 13, 15, 16, 17

.....

Ambient temperature: 28°C

Relative humidity: 65%

Rated output power15dBm

Power supplied: 230Vac/50Hz

Transmitter Operating @2472 MHz with maximum output power

Frequency static

Bit-Rate: 1Mbps

802.11b

Frequency (MHz)	Measuring receiver bandwidth (MHz)	Spurious emissions level (dBm)
4944.000	1	-44.6
7416.000	1	---
9888.000	1	---
12360.000	1	---
14832.000	1	---
17304.000	1	---
19776.000	1	---
22248.000	1	---
24720.000	1	---
Measurement uncertainty ± 2 (dB)		

Remark" ---" means the emission level is greater than 20 dB below the limit or can not be detected.

LIMIT SUBCLAUSE 5.2.4

State	30MHz to 1GHz	Above 1GHz to 12.75GHz	1.8GHz to 1.9GHz 5.15GHz 5.3GHz
Operating	-36dBm	-30dBm	-47dBm
Standby	-57dBm	-47dBm	-47dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED (for reference see test equipment listing)

9, 13, 15, 16, 17

.....

4.6 Spurious emissions Transmitter standby – Conducted

Ambient temperature: 28°C

Relative humidity: 65%

Rated output power15dBm

Power supplied: 230Vac/50Hz

Transmitter Operating @2412 MHz

Frequency static

Bit-Rate: 1Mbps

Frequency (MHz)	Measuring receiver bandwidth (MHz)	Spurious emissions level (dBm)
4824.000	1	---
7236.000	1	---
9648.000	1	---
14472.000	1	---
16884.000	1	---
19296.000	1	---
21708.000	1	---
24120.000	1	---
Measurement uncertainty ± 2 (dB)		

Remark" ---" means the emission level is greater than 20 dB below the limit or can not be detected.

LIMIT SUBCLAUSE 5.2.4

State	30MHz to 1GHz	Above 1GHz to 12.75GHz	1.8GHz to 1.9GHz 5.15GHz 5.3GHz
Operating	-36dBm	-30dBm	-47dBm
Standby	-57dBm	-47dBm	-47dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED (for reference see test equipment listing)

9, 13, 15, 16, 17

.....

Ambient temperature: 28°C

Relative humidity: 65%

Rated output power15dBm

Power supplied: 230Vac/50Hz

Transmitter Operating @2472 MHz

Frequency static

Bit-Rate: 1Mbps

Frequency (MHz)	Measuring receiver bandwidth (MHz)	Spurious emissions level (dBm)
4944.000	1	---
7416.000	1	---
9888.000	1	---
12360.000	1	---
14832.000	1	---
17304.000	1	---
19776.000	1	---
22248.000	1	---
24720.000	1	---
Measurement uncertainty ± 2 (dB)		

Remark" ---" means the emission level is greater than 20 dB below the limit or can not be detected.

LIMIT SUBCLAUSE 5.2.4

State	30MHz to 1GHz	Above 1GHz to 12.75GHz	1.8GHz to 1.9GHz 5.15GHz 5.3GHz
Operating	-36dBm	-30dBm	-47dBm
Standby	-57dBm	-47dBm	-47dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED (for reference see test equipment listing)

9, 13, 15, 16, 17

.....

4.7 Spurious emissions Transmitter operating -- Radiated

Ambient temperature: 28°C

Relative humidity: 65%

Rated output power15dBm

Power supplied: 230Vac/50Hz

Transmitter Operating @2412 MHz Unmodulated with maximum output power

Frequency static

Bit-Rate: 1Mbps

Frequency (MHz)	Measuring receiver bandwidth (MHz)	Spurious emissions level (dBm)
4824.000	1	---
7236.000	1	---
9648.000	1	---
12060.000	1	---
14472.000	1	---
16884.000	1	---
19296.000	1	---
21708.000	1	---
24120.000	1	---
Measurement uncertainty ± 2 (dB)		

Remark" ---" means the emission level is greater than 20 dB below the limit or can not be detected.

LIMIT SUBCLAUSE 5.2.4

State	30MHz to 1GHz	Above 1GHz to 12.75GHz	1.8GHz to 1.9GHz 5.15GHz 5.3GHz
Operating	-36dBm	-30dBm	-47dBm
Standby	-57dBm	-47dBm	-47dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED (for reference see test equipment listing)

1, 2, 3, 4, 5, 8, 9, 10, 11, 13, 16, 17

.....

Ambient temperature: 28°C

Relative humidity: 65%

Rated output power15dBm

Power supplied: 230Vac/50Hz

Transmitter Operating @2472 MHz

Unmodulated with maximum output power

Frequency static

Bit-Rate: 1Mbps

Frequency (MHz)	Measuring receiver bandwidth (MHz)	Spurious emissions level (dBm)
4944.000	1	---
7416.000	1	---
9888.000	1	---
12360.000	1	---
14832.000	1	---
17304.000	1	---
19776.000	1	---
22248.000	1	---
24720.000	1	---
Measurement uncertainty ± 2 (dB)		

Remark" ---" means the emission level is greater than 20 dB below the limit or can not be detected.

LIMIT SUBCLAUSE 5.2.4

State	30MHz to 1GHz	Above 1GHz to 12.75GHz	1.8GHz to 1.9GHz 5.15GHz 5.3GHz
Operating	-36dBm	-30dBm	-47dBm
Standby	-57dBm	-47dBm	-47dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED (for reference see test equipment listing)

1, 2, 3, 4, 5, 8, 9, 10, 11, 13, 16, 17

.....

4.8 Spurious emissions Transmitter standby -- Radiated

Ambient temperature: 28°C

Relative humidity: 65%

Rated output power15dBm

Power supplied: 230Vac/50Hz

Transmitter Operating @2412 MHz

Frequency static

Bit-Rate: 1Mbps

Frequency (MHz)	Measuring receiver bandwidth (MHz)	Spurious emissions level (dBm)
4824.000	1	---
7236.000	1	---
9648.000	1	---
12060.000	1	---
14472.000	1	---
16884.000	1	---
19296.000	1	---
21708.000	1	---
24120.000	1	---
Measurement uncertainty ± 2 (dB)		

Remark" ---" means the emission level is greater than 20 dB below the limit or can not be detected.

LIMIT SUBCLAUSE 5.2.4

State	30MHz to 1GHz	Above 1GHz to 12.75GHz	1.8GHz to 1.9GHz 5.15GHz 5.3GHz
Operating	-36dBm	-30dBm	-47dBm
Standby	-57dBm	-47dBm	-47dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED (for reference see test equipment listing)

1, 2, 3, 4, 5, 8, 9, 10, 11, 13, 16, 17

.....

Ambient temperature: 28°C

Relative humidity: 65%

Rated output power15dBm

Power supplied: 230Vac/50Hz

Transmitter Operating @2472 MHz

Frequency static

Bit-Rate: 1Mbps

Frequency (MHz)	Measuring receiver bandwidth (MHz)	Spurious emissions level (dBm)
4944.000	1	---
7416.000	1	---
9888.000	1	---
12360.000	1	---
14832.000	1	---
17304.000	1	---
19776.000	1	---
22248.000	1	---
24720.000	1	---
Measurement uncertainty ± 2 (dB)		

Remark" ---" means the emission level is greater than 20 dB below the limit or can not be detected.

