CE Radio TEST REPORT

according to

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

Equipment : Wireless Print Server

Model No. : TEW-P1U1P

Applicant : **TRENDware International Inc**
3135 Kashiwa St., Torrance, CA90505 U.S.A.

- The test result refers exclusively to the test presented test model / sample.
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- This test report is only applicable to European Community.

SPORTON International Inc.

6F, No. 106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

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History of this test report

Original Report Issue Date: Jul. 30, 2003

▒ No additional attachment.

☐ additional attachment were issued as following record :

Attachment No.	Issue Date	Description

CERTIFICATE OF COMPLIANCE

according to

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

Equipment : Wireless Print Server

Model No. : TEW-P1U1P

Applicant : **TRENDware International Inc**
3135 Kashiwa St., Torrance, CA90505 U.S.A.

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).** The test was carried out on May 05, 2003 at **SPORTON International Inc.** LAB.

Alex Chen July 30, 2003

Alex Chen
Manager

SPORTON International Inc.

6F, No. 106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

1. General Description of Equipment under Test

1.1 Applicant

TRENDware International Inc
3135 Kashiwa St., Torrance, CA90505 U.S.A.

1.2 Manufacturer

Same as 1.1

1.3 Basic Description of Equipment under Test

Equipment	: Wireless Print Server
Model No.	: TEW-P1U1P
Trade Name	: TRENDware
TP Cable	: Non-Shielded, 1m
USB Cable	: Shielded, 1.8m
Printer Cable	: Shielded, 1m
Power Supply Type	: Linear
AC Power Input	: Wall-Mount, 2pin
DC Power Cable	: Non-Shielded, 1.8m

1.4 Feature of Equipment under Test

1. CPU	RDC R1610C-100MHz
2. CODE SIZE	512 Kbytes, AM29LV400-BT-70
3. SDRAM	512 K bytes, IS42S16100-7T
4. PHY	Davicom DM9161
5. USB	UHC124
6. LAN Port	One RJ45 STP Port
7. Printer Port	One parallel port
8. USB Port	One USB ports
9. Power Adapter	12V 800mA (Merry King / MW48-1201000U)
10. LEDs	Indicate LAN link with active – Green LED Indicate WLAN link with active – Yellow LED Indicate system status – Green LED Indicate system error – Red LED
11. ICE Support	Can Connect to JTAG interface for S/W Development
13. PCB Spec.	114.5mm x 80.6mm, one side design, 4 layer.
14. PCMCIA module	Prism3.0
15. GAL	ATF-16V8C-7 for decoded address.
16. CPLD	ALTERA EPM3032A for Printer controller

2. General Information of Test

2.1 Test Facility

Test Site Location : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park,
Kwei-Shan Hsiag, Tao Yuan Hsien, Taiwan, R.O.C.
TEL : 886-3-327-3456
FAX : 886-3-318-0055

Test Site No. : 03CH06-HY

2.2 Test Voltage

230V/50Hz

2.3 Test Condition

Normal Voltage	: 230V	
Extreme Voltage	: 0.90 and 1.10 times the normal voltage	subclause 6.4.2.3
Normal Temperature	: 20℃	
Extreme Temperature	: 0℃ and 45℃	subclause 6.4.1

2.4 Standard for Methods of Measurement

ETSI EN 300 328-1 V1.3.1 (2001-12)
ETSI EN 300 328-2 V1.2.1 (2001-12)

3. List of Measurements

Clause	Test Parameter	Page number
	Transmitter parameters	
4.1	Effective Radiated Power	6
4.2	Peak Power Density – for FHSS equipment	Not Applicable
4.2	Peak Power Density – for DSSS equipment	8
4.3	Frequency Range – for FHSS equipment	Not Applicable
4.3	Frequency Range – for DSSS equipment	9
4.4	Transmitter spurious emissions	11

4. Transmitter Parameters

4.1 Effective Radiated Power (SUBCLAUSE 7.2.1)

Ambient temperature: 27°C
Relative humidity: 63%
Antenna assembly Gain: 2dBi
Duty cycle of the equipment during the test X = 100% (See clause 7.2.1 step 1)

TEST CONDITIONS				TRANSMITTER POWER EIRP (Peak) (dBm)		
				CH 01	CH10	CH13
T nom (℃)	20	V nom(V)	230.00	17.06	16.74	16.45
T min (℃)	0	V max(V)	253.00	17.91	17.76	17.47
		V min(V)	207.00	17.89	17.76	17.45
T max (℃)	45	V max(V)	253.00	15.64	15.26	14.92
		V min(V)	207.00	15.65	15.26	14.91
Measurement uncertainty				1.5dB		

LIMITS: SUBCLAUSE 5.2.1

Under all test conditions	23dBm/ -7dBw

TEST CONDITIONS				TRANSMITTER POWER EIRP (Average) (dBm)		
				CH 01	CH10	CH13
T nom (℃)	20	V nom(V)	230.00	16.26	15.94	15.65
T min (℃)	0	V max(V)	253.00	17.12	16.96	16.67
		V min(V)	207.00	17.10	16.97	16.65
T max (℃)	45	V max(V)	253.00	14.85	14.47	14.12
		V min(V)	207.00	14.85	14.46	14.11
Measurement uncertainty				1.5dB		

LIMITS : SUBCLAUSE 5.2.1

Under all test conditions	20dBm/ -10dBw

4.2 Transmitter Power Density – for DSSS and other types of modulation (SUBCLAUSE 7.2.2)

Ambient temperature: 27°C
Relative humidity: 63%
Antenna assembly Gain: 2dBi

TESTS	**Measured Power Density （dBm）**		
	CH01 2412MHz	CH10 2457MHz	CH13 2472MHz
Measured Power Density	6.63	6.32	6.03
Measurement uncertainty	3dB		

LIMITS : SUBCLAUSE 5.2.2

Under all test conditions	-20dBw / MHz 10dBm / MHz

4.3 Transmitter Frequency Range – for DSSS and other equipment (SUBCLAUSE 7.2.4)

4.3.1 Test Results (for EU countries)

Ambient temperature: 27°C
Relative humidity: 63%

TEST CONDITIONS				**FREQUENCY (MHz) at which –80 dBm/Hz occurs**	
				CH01	CH13
T nom(℃)	20	V nom(V)	230.00	2402.3	2481.4
T min (℃)	0	V max(V)	253.00	2402.3	2481.5
		V min(V)	207.00	2402.3	2481.5
T max (℃)	45	V max(V)	253.00	2402.6	2481.4
		V min(V)	207.00	2402.6	2481.4
Measured frequencies (lowest and highest)				f_L = 2402.3	f_H = 2481.5
Measurement uncertainty				1×10^{-5}	

LIMITS : SUBCLAUSE 5.2.3

Under all test conditions	f_L > 2400 MHz f_H <2483.5 MHz

4.3.2 Test Results (for France)

Ambient temperature: 27°C
Relative humidity: 63%

TEST CONDITIONS				FREQUENCY (MHz) at which –80 dBm/Hz occurs	
				CH10	CH13
T nom (℃)	20	V nom(V)	230.00	2447.5	2481.4
T min (℃)	0	V max(V)	253.00	2447.3	2481.5
		V min(V)	207.00	2447.3	2481.5
T max (℃)	45	V max(V)	253.00	2447.6	2481.4
		V min(V)	207.00	2447.6	2481.4
Measured frequencies(lowest and highest)				f_L = 2447.3	f_H = 2481.5
Measurement uncertainty				1×10^{-5}	

Remark: Lowest frequency = channel CH10, Highest frequency = channel CH13

LIMITS : SUBCLAUSE 5.2.3

Under all test conditions	f_L > 2446.5 MHz f_H <2483.5 MHz

4.4 Transmitter Spurious Emissions (SUBCLAUSE 7.2.5)

4.4.1 **CH01 / 2412MHz Transmitter operating**

Ambient temperature: 27°C Relative humidity: 63%

Frequency (MHz)	Antenna Polarization	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)
351.800	H	-53.2	-36.0	-17.2
601.000	H	-54.0	-36.0	-18.0
699.700	H	-50.6	-36.0	-14.6
2372.000	H	-41.7	-30.0	-11.7
2446.000	H	-42.1	-30.0	-12.1
2556.000	H	-43.1	-30.0	-13.1
4820.000	H	-40.5	-30.0	-10.5
7229.000	H	-42.7	-30.0	-12.7
7517.000	H	-41.9	-30.0	-11.9
601.000	V	-52.4	-36.0	-16.4
701.800	V	-44.8	-36.0	-8.8
799.800	V	-53.6	-36.0	-17.6
1494.000	V	-44.1	-30.0	-14.1
1692.000	V	-43.4	-30.0	-13.4
2262.000	V	-43.3	-30.0	-13.3
2556.000	V	-37.7	-30.0	-7.7
4820.000	V	-39.1	-30.0	-9.1
7229.000	V	-37.6	-30.0	-7.6
Measurement uncertainty	6dB			

Remark: The emission emitted by the EUT is too low to be measured except the emission listed above.

4.4.2 **CH10 / 2457MHz Transmitter operating**

Ambient temperature: 27°C Relative humidity: 63%

Frequency (MHz)	Antenna Polarization	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)
351.800	H	-53.1	-36.0	-17.1
701.800	H	-51.1	-36.0	-15.1
2310.000	H	-37.7	-30.0	-7.7
2414.000	H	-39.2	-30.0	-9.2
2604.000	H	-41.2	-30.0	-11.2
3998.000	H	-41.9	-30.0	-11.9
4910.000	H	-44.3	-30.0	-14.3
6953.000	H	-42.1	-30.0	-12.1
108.300	V	-54.1	-36.0	-18.1
551.300	V	-53.9	-36.0	-17.9
601.000	V	-53.0	-36.0	-17.0
701.800	V	-44.1	-36.0	-8.1
1148.000	V	-45.4	-30.0	-15.4
2308.000	V	-33.8	-30.0	-3.8
2598.000	V	-38.1	-30.0	-8.1
2830.000	V	-45.3	-30.0	-15.3
4910.000	V	-40.5	-30.0	-10.5
6977.000	V	-41.1	-30.0	-11.1
Measurement uncertainty	6dB			

Remark: The emission emitted by the EUT is too low to be measured except the emission listed above.

4.4.3 **CH13 / 2472MHz Transmitter operating**

Ambient temperature: 27°C Relative humidity: 63%

Frequency (MHz)	Antenna Polarization	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)
351.800	H	-52.2	-36.0	-16.2
601.000	H	-54.1	-36.0	-18.1
701.800	H	-50.8	-36.0	-14.8
1158.000	H	-42.9	-30.0	-12.9
2326.000	H	-36.9	-30.0	-6.9
2430.000	H	-38.8	-30.0	-8.8
2612.000	H	-40.3	-30.0	-10.3
4942.000	H	-44.1	-30.0	-14.1
6965.000	H	-42.4	-30.0	-12.4
550.600	V	-54.0	-36.0	-18.0
601.000	V	-52.4	-36.0	-16.4
699.700	V	-44.4	-36.0	-8.4
1694.000	V	-44.5	-30.0	-14.5
2204.000	V	-46.2	-30.0	-16.2
2324.000	V	-33.5	-30.0	-3.5
2612.000	V	-36.7	-30.0	-6.7
4940.000	V	-40.6	-30.0	-10.6
6962.000	V	-41.5	-30.0	-11.5
Measurement uncertainty	6dB			

Remark: The emission emitted by the EUT is too low to be measured except the emission listed above.

LIMITS : Clause 5.2.4

Narrowband spurious emission:

Frequency Range	Limit when operating	Limit when in standby
30MHz to 1 GHz	-36dBm	-57dBm
Above 1 GHz to 12,75 GHz	-30dBm	-47dBm
1,8GHz to 1,9GHz 5,15GHz to 5,3 GHz	-47dBm	-47dBm

Wideband spurious emission:

Frequency Range	Limit when operating	Limit when in standby
30MHz to 1 GHz	-86dBm	-107dBm
Above 1 GHz to 12,75 GHz	-80dBm	-97dBm
1,8GHz to 1,9GHz 5,15GHz to 5,3 GHz	-97dBm	-97dBm

5. Receiver Parameters

5.1 Receiver Spurious Emissions (SUBCLAUSE 7.3.2)

The EUT is housed with transmitter and receiver together in one single unit. If the transmitter mode is in active state, which RF spurious emissions caused by this unit is not exceeded RF spectrum protection requirements so do to its direct vicinity of receiver mode.