LIMIT SUBCLAUSE 5.2.4

State	30MHz to 1GHz	Above 1GHz to 12.75GHz	1.8GHz to 1.9GHz 5.15GHz 5.3GHz
Operating	-36dBm	-30dBm	-47dBm
Standby	-57dBm	-47dBm	-47dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED (for reference see test equipment listing)

1, 2, 3, 4, 5, 8, 9, 10, 11, 13, 16, 17

.....

5. Receiver Parameters

5.1 Spurious radiations - Conducted

Ambient temperature: 28°C

Relative humidity: 65%

Power supplied: 230Vac/50Hz

Frequency static @2038 MHz

Frequency (MHz)	Measuring receiver bandwidth (MHz)	Spurious emissions level (dBm)
2038.000	1	-53.2
4076.000	1	---
6114.000	1	---
8152.000	1	---
10190.000	1	---
12228.000	1	---
14266.000	1	---
16304.000	1	---
18342.000	1	---
20380.000	1	---
Measurement uncertainty ± 2 (dB)		

Remark" ---" means the emission level is greater than 20 dB below the limit or can not be detected.

LIMIT SUBCLAUSE 5.3.2

Frequency	30MH to 1GHz	Above 1GHz to 12.75GHz
Limits	-57dBm	-47dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED (for reference see test equipment listing)

7,9,10,11,16,17

.....

Ambient temperature: 28°C

Relative humidity: 65%

Power supplied: 230Vac/50Hz

Frequency static @2098 MHz

Frequency (MHz)	Measuring receiver bandwidth (MHz)	Spurious emissions level (dBm)
2098.000	1	-55
4196.000	1	---
6294.000	1	---
8392.000	1	---
10490.000	1	---
12588.000	1	---
14686.000	1	---
16784.000	1	---
18882.000	1	---
20980.000	1	---
Measurement uncertainty ± 2 (dB)		

Remark" ---" means the emission level is greater than 20 dB below the limit or can not be detected.

LIMIT SUBCLAUSE 5.3.2

Frequency	30MH to 1GHz	Above 1GHz to 12.75GHz
Limits	-57dBm	-47dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED (for reference see test equipment listing)

7,9,10,11,16,17

.....

5.2 Spurious radiations - Radiated

Ambient temperature: 28°C

Relative humidity: 65%

Power supplied: 230Vac/50Hz

Frequency static @2038 MHz

Frequency (MHz)	Measuring receiver bandwidth (MHz)	Spurious emissions level (dBm)
2038.000	1	---
4076.000	1	---
6114.000	1	---
8152.000	1	---
10190.000	1	---
12228.000	1	---
14266.000	1	---
16304.000	1	---
18342.000	1	---
Measurement uncertainty ± 2 (dB)		

Remark" ---" means the emission level is greater than 20 dB below the limit or can not be detected.

LIMIT SUBCLAUSE 5.3.2

Frequency	30MH to 1GHz	Above 1GHz to 12.75GHz
Limits	-57dBm	-47dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED (for reference see test equipment listing)

1,2,3,4,5,8,9,10,11,16,17

.....

Ambient temperature: 28°C

Relative humidity: 65%

Power supplied: 230Vac/50Hz

Frequency static @2098 MHz

Frequency (MHz)	Measuring receiver bandwidth (MHz)	Spurious emissions level (dBm)
2098.000	1	-55
4196.000	1	---
6294.000	1	---
8392.000	1	---
10490.000	1	---
12588.000	1	---
14686.000	1	---
16784.000	1	---
18882.000	1	---
Measurement uncertainty ± 2 (dB)		

Remark" ---" means the emission level is greater than 20 dB below the limit or can not be detected.

LIMIT SUBCLAUSE 5.3.2

Frequency	30MH to 1GHz	Above 1GHz to 12.75GHz
Limits	-57dBm	-47dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED (for reference see test equipment listing)

1,2,3,4,5,8,9,10,11,16,17

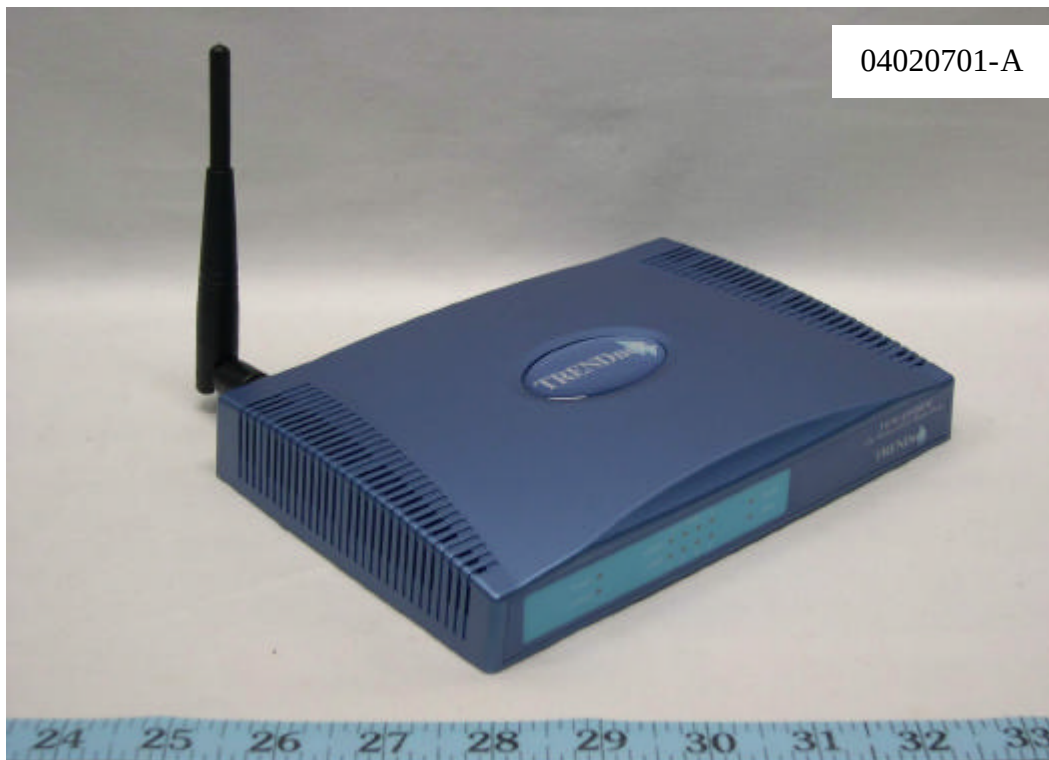
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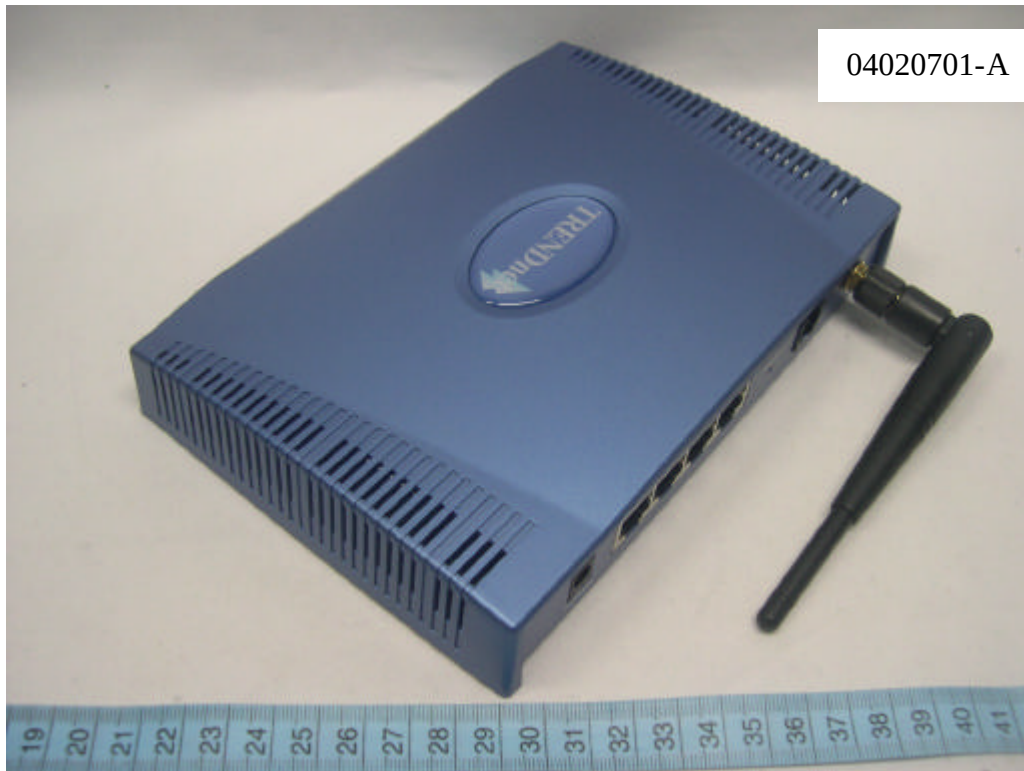
6. Test Equipment and Ancillaries Used for Tests

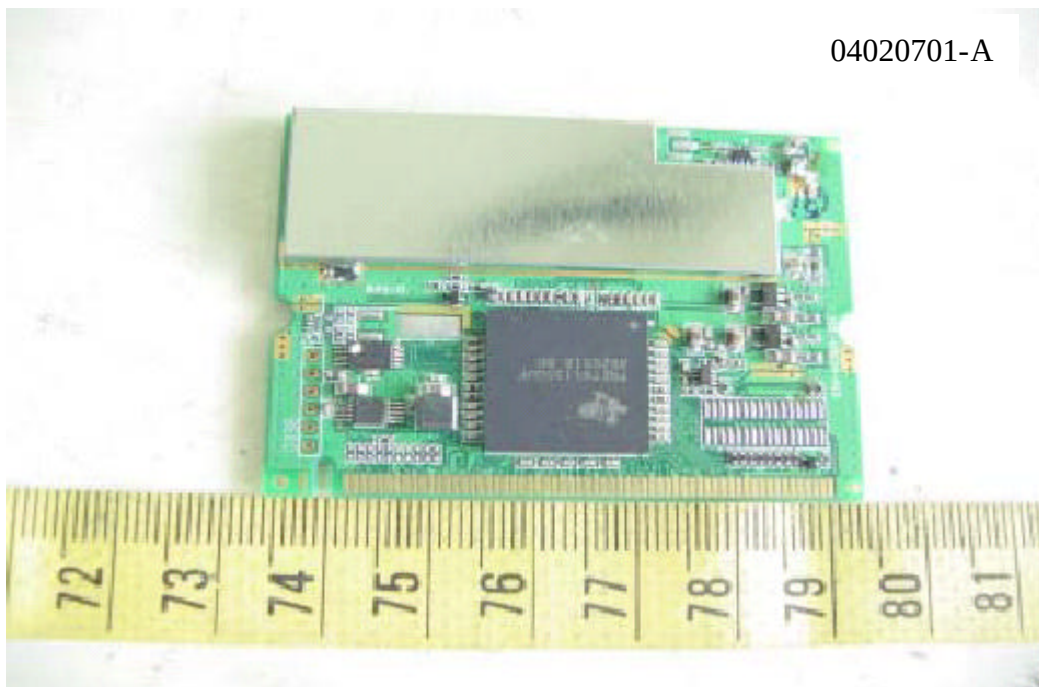
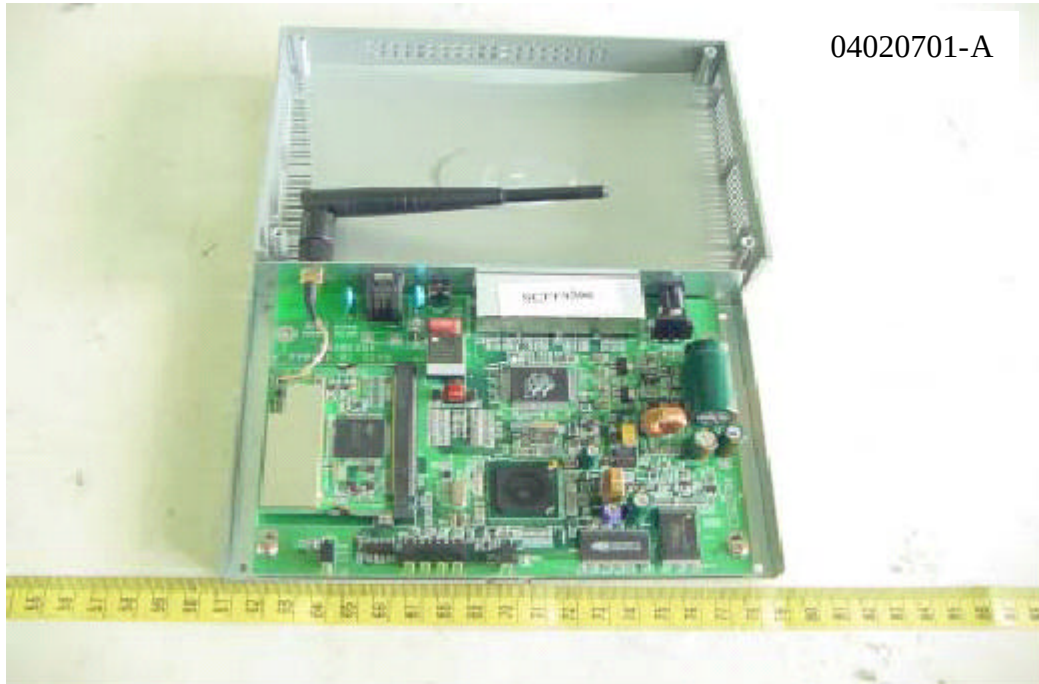
Ref. No.	Instrument/Ancillary	Type	Manufacturer	Serial No.
01	Bi-conical Antenna	3110B	EMCO	2486
02	Log-periodic Antenna	3146	EMCO	4942
03	DipoleAntenna	3121	EMCO	1315
04	Hom Antenna	3115	EMCO	9804-5454
05	Hom Antenna	3116	EMCO	9611-2328
06	Test Receiver	ESVS 30	R&S	8473710/008
07	Test Receiver	ESBI	R&S	848224/003
08	Spectrum Analyzer	8568B	HP	2732A03842
09	Spectrum Analyzer	8564E	HP	3821A01267
10	Pre-amplifier	8447D	HP	2648A0494
11	Pre-amplifier	8449B	HP	3008A00936
12	Spectrum Analyzer	83732B	HP	US37100841
13	Hi-pass Filter	84300-80038	HP	005
14	Attenuator	1	Weinschel	AS8828
15	Temperature Chamber	EOS200T	ACS	5460
16	Frequency Converter	BFA-200-70D	Board-Tech	200005
17	Voltage Meter	YF-3180	YFE	931218
18	DC Power Supply	GPQ-3030	Good Will	9070171
19	Radio Communications Test Set	2955B	Marconi	295501/037
20	Multifunction Synthesizer	8904A	HP	2917A02406
21	Signal Generator	8656B	HP	2926U07030
22	Preamplifier	83051A	HP	3332A00627