Owing to the total unit comply with the limits set to avoid harmful interference, therefore, the RF spectrum protection requirements are not violated. And, ,there will be no statement generated for part of Receiver Spurious Emission in this test report, according to “Article 3.2 of the R&TTE directive 1999/5/EC by meeting only the transmitter spurious emission limits of the relevant standard, irrespective of any lower limit set for the receiver. ”.

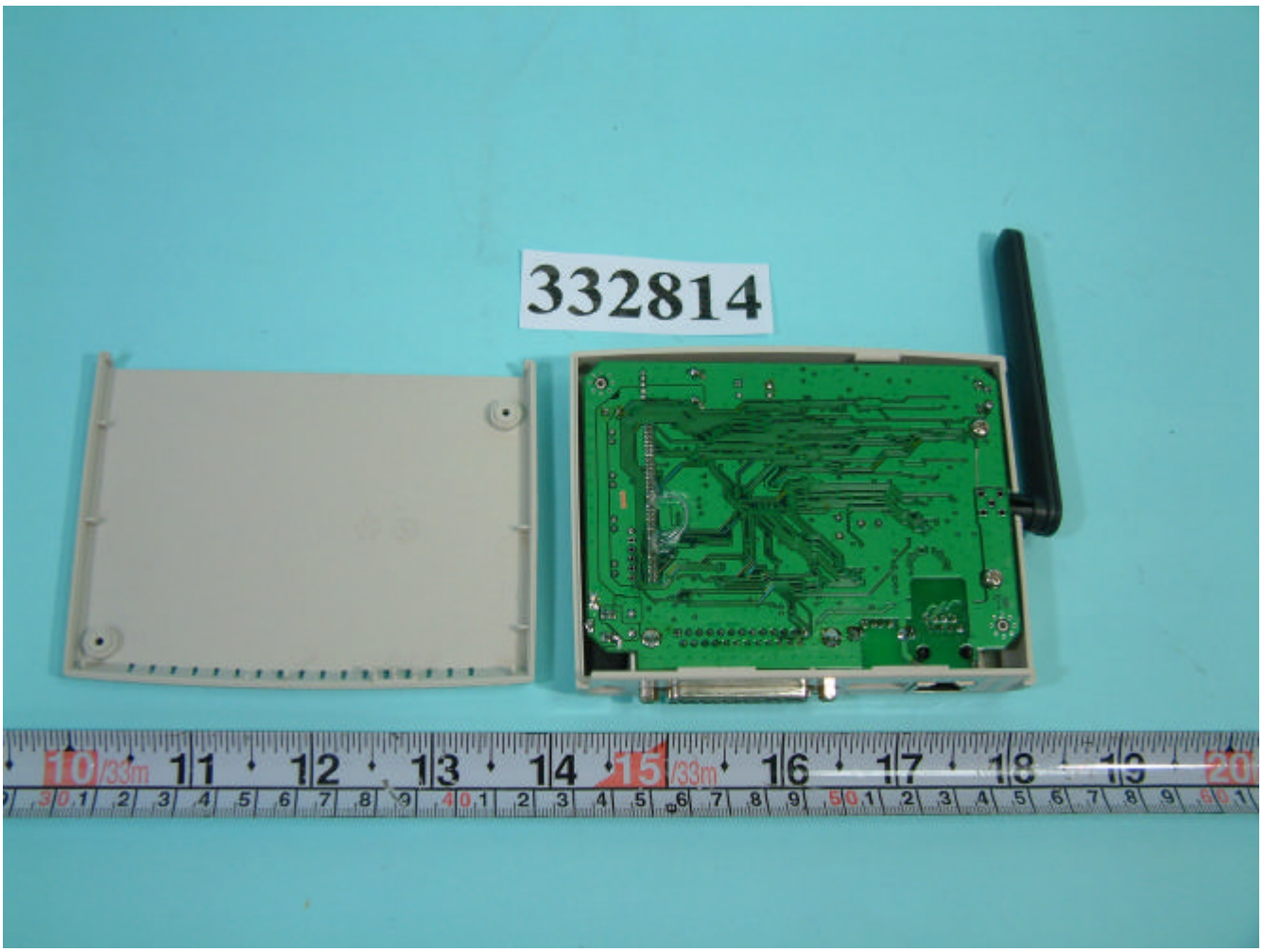
6. Test Equipment and Ancillaries Used for Tests

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum analyzer	R&S	FSEK30	100189	20HZ~40GHz	Jun. 05, 2002	Radiation (03CH06-HY)
Amplifier	SCHAFFNER	CPA92331A	3549	9KHz – 2GHz	Aug. 14, 2002	Radiation (03CH06-HY)
Amplifier	MITEQ	AFS44	879984	100MHz~26.5GHz	Aug. 12, 2002	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2737	30MHz –2GHz	Jan. 06, 2003	Radiation (03CH06-HY)
Horn Antenna	EMCO	3115	6821	1GHz – 18GHz	May. 28, 2002	Radiation (03CH06-HY)
Turn Table	HD	DS 420	420/655/12	0 ~ 360 degree	N/A	Radiation (03CH06-HY)
Antenna Mast	HD	MA 240	240/569/12	1 m - 4 m	N/A	Radiation (03CH06-HY)
Half-wave dipole antenna	EMCO	3121C	9705-1285	25MHz - 1GHz	Feb. 27, 2003	Radiation (03CH06-HY)
Horn Antenna	COM-POWER	AH-118	10094	1GHz – 18GHz	Apr. 09, 2002	Radiation (03CH06-HY)
Signal Generator	R&S	SMR40	1104.0002.40	10MHz-40GHz	Nov. 09, 2002	Radiation (03CH06-HY)
RF Cable-R03m	Jye Bao	RG142	CB031	30MHz~1GHz	Mar. 03, 2003	Radiation (03CH06-HY)
RF Cable-HIGH	Jye Bao	RG142	CB032	1GHz~26.5GHz	Mar. 03, 2003	Radiation (03CH06-HY)
AC power source	HPC	HPA-500W	HPA-9100024	AC 0~300V	May 22, 2002	Conducted
Temp. and Humidity Chamber	KSON	THS-C3L	612	N/A	Oct. 02, 2002	Conducted

※ Calibration Interval of instruments listed above is one year.

APPENDIX A. Photographs of EUT


332814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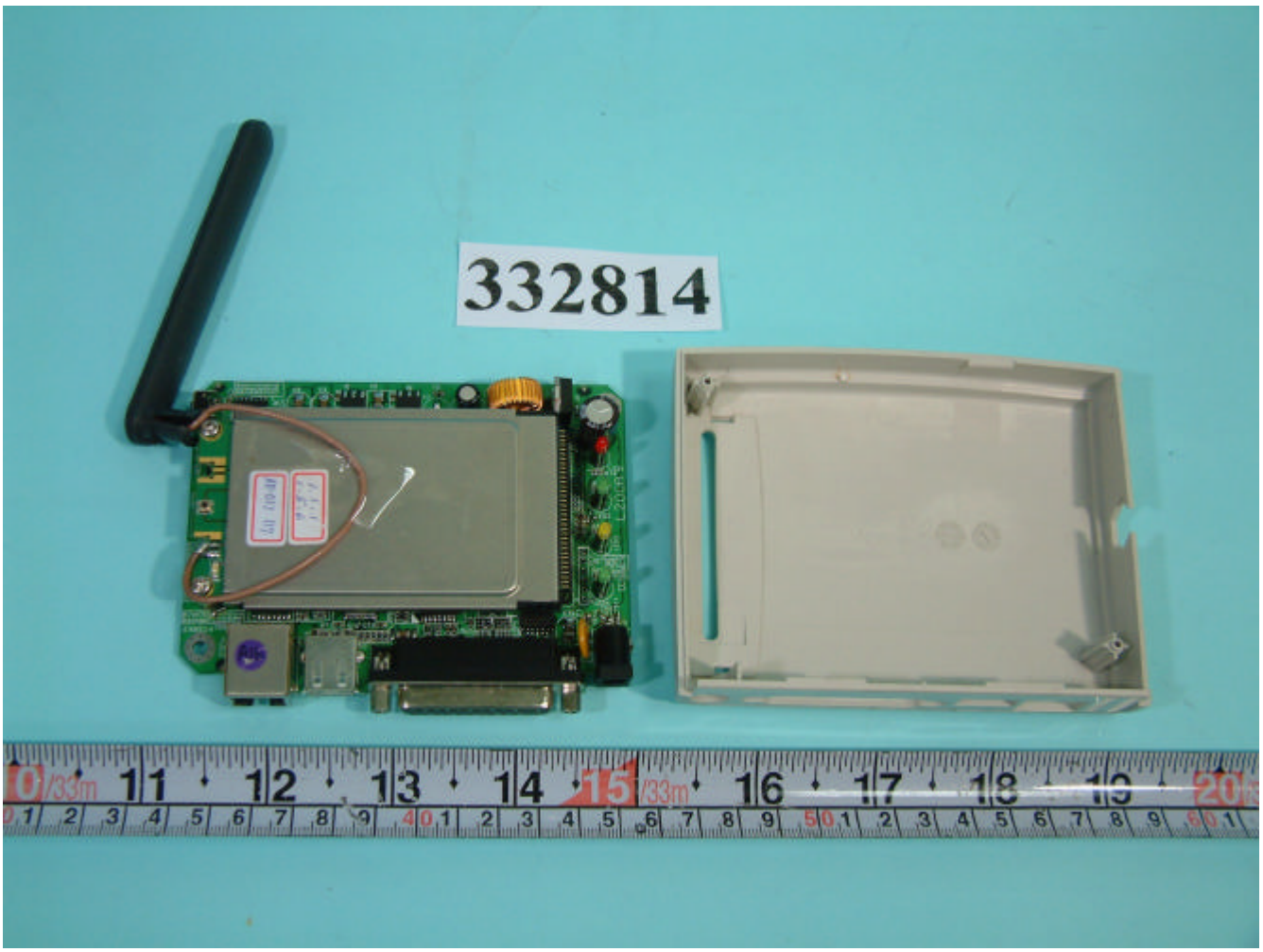
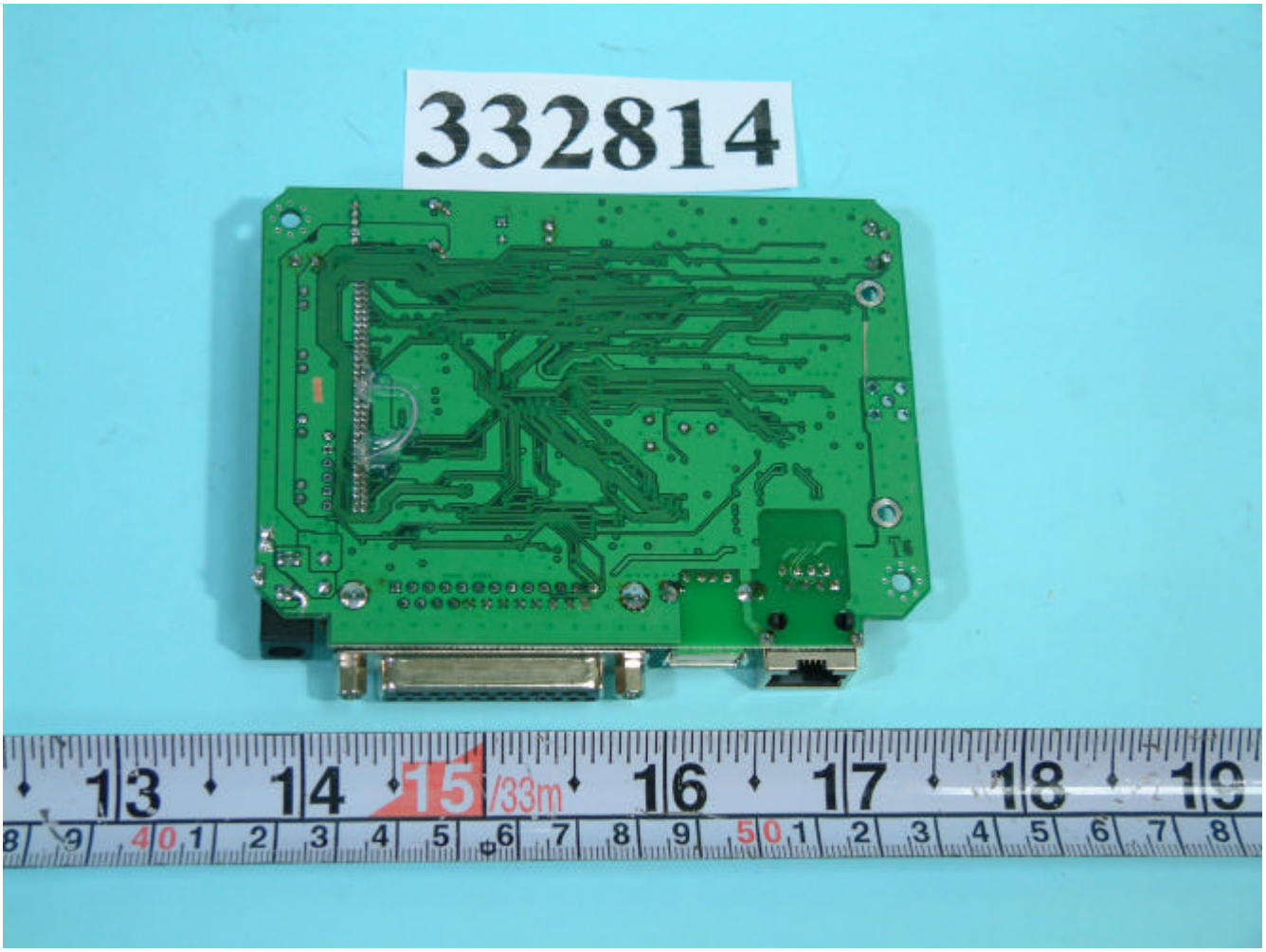