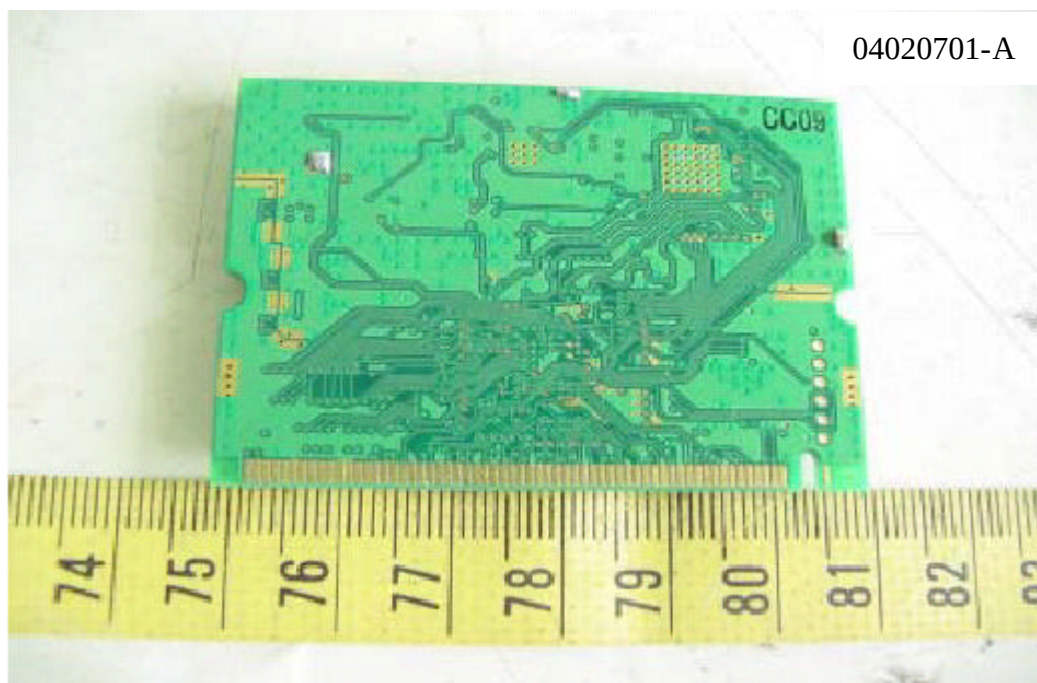
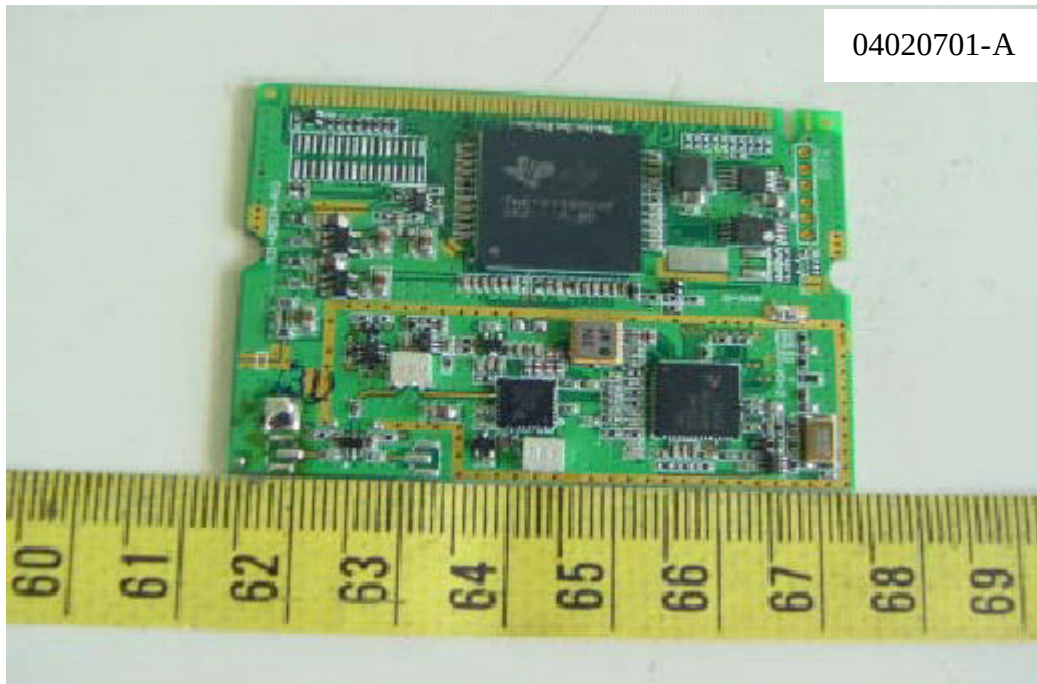
※ Calibration Interval of instruments listed above is one year.

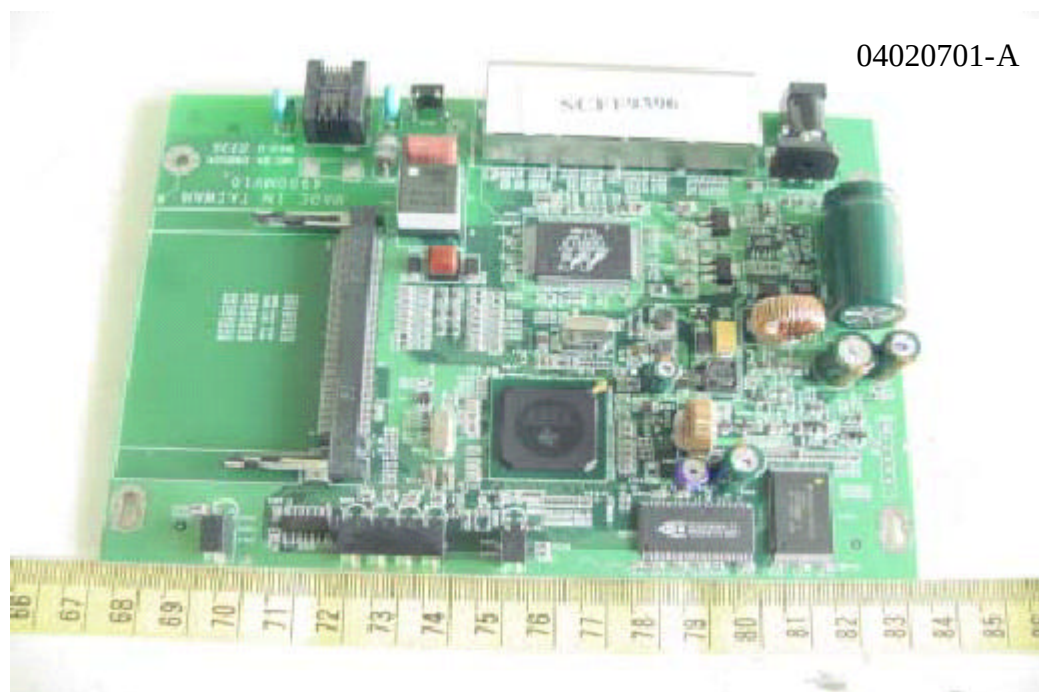
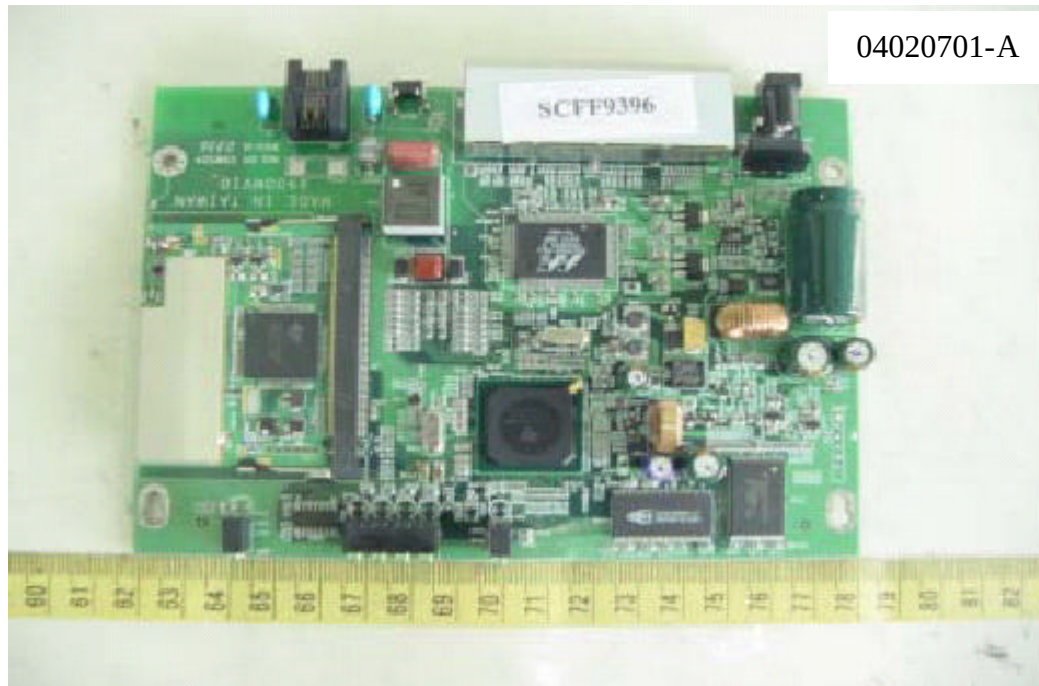
Appendix A. Photographs of EUT