332814


332814


332814
RDC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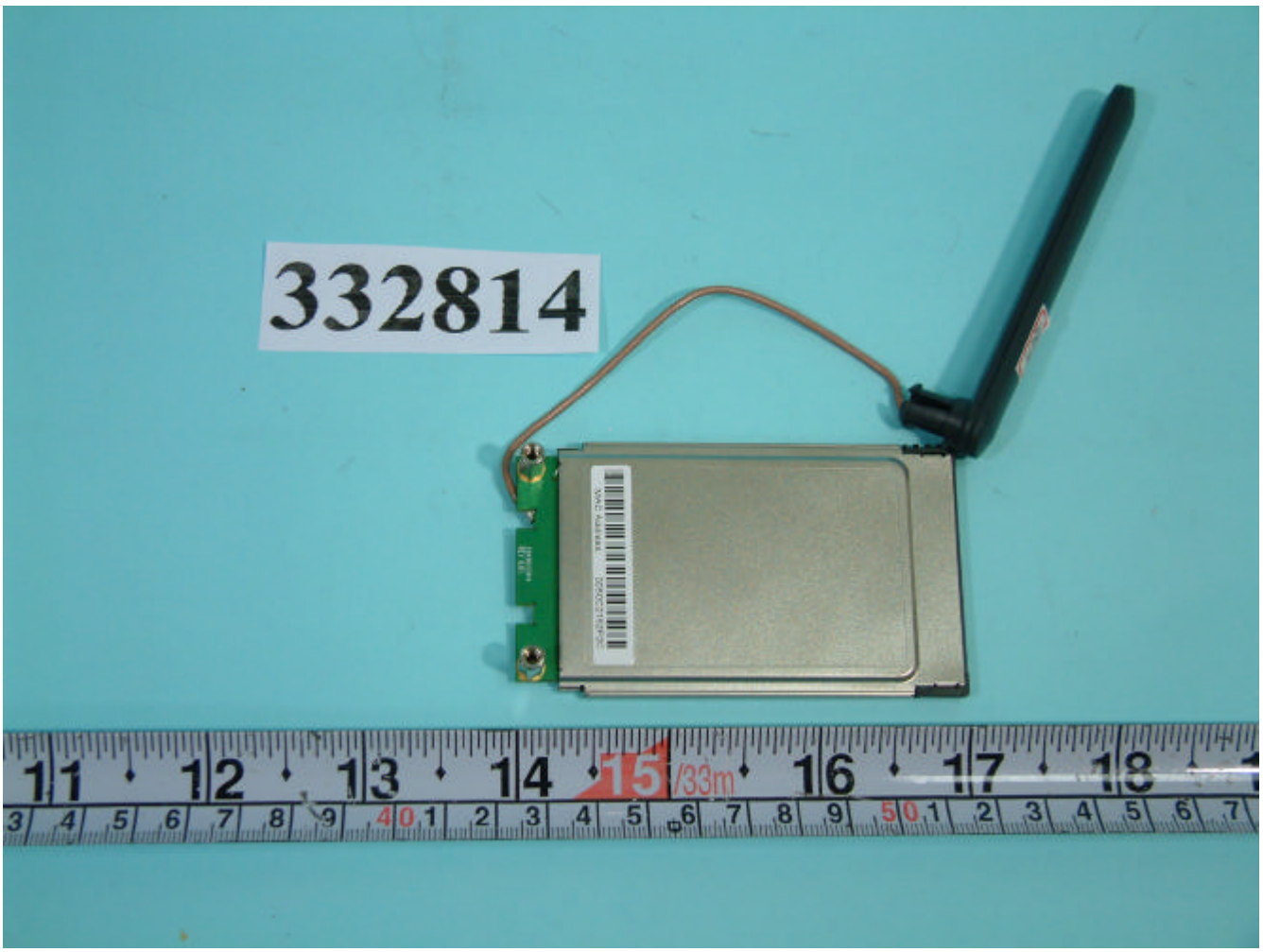
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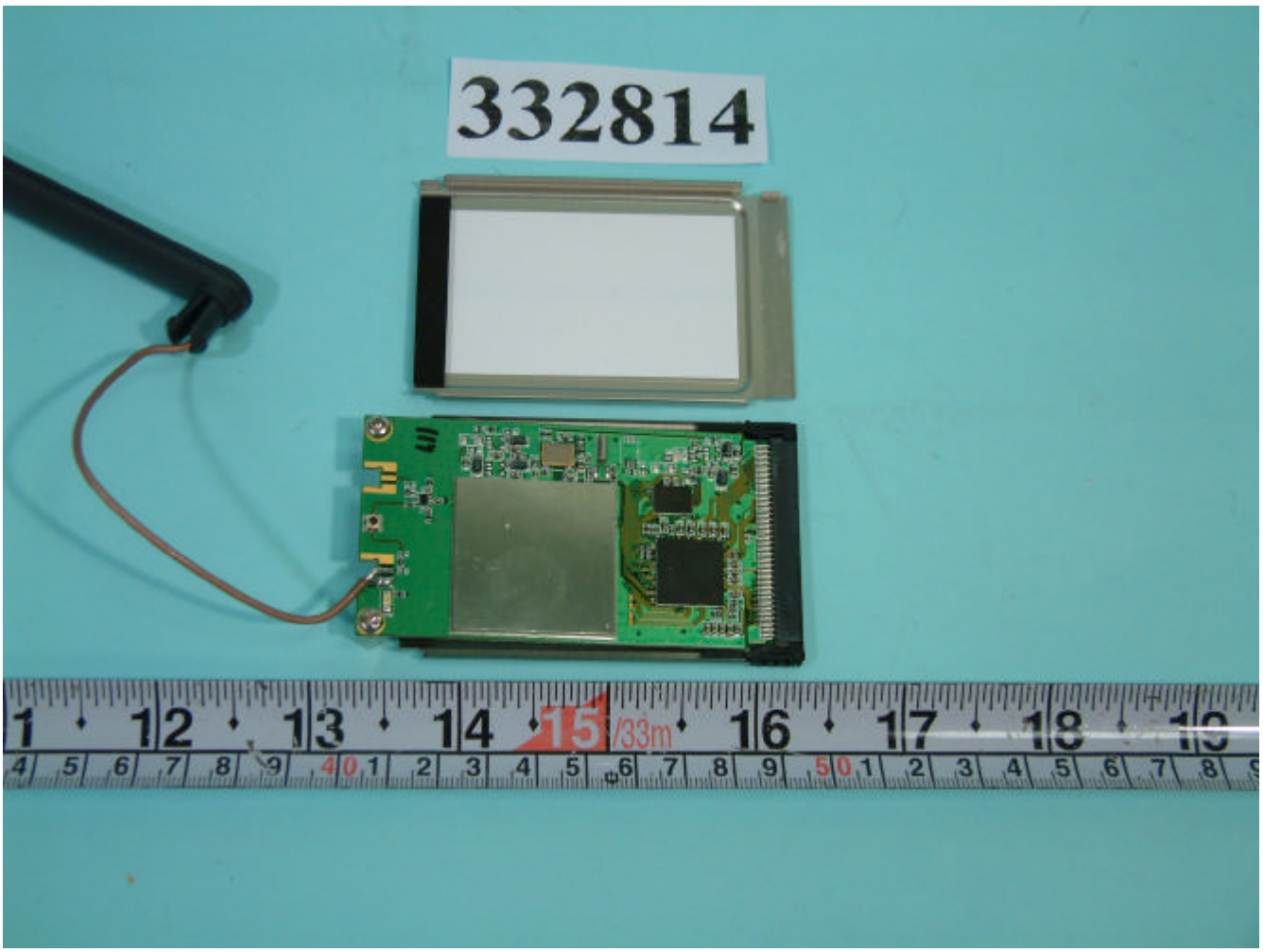