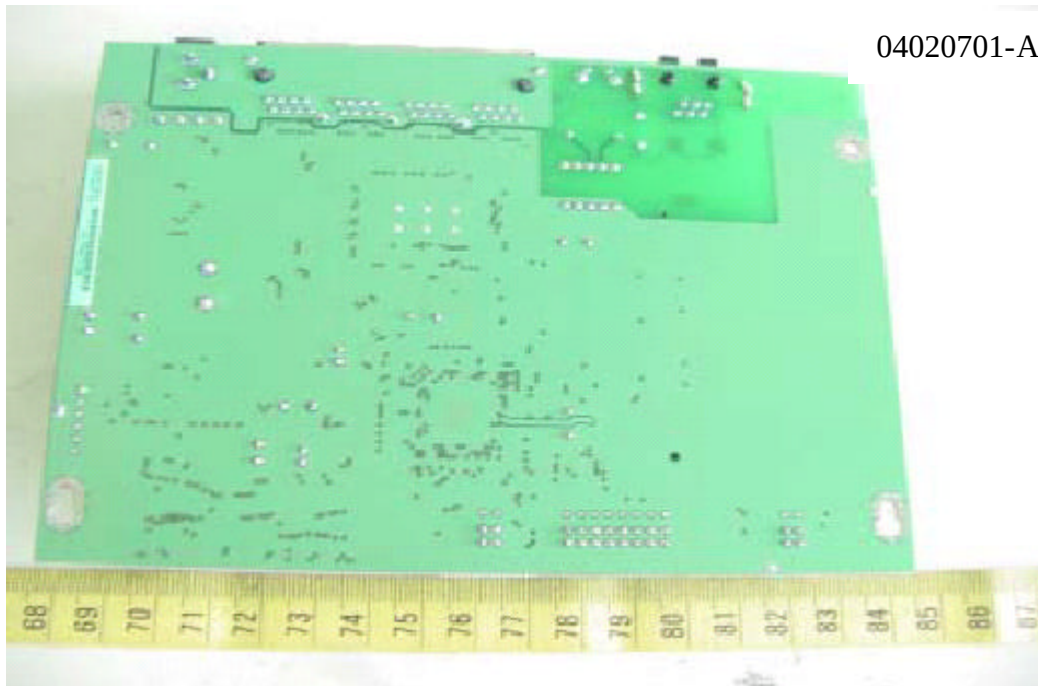








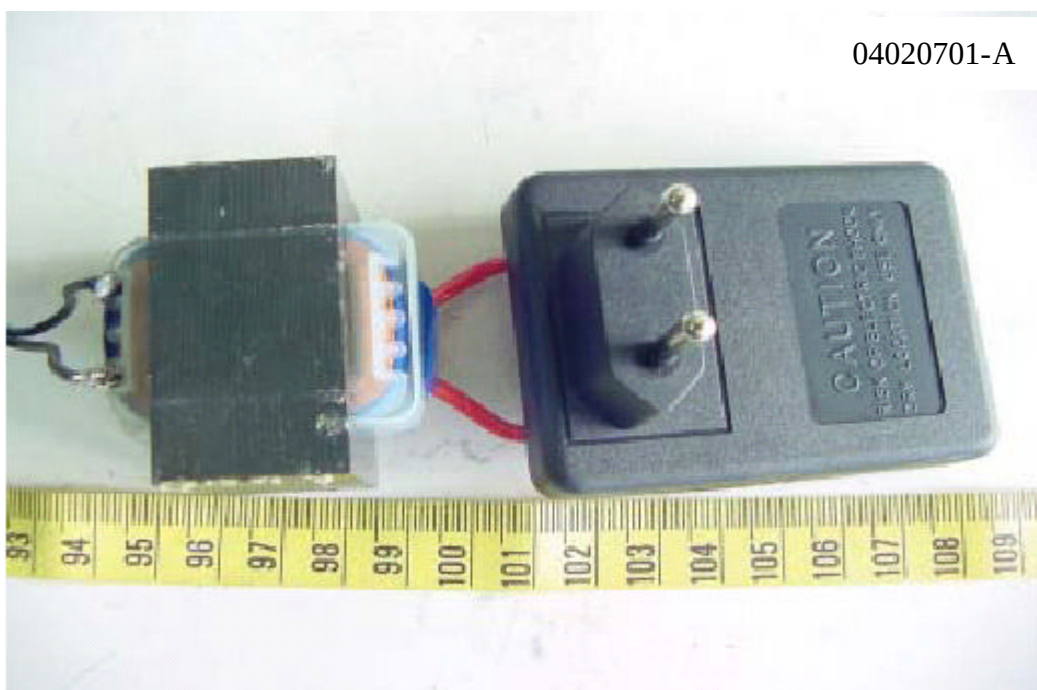


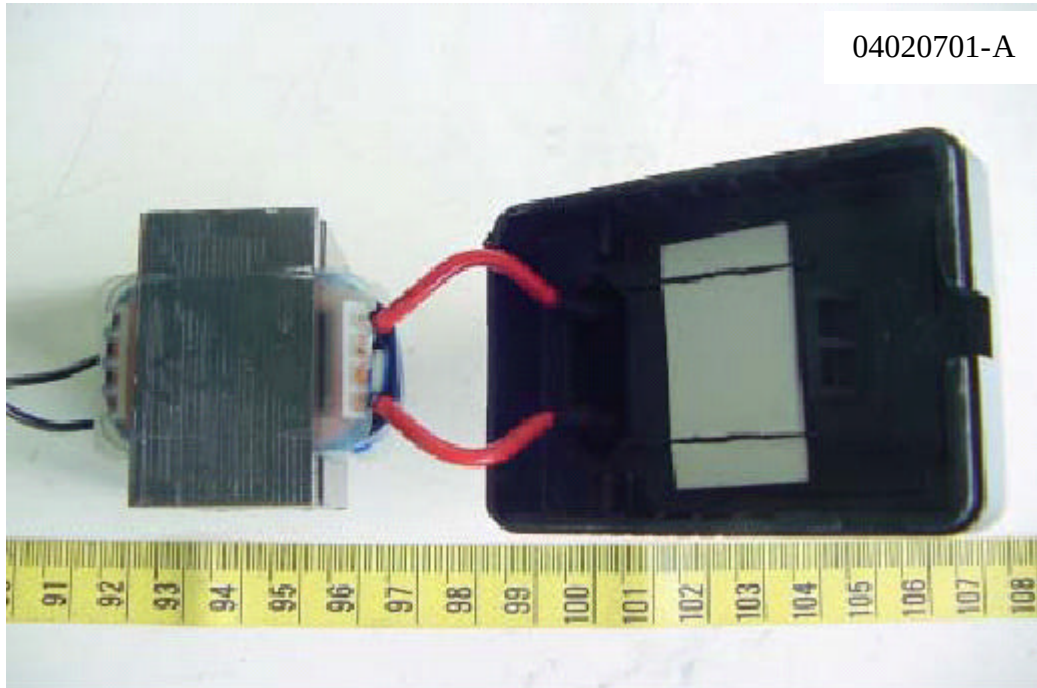


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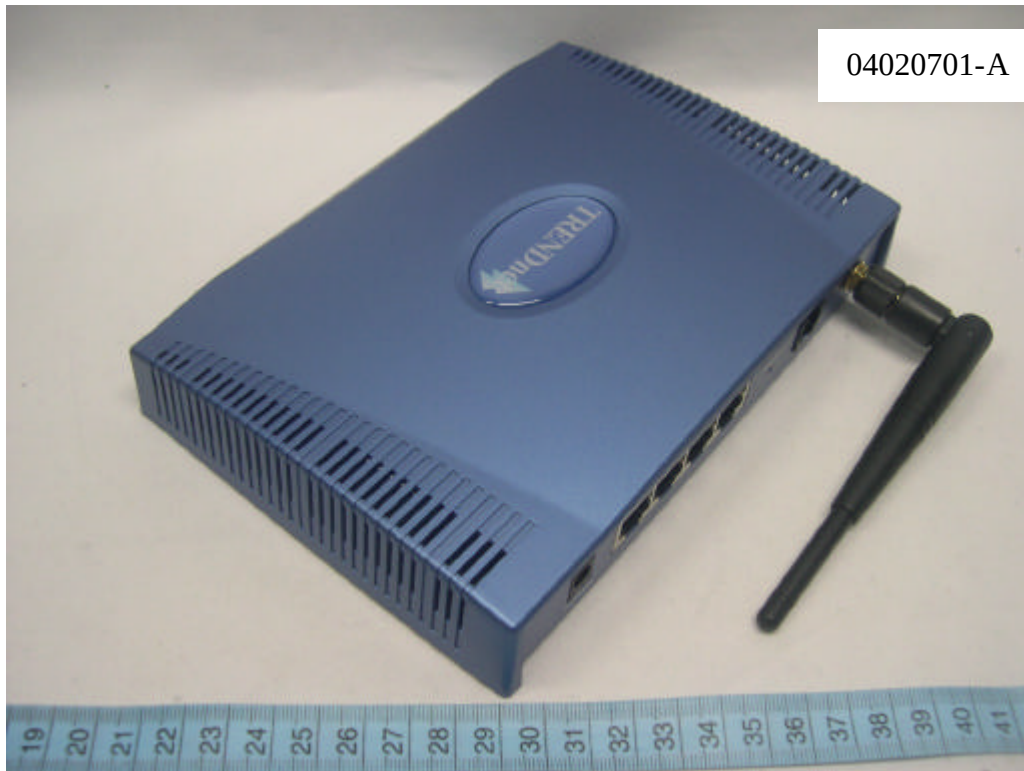
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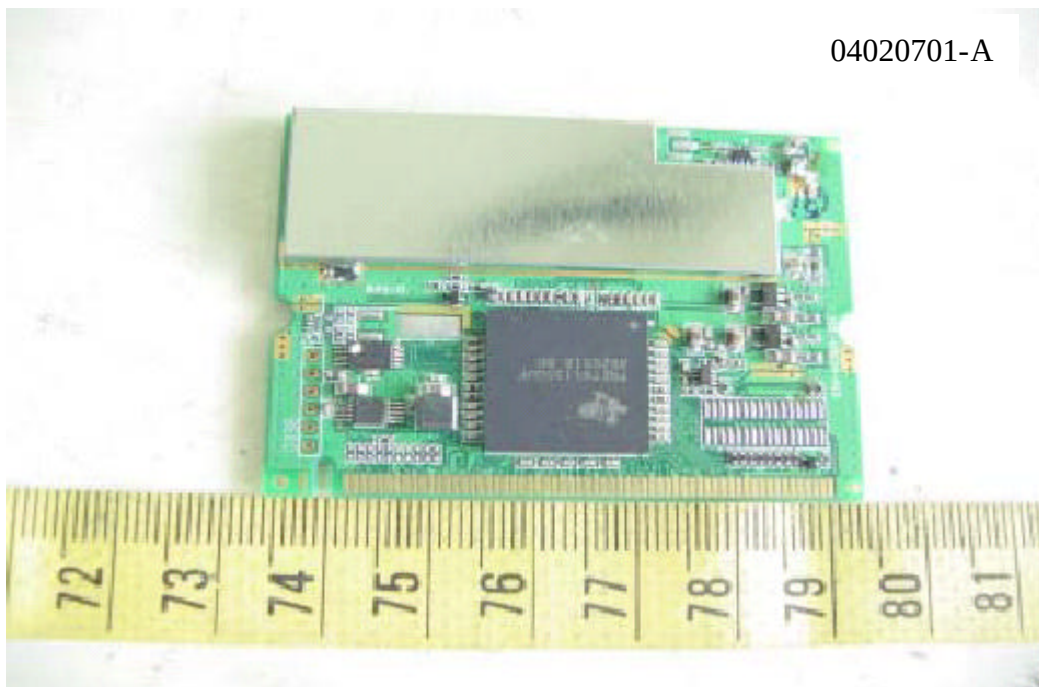
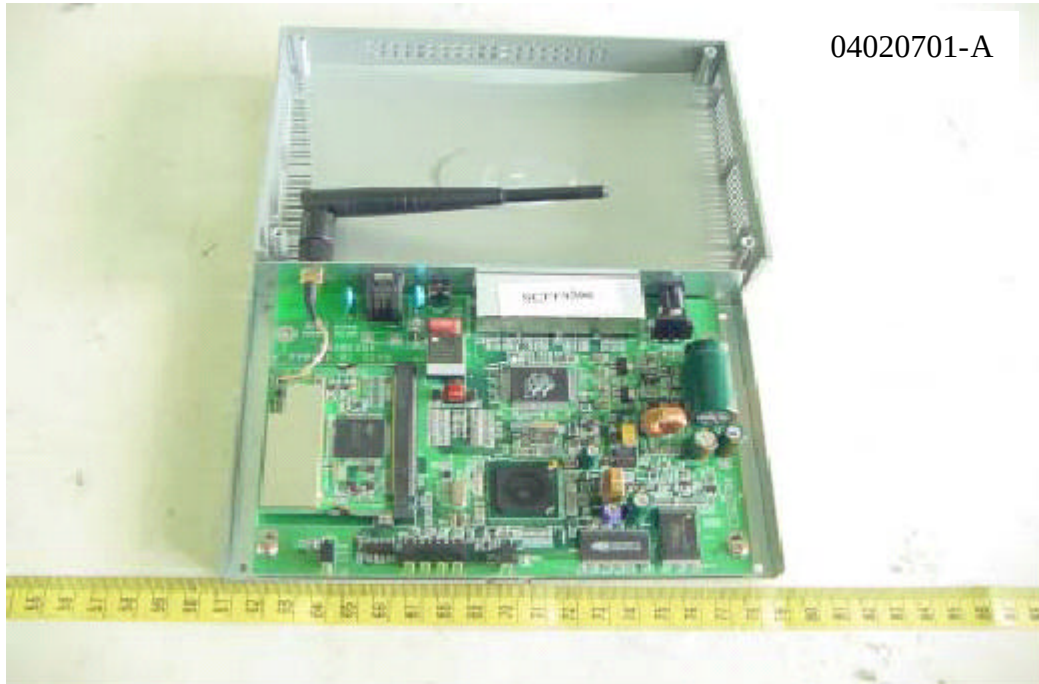


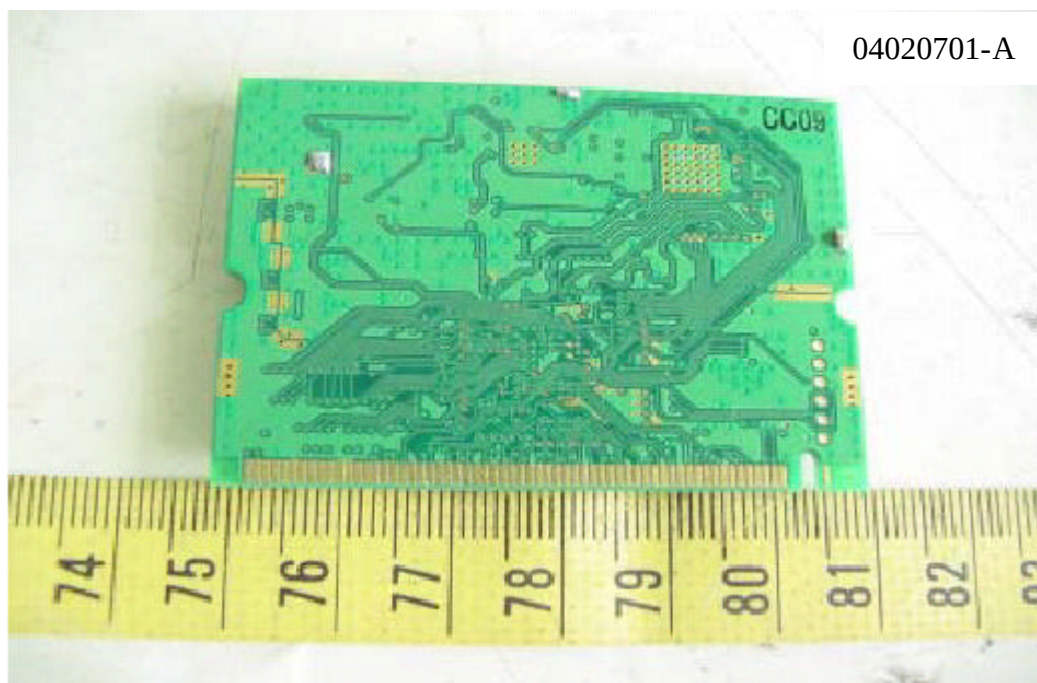
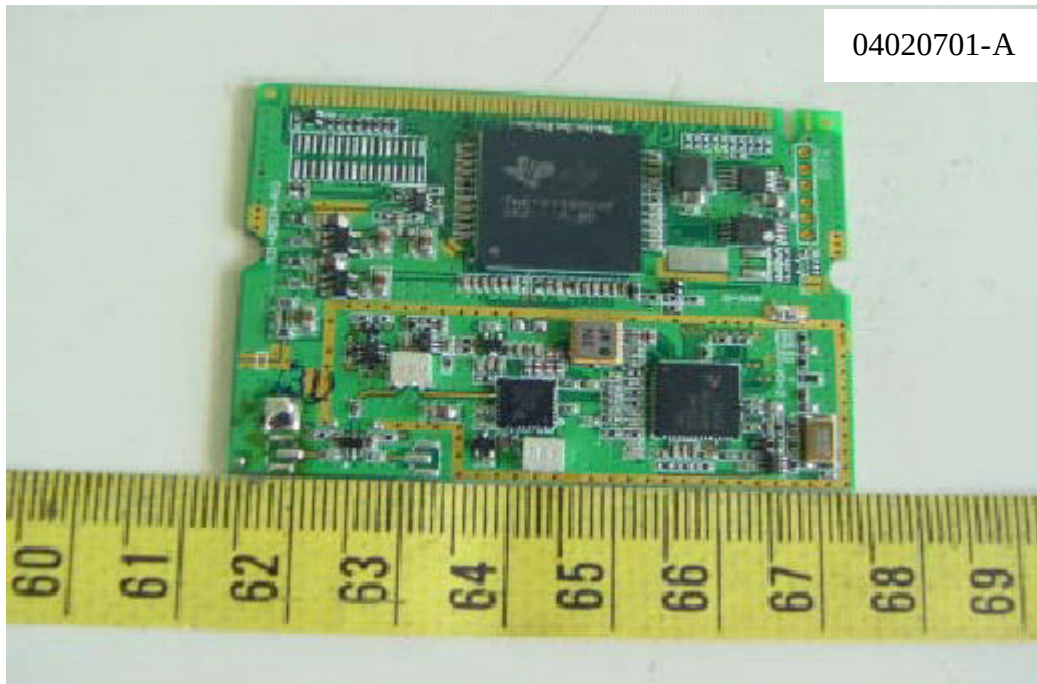