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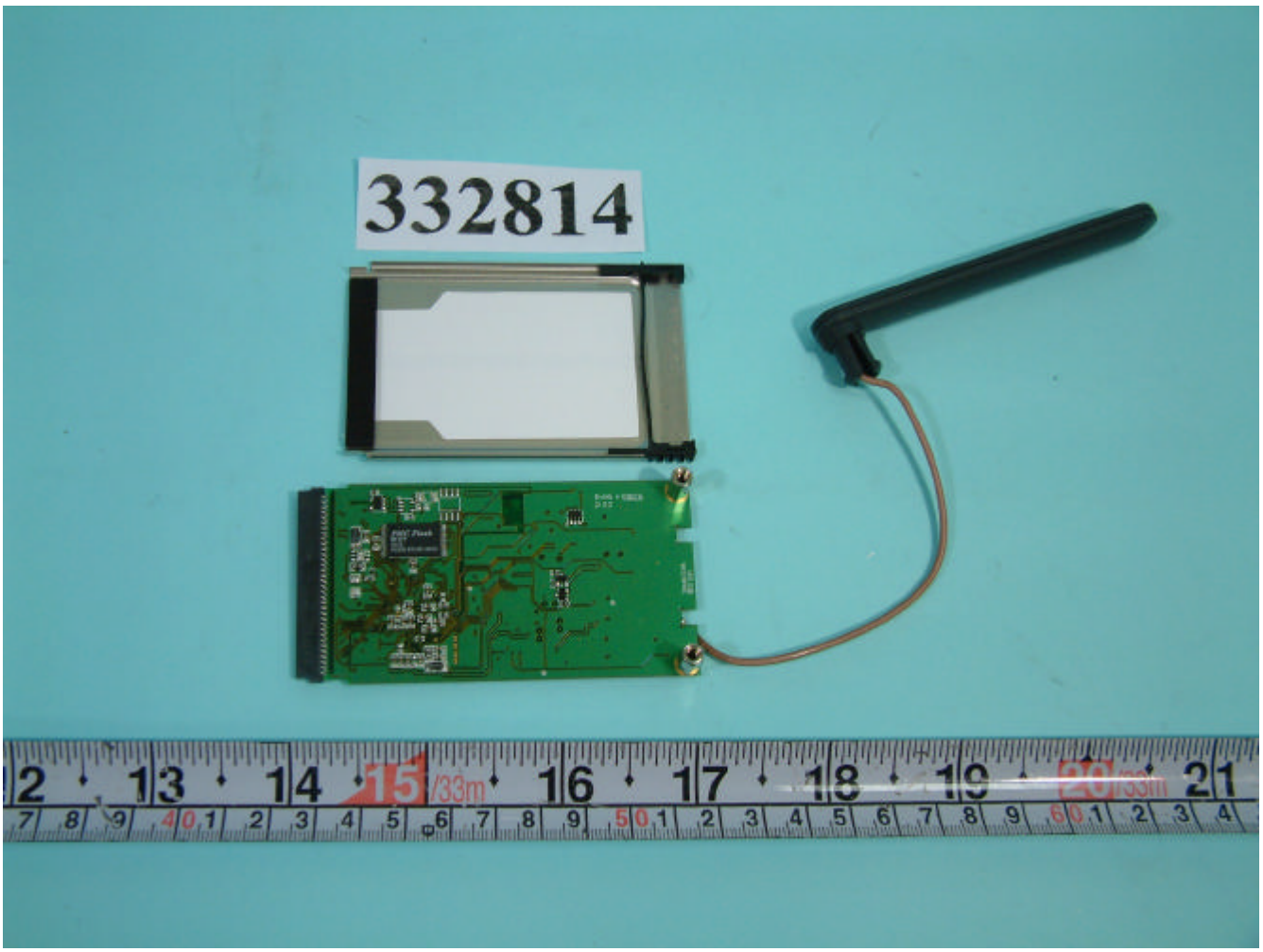
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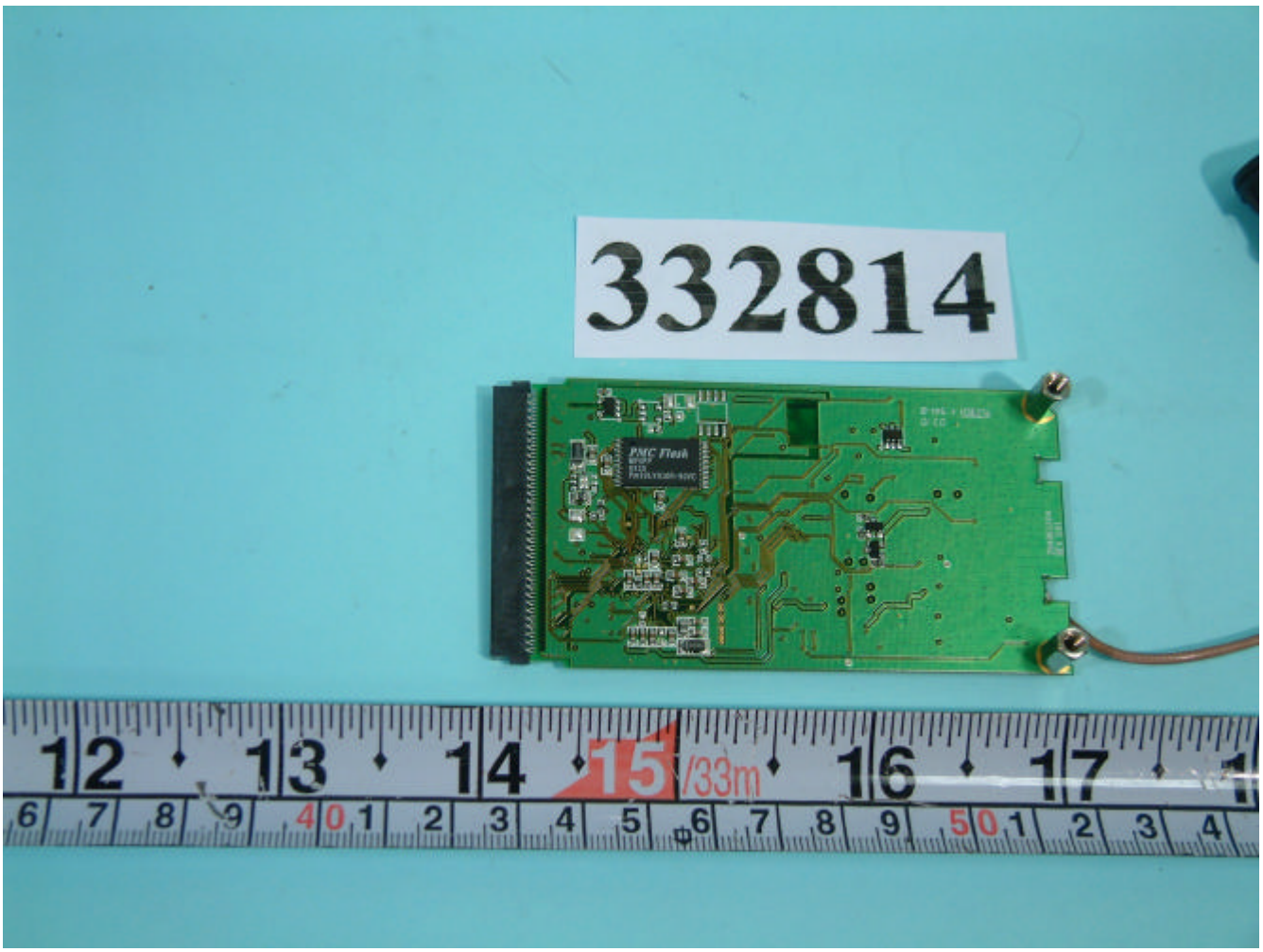