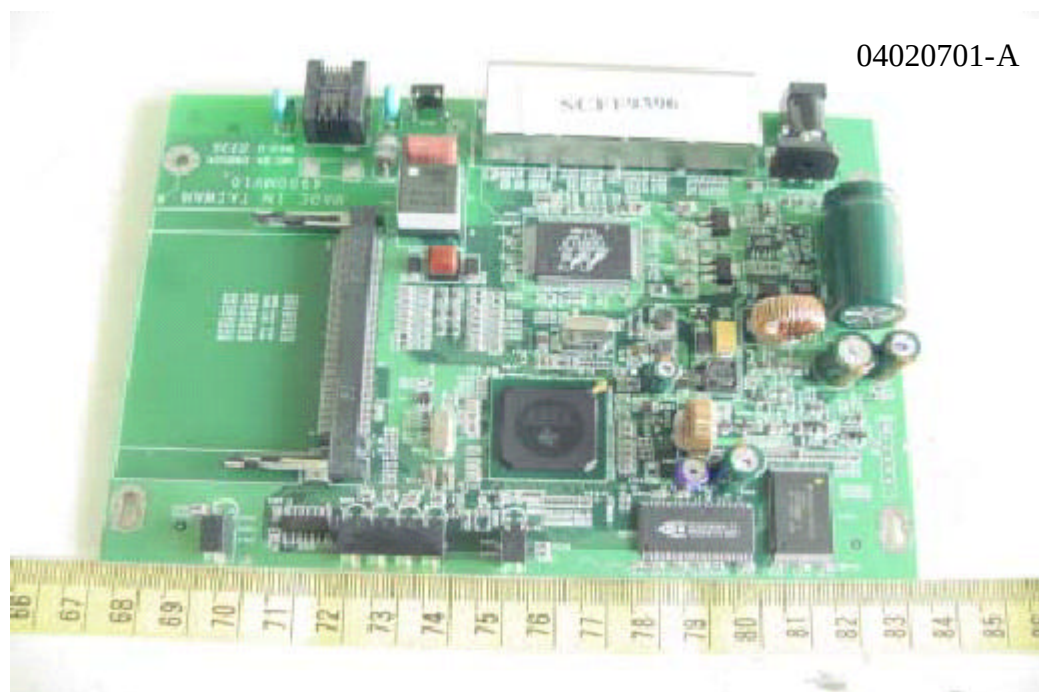
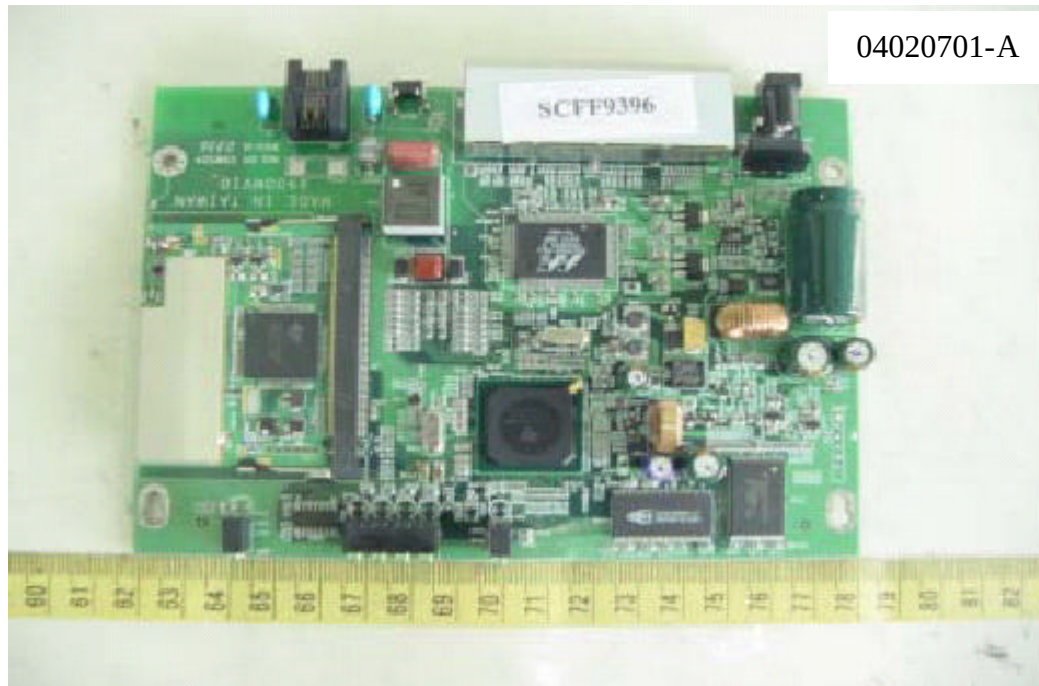
Appendix A. Photographs of EUT

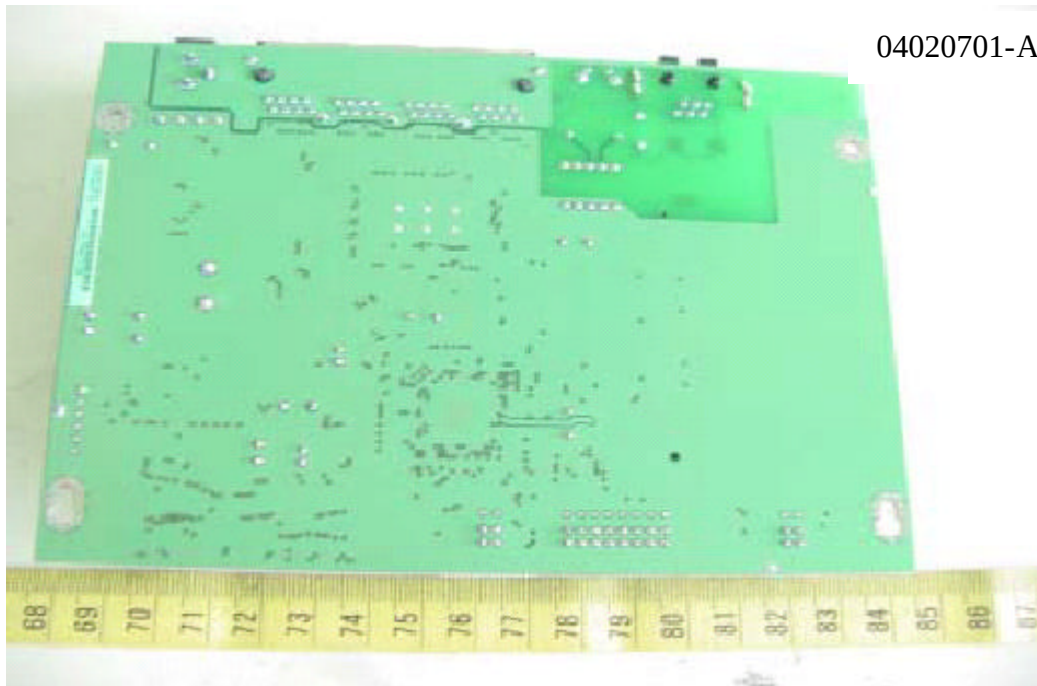












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