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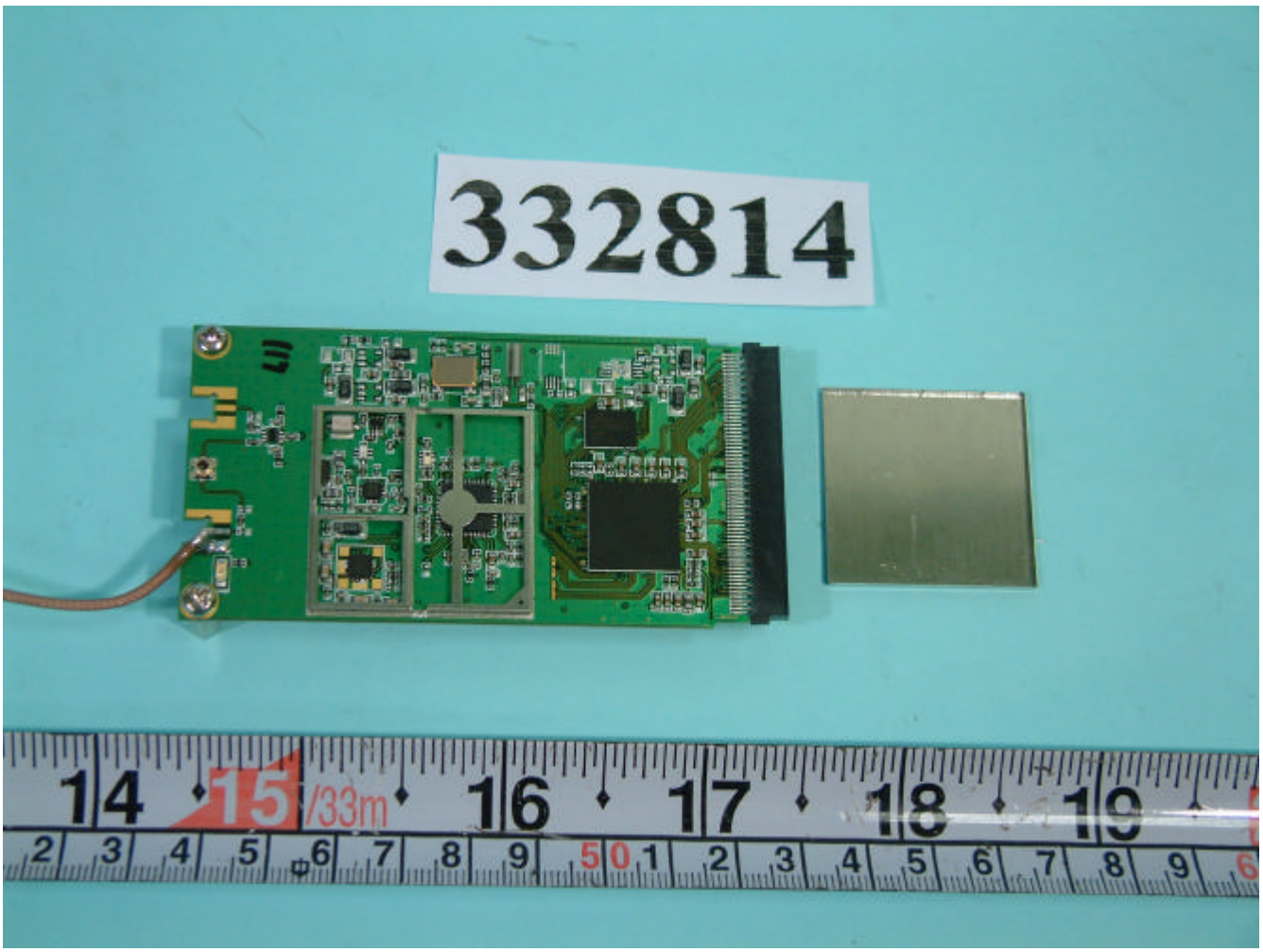
PMC Flash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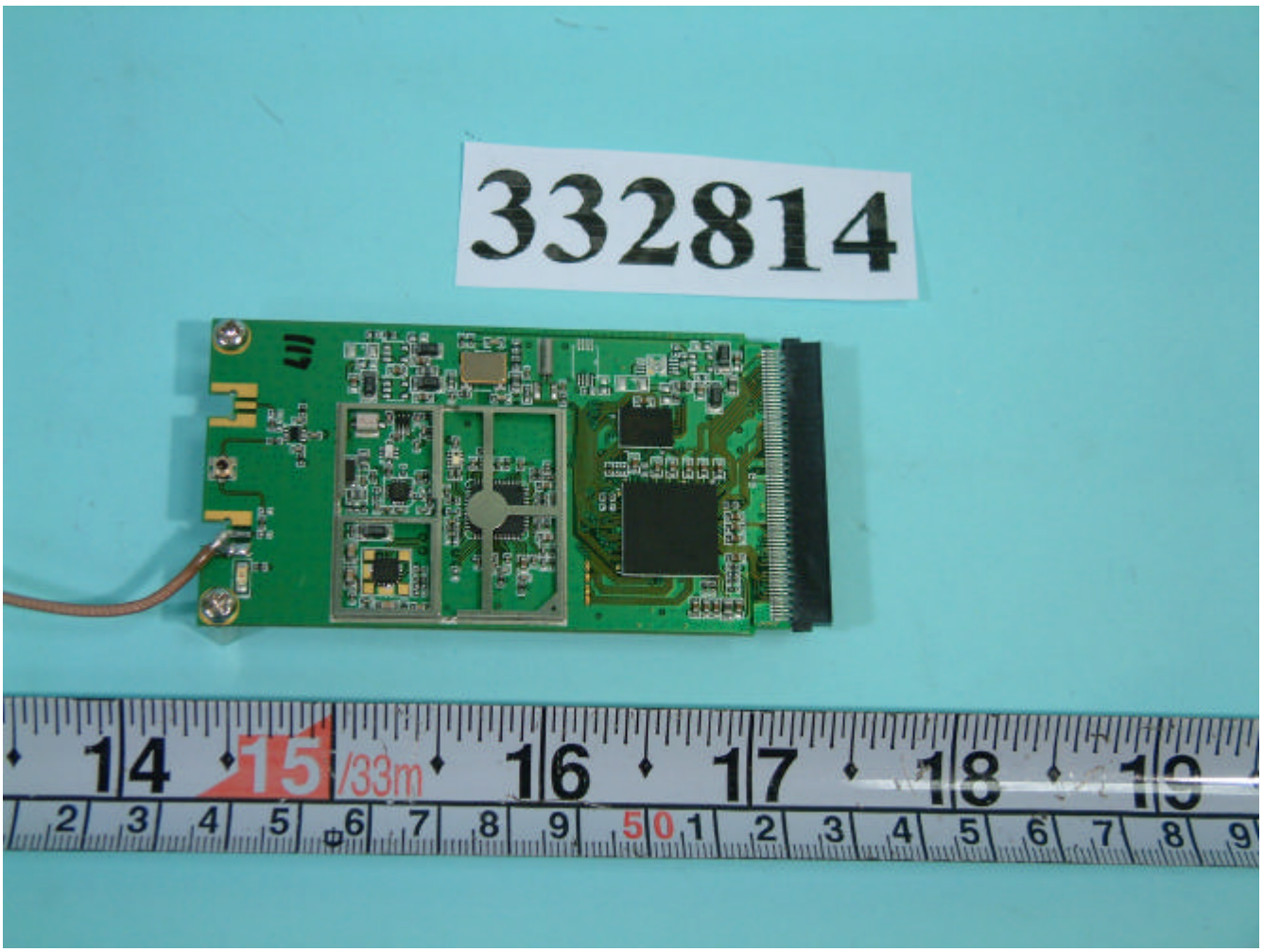
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332814
AC-DC ADAPTOR
MODEL: MW48-1201000U
PRI: 230V ~ 50Hz 105mA
SEC: 12V ⎓ 1A 12VA
MADE IN TAIWAN